

ENHANCING THE WIC FOOD PACKAGE

IMPACTS AND RECOMMENDATIONS TO ADVANCE NUTRITION SECURITY











JUNE 14, 2021

As the nation's premier public health nutrition program, the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) has a nearly 50-year track record of successfully ensuring the health and nutritional wellbeing of mothers, babies, and young children from Coast to Coast. The carrots that help bring families to WIC for crucial nutrition education and health care referrals are the science based, nutrient dense, healthy WIC food packages. They are a prescription for healthy eating and provide mothers, babies, and young children with vegetables, fruit, eggs, milk, yogurt, whole grains, and other culturally appropriate foods.

The WIC food packages -- grounded in the most recently available science -- have helped children score higher on the Healthy Eating Index, reverse the rapid increase in obesity amongst 2-4 year olds, and helped WIC families employ healthier shopping habits, including buying more whole grain breads and brown rice.

In January 2017, the National Academies of Sciences, Engineering, and Medicine (NASEM) recommended changes in a report titled, "Review of the WIC Food Packages: Improving Balance and Choice." USDA has the responsibility of reviewing the recommendations for inclusion in a rulemaking to update the WIC food packages.

At NWA's urging and with the support of the Biden Administration and Congress, this year, WIC tripled the value of the fruit and vegetable benefit through the summer to help families bounce back through the COVID pandemic. President Biden has called for Congress to extend these increased benefit levels through fiscal year 2022, recognizing the critical role that enhanced WIC food packages can play in strengthening access to healthy foods.

In eager anticipation of a proposed rule updating the WIC food packages, NWA publishes "Enhancing the WIC Food Package," identifying vital NWA priorities. These priorities draw from:

- » the expert guidance provided by the 2017 NASEM committee,
- * the 2020-2025 Dietary Guidelines for Americans (DGAs), setting out dietary recommendations for pregnancy, lactation, and early childhood,
- » invaluable feedback from NWA-convened roundtables with WIC participants, WIC agencies, key WIC partners and stakeholders from across the nation, and
- » key recommendations from NWA's Nutrition Services Section a national cadre of nutrition professionals and registered dietitians with first-hand, in the field experience with WIC families.

This report provides USDA with NWA's recommendations for a yet more robust WIC food package that responds inclusively and with equity to the diverse communities WIC serves.

With the release of this Report, NWA encourages USDA to move expeditiously with publication of its proposed rule, followed by a speedy review of comments and the urgent release of a final rule implementing these crucial and significant changes to the WIC food package.

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INTRODUCTION: THE WIC FOOD PACKAGES



Healthcare costs in the United States are driven by chronic diseases, including diet-related conditions such as diabetes and obesity. The prevalence of obesity among adults is 42.4 percent and more than 34.2 million Americans have diabetes, with both conditions resulting in nearly \$500 billion in medical costs each year¹ and disproportionately impacting communities of color who historically have limited access to healthcare. Nearly one in five children are obese.² The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) is an effective early intervention to address nutrition insecurity, shape healthy lifelong dietary habits and behaviors, and close racial disparities in healthy food access and health outcomes.



WIC reduces overall healthcare expenditures by building a stronger, healthier next generation. Paired with WIC's clinic-based nutrition services, the monthly WIC benefit brings healthy foods into reach for approximately 6.3 million low-income mothers, babies, and young children each month. After more than a decade of advocacy from the National WIC Association (NWA), WIC providers, medical, and scientific communities, the U.S. Department of Agriculture (USDA) revised the WIC food packages in 2009 to align more closely with the Dietary Guidelines for Americans (DGAs), introducing fruits, vegetables, and whole grains as WIC-approved foods. The 2009 changes strengthened the foundation of WIC's public health success by improving diet quality and variety, increasing access to and availability of healthy foods, and reducing childhood obesity rates.³

The 2009 changes demonstrated WIC's role as a driver of positive health outcomes for participating individuals, their families, and their communities. In the Healthy, Hunger-Free Kids Act of 2010, Congress codified the independent, science-based review process that undergirded the 2009 revisions. In 2017, the National Academies of Sciences, Engineering, and Medicine (NASEM) issued a report outlining additional, though cost-neutral, opportunities to enhance the quality of WIC-approved foods. The 2017 NASEM Report was complemented by the latest installment of the 2020-2025 DGAs, which included inaugural recommendations based on life stages, including pregnancy, lactation, and infancy and early childhood (0-24 months). USDA has not yet proposed additional revisions of the WIC food package that align with the recommendations from the 2017 NASEM Report or the 2020-2025 DGAs.

NWA would like to thank the From Now On Fund for contributing to the creation of this report and supporting our efforts as we work toward a nation of healthier families. NWA presents this report to evaluate the current landscape of the WIC food packages and outline immediate actions that USDA can advance to increase healthy options and value for WIC shoppers, encourage greater participation, and deliver enhanced health outcomes that reduce the nation's healthcare costs.

HIGHLIGHTS:

ENHANCING THE VALUE AND QUALITY OF THE WIC FOOD PACKAGES



The WIC food packages advance health outcomes by addressing specific nutrient needs of infants, young children, and pregnant, postpartum, and breastfeeding women. Consistent with analysis included in the 2017 report issued by the National Academies of Sciences, Engineering, and Medicine (NASEM) and the inaugural life-stage edition of the 2020-2025 Dietary Guidelines for Americans, the National WIC Association makes the following recommendations to strengthen the value, quality, and impact of the WIC food packages.

- INCREASE THE OVERALL VALUE OF THE WIC BENEFIT. Higher investment in the WIC food benefit is needed to support families in accessing more healthy foods and building consistent diets in greater alignment with higher-income families and federal nutrition recommendations. WIC continues to deliver strong health outcomes with limited funding, returning \$2.48 in medical, educational, and productivity costs for every dollar invested.⁵ The average food package value equates to only \$36 per month, with an even lower monthly value of \$32 for children and \$31 for postpartum women.6 While the recommendations in the 2017 NASEM Report increase access to vegetables and fruits, cost-neutrality constraints limited the committee's ability to achieve even half the recommended intakes of vegetables and fruits. Heightened value for the WIC benefit is a crucial investment to build on WIC's public health success and deliver healthier options for the nation's moms, babies, and young children.
- ALIGN A HIGHER VALUE BENEFIT WITH SCIENTIFIC RECOMMENDATIONS. WIC stands apart from other federal food assistance programs due to the food package's strong alignment with nutrition science. It is critical to align any increases to the value of the WIC food benefit with scientific recommendations. The 2017 NASEM Report acknowledged WIC is a supplemental program, but some of the food groups available in the current packages are provided at a more than supplemental level (greater than 100 percent of the recommended intake levels in DGA) while other food groups are completely absent from the food packages. The recommendations therefore sought to align WIC-issued food groups more closely with approximately 50 percent of the DGA-recommended intake. Even with this goal, cost-neutrality requirements limited

- the recommendations such that some food groups remain at well under 50 percent of the DGA recommended intake. With heightened value, the WIC food packages can build on the proposed revisions of the 2017 NASEM Report to provide well-rounded food packages that bring individuals closer to recommended intake levels, particularly for target food groups like vegetables, fruits, and seafood.
- PROVIDE MORE OPTIONS TO IMPROVE THE SHOPPING EXPERIENCE. Recognizing the limited varieties of foods offered, the 2017 NASEM Report made several recommendations to promote full redemption of issued benefits and, therefore, obtain the maximum nutritional benefit of WIC-prescribed foods. The 2017 NASEM Report proposed a series of substitutions within food groups - such as options to substitute juice for whole fruits, milk for yogurt, and jarred infant foods for canned seafood or Cash Value Benefit (CVB) - to provide greater variety for WIC shoppers. The 2017 NASEM Report also evaluated package sizes, particularly for whole grains, to ensure that approved items would be more readily accessible at retail grocery store locations. These steps to promote greater choice within the program, without sacrificing the nutritional integrity of the food package, simplify the shopping experience and encourage full redemption of WIC benefits.
- » ADDRESS THE NEEDS OF TARGET POPULATIONS. The 2017 NASEM Report made recommendations to tailor the WIC food packages to appropriate food patterns for individuals of different cultural and religious backgrounds, vegetarian and vegan families, and participants with food allergies. Food package revisions must be thoughtful in integrating a greater range of standard foods and streamlining the approval process to support additional substitutions for target populations.

OVERVIEW: HOW WIC REDUCES NUTRITION INSECURITY



Since 1974, WIC has delivered ongoing, targeted support to enhance nutrition and health outcomes during pregnancy, infancy, and early childhood. Through a series of seven food packages, WIC provides a supplemental benefit that address specific nutrient concerns, rounding out participants' diets and supporting healthier birth outcomes and child development. WIC's nutrition support is even more critical as the nation grapples with the high costs of treating, managing, and preventing chronic diet-related conditions such as diabetes and obesity.

ADDRESSING CHRONIC HEALTH CONDITIONS

The majority of adults living in the United States have one or more diet-related chronic conditions. WIC introduces families, and especially children, to healthy foods, habits, and behaviors that can set the foundation for a lifetime of good nutrition, preventing or mitigating chronic conditions like obesity and type-2 diabetes. WIC's nutrition benefit and services must continue to be responsive to the nutrient needs of eligible families, especially as public health stakeholders seek to close disparities among low-income populations and communities of color.

ADULT AND CHILDHOOD OBESITY

Overweight or obesity affects nearly three-quarters of adults and approximately 40 percent of children,9 driving over \$147 billion in annual healthcare costs. 10 Obesity increases the risk of disease or health complications, including pregnancy complications 11 such as preeclampsia. 12 Targeted nutrition support for pregnant women and women during the inter-pregnancy interval is an effective step in reducing pregnancy complications. 13

Childhood overweight and obesity likewise results in greater health risks, including high blood pressure, impaired glucose tolerance, and risk of cardiovascular disease and type-2 diabetes as early as teenage years. Higher rates of food insecurity are intricately associated with childhood obesity, as families may lack the options or access to nutritious foods

needed to build dependable and healthy diets.¹⁵
Obesity prevalence for children ages two to five was
13.4 percent in 2017-2018 in the United States.¹⁶ Obesity
rates are disproportionately higher among Black and
Latino families,¹⁷ including for children younger than age
five.¹⁸ Children affected by obesity are approximately five
times more likely to be affected by obesity in adulthood,¹⁹
creating a strong incentive for early interventions that
promote healthy options, including access to nutrientdense foods and minimizing calories from sources that do
not contribute to a healthy dietary pattern.²⁰

DIABETES

More than 34 million people in the United States have diabetes, with another 88 million adults having prediabetes, which places them at risk for type-2 diabetes. Nearly 90 percent of individuals with diabetes are either overweight or obese, leading to an additional \$327 billion in annual medical costs and lost productivity. Approximately six to nine percent of pregnant women develop gestational diabetes. His condition is associated with higher likelihood of hypertension and preeclampsia, which could result in adverse pregnancy and childbirth outcomes. As all forms of diabetes affect blood glucose levels, nutrition counseling and meal planning are critical to managing this condition.

IMPACTS OF THE WIC FOOD PACKAGES

WIC is a supplemental nutrition and health program, prescribing healthy foods to address macro- and micronutrient deficiencies to support positive pregnancy and birth outcomes, encourage breastfeeding, and support healthy child development. Despite the limited value of WIC's food benefit, a decades-long shift toward healthier options demonstrates WIC's potential to increase access to and availability of healthy foods for participants, their families, and their communities.

EVOLUTION OF THE FOOD PACKAGES

Since Congress established the program in 1974, WIC services have evolved to meet the changing dietary needs of the eligible population. WIC was primarily established to address the pernicious effects of malnutrition, including significant rates of iron-deficiency anemia. Beginning in its early years, WIC played an instrumental role in decreasing anemia rates and pushing industry partners to develop ironfortified products, including infant formulas and cereals.²⁶

Congress indicated an early and sustained interest in providing healthy foods to WIC families, mandating in 1978 that WIC foods contain nutrients lacking in the program's targeted population that also had relatively low levels of fat, sugar, and salt.²⁷ As WIC strengthened its breastfeeding support programming, the introduction of Food Package VII in 1992 further established the program's nutrition focus by including canned fish, carrots, and cheese to support the diets of fully breastfeeding women.²⁸

Since 1992, WIC has seven food packages that serve as regulatory frameworks for WIC staff as they issue individually tailored benefits to participants. The food packages largely align with a participant's status in the program: infants age zero to five months (Food Package I); infants age six to 11 months (Food Package II), children age one to four years (Food Package IV), pregnant and mostly breastfeeding women (Food Package V), postpartum, non-breastfeeding women (Food Package VI), and fully breastfeeding women (Food Package VII).²⁹ Food Package III is available for women, infants, and children with qualifying medical conditions, such as preterm birth, failure to thrive, and metabolic disorders, to permit access to special formulas and other medical foods.³⁰

In 1999, the National WIC Association (then, the National Association of WIC Directors) urged a review of the WIC food packages to promote alignment with the Dietary Guidelines for Americans (DGAs).³¹ USDA contracted with the National Academies' Institute of Medicine (IOM) to conduct an independent, science-based review.³² Published in 2005,



the IOM report analyzed the nutritional needs of the WIC population, embracing many of NWA's recommendations and encouraging USDA to change the foods offered through the WIC food packages.³³ In 2007, based on the IOM review, USDA issued an interim final rule that revised the WIC food packages, requiring implementation by 2009.³⁴

The 2009 reforms introduced fruits, vegetables, whole wheat bread, and additional whole grain options into the WIC food packages.³⁵ These significant shifts toward alignment with the DGAs were balanced with reductions in the issuance of juice, eggs, milk, and formula.³⁶ The 2009 changes also promoted alignment with the DGAs by limiting milk issuance to low- and non-fat options, except for one-year-old children.³⁷ State WIC agencies were afforded the ongoing opportunity to request substitutions within the food package to address cultural eating patterns, an essential step to serve the diversity of eligible families and accommodate the 33 Indian Tribal Organizations that directly administer WIC services.³⁸

HEALTHIER OUTCOMES AFTER THE 2009 CHANGES

With new food groups available through the WIC benefit, the 2009 reforms led to substantial changes in access to healthy foods and nutrition outcomes. The revisions to the WIC benefit resulted in increased purchases and consumption of vegetables and fruits, 39 whole grains, 40 and non-/low-fat dairy, 41 as well as increased breastfeeding initiation. 42 WIC participants reported reduced intake of sodium, saturated fat, and sugar, 43 resulting in higher overall diet quality and higher scores on the Healthy Eating Index. 44

The 2009 changes fueled new shopping behaviors, helping to close racial disparities in access to healthy foods. The

revisions led to increased fruit consumption among Latinas and non-/low-fat dairy consumption among Black and Latino children.⁴⁵ Notably, changes in allowable products and minimum stocking requirements for authorized retail vendors resulted in an increase of availability of healthier foods,⁴⁶ including in low-income neighborhoods.⁴⁷ The 2009 changes brought about increased access to healthy options not just for WIC families, but for the entire shopping public.⁴⁸

With expanded access to and consumption of healthy foods, WIC was able to measure significant improvements in health outcomes. The Centers for Disease Control and Prevention (CDC) measured a two percent decline in the prevalence of childhood obesity among WIC-enrolled toddlers between 2010 and 2016, bringing the obesity rate in line with the national average for the two-to-four-year-old population.⁴⁹ The revised food packages were also associated with improved pregnancy outcomes, including reduced maternal preeclampsia and gestational weight gain, and indications of reduced risk of gestational diabetes among women of color.⁵⁰

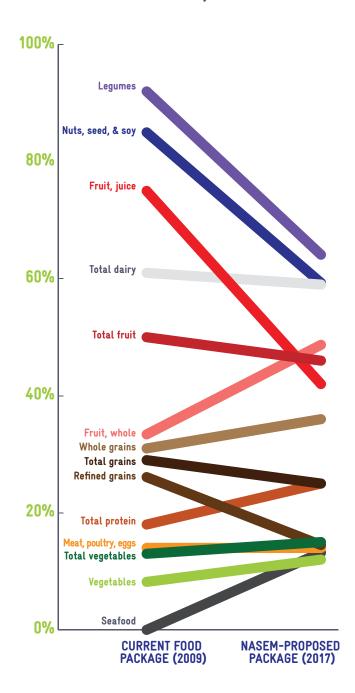
REVIEW OF THE WIC FOOD PACKAGES

Recognizing the success of the 2009 reforms, the Healthy, Hunger-Free Kids Act of 2010 required USDA to conduct a scientific review of the WIC food packages at least every 10 years, with a particular focus on adjusting available foods to reflect nutrition science, public health concerns, and cultural eating patterns. 51 In January 2017, an independent panel convened by the National Academies of Sciences, Engineering, and Medicine (NASEM) issued a report, titled Improving Balance and Choice, that included specific recommendations to enhance the nutritional quality of the WIC food packages.⁵² In December 2020, USDA and the Department of Health and Human Services jointly issued the 2020-2025 Dietary Guidelines for Americans, including inaugural guidelines based on life stages. These two thorough reviews of dietary patterns will inform future analysis of the WIC food packages.

REVIEW BY THE NATIONAL ACADEMIES

The 2017 NASEM Report comprehensively analyzed existing nutrition gaps, dietary guidance, redemption behaviors, and industry practices in an effort to design food packages to be more closely aligned with the 2015-2020 DGAs. The 2017 NASEM Food Package Review Committee was tasked with designing food packages that were "culturally suitable, cost-neutral, efficient for nationwide distribution, and nonburdensome to administration." As a result, the charge for cost-neutrality limited the scope of the 2017 food package recommendations.

PROPORTION OF DGA FOOD GROUPS AND SUBGROUPS FOR CHILDREN, AS REDEEMED⁵⁴



The 2017 NASEM Report articulated a core principle that the WIC food packages are supplemental and should more consistently provide moderate amounts of priority nutrients and food groups. ⁵⁵ The 2017 NASEM Report sought to reach at least 50 percent of the Dietary Reference Intakes (DRIs) for priority nutrients like potassium, fiber, choline, vitamin D, and copper, while also promoting greater variety between the DGA food groups. ⁵⁶ This approach resulted in proposed reductions to food groups issued at more-than-supplemental levels to increase target food groups that are still issued at lower-than-supplemental levels, such as vegetables, fruits, and seafood. ⁵⁷

2020-2025 DGA RECOMMENDED INTAKE⁶²

	1,300 KCAL	2,300 KCAL	2,600 KCAL
Vegetables (per day)	1.5 c-eq	3 c-eq	3.5 c-eq
Beans, Peas, Lentils (per day)	0.5 c-eq	2 c-eq	2.5 c-eq
Fruits (per day)	1.25 c-eq	2 c-eq	2 c-eq
Grains (per day)	4.5 c-eq	7.5 c-eq	9 c-eq
Whole Grains (per day)	2.25 c-eq	3.75 c-eq	4.5 c-eq
Refined Grains (per day)	2.25 c-eq	3.75 c-eq	4.5 c-eq
Dairy (per day)	2.5 c-eq	3 c-eq	3 c-eq
Protein Foods (per day)	3.5 oz-eq	6.25 oz-eq	6.5 oz-eq
Meats, Poultry, Eggs (per week)	16.5 oz-eq	29.5 oz-eq	31 oz-eq
Seafood (per week)	5 oz-eq	9.5 oz-eq	10 oz-eq
Nuts, Seeds, Soy (per week)	2.5 oz-eq	5 oz-eq	5 oz-eq
Oils (per day)	17 g	30 g	34 g
Limit on COU (per day)	85 kcal	285 kcal	350 kcal

Drawing on the 2015-2020 DGAs, intake levels were modeled on different food patterns depending on the participant category – 1,300-kcal diets for children age two to four, 2,300 kcal for postpartum women, and 2,600 kcal for pregnant and breastfeeding women. ⁵⁸ Based on these food patterns, costneutrality precluded designing food packages that reached 50 percent intake across food groups. Should cost-neutrality be set aside, the 2017 NASEM Report specifically prioritizes increased investment in the Cash Value Benefit (CVB) for fruit and vegetable purchases, particularly noting that even higher CVB values for children could encourage ongoing retention of children until their fifth birthday. ⁵⁹

2020-2025 DIETARY GUIDELINES FOR AMERICANS

USDA and the Department of Health and Human Services jointly issued the 2020-2025 DGAs, updated national nutrition recommendations that, for the first time, considered the unique nutrition needs on the basis of life stage, particularly from birth to age two. This innovative approach is of particular relevance to the WIC-eligible population, and it may be prudent to align the DGAs and WIC food package review in the future.

Recommended intake based on food group remained relatively consistent between the 2015-2020 and 2020-2025 DGAs for the food patterns reflected in the 2017 NASEM Report, including the 1,300-kcal diet for children, the 2,300-kcal diet for postpartum women, and the 2,600-kcal diet for pregnant and breastfeeding women.⁶⁰ The 2020-2025 DGAs differed only in recommending sharper limits on Calories for Other Uses, reflecting greater concern about added sugars, sodium, and saturated fats.⁶¹

For infants and toddlers, the 2020-2025 DGAs validated longstanding guidance from the American Academy of Pediatrics (AAP) urging exclusive breastfeeding for about the first six months of life, followed by continued breastfeeding as complementary foods are introduced, for one year or longer as mutually desired by mother and infant.⁶³ The 2020-2025 DGAs urge introduction of nutrient-dense complementary foods at about six months, including potentially allergenic foods such as eggs, peanuts, cow-milk products, tree nuts, fish, and wheat.⁶⁴ Iron- and zinc-rich foods, including meats, seafoods, beans, and fortified cereals, are encouraged to support growth and immune function.⁶⁵

As children are afforded a limited number of Calories for Other Uses, the DGAs caution against added sugars and stress the particular importance of avoiding added sugars for children from birth to age eight. ⁶⁶ The DGAs stipulate a preference for non-fat or low-fat milks over whole milks for children age two and up⁶⁷ and encourage consuming whole fruit over fruit juice. ⁶⁸

The 2020-2025 DGAs identify several key nutrients for pregnant and/or lactating women, including folate, iron, iodine, and choline.⁶⁹ Pregnant and breastfeeding women are encouraged to consume adequate amounts of dairy and protein, with the DGAs specifically noting the benefits of certain kinds of seafood, which leads to improved cognitive development in young children.⁷⁰

RECOMMENDATIONS:

BUILDING HEALTHIER, MORE FLEXIBLE FOOD PACKAGES



The National WIC Association (NWA) endorses a heightened value for the WIC benefit across food packages. Higher value is a critical step to bringing adult, infant, and children's diets closer to the recommended intake levels established in the Dietary Guidelines for Americans (DGAs), building on the progress from the 2009 changes to strengthen nutrient intake and address diet-related conditions like obesity and diabetes. In assessing the impact of higher value on composition of the food package, NWA bases its recommendations in the science of the 2017 NASEM Report and the 2020-2025 DGAs. NWA also consulted with a broad range of stakeholders, including state and local WIC administrators, WIC nutritionists, medical providers, industry stakeholders, Indian Tribal Organizations, and participants in every USDA-defined region. To establish higher value, revisions of the food packages should consider the following changes for each food group.

VEGETABLES AND FRUITS

Introduced in 2007, the Cash Value Benefit (CVB) is unique in providing a set cash benefit for redemption of vegetables and fruits, compared to other food package items that are prescribed as a fixed quantity. This model promotes convenience and choice, although it can limit the range of options in high food-cost locations such as Alaska and

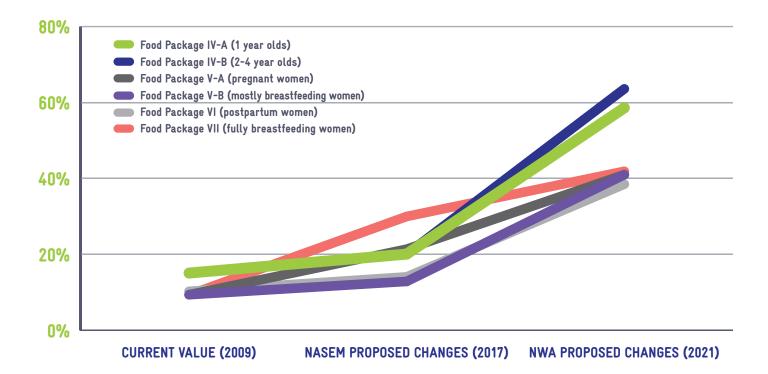
Hawaii.⁷¹ The Cash Value Benefit is one of the highest redeemed categories, with a 77 percent redemption rate between 2013 and 2016.⁷² The CVB costs are calculated based on the Consumer Price Index for fresh vegetables and fruits, with current values set at \$9 for children and \$11 for all adult food packages.



"MY KID FLIES THROUGH FRUITS AND VEGETABLES. HE LOVES BELL PEPPERS, WHICH AREN'T CHEAP AT ALL. I JUST WISH THERE WAS MORE MONEY FOR IT."

PAIGE
WIC MOM, SOUTH CAROLINA

CASH VALUE BENEFIT AS PERCENTAGE OF RECOMMENDED VEGETABLE/FRUIT INTAKE, AS REDEEMED



- INCREASE THE CASH VALUE BENEFIT (CVB) ACROSS ALL CHILD AND ADULT FOOD PACKAGES. The 2017 NASEM Report recommended an increase in the value of the CVB to encourage greater fruit and vegetable consumption, as issuance for both food groups remain far below recommended intake. 73 The 2017 NASEM Report calculated that total recommended intake could be achieved at \$46/month for a 1,300-kcal diet (child), \$82/month for a 2,300-kcal diet (postpartum), and \$90/month for a 2,600kcal diet (pregnant/breastfeeding), but proposed lower values due to the charge of cost-neutrality and a desire to keep issuance at supplemental levels.74 However, the 2017 NASEM Report clarified that higher CVB levels would be a top priority if cost-neutrality was no longer considered, especially as an incentive to retain children on the program. 75 Recognizing the imperative to maintain supplemental issuance, NWA recommends setting the CVB at \$35 for Food Package IV-A (Child Age One), \$38 for Food Package IV-B (Child Age Two to Five), \$41 for Food Package VI (Postpartum), and \$48 for Food Packages V (Pregnant/Mostly Breastfeeding) and VII (Fully Breastfeeding).
- PERMIT LIMITED SUBSTITUTION OF CVB FOR 100% FRUIT JUICE. Current issuance of fruit juice exceeds the lower end of the recommended range in the

- 2020-2025 DGAs,76 which further cautions that juice is "not necessary" for one-year-old children.⁷⁷ Consistent with the 2020-2025 DGAs, the 2017 NASEM Report called for steep reductions in juice issuance to promote increased consumption of whole fruits, allowing only 64 ounce issuance for Food Package IV (Child), V (Pregnant/Mostly Breastfeeding), and VII (Fully Breastfeeding), which could then be fully substituted for an additional \$3 of CVB.78 To promote greater participant choice and further align with the 2020-2025 DGAs, NWA recommends furthering the 2017 NASEM Report's proposed substitution: fully eliminating default juice issuance, while providing the option to substitute \$3 CVB benefit for 64 ounces of juice in Food Packages IV-B, V, and VII.
- REQUIRE AT LEAST TWO FORMS OF ALLOWABLE VEGETABLES
 AND FRUITS. State agencies are currently required
 to authorize fresh vegetables and fruits, but given
 the option to authorize frozen, canned, or dried
 varieties. The 2017 NASEM Report recommended
 that new regulations require at least two forms of
 vegetables and fruits to promote choice for WIC
 shoppers, especially as fresh-only options may be
 limited based on season or geography. 79 Additionally,
 permitting fresh-only options limits consumer choice
 whereas permitting at least two forms increases

choice. As of April 2021, only seven out of 45 surveyed State agencies permit fresh-only options.80

- VEGETABLES. Federal regulations require authorized vendors to stock at least two different vegetables, two different fruits, and one whole grain cereal. Since WIC shoppers disproportionately redeem CVB for fruits, requiring vendors to stock three varieties of vegetables could encourage greater redemption and variety in WIC-authorized stores. After the minimum stock requirements were established in 2007, retail grocery stores in lowincome neighborhoods reported higher stocking of vegetables and fruits.81
- The WIC Farmers Market Nutrition Program is a separate but complementary benefit that permits WIC families to purchase vegetables, fruits, and herbs from local farmers, farmers markets, and farm stands. As WIC and WIC FMNP further coordinate, especially to develop integrated electronic transaction systems, consistency between the WIC FMNP and WIC CVB would simplify transactions and promote alignment between the two programs. Allowing for herbs, such as cilantro, achiote, and coriander, is also an important step in recognizing more culturally inclusive shopping patterns. With additional value, herbs can be allowed without depriving families of more nutrient-rich fruit and vegetable options.

PROTEIN FOODS

Protein foods available through the WIC benefit include eggs, legumes, peanut butter, and canned fish. These foods vary in redemption patterns, with eggs being one of the most highly redeemed categories at 80 percent redemption rate between 2013 and 2016.82 Peanut butter and legumes – issued in excess of recommended intake – are among the least redeemed items, with only 51 percent redemption rate between 2013 and 2016.83 Canned fish is only allowed in

the fully breastfeeding package (Food Package VII), where there is significant redemption at 69 percent between 2013 and 2016.84

- » ADD CANNED FISH TO CHILD AND ADULT FOOD PACKAGES. Seafood in the WIC food package include canned tuna, salmon, sardines, and mackerel. It is an important source of protein and other essential nutrients, including iron, choline, omega-3 fatty acids, and vitamin D.85 The 2020-2025 DGAs emphasized the particular benefits of seafood consumption for pregnant and breastfeeding women, noting the potential benefits to a child's cognitive development.86 Seafood, meanwhile, is underconsumed by children.87 Canned fish is currently only allowed in the fully breastfeeding package (Food Package VII), and NWA echoes the 2017 NASEM Report recommendation to strengthen nutrient intake by adding low-sodium seafood options to the child and all adult food packages.88
- ELIMINATE PROPOSED ROTATION OF PROTEIN FOODS. Due to cost-neutrality requirements, the 2017 NASEM Report introduced a rotation of peanut butter, legumes, and canned fish on a quarterly basis even though it specifically notes that these protein foods are not nutritionally interchangeable.⁸⁹ Quarterly rotation would be difficult to administer and confusing to participants, creating burdens at the state and local levels. Additional funds should be invested in ensuring that canned fish can be provided each month, while maintaining the current monthly option to select either legumes or peanut butter.
- » ADD CANNED CHICKEN TO CHILD AND ADULT FOOD PACKAGES. Among the meat, poultry, and eggs food group, only eggs are provided in current WIC food packages. Despite the high redemption rates of egg benefits, this food group still remains at a lessthan-supplemental level, meeting only 14 percent of recommended intake levels in the child food package. Lean meats are nutrient-dense foods that can enhance



"I LOVED RECEIVING SEAFOOD THROUGH WIC. IT WOULD BE GREAT IF MORE PARTICIPANTS COULD, BECAUSE GIVING MORE SEAFOOD IN WIC HELPS FAMILIES LIKE MINE BE HEALTHY. MY FAMILY LOVES TO FISH, SO IT'S GREAT TO SEE THAT WIC NOT ONLY PROVIDES SEAFOOD TO PARTICIPANTS, BUT ALSO SUPPORTS LOCAL ECONOMIES."

ALYSSA WIC MOM, OREGON iron and zinc intake. ⁹⁰ A shift in meat consumption toward healthier, low-sodium options could improve children's diets. ⁹¹ Including low-sodium canned chicken would introduce another nutrient-dense food, bring food groups closer to alignment with recommended intake, bring additional variety to the food packages, be responsive to participant requests, and strengthen WIC's efforts to reduce iron-deficiency anemia among the eligible population.

» INTEGRATE NUTS, SEEDS, AND NUT BUTTER OPTIONS.

Legumes and peanut butter are issued at more-than-supplemental levels and, as a result, are not highly redeemed compared to other items in the food package. The 2017 NASEM Report noted the difficulty at reducing issuance of these items given industry standards related to package sizes. An additional way to provide variety would be allowing the peanut butter option to be substituted for seeds, nut butters, or nuts, such as almonds, walnuts, and cashews. These options will also provide adequate substitutions for participants with a peanut allergy.

EVALUATE ADDITIONAL EGG OPTIONS. Eggs are one of the most highly redeemed items in the food package and a reliable source of protein for WIC participants. Eggs are currently issued by the dozen, even though industry offers 18-count package sizes that could be beneficial for inclusion in the food packages. Consideration of a range inclusive of 12- or 18-count package sizes could expand options and promote convenience for WIC shoppers. WIC agencies must also be sensitive to changes in the marketplace stemming from a national shift among retailers to cage-free eggs and ensure that adequate options are approved for redemption. To support local farm economies and strengthen WIC redemptions at farmers markets, WIC should also consider authorizing participants to redeem their egg benefits at farmers markets or farm stands.

GRAINS

Whole and refined grains offered through the WIC food packages demonstrate the success of past efforts to strengthen the nutritional quality of prescribed foods. Breakfast cereals, both whole and refined grain options, are fortified to include essential nutrients, including folate and iron. Ye Nutrient-dense whole grain options – including whole wheat bread, oatmeal, brown rice, barley, corn tortillas, whole wheat tortillas, and whole wheat pasta – were made available after the 2009 changes, consistent



with DGA guidance to emphasize whole grains over refined grains. Grains are moderately redeemed across the food packages, with breakfast cereals redeemed at 60 percent and whole grain breads redeemed at 53 percent between 2013 and 2016.⁹³

- PERMIT WHOLE GRAIN PACKAGE SIZES FROM 16 TO 24 **OUNCES.** As evidenced during the COVID-19 pandemic, whole grain product redemptions are lower than expected due to challenges with the availability of allowed package sizes. The 2017 NASEM Report notes that 16-ounce breads are uncommon package sizes, with the price per ounce running higher (\$0.14) than the price per ounce of the more common 24-ounce package (\$0.10).94 Substitution options such as oatmeal, tortillas, and whole wheat pasta - likewise have varying package sizes on the grocery shelf. WIC participants, agencies, retailers, and manufacturers will all benefit when WIC-authorized package sizes are aligned with currently available options. Permitting greater flexibility to account for current industry practices and fluctuation in product availability in the future will enable WIC to best meet participant needs and ensure redemption of whole grain products.
- INCLUDE CULTURAL OPTIONS. WIC staff consistently identify whole grains as one of the food groups that would benefit from additional tailoring to accommodate cultural eating patterns. Along with package size flexibility, this cultural adaption could ensure that additional whole grain options are available to meet the diverse dietary needs of WIC participants. The 2017 NASEM Report specifically noted the importance of including fortified corn masa flour, cornmeal, teff,

and buckwheat in the WIC food packages. ⁹⁵ WIC staff and participants further recommended the inclusion of additional options like amaranth, arrowroot, brown basmati rice, bulgur, farro, millet, naan, pita, polenta, quinoa, spelt, and tapioca.

STRENGTHEN WHOLE GRAIN REQUIREMENTS FOR CEREALS, BREADS, AND OTHER GRAINS. The 2020-2025 DGAs note that whole grains remain under-consumed, especially among children, even as total grains trend toward overconsumption with the intake of refined grains. 96 Whole grains are an important source of folic acid, which is especially critical for pregnant participants to prevent neural tube defects. 97 These considerations reinforce the imperative to strengthen whole grain requirements throughout the food packages: permitting only 100 percent whole wheat breads, requiring all breakfast cereals to meet the whole grain-rich standard applied in other child nutrition programs, and establishing 100 percent whole grain standards for new grain options, such as cornmeal, teff, and buckwheat.98

DAIRY

Dairy options in the WIC food package, including non- and low-fat milk, yogurt, and cheese, deliver essential nutrients including protein, vitamin D, calcium, and potassium for growth and development.⁹⁹ The 2009 food package changes, which emphasized a shift to non- and low-fat dairy options, resulted in a shift in participant behaviors that brought diets more in line with DGA recommendations.¹⁰⁰ Milk is one of the more redeemed items of the child food package, with 75 percent redemption rate for one-year-old children and 71 percent redemption rate for two-to-four-year olds, although lower redemption rates (56 percent) are seen in adult food packages.¹⁰¹

- ADJUST DAIRY ISSUANCE AND SUBSTITUTIONS. The 2017 NASEM Report recommends adjusting dairy issuance to reflect redemption patterns and allow for increased options for popular substitutions such as yogurt and cheese. 102 This thoughtful balance promotes greater participant choice and variation within the food group.
- PERMIT YOGURT IN PACKAGE SIZES BETWEEN 30-32 OUNCES. The current food packages only allow for the purchase of yogurt in a 32-ounce container. The 2017 NASEM Report recommended that State WIC Agencies should have the option to approve yogurt in smaller package sizes (approximately five ounces) that add



up to 30-32 ounces.¹⁰³ Various package size options promote flexibility for shoppers, with manufacturers introducing more convenient models such as multipacks and tube options. Providing a broader range of package sizes as recommended in the 2017 NASEM Report will ensure that State WIC Agencies can approve adequate yogurt options to encourage dairy redemptions.

- » LIMIT TOTAL SUGARS FOR YOGURT. The 2017 NASEM Report proposed reducing the limit for total sugars in yogurt from 40 grams to 30 grams per eight ounces. 104 Based on the 2017 NASEM Report's analysis, yogurts that are in alignment with this new standard constituted the majority of products available in the marketplace. 105 Codifying limits on sugars particularly added sugars has increased importance given the stricter limitations on Calories for Other Uses across diet patterns in the 2020-2025 DGAs. 106
- CONSIDER IMPLICATIONS OF CALORIES FOR OTHER USES LIMITATIONS ON MILK OPTIONS. The 2020-2025 DGAs included stricter limitations on Calories for Other Uses across diet patterns as part of increasing concern about saturated fats, added sugars, and sodium. 107 This is one of the most significant changes in recommended intakes between the 2015-2020 and 2020-2025 DGAs. 108 The 2020-2025 DGAs reiterate the prior recommendation that children over age one and adults consume non- and low-fat dairy options.¹⁰⁹ One cup of whole milk generally adds 63 calories in milk fat, bringing all diets closer to daily limits on Calories for Other Uses. 110 This further validates the 2017 NASEM Report's recommendation to maintain only non- and low-fat dairy options for Food Packages IV-B, V, VI and VII.111 The 2017 NASEM Report likewise proposed that, due to added sugars in flavored milk, only unflavored varieties should be permitted. 112 These recommendations should be given additional deference due to the

greater focus given to Calories for Other Uses in the 2020-2025 DGAs.

- PERMIT SUBSTITUTION OF NON-DAIRY ALTERNATIVES THAT MEET NUTRIENT REQUIREMENTS. The current food packages permit substitutions of milk for soy beverages. The 2017 NASEM Report, meanwhile, rejected additional non-dairy milk options, such as almond, rice, or coconut milks, due to a lack of available options that included adequate levels of priority nutrients, namely calcium, vitamin A, and vitamin D.113 In the past several years, manufacturers have started to fortify non-dairy milk products to provide a greater range of nutrients. Yogurt substitutes, including goat and soy options, are also increasingly available. Creating a framework to approve products that meet nutrient requirements will incentivize further innovation by industry to promote greater nutritional quality. Inclusion of these products, should they meet federal nutrient requirements, would be beneficial to vegetarian and vegan participants, as well as participants with both a soy and milk allergy.
- EXPAND CHEESE OPTIONS TO PROMOTE PARTICIPANT CHOICE AND CULTURAL VARIETY. The current food packages limit cheese options to domestic cheese, namely Monterey Jack, Colby, natural Cheddar, Swiss, Brick, Muenster, Provolone, Mozzarella, and American. The 2020-2025 DGAs note a wider variety of cheeses,



including cottage cheese, edam, fontina, goat, gouda, gruyere, limburger, parmesan, ricotta, and Mexican cheeses such as queso anejo, queso asadero, and queso chihuahua. 114 WIC-approved cheeses should be aligned with options that are safe for consumption during pregnancy and highlighted in the 2020-2025 DGAs as appropriate dairy options. Providing additional cheeses will greatly increase participant choice and meet cultural dietary preferences.

INFANT FOODS

Starting at six months, the infant food packages provide jarred baby foods to support complementary feeding. These include infant cereals, infant vegetables and fruits, and infant meats. The 2020-2025 DGAs, which provided the first federal recommendations on infant nutrition, echoed longstanding guidance from the American Academy of Pediatrics to introduce complementary foods at approximately six months, with a recommended window between four and six months. 115 The 2020-2025 DGAs do not indicate a preference for jarred infant foods over other complementary foods, but note the necessity of providing foods in the appropriate size. consistency, and shape to support the age and developmental needs of the infant while avoiding choking hazards. 116 Jarred infant foods are among the least redeemed items in the WIC food package, with infant cereals redeemed at 47 percent, infant vegetables and fruits at 51 percent, and infant meats at 31 percent.¹¹⁷

- REDUCE INFANT FOOD ISSUANCE. The 2017 NASEM Report considered the challenges of infant food redemptions and proposed several steps to better tailor the food packages to support infant diets. Fortified infant cereals and infant meats provide critical nutrients like iron and zinc to support infant health, especially breastfed infants, but are currently issued in excess of ranges recommended by the American Academy of Pediatrics. 118 Reduced issuance of infant cereals, down to eight ounces per month for formula fed and partially breastfed infants, along with reduced issuance of infant meats, down to 40 ounces per month for breastfed infants, would still provide 130 percent of the estimated average requirement for iron and 72 percent of the estimated average requirement for zinc.119
- PERMIT SUBSTITUTIONS OF INFANT FOODS. Recognizing the low redemption rates of jarred infant foods, the 2017 NASEM Report proposed substitutions of infant vegetables and fruits with CVB, as well as substitution of infant meats with canned fish. 120 The

2020-2025 DGAs did not indicate a preference for jarred infant foods over other complementary foods, and WIC nutrition counselors are well positioned to assist families in preparing CVB or canned fish in appropriate texture, consistency, and shape for infant consumption. These cost-effective options provide developmentally appropriate options and additional variety to support complementary feeding.

» REVISE CVB SUBSTITUTIONS TO PERMIT ADDITIONAL OPTIONS. The current food packages permit limited substitutions, including allowances for fresh banana at six months and CVB substitutions for fresh vegetables and fruits at nine months upon individual nutrition assessment. These substitution rules are difficult to administer while also confusing to participants. Both CVB and canned fish substitutions should be available at six months without the need for an additional nutrition assessment, and CVB redemptions should be inclusive of all forms of vegetables and fruits authorized by the state, including frozen, canned, and dried.¹²²



NWA and WIC promote breastfeeding as the best form of infant feeding. While accommodating the nutrient needs of infants who are not breastfed, the WIC food packages are structured to encourage breastfeeding and provide support for breastfeeding women. Between 1998 and 2018, WIC breastfeeding initiation rates rose by 30 percent. The above recommendations strengthen existing considerations within the WIC food packages to support healthy breastfeeding outcomes. These include the provision of certain nutrients like choline, protein, and omega-3 fatty acids through eggs, canned fish, legumes, and peanut butter. Although WIC echoes the 2020-2025 DGAs in encouraging exclusive breastfeeding for babies' first six months of life, some mothers may benefit from access to infant formula.

PERMIT TAILORED FORMULA ISSUANCE UPON NUTRITION
ASSESSMENT. Issuance of infant formula in Food
Package V (Mostly Breastfeeding) and limitations
regarding infant formula issuance in Food Package VII
(Fully Breastfeeding), which requires choosing either
the fully breastfeeding or the formula-feeding package
in the first 30 days, may complicate a woman's choice
to breastfeed. WIC providers report that mothers may
select a formula-fed package due to concerns about
milk supply. The 2017 NASEM Report recommended
tailored issuance of formula in the first month,



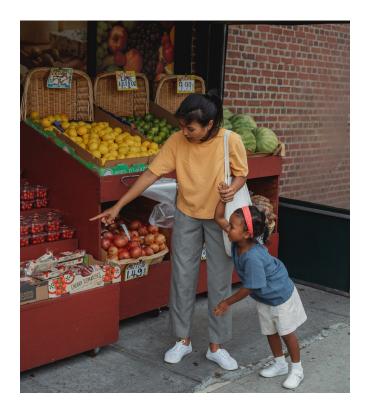
following a detailed nutrition assessment that would allow mothers to receive a certain amount of formula that supports their desired level of breastfeeding. 124 This option would promote greater individualized tailoring of infant food packages and encourage improved breastfeeding outcomes by meeting and accommodating the concerns of breastfeeding mothers without prescribing the fully formula-fed infant package. Revising all infant formula issuance to an "up to" amount would create ongoing flexibility without undermining the success of breastfeeding mothers. 125

SPECIAL DIETARY NEEDS AND PREFERENCES

WIC staff tailor benefit issuance to the participant's individual nutrient needs, which must be accessible based on the participant's cultural eating patterns, dietary preferences, or medical conditions. The existing packages and the 2017 NASEM Report included a series of substitutions to account for various dietary patterns. Food Package III may be issued, upon medical documentation, to support participants with special dietary needs based on a range of medical conditions, including preterm birth, metabolic and gastrointestinal disorders, malabsorption syndromes, and immune system disorders. Revisions to the food package should strengthen existing options to ensure inclusive choices for all participants.

- PERMIT ADEQUATE OPTIONS FOR KOSHER AND HALAL DIETS. The 2017 NASEM Report detailed that 23 State WIC Agencies serving approximately 53 percent of all participants offer substitutions based on food-related religious practices, including kosher options for Jewish families and halal options for Muslim families. State WIC Agencies should take additional steps to provide acceptable product substitutions to support participants following kosher or halal diets. Particular attention should be paid to prevent the inclusion of pork enzymes in infant formulas, ensuring that limited contract formula options are consistent with food-related religious practices.
- PERMIT ADEQUATE SUBSTITUTIONS FOR ALLERGIES AND SENSITIVITIES. Building on currently allowed substitutions, the 2017 NASEM Report contemplated options to accommodate celiac disease and gluten sensitivity, lactose intolerance and allergies to milk, eggs, fish, and peanuts. 128 States are encouraged to authorize gluten-free cereals, oats, tortillas, and brown rice for participants with celiac disease and gluten sensitivity. 129 For those who are lactose intolerant, the 2017 NASEM Report recommended that yogurt, soy beverages, and tofu be made more readily available as substitutions for milk. 130 Although the 2017 NASEM Report could not identify appropriate substitutes for some allergies, including new options - such as nut butters and canned chicken - could provide additional choices for those with peanut and egg allergies.





- PERMIT ADEQUATE SUBSTITUTIONS FOR VEGETARIAN
 AND VEGAN DIETS. The WIC food packages include a
 variety of foods acceptable to those on plant-based
 diets. These include vegetables, fruits, legumes,
 peanut butter, and grains. Soy-based protein formulas
 are provided to infants with caretakers who prefer
 a vegetarian or vegan diet, as well as to those with
 lactose intolerance. Certain issued foods namely fish
 and infant meats for vegetarians/vegans and eggs and
 cheese for vegans lack appropriate substitutions.

 The 2017 NASEM Report offered new substitutions,
 including swapping eggs for additional legumes for
 vegetarian and vegan individuals.

 132
- TAILOR FORMULA ISSUANCE IN FOOD PACKAGE III. Food Package III is provided to participants with qualifying medical conditions that necessitate special dietary needs. Although most recipients of Food Package III are infants, it is not necessary that every participant be issued infant formula.¹³³ Consistent with the 2017 NASEM Report recommendations, infant formula issuance in Food Package III should be limited to only when specifically prescribed by a healthcare practitioner.



APPENDIX: PROPOSED FOOD PACKAGES

	FULLY BREAST	FEEDING DYAD	MOSTLY BREAS	TFEEDING DYAD	FORMULA-FE	EDING DYAD
WIC FOOD CATEGORIES FOR INFANTS	INFANTS, 0-5 MONTHS (FP I/III)	INFANTS, 6-11 MONTHS (FP II/III)	INFANTS, 0-5 MONTHS (FP I/III)	INFANTS, 6-11 MONTHS (FP II/III)	INFANTS, 0-5 MONTHS (FP I/III)	INFANTS, 6-11 MONTHS (FP II/III)
Infant Formula			0-3m: up to 364 fl oz 4-5m: up to 442 fl oz	Up to 312 fl oz	0-3m: up to 806 fl oz 4-5m: up to 884 fl oz	Up to 624 fl oz
Infant Cereals		16 oz		8 oz		8 oz
Infant Vegetables and Fruits		128 oz OR 64 oz & \$10 CVB OR 0 oz and \$20 CVB		128 oz OR 64 oz & \$10 CVB OR 0 oz and \$20 CVB		128 oz OR 64 oz & \$10 CVB OR 0 oz and \$20 CVB
Infant Meats		40 oz OR 30 oz & 10 oz canned fish				
FOR WOMEN	FULLY BREASTFEEDING (FP VII)		MOSTLY BREASTFEEDING (FP V-B)		POSTPARTUM (FP VI)	
CVB	\$48		\$48		\$41	
Legumes	2 lb		2 lb		2 lb	
Juice	0 fl oz (\$3 CVB for 64 fl oz)		0 fl oz (\$3 CVB for 64 fl oz)		0 fl oz (\$3 CVB for 64 fl oz)	
Dairy (milk)	16 qt		16 qt		16 qt	
Cereal	36 oz		36 oz		36 oz	
Whole Grains	16 to 24 oz		16 to 24 oz		16 to 24 oz	
Nut butter	16 to 18 oz		16 to 18 oz		16 to 18 oz	
Eggs	2 dozen		1-1.5 dozen		1 dozen	
Fish	60 oz		30 oz		10 oz	
Chicken	10 oz		10 oz			

REVISED WIC FOOD PACKAGE MAXIMUM MONTHLY ALLOWANCES PRESENTED AS THE BENEFITS TO CHILDREN AND PREGNANT WOMEN IN FOOD PACKAGES IV, V-A, AND III.

WIC FOOD CATEGORY	CHILDREN 1 TO LESS THAN 2 YEARS (FP IV-A)	CHILDREN 2 TO LESS THAN 5 YEARS (FP IV-B)	PREGNANT WOMEN (FP V-A)	SPECIAL DIETARY NEEDS (FP III)
CVB	\$35	\$38	\$48	
Legumes	1 lb	1 lb	2 lb	
Juice		0 fl oz (\$3 CVB for 64 fl oz)	0 fl oz (\$3 CVB for 64 fl oz)	Up to 455 fl oz of
Dairy (milk)	12 qt	14 qt	16 qt	liquid concentrate, if
Cereal	36 oz	36 oz	36 oz	appropriate
W. grains	16 to 24 oz	16 to 24 oz	16 to 24 oz	Other foods in food
Nut butter	16 to 18 oz	16 to 18 oz	16 to 18 oz	package IV and V-A are
Eggs	1-1.5 dozen	1-1.5 dozen	1-1.5 dozen	provided as appropriate
Fish	10 oz	10 oz	10 oz	
Chicken	10 oz	10 oz	10 oz	

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- 90 2020-2025 DGAs at 60.
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- 95 *Id.*
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- 100 Whaley S, Ritchie LD, Spector P, Gomez J (2012) Revised WIC food package improves diets of WIC families. Journal of Nutrition Education and Behavior 44(3):204-209.
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- 103 2017 NASEM Report at 277.
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- 105 *ld*.
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- 116 2020-2025 DGAs at 57.
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