

III. CHARACTERISTICS OF SCHOOL LUNCH AND BREAKFAST PROGRAMS

The purpose of the National School Lunch Program (NSLP) and the School Breakfast Program (SBP) is to make nutritious lunches and breakfasts available to students who attend participating schools. With the financial support of federal funding and the guidance of federal regulations, local School Food Authorities (SFAs) plan, prepare, and serve meals; decide whether to use offer versus serve (OVS); and set prices. This chapter describes school food service operations at the local level. It addresses four groups of questions:

- What percentage of schools participate in the NSLP and SBP? What percentage have lunch and breakfast programs, but do not participate in the federal program? What are the reasons that schools do not participate in the SBP?
- What are the characteristics of school food service operations at lunch and breakfast? What prices are charged? What percentage of schools use OVS? How many lunch periods do schools have? How many serving lines do they have? In schools enrolling younger students, what percentage have a play period around the lunch hour? To what extent do NSLP and SBP programs make salt, butter or margarine, condiments, and sweeteners available to students to add to their food?
- What alternatives are available to students who do not eat the NSLP lunch or bring a lunch from home? What percentage of schools offer foods either in vending machines or a la carte in the cafeteria? What types of foods are offered through these channels?
- Does responsibility for meal planning, purchasing, and preparation reside with the school, with a central kitchen, or at the district level? What resources are used to plan meals, and to assess the nutritional content of meals as they are planned?

The first section of this chapter summarizes the available information on these questions, and the remaining two sections present the detailed information on the lunch and breakfast programs, respectively. Chapter VII describes how the characteristics of meals and food service operations affect participation in the programs.

A. SUMMARY

1. National School Lunch Program

Nearly all public schools and 83 percent of all public and private schools combined participate in the NSLP. Four percent of schools have a lunch program, but do not participate in the NSLP. Overall, 79 percent of schools use OVS (71 percent of elementary schools, 90 percent of middle schools, and all high schools). The average full price of an NSLP lunch is \$1.14; the average reduced price is \$0.38.

Meal offerings in the NSLP are diverse. Approximately one-fourth of schools offer a salad or food bar at least once per week, and nearly one-half sell items a la carte in the cafeteria. Salt and butter (or margarine) are available in more than one-half of all schools, and sweeteners are available in just less than one-half. Condiments are available in nearly all schools. Schools have an average of three, 30-minute lunch periods, and an average of two serving lines (cash registers).

Students may leave school at lunchtime in nearly one-fourth of all schools; however, in one-half of these, students are allowed to leave only to go home. The most commonly available a la carte items are dessert baked goods, beverages, frozen deserts, and snack foods. Between one-fourth and one-third of schools offer each of these items. The percentages of schools offering bread or grain products, fruit, vegetables, candy, and yogurt are between 6 percent and 20 percent.

Responsibility for meal planning and food purchasing for lunch most commonly resides at the district level, whereas food most commonly is prepared in the schools themselves. Only 16 percent of schools use computers for nutritional analysis when planning meals. Approximately 90 percent of SFAs are self-managed; 6 percent use a food service management company to operate their program; and 4 percent are self-managed, but acquire pre-plated, commercially prepared meals.

2. School Breakfast Program

Approximately one-half of schools nationwide participate in the SBP. Eight percent of schools have some type of snack program, although most are not operated by the school cafeterias. Snack

programs are especially prevalent in high schools (25 percent). Principals of nearly 40 percent of nonparticipating schools reported that their schools had considered joining the SBP. The three most common reasons given for not participating are: (1) the program is believed to be unnecessary (38 percent); (2) transportation or scheduling problem (16 percent); and (3) lack of interest or support (15 percent).

The average full price for breakfast is \$0.60; the average reduced price is \$0.28. Overall, approximately 20 percent of students in participating schools receive an SBP breakfast on a typical school day. Nearly all of the breakfasts are free or reduced-price meals.

Most schools have only one seating and a single serving line. Meal service tends to be simpler than is the case with lunch. Responsibility for planning and purchasing is largely a district function, whereas preparation is usually done at the school.

B. NATIONAL SCHOOL LUNCH PROGRAM

1. School Participation in the NSLP

Overall, 83 percent of U.S. schools offer an NSLP lunch (Table III.1). Participation varies considerably by school level and by public or private status of the school. In particular, 76 percent of elementary schools participate in the NSLP, compared with 99 percent of middle schools and 97 percent of high schools. Overall, 4 percent of schools have a lunch program, but do not participate in the NSLP. (Differences in the percentage of schools with non-NSLP programs by grade level are not statistically significant.) Almost 20 percent of elementary schools do not have a lunch program.

Nearly all public schools (99 percent) participate in the NSLP. Thus, most schools that do not participate or that do not have a lunch program are private. Although the number of private schools in the sample is too small to draw reliable conclusions about the incidence of lunch programs in private schools, the data are suggestive. Only 20 percent of private schools participate in the NSLP, and nearly 20 percent have a lunch program that is not part of the NSLP; 62 percent of private schools have no lunch program.

TABLE III.1
SCHOOL PARTICIPATION IN THE NSLP
(Percentage of Schools)

Type of Lunch Program	Grade Level			Public or Private Status		
	Elementary Schools	Middle Schools	High Schools	Public Schools	Private Schools ^a	All Schools
NSLP Program	76	99	97	99	20 ^b	83
Non-NSLP Lunch Program	5	1	3	1	18 ^b	4
No Lunch Program	19	0	0	<1	62 ^c	13
Number of Schools (Unweighted)	186	51	91	298	30	328

SOURCE: Weighted tabulations of data provided by principals of schools in the sample selected for student-level data collection on the School Characteristics Questionnaire, School Nutrition Dietary Assessment study.

^aIncludes Catholic schools.

^bThe 95 percent confidence interval is 6 percent to 34 percent.

^cThe 95 percent confidence interval is 46 percent to 78 percent.

2. Characteristics of National School Lunch Programs

a. Use Of OVS, Prices, and Participation

Overall, 79 percent of schools use OVS. Seventy-one percent of elementary schools, 90 percent of middle schools, and all high schools use it (Table III.2).

The average full price of an NSLP lunch is \$1.14. The average reduced price is \$0.38. The average full price is lower in elementary schools (\$1.11) than in middle schools (\$1.23) and high schools (\$1.21). The average reduced price does not vary across grade levels by more than \$0.01. The maximum allowable reduced price at the time of the study was \$0.40.

Slightly more than one-fourth of students are certified for a free meal, and 6 percent are certified for a reduced-price meal.¹ Certification rates are slightly higher at the elementary and middle school levels than at the high school level. On a typical school day, an average of 56 percent of students obtain an NSLP lunch; 21 percent receive free meals, 4 percent receive reduced-price meals, and 31 percent pay full price. Overall, participation rates are highest in elementary schools (60 percent) and are lowest in high schools (43 percent). On a typical school day, approximately 79 percent of students who are eligible for a free or reduced-price meal get the meal.² In contrast, only about 46 percent of students who pay full price participate on an average day.³

¹Food and Nutrition Service (FNS) administrative data indicate that 32 percent of students in NSLP schools are certified to receive free meals, and that 5 percent certified to receive reduced-price meals. The reasons for the difference between the survey data and the administrative data, which is larger than can be attributed to chance, are not understood.

²Thirty-two percent of students are certified for free or reduced-price meals, and 25 percent get free or reduced-price meals ($.25/32 = .79$, or 79 percent).

³Thirty-one percent of students get a full-price lunch, and 68 percent are not certified for free or reduced-price meals ($.31/68 = .46$, or 46 percent).

TABLE III.2
PARTICIPATION, PRICES, AND OFFER VERSUS SERVE
IN THE NSLP

	Elementary Schools	Middle Schools	High Schools	All Schools
Percentage of Schools Using Offer Versus Serve	71	90	100	79
Average Full Price for Lunch	\$1.11	\$1.23	\$1.21	\$1.14
Average Reduced Price for Lunch	\$0.39	\$0.37	\$0.37	\$0.38
Average Percentage of Students ^a				
Certified for free USDA meals	27	29	22	26
Certified for reduced-price USDA meals	6	6	4	6
Certified for free or reduced-price USDA meals	33	35	26	32
Taking free lunch each day	23	20	13	21
Taking reduced-price lunch each day	5	4	3	4
Taking full-price lunch each day	33	24	28	31
Taking NSLP lunch each day	60	48	43	56
Number of Schools (Unweighted)	278	92	145	515

SOURCE: Weighted tabulations of data provided by school principals and school cafeteria managers on the School Characteristics Questionnaire, School Nutrition Dietary Assessment study.

NOTE: Only schools serving NSLP lunches are included in this table.

^aEstimates for average percentage of students are based on: (1) principals' reports of student enrollment; and (2) cafeteria managers' estimates of the total number of students certified for free meals; the total number certified for reduced-price meals; the number of meals claimed during a specific reference week, by free, reduced-, and full-price claiming status; and the number of days in the reference week on which meals were served (to account for holidays and snow days). Estimated average percentage of students taking the NSLP lunch each day = (number of meals per week/number of days served)/school enrollment. Figures may differ slightly from similar measures presented in Table VII.2, which are based on data for individual students, due to sampling and reporting error.

b. Types of Meals Offered

Cafeteria managers reported diverse meal offerings at schools participating in the NSLP (Table III.3).⁴ Forty-five percent reported offering a cold meal, such as a sandwich or salad plate, at least one day per week, and more than one-fourth reported offering this type of meal five days per week. Two-thirds of cafeteria managers stated that they offer a hot sandwich, such as a hamburger or pizza, at least once per week, and one-fourth reported offering this type of meal five days per week. More than one-fourth provide a salad or other food bar at least once per week, and 47 percent sell a la carte items. Cafeteria managers in high schools and middle schools were more likely than their counterparts in elementary schools to report offering each type of meal at least once per week. They were also more likely to report offering each type five days per week.

c. Availability of Salt, Butter or Margarine, Condiments, and Sweeteners at Lunch

Cafeteria managers in more than one-half of all NSLP schools reported that salt is available to students; butter or margarine is available in more than one-half of all NSLP schools (Table III.4). Not surprisingly, both salt and butter or margarine are more likely to be available, and students are more likely to be allowed to help themselves (rather than being served by a server), at the high school level than in elementary or middle schools. Condiments, such as mustard, ketchup, and mayonnaise, are almost universally available, and students usually are allowed to serve themselves. Sweeteners are available in slightly less than one-half of NSLP schools. In contrast to the other items shown in the table, similar percentages of schools at each level make sweeteners available (43 percent to 46 percent), and broadly similar percentages at each level allow students to serve themselves (9 percent to 15 percent).

⁴The meals offered at lunch are described in greater detail in the next chapter.

TABLE III.3
 TYPES OF MEALS OFFERED AT LUNCH
 (Percentage of Schools)

	Elementary Schools	Middle Schools	High Schools	All Schools
Cold Meal, Such as Sandwich or Salad Plate (Number of Days)				
0	65	37	33	55
1	12	7	5	10
2	3	5	2	3
3	4	1	6	4
4	2	2	<1	1
5	15	48	54	27
Hot Meal, Such as Hamburger or Pizza (Number of Days)				
0	43	16	14	34
1	16	14	7	14
2	15	9	7	13
3	9	5	5	8
4	5	5	15	7
5	12	51	52	24
Salad Bar or Other Food Bar (Number of Days)				
0	84	56	46	74
1	6	8	5	6
2	2	5	3	3
3	<1	6	1	1
4	1	1	3	1
5	7	24	43	16
Foods Sold a la Carte (Number of Days)				
0	67	19	24	53
1	1	0	0	<1
2	2	2	0	2
3	<1	0	0	<1
4	1	<1	1	1
5	29	78	76	44
Number of Schools (Unweighted)	278	92	145	515

SOURCE: Weighted tabulations of data provided by school cafeteria managers on the School Characteristics Questionnaire, School Nutrition Dietary Assessment study.

NOTE: Only schools serving NSLP lunches are included in this table.

TABLE III.4
AVAILABILITY OF SALT, BUTTER OR MARGARINE, CONDIMENTS,
AND SWEETENERS AT LUNCH
(Percentage of Schools)

	Elementary Schools	Middle Schools	High Schools	All Schools
Salt Available	47	59	89	56
Student Can Add to Food	19	43	76	32
Server Will Add to Food	29	16	13	24
	49	53	73	54
Butter or Margarine Available				
Student Can Add to Food	34	44	56	39
Server Will Add to Food	15	9	17	15
	97	100	100	98
Condiments Available^a				
Student Can Add to Food	97	99	98	97
Server Will Add to Food	1	1	2	1
	46	43	43	45
Sweeteners Available				
Student Can Add to Food	31	34	30	31
Server Will Add to Food	15	9	14	14
Number of Schools (Unweighted)	278	92	145	515

SOURCE: Weighted tabulations of data provided by school cafeteria managers on the School Characteristics Questionnaire, School Nutrition Dietary Assessment study.

NOTE: Only schools serving NSLP lunches are included in this table.

^aIncludes mustard, ketchup, and mayonnaise.

d. Characteristics of the Lunch Meal Service

An average of approximately three lunch periods is available; the average length of each lunch period is 29 minutes (Table III.5). Although elementary schools provide more lunch periods than do either middle schools or high schools (3.2 lunch periods, compared with 2.7 and 2.4 lunch periods, respectively), the average duration of the lunch periods is shorter at the elementary level (28 minutes, compared with 30 and 33 minutes, respectively). Cafeterias at all school levels have an average of two cash registers. Elementary schools are the most likely to have assigned seating (72 percent, compared with 35 percent of middle schools and 17 percent of high schools). Eighty-nine percent of elementary schools have a play period either before or, more frequently, after lunch.

3. Alternatives to NSLP Meals

Students who do not participate in the NSLP have several options for obtaining lunch from a source other than the school lunch program. Among the possible alternatives are: bringing lunch from home, leaving school to buy food or to go home for lunch, buying food in the cafeteria that does not comprise a U.S. Department of Agriculture (USDA) reimbursable meal, and buying food from a vending machine or school store. This section presents data on the incidence of these alternatives at NSLP schools. It also describes the availability of different kinds of foods offered a la carte from school cafeterias and in vending machines.⁵

a. Options Other than the School Lunch Program

Eleven percent of schools allow students to leave school to go wherever they want for lunch, and another 13 percent allow students to leave only in order to go home (Table III.6). The option of leaving school without having to go home is more prevalent in high schools (33 percent of high schools) than in elementary schools (6 percent) or middle schools (9 percent). Vending machines are available for student use at lunch in 16 percent of schools. An additional 13 percent of schools

⁵Data on the percentage of students who obtain lunch from different sources are presented in Chapter VII.

TABLE III.5
 CHARACTERISTICS OF THE LUNCH MEAL SERVICE
 (Percentage of Schools)

	Elementary Schools	Middle Schools	High Schools	All Schools
Number of Lunch Periods				
1	14	15	27	16
2	27	28	24	27
3	33	39	36	34
4 or 5	14	14	13	13
More than 5	12	4	0	9
Mean	3.2	2.7	2.4	3.0
Length of Lunch Period (Minutes)				
Less than 25	41	39	19	37
25-35	45	38	57	46
35-45	9	20	19	12
More than 45	4	2	5	4
Mean	28.4	29.5	32.6	29.3
Assigned Seating at Lunch	72	35	17	58
Number of Cash Registers				
0	5	4	2	4
1	73	32	31	60
2	12	48	40	22
3-5	3	16	24	8
More than 5	7	<1	3	5
Mean	2.1	1.9	2.2	2.1
Schools Enrolling Students in Kindergarten Through Sixth Grade				
	100	58	NA	77
Schools Enrolling Students in Kindergarten Through Sixth Grade with Play Period				
Before lunch	22	10	NA	21
After lunch	85	47	NA	81
Before or after lunch	89	54	NA	85
Number of Schools (Unweighted)				
	278	92	145	515

SOURCE: Weighted tabulations of data provided by school cafeteria managers on the School Characteristics Questionnaire, School Nutrition Dietary Assessment study.

NOTE: Only schools serving NSLP lunches are included in this table.

NA = not applicable.

TABLE III.6
ALTERNATIVES TO SCHOOL CAFETERIA LUNCH
(Percentage of Schools)

	Elementary Schools	Middle Schools	High Schools	All Schools
Students Permitted to Leave School	20	23	38	24
Can go anywhere	6	9	33	11
To go home for lunch only	14	14	5	13
Vending Machine in or Near Cafeteria	6	20	42	14
Available at lunch	4	17	33	11
Not available at lunch	2	3	9	3
Vending Machine in Different Part of School	9	28	60	20
Available at lunch	2	11	26	7
Not available at lunch	7	17	34	13
Any Vending Machine in School	14	42	76	28
Available at lunch	6	25	47	16
Not available at lunch	8	17	29	13
School Store or Snack Bar	2	10	15	6
Other	<1	3	3	1
Number of Schools (Unweighted)	278	92	145	515

SOURCE: Weighted tabulations of data provided by school cafeteria managers on the School Characteristics Questionnaire, School Nutrition Dietary Assessment study.

NOTE: Only schools serving NSLP lunches are included in this table.

have vending machines, but do not allow students to use them during lunch period. Six percent of schools have a school store. Vending machines and school stores are more prevalent in high schools than in elementary schools or middle schools.

b. Foods Offered a la Carte in the Cafeteria

Foods can be purchased a la carte in just less than one-half of the NSLP schools nationwide (Table III.7). Most high schools (78 percent) and most middle schools (65 percent) offer foods a la carte; however, the practice is less prevalent at the elementary level (31 percent of schools). The most common a la carte items, offered in one-fourth to one-third of schools, are dessert baked goods (primarily cakes and cookies, 34 percent of schools), beverages (primarily juices and juice drinks, 32 percent of schools), frozen desserts (mainly ice cream, 31 percent of schools), and snack foods (mostly chips, 26 percent). Substantial proportions of schools also offer bread or grain products (mainly snacks, 20 percent), fruit (13 percent), and vegetables (primarily fried potatoes, 12 percent). A few schools offer candy (7 percent), and a few offer yogurt (6 percent). The relative frequency of the availability of the different types of items is similar in elementary, middle, and high schools, although all items are more common at the high school level. Especially interesting is that 40 percent of high schools participating in the NSLP offer at least one entree a la carte.

c. Foods Available in Vending Machines

Although vending machines are less prevalent overall and at the elementary and middle school levels than are a la carte foods, similarly high proportions of high schools offer foods a la carte and from vending machines. Only 16 percent of elementary schools, compared with 52 percent of middle schools and 88 percent of high schools, have at least one vending machine (Table III.8).

Beverages are the most commonly available type of food, and soft drinks are the most commonly available type of beverage: 33 percent of schools offer beverages in vending machines, and 22 percent offer soft drinks. The next most common types of foods offered in school vending machines

TABLE III.7
A LA CARTE FOODS OFFERED IN NSLP SCHOOLS
(Percentage of Schools)

Food	Elementary Schools	Middle Schools	High Schools	All Schools
Any a la Carte Food	31	65	78	46
Beverages	15	55	67	32
Baked Goods--Desserts	20	45	64	34
Bread or Grain Products	10	35	38	20
Candy	2	7	19	7
Frozen Desserts	17	47	58	31
Fruit	6	23	26	13
Entrees	6	31	40	18
Beef	0.3	21	17	7
Poultry	1	7	10	4
Other meat	2	16	21	8
Nonmeat entrees	4	19	31	12
Mixed dishes (chef's salad, pizza, spaghetti, soup with meat or beans, Mexican food, Chinese food)	3	28	29	13
Vegetables (Fried Potatoes, Salad, Other)	3	19	33	12
Snacks (Chips, Nuts and Seeds, Popcorn, Other)	12	46	54	26
Yogurt	1	13	17	6
Number of Schools (Unweighted)	164	50	88	302

SOURCE: Weighted tabulations of data collected on A la Carte Checklists, School Nutrition Dietary Assessment study.

NOTE: Only schools serving NSLP lunches in which data were collected in person are included in this table.

TABLE III.8
FOODS OFFERED IN VENDING MACHINES IN NSLP SCHOOLS
(Percentage of Schools)

Food	Elementary Schools	Middle Schools	High Schools	All Schools
Any Food in Vending Machines ^a	16	52	88	37
Beverages	13	42	87	33
Soft drinks	6	22	71	22
Baked Goods--Desserts	4	19	48	15
Bread or Grain Products	2	17	44	13
Candy	1	8	44	11
Frozen Desserts	0	0	1	<1
Fruit	0	0	1	<1
Snacks	4	20	49	16
Number of Schools (Unweighted)	167	50	89	306

SOURCE: Weighted tabulations of data collected from Vending Machine Checklists, School Nutrition Dietary Assessment study.

NOTE: Only schools serving NSLP lunches in which data were collected in person are included in this table.

^aPercentage of schools with any food in vending machines differs from the figures for "Any Vending Machine in School" shown in Table III.6 because of differences in the two samples (sampling error).

are snack foods (especially chips, offered in 16 percent of schools), dessert baked goods (15 percent of schools), and candy (11 percent). Frozen desserts, fruit, and yogurt are seldom offered (not shown).

4. Meal Planning and Preparation

a. Organization of the Planning, Purchasing, and Preparation Functions

Menu planning is the responsibility of staff at the district level in 61 percent of schools, and of school staff in 23 percent of schools; in the remaining 16 percent, menus are planned at an off-site kitchen, at some other place, or at a combination of locations (Table III.9). Elementary schools and middle schools are more likely than high schools to have the planning function performed at the district level and are less likely to have it performed at the school or at some other location. The distribution of responsibility for purchasing is very similar to the distribution of responsibility for meal planning, both at the school level and overall.

In contrast, responsibility for meal preparation is more highly concentrated at the school level; two-thirds of schools are responsible for this function. In the remaining third, responsibility is more or less evenly divided among the district, an off-site kitchen, and some other location. Meals are prepared on site at 89 percent of high schools, 67 percent of middle schools, and 62 percent of elementary schools.

The food service program is managed directly by the local SFA in 89 percent of schools. A food service management company operates the program in 6 percent of schools. In 4 percent of schools, the program is primarily self-managed, but the district purchases commercially prepared, pre-plated meals.

b. Methods Used to Evaluate the Nutritional Content of Meals

Heads of the local SFAs reported using a variety of methods to evaluate the nutritional content of the meals served in their schools (Table III.10). The most common practices are reviewing the

TABLE III.9

MENU PLANNING, FOOD PURCHASING, AND FOOD PREPARATION
FOR LUNCH IN NSLP SCHOOLS
(Percentage of Schools)

Function/Level of Responsibility	Elementary Schools	Middle Schools	High Schools	All Schools
Responsibility for Menu Planning				
District Level Only	64	67	44	61
Off-Site Kitchen Only	10	9	3	8
This School Only	22	15	34	23
Other Only	3	9	19	7
This School and Either Off-Site Kitchen or District	0	0	<1	<1
Other Type of Sharing	1	0	0	1
Responsibility for Purchasing				
District Level Only	59	67	52	59
Off-Site Kitchen Only	7	5	3	6
This School Only	20	12	25	20
Other Only	14	11	19	14
This School and Either Off-Site Kitchen or District	0	0	<1	<1
Other Type of Sharing	0	4	0	1
Responsibility for Preparation				
District Level Only	14	9	5	12
Off-Site Kitchen Only	15	18	3	13
This School Only	62	67	89	67
Other Only	9	6	3	8
This School and Either Off-Site Kitchen or District	0	0	0	0
Other Type of Sharing	<1	0	0	<1
Type of Food Service Structure				
Self-Managed	88	94	92	89
Food Service Company	7	3	8	6
Primarily Self-Managed but Uses Commercially Prepared Pre-Plated Meals	5	3	0	4
Number of Schools (Unweighted)	278	92	145	515

SOURCE: Weighted tabulations of data provided by the head of the School Food Authority on the School Characteristics Questionnaire, School Nutrition Dietary Assessment study.

NOTE: Only schools serving NSLP lunches are included in this table.

TABLE III.10

METHODS USED TO EVALUATE NUTRITIONAL CONTENT OF MEALS
(Percentages)

Method	Schools Using Each Method	Level of Use, for Schools Using Method		
		Centralized	School Level	Both
Review Ingredients in Food Products	93	70	15	15
Discuss Nutritional Content with Sales Representatives	94	80	14	6
Review Nutrient Analyses or Literature Provided by Food Vendors	92	78	12	10
Use Computer-Based System to Analyze the Nutritional Content of Food Served	16	97	3	0
Use Information Provided by the State Department of Education	88	69	14	17
Use Literature from USDA	8	98	0	2
Use Professional Literature, Meetings	35	73	15	13
Use Other Source	3	56	50	12
Number of Schools (Unweighted)	515	--	--	--

SOURCE: Weighted tabulations of data provided by the head of the School Food Authority on the School Characteristics Questionnaire, School Nutrition Dietary Assessment study.

NOTE: Only schools serving NSLP lunches are included in this table.

ingredients of food products (93 percent), discussing nutritional content with sales representatives (94 percent), reviewing nutrient analyses or literature provided by vendors (92 percent), and using information and/or technical assistance provided by the state departments of education (88 percent). Other methods were less commonly used. Thirty-five percent mentioned professional literature and meetings. Only 16 percent reported using a computer-based system to analyze nutritional content. Finally, 8 percent specifically mentioned materials provided by the USDA, and 3 percent mentioned some other source.

C. SCHOOL BREAKFAST PROGRAM

1. School Participation in the SBP

Study data show that 44 percent of schools participate in the SBP (Table III.11).⁶ Estimated school participation rates are higher in elementary schools (45 percent) and middle schools (48 percent) than in high schools (38 percent). Less than 1 percent of schools offer a program identified by the principal as a breakfast program, but which is not part of the USDA program.

Other programs offering food to students in the morning are available in 8 percent of schools; most are operated by some entity other than the school cafeteria. These other morning feeding programs are most prevalent in high schools; 25 percent of high schools have such a program, compared with 5 percent of elementary schools and 8 percent of middle schools. Counting these other programs, food is available to students in the morning at 50 percent of elementary schools, 56 percent of middle schools, and 63 percent of high schools.

Nearly 40 percent of the principals whose schools did not participate in the SBP reported that their schools had considered starting a program (Table III.12). The reasons given for nonparticipation were varied. Thirty-eight percent of principals at nonparticipating schools stated that the program was unnecessary, and 16 percent cited transportation and scheduling problems as the

⁶FNS administrative data indicate that approximately 54 percent of schools nationwide participate in the SBP. The study finding of a lower percentage participating (44 percent) is larger than can be attributed to sampling error and has not been explained.

TABLE III.11
MORNING FEEDING PROGRAMS IN SCHOOLS
(Percentage of Schools)

	Elementary Schools	Middle Schools	High Schools	All Schools
Schools Offering a Breakfast Program	45	48	38	44
Schools Participating in SBP	45	45	37	44
Schools Offering a Non-USDA Program	<1	3	2	1
Schools Offering a Morning Snack Program^a	5	8	25	8
Cafeteria Operates	<1	<1	5	1
Cafeteria Does Not Operate	5	7	20	8
Number of Schools (Unweighted)	278	92	145	515

SOURCE: Weighted tabulations of data provided by school principals on the School Characteristics Questionnaire, School Nutrition Dietary Assessment study.

^aSnack programs are all programs other than programs identified by the principals as "breakfast programs" that offer food after students arrive at school.

TABLE III.12

REASONS FOR NONPARTICIPATION IN THE SBP
(Percentage of Non-SBP Schools)

	Elementary Schools	Middle Schools	High Schools	All Schools
Principal Reported District Had Considered Starting a USDA Breakfast Program	34	56	39	38
Reasons for Nonparticipation (Distribution of Most Important Reason)				
Believe program not needed	41	20	38	38
Transportation or scheduling problem	13	32	17	16
Lack of interest	6	17	17	10
Lack of student participation	3	4	11	4
Board opposition	1	0	0	1
Inadequate facilities	3	3	3	3
Lack of funds/staff	8	4	9	8
Believe not qualified	11	0	0	8
Attempting to implement	5	11	<1	5
Other service available	0	0	<1	<1
Other	9	9	3	8
Number of Schools (Unweighted)	110	43	75	228

SOURCE: Weighted tabulations of data provided by school principals on the School Characteristics Questionnaire, School Nutrition Dietary Assessment study.

main obstacles. Fifteen percent cited factors indicating a perceived lack of interest or support (lack of interest, 10 percent; lack of participation, 4 percent; school board opposition, 1 percent). Eleven percent cited resource constraints (inadequate facilities, 3 percent; lack of funds or staff, 8 percent). Eight percent believed their school did not qualify to participate, and 5 percent stated that they were in the process of implementing a breakfast program.

2. Characteristics of School Breakfast Programs

a. Use of OVS, Prices, and Participation

OVS is used in just less than two-thirds of schools (Table III.13). Its use is most prevalent, but not universal, in high schools (85 percent). It is used in 69 percent of middle schools, and in 60 percent of elementary schools.

The average full price for breakfast is \$0.60, and the average reduced price is \$0.28. There is almost no variation in either price, by school level.

An average of 21 percent of students in schools offering the SBP get a school breakfast each day. Sixteen percent get a free breakfast, 4 percent get a reduced-price breakfast, and 1 percent pay full price. Thus, the great majority of SBP breakfasts are served to children who qualify for free or reduced-price meals.

b. Types of Meals Offered and Characteristics of School Food Service at Breakfast

Nearly all schools offer both hot and cold breakfasts over the course of a school week (Table III.14). Ninety-one percent of SBP schools offer a hot breakfast at least once per week, and 32 percent offer a hot breakfast five days per week. Ninety-five percent offer a cold breakfast at least once per week, and 39 percent do so five days per week. High schools and middle schools are more likely than elementary schools to offer hot breakfasts and cold breakfasts five days per week.

About one-fourth of all schools offer a la carte foods. Foods served a la carte are offered more frequently in high schools than in middle schools or elementary schools. Nearly all schools

TABLE III.13
PARTICIPATION, PRICES, AND OFFER VERSUS SERVE
IN THE SBP

	Elementary Schools	Middle Schools	High Schools	All Schools
Percentage of Schools Using Offer Versus Serve	60	69	85	64
Average Full Price for Breakfast	\$0.61	\$0.60	\$0.57	\$0.60
Average Reduced Price for Breakfast	\$0.29	\$0.28	\$0.25	\$0.28
Average Percentage of Students				
Receiving free breakfast each day	19	12	7	16
Receiving reduced-price breakfast each day	5	2	4	4
Taking SBP breakfast each day	24	15	11	21
Number of Schools (Unweighted)	168	49	70	287

SOURCE: Weighted tabulations of data provided by school principals on the School Characteristics Questionnaire, School Nutrition Dietary Assessment study.

NOTE: Only schools serving SBP breakfasts are included in this table.

TABLE III.14

**TYPES OF MEALS OFFERED AND CHARACTERISTICS OF
SCHOOL FOOD SERVICE AT BREAKFAST**
(Percentage of SBP Schools)

	Elementary Schools	Middle Schools	High Schools	All Schools
Characteristics of School Food Service				
Number of Seating Periods				
1	90	94	99	92
2	6	1	1	5
More than 2	4	5	0	3
Number of Cash Registers				
0	6	0	5	5
1	76	86	77	78
2	6	14	17	8
More than 2	12	<1	<1	9
Types of Meals Offered				
Hot Breakfast Offered (Number of Days)				
0	9	11	6	9
1	6	1	0	4
2	8	11	0	8
3	21	10	19	19
4	30	20	25	28
5	26	46	50	32
Cold Breakfast Offered (Number of Days)				
0	4	3	7	4
1	32	21	16	28
2	15	9	19	15
3	10	6	1	8
4	6	7	0	5
5	34	53	56	39
Foods Sold a la Carte	20	39	56	27
Number of Schools (Unweighted)	168	49	70	287

SOURCE: Weighted tabulations of data provided by school principals on the School Characteristics Questionnaire, School Nutrition Dietary Assessment study.

NOTE: Only schools serving SBP breakfasts are included in this table.

(92 percent) have only one seating period for breakfast, and just over three-fourths (78 percent) have a single cash register or serving line.

c. Availability of Salt, Butter or Margarine, Condiments, and Sweeteners

Salt, butter or margarine, condiments, and sweeteners are available to students in many schools. Salt, the least commonly available item, is available to students at breakfast in 38 percent of schools (Table III.15). Butter or margarine and condiments are available in just over one-half of schools, and sweeteners are available in more than 80 percent. Generally, when one of these items is available, students are allowed to add the item to their food themselves. However, in a large minority of schools (ranging from 10 percent to 21 percent of schools), the school limits access by having servers add the item for the student, on request.

3. Meal Planning and Preparation

Responsibility for breakfast menu planning and food purchasing rests with the district in about 70 percent of all schools, with only small variations in this percentage across schools of different grade levels (Table III.16). Menu planning is a school-level function in nearly one-fourth of schools, although responsibility for purchasing resides at this level in only 16 percent. Breakfast preparation is a school-level function in 81 percent of schools, and is done at the district level or in a central kitchen in 15 percent.

TABLE III.15

AVAILABILITY OF SALT, BUTTER OR MARGARINE, CONDIMENTS,
AND SWEETENERS AT BREAKFAST
(Percentage of Schools)

	Elementary Schools	Middle Schools	High Schools	All Schools
Salt Available	35	39	52	38
Student Can Add to Food	20	22	42	22
Server Will Add to Food	16	17	10	15
Butter or Margarine Available	51	51	58	52
Student Can Add to Food	31	44	45	35
Server Will Add to Food	20	7	13	18
Condiments Available	58	49	48	55
Student Can Add to Food	35	35	34	35
Server Will Add to Food	23	14	15	21
Sweeteners Available	84	77	81	83
Student Can Add to Food	72	66	81	72
Server Will Add to Food	12	10	<1	10
Number of Schools (Unweighted)	168	49	70	287

SOURCE: Weighted tabulations of data provided by school principals on the School Characteristics Questionnaire, School Nutrition Dietary Assessment study.

NOTE: Only schools serving SBP breakfasts are included in this table.

TABLE III.16

**MENU PLANNING, FOOD PURCHASING, AND FOOD PREPARATION
FOR BREAKFAST IN SBP SCHOOLS
(Percentage of Schools)**

Function/Level of Responsibility	Elementary Schools	Middle Schools	High Schools	All Schools
Responsibility for Menu Planning				
District Level Only	69	69	63	68
Off-Site Kitchen Only	2	7	4	3
This School Only	25	9	24	23
Other Only	2	15	10	5
This School and Either Off-Site Kitchen or District	0	0	0	0
Other Type of Sharing	1	0	0	1
Responsibility for Purchasing				
District Level Only	70	72	66	70
Off-Site Kitchen Only	2	7	8	4
This School Only	18	10	10	16
Other Only	10	11	17	11
This School and Either Off-Site Kitchen or District	0	0	0	0
Other Type of Sharing	0	0	0	0
Responsibility for Preparation				
District Level Only	10	1	1	8
Off-Site Kitchen Only	8	8	5	7
This School Only	79	83	94	81
Other Only	4	8	1	4
This School and Either Off-Site Kitchen or District	0	0	0	0
Other Type of Sharing	0	0	0	0
Number of Schools (Unweighted)	168	49	70	287

SOURCE: Weighted tabulations of data provided by the head of the School Food Authority on the School Characteristics Questionnaire, School Nutrition Dietary Assessment study.

NOTE: Only schools serving SBP breakfasts are included in this table.

IV. MEALS OFFERED IN THE NATIONAL SCHOOL LUNCH PROGRAM

Each day, the National School Lunch Program (NSLP) makes lunch available to approximately 92 percent of students nationwide. This chapter examines the nutrient content and other characteristics of the lunches that are offered under the NSLP.

Program requirements for meal reimbursement are designed to ensure that, over time, NSLP lunches provide one-third of the Recommended Dietary Allowances (RDA) for food energy, protein, vitamins, and minerals. To receive federal reimbursement, schools must offer lunches that conform to the NSLP meal pattern, which requires that daily lunches include five foods from four meal components:

- One serving of a meat or meat alternate. Meat alternates include eggs, cheese, dried beans and peas, nuts and seeds, and nut butters.
- One serving or more of a bread or bread alternate (eight servings per week). Bread alternates include pasta, rice, and other cereals.
- Two or more servings of vegetables and/or fruits (which must be provided from at least two distinct menu items)
- One serving of fluid milk

Minimum serving sizes are required for specific age/grade groups. If schools are unable to adjust serving sizes for different age groups, they must serve 2 ounces of meat per day, 3/4 cup of vegetables and/or fruits per day, 8 fluid ounces of milk per day, and 8 servings of bread per week. Within these guidelines, schools are encouraged to offer a wide range of foods. Many schools allow students to choose from a variety of foods each day in order to fulfill the specific meal-component requirements.

This chapter uses detailed data on all foods offered as part of a U.S. Department of Agriculture (USDA)-reimbursable meal, from one week of meals, in order to describe the nutrient content of the lunches offered, the variety of foods offered, and the most common menu items in NSLP lunches.

School food service personnel provided the detailed descriptions of the specific foods and quantities served.

It is important to bear in mind that this chapter focuses on what foods were *offered*. The foods and beverages that students actually *select* and *consume*, and their nutrient content, may differ from the foods offered, because students in many schools are able to choose their meals from among a number of alternative foods. Chapter VIII presents data on the nutrients in the foods and beverages actually selected and consumed by students who chose an NSLP lunch.

A. SUMMARY OF FINDINGS ON NSLP LUNCHESES OFFERED

On average, NSLP meals as offered provide nutrients that meet the NSLP target of contributing one-third of the RDA for key nutrients. In elementary schools, middle schools, and high schools, the amounts of most nutrients in the average NSLP meal offered are well in excess of the RDA standards for the age groups that attend each level of school. The lunches fall short of the RDA standards in a few cases, however: zinc, for most age groups; iron, for teenaged girls; and food energy, vitamin B6, and magnesium, for 15- to 18-year-old male students.

The levels of total fat and saturated fat exceed the Dietary Guideline goals. The levels of sodium exceed National Research Council (NRC) recommendations, but the average level of cholesterol is within the recommended range. The average proportion of food energy from total fat in NSLP meals offered is 38 percent, compared with the Dietary Guideline goal of 30 percent or less. The average proportion of food energy from saturated fat is 15 percent, compared with a Dietary Guideline goal of less than 10 percent. The average amount of sodium is 1,479 mg, which is nearly two-thirds of the NRC's recommendation of 2,400 mg per day, or nearly twice the lunch target of 800 mg. The average amount of cholesterol is 88 mg, which is just less than one-third of the NRC recommendation of 300 mg per day.

Despite the high-fat content of the average meal offered, 44 percent of schools offer at least one option for a complete NSLP lunch, containing all five required foods, that provides an average over

one week of no more than 30 percent of food energy from fat. These lowest-fat lunches, which provide 30 percent of energy from fat, offer somewhat less food energy than do "average" lunches. Lowest-fat and average lunches do not differ markedly in terms of the adequacy of protein, vitamins, and minerals offered, but the former contain less saturated fat and more carbohydrate.

On the basis of the detailed data gathered from school lunch menus, the following three sections of this chapter assess:

- The nutrient content of the average and the lowest-fat meals offered during one week of school
- The variety of foods offered in school lunches, including the frequency with which schools offer low-fat items
- The frequency with which specific foods are offered

B. NUTRIENT CONTENT OF NSLP LUNCHES OFFERED

This section describes the average nutrient content of NSLP lunches offered during a typical school week. It also compares the nutrients offered in the lunches with the requirement to provide one-third of the RDA of the nutrients and compares the fat, sodium, and cholesterol content of the lunches with goals suggested by the Dietary Guidelines and NRC recommendations. Finally, this section describes the nutrient content of the reimbursable meal offered that provides the lowest percentage of food energy from fat.

1. Analytical Issues

This subsection briefly summarizes the main analytical decisions made in order to derive the estimates of the average nutrient content of NSLP lunches. Three decisions were key: (1) determining the time period for assessment of the nutrients offered; (2) computing the average nutrient content of meals offered given that some lunch menus contain many different food choices; and (3) determining the types of foods that were to be counted as part of the NSLP lunch.

Because schools vary their lunch menus from day to day, the nutrients offered also vary. Therefore, when assessing the nutrient content of school lunches, it is appropriate to make the assessment over a period of several days. The estimates presented in this report were derived by estimating the nutrient content of NSLP lunches offered during each day of the week for which menu data were collected, and then averaging the values over the five days of the school week.¹

The most challenging part of the analysis was deciding how to estimate the average nutrient content of meals offered in each day's NSLP lunch given that some school lunch menus present many food choices, and given that self-serve food bars are widely available. (Appendix A describes the calculations in detail.) Readers should bear in mind that, when a given meal component offered a choice of foods, each choice was assumed to be equally available to all students. Thus, in computing the average nutrients offered, the nutrients in each choice were assigned equal weight.

For simple meals, in which students had no choices among foods in each component, the nutrients in each food offered were summed in order to derive total nutrients for the meal. For meals offering choices among foods in a given component, it was not appropriate simply to sum all of the food items. In such cases, the average nutrient content of NSLP meals offered on each day was computed as follows. First, the nutrients in all entree choices were averaged.² Second, the nutrients in all bread or bread alternate choices that were not part of an entree were averaged and added to the nutrients in the entree. Third, the nutrients in all vegetables or fruits that were not part of an entree were averaged, multiplied by 2 (to yield two servings), and added to the total. Fourth, the nutrients in all types of milk offered were averaged and added to the total.

¹The five-day data collection period was chosen as the best possible balance between assessing the nutrient content of meals offered over a long period and minimizing the cost of the data collection and the burden on respondent schools. Because some schools were not open for the full observation week, only four days of data are available for 12 percent of schools, and only two or three days are available for five schools (less than 1 percent). In these cases, nutrients were averaged over the available days.

²"Entrees" are defined operationally as dishes containing meat or meat alternates plus any bread or bread alternates that were served with the meat.

The nutrients in noncreditable foods--that is, foods that are not credited toward satisfying the NSLP meal-pattern requirement--were also added to the totals. Examples of noncreditable foods are butter, desserts, condiments, and salad dressings. Although the USDA does not require schools to serve noncreditable foods in order to receive federal reimbursement, such foods increase the attractiveness and palatability of NSLP lunches and contribute substantial food energy and nutrients. In the analysis of nutrients offered, whenever possible, noncreditable items were linked with the creditable foods with which they are generally served (for example, salad dressings and salads). The nutrients in the creditable and noncreditable foods were then added together. Desserts and other foods that were not linked to specific entrees or vegetable/fruit items were assumed to have been offered to all students. Thus, the nutrients were added to the total nutrients offered by the lunch.

Self-serve bars presented a separate challenge. Food service personnel determine the quantities of food *offered*, but students are allowed, within limits, to *select* the quantities that they take. Therefore, rules were developed in order to assign portion sizes to items from self-serve bars, and to define average nutrient values for entrees and vegetable/fruit servings from these food bars. Whenever a self-serve bar was available, it was counted as one entree choice (if the salad bar offered an entree) and two vegetable/fruit choices. (Appendix A provides the details on the calculations.)

2. Mean Nutrient Content

This section presents the average nutrient content of lunches offered at all schools that participate in the NSLP, as well as separate estimates for elementary, middle, and high schools. It also compares the nutrient values with one-third of the RDA, for relevant age and sex groups, and with the Dietary Guideline goals and NRC recommendations.

a. Average Nutrients

NSLP lunches provide an average of 753 calories, 31 grams of protein, 89 grams of carbohydrate, 31 grams of fat, and 13 grams of saturated fat (Table IV.1). Thus, school lunches provide 17 percent

TABLE IV.1
MEAN NUTRIENTS IN NSLP LUNCHES OFFERED

Dietary Component	Elementary Schools	Middle Schools	High Schools	All Schools
Macronutrients				
Food Energy (calories)	723	803	832	753
Protein (grams)	30	32	34	31
Carbohydrate (grams)	85	97	99	89
Fat (grams)	30	33	35	31
Saturated Fat (grams)	12	13	14	13
Percentage of Food Energy from:				
Fat	37	37	38	38
Saturated fat	15	15	15	15
Carbohydrate	47	48	47	47
Protein	17	16	16	17
Vitamins				
Vitamin A (mcg RE)	394	419	412	401
Vitamin C (mg)	28	34	33	30
Thiamin (mg)	0.6	0.6	0.6	0.6
Riboflavin (mg)	0.8	0.9	0.9	0.8
Niacin (mg NE)	7	7	7	7
Vitamin B6 (mg)	0.5	0.6	0.6	0.5
Folate (mcg)	81	90	93	84
Vitamin B12 (mcg)	1.8	1.9	1.9	1.8
Minerals				
Calcium (mg)	487	509	525	496
Iron (mg)	4	5	5	4
Phosphorus (mg)	562	592	627	578
Magnesium (mg)	103	106	108	104
Zinc (mg)	4	4	4	4
Other Dietary Components				
Sodium (mg)	1,406	1,560	1,704	1,479
Cholesterol (mg)	84	91	98	88
Fiber (grams)	7	7	7	7
Number of Schools (Unweighted)	278	92	145	515

SOURCE: Menu data from the School Nutrition Dietary Assessment study, based on one week of school menus from a nationally representative sample of schools, collected from February to May 1992.

NOTE: Only schools serving NSLP lunches are included in this table. All foods served as part of NSLP lunches are counted, including noncreditable foods.

mg = milligrams.
mcg = micrograms.
RE = retinol equivalent.
NE = niacin equivalent.

of energy from protein, 47 percent from carbohydrate, 38 percent from fat, and 15 percent from saturated fat.³ Because schools are encouraged to vary quantities of food according to the age of the student, the amount of food energy and nutrients provided in the lunches increases with the grade level. Elementary school lunches provide an average of 723 calories, middle school lunches provide an average of 803 calories, and high school lunches, an average of 832 calories. However, the percentage of energy provided by the various macronutrients varies by less than 1 percentage point. (Appendix Tables C.1 through C.1.C show quartile values and standard errors of mean nutrient values for all schools and for each level of school.)

b. Nutrient Content Relative to the RDA

To assess whether lunches as offered provide one-third of the RDA for key nutrients, the study compared the nutrient content of meals offered with one-third of the RDA. The RDA are age- and gender-specific, whereas schools may serve a wide range of ages. Thus, for each level of school, the average amounts of nutrients were compared with the separate RDA that applied to each of the age ranges that might attend the particular level. For example, the RDA for children 7 to 10 years old are the appropriate standard of comparison for most elementary school students, whereas the RDA for children 11 to 14 years old are appropriate for sixth graders (or for older students in elementary schools that extend to higher grades).

For most nutrients, NSLP school lunches as offered provide one-third or more of the RDA for each relevant age group (Tables IV.2.A through IV.2.C). School lunches provide most groups with more than one-half of the RDA for protein, vitamin C, riboflavin, folate, and vitamin B12. However, for some age/gender groups, the average amounts of food energy, iron, vitamin B6, magnesium, and zinc are less than one-third of the respective RDA. As noted in Chapter II, however, average nutrient levels that are less than the RDA do not necessarily indicate a problem. Furthermore, older

³The calculation of these numbers was based on 9 kilocalories per gram of fat or saturated fat and 4 kilocalories per gram of protein or carbohydrate.

TABLE IV.2.A

MEAN NUTRIENTS IN NSLP LUNCHES OFFERED RELATIVE
TO THE RDA: ELEMENTARY SCHOOLS

Nutrient	Mean Nutrient as a Percentage of the RDA for Each Age/Gender Group		
	7- to 10-Year-Old Students	11- to 14-Year- Old Females	11- to 14-Year- Old Males
The Target for NSLP Lunches Is 33 Percent of the RDA			
Food Energy	36	33	29
Protein	107	65	67
Vitamin A	56	49	39
Vitamin C	61	55	55
Thiamin	56	50	43
Riboflavin	67	62	54
Niacin	50	43	38
Vitamin B6	37	37	30
Folate	80	53	53
Vitamin B12	126	88	88
Calcium	60	40	40
Iron	42	28	35
Phosphorus	70	47	47
Magnesium	60	36	38
Zinc	39	32	26
Number of Schools (Unweighted)	278	278	278

SOURCE: Menu data from the School Nutrition Dietary Assessment study, based on one week of school menus from a nationally representative sample of schools, collected from February to May 1992.

NOTE: Only schools serving NSLP lunches are included in this table. All foods served as part of NSLP lunches are counted, including noncreditable foods.

TABLE IV.2.B

MEAN NUTRIENTS IN NSLP LUNCHES OFFERED RELATIVE
TO THE RDA: MIDDLE SCHOOLS

Nutrient	Mean Nutrient as a Percentage of the RDA for Each Age/Gender Group		
	7- to 10-Year- Old Students	11- to 14-Year- Old Females	11- to 14-Year- Old Males
The Target for NSLP Lunches Is 33 Percent of the RDA			
Food Energy	40	36	32
Protein	114	69	71
Vitamin A	59	52	42
Vitamin C	75	68	68
Thiamin	62	56	48
Riboflavin	72	67	58
Niacin	54	47	42
Vitamin B6	39	39	32
Folate	90	60	60
Vitamin B12	131	92	92
Calcium	63	42	42
Iron	46	31	39
Phosphorus	73	49	49
Magnesium	62	38	39
Zinc	41	34	27
Number of Schools (Unweighted)	92	92	92

SOURCE: Menu data from the School Nutrition Dietary Assessment study, based on one week of school menus from a nationally representative sample of schools, collected from February to May 1992.

NOTE: Only schools serving NSLP lunches are included in this table. All foods served as part of NSLP lunches are counted, including noncreditable foods.

TABLE IV.2.C

MEAN NUTRIENTS IN NSLP LUNCHES OFFERED
RELATIVE TO THE RDA: HIGH SCHOOLS

Nutrient	Mean Nutrient as a Percentage of the RDA for Each Age/Gender Group			
	11- to 14- Year-Old Females	11- to 14- Year-Old Males	15- to 18- Year-Old Females	15- to 18- Year-Old Males
The Target for NSLP Lunches is 33 Percent of the RDA				
Food Energy	37	33	37	27
Protein	73	75	77	57
Vitamin A	51	41	51	41
Vitamin C	66	66	55	55
Thiamin	57	49	57	42
Riboflavin	68	59	68	49
Niacin	48	42	48	36
Vitamin B6	42	34	39	29
Folate	61	61	51	46
Vitamin B12	95	95	95	95
Calcium	43	43	43	43
Iron	31	39	31	39
Phosphorus	52	52	52	52
Magnesium	38	40	36	27
Zinc	35	28	35	28
Number of Schools (Unweighted)	145	145	145	145

SOURCE: Menu data from the School Nutrition Dietary Assessment study, based on one week of school menus from a nationally representative sample of schools, collected from February to May 1992.

NOTE: Only schools serving NSLP lunches are included in this table. All foods served as part of NSLP lunches are counted, including noncreditable foods.

students may have been served larger-than-average amounts. NSLP lunches offer very high levels of protein for most age groups--two-thirds to 100 percent of the RDA, or more than twice the target level. School lunches offer especially high levels of protein to 7- to 10-year-old students.

The average elementary school lunch meets or exceeds one-third of the RDA for all nutrients for 7- to 10-year old students--the age group comprising most of the elementary school population (Table IV.2.A). For 11- to 14-year-old females, the average elementary school lunch provides at least one-third of the RDA for food energy and all nutrients except iron (28 percent of the RDA). (Zinc is just slightly below one-third of the RDA.) For 11- to 14-year old males, the average elementary school lunch meets USDA targets, except for food energy (29 percent of the RDA), zinc (26 percent of the RDA), and vitamin B6 (30 percent of the RDA).

Most middle school students are 11 to 14 years old. The average middle school lunch provides one-third of the RDA for most nutrients for this age group (Table IV.2.B). Only zinc for 11- to 14-year-old males is substantially below one-third of the RDA (27 percent). Small shortfalls below one-third of the RDA were observed in iron for 11- to 14-year-old females (31 percent), in food energy for 11- to 14-year-old males (32 percent of the RDA), and in vitamin B6 for 11- to 14-year-old males (32 percent of the RDA).

High schools primarily serve students in the 15- to 18-year-old age group, as well as some students in the 11- to 14-year-old group. The average high school lunch provides one-third or more of the RDA for most nutrients, although it falls short in providing several nutrients for 15- to 18-year-old male students (Table IV.2.C). For that age/gender group, school lunches offer only 27 percent of the RDA for food energy, 29 percent for vitamin B6, 27 percent for magnesium, and 28 percent for zinc. High school lunches also fall slightly below the target for iron for female students (31 percent of the RDA) and fall below the target for zinc for younger male students (28 percent of the RDA).

c. Nutrient Content Relative to the Dietary Guideline Goals and NRC Recommendations

As noted in Section A, the average NSLP lunch does not conform to the Dietary Guideline goals for fat and saturated fat, or to the NRC recommendations for carbohydrate and sodium. It does conform to NRC recommendations for cholesterol. As Table IV.3 shows, only 1 percent of schools offer lunches that provide an average of 30 percent or less of food energy from fat. Furthermore, the weekly menus of only one school (less than one-tenth of one percent of schools, when weighted) provide less than 10 percent of food energy from saturated fat. The weekly menus of 2 percent of the schools provide more than 55 percent of energy from carbohydrate; no school meets the NRC recommendation for sodium. Furthermore, very few schools are close to conforming to these guidelines, and many have far exceeded them. For example, only 16 percent of lunch menus provide 31 percent to 34 percent of food energy from fat, whereas 60 percent provide 35 percent to 40 percent of food energy from fat, and 23 percent provide more than 40 percent of food energy from fat.

3. Availability and Nutrient Content of Low-Fat Meals

As described in Section C, many schools offer a broad range of choices among foods within the meat, bread, vegetable/fruit, and milk meal components. Within these components, schools often attempt to give students choice, variety, and the opportunity to select a lower-fat meal. Thus, although the average nutrient content of NSLP lunches offered is well above the Dietary Guideline goal of no more than 30 percent of food energy from fat, schools may offer choices among foods meeting each NSLP meal-pattern requirement whereby a student has the opportunity to select a lunch that meets the Dietary Guideline goal. This section presents data on the percentage of schools offering at least one lunch choice that, on average, over a one-week period, meets the Dietary Guideline goal of providing no more than 30 percent of food energy from fat. Data are also presented on the average nutrient content of these lunch choices that meet the Dietary Guideline goal for total fat.

TABLE IV.3
 DISTRIBUTION OF FAT AND OTHER KEY DIETARY COMPONENTS
 IN AVERAGE NSLP LUNCHES OFFERED
 (Percentage of Schools)

Dietary Component	Elementary Schools	Middle Schools	High Schools	All Schools
Percentage of Food Energy from Fat				
30 Percent or Less	1	1	2	1
31-34 Percent	13	19	24	16
35-36 Percent	14	21	15	15
37-38 Percent	31	17	15	26
39-40 Percent	20	18	15	19
More than 40 Percent	22	23	30	23
Percentage of Food Energy from Saturated Fat				
Less than 10 Percent	0	0	0	<1
10-12 Percent	5	3	5	5
13-14 Percent	18	38	26	22
15-16 Percent	43	43	50	44
17-18 Percent	25	14	14	22
More than 18 Percent	10	2	5	8
Percentage of Food Energy from Carbohydrate				
Less than 45 Percent	21	22	36	24
45-55 Percent	78	74	60	74
More than 55 Percent	1	4	4	2
Cholesterol				
100 mg or Less	84	71	61	78
101-133 mg	16	24	32	20
More than 133 mg	0	5	8	2
Sodium				
800 mg or Less	0	0	0	0
801-1,000 mg	4	0	0	3
More than 1,000 mg	96	100	100	97
Number of Schools (Unweighted)	278	92	145	515

SOURCE: Menu data from the School Nutrition Dietary Assessment study, based on one week of school menus from a nationally representative sample of schools, collected from February to May 1992.

NOTE: Only schools serving NSLP lunches are included in this table. All foods served as part of NSLP lunches are counted, including noncreditable foods. Shaded rows show the percentage of schools whose meals, on average, conform to goals. Lunch goals for cholesterol and sodium are one-third of the corresponding daily goals.

mg = milligrams.

For this analysis, a "lowest-fat" lunch was identified for each day at each school in the study sample by identifying the meat/bread choice with the lowest percentage of food energy from fat, the milk choice with the lowest percentage of food energy from fat, and the two vegetable/fruit choices with the lowest percentage of food energy from fat. The nutrient values of these lowest-fat options for each meal component were summed to calculate nutrients offered in the lowest-fat lunch for each day. The lowest-fat lunch for each day was averaged over the week. Thus, the average nutrients in the lowest-fat lunch are an estimate of the nutrients that a student's lunch would provide, on average, over a one-week period, if the student always selected the lowest-fat item offered for each meal component on each day.⁴

a. Fat, Carbohydrate, Sodium, and Cholesterol in the Lowest-Fat Lunch Offered

Forty-four percent of schools offer at least one option for a full, five-component meal that provides no more than 30 percent of food energy from fat; one-fourth of all schools offer an option that provides less than 10 percent of energy from saturated fat (Table IV.4). Middle schools (62 percent) and high schools (77 percent) are more likely than elementary schools (31 percent) to offer at least one meal choice that provides an average of no more than 30 percent of energy from fat over the course of a week. The lowest-fat option is surprisingly low in carbohydrate. Only in about 29 percent of schools does the lowest-fat option meet the NRC recommendation of more than 55 percent of food energy from carbohydrate. As with the average school lunch, the lowest-fat option is very high in sodium (less than 1 percent of schools meet the NRC recommendation for sodium).

⁴Only foods that meet the NSLP meal-pattern requirement, along with the foods linked to those items, were included. (See Appendix A for additional discussion on the construction of the lowest-percent-of-fat meal.) Note that these meals are, strictly speaking, the lowest-percent-of-fat option, but may not always be the lowest-fat option in terms of grams of fat. However, the data indicate that they usually are the lowest-fat option, as well.

TABLE IV.4
DISTRIBUTION OF FAT AND OTHER KEY DIETARY COMPONENTS IN
LOWEST-PERCENT-FAT NSLP LUNCH OFFERED
(Percentage of Schools)

Dietary Component	Elementary Schools	Middle Schools	High Schools	All Schools
Percentage of Food Energy from Fat				
30 Percent or Less	31	62	77	44
31-34 Percent	36	22	8	29
35-36 Percent	11	10	7	10
37-38 Percent	10	2	3	8
39-40 Percent	10	4	3	8
More than 40 Percent	1	<1	2	1
Percentage of Food Energy from Saturated Fat				
Less than 10 Percent	16	50	43	25
10-12 Percent	19	15	19	19
13-14 Percent	28	22	30	28
15-16 Percent	28	12	6	22
17-18 Percent	8	1	2	6
More than 18 Percent	1	0	0	1
Percentage of Food Energy from Carbohydrate				
Less than 45 Percent	10	2	4	8
45-55 Percent	73	43	40	63
More than 55 Percent	17	54	56	29
Cholesterol				
180 mg or Less	97	99	96	97
101-133 mg	3	1	1	2
More than 133 mg	0	0	3	0
Sodium				
800 mg or Less	0	0	1	<1
801-1,000 mg	7	3	6	6
More than 1,000 mg	93	97	93	94
Number of Schools (Unweighted)	278	92	145	515

SOURCE: Menu data from the School Nutrition Dietary Assessment study, based on one week of school menus from a nationally representative sample of schools, collected from February to May 1992.

NOTE: Only schools serving NSLP lunches are included in this table. All foods served as part of NSLP lunches are counted, including noncreditable foods. The lowest-percent-fat lunch is the NSLP lunch offered that has the lowest percentage of food energy from fat (of all options on each day's menu). Shaded rows show the percentage of schools whose lowest-percent-fat meals conform, on average, to goals. Lunch goals for cholesterol and sodium are one-third of the corresponding daily goals.

mg = milligrams.

b. Average Nutrients in the Lowest-Fat Lunch Offered

Although the lowest-fat lunch offered provides an adequate intake of most nutrients, it provides less than one-third of the RDA for food energy for all children and is especially low for males aged 11 and older (Tables IV.5.A through IV.5.C). Although the lowest-fat lunch offered contains less protein than does the average school lunch, it still provides nearly two-thirds of the daily RDA for most age groups, and more than 100 percent of the daily RDA for 7- to 10-year-old students. The other nutrients provided at levels below one-third of the RDA in the lowest-fat lunch are basically the same as those in the average school lunch: zinc, for most age groups; iron, for female teenagers; vitamin B6, for male students aged 11 and older; and magnesium, for male students aged 15 to 18 years.

c. Average Nutrients in Lowest-Fat Lunches in Which Fat Provides 30 Percent or Less of Food Energy

Concerns about the energy and nutrient content in the lunches providing 30 percent or less of calories from fat prompted a separate analysis of the nutrients in these lunches. The amounts of vitamins and minerals in the lunches providing 30 percent or less of energy from fat generally are similar to the amounts in the lowest-fat lunches (see Appendix Tables C.2.A through C.2.C).

C. VARIETY OF FOODS IN NSLP LUNCHES

The first guideline in *The Dietary Guidelines for Americans* recommends that Americans eat a variety of foods. The NSLP meal pattern provides variety by requiring that each meal offer one serving each of meat, grain, and milk, and two servings of vegetables and/or fruits. In addition, school food services are encouraged to offer students both food choices and the opportunity to vary their caloric intake. Thus, each day, many schools enable students to choose foods from each required meal component, by offering separate lines for different types of food, self-service food bars, or

TABLE IV.5.A

MEAN NUTRIENTS IN LOWEST-PERCENT-FAT NSLP LUNCHES OFFERED
RELATIVE TO THE RDA: ELEMENTARY SCHOOLS

Nutrient	Mean Nutrient as a Percentage of the RDA for Each Age/Gender Group		
	7- to 10-Year- Old Students	11- to 14-Year- Old Females	11- to 14-Year- Old Males
The Target for NSLP Lunches Is 33 Percent of the RDA			
Food Energy	32	30	26
Protein	106	64	66
Vitamin A	55	48	39
Vitamin C	65	58	58
Thiamin	54	49	41
Riboflavin	65	60	52
Niacin	49	42	37
Vitamin B6	36	36	29
Folate	78	52	52
Vitamin B12	127	89	89
Calcium	58	39	39
Iron	42	28	35
Phosphorus	68	45	45
Magnesium	57	35	36
Zinc	38	32	25
Number of Schools (Unweighted)	278	278	278

SOURCE: Menu data from the School Nutrition Dietary Assessment study, based on one week of school menus from a nationally representative sample of schools, collected from February to May 1992.

NOTE: Only schools serving NSLP lunches are included in this table. The lowest-percent-fat lunch is the full NSLP lunch offered that has the lowest percentage of food energy from fat (of all options on each day's menu).

TABLE IV.5.B

MEAN NUTRIENTS IN LOWEST-PERCENT-FAT NSLP LUNCHES
OFFERED RELATIVE TO THE RDA: MIDDLE SCHOOLS

Nutrient	Mean Nutrient as a Percentage of the RDA for Each Age/Gender Group		
	7- to 10-Year- Old Students	11- to 14-Year- Old Females	11- to 14-Year- Old Males
The Target for NSLP Lunches Is 33 Percent of the RDA			
Food Energy	35	32	28
Protein	112	68	69
Vitamin A	50	44	35
Vitamin C	95	86	86
Thiamin	61	55	47
Riboflavin	68	62	54
Niacin	54	47	41
Vitamin B6	37	37	30
Folate	89	59	59
Vitamin B12	125	88	88
Calcium	60	40	40
Iron	47	32	39
Phosphorus	69	46	46
Magnesium	58	35	37
Zinc	39	33	26
Number of Schools (Unweighted)	92	92	92

SOURCE: Menu data from the School Nutrition Dietary Assessment study, based on one week of school menus from a nationally representative sample of schools, collected from February to May 1992.

NOTE: Only schools serving NSLP lunches are included in this table. The lowest-percent-fat lunch is the full NSLP lunch offered that has the lowest percentage of food energy from fat (of all options on each day's menu).

TABLE IV.5.C

MEAN NUTRIENTS IN LOWEST-PERCENT-FAT NSLP LUNCHES
OFFERED RELATIVE TO THE RDA: HIGH SCHOOLS

Nutrient	Mean Nutrient as a Percentage of the RDA for Each Age/Gender Group			
	11- to 14- Year-Old Females	11- to 14- Year-Old Males	15- to 18- Year-Old Females	15- to 18- Year-Old Males
The Target for NSLP Lunches Is 33 Percent of the RDA				
Food Energy	31	28	31	23
Protein	71	72	74	55
Vitamin A	41	33	41	33
Vitamin C	71	71	59	59
Thiamin	57	48	57	42
Riboflavin	63	55	63	46
Niacin	49	43	49	37
Vitamin B6	37	31	35	26
Folate	59	59	49	44
Vitamin B12	87	87	87	87
Calcium	40	40	40	40
Iron	31	39	31	39
Phosphorus	48	48	48	48
Magnesium	35	37	33	25
Zinc	33	26	33	26
Number of Schools (Unweighted)	145	145	145	145

SOURCE: Menu data from the School Nutrition Dietary Assessment study, based on one week of school menus from a nationally representative sample of schools, collected from February to May 1992.

NOTE: Only schools serving NSLP lunches are included in this table. The lowest-percent-fat lunch is the full NSLP lunch offered that has the lowest percentage of food energy from fat (of all options on each day's menu).

multiple choices in a given line. This section describes the variety of foods offered in NSLP lunches and the prevalence of salad and other food bars.⁵

1. Variety of Choices Offered Daily

Table IV.6 shows the percentage of all NSLP lunches that offered various numbers of food choices within each-meal pattern component. (Each day for each school in the sample is counted separately in the tabulation.) Just over one-half of all menus offer a choice of entrees--that is, a main course, which is defined as a meat or meat alternate (or any recipe containing one of these items), and any bread or bread alternate served with the meat.⁶ Forty-nine percent of lunch menus offer only one entree. Thirty-five percent offer a choice among two or three entrees, and 8 percent offer a choice among six or more. Offering a large number of choices is more common in high schools and middle schools, and is less common in elementary schools. Twenty-five percent of high school menus and 18 percent of middle school menus offer at least six entrees. In contrast, 59 percent of elementary school menus offer one entree, 34 percent offer two or three, and only 7 percent offer more than three.

By definition, salad bars offer a variety of vegetables and fruits. Thus, all of the vegetables and fruits that were not offered in salad bars were tabulated separately (Table IV.6) The number of vegetable and fruit items offered varies widely according to school level. About one-fourth of lunches offer only two choices, and 14 percent offer eight or more choices; the median number of

⁵It is important to distinguish the type of choice under discussion in this section from offer versus serve (OVS). This section considers the range of options available in each required meal component. The OVS policy allows students to refuse foods from one or two of the five required meal components, and still to be counted as receiving an NSLP lunch.

⁶In general, foods were grouped into entrees by manually coding the menu items. Coders linked each type of food that met the meat/meat alternate requirement with any bread or bread alternate that typically is associated with the meat/meat alternate. For example, if a menu offered chicken, hamburgers, biscuits, and hamburger buns, the biscuits were linked with the chicken, and the buns were linked with the hamburgers.

TABLE IV.6
 PERCENTAGE OF NSLP LUNCHES OFFERING CHOICES OF FOODS
 WITHIN EACH MEAL COMPONENT
 (Percentage of All School Days)

	Elementary Schools	Middle Schools	High Schools	All Schools
Number of Entrees Offered per Day				
1	59	30	22	49
2-3	34	41	36	35
4-5	5	11	18	8
6+	2	18	25	8
Median	1	2	3	2
Number of Fruits/Vegetables Offered per Day				
No More than 2	32	13	12	26
3-4	46	31	31	41
5-7	15	27	25	19
8+	7	29	33	14
Median	3	5	5	3
Number of Types of Milk Offered per Day				
1	2	0	0	1
2	13	12	3	11
3	62	59	60	61
4-5	23	30	37	27
Median	3	3	3	3
Number of Desserts Offered per Day				
None	64	57	53	61
1	33	34	34	33
2+	3	10	13	6
Number of School Days (Unweighted)	1,359	411	706	2,506
Number of Schools (Unweighted)	278	92	145	515

SOURCE: Menu data from the School Nutrition Dietary Assessment study, based on one week of school menus from a nationally representative sample of schools, collected from February to May 1992.

NOTE: Only schools serving NSLP lunches are included in this table. All foods served as part of NSLP lunches are counted, including noncreditable foods. The median (50th percentile) of entrees and vegetable/fruit options is shown, rather than the mean (average) because the small number of schools with a very large number of choices affect the mean disproportionately, but not the median. Foods offered from self-serve food bars are not included in this table. Schools usually offer the same type of milk each day of the week and therefore were asked to complete a checklist of the types of milk usually offered.

vegetable/fruit choices is three.⁷ Middle schools and high schools offer more choices (combined median of five choices) than do elementary schools (median of three choices).

Schools are required to serve whole milk plus one type of low-fat unflavored milk. The data indicate that most also serve one other type of milk, usually chocolate milk. About one-fourth of schools serve four or five types of milk. None serves more than five. In contrast to other meal components, the distribution of the number of milk offerings is similar at the elementary, middle, and high school levels.

Although desserts are not a required item, 39 percent of lunch menus offer desserts. Thirty-three percent offer only one dessert option.

Another dimension of choice is the number of different entrees offered during the school week. Schools may offer several entree choices each day but offer some of the same entrees every day of the week. Consequently, variety as measured over the week could differ substantially from variety as measured on any single day. The tabulations of the number of different entrees offered during the week (not displayed) showed that schools offer an average of 2.4 entrees each day, and an average of 7.8 different entrees per week. The average number of entrees offered per week is considerably less than five times the number of entrees offered each day, indicating that schools offering a large number of choices on any one day tend to repeat some of those choices during the week.

2. Prevalence of Self-Serve Food Bars and Variety of Foods Offered

Schools can offer food variety and the opportunity to vary caloric intake by providing self-serve food bars (Table IV.7). Most self-serve food bars are salad bars, which are offered at least once per

⁷Vegetables or fruits in a recipe that consists primarily of meat or bread, such as the tomato sauce on a pizza, were not counted. However, vegetables in menus that offer several different sandwiches containing lettuce and tomato were overcounted by counting the lettuce and tomato separately for each sandwich.

TABLE IV.7

PREVALENCE OF SELF-SERVE FOOD BARS AND VARIETY OF ITEMS OFFERED

	Elementary Schools	Middle Schools	High Schools	All Schools
Prevalence				
Percentage of Schools Offering Salad Bars				
Any day	7	29	37	15
Every day	4	22	33	12
Percentage of Schools Offering Other Food Bars				
Any day	7	15	23	11
Every day	<1	2	9	2
Number of Schools (Unweighted)	278	92	145	515
Variety of Items Offered—Salad Bars				
Percentage of Salad Bars with:				
Meat/meat alternate	79	90	69	78
Bread/bread alternate	81	77	80	80
Mean Number of Items Served				
Meat/meat alternate	2	2	2	2
Vegetable/fruit	5	7	8	7
Bread/bread alternate	1	1	2	1
Number of Days with Salad Bars (Unweighted)	92	116	245	453
Variety of Items Offered—Other Food Bars				
Percentage of Food Bars with:				
Meat/meat alternate	27	54	70	53
Vegetable/fruit	81	64	52	64
Bread/bread alternate	45	46	72	57
Mean Number of Items Served				
Meat/meat alternate	1	1	2	1
Vegetable/fruit	2	1	2	2
Bread/bread alternate	1	1	2	1
Number of Days with Other Food Bars (Unweighted)	28	42	99	169

SOURCE: Menu data from the School Nutrition Dietary Assessment study, based on one week of school menus from a nationally representative sample of schools, collected from February to May 1992.

NOTE: Only schools serving NSLP lunches are included in this table. Other food bars include potato bars, taco bars, deli bars, and miscellaneous food bars. Items served as toppings (such as grated cheese, onions, or croutons) are not included in these tabulations. The averages in the category "Mean Number of Items Served" include values of zero for food bars that do not serve the items listed in the table.

week in 15 percent of schools (and most commonly, every day of the week). Eleven percent of schools offer other types of self-serve food bars, such as potato bars and deli bars, but only 2 percent of schools offer them daily.

The availability of self-serve food bars increases with grade level. Only 7 percent of elementary schools offer salad bars, compared with 29 percent of middle schools, and with 37 percent of high schools. Elementary schools that offer salad bars are less likely than middle and high schools to offer them every day. The pattern for other food bars is similar.

Salad bars typically offer meat and bread in addition to vegetables and fruits. A meat or meat alternate is offered by 78 percent of salad bars, and a bread or bread alternate by 80 percent. Salad bars offer an average of two entree choices, seven vegetable/fruit choices, and one bread/bread alternate choice, as well as toppings and salad dressings. Other types of food bars are less likely to offer all of the required meal components and tend to offer fewer food choices in each component.

3. Availability of Raw Vegetables and Fresh Fruits

Raw vegetables and fresh fruits are particularly good sources of vitamins, minerals, and fiber and contain essentially no fat. Most schools (95 percent) offer raw vegetables at least once each week, and 26 percent offer them daily (Table IV.8). Many (71 percent) offer fresh fruits at least once each week, but only 12 percent offer fresh fruits daily. Over the course of the school week, elementary schools offer raw vegetables and fresh fruits less frequently than do middle and high schools. Only 14 percent of elementary schools, compared with 48 percent of middle schools and 56 percent of high schools, offer raw vegetables daily. Only 6 percent of elementary schools, compared with 26 percent of middle schools and 25 percent of high schools, offer fresh fruits daily. These differences partly reflect the greater prevalence of salad bars in middle and high schools.

TABLE IV.8

AVAILABILITY OF RAW VEGETABLES AND FRESH FRUITS IN NSLP LUNCHES
(Percentage of Schools)

	Elementary Schools	Middle Schools	High Schools	All Schools
Number of Days on Which Raw Vegetables Are Offered				
None	7	1	1	5
1 or 2	41	19	22	35
3 or 4	37	32	21	34
5	14	48	56	26
Mean	3	4	4	3
Number of Days on Which Fresh Fruit Is Offered				
None	26	29	36	28
1 or 2	59	33	27	50
3 or 4	8	13	11	9
5	6	26	25	12
Mean	1	2	2	2
Number of Schools (Unweighted)	278	92	145	515

SOURCE: Menu data from the School Nutrition Dietary Assessment study, based on one week of school menus from a nationally representative sample of schools, collected from February to May 1992.

NOTE: Only schools serving NSLP lunches are included in this table.

D. FREQUENCY OF SELECTED FOOD ITEMS IN NSLP LUNCHES

To provide insight into current menu-planning practices, the study analyzed how frequently schools offer specific foods. This analysis tabulates the frequencies in NSLP lunches of common types of entrees, bread and bread alternates, fruits, and vegetables.

The categories used to define specific foods or groups of foods were constructed in such a way as to reflect substantive differences among foods, and to enable the more common foods to be differentiated (that is, infrequently offered items were grouped together). Categories for entrees distinguish between meats served with bread and those served without bread; many meat-entree categories also distinguish between entrees served with, and without, cheese. (Appendix A provides additional details on how the categories were defined.) Table IV.9 shows the percentage of days on which the most common foods are offered. (More detailed data are presented in Appendix C.)

1. Entrees

The five most frequently offered entrees are (1) hamburgers (on 15 percent of days); (2) pizza with meat (13 percent); (3) peanut butter sandwiches (11 percent); (4) hot dogs (10 percent); and pizza without meat (8 percent).⁸ Hamburgers would be counted as offered on a higher percentage of days if cheeseburgers, which are served on 8 percent of days, were included in the category. Hot dogs would rank higher if corndogs, served on 4 percent of days, were included. All of these entrees are rich in nutrients, but are relatively high in fat, largely because they contain cheese, high-fat meat, or peanut butter. The most frequently offered entrees are served much more often at the middle and high school levels than at the elementary school level.⁹

⁸All tabulations in this section refer to items served as part of NSLP lunches, except that entrees served in salad bars were not counted in the frequency computation (breads, vegetables, and fruits served in salad bars were counted). A la carte items were not included unless they also were available as part of a reimbursable NSLP lunch.

⁹Appendix Tables C.3 through C.3.C provide additional details on the frequency with which specific entrees are offered.

TABLE IV.9

MOST FREQUENTLY OFFERED FOODS IN NSLP LUNCHES
(Percentage of School Days on Which Item Is Offered)

Food	Elementary Schools	Middle Schools	High Schools	All Schools
Entrees				
Hamburger	11	26	23	15
Pizza with Meat	8	24	25	13
Peanut Butter Sandwich	11	13	14	11
Hot Dog	8	15	10	10
Pizza with No Meat	7	11	13	8
Breads/Bread Alternates				
Hamburger/Hot Dog Rolls	30	50	49	36
White Rolls	20	28	48	26
White Loaf Bread	26	24	23	25
Pizza Crust	14	30	34	19
Other White Bread	8	24	33	14
Vegetables				
Iceberg Lettuce	12	35	51	22
Raw Carrots	15	27	42	21
Pre-Mixed Green Salad	12	29	20	16
Raw Tomatoes	7	24	40	15
Fried French Fries	10	24	27	15
Fruits				
Fresh Apples	12	31	30	18
Canned Peaches	14	24	27	18
Fresh Oranges	13	25	26	17
Fruit Cocktail	11	22	27	15
Canned Pears	13	19	21	15
Milk				
Whole White	94	96	99	95
2% White	86	82	89	86
2% Chocolate	43	46	48	44
1% Chocolate	40	46	47	42
Skim White	25	29	46	29
Number of School Days (Unweighted)	1,359	441	706	2,506

SOURCE: Menu data from the School Nutrition Dietary Assessment study, based on one week of school menus from a nationally representative sample of schools, collected from February to May 1992.

NOTES: Only schools serving NSLP lunches are included in this table. Items served a la carte are not included unless they are also offered as part of the NSLP lunch. Only the five most frequently offered items under each meal component are listed in this table.

2. Breads

Not surprisingly, the most commonly offered breads are those associated with the most common entrees. Hamburger or hot dog buns are offered on 36 percent of days, and pizza crust is offered on 19 percent. White-loaf bread, white rolls, and other white breads (frequently served as part of sandwiches) are also common (served on 25 percent, 26 percent, and 14 percent of days, respectively). (Appendix Table C.4 provides additional details on the types of breads and bread alternates served.)

3. Vegetables

The most frequently offered vegetables are raw salad vegetables, which are widely available in salad bars, and deep-fried french fries (vegetables in entrees are not counted). These items are served most frequently at the middle and high school levels. Iceberg lettuce is offered on 22 percent of all days, and on 51 percent of days in high schools. Raw carrots are served on 21 percent of all days, and on 42 percent of days in high schools. Pre-mixed salad is served on 16 percent of all school days, and on 20 percent of days in high schools. Raw tomatoes are served on 15 percent of all school days, and on 40 percent of days in high schools. Deep-fried french fries are offered on 15 percent of all school days, and on 27 percent of days in high schools. (Appendix Table C.5 shows the frequency with which other types of vegetables are offered.)

4. Fruits

The list of the five most frequently offered fruits includes both fresh and canned fruits. Fresh apples are served on 18 percent of all days, canned peaches on 18 percent, fresh oranges on 17 percent, fruit cocktail on 15 percent, and canned pears on 15 percent. Orange juice, which ranks eighth, and apple juice, which ranks ninth, are offered on 10 percent and 8 percent of all days, respectively. Frozen or dried fruits are rarely served. (See Appendix Table C.6 for frequencies of other types of fruit.)

5. Milk

Schools are required to offer whole unflavored milk and low-fat unflavored milk in reimbursable lunches. Most schools appear to follow these rules. Whole milk is offered on 95 percent of days, 2 percent milk is offered on 86 percent, and skim milk is offered on 29 percent. Most schools also offer chocolate milk, which is almost always low fat. (Appendix Table C.7 provides full details on the types of milk offered.)