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**Early Childhood
and Child Care
Study**

**Nutritional Assessment
of the CACFP:
Final Report
Volume II
*Executive Summary***

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Executive Summary

This report presents findings from the Early Childhood and Child Care Study, a study carried out by Abt Associates Inc. of Cambridge, Massachusetts, under contract to the Food and Consumer Service (FCS) of the United States Department of Agriculture (USDA). The study describes the institutions and children that participate in the Child and Adult Care Food Program (CACFP). It also describes the nutrient content of meals and snacks offered under the program and the contribution of CACFP meals and snacks to the daily energy and nutrient needs of participating children. Information for the study was collected from nationally representative samples of sponsoring agencies, participating child care sites, and children. Data for the study were collected between January and June, 1995.

This is the second of two volumes of the final study report. This volume focuses on the nutrient content of meals and snacks offered by participating child care sites, the meals and snacks consumed by children receiving child care in those sites. Volume I (a separate document) provides a descriptive profile of child care sites participating in the CACFP and the children receiving care in those sites.

THE CHILD AND ADULT CARE FOOD PROGRAM

The Child and Adult Care Food Program (CACFP) is a Federal program that provides meals and snacks in child and adult day care facilities. The child care component of the CACFP provides Federal funds for meals and snacks served to children in nonresidential day care facilities. These include family and group day care homes (homes), Head Start centers, and some child care centers. In fiscal year 1995, the program served an average of 2.4 million children daily at a cost of \$1.5 billion. Forty-two percent of these children were served through homes; 58 percent through centers.

This report describes meals and snacks *offered* by child care sites participating in the CACFP (CACFP providers) as well as meals and snacks *consumed* by children receiving care in those sites (CACFP participants). Information on the average nutrient content of CACFP meals are compared to the *Recommended Dietary Allowances* (RDAs), which establish benchmarks for average daily intake of energy and key nutrients by age group and gender, and to recommendations included in the *Dietary Guidelines for Americans* and the National Research Council's (NRC) *Diet and Health* report. The *Dietary Guidelines* and NRC recommendations address intake of fats, carbohydrate, and protein, as well as sodium and cholesterol, and are applied only to older children (five- to ten-year-olds). It must be emphasized that these standards are used only to facilitate interpretation of the data; ***CACFP providers are not required to meet these or any other nutrient standards.***

MEALS AND SNACKS OFFERED BY CACFP PROVIDERS

Breakfasts and Lunches

- The average nutrient content of CACFP breakfasts and lunches, as offered, meets or exceeds all of the RDA standards used in this study (one-fourth of the RDA for breakfasts and one-third for lunches), except for energy (breakfasts and lunches) and iron (lunches).
- **Breakfasts** offered to children five years of age and older supply 23 percent of total energy as fat, a level that is consistent with recommendations that no more than 30 percent of total energy come from fat. The average proportion of energy from carbohydrate (64%) is also consistent with recommendations, as are average amounts of cholesterol (51 mg) and sodium (445 mg).
- **Breakfasts** are *not* consistent with the recommendation for the percentage of energy from saturated fat (11% percent compared to the recommendation of less than 10%). The actual amount of saturated fat in CACFP breakfasts is not excessive, however, compared to the amount of saturated fat allowable in a meal that provides one-fourth of the RDA for energy and less than 10 percent of the energy as saturated fat. The reason CACFP breakfasts do not meet the saturated fat recommendation has more to do with the limited amount of energy provided than with an excessive amount of saturated fat. In fact, if the average energy content of CACFP breakfasts were increased by about 70 calories for five-year-olds and 55 calories for six- to ten-year-olds, by offering more carbohydrate-rich foods such as juices, fruit, and low-fat breads and bread alternates, there would be no need to reduce actual saturated fat content.
- **Lunches** offered to children five years of age and older do *not* meet recommendations for the percentage of energy from fat, saturated fat, or carbohydrate. The average percentage of energy from fat is 35 percent; the recommended level is no more than 30 percent. The average percentage of energy from saturated fat is 14 percent, a level which exceeds the recommendation of less than 10 percent, and the average percentage of energy from carbohydrate is 47 percent, compared to the recommendation of 55 percent or more.
- The average cholesterol content of CACFP **lunches** is consistent with the recommended level (65 mg compared to the recommended range of 100 mg or less). The average sodium content, however, does *not* meet the recommendation (919 mg compared to the recommended range of 800 mg or less).

Snacks

- Both morning and afternoon snacks offered in the CACFP supply more than 10 percent of the RDA for energy and comparable or greater percentages of the RDA for key nutrients. Snacks are especially rich in vitamin C, providing one-third (afternoon snacks) to 40 percent (morning snacks) of the RDA.

All Meals and Snacks Offered

- The full complement of meals and snacks offered by most CACFP providers supplies more than one-half of the RDA for energy and substantially more than two-thirds of the RDA for all key nutrients.
- The combinations of meals and snacks most commonly offered in the CACFP provide an average of 30 to 31 percent of energy from fat, levels which approximate the recommendation of 30 percent or less. Likewise, the percentage of energy from carbohydrate, 55 to 56 percent, is consistent with recommendations.
- The percentage of energy from saturated fat in the most common meal and snack combinations (13%) is *not* consistent with the recommended level of less than 10 percent.
- To be consistent with recommendations for cholesterol and sodium intake, meals and snacks should make equivalent contributions to recommended intakes of energy, cholesterol, and sodium. The most common meal and snack combinations offered in the CACFP meet this standard for cholesterol but not for sodium.

MEALS AND SNACKS CONSUMED BY PARTICIPATING CHILDREN

The nutrient profile of meals and snacks actually consumed by participating children may differ from the meals and snacks offered by providers. For example, children may decline one or more of the foods offered; children may select portions that differ from the average portion; or children may waste (not consume) some of the food they take. Thus to gain a full understanding of the contributions CACFP meals and snacks actually make to children's daily energy and nutrient needs, it is important to examine CACFP meals and snacks *as actually consumed* by children.

Breakfasts and Lunches

- Children generally select portions of food that are equivalent to, or greater than, the minimum portion sizes specified in CACFP meal pattern requirements. Children generally consume between 70 and 75 percent of the portions of food taken at breakfast and lunch. Different types of food are consumed in approximately equal proportions at breakfast. At lunch, the average proportion of milk consumed is substantially higher (83%) and the average proportion of vegetables consumed is substantially lower (59%) than other foods.
- Children's average nutrient intake from CACFP breakfasts and lunches meets or exceeds all of the RDA standards used in this study (one-fourth of the RDA for breakfast and one-third of the RDA for lunch), except for energy and iron.
- On average, 24 percent of the energy in **breakfasts** consumed by CACFP participants five years of age and older comes from fat, a level that is consistent with recommendation of no more than 30 percent. Carbohydrate intake is also consistent with recommendations, as are intakes of cholesterol and sodium.

- The average percentage of energy from saturated fat in CACFP **breakfasts** consumed by children (11%) does *not* meet the recommendation of less than 10 percent. This finding is not surprising because, as discussed above, breakfasts *offered* by CACFP providers do not meet the recommendation for energy from saturated fat. As noted above, however, the reason that CACFP breakfasts, both as offered to and consumed by children five and older, do not meet recommendations for the percentage of energy from saturated fat has more to do with the limited energy contribution of CACFP breakfasts than with excessive amounts of saturated fat, per se.
- The average percentage of energy from fat (35%) and carbohydrate (46%) in **lunches** consumed by CACFP participants five years of age and older is not consistent with recommendations (no more than 30% and 55% or more, respectively). It is important to note that the reason CACFP lunches, as consumed, do not meet the recommendation for the percentage of energy from fat has more to do with the fact that lunches provide a limited amount of energy, specifically energy from carbohydrate, than with excessive amounts of fat.
- The average percentage of energy from saturated fat in CACFP **lunches** consumed by children five years and older does not meet the recommendation (15%, compared to the recommendation of less than 10%). The limited energy contribution of CACFP lunches does not explain this finding. Lunches consumed by children, like the lunches offered by providers, supply more saturated fat (total amount as well as a percentage of total energy) than recommended.
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- Achieving the desired balance in sources of food energy in CACFP lunches, that is, increasing consumption of energy from carbohydrate while, at the same time, decreasing consumption of saturated fat may be difficult in light of the fact that children do not consume all of the foods presently taken at lunch. Because young children's appetites are self-limiting, it may be more reasonable to offset calories from fat consumed at lunch with carbohydrate calories in a snack that precedes or follows lunch.
- Lunches consumed by CACFP participants five years of age and older meet recommendations for cholesterol and sodium intake.

Snacks

- On average, children consume approximately 80 percent or more of the portions of food taken at snack. The mean rate of consumption is consistently higher for morning snacks. Snacks consumed by CACFP participants provide, on average, about 10 percent or more of the RDA for energy and comparable or greater percentages of the RDA for key nutrients.

All Meals and Snacks Consumed

Because the number of CACFP meals and snacks available to children is influenced by the amount of time spent in care, findings are summarized separately for children in care *at least* four but *less than* eight hours per day (children in part-day care) and for children in care eight or more hours per day (children in full-day care).¹

Children in Care Four to Eight Hours per Day

- Most children in part-day care consume at least two CACFP meals and/or snacks while in care. The most common meal and snack combinations are: lunch and one snack (24% of all children), breakfast, lunch, and one snack (25% of children), and breakfast and lunch (23% of children). About 18 percent of part-day children receive only one meal or snack. This is particularly true among part-day children attending child care centers, where 36 percent of part-day children receive only one meal or snack.
- On a typical day, children in care at least four but less than eight hours per day consume, from CACFP meals and snacks, an average of about one-third of the RDA for energy and iron and about one-half of the RDA for calcium. Intakes of other nutrients are substantially higher, averaging 108 percent of the RDA for protein, 80 percent of the RDA for vitamin A, and 86 percent of the RDA for vitamin C.
- Mean intakes among children receiving part-day care in child care centers are lower than children receiving part-day care in homes and Head Start centers. This is consistent with the fact that 23 percent of part-day children in centers receive only one snack and another 13 percent receive only breakfast or lunch.
- The average nutrient intake of five-year-olds in part-day care meets recommendations for the percentage of energy from fat (29% compared to the recommendation of no more than 30%) and carbohydrate (56% compared to the recommendation of at least 55%), but does not meet the recommendation for the percentage of energy from saturated fat (12% compared to the recommendation of less than 10%).

¹School-age-children (six-to-ten year olds) are excluded from these tabulations because most of these children are in care before and/or after school and their patterns of consumption differ substantially from other children in care.

- Cumulative intake of sodium and cholesterol from all CACFP meals and snacks is evaluated with respect to the cumulative contribution to the RDA for energy. Ideally, relative contributions to recommended daily intakes of energy, cholesterol, and sodium should be comparable. Five-year-olds in part-day care consume, on average, 31 percent of the RDA for energy from CACFP meals and snacks. These meals and snacks also contribute 22 percent of the suggested daily limit of cholesterol, an acceptable level in light of the mean contribution to recommended energy intake. Mean contribution to the suggested daily limit for sodium intake is 35 percent, a level which is somewhat high because it exceeds the contribution to recommended daily energy intake.

Children in Care Eight or More Hours per Day

- Three-quarters of children in care eight or more hours per day (full-day care) consume breakfast, lunch, and one or two snacks while in care. Another 19 percent of children consume lunch and one or two snacks, while another four percent consume breakfast and lunch. None of the children in full-day care receive only one meal or snack.
- The total complement of meals and snacks consumed by children in care eight or more hours per day provides an average of about one-half of the RDA for energy and iron. Intake of calcium from CACFP meals and snacks approximates, on average, three-quarters of the RDA. Average intakes of protein, vitamin A, and vitamin C exceed 100 percent of the RDA.
- On average, the total complement of meals and snacks consumed by five-year-old children in full-day care provides 32 percent of energy from fat (recommendation is no more than 30%), 14 percent of energy from saturated fat (recommendation is less than 10%), and 53 percent of energy for carbohydrate (recommendation is at least 55%).
- Five-year-old children in full-day care consume an average of 49 percent of the RDA for energy and 33 percent of the suggested daily limit for cholesterol. By contrast, sodium intake from CACFP meals and snacks contributes 52 percent of the suggested daily limit for sodium, a level which is somewhat high in comparison to the contribution to recommended daily energy intake.

Exhibit 1

Nutrient Standards Used in the Early Childhood and Child Care Study

National School Lunch Program and School Breakfast Program

- One-fourth of the RDA for breakfast
- One-third of the RDA for lunch

***Dietary Guidelines for Americans*¹**

- Limit intake of total fat to no more than 30 percent of total calories
- Limit intake of saturated fat to less than 10 percent of total calories

National Research Council's *Diet and Health Report*¹

- Increase intake of carbohydrate to at least 55 percent of total calories
 - Limit cholesterol intake to 2,400 mg or less per day
 - Limit sodium intake to 300 mg or less per day
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¹Applied only to meals offered to and consumed by children five years of age and older.