

Food and Nutrient Composition of CACFP Tier 2 Snacks

CACFP family child care providers may offer three different types of snacks: morning, afternoon, and evening. (For any one child, however, providers may receive reimbursement for only two meals and one snack or one meal and two snacks in a given day.) The afternoon and morning snacks, offered in 96 percent and 56 percent of Tier 2 homes, respectively, in 1999, are by far the most common. Because only 5 percent of homes offer an evening snack, the present analysis is limited to morning and afternoon snacks.

Snacks are not expected to contribute any specific proportion of the RDA. The analyses presented below therefore describe the average percent of RDA without comparing providers with any specific benchmark. Similarly, the nutrition benchmarks drawn from the *Dietary Guidelines* and NRC recommendations are not typically applied to small eating occasions, such as snacks, which may consist of only one or two foods. For this reason, the analysis presents only mean nutrient levels, for descriptive purposes, on these aspects of the nutrient profile. Information on the nutrient content of snacks is needed to help gauge the extent to which the snacks are likely to contribute to or detract from the recommended patterns over the full day.

The analysis shows that morning and afternoon snacks are quite similar in terms of the foods commonly offered and in their nutrient profile. Both morning and afternoon snacks offer, on average, nearly one-third of the RDA for protein and vitamin C, and 10 to 20 percent of the RDA for food energy, vitamin A, calcium, and iron. The average snack provides a level of total fat that is likely to contribute positively to achievement of the *Dietary Guidelines* overall average daily recommendation, but, like lunch, contributes more than the recommended percent of food energy from saturated fat. The average Tier 2 snacks are consistent with NRC recommendations for the percent of food energy from carbohydrate. Snacks contribute very little cholesterol, on average, and sodium levels do not exceed the relative contribution to daily recommendations from energy and other nutrients.

Snacks offered by Tier 2 providers in 1999 show several statistically significant differences from those offered by similar providers (resembling them in characteristics that determine tier) in 1995. Most notably, the afternoon snack provided less vitamin A in 1999. Both snacks contributed slightly more food energy than in 1995.

Foods Offered in CACFP Snacks

Snacks qualifying for CACFP reimbursement must include food items in any two of the four meal components: milk; fruit, vegetables, or full-strength juice; bread or bread alternate; and meat or meat alternate. Exhibit 20 shows the specific foods offered to children aged 3-5 in at least 5 percent of all morning or afternoon snacks.

Exhibit 20
Share of Snacks Containing Foods Commonly Offered to Children Aged 3-5^a

	Morning Snack		Afternoon Snack	
	Tier 2 1999	Difference 1999-95 ^b	Tier 2 1999	Difference 1999-95 ^b
Percentage of Snacks in which Item Is Offered				
Milk	48.9%	8.2%	44.9%	-4.2%
White, 2%	25.2	4.7	25.5	-1.9
White, whole	18.5	7.4	13.9	6.5**
White, not further specified ^c	0.1	-18.4***	0.1	-23.5***
Fruits and Juices	61.8	-10.2	62.9	0.8
<i>Any fresh, canned, or dried fruit</i>	30.8	-0.5	27.7	-3.9
<i>Any fresh fruit</i>	24.4	1.2	20.4	-3.8
Banana	8.1	2.0	4.4	-0.7
Apple	7.6	-0.2	8.6	-2.2
<i>Any canned fruit</i>	4.8	0.4	(d)	(d)
<i>Any juice</i>	34.8	-10.2	39.8	4.6
Apple juice	15.2	-9.3**	18.1	-0.8
Grape juice	7.4	3.6	8.4	4.3**
Orange/grapefruit juice	6.9	-2.9	5.7	-0.2
Juice blends, noncitrus	4.8	-1.4	7.3	0.6
Vegetables	(d)	(d)	3.4	-3.0**
<i>Any raw vegetables</i>	(d)	(d)	2.5	-3.6***
Bread and Bread Alternates	83.1	4.0	83.9	7.0***
Crackers	38.6	-2.9	42.6	2.7
White bread, rolls	13.0	0.6	10.2	-0.2
Cookie	7.6	3.3**	13.7	2.2
Muffins, sweet bread	6.3	1.1	4.6	-1.0
Cold cereal	5.2	-0.3	(d)	(d)
Meat and Meat Alternates	21.1	-4.6	27.0	-7.2***
Peanut butter, nuts	7.0	-1.8	10.7	-5.4***
Cheese, not low-fat	6.3	-5.0**	9.9	-3.3**
Yogurt	5.5	2.6	(d)	(d)
Noncreditable Foods^e	17.4	1.5	14.8	-1.2
High-fat condiments ^f	12.8	2.6*	6.6	-0.1
Unweighted sample	1,158	2,192	2,153	4,148

^a Includes only foods offered in 5 percent of snacks, in either 1995 or 1999 (computed separately for morning and afternoon snacks).

^b Regression estimate. See Appendix D.

^c Menu survey did not include information on the fat content of milk.

^d Fewer than 5 percent of snacks contain this food.

^e Foods that do not contribute to satisfying the CACFP meal pattern.

^f Butter, margarine, cream cheese, and other high-fat toppings.

Significance levels:

* = .10

** = .05

*** = .01

Milk. Slightly less than half of both morning and afternoon snacks include milk. White, 2-percent fat milk is most common for snacks, as it is for breakfast and lunch. No important difference is seen between Tier 2 providers in 1999 and similar providers in 1995.⁴³

Fruit, Juice, and Vegetables. Just under two-thirds of both morning and afternoon snacks include a fruit, vegetable, or juice. Most snacks offer either a fruit juice or a fruit, with juice being slightly more common. Apple juice is the most frequently offered juice, while bananas and apples lead the list of fruits. Patterns for Tier 2 providers in 1999 paralleled those for similar providers in 1995, with three exceptions. The 1999 snacks were less likely to offer apple juice in morning snack, more likely to offer grape juice in afternoon snack, and less likely to offer raw vegetables in afternoon snack.

Bread and Bread Alternates. Over 80 percent of Tier 2 morning and afternoon snacks in 1999 included bread or bread alternates. Crackers, by far the most common type of food in this category, were offered in 39 percent of morning snacks and 43 percent of afternoon snacks. Tier 2 afternoon snacks in 1999 were significantly more likely to include a bread or bread alternate than were snacks offered by similar providers in 1995. The specific foods offered within the category, however, differed little between the two years for either the morning or the afternoon snack.

Meat and Meat Alternates. This was the least common of the four creditable meal components in both morning and afternoon snacks, included in 21 percent and 27 percent of snacks, respectively. Typical foods in this group were peanut butter, cheese, and yogurt. Meats and meat alternates of any kind—and specifically peanut butter and cheese—were significantly less likely to be part of the afternoon snack offered by Tier 2 providers in 1999 than by similar providers in 1995. The same pattern exists for morning snacks, but the difference for peanut butter is not statistically significant.

Noncreditable Foods. Relatively few morning or afternoon snacks—less than one fifth—included noncreditable foods. High-fat condiments, such as cream cheese, butter, and margarine were the most common types of food in this category, and were offered somewhat more often in 1999 than in 1995 with the morning snack ($p < 0.10$).

Nutrient Content of Snacks Offered Relative to RDAs

The nutrient profiles for morning and afternoon snacks are quite similar, as might be expected from the similarities in the types of foods offered. Both morning and afternoon snacks contribute about 15 percent of the RDA for food energy and at least 10 percent of the RDA for the five nutrients considered here, as shown in Exhibit 21. The percentages are considerably higher for protein and vitamin C; morning and afternoon snacks each supply close to one-third of the RDA for these two nutrients.

A few nutrient measures show statistically significant differences between the Tier 2 1999 snacks and those offered by similar providers in 1995. The most striking difference is a reduction in vitamin A for all age groups in the afternoon snack and for 6-12-year-olds in the morning snack. Other effects include a small increase in iron for afternoon snacks offered to all ages ($p < 0.10$) and a small but statistically significant increase in food energy for all age groups in both snacks.

⁴³ As with breakfast and lunch, the 1995 menu survey had numerous observations of milk whose characteristics were not further specified. The 1999 survey had far fewer such observations, which accounts for the observed difference in whole milk in the afternoon snack.

The reduction of vitamin A in the afternoon snack in 1999 probably stems from the reduced frequency with which that snack included milk and vegetables, such as fresh carrots. The increase in food energy in both morning and afternoon snacks probably reflects larger portion sizes in 1999 relative to 1995.

Exhibit 21
Mean Percentage of RDA Offered at Snacks

	Age 1-2		Age 3-5		Age 6-12		All ages	
	Tier 2 1999	Difference 1999- 95 ^a	Tier 2 1999	Difference 1999- 95 ^a	Tier 2 1999	Difference 1999- 95 ^a	Tier 2 1999	Difference 1999- 95 ^a
Morning Snack								
Total energy	14.6%	1.2%**	13.5%	1.1%**	13.8%	1.4%**	14.0%	1.2%**
Protein	34.9	2.8	30.1	2.5	26.5	0.7	32.0	3.3
Vitamin A	20.3	-0.9	18.6	-2.6	14.4	-9.3**	19.6	-1.6
Vitamin C	29.3	-9.5	30.9	-7.3	33.7	-5.1	31.6	-7.5
Calcium	17.8	2.3	19.4	2.3	20.7	1.2	18.9	2.4
Iron	12.5	0.7	14.0	0.4	16.2	-0.5	13.7	0.2
Un-weighted sample	240	429	244	460	78	154	275	511
Afternoon Snack								
Total energy	15.5%	1.1%**	14.6%	1.2%***	14.6%	0.9%**	15.0%	1.2%***
Protein	36.3	-1.5	31.7	-0.2	27.8	-2.6	33.0	-0.1
Vitamin A	17.0	-7.3*	17.9	-5.5**	14.7	-7.7**	17.1	-6.0**
Vitamin C	28.3	-0.7	28.8	-1.0	32.2	-4.4	29.9	-2.1
Calcium	16.9	-1.6	18.8	-0.7	20.9	-2.3	19.0	-0.9
Iron	11.1	0.8	13.4	0.9	16.0	1.1	13.2	0.9*
Un-weighted sample	409	774	455	874	273	554	496	955

^a Regression estimate. See Appendix D.

Significance levels:

* = .10

** = .05

*** = .01

Nutrient Content of Snacks Relative to *Dietary Guidelines* and NRC Recommendations

The average nutrient makeup of snacks offered to children age 3-12 is consistent with the *Dietary Guidelines* and NRC recommendations for the percent of food energy from fat and carbohydrate, respectively (Exhibit 22). An average of 11-12 percent of food energy comes from saturated fat, however, which exceeds the daily recommendation for less than 10 percent. Cholesterol ranges from 5 to 7 percent of the recommended daily limit of 300 mg., with slightly higher levels in the morning than the afternoon snack. The average sodium content of snacks offered amounts to 10-14 percent of the recommended daily limit (2,400 mg.).

Exhibit 22
Mean Nutrient Levels Relative to *Dietary Guidelines* and NRC Recommendations Offered in Snacks^a

	Daily Recommendation	Age 3-5		Age 6-12	
		Tier 2 1999	Difference 1999-95 ^a	Tier 2 1999	Difference 1999-95 ^a
Morning Snack					
Percent of food energy from:					
Fat (%)	≤ 30%	27.1	2.3**	28.2	2.2
Saturated fat (%)	<10%	11.2	1.0	11.6	1.0
Carbohydrate (%)	> 55%	63.7	-2.4	62.7	-1.7
Cholesterol (mg)	≤ 300 mg	17.6	1.6	21.9	-1.2
Sodium (mg)	≤ 2,400 mg	237.5	23.2	305.3	35.1
Unweighted sample		244	460	78	154
Afternoon Snack					
Percent of food energy from:					
Fat (%)	≤ 30%	28.7	-1.3	29.2	-1.5
Saturated fat (%)	<10%	11.4	-0.6	11.4	-0.7
Carbohydrate (%)	> 55%	62.1	2.0*	61.9	2.8*
Cholesterol (mg)	≤ 300 mg	15.5	0.9	17.6	-0.7
Sodium (mg)	≤ 2,400 mg	267.2	21.6	337.5	28.6
Unweighted sample		455	874	273	554

^a Note that the *Dietary Guidelines* and NRC recommendations are only applicable to children beginning at 2 years of age and older. This analysis is limited to snacks offered to children 3-5 and 6-12, the only CACFP age groups for which the recommendations fully apply.

^b Regression estimate. See Appendix D.

Significance levels:

* = .10

** = .05

*** = .01

The differences between Tier 2 snacks in 1999 and snacks offered by similar providers in 1995 are mostly small and mixed in direction. Morning snacks offered to children aged 3-5 in 1999, relative to those offered in 1995, supply a significantly higher percentage of food energy from fat. Afternoon snacks show almost the opposite pattern, although the difference is not statistically significant. Afternoon snacks offered by Tier 2 providers in 1999 supply a slightly higher percentage of food energy from carbohydrate ($p < 0.10$ for children aged 3-5 and 6-12). Tier 2 providers in 1999 offered, on average, 10 percent more sodium than similar providers in 1995 in both snacks for both age groups, but this result was not statistically significant.