U.S. DEPARTMENT OF AGRICULTURE

Second Study of Nutrition and Activity in Child Care Settings: Summary of Findings

July 2025

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Second Study of Nutrition and Activity in Child Care Settings

Summary of Findings

July 2025

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Executive Summary

This report presents the major findings from the second Study of Nutrition and Activity in Child Care Settings (SNACS-II). The major findings include the following topics:

- Policies and practices of child care programs participating in the Child and Adult Care Food Program (CACFP)
- Opportunities for physical activity in CACFP programs
- Nutritional quality of meals and snacks served in CACFP programs
- Cost and revenues of CACFP meals and snacks
- Child and family characteristics of participants (including children's weight status)
- Child dietary intakes and plate waste
- Infant wellness and feeding policies and practices
- Comparisons of select outcomes with findings from SNACS-I

SNACS-II was designed to mirror an earlier study (SNACS-I), the first comprehensive, nationally representative assessment of child care programs participating in CACFP and the infants and children those programs served (Logan et al. 2021). In October 2017, the U.S. Department of Agriculture (USDA) updated the CACFP meal pattern requirements for the first time since the program's inception in 1968. Under the updated requirements, CACFP meals and snacks must include a larger variety of fruits and vegetables, more whole grains, and less added sugar and saturated fat. The updated meal pattern requirements went into effect shortly after the SNACS-I data collection was completed.

SNACS-II collected data in program year (PY) 2022–2023 to provide a picture of CACFP several years after the updated meal patterns went into effect. The study collected data from nationally representative samples of CACFP participating programs and children.

This summary presents findings about CACFP-participating early child care programs (ECCs), which include family day care homes (FDCHs), child care centers, and Head Start centers. The report also includes findings about two types of CACFP participating before and after school programs—at-risk afterschool centers and outside-school-hours care centers.

Major findings from the ECCs are discussed below.

CACFP programs' policies and practices

CACFP meals and snacks have the potential to increase children's access to healthier foods while they are in care because of the reach of the program and the numbers of children served by CACFP. The findings illuminate how ECC providers plan for, prepare, and serve meals and snacks to children; their food service policies and practices; and the challenges they face participating in CACFP.

- Cafeteria style was the most common type of meal and snack service among ECCs.
- Providers' main considerations for menu planning were CACFP meal pattern requirements, the nutritional quality of foods in meals and snacks, and children's preferences.

- Most child care centers and Head Start centers had a written food safety policy (78 and 86 percent, respectively). Having one was much less common among FDCHs (39 percent).
- Nearly half of providers reported no challenges planning menus that meet the CACFP meal patterns (44 percent). However, the most commonly reported challenge was limited access to foods that fit the requirements.

Opportunities for physical activity in CACFP programs

Children's physical activity is associated with many positive physical, cognitive, and psychosocial health outcomes (Carson et al. 2017). Although CACFP does not have requirements for physical activity, CACFP providers can influence children's growth and development by providing opportunities for structured and unstructured physical activity. Drawing from provider-reported practices and field staff observations, the study examined children's opportunities for, and barriers to, physical activity while they are in child care.

- Children had an average of four physical activity sessions per day at a given ECC provider—three outdoors and one indoors (adjusted for an 8-hour day).
- Half of ECC providers reported at least one barrier to children's physical activity. Inclement weather was commonly cited. Eighteen to 21 percent of all ECC providers reported it was often too rainy or snowy, too hot, or too cold to go outside, or that other frequent weather conditions such as thunderstorm warnings or air quality advisories prevented outside activity.

Nutritional quality of meals and snacks served in CACFP programs

Providers may receive reimbursement for up to two meals and one snack (or two snacks and one meal) per day through CACFP; qualifying meals served for breakfast, lunch, supper, or morning or afternoon snack may count toward this daily limit. To qualify for reimbursement, the meals and snacks served through CACFP must meet meal pattern requirements that are focused on supporting healthy eating recommendations for children. To meet CACFP meal standards, lunch must include five meal components, breakfast must include three components, and snacks must include any two of the five components. To be counted as meeting all requirements for all days, providers must serve all required meal components in all daily menus across all meals and snacks, including the requirements that 100 percent juice can only be served once a day (across all meals and snacks) and at least one whole grain–rich food must be served every day.

Almost all breakfasts served to 3- to 5-year-olds included fluid milk, fruits or vegetables, and grains. Almost all lunches served to 3- to 5-year-olds included fluid milk, fruits, grains, or meats/meat alternates. Eighty-nine percent of lunches included vegetables. Most snacks served to 3- to 5-year-olds included grains, fruits, or fluid milk. Fewer snacks included a meat/meat alternate, vegetable, or combination entrée.

SNACS-II used the Healthy Eating Index (HEI) 2015 to assess the nutritional quality of CACFP meals and snacks served to children in ECCs. HEI is a scoring metric that assesses the degree to which meals align with key recommendations of the Dietary Guidelines for Americans (DGA) and provides an overall measure of nutritional quality. Because maximum scores for the components of the HEI vary, findings for component scores are expressed as a percentage of the maximum possible score. A higher HEI score reflects better conformance with DGA recommendations and higher nutritional quality.

- Overall, average ECC breakfasts served to 3- to 5-year-olds received the maximum or near maximum adequacy scores for total fruits (98 percent), whole fruits (100 percent), dairy (100 percent), and whole grains (92 percent). The breakfasts also received high moderation scores for refined grains (86 percent), sodium (91 percent), and added sugars (96 percent). The high scores indicate that concentrations of each of these components in CACFP breakfasts were consistent with the relevant DGA recommendations.
- On average, ECC lunches served to 3- to 5-year-olds received high adequacy scores for total fruits (94 percent), whole fruits (98 percent), total vegetables (90 percent), dairy (100 percent), and total protein foods (92 percent). Overall, average ECC lunches received the maximum moderation score for added sugars (100 percent) but a low score for sodium (30 percent), indicating that ECC lunches were consistent with the DGA recommendations for each of these components other than sodium.

Costs of CACFP meals and snacks

USDA reimburses programs participating in CACFP for eligible paid, reduced-price, and free meals and snacks to help offset their costs for providing them. USDA adjusts these amounts annually to account for changes in the Consumer Price Index. FDCHs were not included in the cost study.

- Among child care and Head Start centers, the mean total cost per meal, which includes both food and labor costs, was $8.80 for breakfast, $9.70 for lunch, and $6.30 for snack.
- Labor costs among child care and Head Start centers typically accounted for a larger proportion of total meal costs than food costs. On average, labor costs accounted for 77 percent of total breakfast costs, 67 percent of total lunch costs, and 81 percent of total snack costs.
- Providers spent more on food for lunch compared to breakfast ($2.70 compared to $1.40, on average), but the cost of labor was about the same ($7.40 compared to $7.00, on average).
- USDA reimbursements for CACFP meals and snacks are intended to offset the cost of providing meals and snacks during care. The reimbursement rate exceeded food costs but fell below total meal costs for all meal types.

Child and family characteristics

CACFP is designed to contribute to the wellness, healthy growth, and development of young children, but few national studies are available about the children attending CACFP programs or their families. The study includes findings on some child characteristics (age and weight status), participation in federal assistance programs, and household food security for children in ECCs.

- In ECCs, children ages 1 to 2 years old spent an average of 43 hours per week in care. Children ages 3 to 5 years old spent an average of 39 hours per week in care.
- In ECCs overall, 16 percent of children ages 2 to 5 years old were classified as overweight (not including obese), 15 percent as obese, 3 percent as underweight, and 67 percent as a healthy weight.
- For families of children in ECCs, 32 percent reported receiving benefits from the Supplemental Nutrition Assistance Program (SNAP), and 30 percent reported receiving benefits from the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). However, 51 percent reported not participating in any food assistance programs.

- Overall, 81 percent of children in ECCs were in food secure households, 15 percent were in households with low food security, and 4 percent were in households with very low food security.

Dietary intakes and plate waste

CACFP plays a critical role in providing nutritious meals to children enrolled in participating ECCs. Assessing children's dietary intakes and plate waste after the implementation of the updated CACFP meal patterns provides an understanding of how the improved nutritional content of CACFP meals and snacks influences children's daily nutritional intakes.

- On average, 3- to 5-year-olds consumed 37 percent of their calories on child care days from CACFP meals and snacks.
- On average, 3- to 5-year-olds consumed 28 percent of their daily intake of added sugar, 38 percent of their intake of sodium, and 34 percent of their intake from saturated fat on child care days from CACFP meals and snacks.
- HEI-2015 scores for meals and snacks consumed by 3- to 5-year-olds was similar across meal types (53 for breakfast, 56 for lunch, and 52 for snack). The only difference by provider type was the HEI for snacks – it was significantly higher for FDCHs than for child care and Head Start centers. (The maximum possible score is 100.)
- The total HEI-2015 score for all foods consumed by 3- to 5-year-olds over 24 hours was about 6 points higher on child care days compared to non–child care days (68 versus 62; a statistically significant difference). (HEI scores for 24 hours and those for individual meals are not directly comparable.)
- The share of children consuming more than the DGA limit for saturated fat and sugars was significantly lower on a child care day compared to a non–child care day.
- Across meal types, plate waste (by weight) was highest for vegetables. "Other" menu items (such as water and desserts) were wasted the least.
- At breakfast served to 3- to 5-year-olds, foods most often wasted were fruits (37 percent), grains (35 percent), and combination entrees (43percent). At lunch, foods most often wasted were vegetables (55 percent), combination entrees (36 percent), and meats/meat alternates (35 percent). From snacks, almost half of vegetables (49 percent) and about one-third each of meats/meat alternates (32 percent) and fruits (29 percent) were wasted.
- ECCs reported using a variety of strategies to reduce plate waste: more than 95 percent scheduled meals with enough time for children to eat, 86 percent reported serving foods that were popular among children, and 86 percent tailored meal quantities to the expected number of children who would be attending.

Infant wellness and feeding policies and practices

ECCs play a critical role in establishing healthy habits among infants. The American Academy of Pediatrics (AAP) recommends "tummy time" (placing alert infants face down with adult supervision) to encourage muscle and motor skills development and prevent a flattened head shape from sleeping on their backs (AAP 2022; Hewitt et al. 2020). AAP recommends introducing complementary foods (foods other than breast milk or formula) to infants at six months of age, depending upon the infant's developmental status

(AAP, American Public Health Association, and National Resource Center for Health and Safety in Child Care and Early Education 2011).

- Eighty-eight percent of full-day ECCs with infants reported offering supervised tummy time for infants at least once per day, as did 86 percent of half-day ECCs.
- Thirty-one percent of ECCs met the AAP recommendation for the timing of introduction of solid foods.
- Overall, 72 percent of infants consumed only formula while in child care on the single data collection day, 18 percent consumed only breast milk, and 2 percent consumed a combination of formula and breast milk.

Comparisons to SNACS-I

SNACS-I and SNACS-II collected data in PYs 2016–2017 and 2022–2023, respectively. In between the two studies, the Food and Nutrition Service updated the meal pattern requirements for CACFP meals and snacks based on the DGA and public input (Food and Nutrition Service 2016). Child care providers also experienced significant disruptions to operations and staffing because of the COVID-19 pandemic (Zero to Three 2020), which may have impacted meal service during PY 2022-2023. Comparing key outcomes between the two studies captures any effects of these two factors and other trends that may have occurred over this period.

- Among ECCs, the three most common provider-reported challenges to participating in CACFP were the same in both time periods: (1) meal reimbursement not covering food expenses, (2) lack of children eligible for higher reimbursement, and (3) meal reimbursement paperwork.
- Children participated in more physical activity in SNACS-II than in SNACS-I. Adjusted for an 8-hour day, children in ECCs in PY 2022–2023 were observed doing physical activity for nearly a half hour more (123 minutes versus 96 minutes than in PY 2016–2017).
- Mean total HEI-2015 scores for breakfasts, lunches, and all meals and snacks combined that were served to 3- to 5-year-olds in ECCs were statistically significantly higher in SNACS-II. All meals and snacks combined had a mean HEI-score of 77 in SNACS-II, compared to a mean score of 72 in SNACS-I.
- When comparing 24-hour dietary intakes for 3- to 5-year-olds on a child care day, dietary intakes had a total HEI-2015 score of 65 in SNACS-I and 67 in SNACS-II. The difference of 2 points was not statistically significant.

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Acronyms and abbreviations

AAP	American Academy of Pediatrics
AAPOR	American Association for Public Opinion Research
ACS	American Community Survey
ADA	Average daily attendance
AMDR	Acceptable Macronutrient Distribution Range
AR	At-risk
ASA24	Automated Self-Administered 24-Hour Dietary Assessment Tool
BAS	Before and after school program
BMI	Body mass index
CACFP	Child and Adult Care Food Program
CBSA	Core-Based Statistical Areas
CDC	U.S. Centers for Disease Control and Prevention
CDCI	Center Director Cost Interview
CDRR	Chronic Disease Risk Reduction
CFSI	Center Food Service Cost Interview
CHIP	Children's Health Insurance Program
CI	Confidence interval
CPI	Consumer Price Index
CWR	Classroom waste ratio
DGA	Dietary Guidelines for Americans
DRI	Dietary Reference Intakes
EAR	Estimated Average Requirement
ECC	Early child care program
EOF	Environmental Observation Form
EPAO	Environmental Policy Assessment and Observation tool
FCCH	Family child care home

FDCH	Family day care home
FMB	Food Model Booklet
FNDDS	Food and Nutrient Database for Dietary Studies
FNS	Food and Nutrition Service
FPED	Food Patterns Equivalents Database
HEI	Healthy Eating Index
IRB	Institutional Review Board
LASSO	Least absolute shrinkage and selection operator
MOB	Meal observation booklet
MOS	Measure of size
NCI	National Cancer Institute
NSLP	National School Lunch Program
OSHCC	Outside-school-hours care center
POC	Onsite point-of-contact
PPS	Probability proportional to size
PSU	Primary sampling unit
PY	Program year
QC	Quality control
RA	Research associate
RQ	Research question
RR4	Response Rate 4
SACQ	Self-Administered Cost Questionnaire
SAS	Statistical Analysis Software
SCCI	Sponsor/Center Cost Interview
SNACS	Study of Nutrition and Activity in Child Care Settings
SNAP	Supplemental Nutrition Assistance Program
SOC	Survey Operations Center

SSU	Secondary sampling unit
TA	Technical assistant
USDA	U.S. Department of Agriculture
WIC	Special Supplemental Nutrition Program for Women, Infants, and Children

1. Introduction

The U.S. Department of Agriculture (USDA) Food and Nutrition Service (FNS) administers the Child and Adult Care Food Program (CACFP). CACFP provides reimbursement for nutritious meals and snacks served to eligible children enrolled in participating child care and before and after school programs, children residing in emergency shelters, and adults enrolled in participating adult day care facilities. To be eligible for reimbursement, meals and snacks must meet CACFP meal pattern requirements and nutrition standards.

Through about 20,000 sponsoring organizations and more than 150,000 early child care providers, CACFP serves more than 5.5 young million children daily (FNS National Data Bank 2023), Several different types of child care providers participate in CACFP. Child care providers participating in CACFP include three types of early child care programs (ECCs) and two types of before and after school programs (BASs). The three types of ECCs are family day care homes (FDCHs), child care centers, and Head Start centers, and the two types of BASs are at-risk (AR) afterschool centers and outside-school-hours care centers (OSHCCs) (Exhibit 1.1 below). Reimbursement rates and administrative requirements vary across providers. In some cases, CACFP providers are overseen by a sponsoring organization that is responsible for finances, administration, training, monitoring, and submitting claims for reimbursement. Child care centers, Head Start centers, and BASs are served directly by the State CACFP agency or through a sponsoring organization. All FDCHs participate through a sponsoring organization.

Exhibit 1.1. Types of child care providers that participate in the Child and Adult Care Food Program

Type	Description
Early child care programs (ECCs)	
Child care centers	Child care centers may be public, private nonprofit, or for profit. Centers may be licensed by their State or be license-exempt and may participate independently or under the auspices of a sponsoring organization. They may receive reimbursement for meals and snacks served to children ages 12 and younger based on each child's eligibility for free, reduced-price, or paid meals.
Head Start centers	Head Start, which is administered by the U.S. Department of Health and Human Services, serves infants and children up to age 5. Their families must meet income criteria. Head Start centers that provide day care services are required to participate in CACFP. In some States, Head Start centers may be required to comply with nutrition standards that exceed those defined in the CACFP meal patterns. All meals and snacks served to children enrolled in Head Start are reimbursed at the free rate.
Family day care homes (FDCHs)	FDCHs must be licensed or registered in their State and must be sponsored by a public or private nonprofit organization. Meals and snacks served in FDCHs are reimbursed at two different rates depending on the level of poverty in the FDCH's area, children's eligibility for free or reduced-price meals, or the household income of the individual provider.
Before and after school programs (BASs)	
At-risk (AR) afterschool centers	To be eligible to participate in CACFP, AR centers must (1) be in an area where at least 50 percent of children are eligible for free or reduced-price meals; (2) serve children after school or on weekends, holidays, and vacation periods during the regular school year; and (3) provide structured educational or enrichment activities. AR centers must be open to all children up to age 18, regardless of household income. AR centers may be reimbursed for up to one snack and one meal per child per day. Meals and snacks served in AR centers are reimbursed at the free rate.

Type	Description
Outside-school-hours care centers (OSHCCs)	To be eligible to participate in CACFP, OSHCCs must provide child care to children ages 12 and younger before school, after school, or both. They may also operate on weekends, holidays, and during school vacation periods. OSHCCs must be public or private nonprofits and be licensed in their State. OSHCCs may receive reimbursement for up to two meals and one snack per child per day, with reimbursement based on each child's eligibility for free, reduced-price, or paid meals.

In 2017, USDA updated the CACFP meal pattern requirements for the first time since the program's inception in 1968. Under the updated requirements that went into effect in October 2017, CACFP meals and snacks now include a larger variety of fruits and vegetables, more whole grains, and less added sugar and saturated fat. The updated requirements were also designed to encourage breastfeeding to align CACFP with the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) (FNS 2016).

1.1. Study overview

The first Study of Nutrition and Activity in Child Care Settings (SNACS-I) collected data in program year[1] (PY) 2016–2017. It was the first comprehensive, nationally representative assessment of child care programs participating in CACFP and the infants and children those programs served (Logan, et al., 2021). The updated meal pattern requirements went into effect shortly after the SNACS-I data collection was completed.

This study, SNACS-II, collected data in PY 2022–2023 to provide a picture of CACFP several years after the updated meal patterns went into effect. The methods used in SNACS-II largely replicated those used in SNACS-I so key outcomes could be compared at the two points in time. SNACS-II also expanded data collection on FDCHs and on teenagers in BASs.

The study addresses more than 70 research questions (RQs) organized around eight distinct research objectives:

- **Objective 1.** Describe the characteristics of providers participating in CACFP; the CACFP environment; providers' menu planning, meal purchasing, and food service practices; and providers' wellness policies and practices.
- **Objective 2.** Determine the food, calorie, and nutrient content of CACFP meals and snacks and the overall nutritional quality of these meals and snacks.
- **Objective 3a.** Describe children's usual food, calorie, and nutrient intake during child care days and non-child care days.
- **Objective 3b.** Describe characteristics of children and families served by CACFP providers, including children's body mass index, household food security, and household participation in food assistance programs.

[1] Program year (PY) generally refers to the time period when the CACFP program operates—the majority of programs operate on a schedule similar to the school year which ranges from August or September to May or June. Fiscal year refers to the year of funding which can follow the calendar year (January 1 to December 31) or a State's fiscal year from October 1 to September 30 or July 1 to June 30.

- **Objective 3c.** Describe characteristics of teens who participate in CACFP through BASs and the food content of meals and snacks offered to teens in these settings.
- **Objective 4.** Assess and describe plate waste in CACFP.
- **Objective 5.** Examine infant feeding practices, infant food intake, and infants' activity levels while in child care.
- **Objective 6.** Determine the cost of producing an average CACFP breakfast, lunch, supper, and snack.

1.2. CACFP program characteristics

Exhibits 1.2 and 1.3 show the weighted percentages of select characteristics of ECCs and BASs participating in CACFP that were sampled for SNACS. Characteristics of each analysis sample are provided in Appendix A.

Exhibit 1.2. Characteristics of early child care programs

	Number of sample programs, unweighted	Number of programs, weighted	Percentage of programs, weighted
Program type			
Child care center	239	35,453	24.0
Sponsored	145	27,573	77.8
Independent	94	7,880	22.2
Head Start center	334	13,471	9.1
Family day care home	205	98,847	66.9
Program size			
Small (1 to 39 enrolled)	486	111,969	75.8
Medium (40 to 79 enrolled)	177	17,823	12.1
Large (80 or more enrolled)	88	9,828	6.7
Missing	27	8,150	5.5
Sponsor organization type, among sponsored child care centers			
Private nonprofit organization	59	10,748	38.9
Public school district or local government	14	1,346	4.9
For-profit corporation	52	10,981	7.4
Other	9	2,494	1.7
Don't know	10	1,813	1.2
Missing	1	191	0.1
Urban	.	.	.
Yes	554	143,102	96.8
Percentage of children residing in the area who are minorities			
0% to less than 40%	303	49,731	33.7
40% to less than 80%	247	48,312	32.7
80% to 100%	226	49,705	33.6
Missing	2	24	0.0

	Number of sample programs, unweighted	Number of programs, weighted	Percentage of programs, weighted
Ages of children served			
0 to 11 months	326	75,752	51.3
12 to 35 months	536	124,735	84.4
3 to 5 years	719	131,139	88.7
Over 5 years	295	88,150	59.7
Missing	2	64	0.0
Food and Nutrition Service Region			
Midwest	104	30,692	20.8
Northeast	114	18,305	12.4
West	166	29,248	19.8
Southwest	123	21,439	14.5
Southeast	129	11,272	7.6
Mountain Plains	66	15,883	10.7
Mid-Atlantic	76	20,932	14.2
Number of early child care programs	**778**	**147,771**	

Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Provider Survey, winter through summer, 2023, and American Community Survey, 2021. See Table A.18 in Appendix A.

Exhibit 1.3. Characteristics of before and after school programs

	Number of sample programs, unweighted	Number of programs, weighted	Percentage of programs, weighted
Program type			
At-risk afterschool center	195	28,539	93.1
Sponsored	188	28,007	98.1
Independent	7	532	1.9
Outside-school-hours care center	100	2,109	6.9
Sponsored	94	1,999	94.8
Independent	6	110	5.2
Program size	.	.	.
Small (1 to 39 enrolled)	85	9,258	30.2
Medium (40 to 79 enrolled)	74	8,580	28.0
Large (80 or more enrolled)	92	9,274	30.3
Missing	44	3,536	11.5
Sponsor organization type, among sponsored before and after school programs			
Private nonprofit organization	82	8,228	27.4
Public school district or local government	144	17,978	59.9
Charter school organization	7	1,053	3.5
For-profit corporation	25	1,399	4.7

	Number of sample programs, unweighted	Number of programs, weighted	Percentage of programs, weighted
Other	10	573	1.9
Don't know	9	708	2.4
Missing	5	68	0.2
Urban	.	.	.
Yes	226	29,776	97.2
Percentage of children residing in the area who are minorities			
0% to less than 40%	85	5,677	18.5
40% to less than 80%	107	12,254	40.0
80% to 100%	100	12,634	41.2
Ages of children served	.	.	.
5 to 12 years	264	26,148	85.3
Over 12 years	107	12,844	41.9
Missing	3	198	0.6
Food and Nutrition Service Region			
Midwest	43	3,099	10.1
Northeast	46	2,532	8.3
West	34	6,991	22.8
Southwest	40	6,939	22.6
Southeast	35	4,536	14.8
Mountain Plains	32	2,675	8.7
Mid-Atlantic	65	3,876	12.6
Number of before and after school programs	**295**	**30,648**	

Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Provider Survey, winter through summer, 2023, and American Community Survey, 2021. See Table A.19 in Appendix A.

1.3. Organization of the report

The next eight chapters summarize SNACS-II findings for ECCs and BASs. Topics include program policies and practices; opportunities for physical activity; nutritional quality of meals and snacks served; dietary intakes and plate waste; child and family characteristics of participants (including children's weight status); costs and revenues of CACFP meals and snacks; infant wellness and infant feeding policies and practices; and comparisons of select outcomes with findings from SNACS-I. The appendices include additional study materials, including a detailed description of the methods (Appendix A), analytic tables addressing all the objectives (Appendices B through H), and the data collection instruments (Appendices I through L).

2. CACFP programs' policies and practices

CACFP meals and snacks have the potential to increase children's access to healthier foods while they are in care. Because children's dietary habits can influence their preferences for the rest of their lives (Venter and Harris 2009; Horovitz 2024), CACFP may also help to shape those preferences. This chapter describes how providers plan for, prepare, and serve meals and snacks to children; their food service policies and practices; and the challenges they face participating in CACFP. These findings answer Objective 1 RQs about CACFP provider characteristics and providers' menu planning, meal purchasing, and food service practices.

Providers answered questions about these topics in the web-based Provider Survey. Field staff recorded how providers served meals and snacks to children. Appendix A describes the Provider Survey contents and administration procedures in greater detail; see Chapter 7 for more information about the meal observations. Appendices B and G provide supplementary tables for the topics in this chapter. Appendix B also includes tables about other policies and practices addressed in the Provider Survey.

2.1. Meal service, menu planning, and meal purchasing practices

2.1.1. Types of meal and snack service

Field staff observed that cafeteria style was the most common type of meal and snack service among ECCs, while pre-plated meals and snacks were the most common among BASs (Tables G.80–G.85). See box for service definitions.

Types of CACFP meal and snack service

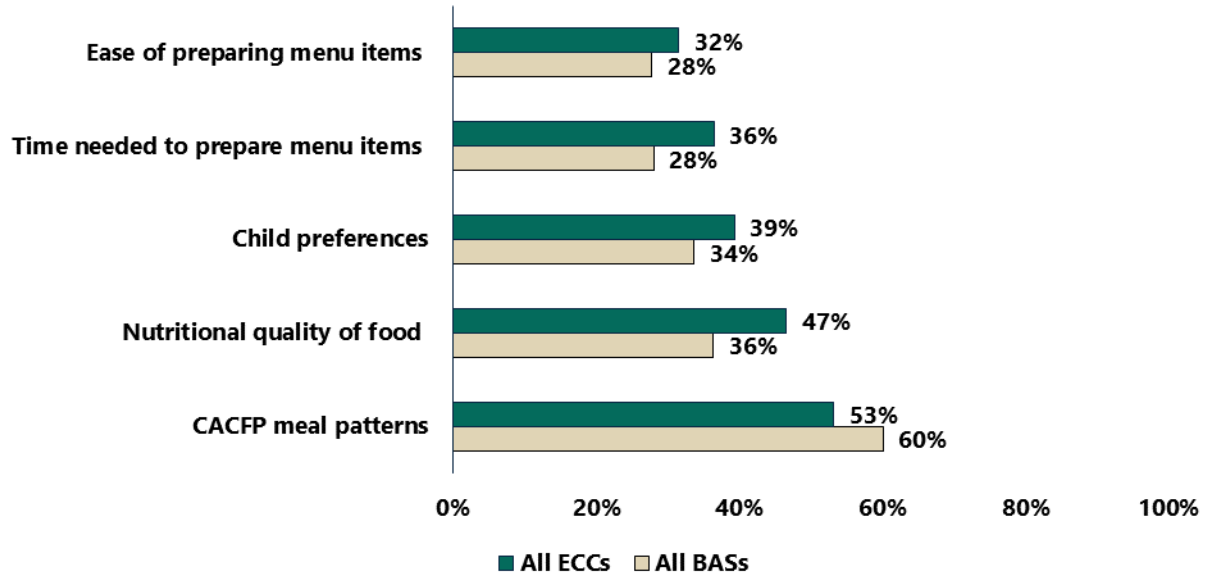
- **Cafeteria style.** Serving dishes arrive in the classroom and staff serve children on individual dishes or trays at the table, or children go through a serving line to receive a reimbursable meal or snack.
- **Family style.** Serving dishes are on communal tables and children serve themselves most foods.
- **Pre-plated.** Individual dishes or trays arrive in the classroom already portioned and staff pass them out to the children.

- **ECCs:** Fifty percent of providers used cafeteria style service for lunch. The proportion using cafeteria style service was larger for other meals and snacks—up to 62 percent for morning snacks.
- **ECCs:** Head Start centers were more likely than child care centers or FDCHs to use family style service—including, a majority (55 percent) that used this service type at lunch.
- **BASs:** Most served pre-plated afternoon snacks (56 percent) and suppers (79 percent).

2.1.2. Considerations for menu planning

Providers' main considerations for menu planning were CACFP meal pattern requirements, the nutritional quality of foods in meals and snacks, and children's preferences (Exhibit 2.1). Fifty-three percent of ECCs and 60 percent of BASs cited meal pattern requirements. More than half of child care centers, Head Start Centers, and OSHCCs (52, 58, and 52 percent, respectively) identified nutritional quality as a main consideration for menu planning (Tables B.3 and B.4).

Exhibit 2.1. Providers' main considerations for menu planning



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Provider Survey, winter through summer 2023. See Tables B.3 and B.4 in Appendix B.

BAS = before and after school program; CACFP = Child and Adult Care Food Program; ECC = early child care program.

2.1.3. Sources of foods for meals and snacks

Providers acquired foods from a variety of sources (Tables B.19 and B.20). These sources differed for ECCs and BASs:

- **ECCs:** Grocery stores or supermarkets (85 percent), wholesale stores (60 percent), and farmers markets (21 percent) were the most common sources.
- **BASs**: The most common sources were independent food service companies, vendors, caterers, or other contractors (39 percent); school districts (28 percent); and wholesale stores (16 percent). The differences from ECCs likely reflect the relationships BASs have with school districts (for example, as their sponsoring organization).

2.1.4. Resources used to select and purchase healthier foods

To help with selecting and purchasing healthier foods, 33 percent of all ECCs—including many child care centers and Head Start centers (53 and 62 percent, respectively)—used USDA resources such as online materials and technical assistance (Table B.54). However, it was also common for ECCs to use no resources at all (41 percent). More than half of FDCHs (57 percent) said additional resources tailored to their needs would be helpful. More than a quarter of child care centers and Head Start centers identified standardized recipes (26 and 29 percent, respectively) or training webinars (24 percent and 27 percent, respectively) as potential resources they would find helpful.

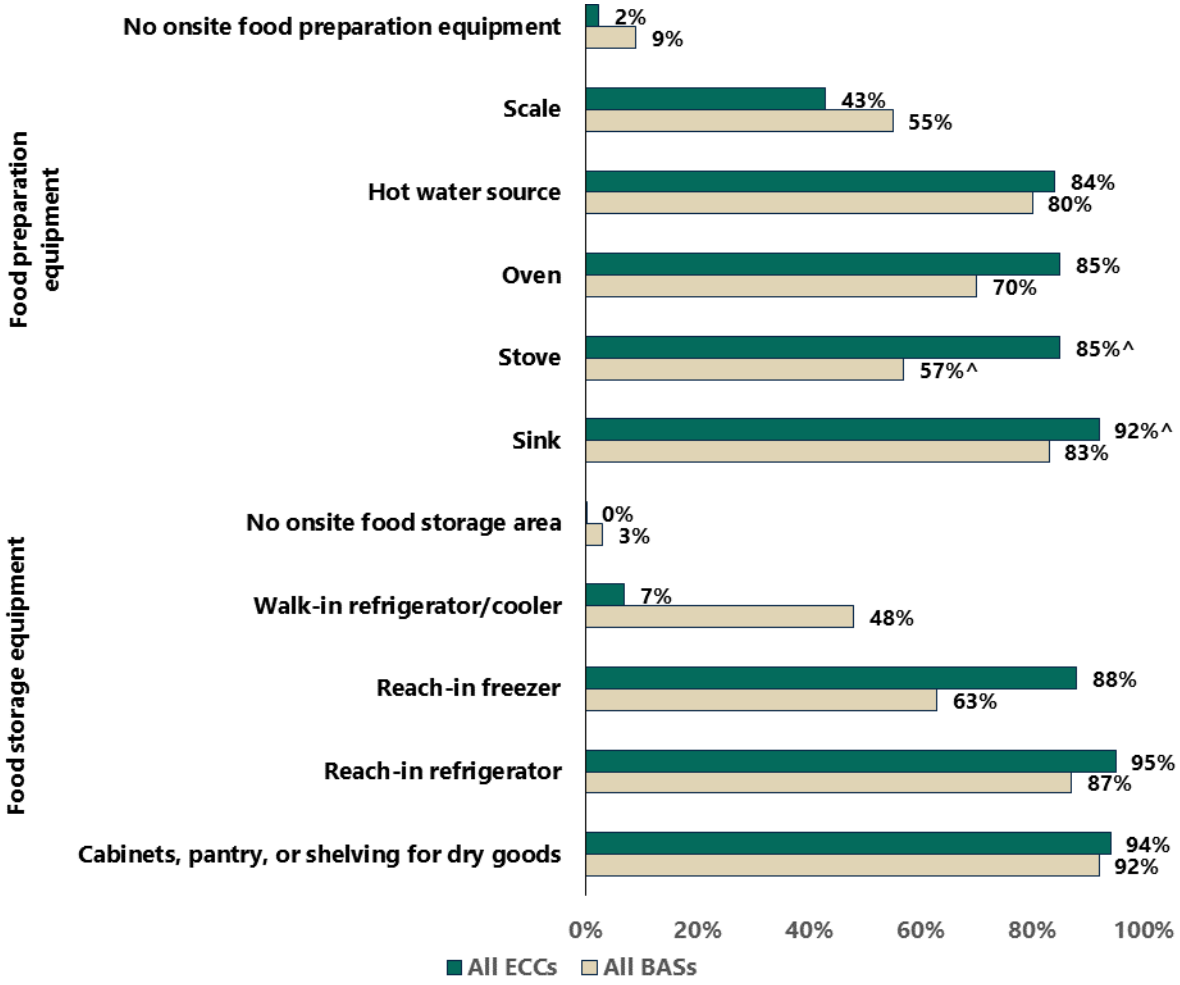
More than half of BASs (54 percent) also used USDA resources, and about one-third relied upon school food authorities or sponsoring organizations (35 percent and 30 percent, respectively) (Table B.55). These

providers most frequently identified live or recorded training webinars as a resource that could be helpful (29 percent), but just as many said they did not know what would be helpful (28 percent).

2.1.5 Availability of food preparation and storage equipment

Nearly all ECCs and BASs had food preparation equipment (98 percent and 91 percent, respectively) or an area for food storage on site (100 percent and 97 percent, respectively) (Tables B.5 and B.6). Exhibit 2.2 presents the share of providers with access to a variety of food preparation and storage equipment.

Exhibit 2.2. Share of providers with access to various food preparation and storage equipment



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Provider Survey, winter through summer 2023. See Tables B.5 and B.6 in Appendix B.

^ Estimate is considered imprecise because the standard error is more than 30 percent of the estimate.

BAS = before and after school program; ECC = early child care program.

2.2. Food service policies and practices

2.2.1. Food safety

Most center-based providers had a written food safety policy (78 percent to 86 percent across child care centers, Head Start centers and both BAS provider types) (Tables B.39 and B.40), although having one was

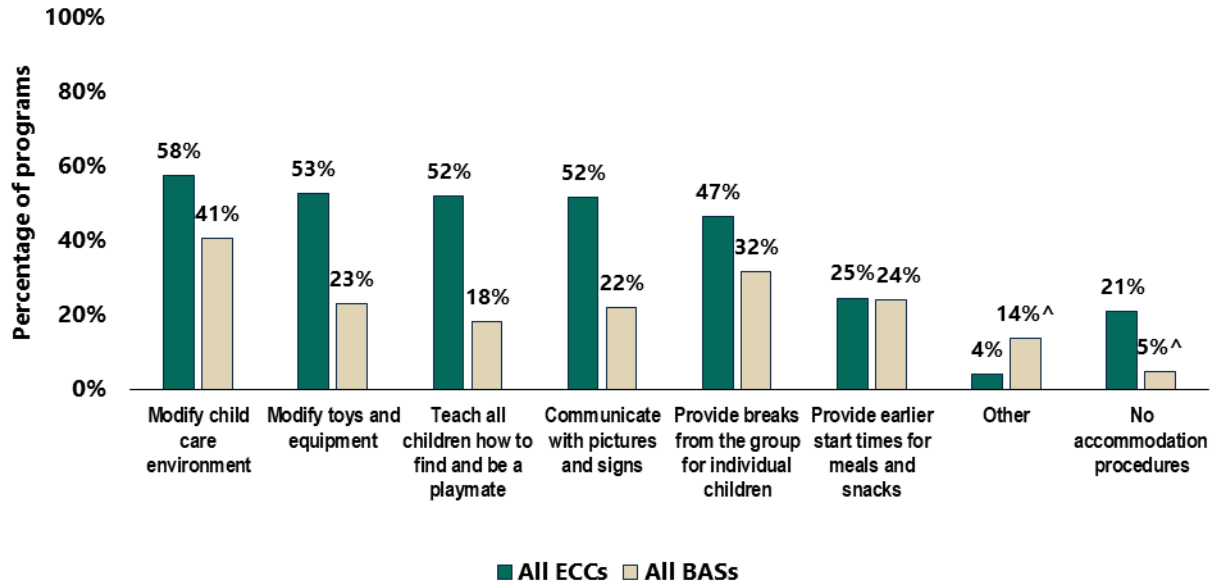
much less common among FDCHs (39 percent). Patterns were similar for several food safety practices, although the estimates for FDCHs are considered imprecise. For example, 79 percent of child care centers and 91 percent of Head Start providers had staff food safety training course requirements compared to 47 percent of FDCHs.

2.2.2. Managing special dietary needs and accommodating disabilities or impairments

Sixty percent of ECCs and 81 percent of BASs had a written policy for managing children's special dietary needs (Tables B.49 and B.50). The most common practice was to provide alternative foods and beverages to children with allergies (74 percent and 78 percent of ECCs and BASs, respectively), followed by staff inspecting the food of children with allergies for ECCs (35 percent) and allowing children to bring their food from home for BASs (53 percent).

Exhibit 2.3 presents the procedures ECCs and BASs use to accommodate children with disabilities or impairments.[2] Although ECCs were more likely to have specific procedures than were BASs, one-fifth of ECCs (21 percent) had no accommodation procedures compared to 5 percent of BASs. FDCHs were least likely to have a written policy about accommodating children with disabilities or impairments—34 percent compared to 66 percent to 86 percent across the four other provider types (Tables B.51 and B.52).

Exhibit 2.3. Procedures early child care programs and before and after school programs used to accommodate children with disabilities or impairments



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Provider Survey, winter through summer 2023. See Tables B.51 and B.52 in Appendix B.

^ Estimate is considered imprecise because the standard error is more than 30 percent of the estimate.

BAS = before and after school program; ECC = early child care program.

[2] Examples of disabilities or impairments included attention-deficit/hyperactivity disorder, mobility disabilities, visual impairments, and hearing impairments.

2.3. Barriers to CACFP participation

2.3.1. Challenges with planning menus that meet the CACFP meal patterns and selecting and purchasing healthier foods

Nearly half of providers reported no challenges planning menus that meet the CACFP meal patterns (44 percent and 48 percent of ECCs and BASs, respectively) (Tables B.11 and B.12). However, limited access to foods that fit the requirements was the most commonly reported challenge to meeting requirements. Twenty-four percent of all ECCs (and specifically 40 percent of child care centers) identified this challenge, as did 27 percent of BASs.

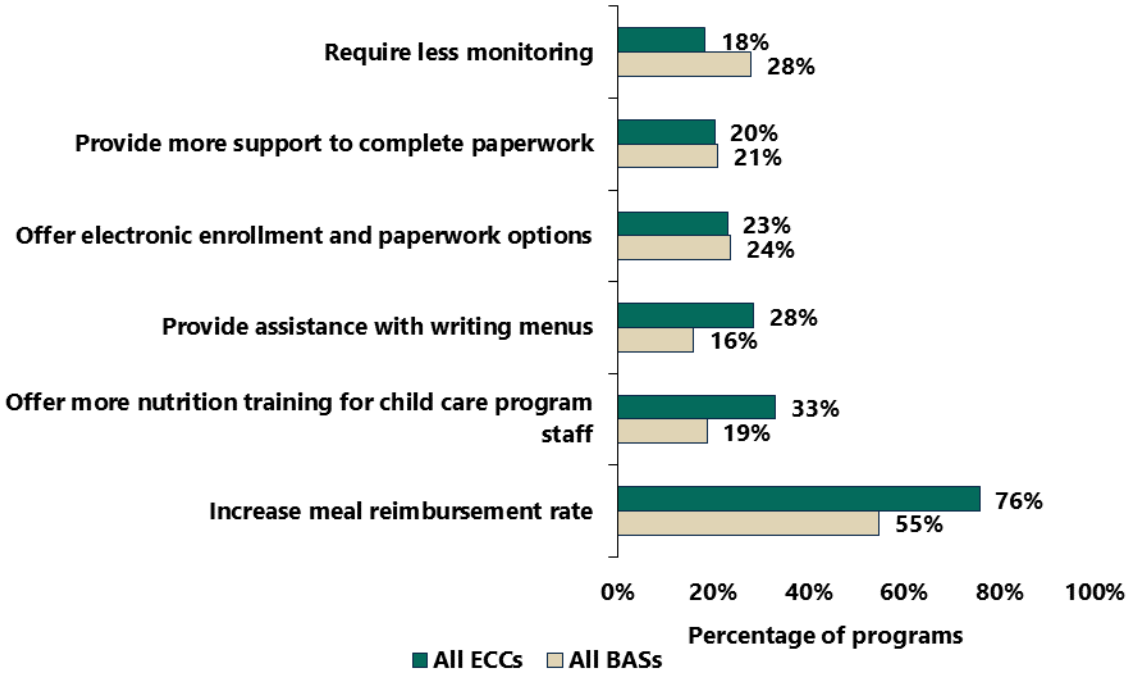
For 60 percent of ECCs and 47 percent of BASs, cost was the most common barrier to helping them purchase and serve healthier foods, followed by the time needed to prepare healthier meals and snacks (29 percent each for ECCs and BASs) (Tables B.17 and B.18). Substantially more FDCHs than child care or Head Start centers cited the cost of healthier food as a barrier (70, 40, and 37 percent of providers, respectively). Eight percent of ECCs and 15 percent of BASs cited limitations with kitchen space or equipment. This was consistent with the general availability of food preparation and storage equipment (see Exhibit 2.2).

2.3.2. Challenges to CACFP participation

As required by statute, CACFP reimbursements are adjusted annually and vary by provider type and by meal or snack. The most commonly cited challenge to ECCs participating in CACFP was insufficient meal reimbursement (67 percent), although this varied significantly by provider type (Table B.56). Only 37 percent of Head Start centers reported this challenge compared to 57 percent of child care centers and 75 percent of FDCHs. Insufficient meal reimbursement was also the most common challenge for participating BASs (48 percent) (Table B.57). Nearly as many BAS providers (40 percent) reported that meal reimbursement paperwork was difficult and therefore a barrier to participation.

Consistent with perceptions that meal reimbursements were insufficient, providers reported that increasing reimbursements would help other providers participate in CACFP (Tables B.58 and B.59). Seventy-six percent of ECCs and 55 percent of BASs overall suggested increasing reimbursements. Exhibit 2.4 presents other changes that current providers said could help other providers potentially decide to participate in CACFP. The study did not collect data from eligible, nonparticipating providers. It is unknown whether they would identify the same challenges or with the same prevalence as participating providers.

Exhibit 2.4. Changes that CACFP providers said could help care providers that do not currently participate in CACFP decide to participate



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Provider Survey, winter through summer 2023. See Tables B.58 and B.59 in Appendix B.

BAS = before and after school program; CACFP = Child and Adult Care Food Program; ECC = early child care program.

3. Opportunities for physical activity in CACFP programs

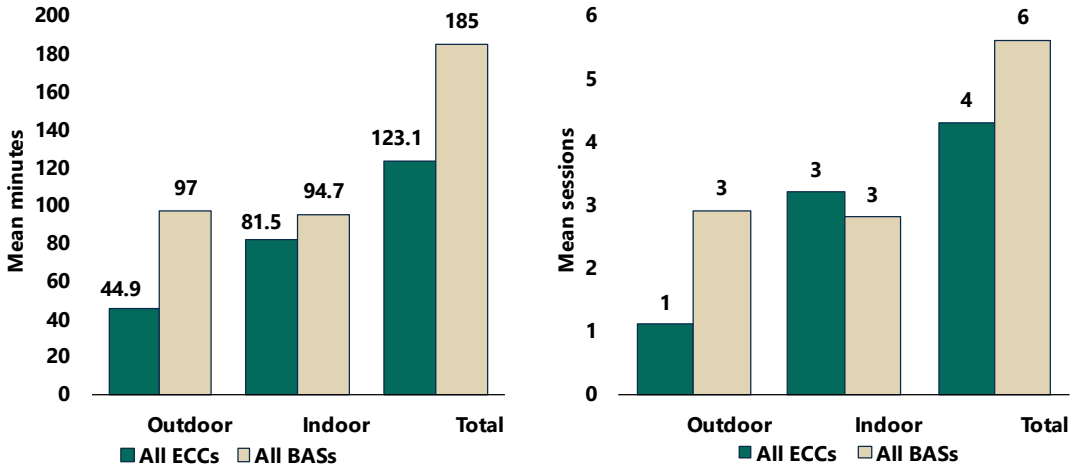
Children's physical activity is associated with many positive physical, cognitive, and psychosocial health outcomes (Carson et al. 2017). Although CACFP does not have requirements for physical activity, CACFP providers can influence children's growth and development by providing opportunities for structured and unstructured physical activity. This chapter describes children's opportunities for and barriers to physical activity while they are in child care. These findings answer Objective 1 RQs about providers' wellness policies and practices.

The data sources for these findings are providers' self-reported practices in the Provider Survey (described in Chapter 2) and field staff observations recorded in the Environmental Observation Form (EOF). The EOF was based on the 2019 Environmental Policy Assessment and Observation tool (EPAO-2919) (Benjamin et al. 2007). It also incorporated elements from the EPAO-FCCH, a version of the form designed for use in family child care homes (FCCHs, an alternative term for FDCHs) (Vaughn et al. 2017). Field staff observed all children in an FDCH or sampled classroom in a center throughout a child care day to document the amount of time spent in physical and sedentary activities. Appendix A presents more details about the instruments and data collection procedures. Appendix C presents supplementary tables.

3.1. Duration and number of opportunities for physical activity

Exhibit 3.1 presents the mean minutes of physical activity and number of physical activity sessions offered to children in ECCs and BASs, adjusted to an 8-hour day. The exhibit presents adjusted estimates to make it easier to compare the two groups of provider types because the amount of time children spend in care—and therefore the amount of physical activity they can be offered—can vary widely. Field staff observed ECCs offering an average of two hours of physical activity to children per day (123 minutes, adjusted to an 8-hour day). Children had an average of four physical activity sessions per day—three outdoors and one indoors.

Exhibit 3.1. Mean minutes of daily physical activity and number of daily physical activity sessions offered to children



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Environmental Observation Form, winter through summer 2023. See Tables C.1 and C.2 in Appendix C.

Estimates are adjusted to an 8-hour day.

BAS = before and after school program; ECC = early child care program.

On average, BASs offered children one hour of physical activity (64 minutes unadjusted), or three hours (185 minutes) adjusted to an 8-hour day (Table C.2). These sessions were equally split between outdoors and indoors.

Restricting active play as a disciplinary measure was less common among ECCs than BASs (Tables C.25 and C.26). Eighty-seven percent of ECCs and 67 percent of BASs reported that they did not restrict active play. Across all program types, Head Start centers were the least likely to restrict active play as a disciplinary measure; 96 percent did not restrict it.

3.2. Barriers to physical activity

About half of providers reported at least one barrier to physical activity (50 percent and 53 percent of ECCs and BASs, respectively) (Tables C.15 and C.16). Inclement weather was the most common transient barrier:

- **ECCs:** Twenty-one percent of all ECCs reported it was often too cold to go outside, 19 percent reported it was often too hot, and 18 percent reported it was often too rainy or snowy. Twenty-one percent reported that other frequent weather conditions (for example, thunderstorm warnings or air quality advisories) prevented outside activity.
- **BASs:** Twenty-three percent of all BASs reported it was often too hot to go outside, 14 percent reported it was often too cold, and 13 percent reported it was often too rainy or snowy. Thirteen percent reported that other frequent weather conditions prevented outside activity.

Among all ECCs, the most commonly reported structural barrier to physical activity was liability concerns (11 percent of all ECCs), followed by not enough indoor play space (10 percent). Among all BASs, the same two structural barriers were cited most frequently. However, compared to ECCs, BASs more commonly reported lack of indoor play space (16 percent) and less commonly reported liability concerns (8 percent) as barriers to physical activity.

4. Nutritional quality of meals and snacks served in CACFP programs

SNACS-II collected data in PY 2022–2023 from nationally representative samples of CACFP programs and the children they served. Providers may receive reimbursement for up to two meals and one snack (or two snacks and one meal) per day through CACFP; qualifying meals served for breakfast, lunch, supper, or morning or afternoon snack may count toward this daily limit. The meals and snacks served through CACFP must meet meal pattern requirements that are focused on supporting healthy eating recommendations for children. The SNACS-II study used the Menu Survey to collect descriptions of foods served to children in meals and snacks in CACFP programs during a one-week period. The study also used meal observation data to impute portion sizes for all foods and beverages listed on the Menu Survey. These methods are described in more detail in Appendix A.

This chapter includes findings on the most commonly served CACFP meals and snacks, comparisons of meals and snacks to CACFP meal pattern requirements, the nutritional quality of CACFP meals and snacks, the most frequently served foods in CACFP meals and snacks, and the availability of fresh fruits and vegetables in CACFP meals and snacks. Findings in this chapter focus on CACFP meals and snacks served to 3- to 5-year-olds in all types of ECC programs combined (including child care centers, Head Start centers, and FDCHs) and served to 6- to 12-year-olds in all BAS programs combined (including AR afterschool centers and OSHCCs). Appendix D includes supplementary tables for the Menu Survey analyses.

4.1. Most commonly served CACFP meals and snacks

For each type of CACFP meal and snack, the study team examined the different types of foods that were served to children in the meals. The team assigned each food reported on the Menu Survey to a set of major and minor food groups, based on those used in SNACS-I. Then, within each meal type and age group, the study team estimated the percentage of daily menus that included at least one food item from each of the major and minor food groups.

ECC programs may be approved to claim up to two reimbursable meals and one snack, or two snacks and one meal, to each eligible participant, each day (USDA FNS 2024). The vast majority of ECC programs served lunch (98 percent), afternoon snack (96 percent), and breakfast (93 percent). A smaller proportion of ECC programs served morning snack (59 percent). Supper (33 percent) and evening snack (24 percent) were much less common. The most common combination of meals at ECC programs (33 percent) was for breakfast, lunch, and afternoon snack (Table B.37).

Among BAS programs, OSHCCs may also be approved to claim up to two reimbursable meals and one snack. However, AR afterschool centers may only claim reimbursement for serving one meal and one snack to each eligible participant, each day (USDA FNS 2024). Across all BAS programs combined, most served supper (74 percent), lunch (69 percent), and breakfast (66 percent). A smaller share of BAS programs served afternoon snack (56 percent). Evening snack (21 percent) and morning snack (15 percent) were much less common. The most commonly served meal and snack combination at BAS programs (21 percent) was for breakfast, lunch, and supper, although this combination is not reimbursable for AR afterschool centers (only OSHCCs) under CACFP program regulations (Table B.38).

4.2. Comparison of meals and snacks to CACFP meal pattern requirements

To qualify for reimbursement through CACFP, meals and snacks must meet meal component and portion size requirements. To meet CACFP meal standards, lunches must include five components, as shown in Exhibit 4.1. Breakfast must include three components; snacks must include any two of the five components.

CACFP regulations required that minimum portions be served to children, except in the case of family style meal service, where minimum portions must only be made available (Exhibit 4.1). SNACS-II did not measure all food available to be served (for example, in the family style bowl), only the amounts of food actually served to children. Therefore, findings on portion size compliance are not presented here. These findings focus only on compliance with serving the required meal components. Of note, the data for this study were collected at a time when many providers may have been impacted by COVID and subsequent supply chain disruptions.

Exhibit 4.1. CACFP meal patterns for children

Child Meal Patterns			
Required meal components	1–2 years	3–5 years	6–18 years
Breakfast (all three components)			
Fluid milk[a]	4 fluid ounces	6 fluid ounces	8 fluid ounces
Fruits and/or Vegetables	1/4 cup	1/2 cup	1/2 cup
Grains	1/2 ounce equivalent	1/2 ounce equivalent	1 ounce equivalent
Lunch (all five components)			
Fluid milk[a]	4 fluid ounces	6 fluid ounces	8 fluid ounces
Meats/Meat alternates	1 ounce equivalent	1 1/2 ounce equivalents	2 ounce equivalents
Vegetables	1/8 cup	1/4 cup	1/2 cup
Fruits	1/8 cup	1/4 cup	1/4 cup
Grains	1/2 ounce equivalent	1/2 ounce equivalent	1 ounce equivalent
Snack (two of five components)			
Fluid milk[a]	4 fluid ounces	4 fluid ounces	8 fluid ounces
Meats/Meat alternates	1/2 ounce equivalent	1/2 ounce equivalent	1 ounce equivalent
Vegetables	1/2 cup	1/2 cup	3/4 cup
Fruits	1/2 cup	1/2 cup	3/4 cup
Grains	1/2 ounce equivalent	1/2 ounce equivalent	1 ounce equivalent

Source: CACFP Meal Pattern Tables, available at: https://www.fns.usda.gov/cacfp/meals-and-snacks.

A vegetable may be offered to meet the entire fruit requirement at lunch or supper. When two vegetables are served at lunch or supper, two different kinds of vegetables must be served. Meats/meat alternates may be offered in place of the entire grains requirement, up to three times per week at breakfast.

[a] Must be unflavored whole milk for children age 1 year. Must be unflavored low-fat (1 percent fat or less) or unflavored fat-free (skim) milk for children ages 2 through 5 years. Must be unflavored or flavored fat-free (skim) or low-fat (1 percent fat or less) milk for children 6 years old and older.

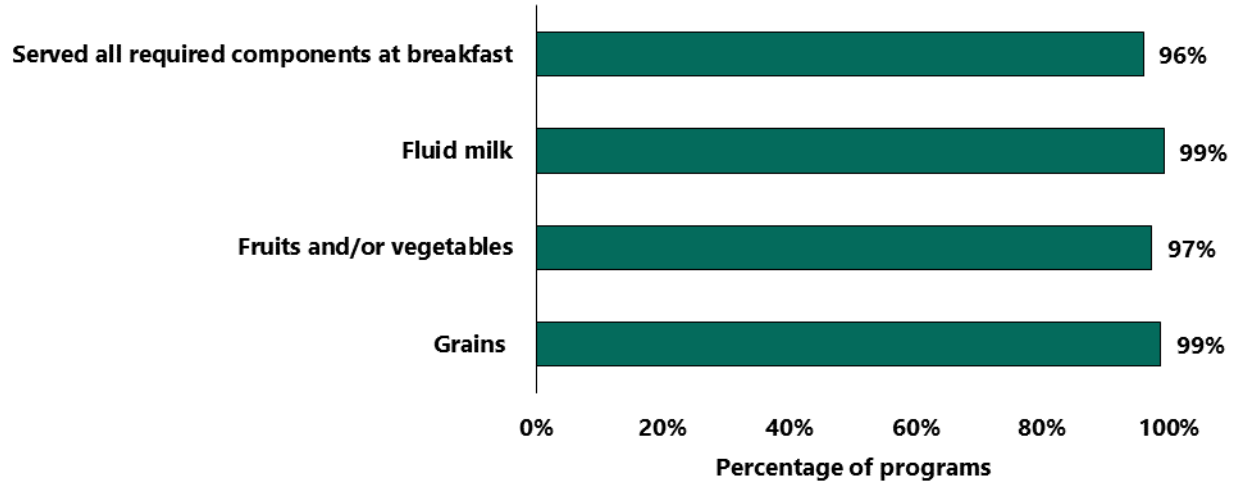
CACFP = Child and Adult Care Food Program.

CACFP meal pattern requirements in early child care programs

The vast majority of ECC programs served all required meal components to 3- to 5-year-olds in CACFP breakfasts, lunches, and snacks (Exhibits 4.2, 4.3, and 4.4, respectively). To be counted as meeting all

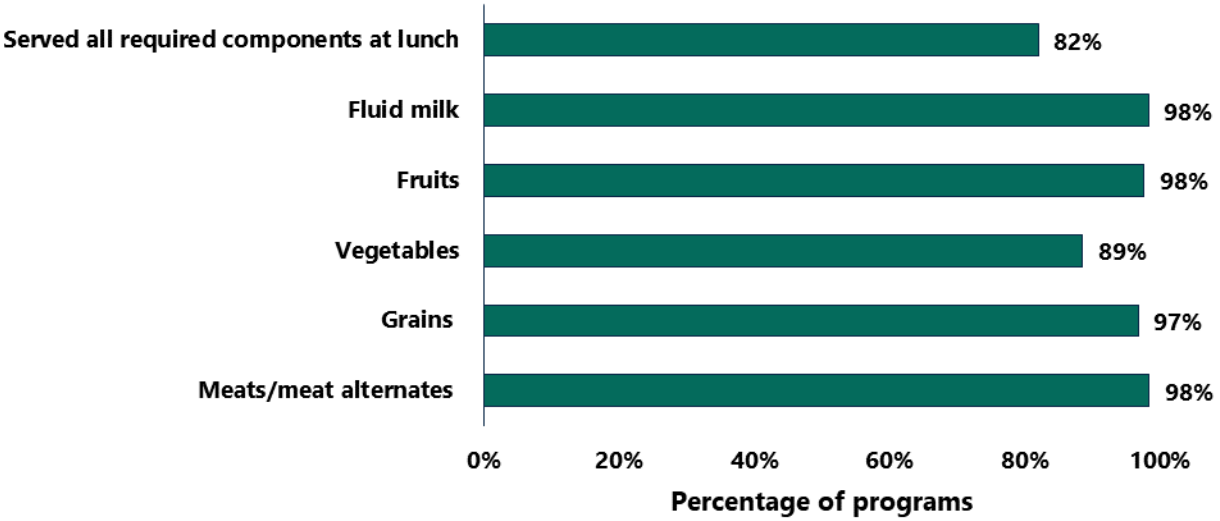
requirements for all days, providers must serve all required meal components in all daily menus across all meals and snacks, including the requirements that 100 percent juice can only be served once a day (across all meals and snacks) and at least one whole grain-rich food must be served every day. Although nearly all ECC programs serving 3- to 5-year-olds met the requirement to limit juice (99 percent), fewer met the requirement for whole grains (55 percent), and less than half met all requirements (41 percent) (Table D.24).

Exhibit 4.2. Required meal components early child care programs served to 3- to 5-year-olds for breakfast



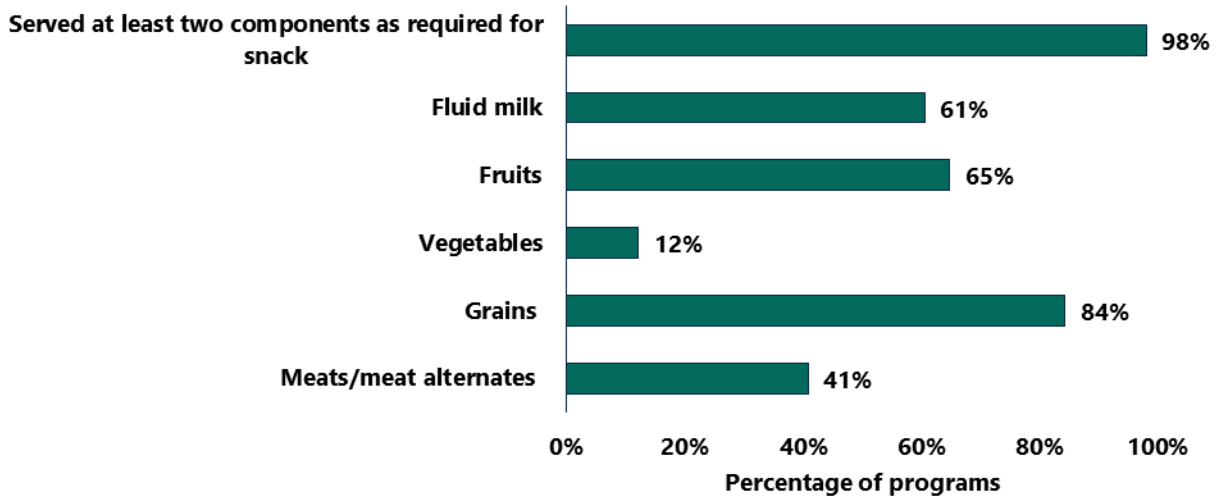
Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Menu Survey, winter through summer, 2023. See Tables D.17 and D.21 in Appendix D.

Exhibit 4.3. Required meal components early child care programs served to 3- to 5-year-olds for lunch



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Menu Survey, winter through summer, 2023. See Tables D.18 and D.22 in Appendix D.

Exhibit 4.4. Required meal components early child care programs served to 3- to 5-year-olds for snack



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Menu Survey, winter through summer, 2023. See Tables D.19 and D.23 in Appendix D.

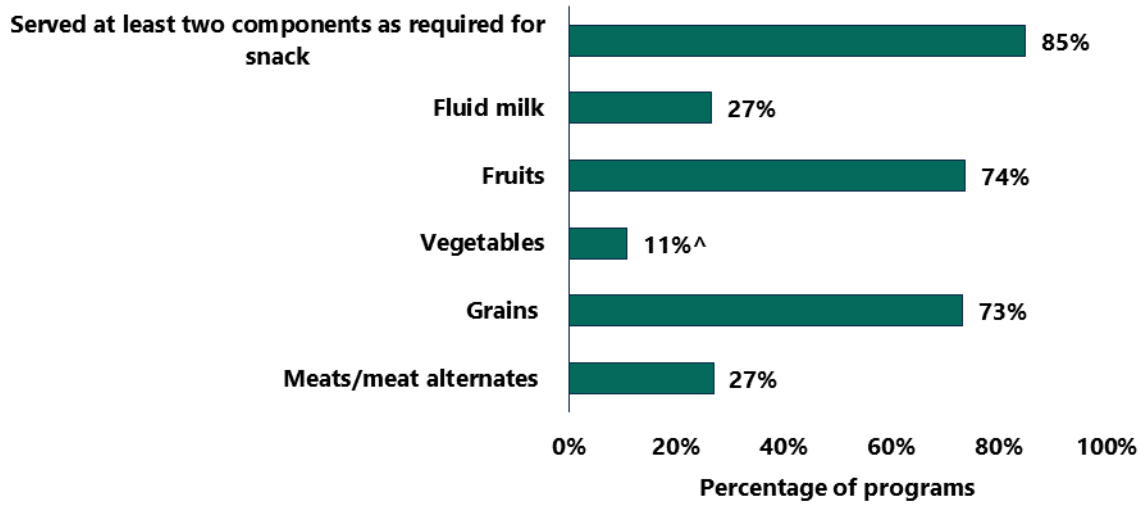
Availability of whole grain–rich foods in early child care programs

- Less than half (44 percent) of ECC programs often or always served any whole grain–rich foods at breakfast for 3- to 5-year-olds (Table D.65).
- Thirty percent of ECC programs often or always served any whole grain–rich foods at lunch for 3- to 5-year-olds (Table D.66).
- Seventy-three percent never or rarely served any whole grain–rich foods at snack for 3- to 5-year-olds (Table D.67).

CACFP meal pattern requirements in before and after school programs

A high percentage of BAS programs served all required meal components to 6- to 12-year-olds at snack time and at supper (Exhibits 4.5 and 4.6). However, less than half of BASs met all the requirements for serving required meal components, limiting juice, and serving whole grain–rich food (45 percent). Most BASs that served 6- to 12-year-olds limited 100 percent juice to no more than one meal or snack per day (96 percent, Table D.33).

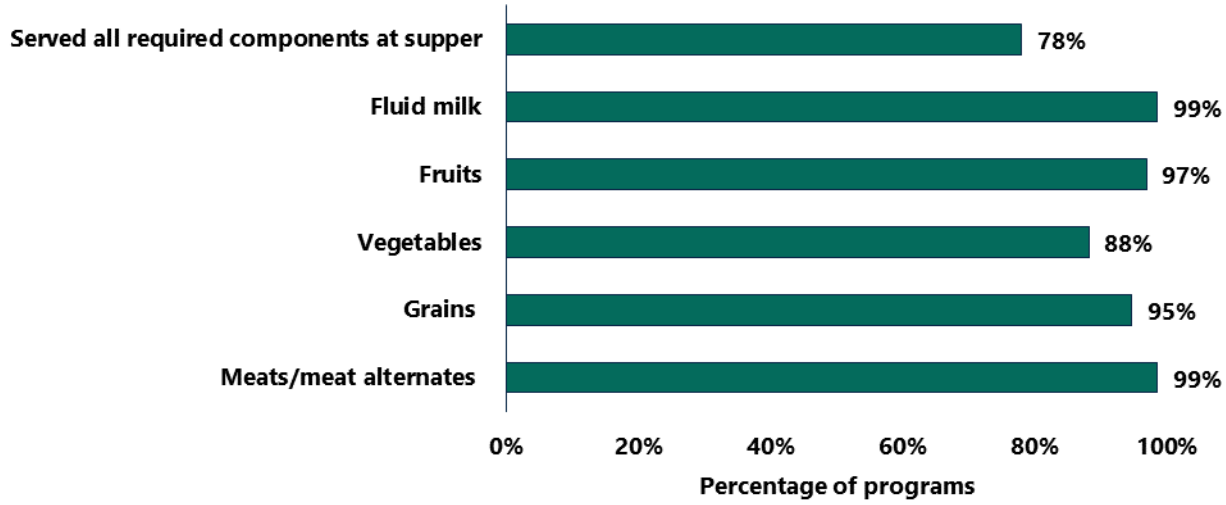
Exhibit 4.5. Required meal components before and after school programs served to 6- to 12-year-olds for snack



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Menu Survey, winter through summer, 2023. See Tables D.25 and D.31 in Appendix D.

^ Estimate is considered imprecise because the standard error is more than 30 percent of the estimate.

Exhibit 4.6. Required meal components before and after school programs served to 6- to 12-year-olds for supper



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Menu Survey, winter through summer, 2023. See Tables D.27 and D.32 in Appendix D.

Availability of whole grain–rich foods in before and after school programs

- Most BASs reported that they never or rarely served any whole grain–rich foods at snack for 6- to 12-year-olds (84 percent; Table D.69). Almost half reported that they never or rarely served any whole grain–rich foods at supper for 6- to 12-year-olds (43 percent; Table D.70).

4.3. Most frequently served foods in CACFP meals and snacks

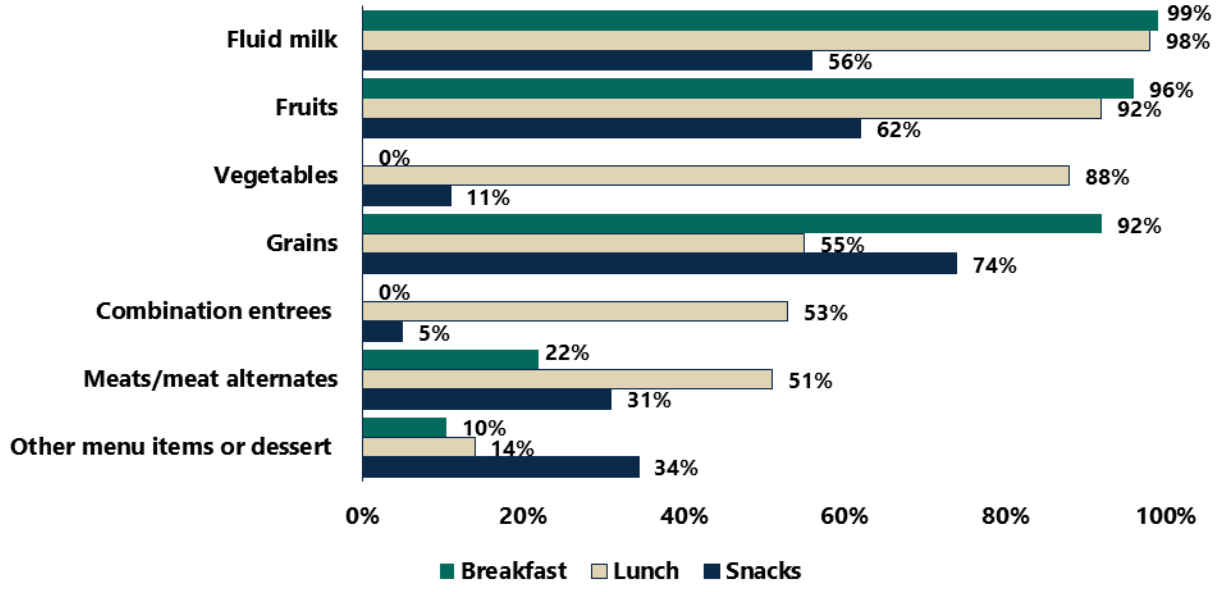
For analysis of the most frequently served foods, the SNACS team classified all foods served in ECCs and BASs into eight major food groups, based on the methods used for SNACS-I. These food groups are: milk, vegetables, fruits, combination entrees, breads/grains, meat/meat alternates, desserts and other menu items, and accompaniments. Combination entrées were defined as foods that combined two or more of the required CACFP meal components. Percentages for meats/meat alternates and grains exclude these foods if they are part of a combination entrée. Nested within each major food group are more specific subgroups of the types of foods served, which are called minor food groups (shown in Table A.45 in Appendix A). The foods served most frequently were defined as food categories served in 5 percent or more of daily menus.

Breakfasts served to 3- to 5-year-olds

Almost all breakfasts served to 3- to 5-year-olds included fluid milk, fruits, or grains. Few breakfasts included meats/meat alternates (Exhibit 4.7).

The most frequently served milks in breakfast included unflavored 1% milk (86 percent) and unflavored fat-free milk (9%). The most frequently served fruits in breakfast included banana (fresh) (22 percent), apple (fresh) (10 percent), strawberries (fresh) (10 percent), orange (fresh) (8 percent), blueberries (fresh) (6 percent), and applesauce (canned) (6 percent). The most frequently served grains in breakfasts included unsweetened cold cereal (28 percent); breads, rolls, bagels, and other plain breads (24 percent); pancakes, waffles, and French toast (21 percent); and hot cereal (12 percent).

Exhibit 4.7. Foods served in breakfast, lunch, and snacks to 3- to 5-year olds



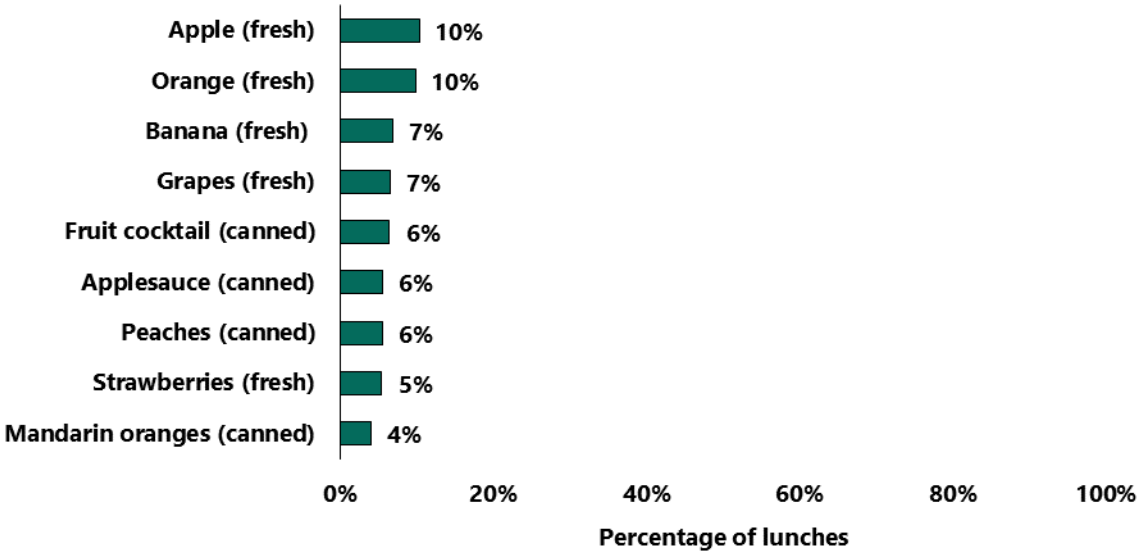
Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Menu Survey, winter through summer, 2023. See Tables D.53, D.54, and D.55 in Appendix D.

Lunches served to 3- to 5-year-olds

Almost all lunches served to 3- to 5-year-olds included fluid milk or fruits. A high percentage of lunches included vegetables. A majority of lunches included grains, a combination entrée, or meats/meat alternates (Exhibit 4.7). Though combination entrées often contain both grains and meats/meat alternates, they are counted as a separate food category.

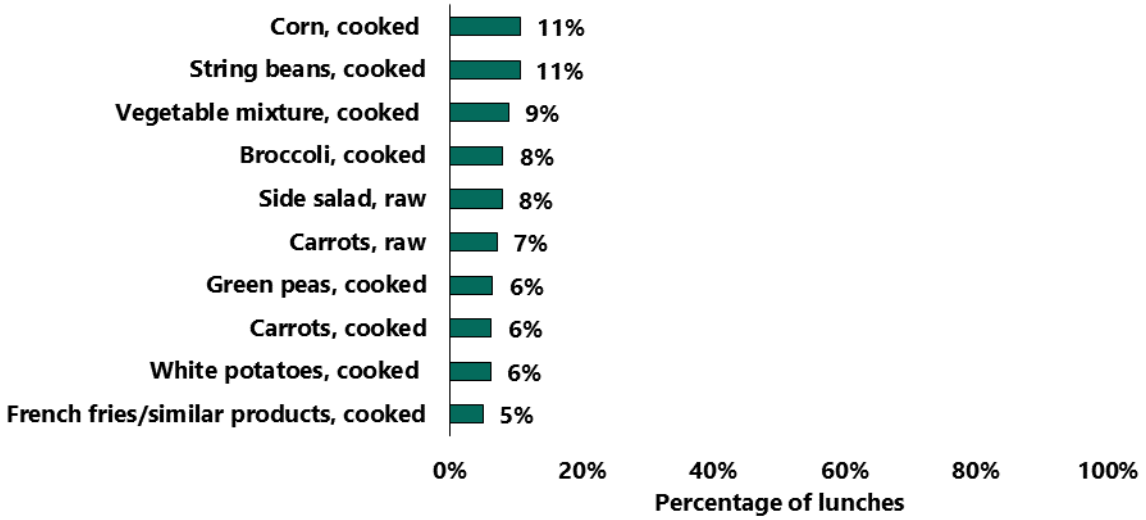
The most frequently served milks at lunch were 1% milk, unflavored (84 percent) and fat-free milk, unflavored (11 percent) (Table D.54). A variety of fruits and vegetables were frequently served (Exhibits 4.8 and 4.9). The most frequently served combination entrées were sandwich with plain meat, poultry, or fish (6 percent); spaghetti (6 percent); pizza (5 percent); macaroni and cheese (4 percent); and peanut butter sandwich (3 percent). Among meats/meat alternates, breaded or fried chicken and turkey (10 percent); plain chicken and turkey (9 percent); breaded or fried beef and pork (9 percent); cheese (7 percent); and sausage, frankfurters, and cold cuts (6 percent) were the most frequently served. Among grains, breads, rolls, bagels, and other plain breads (30 percent); rice (14 percent); and crackers, croutons, and pretzels (4 percent) were the most frequently served.

Exhibit 4.8. Fruits most frequently served in lunches to 3- to 5-year-olds



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Menu Survey, winter through summer, 2023. See Table D.54 in Appendix D.

Exhibit 4.9. Vegetables most frequently served in lunches to 3- to 5-year-olds



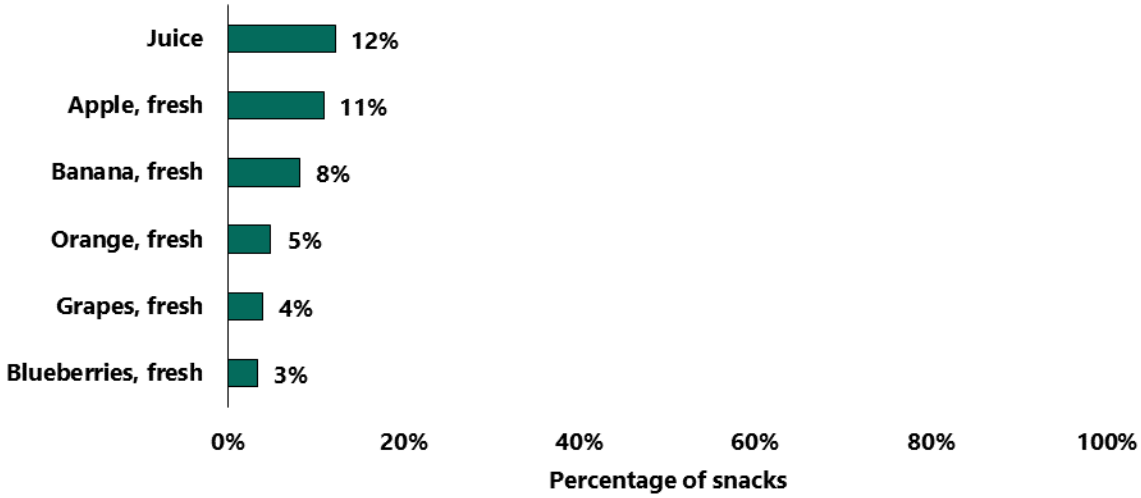
Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Menu Survey, winter through summer, 2023. See Table D.54 in Appendix D.

Snacks served to 3- to 5-year-olds

A majority of snacks served to 3- to 5-year-olds included grains, fruits, or fluid milk. Fewer snacks included meats/meat alternates, vegetables, or combination entrée (Exhibit 4.7).

The most frequently served milks at snack were 1% milk, unflavored (47 percent) and fat-free milk, unflavored (5 percent) (Table D.55). Juice was the most frequently served form of fruit (12%), followed closely by fresh apples (11%) (Exhibit 4.10). Among meats/meat alternates, cheese (13 percent); yogurt (8 percent); and nuts, nut butters, seeds, and nut mixtures (6 percent) were most frequently served. Among grains, crackers, croutons, and pretzels (55 percent) and breads, rolls, bagels, and other plain breads (7 percent) were most frequently served.

Exhibit 4.10. Fruits most frequently served in snacks to 3- to 5-year-olds



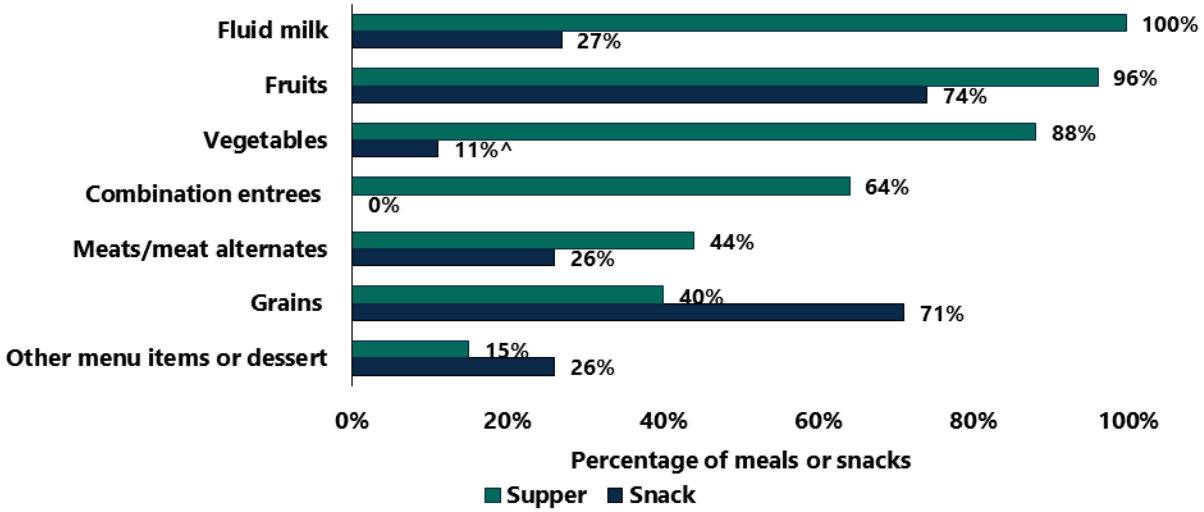
Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Menu Survey, winter through summer, 2023. See Table D.55 in Appendix D.

Snacks served to 6- to 12-year-olds

A high percentage of snacks served to 6- to 12-year-olds included fruits or grains. Fewer snacks included fluid milk, meats/meat alternates, or vegetables (Exhibit 4.11 and Table D.57; estimate for vegetables is imprecise).

One percent milk, unflavored (21 percent) was the most commonly served milk type at snack. Juice was the most frequently served form of fruit (45 percent), followed by fresh apple (10 percent). Among meats/meat alternates, cheese (11 percent) and yogurt (8 percent) were most frequently served. Among grains, crackers, croutons, and pretzels (50 percent) and corn/tortilla chips (7 percent) were most frequently served. Raw carrots (7 percent, but imprecise) were the most frequently served vegetable.

Exhibit 4.11. Foods served in snacks and supper to 6- to 12-year-olds



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Menu Survey, winter through summer, 2023. See Tables D.57 and D.58 in Appendix D.

^ Estimate is considered imprecise because the standard error is more than 30 percent of the estimate.

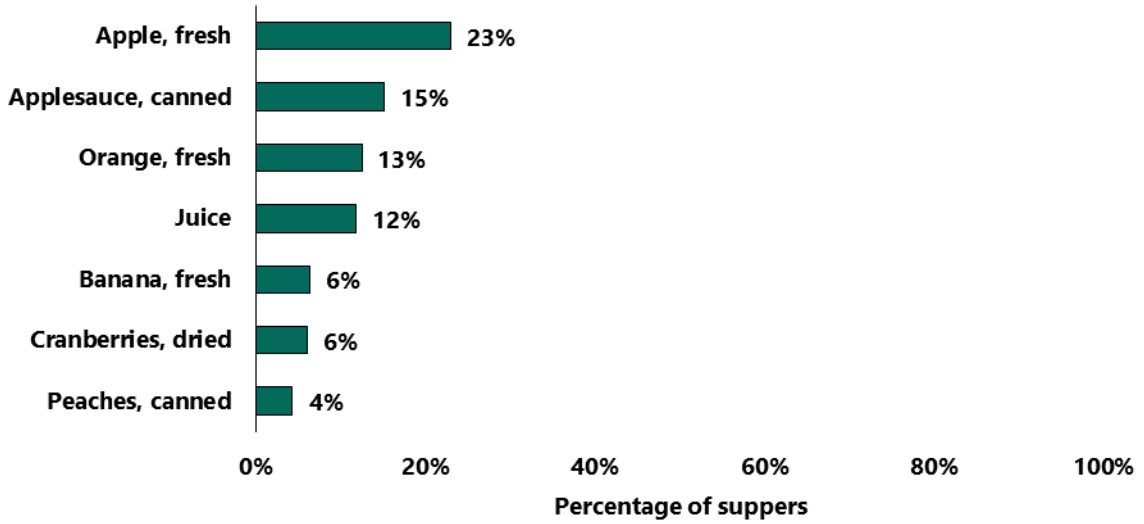
Suppers served to 6- to 12-year-olds

Almost all suppers served to 6- to 12-year-olds included fluid milk or fruits, and a very high percentage included vegetables. A majority included combination entrées, which often include both grains and meats/meat alternates. Fewer suppers included meats/meat alternates or grains as separate components, or other menu items or dessert (Exhibit 4.11 and Table D.58).

- Among fluid milk, the types most frequently served at supper were 1% milk, unflavored (87 percent); fat-free, flavored (50 percent); and fat-free, unflavored (26 percent).
- Fresh apples and applesauce (Exhibit 4.12) were the most frequently served fruits, and raw forms of vegetables were frequently served (Exhibit 4.13).
- Among combination entrées, sandwich with plain meat, poultry, or fish (15 percent); peanut butter sandwich (10 percent); pizza (9 percent); and frankfurter, corn dog, similar sausage sandwiches (6 percent) were most frequently served.

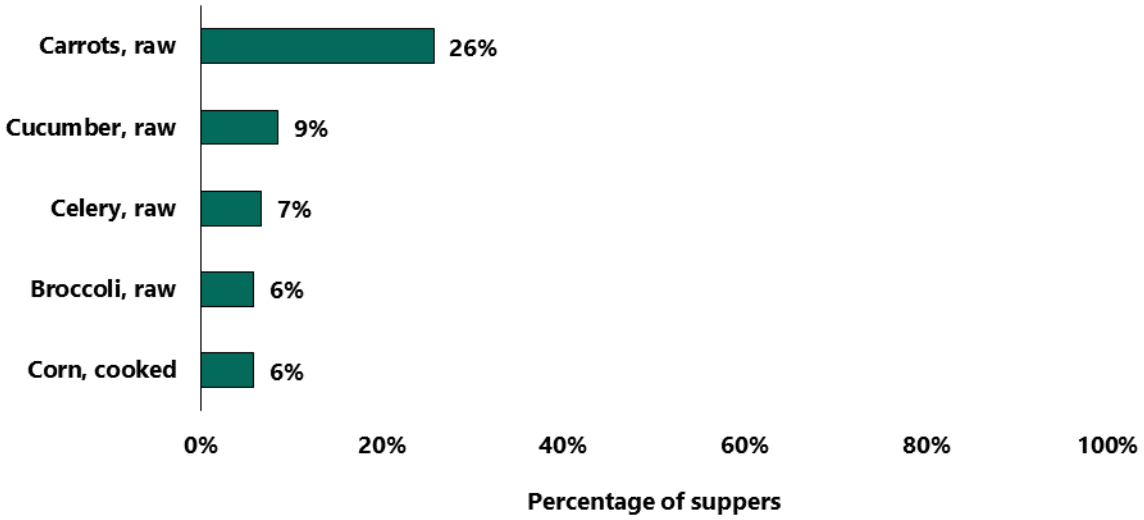
- Among meats/meat alternates, cheese (18 percent); nuts, nut butters, seeds, and nut mixtures (14 percent); and yogurt (7 percent) were most frequently served.
- Among grains, crackers, croutons, and pretzels (14 percent) and breads, rolls, bagels, and other plain breads (9 percent) were most frequently served.

Exhibit 4.12. Fruits most frequently served in suppers to 6- to 12-year-olds



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Menu Survey, winter through summer, 2023. See Table D.58 in Appendix D.

Exhibit 4.13. Vegetables most frequently served in suppers to 6- to 12-year-olds



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Menu Survey, winter through summer, 2023. See Table D.58 in Appendix D.

4.4. Availability of fresh fruits and vegetables in CACFP meals and snacks

Fresh fruits and vegetables served to 3- to 5-year-olds

The majority of ECC programs served fresh produce, either fresh fruits or fresh vegetables, to 3- to 5-year-olds throughout the day, with fruits being served most commonly at breakfast and lunch. The majority of ECCs often or always served fresh produce to 3- to 5-year-olds at breakfast (66 percent). However, most programs reported that they never served any fresh vegetables at breakfast (93 percent; Table D.59).

Similarly, the majority of ECCs often or always served fresh produce to 3- to 5-year-olds at lunch (62 percent; Table D.60). On average, fresh fruits were served more frequently in ECC lunch menus (59 percent) than fresh vegetables (39 percent).

Fresh produce, particularly vegetables, was much less prominently featured during snack (Table D.61). On average, any fresh produce was served in 50 percent of ECC snack menus. Fresh fruits were served more often (45 percent) than fresh vegetables (10 percent).

Fresh fruits and vegetables served to 6- to 12-year-olds

The majority of BAS programs that served 6- to 12-year-olds reported that they rarely or never served either fresh vegetables or fresh fruit for snack (63 percent). Of these programs, 73 percent never served any fresh vegetables for snack and 53 percent never served fresh fruits for snack (Table D.63).

Fresh produce was more frequently served as part of supper, with 49 percent of BAS programs for 6- to 12-year-olds reporting that they always served fresh produce at supper (Table D.64).

4.5. Nutritional quality of CACFP meals and snacks

The Healthy Eating Index (HEI) 2015 was used to assess the nutritional quality of CACFP meals and snacks in SNACS-I and SNACS-II. It is a scoring metric that assesses the degree to which meals align with key recommendations of the Dietary Guidelines for Americans (DGA) (USDA FNS 2023a; USDA n.d.). The HEI-2015 consists of 13 component scores and a total score. The components include nine adequacy components and four moderation components (see box).

The total score is the sum of the component scores and provides an overall measure of nutritional quality that ranges from 0 to 100. A higher HEI score reflects better conformance with DGA recommendations and higher nutritional quality. Total HEI scores for CACFP meals and snacks served are presented in Appendix D (Tables D.43 through D.46).

Meals and snacks served are not necessarily expected to achieve high total HEI scores because the CACFP meal pattern requirements specify that only certain types of food be served at a given meal or snack (see Section 4.2 for a discussion of meal pattern requirements). For example, total HEI scores for breakfasts were low because CACFP breakfasts were only required to serve milk, fruits, and grains. Therefore, the findings below focus only on component scores by meal type. Because maximum scores for the components vary, findings for component scores are expressed as a percentage of the maximum possible score.

Component HEI-2015 scores in breakfasts, lunches, and snacks served to 3- to 5-year-olds

On average, ECC breakfasts served to 3- to 5-year-olds received the maximum or near maximum adequacy scores for total fruits (98 percent), whole fruits (100 percent), dairy (100 percent), and whole grains (92 percent) (Exhibit 4.14). These high scores indicate that the concentrations of dairy, whole fruit, total fruit, and whole grains in CACFP breakfasts were consistent with relevant DGA recommendations.

As with the adequacy components, findings for the moderation components of the HEI are expressed as a percentage of the maximum possible score (higher scores reflect lower concentrations in CACFP meals). Overall, average ECC breakfasts received high moderation scores for refined grains (86 percent), sodium (91 percent), and added sugars (96 percent). Saturated fat scores were somewhat lower at 77 percent (Exhibit 4.14). The high scores for refined grains, sodium, and added sugars indicate that concentrations of these components in CACFP breakfasts were consistent with relevant DGA recommendations.

HEI-2015 Components

The Healthy Eating Index (HEI) is a measure of dietary quality that can be used to assess compliance with the DGAs. It is independent of quantity: the HEI represents, for a given number of calories, the extent to which food components proportionally align with DGA recommendations.

The HEI uses 13 individual scored components (nine adequacy and four moderation components) added together for a maximum possible score of 100.

- **Adequacy components** are those that are encouraged by the DGAs, including total fruits, whole fruits, total vegetables, greens and beans, whole grains, dairy, total protein foods, seafood and plant proteins, and fatty acids.
- **Moderation components** are those that should be limited, as recommended by the DGA, including refined grains, sodium, added sugars, and saturated fats.

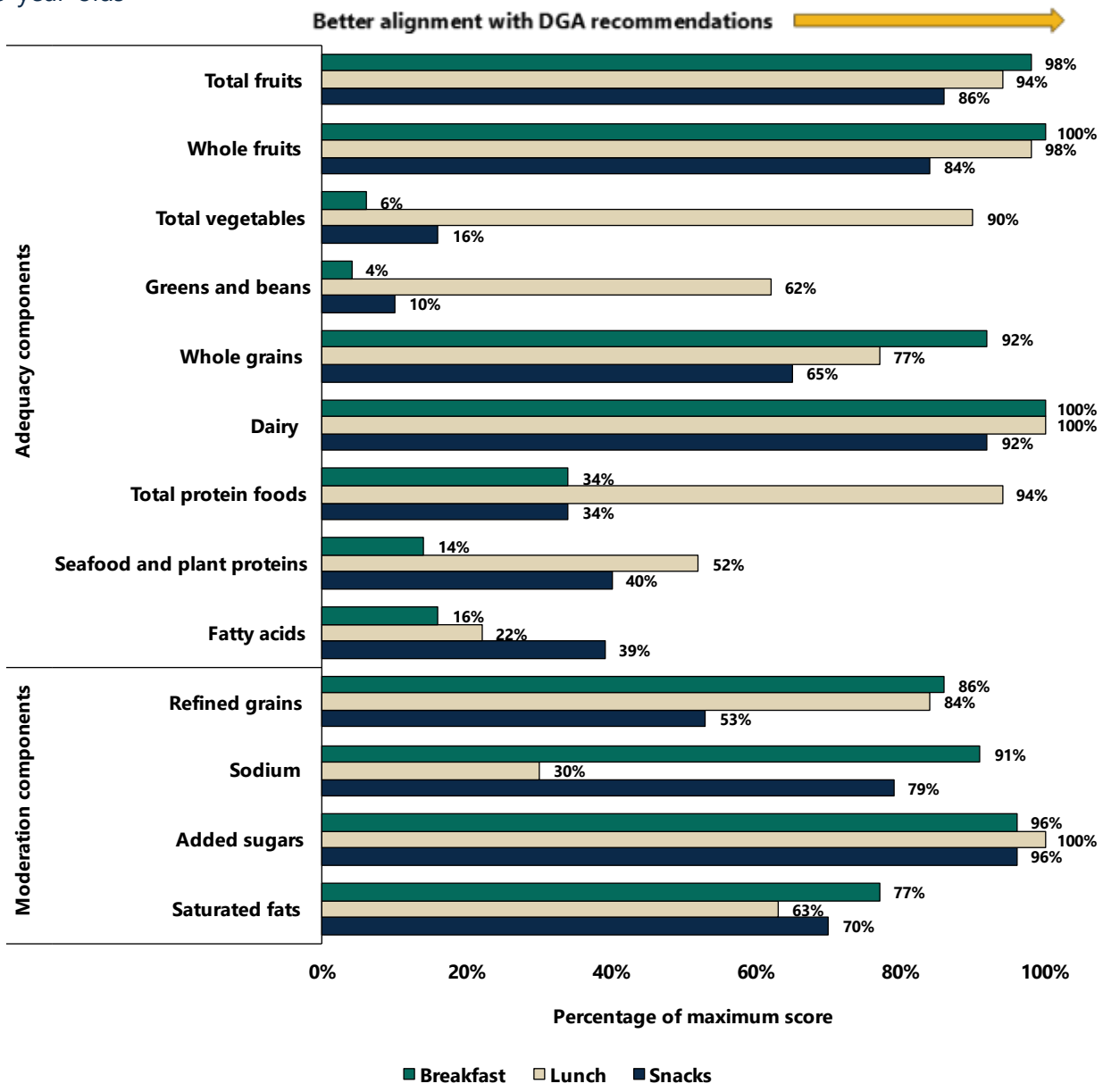
Individual components have a maximum score of 5 or 10. The closer to the maximum score each component is, the better aligned the diet or meal is with the DGA recommendation for that component. ◢

On average, ECC lunches served to 3- to 5-year-olds received high adequacy scores for total fruits (94 percent), whole fruits (98 percent), total vegetables (90 percent), dairy (100 percent), and total protein foods (92 percent). ECC lunches received the lowest scores for seafood and plant proteins (52 percent, on average) and fatty acids, the building blocks for fats (22 percent; Exhibit 4.14), indicating that the concentration of these components in ECC lunches were much lower than the concentrations recommended in the DGA.

Overall, average ECC lunches received the maximum moderation score for added sugars (100 percent) but a low score for sodium (30 percent) (Exhibit 4.14), indicating that ECC lunches were consistent with the DGA recommendations for added sugars but contained higher levels of sodium than the recommendations.

For snacks served to 3- to 5-year-olds in ECC programs, adequacy scores for total fruits (86 percent) and dairy (92 percent) were highest, while moderation scores for added sugars were also high (96 percent) (Exhibit 4.14).

Exhibit 4.14. HEI-2015 component scores in breakfasts, lunches, and snacks served to 3- to 5-year-olds



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Menu Survey, winter through summer, 2023. See Tables D.37, D.38, and D39 in Appendix D.

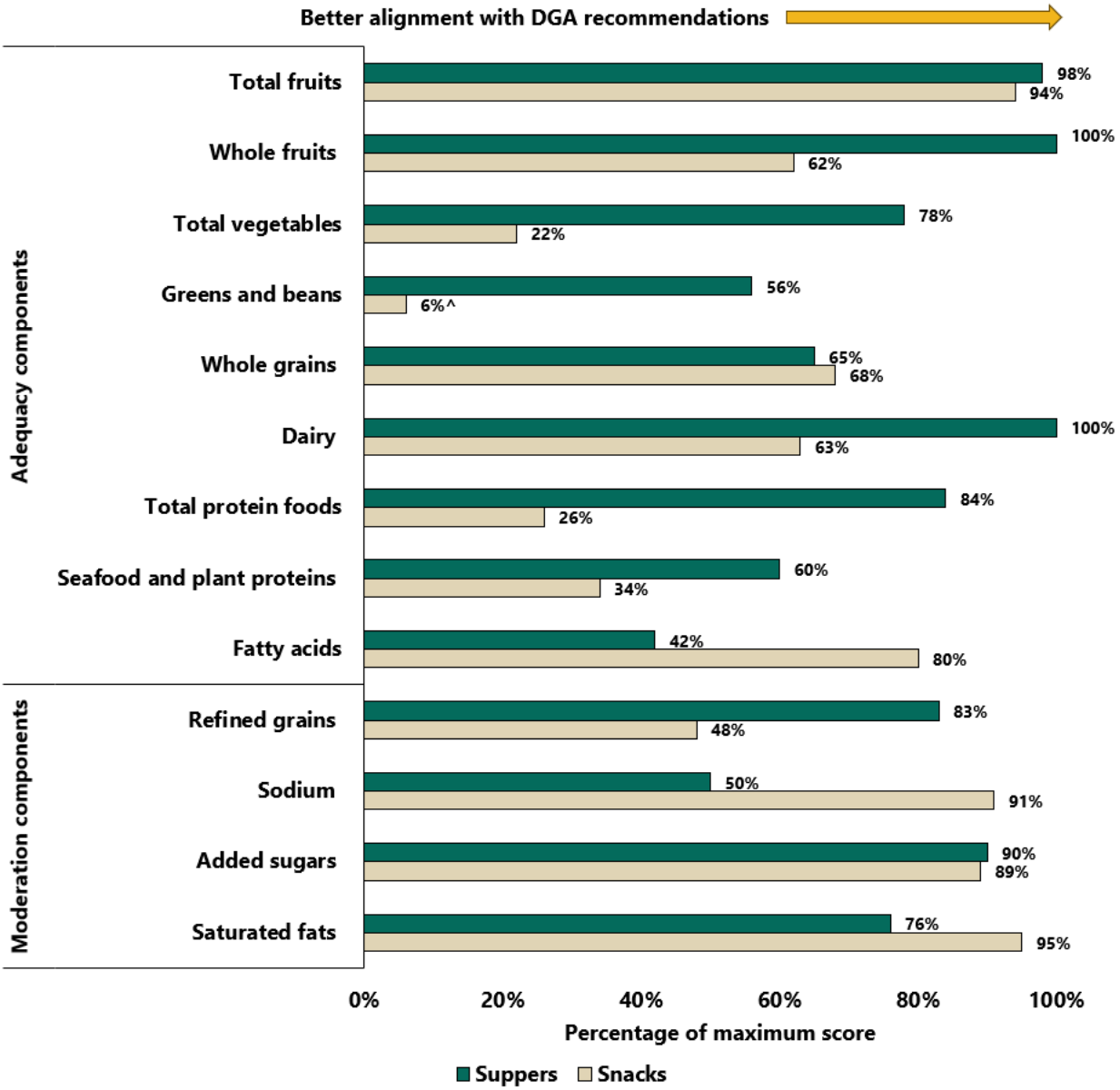
DGA = Dietary Guidelines for Americans; HEI = Healthy Eating Index.

Component HEI-2015 scores in BAS snacks and suppers served to 6- to 12-year-olds

For snacks served to 6- to 12-year-olds in BASs, total fruits had the highest adequacy score (94 percent); however, adequacy scores for other components typically served as snacks, such as dairy (63 percent) or whole grains (68 percent), were lower. Scores for moderation components were highest for saturated fats (95 percent), sodium (91 percent), and added sugars (89 percent) (Exhibit 4.15), indicating that these were served in moderation in BAS snacks according to the DGA recommendations.

Overall, average suppers served for 6- to 12-year-olds in BASs received the maximum or near maximum adequacy scores for total fruits (98 percent), whole fruits (100 percent), and dairy (100 percent), with fatty acids having the lowest adequacy score (42 percent). Scores for moderation components were highest for added sugars (90 percent) and lowest for sodium (50 percent) (Exhibit 4.15).

Exhibit 4.15. HEI-2015 component scores in snacks and suppers served to 6- to 12-year-olds



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Menu Survey, winter through summer, 2023. See Tables D.41 and D.42 in Appendix D.

^ Estimate is considered imprecise because the standard error is more than 30 percent of the estimate.

DGA = Dietary Guidelines for Americans; HEI = Healthy Eating Index.

5. Costs and revenues of CACFP meals and snacks

USDA reimburses programs participating in CACFP for eligible paid, reduced-price, and free meals and snacks to help offset their costs for providing meals and snacks. USDA adjusts these amounts annually to account for changes in the Consumer Price Index (CPI). See box for the USDA reimbursement rates for meals and snacks served in centers between July 2022 and June 2023 (FNS 2022).[3] The Keep Kids Fed Act of 2022 provided additional funding during this period because of the ongoing challenges programs experienced due to the COVID-19 pandemic. These are the rates for meals and snacks served in centers and include the additional $0.10 per meal or snack that programs received through the act.

USDA reimbursement rates for meals and snacks served in centers

Breakfast

- Paid: $0.45
- Reduced-price: $1.91
- Free: $2.21

Lunch and supper

- Paid: $0.47
- Reduced-price: $3.63
- Free: $4.03

Snack

- Paid: $0.19
- Reduced-price: $0.64
- Free: $1.18

This study estimated the cost of producing CACFP meals and snacks in center-based settings and compared these costs to CACFP reimbursements with the additional $0.10. To estimate the cost of meals, the study collected data on sponsor- and program-incurred food and labor costs and meal counts. Meal costs include food and production, service and cleaning, and administrative labor costs for staff who work primarily on food service and staff who do not work primarily on food service but support the CACFP.[4] The study also collected and examined data on the types of revenue programs receive.

In this chapter, we present findings based on a sample of 120 ECCs, which included 61 child care centers and 59 Head Start centers (the cost analysis did not include FDCHs). We present findings from 109 programs for breakfast, 112 programs for lunch, and 114 programs for snack. Supplementary tables are presented in Appendix E.[5]

[3] These reimbursement rates do not include the value of USDA-donated foods or cash-in-lieu of USDA donated foods.

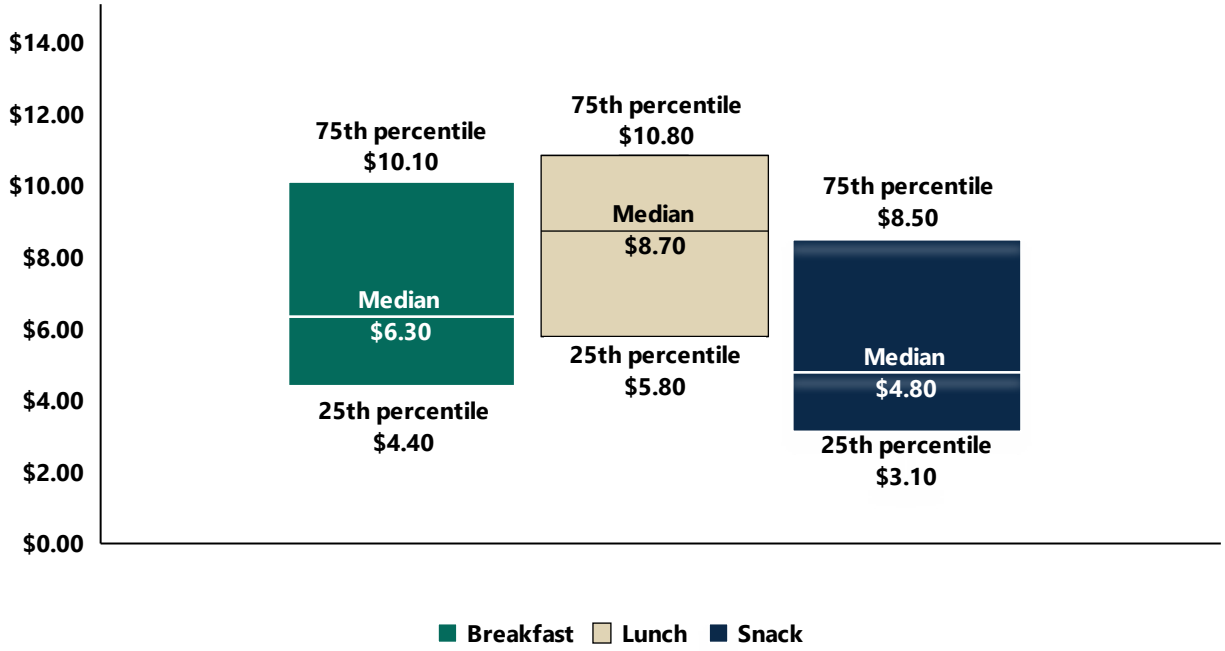
[4] Production labor is defined as setting up or making a meal, including producing foods for the meal, cleaning up production areas after preparing and serving the meal, and any other work that involves direct production for the meal. Service and cleaning labor includes serving the meal and cleaning up the serving area and classrooms during or after the meal. Administrative labor includes preparing, distributing and processing applications for free/reduced-price meals; updating student status and records for CACFP; ordering and purchasing food and supplies; planning, budgeting and management for CACFP; menu planning and nutritional analysis; record keeping, accounting and data processing for CACFP; activities to promote healthy eating and participation in CACFP meals; and development and monitoring of center wellness policies.

[5] The study also collected cost data on BASs; however, the final sample for BASs included 35 programs. Because of the small sample of BASs, we cannot confidently draw conclusions from the findings for them or compare cost estimates between AR centers and OSHCCs. Appendix E presents findings on BASs. Appendix A, Section A.6 describes study limitations.

5.1. Total cost per meal or snack and cost composition

Among ECCs, the mean total cost per meal was $8.80 for breakfast, $9.70 for lunch, and $6.30 for snack (Table E.1). Median total costs per meal were $6.30 for breakfast, $8.70 for lunch, and $4.80 for snack (Exhibit 5.1). Total costs per meal were higher among Head Start centers relative to child care centers, on average, and these differences were statistically significant for lunch and snack (Table E.1).

Exhibit 5.1. Early child care programs' total food and labor cost per meal by meal type

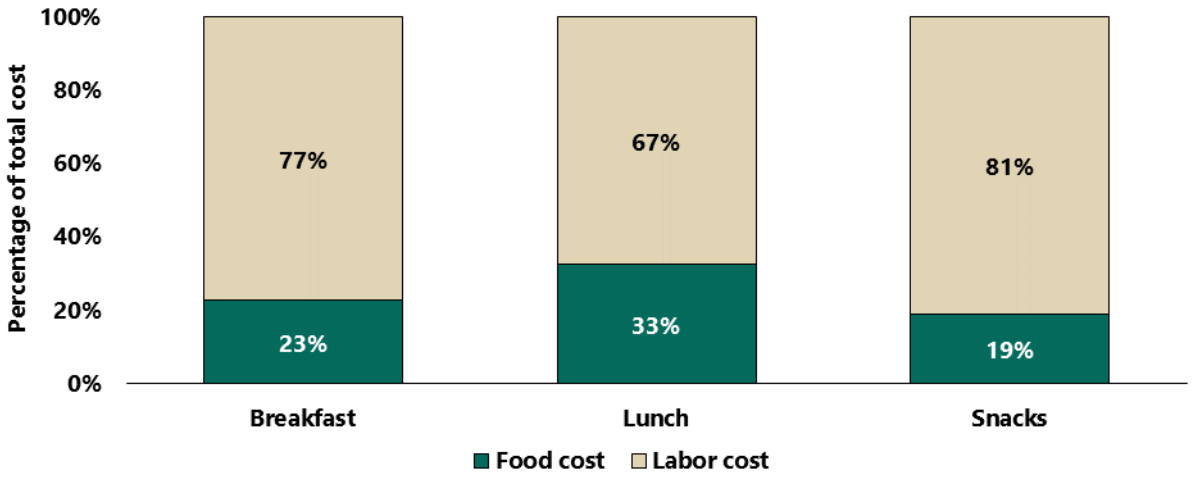


Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Sponsor/Center Cost Interview, Center Director Cost Interview, Center Foodservice Cost Interview, Self-Administered Cost Questionnaire, Meal and Snack Counts, Menu Survey, winter through summer, 2023. See Tables E.4, E.5, and E.6 in Appendix E.

Labor costs among ECCs typically accounted for a larger proportion of total meal costs than food costs. On average, labor costs accounted for 77 percent of total breakfast costs, 67 percent of total lunch costs, and 81 percent of total snack costs (Exhibit 5.2). However, there was variation in total meal cost composition among estimates for different programs. Looking across the different meal types, food costs accounted for a larger proportion of total meal costs for lunch compared to the average proportions for breakfast and snack.

The amount ECCs spent on food and labor varied by meal and provider type. ECCs spent more on food for lunch compared to breakfast ($2.70 compared to $1.40, on average), but the cost of labor was about the same ($7.40 compared to $7.00, on average). Average food and labor costs per snack were lower ($0.80 for food and $5.50 for labor per snack, on average). We found that child care and Head Start centers spent similar amounts on food for all meal types while Head Start centers' labor costs were higher. For example, both spent $1.40 on food for breakfast, on average, while child care centers spent $6.60 per meal on labor and Head Start centers spent $9.10 on labor. This suggests that the difference in total meal cost between the two provider types was driven primarily by labor costs.

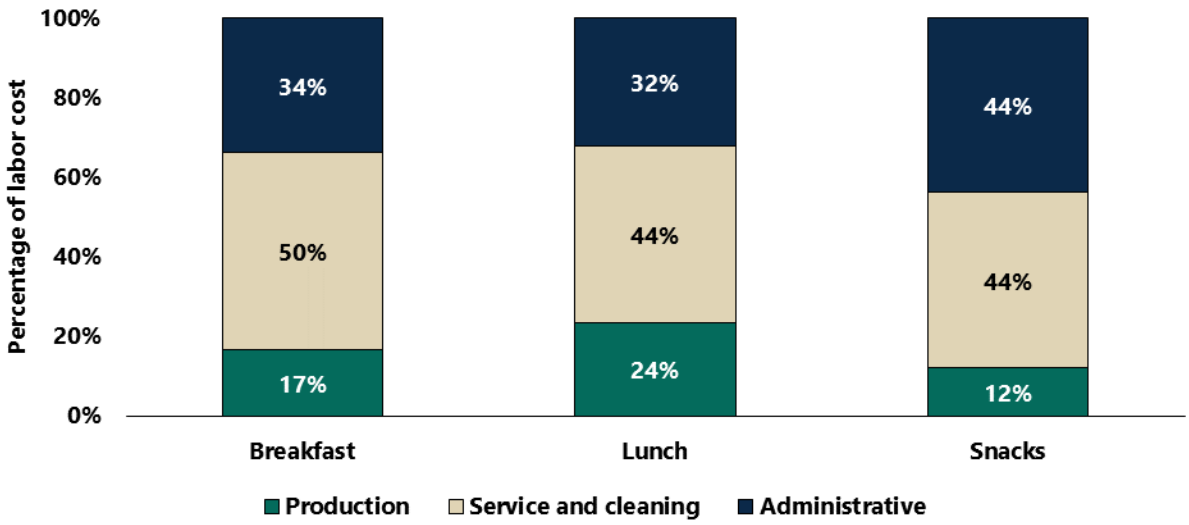
Exhibit 5.2. Proportion of early child care programs' total meal costs from labor costs and food costs by meal type



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Sponsor/Center Cost Interview, Center Director Cost Interview, Center Foodservice Cost Interview, Self-Administered Cost Questionnaire, Meal and Snack Counts, Menu Survey, winter through summer, 2023. See Table E.10 in Appendix E.

Labor costs associated with serving and cleaning up meals and snacks typically accounted for the largest proportion of total labor costs (Table E.12). Among all ECCs, serving and cleaning labor costs accounted for 50 percent of total breakfast labor costs, 44 percent of total lunch labor costs, and 44 percent of total snack labor costs, on average (Exhibit 5.3). For all meal types, administrative labor costs accounted for the next largest proportion, and meal and snack production accounted for the smallest proportion of labor costs. This is likely due to non–food service center staff who provide care to children in the program, such as teachers and assistant teachers, spending time serving and cleaning up at meal times.

Exhibit 5.3. Proportion of early child care programs' total labor costs from production, service and cleaning, and administrative labor costs



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Sponsor/Center Cost Interview, Center Director Cost Interview, Center Foodservice Cost Interview, Self-Administered Cost Questionnaire, Meal and Snack Counts, winter through summer, 2023. See Table E.12 in Appendix E.

Production labor includes producing foods for the meal and cleaning up production areas after preparing and serving the meal. Service and cleaning labor includes serving the meal and cleaning up the serving area and classrooms. Administrative labor includes handling applications for free/reduced-price meals; maintaining participant records; purchasing food and supplies; CACFP planning, budgeting, and management; menu planning and analysis; CACFP record keeping, accounting, and data processing; activities to promote healthy eating and CACFP; and developing and monitoring wellness policies.

When we look at labor costs for child care and Head Start centers separately, we see different patterns (Table E.12). Among Head Start centers, the average proportion of labor costs attributed to administrative labor exceeded that of serving and cleaning costs. Like for child care centers, meal and snack production costs accounted for the smallest proportion of total labor costs.

Looking at dollars spent for breakfast and lunch, ECCs spent about the same on the production ($1.10 and $1.40), service and cleaning ($3.80 and $3.10), and administrative costs ($2.50 each) and less on production and service and cleaning costs for snacks ($0.50, $2.30, and $2.70, respectively) (Table E.12).

5.2. Relationship of USDA reimbursements to costs

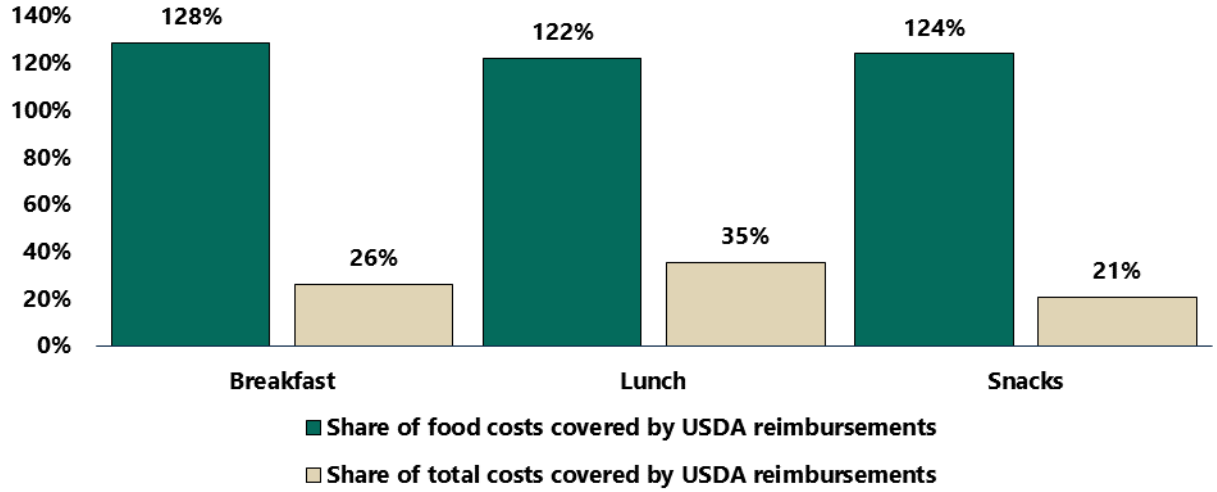
USDA reimbursements for CACFP meals and snacks are intended to offset the cost of providing meals and snacks during care.[6] Among ECCs, the reimbursement rate exceeded food costs but fell below total meal costs for all meal types (Exhibit 5.4). We calculated USDA reimbursement amounts for each program using the program's proportion of free, reduced-price, and paid CACFP meals claimed by meal per year together with the applicable reimbursement rates (including the additional $0.10 per meal to help providers during the COVID-19 pandemic).[7] The reimbursement rate exceeded food costs—122 percent

[6] Reimbursements are defined as federal financial assistance paid or payable to institutions for program costs within the rates assigned by the State agency and include any offset or subsidy of the costs of meal service.

[7] This analysis relied on the reimbursement rates described earlier that did not include the value of USDA-donated foods or cash-in-lieu of USDA donated foods.

to 128 percent of food costs on average, depending upon meal type. When we compare the reimbursement rates to total meal costs, including food and labor, the rate covered 26 percent of total breakfast costs, 35 percent of total lunch costs, and 21 percent of total snack costs, on average.

Exhibit 5.4. Share of early child care programs' food costs and total meal costs covered by USDA reimbursements



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Sponsor/Center Cost Interview, Center Director Cost Interview, Center Foodservice Cost Interview, Self-Administered Cost Questionnaire, Meal and Snack Counts, Menu Survey, winter through summer, 2023. See Table E.16 in Appendix E.

USDA = U.S. Department of Agriculture.

Reimbursement rates as a percentage of food costs differed significantly for child care and Head Start centers (Table E.16). Given how similar food costs were for both program types for the same meal, we attribute the differences to different reimbursement levels—Head Start centers received higher average subsides. This finding is expected because Head Start participants are automatically income eligible for higher CACFP reimbursement rates. We do not see these differences when we compare reimbursement rates as a percentage of food costs for child care centers and Head Start centers, likely because of the higher total costs per meal among Head Start centers.

5.3. Revenue

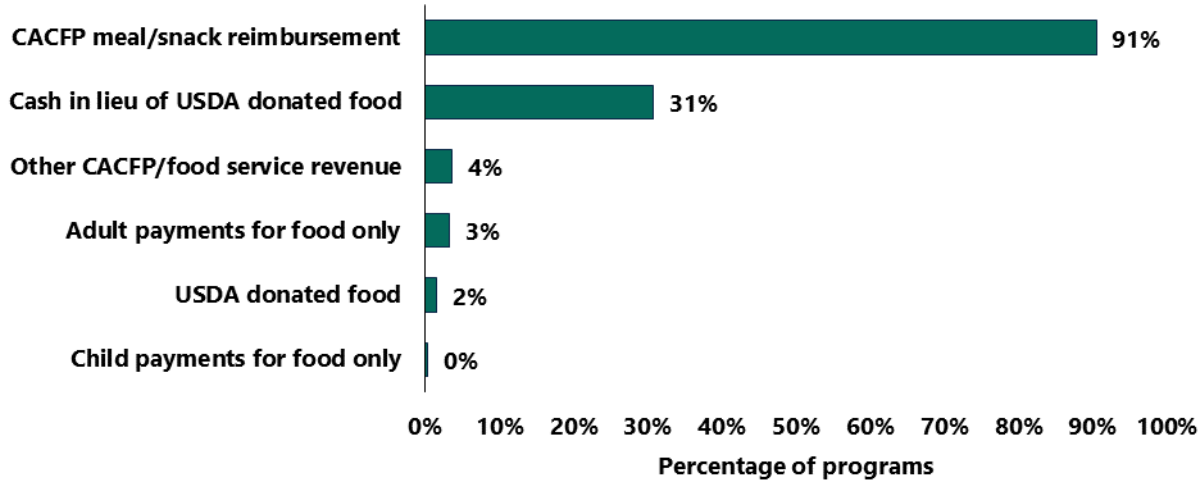
Data on respondent-reported CACFP revenues suggest that CACFP per meal reimbursements were the primary source of revenue for many programs (Table E.14).[8] Some respondents were unable to identify one or more revenue sources on their financial statement. The percentages presented here do not include these respondents or respondents who did not know whether they received revenue from a particular source.[9] Almost all ECCs (91 percent) reported that they received CACFP meal/snack reimbursements

[8] Altogether, 115 of the 120 ECCs in the final cost sample provided data on revenue. This included 58 child care centers and 57 Head Start centers.

[9] A larger number of programs could have relied on revenue from one or more sources that respondents were unable to report on. For example, we would expect all programs eligible for this study to receive CACFP meal/snack reimbursements, so the data suggests that some respondents (9 percent) did not know their program received CACFP meal/snack reimbursements or they were unable to identify this funding source on their financial statement.

(Exhibit 5.5). Almost one-third (31 percent) reported that they received cash in lieu of USDA-donated foods. A small number of programs reported revenues from the value of USDA-donated foods (2 percent); and other sources (4 percent), including cash contributions and gifts, State meal reimbursements, and COVID-19-related funding.

Exhibit 5.5. Early child care programs' revenue sources for CACFP



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Sponsor/Center Cost Interview, winter through summer, 2023. See Table E.14 in Appendix E.

Other CACFP/foodservice revenue includes cash contributions and gifts, State meal reimbursements, funding related to supporting meal programs during the COVID-19 pandemic, and other unspecified sources.

CACFP = Child and Adult Care Food Program; USDA = U.S. Department of Agriculture.

6. Child and family characteristics

CACFP is designed to contribute to the wellness, healthy growth, and development of young children, but few national studies are available about the children attending CACFP programs or their families. SNACS-II includes data collection from parents, young children, and teens to address the following two research objectives:

- **Objective 3b.** Describe characteristics of children and families served by CACFP providers, including children's body mass index, household food security, and household participation in food assistance programs.
- **Objective 3c.** Describe characteristics of teens who participate in the CACFP through BASs and the food content of meals and snacks offered to teens in these settings.

This chapter presents findings on child demographic characteristics, participation in federal assistance programs, and household food security.

To address Objective 3b, the study collected data from surveys of parents[10] and on-site height and weight measurements of children ages 1-5 years in ECCs and ages 6-12 in BASs. Of the children included in the study, 3,065 had complete height-weight measures and 1,548 of their parents completed a Parent Interview.

To address Objective 3c, the study collected data from teens—defined as children ages 10 to 18 years—and their parents in AR centers and OSHCCs, with the goal of complete data for 720 teen-parent dyads. A complete dyad included a teen who completed the on-site Teen Survey and a parent who completed the Teen Parent Interview. All children ages 10–18 in the study programs subsampled for in-person data collection were included in this study component. Any children ages 10 to 12 years who were sampled for Objective 3b were also included in the teen study (Objective 3c). Of the eligible and consented teens, 745 completed the Teen Survey, 442 of their parents completed the Parent Interview, therefore a total of 442 teen-parent dyads were completed.

Height and weight measures, and data from the Teen Survey and Parent Interviews were weighted to be nationally representative. Supplementary tables about these topics are included in Appendix F.

6.1. Child demographic characteristics

The study team gathered information on several demographic characteristics of children participating in the SNACS-II study. Findings in this section represent children up to 5 years old in all ECCs combined and 6 to 12 years old in all BASs combined.

6.1.1. Amount of time in care

During telephone interviews, parents answered questions about the amount of time their child spent in care:

- **ECCs**: Children ages 1 to 2 years old spent an average of 43 hours per week in care. Children ages 3 to 5 years old spent an average of 39 hours per week in care (Table F.9).

[10] For simplicity, this chapter refers to both parents and guardians as parents.

- **BASs**: Children ages 6 to 12 years old spent an average of 11 hours per week in care (Table F.10).

6.1.2. Weight status

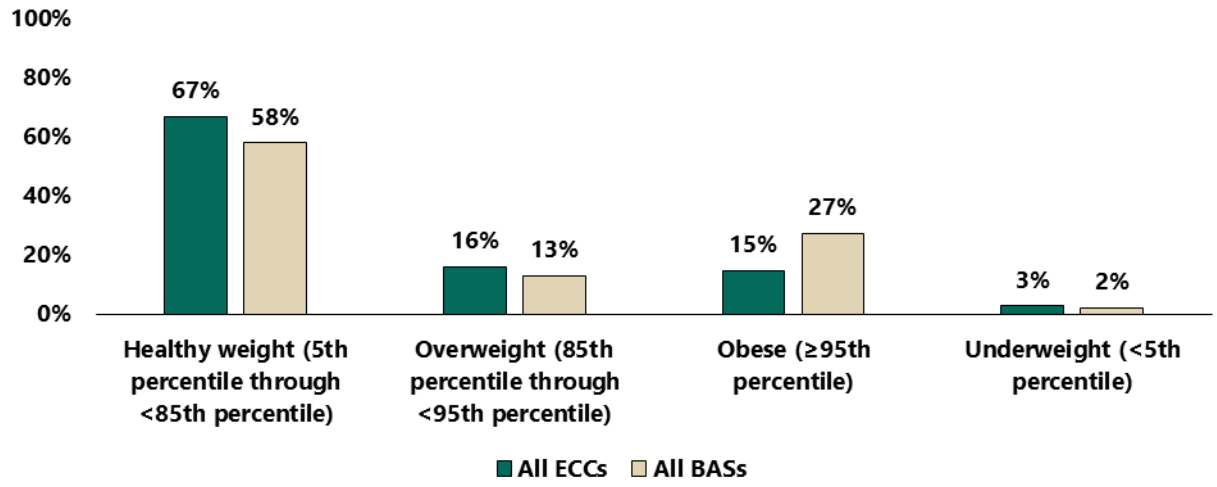
Field staff measured the height and weight of assenting children and the study team calculated each child's body mass index (BMI) and then classified them by percentile (see box).[11] For children younger than 2 years old, the study team used child weight-for-age percentiles (see Appendix A, Section A.3.2 for more detail on weight status calculations).

CDC sex-specific, BMI-for-age categories for children ages 2 to 12

- **Underweight.** Less than the 5th percentile
- **Healthy weight.** Greater than or equal to the 5th percentile up to the 85th percentile
- **Overweight.** Greater than or equal to the 85th percentile up to the 95th percentile
- **Obese.** Greater than or equal to the 95th percentile.

- **ECCs:** Sixteen percent of children ages 2 to 5 years old were classified as overweight (not including obese), 15 percent as obese, 3 percent as underweight, and 67 percent as a healthy weight (Exhibit 6.1).
- **ECCs:** Compared to children enrolled in Head Start centers, significantly more children in FDCHs were in the healthy weight category (Table F.3). Significantly fewer children in FDCHs were in the overweight category compared to either child care or Head Start centers (see Exhibit 6.2 below)
- **BASs:** For children ages 6 to 12 years old, 13 percent were classified as overweight (not including obese), 27 percent as obese, 2 percent as underweight, and 58 percent as healthy weight (Exhibit 6.1).

Exhibit 6.1. Weight status among children in early child care programs and before and after school programs



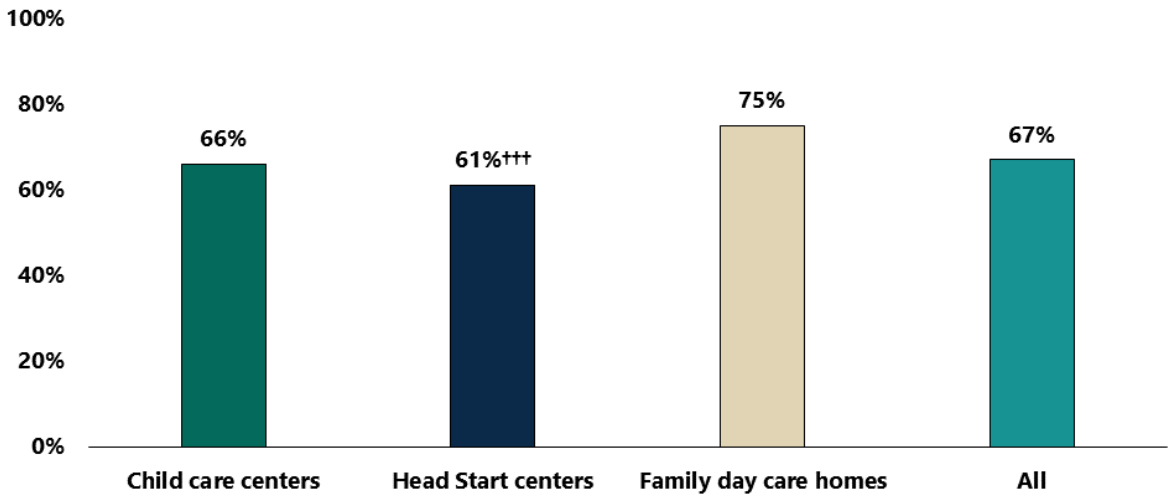
Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Child Height and Weight Form, winter through summer, 2023. See Tables F.3 and F.4 in Appendix F.

Child body mass index categories were defined using the Centers for Disease Control and Prevention categories for children and teens. For context, from 2017 to March 2020, obesity prevalence was 12.7% among U.S. children 2–5 years old, 20.7% among those 6–11 years old (Centers for Disease Control and Prevention 2024).

BAS = before and after school programs; ECC = early child care programs.

[11] See https://www.cdc.gov/growth-chart-training/hcp/using-bmi/summary.html for more information.

Exhibit 6.2. Proportion of 2- to 5- year olds in healthy weight category



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Child Height and Weight Form, winter through summer, 2023. See Table F.3 in Appendix F.

Difference between Head Start centers and family day care homes is significantly different from zero at the †††0.001 level.

Child body mass index (BMI) categories were defined using the Centers for Disease Control and Prevention categories for children and teens. Healthy weight is defined as the BMI for age is between the 5th percentile and less than the 85th percentile.

6.2. Federal assistance program participation

The study team also collected information about household demographics and participation in other federal assistance programs. Results presented in this section focus on the federal assistance program responses for parents of children from all age groups and all provider types.

6.2.1. Food assistance programs

For families of children in ECCs, 32 percent reported receiving benefits from the Supplemental Nutrition Assistance Program (SNAP) and 30 percent reported receiving benefits from WIC. However, 51 percent reported not participating in any food assistance programs (Table F.7).

Families with children enrolled in Head Start centers had statistically significantly higher participation rates in WIC and SNAP and statistically significantly lower rates of no food assistance program participation, when compared to families with children in child care centers (Table F.7).[12]

For families of children in BASs, 31 percent reported receiving SNAP and 10 percent reported receiving WIC. Sixty-three percent of children in BASs received free meals while at school (Table F.8).

6.2.2. Other public assistance programs

For children in ECCs, the most common other assistance program their families participated in was Medicaid (46 percent), followed by 21 percent participating in the Children's Health Insurance Program (CHIP). Forty-four percent of families did not participate in any of the listed public assistance programs (Table F.7).

[12] This finding is not surprising, given the income eligibility guidelines for children to attend Head Start centers (at or below the federal poverty level).

Compared to families with children in child care centers, families with children in Head Start centers had statistically significantly higher participation rates in Medicaid and lower rates of no public assistance program participation (Table F.71).

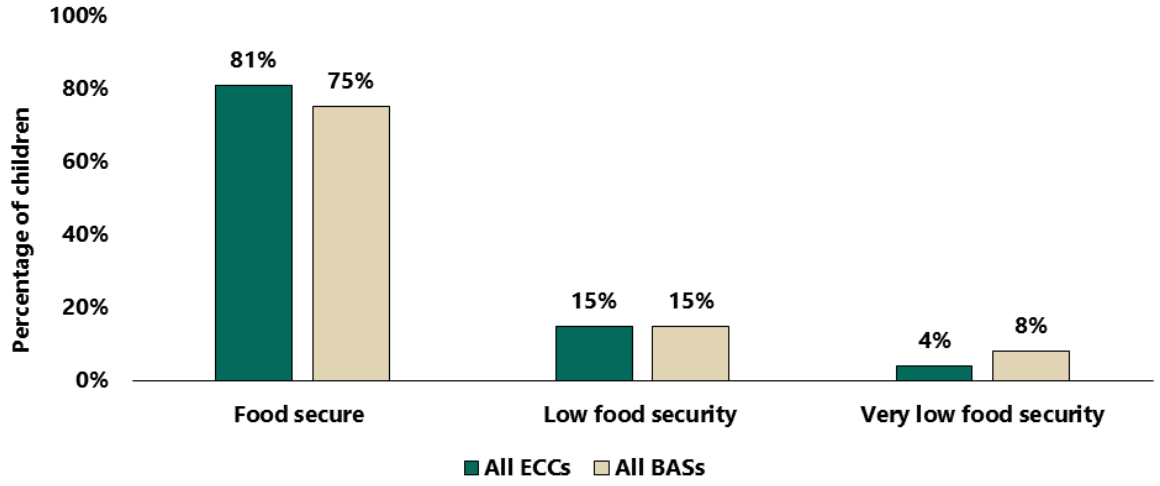
For children in BASs, Medicaid (48 percent) and CHIP (35 percent) were also the most common other assistance program their families participated in. Thirty-two percent of families did not participate in any public assistance programs (Table F.8).

6.3. Household food security status

During telephone interviews, parents answered questions in the 18-item U.S. Household Food Security Survey Module (Economic Research Service 2012). The study team then tabulated and scored responses to these questions and classified respondent households into one of three categories: (1) food secure (no reported indications of food access problems or limitations); (2) low food security (reduced quality, variety, or desirability of diet with little or no indication of reduced food intake); or (3) very low food security (multiple indications of disrupted eating patterns and reduced food intake). Households in the low food security and very low food security are considered to be food insecure.

- **ECCs:** Overall, 81 percent of children were in food secure households, 15 percent were in households with low food security, and 4 percent were in households with very low food security (Exhibit 6.3).[13]
- **BASs:** Seventy-five percent of children were in food secure households, 15 percent were in households with low food security, and 8 percent were in households with very low food security (Exhibit 6.3).

Exhibit 6.3. Household food security of children in early child care programs and before and after school programs



Source: Second study of Nutrition and Activity in Child Care Settings (SNACS-II), Child Parent Interview, winter through summer, 2023. See Table F.7 and F.8 in Appendix F.

Percentages in exhibit do not add up to 100 percent due to rounding and responses that are "don't know."

Food secure = no reported indications of food-access problems or limitations. Low food security = reports of reduced quality, variety, or desirability of diet with little or no indication of reduced food intake. Very low food security = reports of multiple indications of disrupted eating patterns and reduced food intake.

BAS = before and after school programs; ECC = early child care programs.

[13] For context, the national rate of food insecurity in households with children in December 2022 was 17 percent (Economic Research Service 2025).

7. Dietary intakes and plate waste

CACFP plays a critical role in providing nutritious meals to children enrolled in participating ECCs and BASs. In October 2017, updated CACFP meal pattern requirements went into effect for the first time since the program's inception in 1968 (FNS 2016). The updated meal patterns require CACFP meals and snacks to include more whole grains and encourage a greater variety of fruits and vegetables and lean meats and meat alternates, while minimizing added sugars and saturated fat. SNACS-II collected data in PY 2022–2023 to provide a picture of CACFP several years after the updated meal patterns went into effect. Findings presented in this chapter focus on the following two research objectives:

- **Objective 3a.** Describe children's usual food, calorie, and nutrient intake during child care days and non–child care days.
- **Objective 4.** Assess and describe plate waste (that is, the types and amounts of food served to children but not consumed) in CACFP meals and snacks.

To address both research objectives, the study collected dietary intake data from onsite meal observations and dietary recall interviews with parents. The observations collected information about foods and beverages children consumed while in child care, while the interviews collected information for foods and beverages they consumed outside of care. For each sampled child, the study team collected two days of dietary intake data—one child care day and one non–child care day. To examine plate waste, the meal observations also gathered information about the amounts of foods and beverages wasted, and the study asked providers about any strategies used to reduce plate waste. Field staff observed the amounts consumed and wasted to the nearest ounce for liquids and nearest quarter-serving for solid foods. These methods are described in more detail in Appendix A.

This chapter includes findings about CACFP meals and snacks consumed by children compared to CACFP meal pattern requirements; the nutritional quality of CACFP meals and snacks consumed by children; usual nutrient intakes of children participating in CACFP; plate waste in CACFP meals and snacks; and strategies to reduce plate waste. Findings focus on 3- to 5-year-olds in ECCs (child care centers, Head Start centers, and FDCHs) and 6- to 12-year-olds in BASs (AR centers and OSHCCs).

The findings are based on meal observations data collected from 989 3- to 5-year-olds attending ECCs and 454 6- to 12-year-olds attending BASs, weighted to be nationally representative. Appendix G provides supplementary tables for all analyses for Objectives 3a and 4, including additional analyses by program type and for 1- to 2-year-olds.

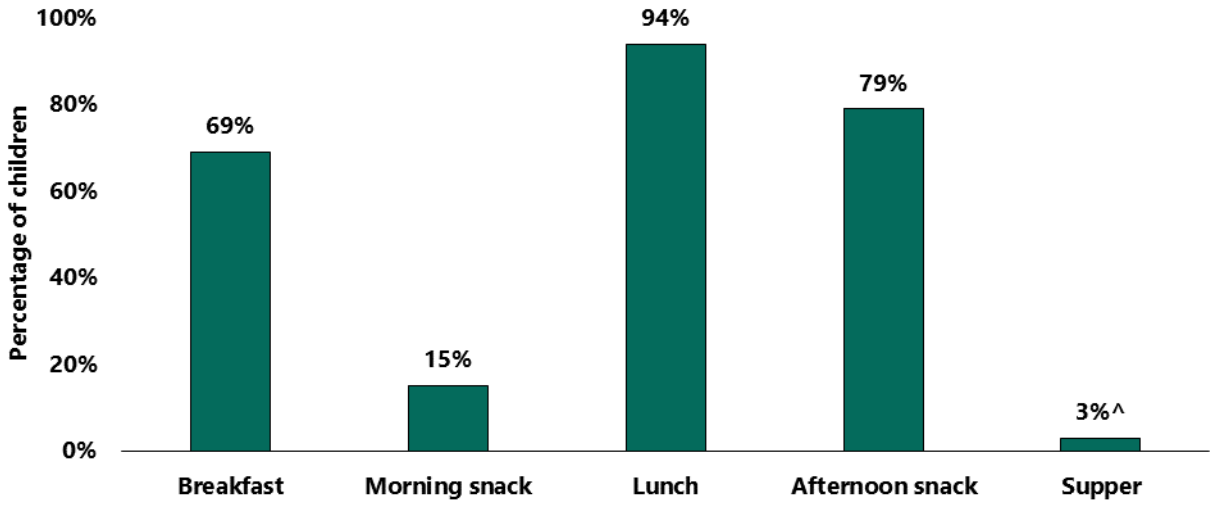
7.1. Dietary intakes among 3- to 5-year-old children

7.1.1. Consumption of CACFP meals and snacks on a child care day

The study examined the consumption of CACFP meals and snacks among 3- to 5-year-olds on a child care day, including the contribution of CACFP meals and snacks to the minimum amount of required components, the proportion of calorie and nutrient intake from CACFP meals and snacks, and HEI-2015 scores for CACFP meals and snacks consumed.

Exhibit 7.1 presents the percentage of 3- to 5-year-old children consuming CACFP meals and snacks by meal type. Similar to findings on meals served presented in Chapter 4, the most consumed CACFP meals and snacks among 3- to 5-year-old children were lunch (94 percent), afternoon snack (79 percent), and breakfast (69 percent). CACFP morning snacks and suppers and were less commonly consumed (15 percent and 3 percent, respectively). Compared with Head Start centers, children attending child care centers consumed significantly fewer breakfasts (65 percent versus 79 percent) and significantly more afternoon snacks (82 percent versus 71 percent) (Table G.1).

Exhibit 7.1. Percentage of 3- to 5-year-old children consuming CACFP meals and snacks on a child care day



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Meal Observation Form, ASA24 Recall, winter through summer, 2023. See Table G.1 in Appendix G.

^ Estimate is considered imprecise because the standard error is more than 30 percent of the estimate.

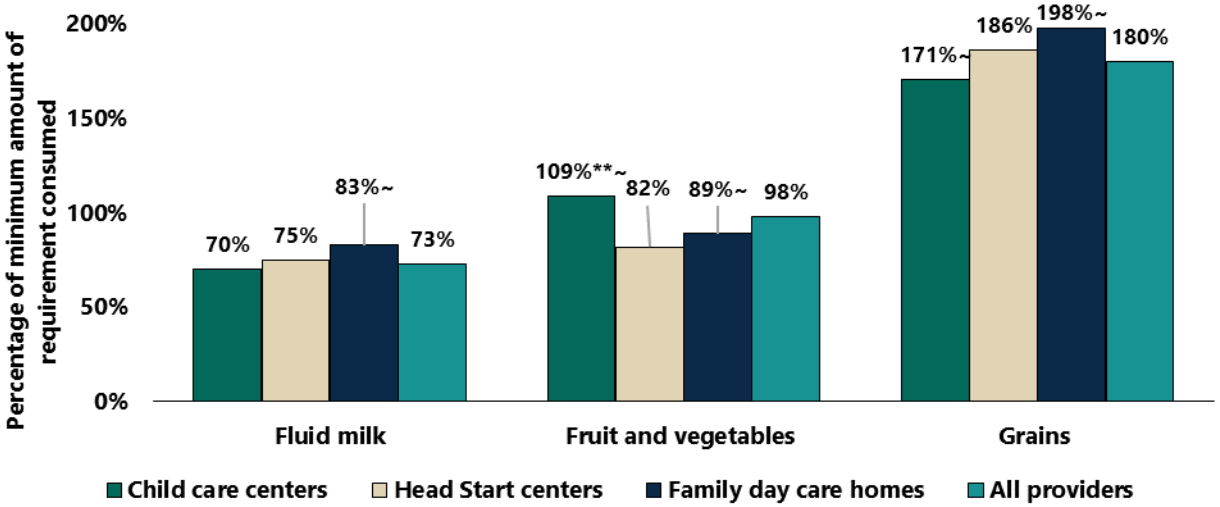
CACFP = Child and Adult Care Food Program.

Mean percentage of CACFP minimum required amounts consumed by children. To ensure CACFP meals and snacks meet children's nutritional needs, providers must offer the minimum amounts of required meal components defined by age group. However, the actual amounts of foods children are served (by the provider or by themselves under family style meal service) and ultimately consumed could be more or less than the minimum required amounts. The study examined how children's intakes of CACFP meals and snacks compared to the minimum amount required for each meal component. Exhibits 7.2, 7.3, and 7.4 display the mean percentage of the minimum required amount that was consumed by children for CACFP breakfasts, lunches, and snacks, respectively.

- At breakfast, 3- to 5-year-old children consumed an average of 73 percent of the minimum required amount of milk (6 fluid ounces, or 3/4 cup) and 98 percent of the minimum required amount of fruits and/or vegetables (1/2 cup) (Table G.50).
  - **Breakfast:** Across all three provider types, children consumed 70 percent to 83 percent of the minimum required amount of milk.

  - **Breakfast:** Children in child care centers consumed 109 percent of the required amount of fruits and/or vegetables. This was significantly greater than the percentage of the required amount consumed in Head Start centers (82 percent of the required amount).
  - **Breakfast:** The average amount of grains consumed was nearly double the half-cup minimum required amount (171 percent to 198 percent).
- At lunch, across all provider types, children ages 3 to 5 years old consumed 288 percent of the minimum required amount of fruit (1/4 cup) and 318 percent of the minimum required amount of vegetables (1/4 cup) (Table G.52).
  - **Lunch:** Similar to breakfast, children across all three provider types consumed less than the three-quarter cup of milk requirement (range of 79 percent to 89 percent).
  - **Lunch:** Children ages 3 to 5 years old in Head Start centers consumed more than twice the minimum required amount of grains (285 percent). This was significantly greater than the percentage of the required amount consumed by children in child care centers (230 percent).
- On average, the afternoon snacks consumed by children met or exceeded the minimum required amounts of milk, fruits, grains, and meats/meat alternates (Table G.53).
  - **Afternoon snack:** When meats/meat alternates were served at afternoon snack (31 percent of afternoon snacks included meats/meat alternates, Chapter 4, Exhibit 4.7), children ages 3 to 5 years old consumed 296 percent to 419 percent of the required amount of meats/meat alternates (1/2 oz equivalent) and 214 percent to 171 percent of the required amount of grains (1/2 oz equivalent).
  - **Afternoon snack:** When vegetables were served at afternoon snack (only 11 percent of afternoon snacks included vegetables, Chapter 4, Exhibit 4.7), children across provider types consumed 42 percent to 55 percent of the minimum required amount (1/2 cup).

Exhibit 7.2. Percentage of minimum amount of requirement consumed by 3- to 5-year-olds at breakfast

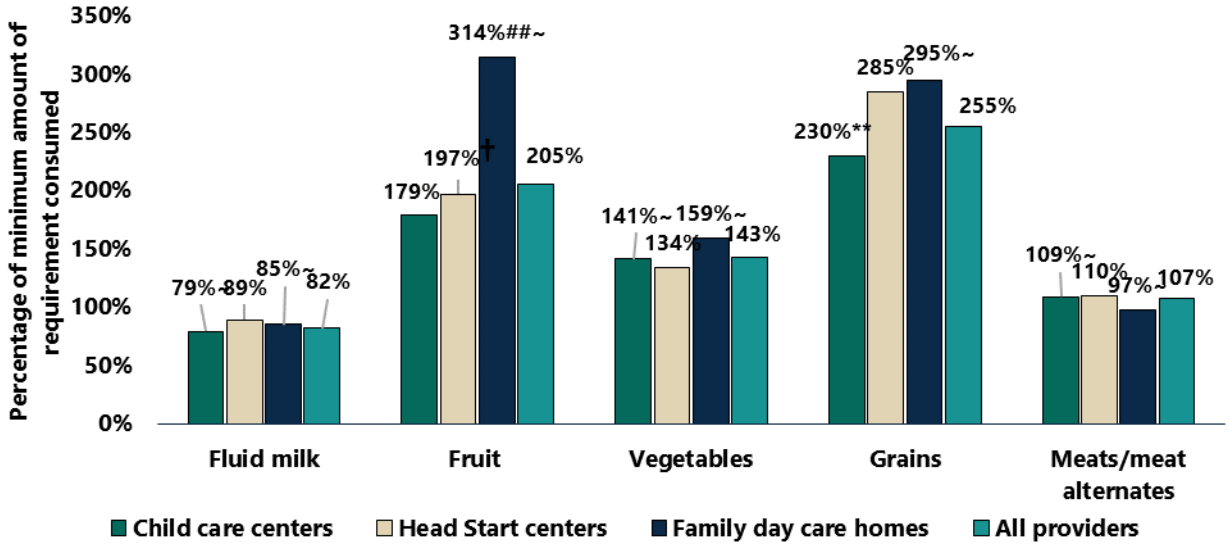


Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Meal Observation Form, ASA24 Recall, winter through summer, 2023. See Table G.50 in Appendix G.

~ Estimate has an effective sample size of less than 30 observations. The effective sample size is calculated as the sample size divided by the design effect for each estimate.

Difference between children in child care centers and Head Start centers is significantly different from zero at the **0.01 level.

Exhibit 7.3. Percentage of minimum amount of requirement consumed by 3- to 5-year-olds at lunch



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Meal Observation Form, ASA24 Recall, winter through summer, 2023. See Table G.52 in Appendix G.

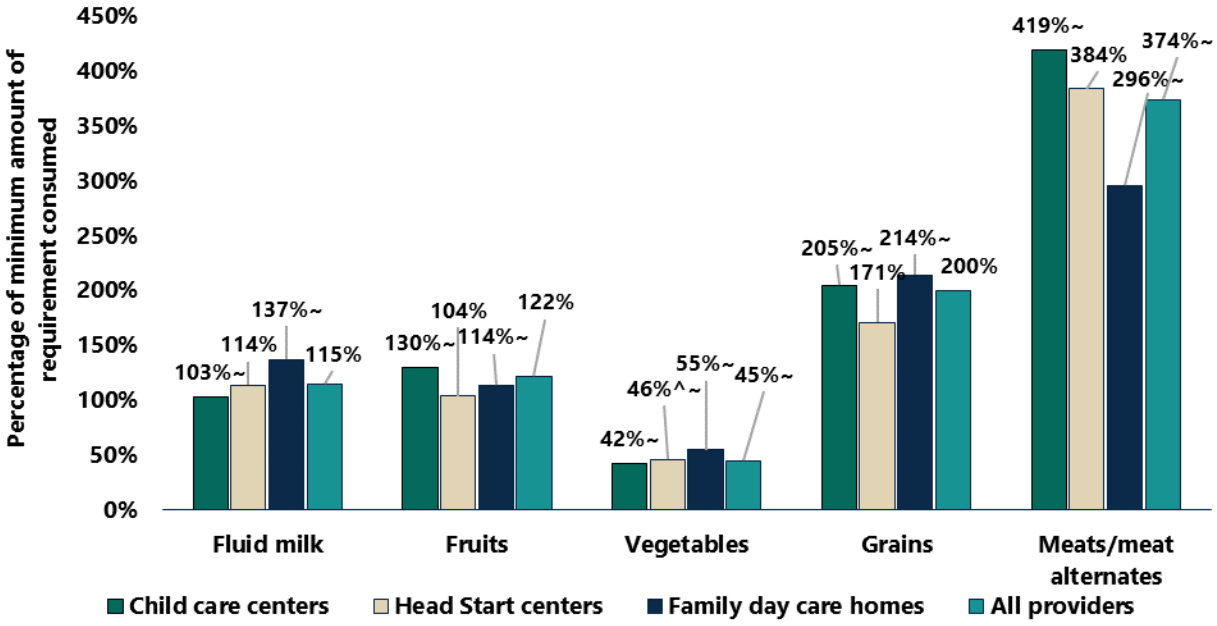
~ Estimate has an effective sample size of less than 30 observations. The effective sample size is calculated as the sample size divided by the design effect for each estimate.

Difference between children in child care centers and Head Start centers is significantly different from zero at the **0.01 level.

Difference between children in child care centers and family day care homes is significantly different from zero at the ##0.01 level.

Difference between children in Head Start centers and family day care homes is significantly different from zero at the †0.05 level.

Exhibit 7.4. Percentage of minimum amount of requirement consumed by 3- to 5-year-olds at afternoon snacks



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Meal Observation Form, ASA24 Recall, winter through summer, 2023. See Table G.53 in Appendix G.

^ Estimate is considered imprecise because the standard error is more than 30 percent of the estimate.

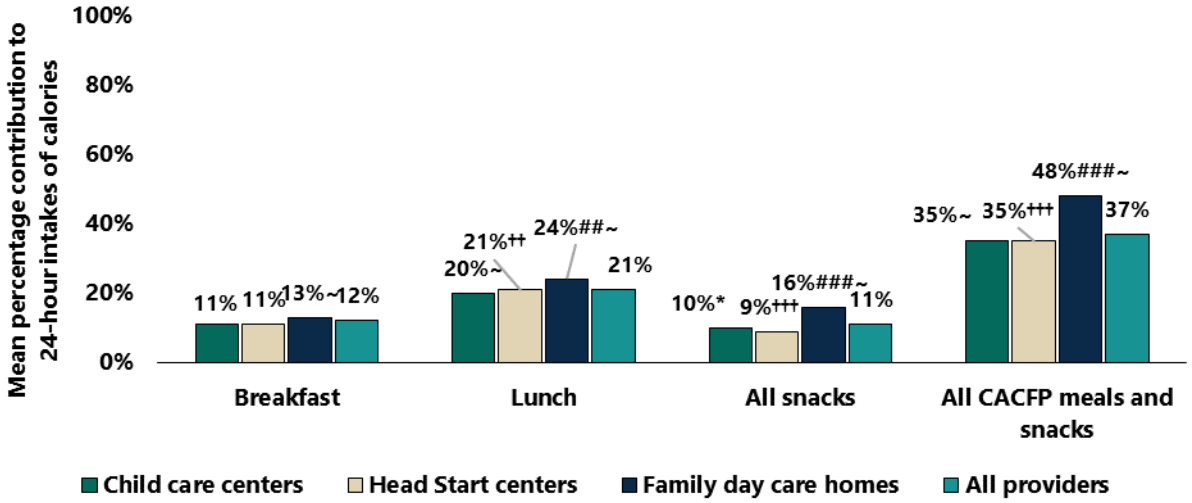
~ Estimate has an effective sample size of less than 30 observations. The effective sample size is calculated as the sample size divided by the design effect for each estimate.

Proportion of calorie and nutrient intake from CACFP meals and snacks. On average, 3- to 5-year-olds consumed 37 percent of their total daily calories on child care days from CACFP meals and snacks (Table G.71).

Among children who consumed each CACFP meal, 3- to 5-year-olds consumed 11 percent to 13 percent of their intake of calories from breakfast, 20 percent to 24 percent from lunch, and 9 percent to 16 percent from snack time (Exhibit 7.5).

Overall, across provider types, 3- to 5-year-olds consumed 28 percent of their daily intake of added sugar, 38 percent of their daily intake of sodium, and 34 percent of their daily intake from saturated fat from all CACFP meals and snacks (Table G.71).

Exhibit 7.5. Percentage of calories on child care days from CACFP meals and snacks, among 3- to 5-year olds



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Meal Observation Form, ASA24 Recall, winter through summer, 2023. See Tables G.66, G.68, G.70, and G.71 in Appendix G.

~ Estimate has an effective sample size of less than 30 observations. The effective sample size is calculated as the sample size divided by the design effect for each estimate.

Difference between children in child care centers and Head Start centers is significantly different from zero at the *0.05 level.

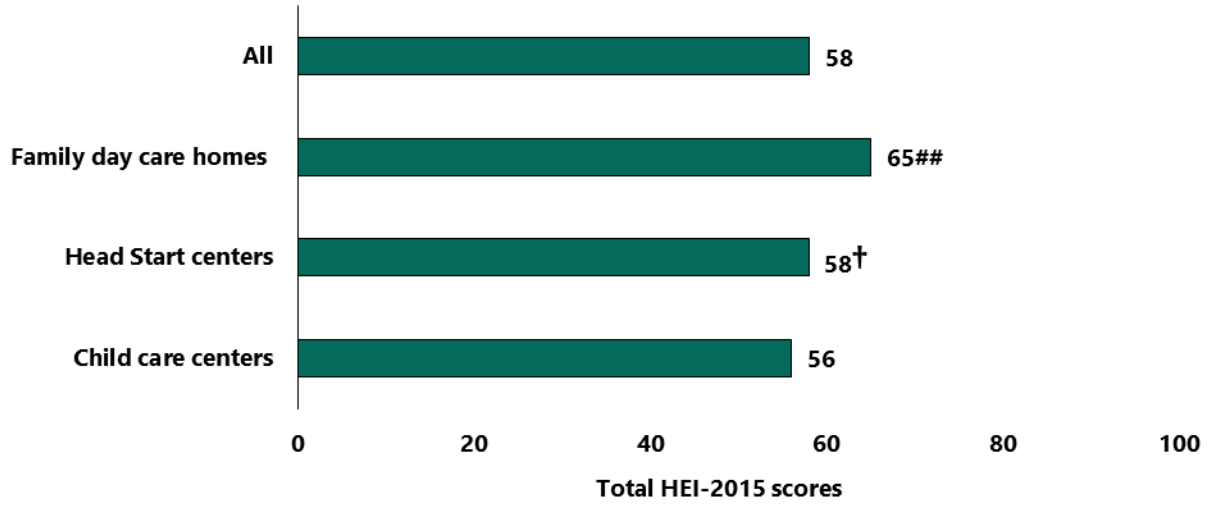
Difference between children in child care centers and family day care homes is significantly different from zero at the ###0.001 level or ##0.01 level.

Difference between children in Head Start centers and family day care homes is significantly different from zero at the †††0.001 level or ††0.01 level.

CACFP = Child and Adult Care Food Program.

HEI-2015 scores across all CACFP meals and snacks consumed. The study used the HEI-2015 to examine the nutritional quality of CACFP meals and snacks consumed by 3- to 5-year-old children on a child care day**.** As described in Chapter 4, the total HEI score is constructed by summing the scores for the 13 components, and it has a maximum possible score of 100. A higher total HEI score indicates better conformance with DGA recommendations and higher nutritional quality. It is important to note that CACFP meals and snacks provided to children are not necessarily expected to achieve high total scores because the CACFP meal pattern requirements specify that only certain types of food be served at a given meal or snack (see Section 4.2 for a discussion of meal pattern requirements). The total HEI-2015 score across all CACFP meals and snacks consumed by 3- to 5-year-olds was 58 out of 100 (Exhibit 7.6). The scores were highest among children attending FDCHs compared to children in either child care or Head Start centers (65 versus 56 and 58, respectively). The total HEI-2015 score across all CACFP meals and snacks consumed by 3- to 5-year-olds was similar across meal types: 53 for breakfast, 56 for lunch, and 52 for snack (Tables G.60, G.61 and G.62).

Exhibit 7.6. Total HEI-2015 scores across all CACFP meals and snacks consumed by 3- to 5-year-olds by provider type



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Meal Observation Form, ASA24 Recall, winter through summer, 2023. See Table G.63 in Appendix G.

Difference between children in child care centers and family day care homes is significantly different from zero at the ##0.01 level.

Difference between children in Head Start centers and family day care homes is significantly different from zero at the †0.05 level.

CACFP = Child and Adult Care Food Program; HEI = Healthy Eating Index.

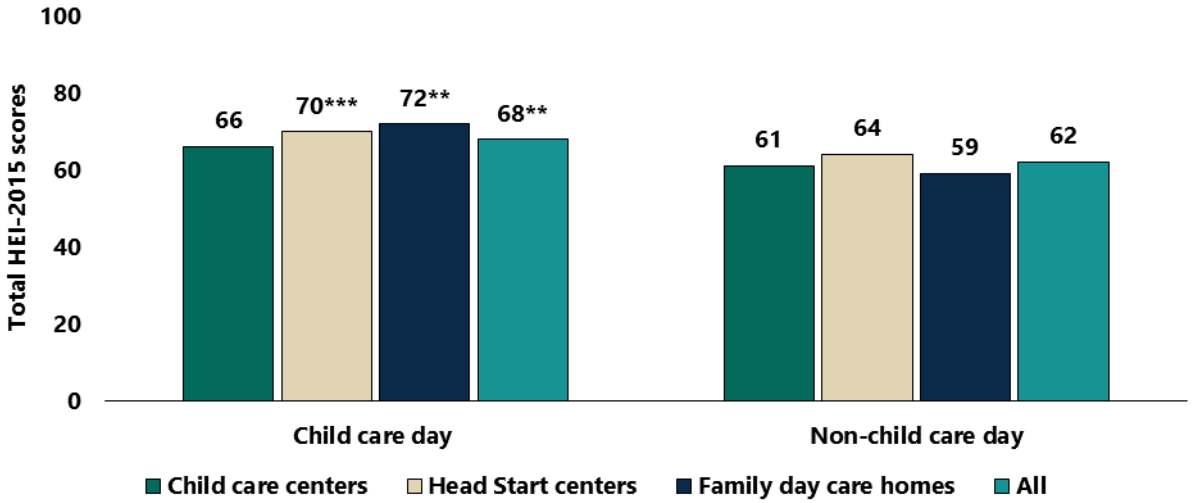
7.1.2. Comparison of 3- to 5-year-old children's 24-hour dietary intakes on child care days and non–child care days

The study team examined differences in the dietary intakes of 3- to 5-year-old children on child care days and non-child care days by estimating HEI-2015 scores and usual nutrient intakes. For child care days, 24-hour intakes include all foods and beverages consumed including any CACFP meals and snacks consumed while in child care as well as foods consumed at home or from other sources. Non-child care days were typically weekend days and include all foods and beverages consumed over 24-hours.[14]

HEI-2015 scores on child care days and non–child care days. The total HEI-2015 score for 3- to 5-year-olds was about 6 points higher on child care days compared to non–child care days (68 versus 62) (Exhibit 7.7). This difference was statistically significant and indicates that children's 24-hour dietary intakes were more consistent with DGA recommendations on child care days (when they receive CACFP meals and snacks) than on non–child care days. Component scores also differed between child care days and non–child care days (Exhibit 7.8 and Table G.57). Because maximum scores for the components vary, findings for component scores are expressed as a percentage of the maximum possible score.

[14] Consistent with SNACS-I, all child care days were weekdays and most non-child care days were weekend days. When interpreting these findings, it is important to note that dietary intakes tend to vary on weekdays versus weekend days (Thomson, 1977).

Exhibit 7.7. Total HEI-2015 scores for 3- to 5-year-olds on child care days and non–child care days



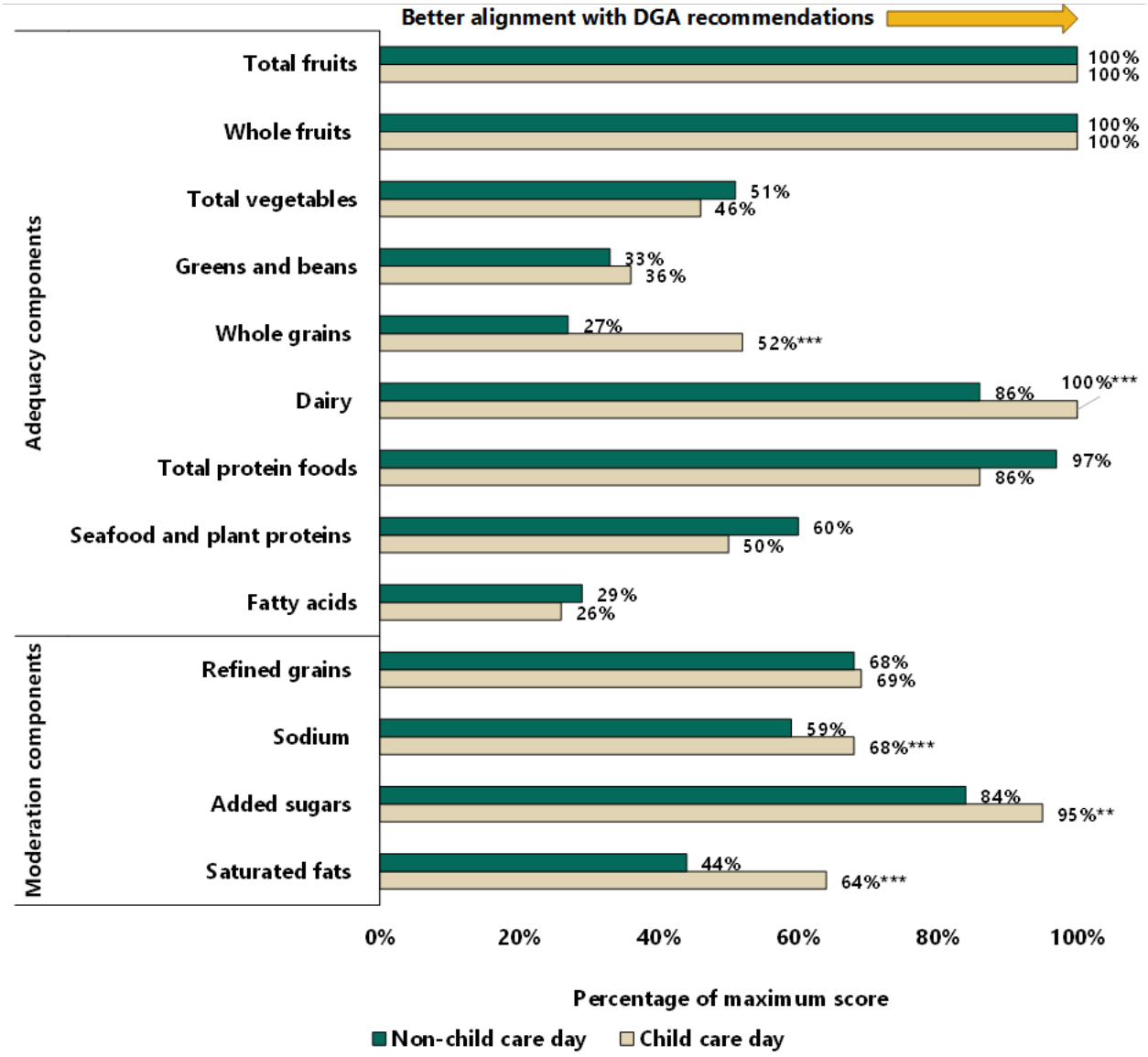
Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Meal Observation Form, ASA24 Recall, winter through summer, 2023. See Table G.57 in Appendix G.

Difference between child care day and non-child care day is significantly different from zero at the ***0.001 level or **0.01 level.

HEI = Healthy Eating Index.

- Among the adequacy components, children's 24-hour diets achieved significantly higher HEI-2015 scores on child care days compared to non–child care days for whole grains (52 percent of the maximum possible score versus 27 percent) and dairy (100 percent versus 86 percent).
- Among the moderation components, children's 24-hour diets received significantly higher scores on child care days compared to non–child care days for sodium (68 percent of the maximum possible score versus 59 percent), added sugars (95 percent versus 84 percent), and saturated fats (64 percent versus 44 percent).
- Although there is much room for improvement in the quality of children's diets to better align them with the DGA, these findings indicate that children may have better conformance with the recommendations on days they participate in the CACFP.

Exhibit 7.8. Component HEI-2015 scores for 3- to 5-year-olds' 24-hour intakes on child care days and non–child care days



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Meal Observation Form, ASA24 Recall, winter through summer, 2023. See Table G.57 in Appendix G.

Tabulations are weighted to be nationally representative of all children in early child care programs participating in the Child and Adult Care Food Program in Program Year 2022–2023.

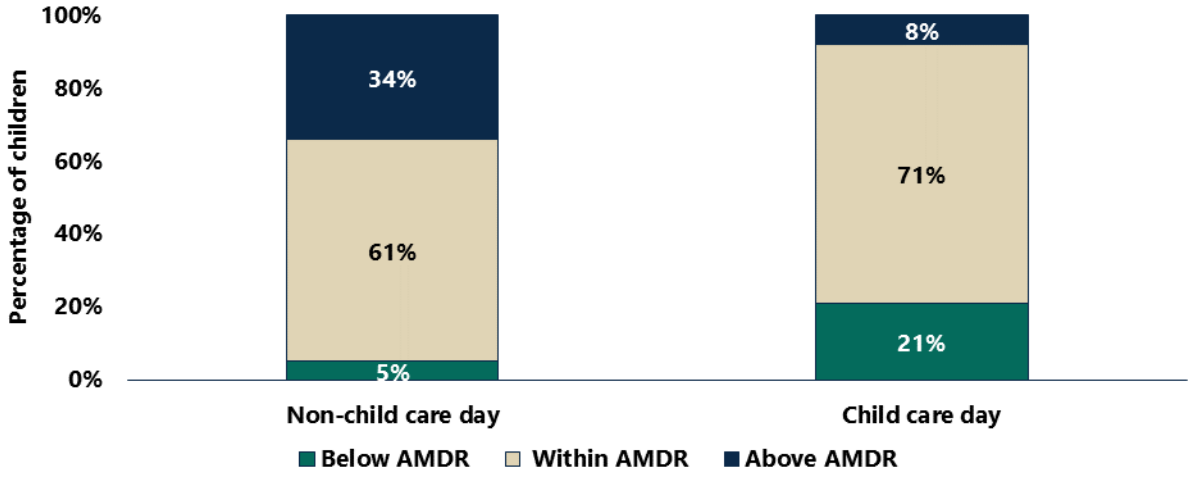
Difference between child care day and non-child care day is significantly different from zero at the ***0.001 level or **0.01 level.

DGA = Dietary Guidelines for Americans; HEI = Healthy Eating Index.

In addition to collecting dietary intake data on one child care day and one non–child care day, the study team collected a third day of dietary intake data (either an additional child care day or non–child care day) from 206 children ages 3 to 5 years old, to support estimation of usual dietary intakes. The study team estimated usual intake distributions of nutrients on child care days and non-child care days and compared them with nutrient standards defined in the Dietary Reference Intakes (DRIs) and 2020-2025 Dietary Guidelines for Americans (DGA) to estimate the percentages of 3- to 5-year-olds with acceptable, inadequate, or excessive usual intakes. The DRIs provide standards for the amounts of nutrients healthy individuals should consume, based on age, sex, and life stage.[15]

Exhibit 7.9 displays the percentages of 3- to 5-year-olds with acceptable, inadequate, or excessive usual intakes of total fat on a child care day and non–child care day.[16] On both child care days and non–child care days, the majority (at least 60 percent) of children's consumption of macronutrients were within the Acceptable Macronutrient Distribution Range (AMDR) for total fat, linoleic acid (an omega-6 polyunsaturated fatty acid), carbohydrates, and protein. However, a significantly smaller proportion of children consumed above the recommended amount for total fat on a child care day compared to a non–child care day (8 percent versus 34 percent).

Exhibit 7.9. Usual nutrient intakes of total fat relative to AMDRs among 3- to 5-year-olds on child care days and non–child care days



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Meal Observation Form, ASA24 Recall, winter through summer, 2023. See Table G.42 in Appendix G.

Difference between child care day and non-child care day is significantly different from zero at the ***0.001 level or **0.01 level.

AMDR = Acceptable Macronutrient Distribution Range.

Nearly all (98 percent or more) of children's intake of key nutrients—including, vitamins A, C, B6, and B12; folate; niacin; riboflavin; thiamin; and iron—were adequate relative to the Estimated Average Requirements (EARs) and there were no significant differences between child care days and non-child care

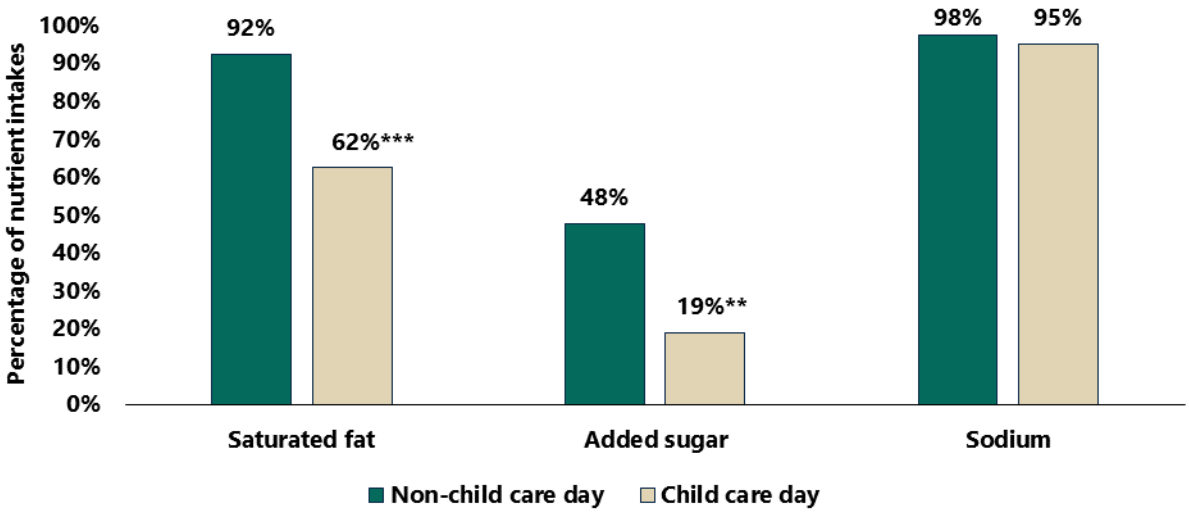
[15] For reference, Dietary Reference Intakes can be found on the National Institutes of Health website: https://ods.od.nih.gov/HealthInformation/nutrientrecommendations.aspx

[16] The AMDR limit for total fat is between 30 to 40 percent of daily calorie intakes for 3 year olds and between 25 to 35 percent of daily calorie intake for 4- to 5-year-old children.

days. Children were significantly more likely to have inadequate intakes of calcium on non-child care days versus child care days (20 percent of children had inadequate intakes of calcium on a non–child care day, versus 6 percent on a child care day).

Exhibit 7.10 displays the percentages of 3- to 5-year-olds with excessive usual intakes of saturated fat, added sugars and sodium on a child care day and non–child care day.[17] The share of children with excessive intakes of saturated fat and added sugars compared to the DGA limits was significantly lower on a child care day compared to a non–child care day. For saturated fat, 62 percent of children exceeded the limit for saturated fat on a child care day compared with 92 percent on a non–child care day. For added sugars, 19 percent of children exceeded the DGA limit on a child care day compared with 48 percent on a non–child care day. The majority of children (98 percent on non-child care days and 95 percent on child care days), exceeded the Chronic Disease Risk Reduction Intake limit for sodium, the difference between child care days and non-child care days was not statistically significant.

Exhibit 7.10. Prevalence of excessive usual daily nutrient intakes of saturated fat, added sugar and sodium among 3- to 5-year-olds on child care days and non–child care days



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Meal Observation Form, ASA24 Recall, winter through summer, 2023. See Table G.42 in Appendix G.

Difference between child care day and non-child care day is significantly different from zero at the ***0.001 level or **0.01 level.

7.2. Dietary intakes among 6- to 12-year-old children

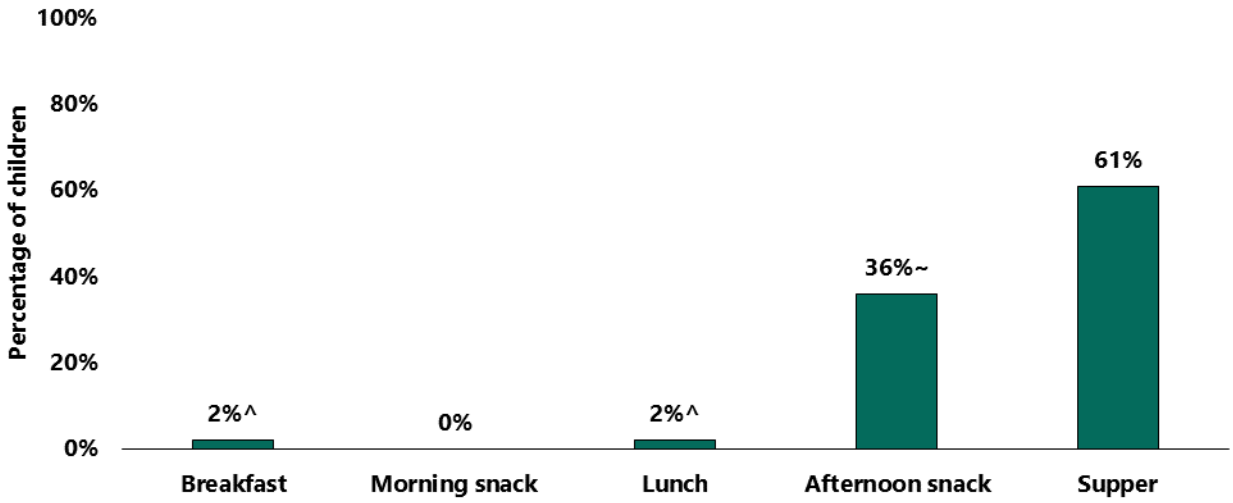
7.2.1. Consumption of CACFP meals and snacks on a child care day

The study team examined the consumption of CACFP meals and snacks among 6- to 12-year-olds on a child care day including the proportion of calorie and nutrient intake from CACFP meals and snacks and HEI-2015 scores for CACFP meals and snacks consumed.

[17] For reference, the DGA recommendation is no more than 10 percent of daily calories from saturated fat or added sugars. The DGA limit for sodium for 3-year-old children is more than 1,200 milligrams (mg) and for 4- to 5-year-old children is more than 1,500 mg over 24 hours.

The majority of 6- to 12-year-old children attending before and after school programs consumed CACFP suppers (61 percent) and a smaller percentage (36 percent) consumed CACFP afternoon snacks (Exhibit 7.11). Very few 6- to 12-year-old children attending before and after school programs consumed a CACFP breakfast, morning snack or lunch while in care.

Exhibit 7.11. Percentage of 6- to 12-year-old children consuming CACFP meals and snacks on a child care day



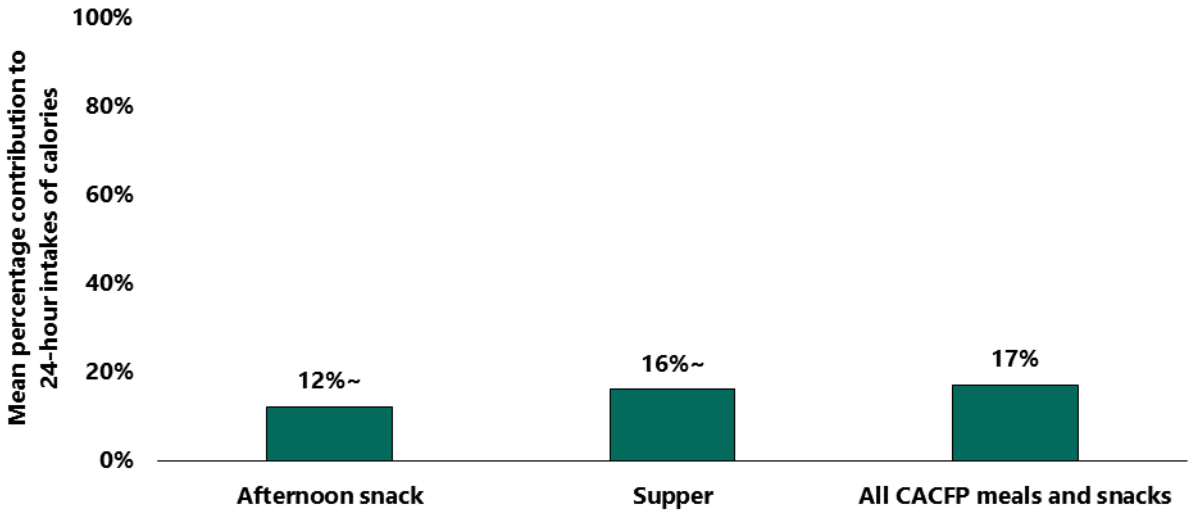
Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Meal Observation Form, ASA24 Recall, winter through summer, 2023. See Table G.2 in Appendix G.

^ Estimate is considered imprecise because the standard error is more than 30 percent of the estimate.

~ Estimate has an effective sample size of less than 30 observations. The effective sample size is calculated as the sample size divided by the design effect for each estimate.

Proportion of calorie and nutrient intake from CACFP meals and snacks. Among children who consumed a CACFP meal, 6- to 12-year-old children consumed 17 percent of their daily calories from all CACFP meals and snacks (Exhibit 7.12).

Exhibit 7.12. Percentage of calories on child care days from CACFP meals and snacks, among 6- to 12-year olds



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Meal Observation Form, ASA24 Recall, winter through summer, 2023. See Tables G.72, G.73 and G.74 in Appendix G.

~ Estimate has an effective sample size of less than 30 observations. The effective sample size is calculated as the sample size divided by the design effect for each estimate.

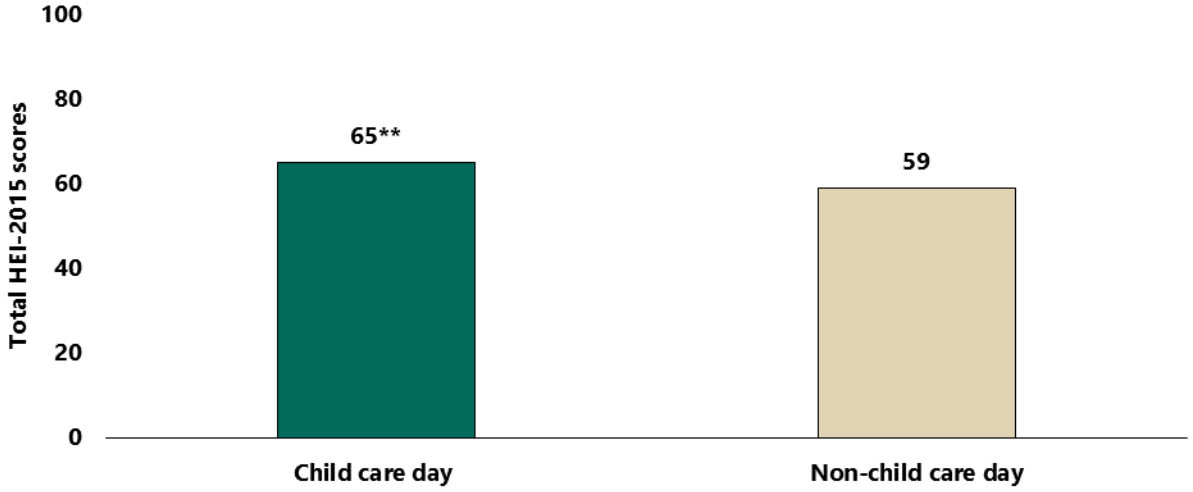
CACFP = Child and Adult Care Food Program.

HEI-2015 scores for CACFP meals and snacks consumed. The total HEI-2015 score for all CACFP meals and snacks consumed by 6- to 12-year-olds was 49 (out of 100) (G.65). Among the adequacy components for all CACFP meals and snacks consumed by 6- to 12-year-olds, HEI-2015 scores were highest for total fruits (100 percent), dairy (81 percent), and whole fruits (56 percent). The lowest scores among the adequacy components were for fatty acids (0 percent), greens and beans (6 percent), and total vegetables (8 percent). Added sugars achieved the highest score among the moderation components for all CACFP meals and snacks consumed by 6- to 12-year-olds (86 percent), followed by refined grains (66 percent), saturated fats (58 percent), and sodium (54 percent).

7.2.2. Comparison of 24-hour dietary intakes of 6- to 12-year-olds on child care days and non–child care days

For children's 24-hour intakes on child care days and non–child care days, the analyses included all foods and beverages reported over 24 hours. Similar to 3-to 5-year-olds, the total HEI-2015 score for 6- to 12-year-olds was about 6 points higher on child care days compared to non–child care days 65 and 59 (out of 100) , respectively; Exhibit 7.13). This difference was statistically significant and indicates that the 24-hour dietary intakes of 6- to 12-year-olds were more consistent with DGA recommendations on child care days (when they receive CACFP meals and snacks) than on non–child care days.

Exhibit 7.13. HEI-2015 scores for 6- to 12-year-olds on child care days and non–child care days



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Meal Observation Form, ASA24 Recall, winter through summer, 2023. See Table G.59 in Appendix G.

Difference between child care day and non-child care day is significantly different from zero at the **0.01 level.

HEI = Healthy Eating Index.

- Among the adequacy components, 6- to 12-year-old children's 24-hour diets achieved significantly higher HEI-2015 scores on child care days compared to non–child care days for dairy (84 percent of the maximum possible score versus 63 percent) and seafood and plant proteins (83 percent versus 54 percent).
- There were no significant differences in HEI-2015 scores among the moderation components on child care days compared to non–child care days.

7.3. Plate waste in 3- to 5-year-old children's CACFP meals and snacks

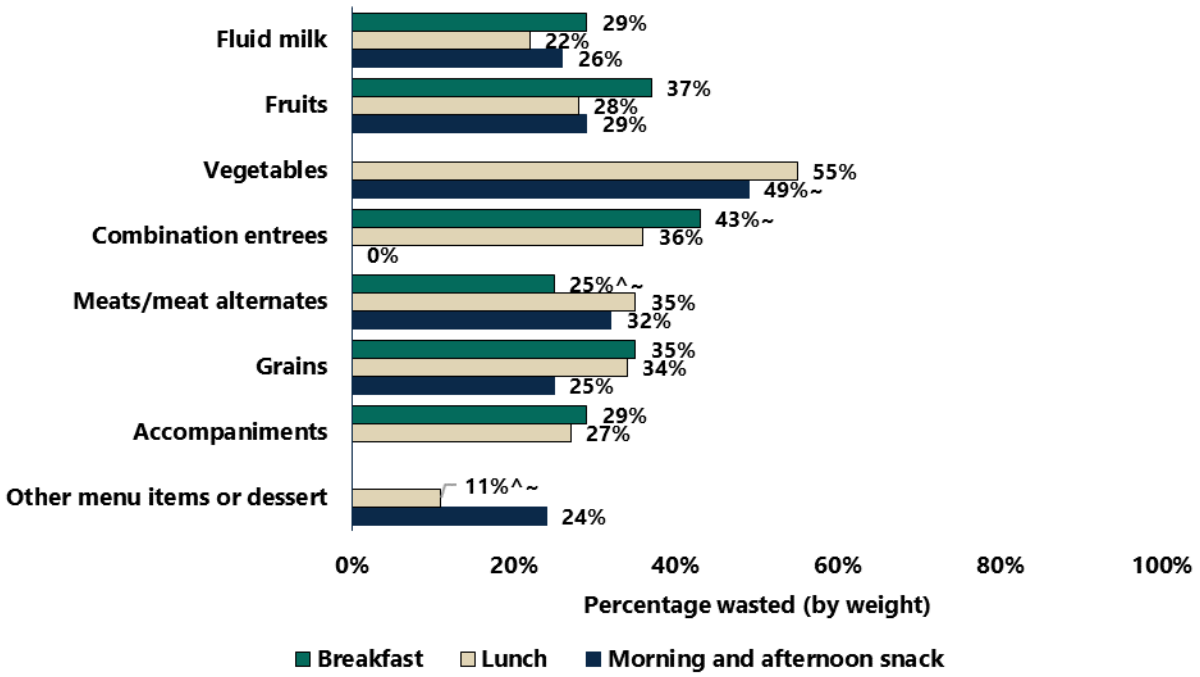
Discarding some amount of food that was served to children (that is, plate waste) is expected in CACFP programs, especially for young children as they develop feeding skills and taste preferences. Children are often served an initial amount of food and may be served or take additional amounts throughout the meal service.[18] The analysis presented in this section includes all foods served to or taken by children as part of CACFP meals and snacks on one day. To calculate the percentage wasted (by weight), the observed amount wasted from individual children's plates was divided by the observed amount served or taken. This section presents findings for foods and beverages wasted by major food group, defined as required CACFP meal components, as well as accompaniments, combination entrees and other menu items that were observed on at least 5 percent of children's plates. It also presents strategies providers used to reduce plate waste in ECCs.

[18] Providers must serve the required minimum quantity for meal components and may serve more than the minimum quantity at their discretion.

7.3.1. Plate waste in CACFP breakfasts, lunches, and snacks served to 3- to 5-year-olds

Across meal types, the foods most often wasted were vegetables. "Other" menu items (such as water and desserts) were wasted the least (Exhibit 7.14). At breakfast served to 3- to 5-year-olds, foods most often wasted were fruits (37 percent), grains (35 percent), and combination entrees (43 percent). At lunch, foods most often wasted were vegetables (55 percent), combination entrees (36 percent), and meats/meat alternates (35 percent). Almost half of vegetables (49 percent) and about one-third each of meats/meat alternates (32 percent) and fruits (29 percent) were wasted at snacks. The amount of milk wasted ranged from 20 to 29 percent across meal types.

Exhibit 7.14. Foods wasted from CACFP meals and snacks served to 3- to 5-year-olds



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Meal Observation Booklet and Menu Survey, winter through summer, 2023. See Tables G.92, G.93, and G.94 in Appendix G.

^ Estimate is considered imprecise because the standard error is more than 30 percent of the estimate.

~ Estimate has an effective sample size of fewer than 30 observations. The effective sample size is calculated as the sample size divided by the design effect for each estimate.

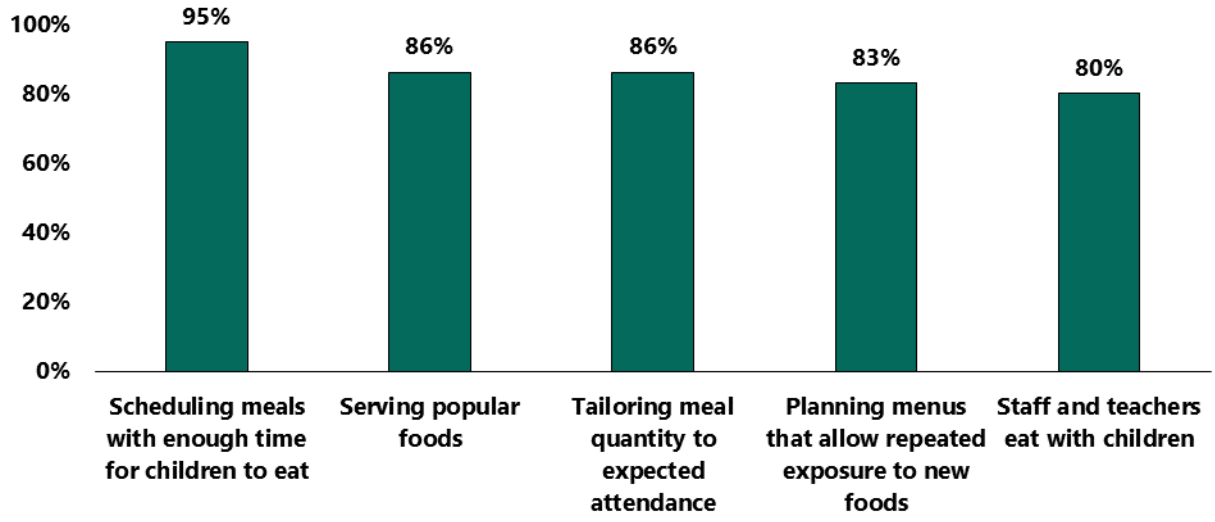
CACFP = Child and Adult Care Food Program.

7.3.2. Strategies to reduce waste in early child care programs

ECCs reported using a variety of strategies to reduce plate waste: over 95 percent scheduled meals with enough time for children to eat, 86 percent served foods that were popular among children, and 86 percent tailored meal quantities to the expected number of children who would be attending (Exhibit 7.15). With food that was prepared for CACFP meals and snacks but not served to children, providers threw the unserved food in the garbage (62 percent), saved it to serve later (24 percent), or gave it to staff (23 percent) (Exhibit 7.16).[19]

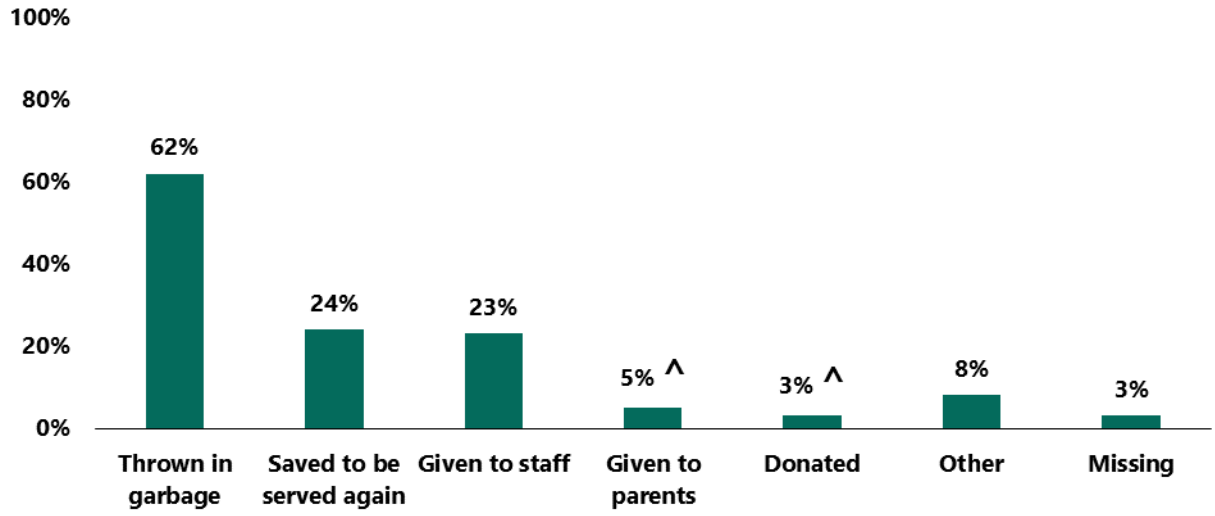
[19] Providers may only be reimbursed for foods that are available and offered to children during CACFP meals and snacks.

Exhibit 7.15. Strategies early child care programs used to reduce plate waste



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Provider Survey, winter through summer, 2023. See Table B.35 in Appendix B.

Exhibit 7.16. Early child care programs' handling of unserved food after meals



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Provider Survey, winter through summer, 2023. See Table B.35 in Appendix B.

^ Estimate is considered imprecise because the standard error is more than 30 percent of the estimate.

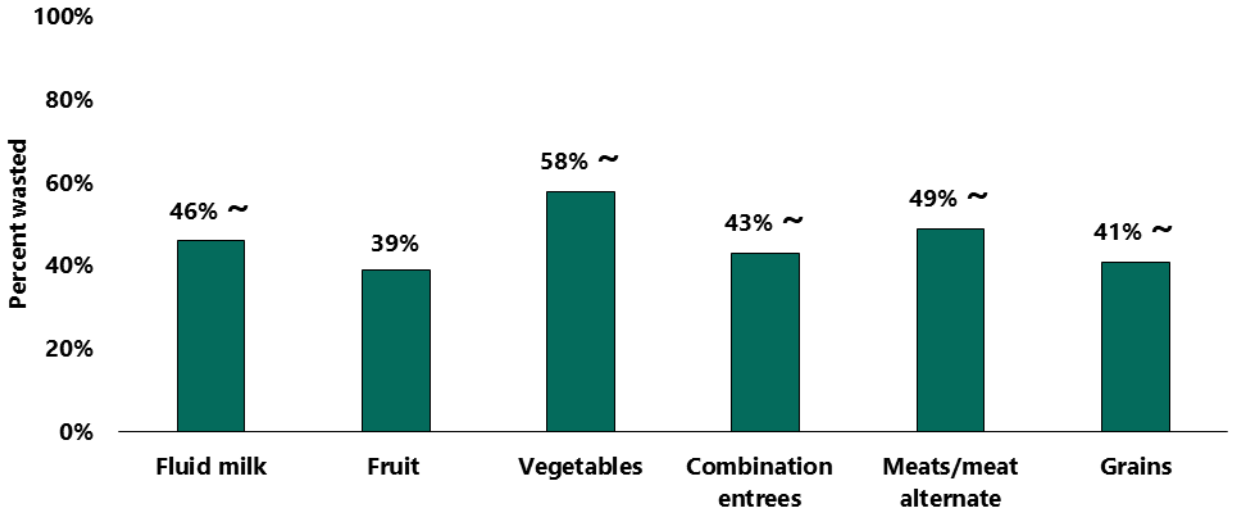
7.4. Plate waste in 6- to 12-year-old children's CACFP meals and snacks

7.4.1. Plate waste in CACFP snacks and suppers served to 6- to 12-year-olds

As in early child care programs, plate waste varied by food group and meal type for 6- to 12-year-olds. Vegetables were wasted the most, and fruits were wasted the least.

At afternoon snacks served to 6- to 12-year-olds, 44 percent of vegetables, 30 percent of other menu items (such as snack foods and water) and dessert, and 20 percent of milk served was wasted (Table G.95). At supper, amounts of waste were highest for vegetables (58 percent), meats/meat alternates (49 percent), and milk (46 percent) (Exhibit 7.17).

Exhibit 7.17. Foods wasted from supper served to 6- to 12-year-olds



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Meal Observation Booklet and Menu Survey, winter through summer, 2023. See Table G.96 in Appendix G.

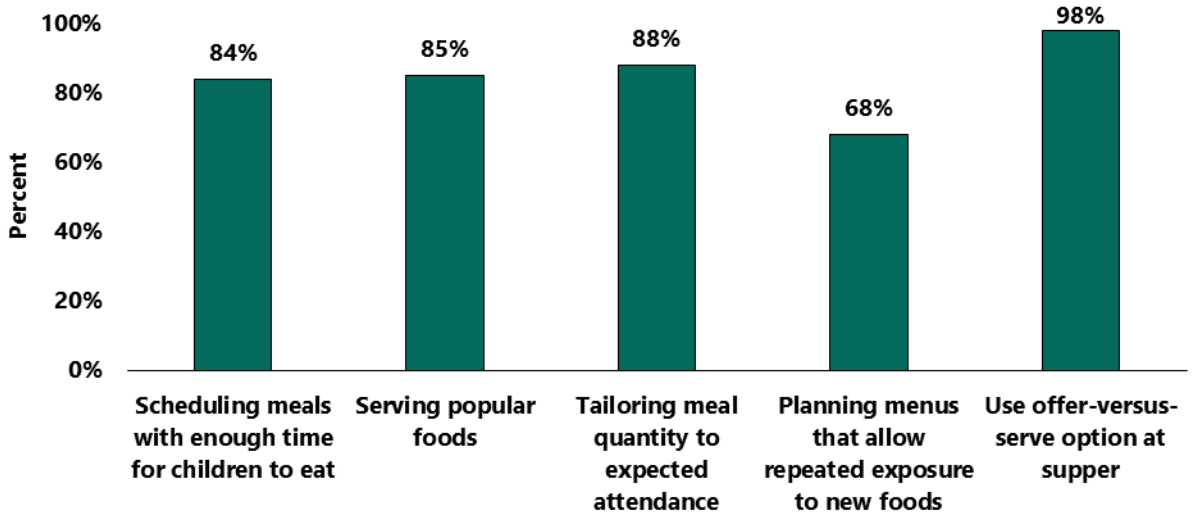
~ Estimate has an effective sample size of fewer than 30 observations. The effective sample size is calculated as the sample size divided by the design effect for each estimate.

7.4.2. Strategies to reduce waste in before and after school programs

Nearly all BASs (98 percent) used the offer-versus-serve option at supper to reduce plate waste (Exhibit 7.18). [20] Other commonly reported strategies were tailoring meal quantities to the expected number of children who would be attending (88 percent) and serving foods that were popular among children (85 percent). For food that was prepared but not served, the most common strategies were to throw the food in the garbage (74 percent), save it to serve later (38 percent), and donate it (16 percent) (Exhibit 7.19).

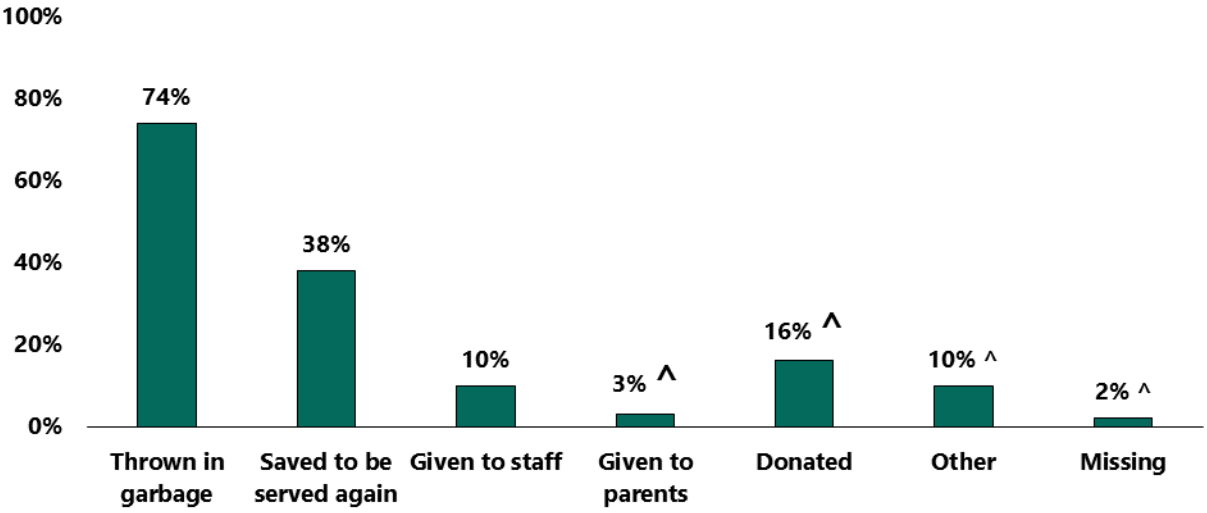
[20] After school programs may use the offer-versus-serve option. This option is not permitted in outside-school-hours care centers or early child care centers participating in CACFP.

Exhibit 7.18. Strategies before and after school programs used to reduce plate waste



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Provider Survey, winter through summer, 2023. See Table B.36 in Appendix B.

Exhibit 7.19. Before and after school programs' handling of unserved food after meals



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Provider Survey, winter through summer, 2023. See Table B.36 in Appendix B.

^ Estimate is considered imprecise because the standard error is more than 30 percent of the estimate.

7.5. Relationship between plate waste in CACFP meals and snacks and program environment and child characteristics

We examined potential relationships of the CACFP program environment and child characteristics with plate waste using responses from the Environmental Observation Form, the Provider Survey, and the Parent Interview.[21] This section presents select findings from the multivariate analyses for percentage of

[21] Information from the Environmental Observation Form is based on direct observation. Information from the Provider Survey and Parent Interview is based on self-reported responses to survey questions.

calories and vegetables wasted. The findings should be interpreted with caution because the multivariate modelling approach is exploratory and suggests associations—not causal effects—between child and environment characteristics and plate waste.

In ECCs, more observed time spent in physical activity before lunch was associated with a lower percent of calories wasted from the meal (Table G.112). For every additional minute of physical activity observed, the percent of calories wasted was reduced by 0.1 percentage points, holding all other factors constant. In other words, adding a 20-minute period for physical activity before lunch would be expected to reduce the percent of calories wasted by about 2 percentage points. Similarly, more observed seated time after lunch was associated with a lower percent of lunch calories wasted. FDCHs wasted 17 percentage points fewer lunch calories than child care or Head Start centers did, holding all other factors constant. However, when a provider reported using the strategy of scheduling physical activity before meals to reduce plate waste, this strategy was associated with a significant increase in the percentage of calories wasted compared to not scheduling physical activity before meals. This finding contradicts the association found between more observed time spent in physical activity before lunch and fewer calories wasted.

The self-reported use of sharing or trading tables was associated with a 15 percentage point reduction in the amount of vegetables wasted at lunch compared to not using them, holding all other factors constant (Table G.114). Unexpectedly, teachers sitting with children during lunch was associated with a statistically significant increase in the percentage of vegetables wasted compared to teachers not sitting with children.

For snacks in ECCs and BASs, for every additional observed minute of designated seated time after lunch, there was an estimated 0.1 percentage point decrease in the number of calories wasted, holding all other factors constant (Table G.115). However, we found a small but significant association in the opposite direction for seated time before lunch: for every additional observed minute of seated time before lunch, there was an estimated 0.1 percentage point increase in the number of calories wasted.

At supper, the strategy of teachers sitting with children was associated with a statistically significant increase in the percentage of vegetables wasted compared to teachers not sitting with children, similar to the findings for lunch in ECCs (Table G.119).

8. Infant wellness and feeding policies and practices

ECCs (child care centers, Head Start centers, and FDCHs) play a critical role in establishing healthy habits among infants Findings presented in this chapter focus on the following research objective:

- **Objective 5.** Examine infant feeding practices, infant food intake, and infants' activity levels while in child care.

This chapter describes ECCs' practices for infant tummy time and taking infants outdoors; programs' policies, procedures, and practices regarding food served to infants; and findings about infants' consumption of breast milk and formula while in child care. Findings are based on providers' responses to two instruments (the Provider Survey and the Infant Menu Survey) and CACFP caregiver recordings of individual infant intakes (Infant Intake Form). A total of 333 ECCs completed the infant section of the Provider Survey and 215 ECCs completed the Infant Menu Survey. Caregivers of 207 infants at ECCs completed the Infant Intake Form for infants in their care.

Findings based on the Provider Survey (Sections 8.1 and 8.4) are nationally representative of CACFP ECCs. Findings based on the Infant Menu Survey (Sections 8.2 and 8.3) are nationally representative of CACFP ECCs that served infants. Supplementary tables for these analyses are included in Appendix H.

8.1. Tummy and outdoor time for infants

The American Academy of Pediatrics (AAP) recommends "tummy time" (placing alert infants face down with adult supervision) to encourage muscle and motor skills development and prevent a flattened head shape from sleeping on their backs (AAP 2022; Hewitt et al. 2020).

Eighty-eight percent of full-day ECCs with infants reported offering supervised tummy time for infants at least once per day, as did 86 percent of half-day ECCs (Table H.11). Among full-day ECCs, 4 percent reported offering tummy time on only some days; another 4 percent reported never offering it. Nine percent of half-day ECCs offered tummy time only some days, and 3 percent never offered it.

Forty percent of all ECCs, regardless of full- or half-day status, took infants outside at least twice per day when the weather allowed; another 33 percent did so once daily. Head Start centers were more likely than child care centers to take infants outside at least daily (76 percent compared to 59 percent respectively).

8.2. Solid foods

The study team sent the Infant Menu Survey to all ECCs with infants in their care. Provider staff reported all meals and snacks served to infants in their care for one week (the target week). The study team also asked programs that participated in onsite data collection to complete an Infant Intake Form on the foods and beverages consumed by infants for one day while in care. The following sections feature findings from these data sources about the foods served to and consumed by infants in ECCs.

8.2.1. Introduction of solid foods to infants younger than 6 months

AAP recommends introducing complementary foods (foods other than breast milk or formula) to infants at 6 months of age, depending upon the infant's developmental status (AAP 2011). Thirty-one percent of ECCs met this AAP recommendation (Table H.5).

- Head Start centers were more likely to meet this recommendation (43 percent) than child care centers (30 percent).
- Sixteen percent of ECCs served solid food at least once during the target week to infants ages 4 to 5 months (Table H.5).
- The top three major solid food groups served in daily infant menus to infants ages 0 to 3 months and 4 to 5 months were grains, fruits, and vegetables (Table H.1). Grains were primarily in the form of infant cereal. Fruits and vegetables were primarily pureed or jarred.

8.2.2. Most frequently served solid foods to infants ages 6 months to 11 months

ECCs served infants ages 6 months and older a variety of solid foods. The top three major solid food groups served in daily menus to infants ages 6 to 7 months and 8 to 11 months were grains, vegetables, and fruits (Table H.1).

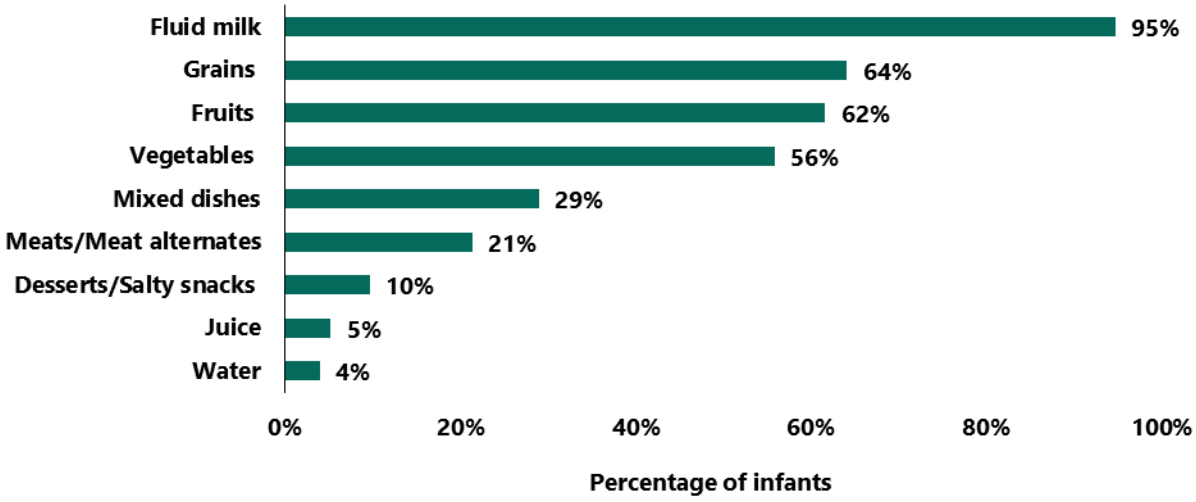
Grains were primarily in the form of infant cereal; fruits were primarily pureed or jarred; and vegetables were primarily non-infant or table food vegetables, which were mainly served to infants ages 8 to 11 months (Table H.1).

8.2.3. Infant food consumption

The CACFP Infant Meal Pattern provides recommendations for the types of food that should be fed to infants ages 6 to 11 months while in care, which include guidelines for grains, meat/meat alternates, vegetables, and fruit. The following findings represent food consumption data collected at ECCs that participated in onsite data collection and had infants enrolled during the target week.

Similar to the findings from above on foods served to infants, findings from the one-day, in-care Infant Intake Form indicate that across all three infant age groups (0 to 5, 6 to 7, and 8 to 11 months) infants most commonly consumed foods from the following major food groups: grains (64 percent), fruits (62 percent), and vegetables (56 percent; Exhibit 8.1). Twenty-nine percent of infants consumed mixed dishes and 21 percent consumed meats and proteins. Infants ages 8 to 11 months made up the majority of infants who consumed meats and proteins and all of the infants who consumed cow's milk.

Exhibit 8.1. Foods infants in early child care programs consumed



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Infant Intake Form, winter through summer, 2023. See Table H.14 in Appendix H.

The fluid milk category in this exhibit includes breast milk, formula, and cow's milk. However, cow's milk made up only 4% of the milk served to infants.

8.3. Infant milk consumption

The CACFP Infant Meal Pattern requires that programs serve 4 to 6 fluid ounces and 6 to 8 fluid ounces of breast milk or formula to infants birth through 5 months and 6 through 11 months of age, respectively (FNS 2024) for meals. For snacks, the requirements are 4 to 6 fluid ounces of breast milk or formula to infants birth through 5 months and 2 to 4 fluid ounces to infants 6 through 11 months. Although breast milk is encouraged, programs can serve breast milk, formula, or both. Overall, 72 percent of infants consumed only formula while in child care on the single target day; 18 percent consumed only breast milk; and 2 percent consumed a combination of formula and breast milk (Exhibit 8.2). Infants age 0 to 5 months were more likely to consume only breast milk compared to infants age 6 to 7 months or 8 to 11 months (41 percent, 7 percent, and 16 percent, respectively).

CACFP Meal Pattern for breast milk and formula (FNS 2024)

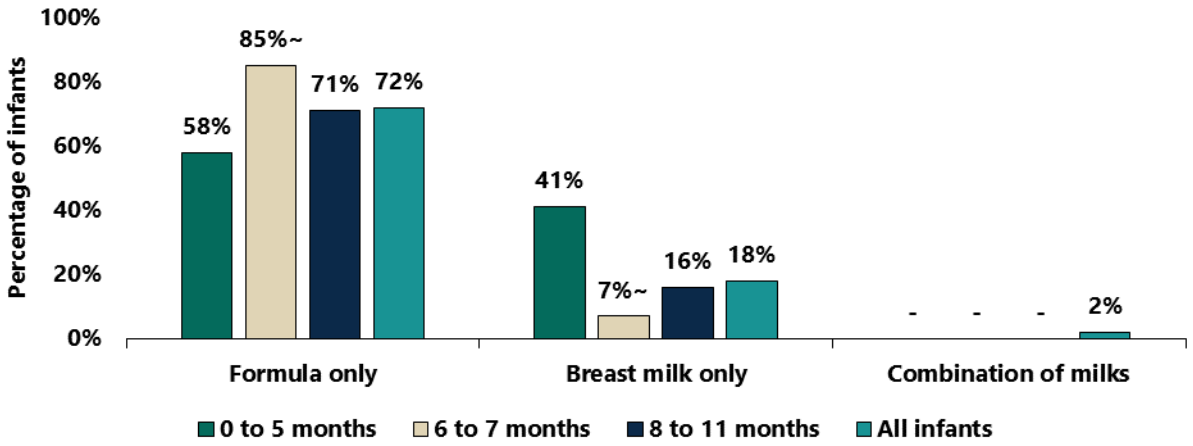
For breakfast, lunch, or supper:

- **Infants Birth through 5 months:** 4 to 6 fluid ounces of breast milk or formula
- **Infants 6 through 11 months:** 6 to 8 fluid ounces of breast milk or formula

For snacks:

- **Infants Birth through 5 months:** 4 to 6 fluid ounces of breast milk or formula
- **Infants 6 through 11 months:** 2 to 4 fluid ounces of breast milk or formula

Exhibit 8.2. Infants' consumption of breast milk and formula while in care



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Infant Intake Form, winter through summer, 2023. See Table H.13 in Appendix H.

- Estimate is suppressed to protect against disclosure risks because there are only one or two observations.

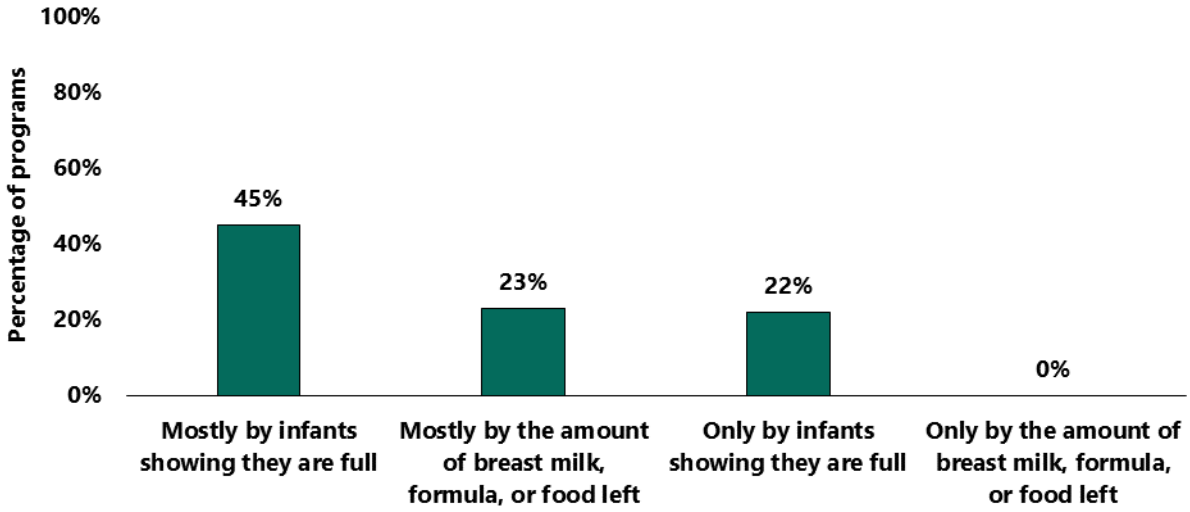
~ Estimate has an effective sample size of fewer than 30 observations. The effective sample size is calculated as the sample size divided by the design effect for each estimate.

8.4. Infant feeding practices

8.4.1. Responsive feeding techniques

Best practices for feeding infants involve using responsive feeding techniques. These include making eye contact, speaking to infants, responding to infants' reactions during feedings, responding to hunger and fullness signals, and feeding only one infant at a time. Seventy-eight percent of providers reported always using responsive feeding techniques with infants. However, 23 percent of providers reported ending feedings mostly based on the amount of breast milk, formula, or food remaining (Exhibit 8.3).

Exhibit 8.3. How early child care programs determined the end of infant feedings

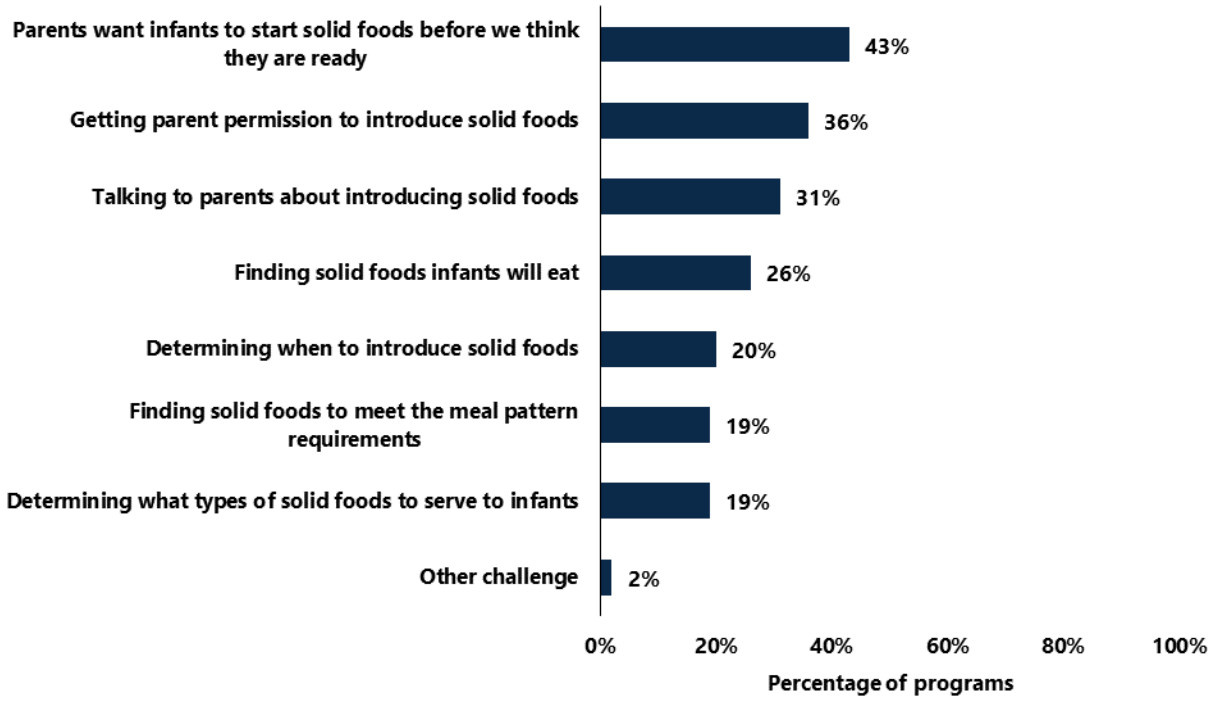


Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Provider Survey, winter through summer, 2023. See Table H.4 in Appendix H.

8.4.2. Challenges with feeding infants

The most common challenges providers faced when feeding infants solid foods included parents or guardians wanting their infant to start solid foods before providers think they are ready (43 percent), getting permission from the parent or guardian to introduce solid foods (36 percent), and talking to parents or guardians about introducing solid foods (31 percent; Exhibit 8.4).

Exhibit 8.4. Challenges early child care programs faced feeding solid foods to infants



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Provider Survey, winter through summer, 2023. See Table H.7 in Appendix H.

9. Comparisons to SNACS-I

The methods used in SNACS-II largely replicated those used in SNACS-I so key outcomes could be compared at the two points in time. SNACS-I and SNACS-II collected data in PY 2016–2017 and PY 2022–2023, respectively. In between the two studies, FNS updated the meal pattern requirements for CACFP meals and snacks based on the DGA and public input (FNS 2016). It is also important to note that child care providers experienced significant disruptions to operations and staffing because of the COVID-19 pandemic (Zero to Three 2020), which may have impacted meal service during PY 2022-2023. This chapter compares key outcomes between the two studies, describes any differences in methods between the two studies, and identifies statistically significant differences in the findings. Additional comparisons are presented in supplementary tables in Appendices B through H.

9.1. Challenges providers face participating in CACFP

Providers reported challenges to participating in CACFP in the Provider Survey. The Provider Survey for each study included nearly identical questions and response options for this topic, and both surveys were administered on the web.

ECCs' challenges were more consistent between studies than BASs' challenges:

- **ECCs:** The three most common provider-reported challenges were the same in SNACS-I and SNACS-II: (1) meal reimbursement does not cover food expenses, (2) lack of children eligible for higher reimbursement, and (3) meal reimbursement paperwork (Table B.63). The share who identified meal reimbursement does not cover food expenses was 10 percentage points higher in SNACS-II compared to SNACS-I (36 percent versus 26 percent). It was the only statistically significant difference between the two studies for ECCs. Higher rates of inflation in PY 2022-2023 could explain why more providers in SNACS-II reported the reimbursement did not cover food expenses. SNACS-II providers' estimated food costs were greater than inflation-adjusted SNACS-I costs (see Section 9.4). In addition, higher labor costs in SNACS-II compared to inflation-adjusted costs in SNACS-I may have contributed to a perception that reimbursements were insufficient. Respondents' perspectives differed from the food costs measured in this study; as discussed in Chapter 5, the reimbursement rate exceeded food costs for each meal type.
- **BASs:** The two most commonly cited challenges in both studies were that (1) meal reimbursement does not cover food expenses and (2) monitoring by the State or sponsor is time-consuming (Table B.64). More than twice as many providers identified meal reimbursement in SNACS-II than SNACS-I (27 percent versus 12 percent). The percentages for monitoring were statistically the same (13 percent versus 12 percent).
- **BASs:** Significantly fewer BASs in SNACS-II reported the following challenges as compared to SNACS-I: (1) meal reimbursement paperwork (3 percent versus 10 percent), child enrollment paperwork (2 percent versus 6 percent), and site eligibility requirements (less than 1 percent versus 4 percent).

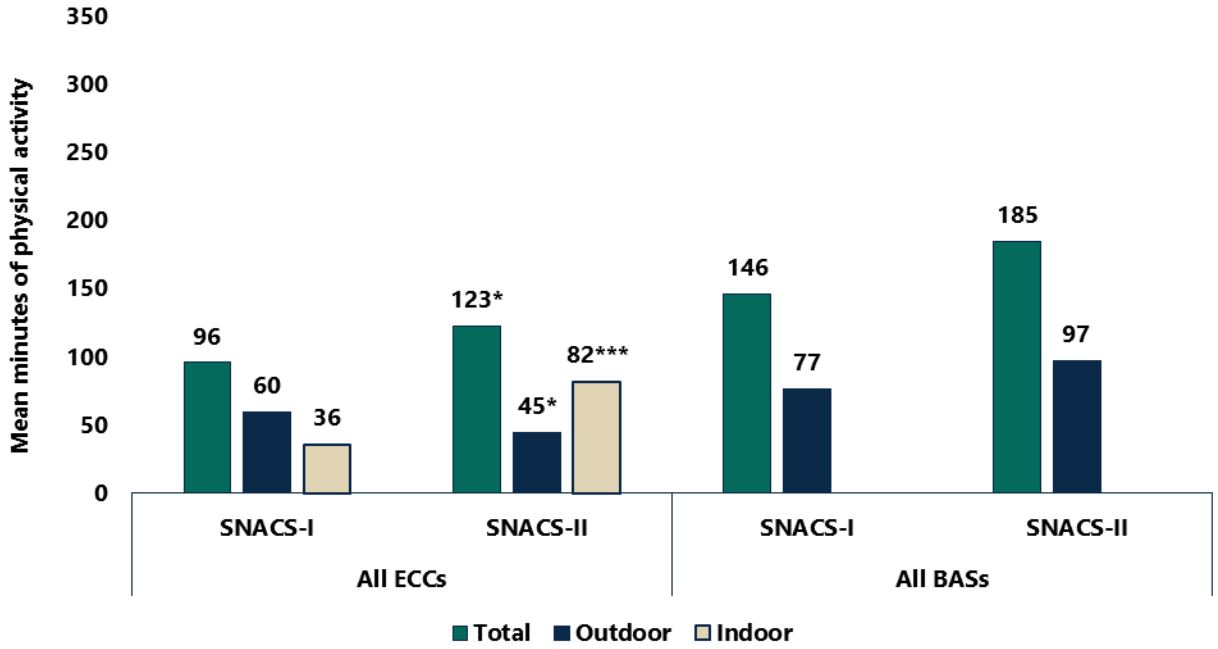
9.2. Amount of physical activity while in child care

In both SNACS-I and SNACS-II, field interviewers observed children in a sampled classroom throughout a child care day to document the amount of time spent in physical and sedentary activities, but the Environmental Observation Forms used in the studies were slightly different. SNACS-II used a more recent

version of the EPAO (the EPAO-2019) and incorporated elements from the EPAO-FCCH, which was designed for use in FDCHs. The EPAO-2019 was designed to make coding and data entry easier compared to an earlier version, and EPAO-FCCH content was necessary because SNACS-II expanded child-level data collection into FDCHs. Because SNACS-I did not collect child-level data in FDCHs, the comparisons between the two studies do not include FDCHs.

Children participated in more physical activity in SNACS-II than in SNACS-I. Adjusted for an 8-hour day, children in ECCs were observed doing physical activity for nearly a half hour more (123 minutes versus 96 minutes). Among BASs, the difference was nearly 40 minutes (185 minutes versus 146 minutes; Exhibit 9.1), although that difference was not statistically significant.

Exhibit 9.1. Mean minutes of children's daily physical activity in SNACS-II compared to SNACS-I



Source: Study of Nutrition and Activity in Child Care Settings (SNACS-I), Environmental Observation Form, winter through summer 2017 and Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Environmental Observation Form, winter through summer 2023. See Tables C.33 and C.34 in Appendix C.

Estimates are adjusted to an 8-hour day.

Difference between SNACS-I estimate and SNACS-II estimate is significantly different from zero at the ***0.001 level or the *0.05 level.

BAS = before and after school program; ECC = early child care program; SNACS = Study of Nutrition and Activity in Child Care Settings.

9.3. Nutritional quality of meals and snacks served

We compared mean total HEI-2015 scores for all meals and snacks served to 3- to 5-year-olds in ECCs and 6- to 12-year-olds in BASs in SNACS-I and SNACS-II. We also examined differences in the availability of fresh fruits and vegetables in CACFP meals and snacks between the two studies. Both studies used the same hard-copy Menu Survey instrument and administered it with the same procedures—mailing a self-reported hardcopy to providers, which they completed and returned to the study team via U.S. mail.

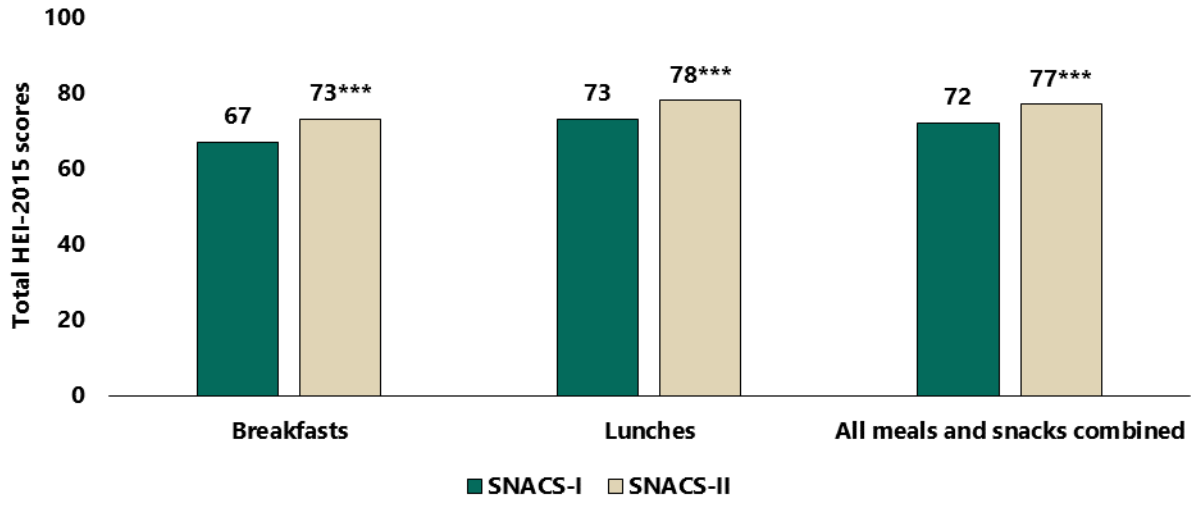
Because SNACS-I did not collect data from children enrolled in FDCHs, FDCHs are excluded from the analyses of ECCs.

9.3.1. Mean total HEI-2015 scores for CACFP meals and snacks served

For the comparison of HEI-2015 scores, we used estimates and their corresponding standard errors and sample sizes to conduct two-tailed Welch's t-tests for differences in means between the SNACS-I and -II samples. Appendix A provides more information on the estimation methods used to estimate HEI-2015 scores.

Mean total HEI-2015 scores for breakfasts, lunches, and all meals and snacks combined that were served to children ages 3 to 5 years old in ECCs were statistically significantly higher in SNACS-II than in SNACS-I (Exhibit 9.2).

Exhibit 9.2. Mean total HEI-2015 scores for CACFP meals and snacks served to 3- to 5-year-olds in early child care programs



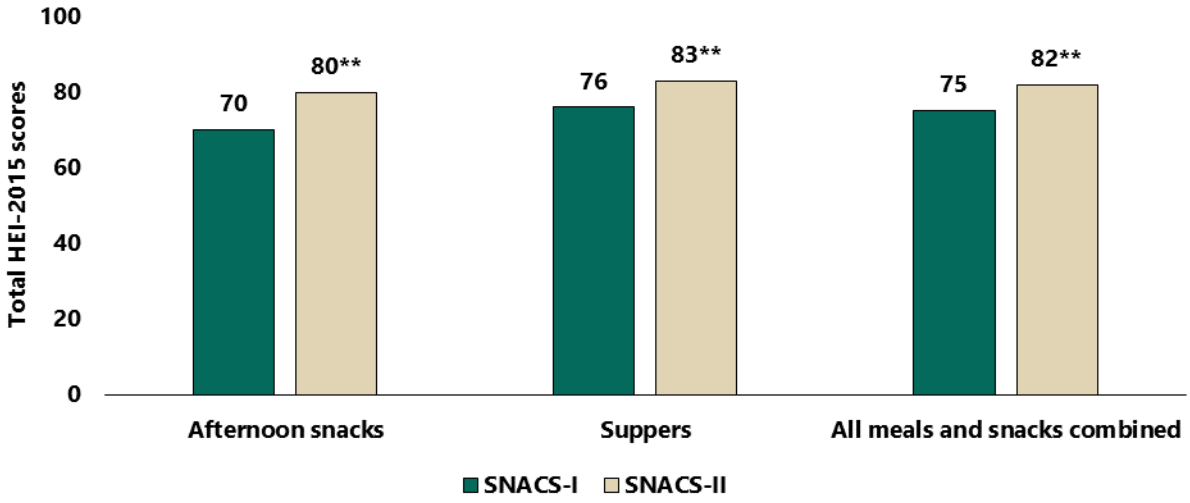
Source: Study of Nutrition and Activity in Child Care Settings (SNACS-I), Menu Survey, winter through summer, 2017 and Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Menu Survey, winter through summer, 2023. See Tables D.71, D.72, and D.73 in Appendix D.

Difference between SNACS-I estimate and SNACS-II estimate is significantly different from zero at the ***0.001 level.

CACFP = Child and Adult Care Food Program, HEI = Healthy Eating Index.

For afternoon snacks, suppers, and all meals and snacks combined that were served to children ages 6 to 12 years old in BASs, mean total HEI-2015 scores were also statistically significantly higher in SNACS-II than in SNACS-I (Exhibit 9.3).

Exhibit 9.3. Mean total HEI-2015 scores for CACFP meals and snacks served to 6- to 12-year olds in before and after school programs



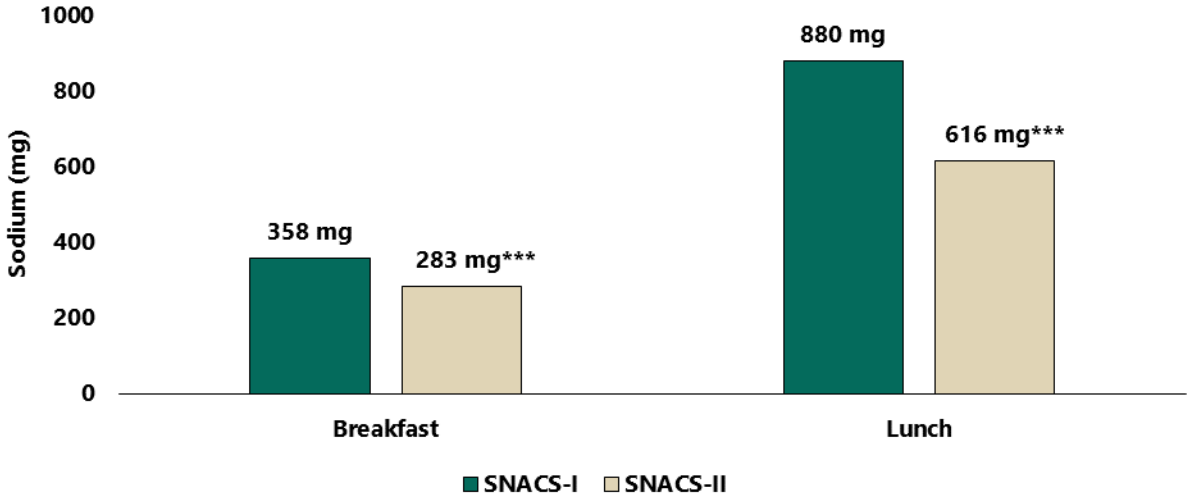
Source: Study of Nutrition and Activity in Child Care Settings (SNACS-I), Menu Survey, winter through summer, 2017 and Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Menu Survey, winter through summer, 2023. See Tables D.74, D.75, and D.76 in Appendix D.

Difference between SNACS-I estimate and SNACS-II estimate is significantly different from zero at the **0.01 level.

CACFP = Child and Adult Care Food Program, HEI = Healthy Eating Index.

The findings that HEI scores increased between the two points in time suggest that the updated meal patterns may have improved the nutritional quality of CACFP meals and snacks and increased their consistency with DGA recommendations. Sodium decreased and dietary fiber increased significantly in breakfasts and lunches served in ECCs and suppers served in BASs (Exhibits 9.4 through 9.7). Dietary fiber could have increased as a result of the switch from refined to whole grains, or from changes in fruits and vegetables served. However, it is possible that other factors could partially account for these changes in the nutritional quality of meals and snacks over time. Additional comparisons of nutrient quality in ECCs and BASs can be found in Tables D.71, D.72, D.74, and D.75 in Appendix D.

Exhibit 9.4. Mean sodium content of CACFP breakfasts and lunches served to 3- to 5-year olds in early child care programs in SNACS-I and SNACS-II

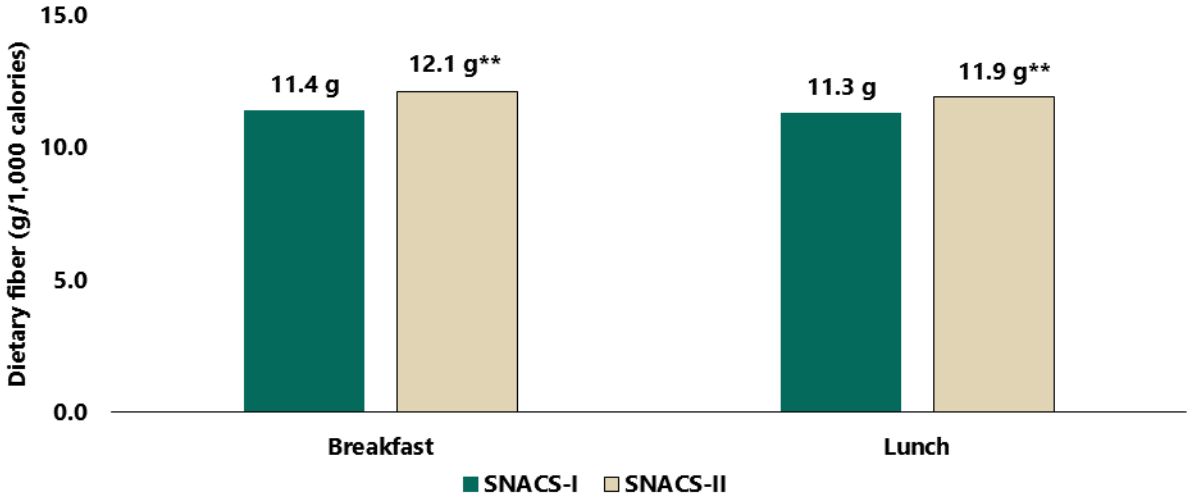


Source: Study of Nutrition and Activity in Child Care Settings (SNACS-I), Menu Survey, winter through summer, 2017 and Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Menu Survey, winter through summer, 2023. See Tables D.71 and D.72 in Appendix D.

Difference between SNACS-I estimate and SNACS-II estimate is significantly different from zero at the ***0.001 level.

CACFP = Child and Adult Care Food Program, mg = milligrams.

Exhibit 9.5. Mean dietary fiber content of CACFP breakfasts and lunches served to 3- to 5-year olds in early child care programs in SNACS-I and SNACS-II

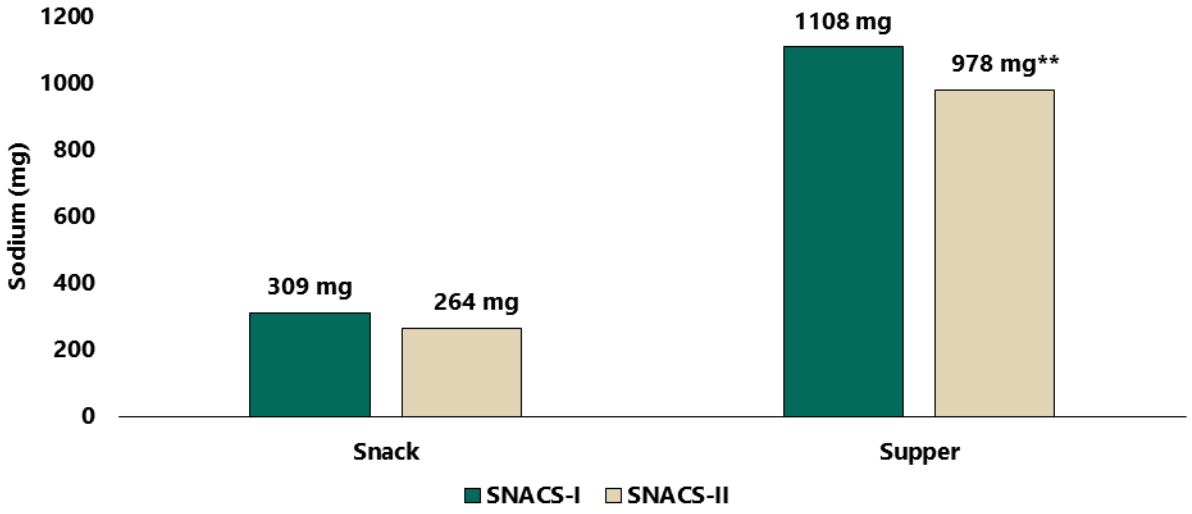


Source: Study of Nutrition and Activity in Child Care Settings (SNACS-I), Menu Survey, winter through summer, 2017 and Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Menu Survey, winter through summer, 2023. See Tables D.71 and D.72 in Appendix D.

Difference between SNACS-I estimate and SNACS-II estimate is significantly different from zero at the **0.01 level.

CACFP = Child and Adult Care Food Program, g = grams.

Exhibit 9.6. Mean sodium content of CACFP afternoon snacks and suppers served to 6- to 12-year olds in before and after school programs in SNACS-I and SNACS-II

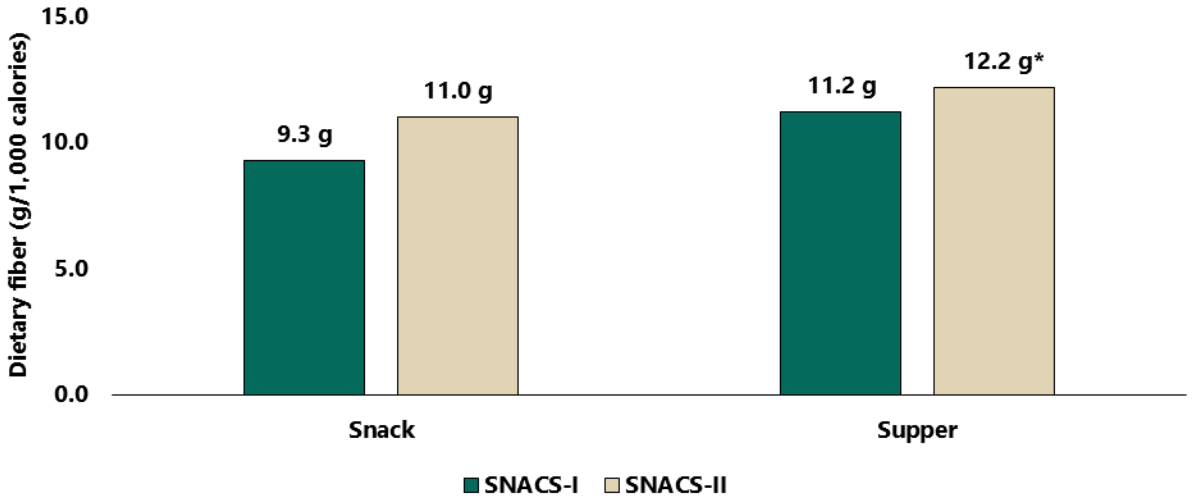


Source: Study of Nutrition and Activity in Child Care Settings (SNACS-I), Menu Survey, winter through summer, 2017 and Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Menu Survey, winter through summer, 2023. See Tables D.74 and D.75 in Appendix D.

Difference between SNACS-I estimate and SNACS-II estimate is significantly different from zero at the **0.01 level.

CACFP = Child and Adult Care Food Program, mg = milligrams.

Exhibit 9.7. Mean dietary fiber content of CACFP afternoon snacks and suppers served to 6- to 12-year olds in before and after school programs in BAS in SNACS-I and SNACS-II



Source: Study of Nutrition and Activity in Child Care Settings (SNACS-I), Menu Survey, winter through summer, 2017 and Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Menu Survey, winter through summer, 2023. See Tables D.74 and D.75 in Appendix D.

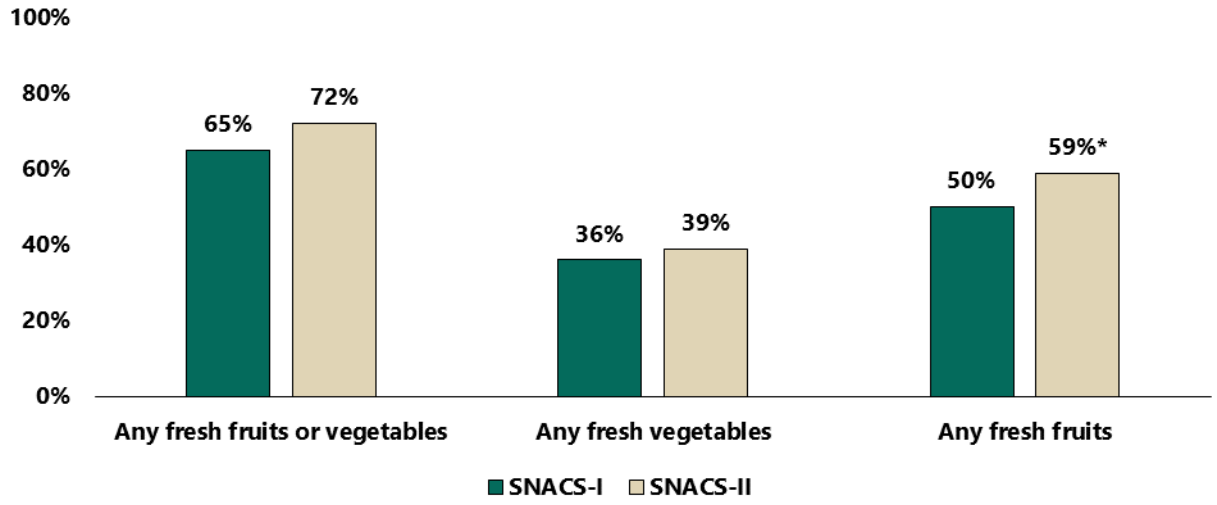
Difference between SNACS-I estimate and SNACS-II estimate is significantly different from zero at the *0.05 level.

CACFP = Child and Adult Care Food Program g = grams.

9.3.2. Availability of fresh fruits and vegetables in CACFP meals and snacks

ECCs served significantly more breakfasts to 3- to 5-year-olds with any fresh fruits or vegetables in SNACS-II compared to SNACS-I (72 percent versus 65 percent; Table D.81). This includes a six percentage point increase in any fresh fruits (71 percent versus 65 percent). ECCs also served more lunches with fresh fruits or vegetables in SNACS-II, but only the difference in percentage of daily lunches with any fresh fruits is statistically significant (Exhibit 9.8).

Exhibit 9.8. Availability of fresh fruits and vegetables in CACFP lunches served to 3- to 5-year olds in early child care programs



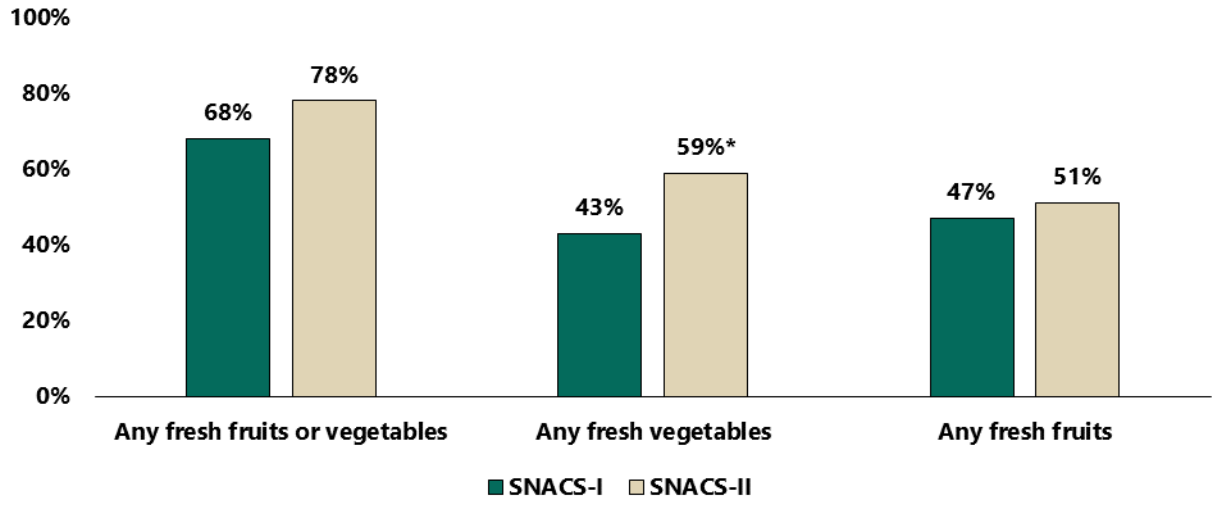
Source: Study of Nutrition and Activity in Child Care Settings (SNACS-I), Menu Survey, winter through summer, 2017 and Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Menu Survey, winter through summer, 2023. See Table D.82 in Appendix D.

Difference between SNACS-I estimate and SNACS-II estimate is significantly different from zero at the *0.05 level.

CACFP = Child and Adult Care Food Program.

BASs also served more fresh fruits and vegetables in afternoon snacks and suppers for children ages 6 to 12 years old in SNACS-II compared to SNACS-I, although differences were not statistically significant. In SNACS-II, 30 percent of snacks had any fresh fruits or vegetables, compared to 26 percent in SNACS-I (Table D.83); 20 percent had any fresh fruits in SNACS-II compared to 17 percent in SNACS-I. Similarly, BASs served more fresh fruits or vegetables in suppers in SNACS-II compared to SNACS-I (78 percent versus 68 percent; Exhibit 9.9). While this increase was not statistically significant, there was a significant increase in serving fresh vegetables in suppers (59 percent versus 43 percent).

Exhibit 9.9. Availability of fresh fruits and vegetables in CACFP suppers served to 6- to 12-year olds in before and after school programs



Source: Study of Nutrition and Activity in Child Care Settings (SNACS-I), Menu Survey, winter through summer, 2017 and Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Menu Survey, winter through summer, 2023. See Table D.84 in Appendix D.

Difference between SNACS-I estimate and SNACS-II estimate is significantly different from zero at the *0.05 level.

CACFP = Child and Adult Care Food Program.

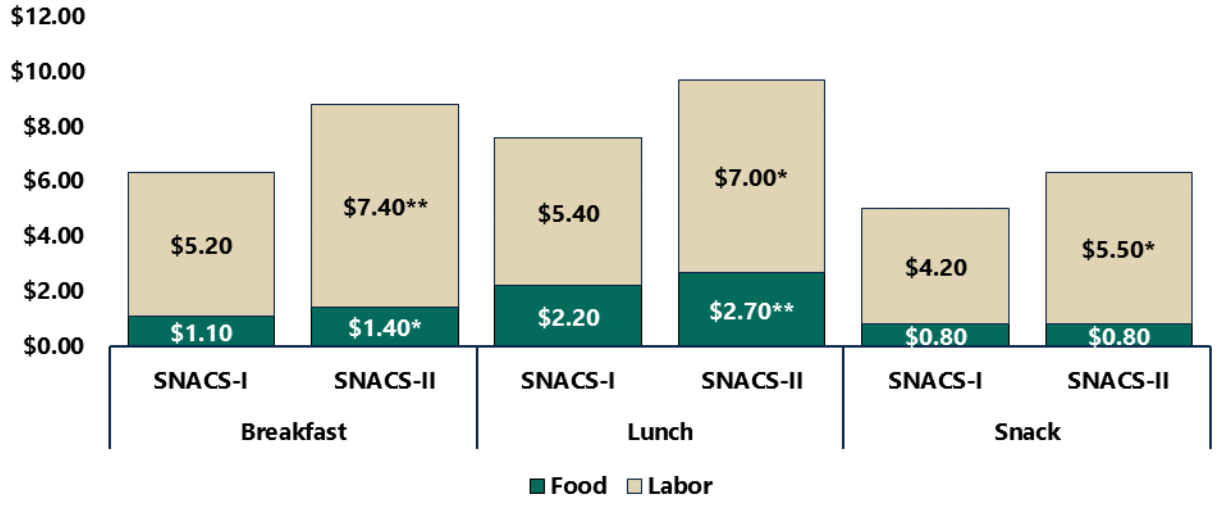
9.4. Cost per CACFP meal or snack

The SNACS-II study team used the same data collection and analysis methods as SNACS-I as much as possible with the goal of having comparable cost estimates to compare. The team used the data collection instruments developed for SNACS-I, with minor adjustments, and used the same method for producing and combining food and labor costs. Both studies imputed some data, including food prices and classroom waste data, and annualized meal counts. SNACS-II also estimated the number of children in each age group and imputed salary and wage data, total hours spent on and percentage allocations to CACFP tasks for sponsor staff, and the number of days that meals were served.

Comparisons of SNACS-II estimates to inflation-adjusted SNACS-I estimates suggest that the total per meal cost has increased over time (Exhibit 9.10).[22] For ECCs, the mean cost per meal increased from $6.40 to $8.80 for breakfast, $7.60 to $9.70 for lunch, and $4.90 to $6.30 for snack. All differences were statistically significant. For both breakfast and lunch, the differences between the mean per meal food and mean per meal labor costs were also significantly different, while the proportion of food and labor costs were relatively stable, suggesting that both food and labor costs have increased over time. For SNACS-I, average per meal food costs were $1.10 for breakfast, $2.20 for lunch, and $0.80 for snack compared to the SNACS-II estimates of $1.40 for breakfast, $2.70 for lunch, and $0.80 for snack. The average per meal labor costs from SNACS-I were $5.20 for breakfast, $5.40 for lunch, and $4.20 for snack compared to the SNACS-II estimates of $7.40 for breakfast, $7.00 for lunch, and $5.50 for snack.

[22] The SNACS-I estimates were adjusted using the CPI for food and beverages in 2022 dollars. The variety of foods included in the CPI may not align entirely with the basket of foods typically used in a CACFP meal snack, so it is possible that the price of food could have risen more or less than reflected in the price-adjusted SNACS-I estimates.

Exhibit 9.10. Early child care programs' mean cost per meal and snack in SNACS-II compared to SNACS-I



Source: Second Study of Nutrition and Activity in Child Care Settings (SNACS-II), Center Director Cost Interview, Center Food Service Cost Interview, Meal and Snack Counts, Menu Survey, Self-Administered Cost Questionnaire, and Sponsor/Center Cost Interview, winter through summer, 2023. See Table E.27 in Appendix E.

The SNACS-I estimates were adjusted using the Consumer Price Index for food and beverages in 2022 dollars.

Difference between SNACS-I estimate and SNACS-II estimate is significantly different from zero at the **0.01 level or *0.05 level.

SNACS = Study of Nutrition and Activity in Child Care Settings.

9.5. Nutritional quality of children's dietary intakes on child care days

We compared mean total HEI-2015 scores among children in child care and Head Start centers in SNACS-I and -II. Both studies collected dietary intake data from onsite meal observations for foods and beverages consumed in child care. For foods and beverages consumed outside of child care, SNACS-I used food diaries completed by parents and SNACS-II used interviewer-administered 24-hour dietary recall interviews with parents. SNACS-I did not collect data from children enrolled in FDCHs. We therefore excluded SNACS-II FDCHs from these analyses. On a child care day, children ages 3 to 5 years old had a total HEI-2015 score of 65 in SNACS-I and 67 in SNACS-II (Table G.78). The difference of 2 points was not statistically significant. The total HEI-2015 score for children ages 6 to 12 years old was 0.6 points higher in SNACS-II than SNACS-I; it was also not a statistically significant difference (Table G.79).

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