

Short Research Communication

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Nutrition Analysis of Senior Food Boxes Prepared at the San Diego Food Bank

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ABSTRACT

The San Diego Food Bank (SDFB) Senior Food Program prepares and distributes monthly 40-pound food boxes to low-income adults aged 60 and older. These boxes are designed to supply a balanced mix of essential nutrients. This study evaluates the alignment of the content of the food boxes with the dietary guidelines set by the U.S. Department of Agriculture (USDA). Using information from a combination of sources, including SDFB program data, USDA standards, and personal experience through volunteer service, this study demonstrates that the food boxes deliver key amounts of protein, calcium, vitamin D, fiber, and other essential nutrients. Although limited in variety, these food boxes provide reasonable dietary quality and quantity, and help prevent nutrient deficiencies among low-income seniors. Some opportunities for improvement for this program include reducing sodium, expanding whole-grain options, and incorporating specifically tailored items and special considerations for seniors with acute or chronic illnesses. To maximize the program's impact, proper evaluation and timely adjustments must continue on a routine basis, and community partnerships are crucial to its success.

Research Relevance and Societal Impact

The San Diego Food Bank (SDFB) is the lead organization in the San Diego area dedicated to its efforts against food insecurity, especially among seniors and other vulnerable populations in the community. Their Senior Food Program, which is often a main source of food supply, is specifically designed to help reduce the risk of nutritional deficiency and diet-related chronic diseases. To optimize the maximum impact of the SDFB program, continued evaluation and proper and timely adjustments are needed, and community partnerships are critical.

Keywords: Food insecurity, low-income seniors, dietary and nutrition needs, hunger, and malnutrition relief efforts

1. Introduction

According to [Feeding America](#), almost 7 million seniors faced food insecurity in 2022 (Facts About Senior Hunger in America, n.d.). USDA provides key statistics and graphics on food insecurity in the U.S., which includes specific information in the geriatric population (U.S. Department of Agriculture, n.d.). Low-income seniors are at extra risk of food insecurity, which may lead to a

higher risk of nutritional deficiency and diet-related chronic diseases, such as diabetes and cardiovascular disease. The SDFB's Senior Food Program, as a part of a federal program, is particularly designed to address food insecurity in this vulnerable population. To be eligible for the Senior Food Program, a person or member of a household needs to be at least 60 years old and meet household income requirements as defined in the

published [income guidelines](#) (San Diego Food Bank, 2025). Eligible seniors are provided with a monthly 40 lbs. food box, which typically consists of canned meats, canned fruits and vegetables, milk, rice, beans, cereal, pasta, peanut butter, and fruit juice. The items in the food box are selected to be in line with the USDA's recommendations on balanced nutrient/food groups. In addition to the food boxes, the SDFB also regularly provides bags of fresh produce, such as potatoes, onions, and fresh fruits. This review evaluates the contents of the food box, its nutritional composition, and their alignment with USDA dietary guidelines for seniors.

2. Methods

All information was gathered from: (a) SDFB Senior Food Program online information, (b) USDA dietary guidelines and nutrient reference data, (c) literature review on senior nutrition requirements, and (d) personal observations from volunteer experience at SDFB (allowing

'real-world' considerations, such as actual food item varieties and content, storage & handling, and logistics for repackaging and distribution at SDFB).

3. Results

Senior Food Box Content and Nutritional Profile

According to the SDFB's [Senior Food Program](#), each monthly box is designed to offer a selection of foods covering all major nutrient/food groups (San Diego Food Bank, n.d.). The standard contents, as specified in Table 1, include milk, canned meats, peanut butter, canned fruits and vegetables, cheese, rice, pasta, fruit juice, and cereals, which in general mirror the components recommended in federal guidelines for the [Commodity Supplemental Food Program \(CSFP\)](#) (U.S. Department of Agriculture, n.d.). It aligns in principle with a healthy diet emphasized in local and federal nutrition initiatives, aiming to supply a mix of:

Table 1: Nutritional Profile of Standard Items in SDFB Senior Food Boxes

Values are per standard serving; % Daily Value (DV) based on a 2,000-calorie diet. Nutritional profile may slightly vary depending on the actual brand of products provided in the food box.

Food Item	Serving Size	Calories	Protein (g)	Fiber (g)	Sodium (mg)	Calcium (% DV)	Vitamin D (% DV)	Potassium (% DV)	Notes
Canned pink Salmon	3 oz (85 g)	110	20	0	320	16	70	6	Rich in protein & omega-3s
Pinto beans	¼ cup dry (36 g)	60	7	13	15	4	0	0	Source of plant protein & fiber
Shredded wheat cereal (whole grain)	1 cup (56 g)	200	6	6	0	2	0	4	High in fiber
Low-fat milk (1%)	1 cup (236 mL)	100	8	0	105	25	10	6	Good source of calcium & vitamin D
Nonfat dry milk	¼ cup (32 g)	80	8	0	120	30	25	8	Shelf-stable source for calcium
Canned green beans	½ cup (120 g)	20	1	2	200	2	0	2	Vegetable
Canned sweet peas	½ cup (120 g)	60	3	3	200	2	0	4	Vegetable with moderate fiber
Canned sweet potatoes	½ cup (120 g)	90	1	2	40	2	0	6	Good source of potassium
Canned pears	½ cup (128 g)	100	0	2	5	0	0	2	Good source of fiber and minerals
Apple juice	1 cup (240 mL)	120	0	0	10	2	0	2	Natural source of sugar
Canned chili with beans	1 cup (240 g)	280	14	8	800	6	0	10	Good source of vegetable protein; However, sodium content is high
Peanut butter	2 tbsp (32 g)	190	8	2	150	0	0	4	Vegetable source for healthy fats; However, calorie-dense
White rice	1 cup (160 g)	200	4	1	0	0	0	2	Grain
Brown rice	¼ cup (45 g)	160	3	1	5	0	0	2	Grain

Note: The values are exact and based on actual values on food bank product labels.

- Protein and Dairy Products: Canned meats, peanut butter, and dairy items to provide essential proteins, calcium, and vitamin D.
- Fruits and Vegetables: Canned fruits and vegetables (often contain low-sodium formulations) supply vitamins, minerals, and fiber.
- Sources for Grains and Energy: Rice, pasta, and cereal offer carbohydrates for energy as well as dietary fiber.
- Diversified Nutrition: Fruit juice and cheese to diversify the nutrient profile.

The content of the food boxes was analyzed and compared with [USDA guidelines](#) for the most common nutrients and food groups, particularly protein, fiber, minerals, and vitamin D (Table 2) (U.S. Department of Agriculture & U.S. Department of Health and Human Services, 2020). Results of the analysis show that, with minor adjustments (e.g., reducing sodium, increasing whole grains), the boxes, together with additional fresh produce (bags of fresh fruits and vegetables) supplied by the SDFB, can generally meet the nutritional needs of seniors aged 60 and older.

4. Discussions and Recommendations

The SDFB food boxes provide much-needed nutrients that can improve dietary quality among food-insecure seniors. Protein, calcium, and vitamin D support muscle

and bone health; fiber from beans and cereals aids digestion and glycemic control. To supplement the food boxes, the SDFB also provides fresh produce, such as potatoes, sweet potatoes, onions, and fresh fruits, which strengthens the alignment with USDA nutrient standards. These supplements further help to reduce deficiencies in vitamin C and fiber, which was also reported by other similar programs, such as [Meals on Wheels](#) (Meals on Wheels America, n.d.). In addition, [CalFresh](#) is California's Supplemental Nutritional Assistance Program (SNAP) that provides monthly benefits to buy food for low-income households (GetCalFresh, n.d.).

When analyzing the content of the food boxes, the following observations and recommendations are to be considered. Many canned goods remain moderately high in sodium despite low-sodium formulations. Rinsing and broader use of low-sodium options are therefore recommended by [American Heart Association](#) (American Heart Association, n.d.). Replacing white rice with brown rice or whole-grain pasta would improve fiber intake. Drinking water regularly is highly encouraged, as fluids like juice and milk should not replace water intake. Lactose-free dairy alternatives, as well as culturally and religiously diverse items, should be considered when feasible. It is highly recommended to expand partnerships directly with local farms to ensure consistent and locally sourced fresh produce and minimize quality loss associated with long-distance

Table 2: Nutritional Analysis of the Senior Food Boxes in Comparison to the USDA Targets

Comparison is in reference to USDA recommendations for adults 60 and older. Multiple servings per day on most items are expected. Caloric content averages around 1,800-2,000 kcal/day. If consumed exclusively, along with supplemental fresh produce, this is appropriate for older adults with moderate activity levels.

Nutrient/Food Group	USDA Target	Senior Food Box Content	Alignment Analyses, Comparing Senior Food Box Content with USDA Target
Protein	46 g/day (women), 56 g/day (men)	Canned meats, beans, and peanut butter provide around 20-25 g/meal	Aligned (with ≥ 2 meals)
Fruits	1.5-2 cups/day	Canned pears (½ cup per serving) and apple juice	Aligned (multiple servings; juice lacks fiber, supplement with fresh fruits required)
Vegetables	2-3 cups/day	Canned vegetables (beans, sweet peas, sweet potatoes; ½ cup per serving with multiple servings)	Aligned (multiple servings; supplemented with fresh vegetables, e.g., onions, potatoes, etc.)
Grains	5-6 oz/day (½ or more whole grain)	Brown rice or white rice (¼ to 1 cup)	Aligned (with brown rice) or partially aligned (white rice common)
Dairy/Calcium	3 cups/day, 1,200 mg Ca	Low-fat and/or dry milk (¼ to 1 cup per serving with multiple servings)	Aligned
Vitamin D	600-800 IU/day	Milk and salmon	Aligned
Fiber	25 g/day (women), 38 g/day (men)	Beans and cereals provide 15-20 g/day	Slightly low
Sodium	Less than 2,300 mg/day	Canned goods with multiple servings may exceed targets	Needs reduction
Potassium	2,600-3,400 mg/day	Beans, milk, sweet potatoes, salmon, with multiple servings	Partially aligned

Note: These values are estimated based on USDA data.

transportation and extended storage before distribution. It is also highly recommended to provide nutrition education on meal planning, hydration, and chronic disease management, and consider including small booklets of recipes for maintaining nutrition-balanced meals. In addition, it is recommended to reference additional information with governmental agencies, such as the [Office of Dietary Supplements](#) at the National Institute of Health, which may provide valuable scientific information on nutrition to seniors (National Institutes of Health, n.d.). Regular evaluations of the Senior Food Program are recommended to help track health outcomes and nutrient adequacy, and the need to rebalance the content of the food box.

In the future to encompass a much larger methodological foundation, it is the intention to build communal awareness and participation by orchestrating a school-wide volunteer event, where others can contribute their own opinions. Furthermore, other student volunteers can provide feedback from their own food banks in other states with the information in this paper, strengthening nationwide food bank programs. This is a preliminary research article, but intends to drive passion to ending hunger nationwide.

Limitations of the Analyses

This analysis assesses typical food box contents but not each individual's actual dietary intake or health outcomes. Food boxes are intended as supplements or enhancers of wellness. Therefore, additional foods to achieve full nutritional adequacy need to be further analyzed and addressed. Nutrition education, such as cooking workshops and guidance on sodium reduction, at the food bank, local community centers, or libraries can bring awareness and knowledge to maximize the health benefits of the provided foods. This analysis does not take into account seniors with acute or chronic illnesses (food allergies, diabetes, heart conditions, etc.) or religious/cultural restrictions, which may require additional considerations on diet and food selections. Lastly, this study does not analyze the transportation or delivery options for the 40-lb box and any additional bags of fresh produce, which are heavy and may limit some seniors' access to the program.

5. Conclusion

This analysis supports the conclusion that the food boxes prepared by the SDFB for seniors are effectively designed to meet key nutritional requirements and generally align with USDA guidelines. By providing a balanced mix of protein, dairy, fruits, vegetables, and grains, the boxes play an important role in alleviating

nutrient deficiencies among vulnerable seniors. Although these boxes do not fully cover all nutritional needs when considered as a sole food source, they significantly enhance overall diet quality and quantity, and serve as an important component of broader food assistance goals. Strategic improvements, particularly reducing sodium and expanding whole-grain and fresh fruit options, would further enhance the program's effectiveness. A challenge is the timely transportation and distribution of the supplemental fresh produce with well-preserved quality. Areas for enhancement of the food program may include expanding lactose-free dairy alternatives, providing cooking workshops, and food designed to meet special needs for medical, religious, or other reasons.

In conclusion, the SDFB Senior Food Program exemplifies a science-driven approach to mitigating food insecurity and age-related malnutrition, which can otherwise bring mental stress. The regular availability of food boxes monthly may help to relieve such stress and improve the well-being of low-income seniors (Bazerghi et al., 2016; Ross et al., 2022). Continued evaluation and supplementation through nutrition education and additional [community and government programs](#) remain essential to address the comprehensive dietary needs in this vulnerable population (Bazerghi et al., 2016).

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Declaration of Generative AI and AI-assisted Technologies in the Writing Process

During the preparation of this manuscript, the authors did not employ any of the Generative AI and/or AI-Assisted technologies for Language refinement, drafting background section and did not perform any Task of the technology.

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Veronica Yu is a student at The Bishop's School in La Jolla, California, with a strong interest in global social issues, community engagement, and public welfare. From an early age, she has actively participated in community service initiatives, including organizing blanket donation drives and founding the non-profit student service club "Crafts by the Sea," which focuses on raising awareness about



ocean pollution and environmental responsibility. Since 2022, she has volunteered with the San Diego Food Bank, gaining practical exposure to food insecurity and hunger-relief efforts among vulnerable populations.

Her academic and service interests center on nutrition, food security, public health, and sustainable community support initiatives.

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