APPENDIX E

SUPPLEMENTAL TABLES FOR CHAPTER 5

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Table E.1. Average Calorie and Nutrient Content of National School Lunch Program Lunches *Offered*

	Elementary Schools	Middle Schools	High Schools	All Schools
Average Amount				
Calories	726	785	843	761
Macronutrients				
Total fat (g)	26	28	31	27
Saturated fat (g)	8	9	9	8
Monounsaturated fat (g)	9	10	11	10
Polyunsaturated fat (g)	7	7	8	7
Linoleic acid (g)	6	6	7	6
Alpha-linolenic acid (g)	0.6	0.8	0.9	0.7
Carbohydrate (g)	97	104	112	102
Protein (g)	30	32	34	31
Vitamins				
Vitamin A (mcg RE)	453	457	455	454
Vitamin A (mcg RAE)	333	339	342	336
Vitamin C (mg)	32	37	40	34
Vitamin E (mg AT)	2.8	2.9	3.2	2.9
Vitamin B_6 (mg)	0.6	0.6	0.6	0.6
Vitamin B_{12} (mcg)	1.7	1.8	1.9	1.8
Folate (mcg DFE)	151	169	183	161
Niacin (mg)	6	7	8	7
Riboflavin (mg)	0.9	0.9	1.0	0.9
Thiamin (mg)	0.5	0.6	0.6	0.6
Minerals				
Calcium (mg)	529	552	565	540
Iron (mg)	4.4	4.9	5.2	4.7
Magnesium (mg)	107	112	117	110
Phosphorus (mg)	575	603	626	590
Potassium (mg)	1,145	1,216	1,269	1,183
Sodium (mg)	1,395	1,545	1,651	1,474
Zinc (mg)	3.9	4.1	4.2	4.0
Other Dietary Components				
Cholesterol (mg)	56	62	66	59
Dietary fiber (g)	7	8	9	8
Dietary fiber (g/1,000 calories)	10	10	10	10
Average Percentage of Calories from:				
Total fat	31.9	32.0	32.6	32.1
Saturated fat	10.0	10.0	10.0	10.0
Monounsaturated fat	11.3	11.2	11.3	11.3
Polyunsaturated fat	8.1	8.3	8.8	8.3
Linoleic acid	7.2	7.3	7.7	7.4
Alpha-linolenic acid	0.8	0.9	0.9	0.8
Carbohydrate	53.6	53.3	53.1	53.4
Protein	16.7	16.7	16.3	16.6
Number of Schools	**318**	**287**	**279**	**884**

Source: School Nutrition Dietary Assessment Study-IV, Menu Survey, school year 2009-2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

AT = Alpha-tocopherol; DFE = Dietary folate equivalents; RE = Retinol equivalents; RAE = Retinol activity equivalents.

Table E.2. Average Calorie and Nutrient Content of National School Lunch Program Lunches *Offered*, Relative to SMI Nutrition Standards and Related Benchmarks

	Standard/ Recommendation	Elementary Schools	Middle Schools	High Schools	All Schools
Average Percentage of 1989 REA/RDA					
Calories	33%	36.9$^{\alpha}$	33.6	33.3$^{\gamma}$	35.6
Protein	33%	106.8$^{\alpha}$	72.2$^{\beta}$	67.9$^{\gamma}$	92.7
Vitamin A[a]	33%	70.0$^{\alpha}$	51.2	50.6$^{\gamma}$	62.7
Vitamin C	33%	69.7	74.5	69.1	70.4
Calcium	33%	63.5$^{\alpha}$	46.6	47.1$^{\gamma}$	57.1
Iron	33%	42.6$^{\alpha}$	36.7$^{\beta}$	38.7$^{\gamma}$	40.8
Average Percentage of Calories from:					
Total Fat	≤ 30%[b]	31.9	32.0	32.6	32.1
Saturated Fat	< 10%	10.0	10.0	10.0	10.0
Average Amount					
Cholesterol	< 100 mg[c,d]	56$^{\alpha}$	62$^{\beta}$	66$^{\gamma}$	59
Sodium	< 767 mg[c,d]	1,395$^{\alpha}$	1,545$^{\beta}$	1,651$^{\gamma}$	1,474
Dietary Fiber (g/1,000 calories)	14[c]	10	10	10	10
Number of Schools		**318**	**287**	**279**	**884**

Source: School Nutrition Dietary Assessment Study–IV, Menu Survey, school year 2009–2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

[a]In retinol equivalents (RE).
[b]The 2010 *Dietary Guidelines for Americans* recommendation for the percentage of calories from total fat is 25–35%.
[c]Based on the 2010 *Dietary Guidelines for Americans.*
[d]Benchmarks are one–third of suggested maximum daily intake.

RDA = Recommended Dietary Allowances; REA = Recommended Energy Allowance; SMI = School Meals Initiative for Healthy Children.

[α]Difference between elementary and middle schools is significantly different from zero at the .05 level.
[β]Difference between middle and high schools is significantly different from zero at the .05 level.
[γ]Difference between elementary and high schools is significantly different from zero at the .05 level.

Table E.3. Proportion of Schools *Offering* National School Lunch Program Lunches that Satisfied Each of the SMI Nutrition Standards and Related Benchmarks and Different Combinations of the Standards and Benchmarks

	Standard/ Recommendation	Elementary Schools	Middle Schools	High Schools	All Schools
SMI Nutrition Standards					
Calories	33% of 1989 REA	75.5$^{\alpha}$	46.5	46.8$^{\gamma}$	64.5
Protein	33% of 1989 RDA	>97	>97	>97	>97
Vitamin A[a]	33% of 1989 RDA	>97.0$^{\alpha}$	86.0	88.2$^{\gamma}$	93.5
Vitamin C	33% of 1989 RDA	82.7	88.3	90.4$^{\gamma}$	85.3
Calcium	33% of 1989 RDA	>97	>97	>97	>97
Iron	33% of 1989 RDA	92.7$^{\alpha}$	66.2$^{\beta}$	77.1$^{\gamma}$	84.8
Percentage of Calories from Total Fat	≤ 30%	35.1	36.3	32.9	34.9
Percentage of Calories from Saturated Fat	< 10%	49.6	52.3	56.0	51.4
Other Nutrition Benchmarks					
Percentage of Calories from Total Fat	25% – 35%[b]	70.2	71.4	70.2	70.4
Cholesterol	< 100 mg[b,c]	>97	>97	93$^{\gamma}$	98
Sodium	< 767 mg[b,c]	<3	<3	<3	<3
Dietary fiber (g/1,000 calories)	14[b]	3~	4~	4~	4
Combinations of Standards					
All SMI Standards		16.5	11.8	10.0$^{\gamma}$	14.3
SMI Standards for all RDA Nutrients[c]		76.1$^{\alpha}$	52.6$^{\beta}$	67.1$^{\gamma}$	70.1
SMI Standards for all RDA Nutrients[d] and SMI Standard for Saturated Fat		38.8	31.8$^{\beta}$	41.5	38.1
SMI Standards for all RDA Nutrients,[d] SMI Standard for Saturated Fat, and 2010 *Dietary Guidelines* Standard for Total Fat		31.4	27.7	34.5	31.4
Updated Standards for all RDA Nutrients,[e] SMI Standard for Saturated Fat, and 2010 *Dietary Guidelines* Standard for Total Fat		32.9	37.4$^{\beta}$	21.8$^{\gamma}$	31.4
Number of Schools		**318**	**287**	**279**	**884**

Source: School Nutrition Dietary Assessment Study–IV, Menu Survey, school year 2009–2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

[a]In Retinol equivalents (RE).
[b]Based on the 2010 *Dietary Guidelines* for Americans.
[c]Benchmarks are one-third of suggested maximum daily intake.

Table E.3 *(continued)*

[d]Includes protein, vitamin A, vitamin C, calcium and iron.
[e]Updated to reflect RDA values included in the Dietary Reference Intakes.

RDA = Recommended Dietary Allowances ; REA = Recommended Energy Allowance; SMI = School Meals Initiative for Healthy Children.

[α]Difference between elementary and middle schools is significantly different from zero at the .05 level.
[β]Difference between middle and high schools is significantly different from zero at the .05 level.
[γ]Difference between elementary and high schools is significantly different from zero at the .05 level.

~ Point estimate is considered less precise than estimates that are not flagged because the sample size is small or the coefficient of variation is large. The rules used in flagging estimates are described in Chapter 1. When these rules are applied, percentages close to 0 or 100 are often flagged. In this table, flagged percentages between 0 and 3 percent are displayed as <3 and flagged percentages between 97 and 100 percent are displayed as >97.

Table E.4. Proportion of Schools Meeting SMI Nutrition Standards and Related Nutrition Benchmarks, and Distribution of Schools Not Meeting Standards, National School Lunch Program Lunches *Offered*

Percent Meeting/Below/Above Standard	Standard/ Recommendation	Percentage of Schools			
		Elementary Schools	Middle Schools	High Schools	All Schools
SMI Nutrition Standards					
Calories	33% of 1989 REA				
Percent Meeting Standard		75.5[α]	46.5	46.8[γ]	64.5
Percent Below Standard					
>0 to ≤5%		7.6	13.8	13.3	9.9
>5 to ≤10%		8.2	13.2	10.5	9.6
>10 to ≤15%		4.7	16.4	12.1	8.3
>15 to ≤20%		2.6~	6.3	9.3	4.6
>20%		1.3~	3.9~	7.9	3.1~
Vitamin A	33% of 1989 RDA				
Percent Meeting Standard		97.4[α]~	86.0	88.2[γ]	93.5
Percent Below Standard					
>0 to ≤5%		0.6~	2.6~	3.1~	1.5
>5 to ≤10%		1.0~	4.5	2.7	2.0~
>10 to ≤15%		1.0~	0.1~	0.5~	0.7~
>15 to ≤20%		0.0~	2.8~	1.0~	0.7~
>20 to ≤25%		0.0~	1.6~	1.5~	0.6~
>25%		0.0~	2.4~	3.0~	1.0~
Vitamin C	33% of 1989 RDA				
Percent Meeting Standard		82.7	88.3	90.4[γ]	85.3
Percent Below Standard					
>0 to ≤5%		3.0~	1.6~	0.9~	2.3
>5 to ≤10%		2.6~	2.5~	0.1~	2.0
>10 to ≤15%		2.2~	0.3~	2.9~	2.0
>15 to ≤20%		1.7~	1.6~	0.1~	1.3~
>20 to ≤25%		1.5~	1.0~	1.5~	1.4~
>25%		6.5	4.7~	4.0~	5.7
Iron	33% of 1989 RDA				
Percent Meeting Standard		92.7[α]	66.2[β]	77.1[γ]	84.8
Percent Below Standard					
>0 to ≤5%		3.4~	11.6	8.7	5.9
>5 to ≤10%		1.8~	10.6	8.4	4.7
>10 to ≤15%		1.3~	5.7	2.5~	2.3
>15%		0.8~	5.9	3.4~	2.2~
Percentage of Calories from Total Fat	≤ 30%				
Percent Meeting Standard		35.1	36.3	32.9	34.9
Percent Above Standard					
>0 to ≤5%		14.9	15.9	15.2	15.1
>5 to ≤10%		10.4	9.6	9.1	10.0
>10 to ≤15%		11.3	13.6	13.4	12.1
>15 to ≤20%		11.8	5.3	6.7	9.6
>20 to ≤25%		4.3	8.3	8.9	5.9
>25%		12.3	10.9	13.8	12.2

Table E.4 *(continued)*

Percent Meeting/Below/Above Standard	Standard/ Recommendation	Percentage of Schools			
		Elementary Schools	Middle Schools	High Schools	All Schools
Percentage of Calories from Saturated Fat	< 10%				
Percent Meeting Standard		49.6	52.3	56.0	51.4
Percent Above Standard					
>0 to ≤5%		17.3	17.1	11.2	16.0
>5 to ≤10%		13.7	9.9	10.6	12.4
>10 to ≤15%		7.8	7.3	11.6	8.5
>15 to ≤20%		2.5~	3.6~	3.8~	3.0
>20 to ≤25%		2.7~	6.3	3.5~	3.5
>25 to ≤50%		5.5	2.5~	2.2~	4.3
>50%		1.0~	1.0~	1.1~	1.0~
Other Nutrition Benchmarks					
Percentage of Calories from Total Fat	25% – 35%[a]				
Percent Meeting Standard		70.2	71.4	70.2	70.4
Percent Above Standard					
>0 to ≤5%		10.5	8.0	6.1	9.1
>5 to ≤10%		5.3	6.6	11.7	6.9
>10 to ≤15%		3.0~	4.0~	3.6~	3.3
>15%		5.0~	4.6~	5.4	5.0
Percent Below Standard					
>0 to ≤5%		3.4~	4.2~	2.3~	3.3
>5%		2.6~	1.1~	0.7~	1.9~
Sodium	< 767 mg[a,b]				
Percent Meeting Standard		0.0~	0.0~	0.0~	0.0~
Percent Above Standard					
>0 to ≤25%		4.0~	1.0~	1.0~	2.7~
>25 to ≤50%		15.0	4.7	3.6	10.9
>50%		81.1	94.4	95.5	86.4
Dietary Fiber (g/1,000 calories)	14[a]				
Percent Meeting Standard		3.4~	4.3~	3.8~	3.6
Percent Below Standard					
>0 to ≤5%		3.5~	2.8~	4.5~	3.6
>5 to ≤10%		4.2	4.2~	4.8	4.3
>10 to ≤15%		5.2	6.7	5.4	5.5
>15 to ≤20%		6.2	11.0	6.1	7.0
>20 to ≤25%		15.4	10.3	14.1	14.3
>25 to ≤50%		59.2	58.5	59.5	59.2
>50%		2.8~	2.2~	1.8~	2.5
Number of Schools		**318**	**287**	**279**	**884**

Source: School Nutrition Dietary Assessment Study–IV, Menu Survey, school year 2009–2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

Note: Protein, calcium, and cholesterol are not included in the table because virtually all schools met the relevant standard/benchmark.

[a]Based on the 2010 *Dietary Guidelines for Americans*.
[b]Benchmarks are one–third of suggested maximum daily intake

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Table E.4 *(continued)*

RDA = Recommended Dietary Allowances; REA = Recommended Energy Allowance; SMI = School Meals Initiative for Healthy Children.

[α]Difference between elementary and middle schools is significantly different from zero at the .05 level.
[β]Difference between middle and high schools is significantly different from zero at the .05 level.
[γ]Difference between elementary and high schools is significantly different from zero at the .05 level.

~ Point estimate is considered less precise than estimates that are not flagged because the sample size is small or the coefficient of variation is large. The rules used in flagging estimates are described in Chapter 1. When these rules are applied, percentages close to 0 or 100 are often flagged. In this table, flagged percentages between 0 and 3 percent are displayed as <3 and flagged percentages between 97 and 100 percent are displayed as >97.

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Table E.5. Average Calorie and Nutrient Content of National School Lunch Program Lunches *Served*

	Elementary Schools	Middle Schools	High Schools	All Schools
Average Amount				
Calories	661	683	730	679
Macronutrients				
Total fat (g)	23	25	27	24
Saturated fat (g)	7	8	8	8
Monounsaturated fat (g)	8	9	10	9
Polyunsaturated fat (g)	6	6	7	6
Linoleic acid (g)	5	5	6	5
Alpha-linolenic acid (g)	0.6	0.6	0.8	0.6
Carbohydrate (g)	88	89	94	89
Protein (g)	28	29	30	29
Vitamins				
Vitamin A (mcg RE)	351	309	336	340
Vitamin A (mcg RAE)	279	255	273	273
Vitamin C (mg)	23	23	25	23
Vitamin E (mg AT)	2.3	2.3	2.6	2.4
Vitamin B_6 (mg)	0.5	0.5	0.5	0.5
Vitamin B_{12} (mcg)	1.6	1.6	1.7	1.6
Folate (mcg DFE)	130	139	148	136
Niacin (mg)	6	6	7	6
Riboflavin (mg)	0.8	0.8	0.8	0.8
Thiamin (mg)	0.5	0.5	0.5	0.5
Minerals				
Calcium (mg)	481	470	489	481
Iron (mg)	4.2	4.4	4.7	4.3
Magnesium (mg)	96	95	100	97
Phosphorus (mg)	534	529	550	536
Potassium (mg)	1,018	1,003	1,067	1,025
Sodium (mg)	1,324	1,392	1,515	1,375
Zinc (mg)	3.6	3.7	3.8	3.7
Other Dietary Components				
Cholesterol (mg)	54	54	58	55
Dietary fiber (g)	6	6	7	6
Dietary fiber (g/1,000 calories)	9	9	9	9
Average Percentage of Calories from:				
Total fat	31.5	32.4	33.5	32.1
Saturated fat	10.1	10.2	10.3	10.1
Monounsaturated fat	11.2	11.5	11.8	11.4
Polyunsaturated fat	7.7	8.0	8.7	8.0
Linoleic acid	6.8	7.0	7.7	7.0
Alpha-linolenic acid	0.8	0.8	0.9	0.8
Carbohydrate	53.3	52.2	51.4	52.7
Protein	17.1	17.0	16.8	17.0
Number of Schools	**317**	**285**	**278**	**880**

Source: School Nutrition Dietary Assessment Study-IV, Menu Survey, school year 2009-2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

AT = Alpha-tocopherol; DFE = Dietary folate equivalents; RE = Retinol equivalents; RAE = Retinol activity equivalents.

Table E.6. Average Calorie and Nutrient Content of National School Lunch Program Lunches *Served*, Relative to SMI Nutrition Standards and Related Benchmarks

	Standard/ Recommendation	Elementary Schools	Middle Schools	High Schools	All Schools
Average Percentage of 1989 REA/RDA					
Calories	33%	33.6$^{\alpha}$	29.2	28.9$^{\gamma}$	31.9
Protein	33%	100.0$^{\alpha}$	64.3$^{\beta}$	60.7$^{\gamma}$	85.6
Vitamin A[a]	33%	54.1$^{\alpha}$	34.6$^{\beta}$	37.3$^{\gamma}$	47.2
Vitamin C	33%	49.5	46.0	44.4$^{\gamma}$	47.9
Calcium	33%	57.7$^{\alpha}$	39.7	40.8$^{\gamma}$	51.1
Iron	33%	40.3$^{\alpha}$	33.2$^{\beta}$	34.5$^{\gamma}$	37.8
Average Percentage of Calories from:					
Total Fat	≤ 30%[b]	31.5$^{\alpha}$	32.4$^{\beta}$	33.5$^{\gamma}$	32.1
Saturated Fat	< 10%	10.1	10.2	10.3	10.1
Average Amount					
Cholesterol	< 100 mg[c,d]	54	54$^{\beta}$	58$^{\gamma}$	55
Sodium	< 767 mg[c,d]	1,324$^{\alpha}$	1,392$^{\beta}$	1,515$^{\gamma}$	1,375
Dietary Fiber (g/ 1,000 calories)	14[c]	9$^{\alpha}$	9	9$^{\gamma}$	9
Number of Schools		**317**	**285**	**278**	**880**

Source: School Nutrition Dietary Assessment Study–IV, Menu Survey, school year 2009–2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

[a]In retinol equivalents (RE).
[b]The 2010 *Dietary Guidelines for Americans* recommendation for the percentage of calories from total fat is 25–35%.
[c]Based on the 2010 *Dietary Guidelines for Americans.*
[d]Benchmarks are one-third of suggested maximum daily intake.

RDA = Recommended Dietary Allowances; REA = Recommended Energy Allowance; SMI = School Meals Initiative for Healthy Children.

[α]Difference between elementary and middle schools is significantly different from zero at the .05 level.
[β]Difference between middle and high schools is significantly different from zero at the .05 level.
[γ]Difference between elementary and high schools is significantly different from zero at the .05 level.

Table E.7. Proportion of Schools *Serving* National School Lunch Program Lunches that Satisfied Each of the SMI Nutrition Standards and Related Benchmarks and Different Combinations of the Standards and Benchmarks

	Standard/ Recommendation	Elementary Schools	Middle Schools	High Schools	All Schools
SMI Nutrition Standards					
Calories	33% of 1989 REA	49.2$^{\alpha}$	20.8	22.3$^{\gamma}$	38.7
Protein	33% of 1989 RDA	>97	>97	>97	>97
Vitamin A[a]	33% of 1989 RDA	89.5$^{\alpha}$	52.9	54.8$^{\gamma}$	75.9
Vitamin C	33% of 1989 RDA	70.7	63.4	62.4$^{\gamma}$	67.7
Calcium	33% of 1989 RDA	>97$^{\alpha}$	82.7	86.2$^{\gamma}$	93.8
Iron	33% of 1989 RDA	87.8$^{\alpha}$	47.0$^{\beta}$	60.2$^{\gamma}$	74.9
Percentage of Calories from Total Fat	≤ 30%	38.8$^{\alpha}$	30.1	23.3$^{\gamma}$	34.1
Percentage of Calories from Saturated Fat	< 10%	53.0	45.8	45.9	50.3
Other Nutrition Benchmarks					
Percentage of Calories from Total Fat	25% – 35%[b]	76.6	68.4	62.0$^{\gamma}$	72.2
Cholesterol	< 100 mg[b,c]	>97	>97	>97	>97
Sodium	< 767 mg[b,c]	<3	<3	<3	<3
Dietary fiber (g/1,000 calories)	14[b]	<3	<3	<3	<3
Combinations of Standards					
All SMI Standards		8.7$^{\alpha}$	3.6~	<3$^{\gamma}$	6.5
SMI Standards for all RDA Nutrients[c]		58.5$^{\alpha}$	17.6$^{\beta}$	29.3$^{\gamma}$	45.2
SMI Standards for all RDA Nutrients[d] and SMI Standard for Saturated Fat		29.9$^{\alpha}$	9.6	14.4$^{\gamma}$	23.1
SMI Standards for all RDA Nutrients,[d] SMI Standard for Saturated Fat, and 2010 *Dietary Guidelines* Standard for Total Fat		24.3$^{\alpha}$	7.4	9.6$^{\gamma}$	18.3
Updated Standards for all RDA Nutrients,[e] SMI Standard for Saturated Fat, and 2010 *Dietary Guidelines* Standard for Total Fat		23.2$^{\alpha}$	12.3$^{\beta}$	3.9$^{\gamma}$~	17.3
Number of Schools		**317**	**285**	**278**	**880**

Source: School Nutrition Dietary Assessment Study–IV, Menu Survey, school year 2009–2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

[a]In retinol equivalents (RE).
[b]Based on the 2010 *Dietary Guidelines for Americans*.
[c]Benchmarks are one-third of suggested maximum daily intake.

Table E.7 *(continued)*

[d]Includes protein, vitamin A, vitamin C, calcium and iron.
[e]Updated to reflect RDA values included in the Dietary Reference Intakes.

RDA = Recommended Dietary Allowances; REA = Recommended Energy Allowance; SMI = School Meals Initiative for Healthy Children.

[α]Difference between elementary and middle schools is significantly different from zero at the .05 level.
[β]Difference between middle and high schools is significantly different from zero at the .05 level.
[γ]Difference between elementary and high schools is significantly different from zero at the .05 level.

~ Point estimate is considered less precise than estimates that are not flagged because the sample size is small or the coefficient of variation is large. The rules used in flagging estimates are described in Chapter 1. When these rules are applied, percentages close to 0 or 100 are often flagged. In this table, flagged percentages between 0 and 3 percent are displayed as <3 and flagged percentages between 97 and 100 percent are displayed as >97.

Table E.8. Proportion of Schools Meeting SMI Nutrition Standards and Related Nutrition Benchmarks, and Distribution of Schools Not Meeting Standards, National School Lunch Program Lunches *Served*

Percent Meeting/Below/Above Standard	Standard/ Recommendation	Percentage of Schools			
		Elementary Schools	Middle Schools	High Schools	All Schools
SMI Nutrition Standards					
Calories	33% of 1989 REA				
Percent Meeting Standard		49.2[α]	20.8	22.3[γ]	38.7
Percent Below Standard					
>0 to ≤5%		14.9	9.9	6.0[γ]	12.2
>5 to ≤10%		14.5	13.5	9.7	13.4
>10 to ≤15%		9.7	14.2	12.3	11.0
>15 to ≤20%		4.7	13.4	15.6	8.5
>20 to ≤25%		3.3~	12.2	14.4	7.2
>25%		3.6~	16.1	19.6	9.1
Vitamin A	33% of 1989 RDA				
Percent Meeting Standard		89.5[α]	52.9	54.8[γ]	75.9
Percent Below Standard					
>0 to ≤5%		3.4~	4.9	5.4	4.1
>5 to ≤10%		3.3~	7.0	8.4	5.0
>10 to ≤15%		2.9~	6.2	5.2	3.9
>15 to ≤20%		0.0~	5.9	4.9	2.0
>20 to ≤25%		0.0~	7.5	7.2	2.8
>25 to ≤50%		1.0~	13.8	11.8	5.5
>50%		0.0~	1.9~	2.3~	0.8~
Vitamin C	33% of 1989 RDA				
Percent Meeting Standard		70.7	63.4	62.4[γ]	67.7
Percent Below Standard					
>0 to ≤5%		3.7~	3.9~	7.1	4.4
>5 to ≤10%		3.4~	3.9~	1.9~	3.2
>10 to ≤15%		1.7~	5.6	4.5~	3.0
>15 to ≤20%		5.0	3.1~	2.6~	4.2
>20 to ≤25%		2.5~	3.6~	2.6~	2.7
>25 to ≤50%		10.0	13.2	15.5	11.7
>50%		3.0~	3.4~	3.5~	3.1
Calcium	33% of 1989 RDA				
Percent Meeting Standard		99.6[α]~	82.7	86.2[γ]	93.8
Percent Below Standard					
>0 to ≤5%		0.0~	5.9	2.6~	1.6
>5 to ≤10%		0.2~	4.3~	4.5~	1.8
>10 to ≤15%		0.2~	3.9~	0.8~	1.0~
>15 to ≤20%		0.0~	1.0~	1.8~	0.6~
>20%		0.0~	2.2~	4.1~	1.2~
Iron	33% of 1989 RDA				
Percent Meeting Standard		87.8[α]	47.0[β]	60.2[γ]	74.9
Percent Below Standard					
>0 to ≤5%		5.4	11.5	12.5	8.0
>5 to ≤10%		2.2~	15.4	6.9	5.5
>10 to ≤15%		1.7~	9.0	7.1	4.1
>15 to ≤20%		1.2~	8.1	5.6	3.3
>20%		1.4~	8.9	7.7	4.2

Table E.8 *(continued)*

Percent Above/Below Standard	Standard/ Recommendation	Percentage of Schools: Elementary Schools	Middle Schools	High Schools	All Schools
Percentage of Calories from Total Fat	≤ 30%				
Percent Meeting Standard		38.8[α]	30.1	23.3[γ]	34.1
Percent Above Standard					
>0 to ≤5%		16.4	18.9	17.4	17.1
>5 to ≤10%		14.0	9.8	7.4	11.9
>10 to ≤15%		10.5	10.8	13.3	11.1
>15 to ≤20%		6.6	8.5	9.7	7.6
>20 to ≤25%		3.6~	9.2	9.6	5.8
>25%		10.0	12.8	19.3	12.4
Percentage of Calories from Saturated Fat	< 10%				
Percent Meeting Standard		53.0	45.8	45.9	50.3
Percent Above Standard					
>0 to ≤5%		11.6	13.5	13.1	12.3
>5 to ≤10%		14.1	11.5	13.6	13.5
>10 to ≤15%		7.0	12.0	6.7	7.8
>15 to ≤20%		5.0	7.8	10.5	6.7
>20 to ≤25%		2.8~	2.7~	6.0	3.4
>25%		6.5	6.7	4.2~	6.1
Other Nutrition Benchmarks					
Percentage of Calories from Total Fat	25% – 35%[a]				
Percent Meeting Standard		76.6	68.4	62.0[γ]	72.2
Percent Above Standard					
>0 to ≤5%		6.2	9.2	12.2	8.0
>5 to ≤10%		4.4	6.9	10.6	6.1
>10 to ≤15%		3.7~	4.9	6.8	4.6
>15 to ≤20%		0.6~	2.1~	4.9	1.8
>20 to ≤25%		0.6~	2.4~	1.1~	1.0~
>25%		2.0~	1.3~	1.4~	1.7
Percent Below Standard		5.9	4.9	1.1~	4.7
Sodium	< 767 mg[a,b]				
Percent Meeting Standard		1.0~	0.8~	0.3~	0.8~
Percent Above Standard					
>0 to ≤25%		5.2	1.8~	2.9~	4.1
>25 to ≤50%		20.8	16.2	9.0	17.6
>50%		72.9	81.2	87.9	77.5
Dietary Fiber (g/1,000 calories)	14[a]				
Percent Meeting Standard		1.4~	0.4~	0.3~	1.0~
Percent Below Standard					
>0 to ≤10%		2.3~	0.8~	1.6~	1.9
>5 to ≤10%		2.4~	1.2~	1.3~	2.0
>10 to ≤15%		2.0~	1.5~	1.4~	1.8
>15 to ≤20%		5.8	4.3~	4.2~	5.2
>20 to ≤25%		8.9	7.3	8.9	8.6
>25 to ≤50%		72.7	78.9	73.7	74.0
>50%		4.4	5.7	8.5	5.5
Number of Schools		**317**	**285**	**278**	**880**

Table E.8 *(continued)*

Source: School Nutrition Dietary Assessment Study–IV, Menu Survey, school year 2009–2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

[a]Based on the 2010 *Dietary Guidelines for Americans*.
[b]Benchmarks are one-third of suggested maximum daily intake.

RDA = Recommended Dietary Allowances; REA = Recommended Energy Allowance; SMI = School Meals Initiative for Healthy Children.

[α]Difference between elementary and middle schools is significantly different from zero at the .05 level.
[β]Difference between middle and high schools is significantly different from zero at the .05 level.
[γ]Difference between elementary and high schools is significantly different from zero at the .05 level.

~ Point estimate is considered less precise than estimates that are not flagged because the sample size is small or the coefficient of variation is large. The rules used in flagging estimates are described in Chapter 1. When these rules are applied, percentages close to 0 or 100 are often flagged. In this table, flagged percentages between 0 and 3 percent are displayed as <3 and flagged percentages between 97 and 100 percent are displayed as >97.

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Table E.9. Average and Distribution of Calories and Nutrients in National School Lunch Program Lunches *Offered* to Students in Elementary Schools

			Percentiles						
	Average	SE	5th	10th	25th	50th	75th	90th	95th
Calories	726	7.3	563	584	651	713	785	869	948
Macronutrients									
Total fat (g)	26	0.4	17	18	21	26	29	34	38
Saturated fat (g)	8	0.1	5	6	7	8	9	11	11
Monounsaturated fat (g)	9	0.1	6	6	7	9	11	13	14
Polyunsaturated fat (g)	7	0.1	3	4	5	6	8	10	11
Linoleic acid (g)	6	0.1	3	3	4	6	7	8	9
Alpha–linolenic acid (g)	0.6	0.02	0.3	0.4	0.5	0.6	0.8	1.0	1.2
Carbohydrate (g)	97	1.2	72	78	86	94	106	120	131
Protein (g)	30	0.2	25	26	28	30	32	34	35
Vitamins									
Vitamin A (mcg RE)	453	12.6	234	260	322	417	535	643	796
Vitamin A (mcg RAE)	333	6.6	209	232	268	317	377	442	511
Vitamin C (mg)	32	1.1	11	13	18	28	41	54	62
Vitamin E (mg AT)	2.8	0.05	1.5	1.8	2.1	2.7	3.3	3.8	4.2
Vitamin B_6 (mg)	0.6	0.01	0.4	0.4	0.5	0.5	0.6	0.7	0.7
Vitamin B_{12} (mcg)	1.7	0.02	1.3	1.4	1.5	1.7	1.8	2.0	2.2
Folate (mcg)	122	1.6	88	92	105	118	136	156	169
Folate (mcg DFE)	151	2.3	103	111	128	146	169	194	220
Niacin (mg)	6	0.1	5	5	6	6	7	8	8
Riboflavin (mg)	0.9	0.01	0.8	0.8	0.8	0.9	0.9	1.0	1.0
Thiamin (mg)	0.5	0.01	0.4	0.4	0.5	0.5	0.6	0.7	0.7
Minerals									
Calcium (mg)	529	4.2	441	452	481	522	570	619	652
Iron (mg)	4.4	0.05	3.2	3.4	3.8	4.3	4.7	5.4	5.9
Magnesium (mg)	107	1.0	82	88	97	104	118	126	134
Phosphorus (mg)	575	3.8	487	499	534	572	608	649	668
Potassium (mg)	1,145	10.7	890	951	1,031	1,137	1,221	1,343	1,445
Sodium (mg)	1,395	17.8	976	1,088	1,191	1,371	1,512	1,763	1,946
Zinc (mg)	3.9	0.04	3.1	3.2	3.4	3.8	4.1	4.6	5.0
Other Components									
Cholesterol (mg)	56	1.0	34	37	45	54	64	75	86
Dietary fiber (g)	7	0.1	5	5	6	7	8	9	11

Table E.9 *(continued)*

	Average	SE	Percentiles						
			5th	10th	25th	50th	75th	90th	95th
Percentage of Calories from:									
Total fat	31.9	0.30	24.7	25.9	28.8	31.4	34.8	38.3	40.1
Saturated fat	10.0	0.10	7.7	8.3	9.0	10.0	10.8	11.6	13.0
Monosaturated fat	11.3	0.12	8.3	8.9	10.1	11.1	12.4	13.7	14.9
Polyunsaturated fat	8.1	0.13	5.2	5.5	6.5	7.8	9.5	11.2	12.0
Linoleic acid	7.2	0.12	4.6	4.8	5.8	7.0	8.4	10.0	10.8
Alpha-linolenic acid	0.8	0.02	0.5	0.5	0.6	0.7	0.9	1.2	1.3
Carbohydrate	53.6	0.30	44.7	47.4	50.6	53.9	56.6	59.4	61.2
Protein	16.7	0.11	13.6	14.6	15.4	16.6	17.8	19.2	19.9
Number of Schools	**318**								

Source: School Nutrition Dietary Assessment Study-IV, Menu Survey, school year 2009-2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

AT = Alpha-tocopherol; DFE = Dietary folate equivalents; RE = Retinol equivalents; RAE = Retinol activity equivalents; SE = Standard error.

Table E.10. Average and Distribution of Calories and Nutrients in National School Lunch Program Lunches *Offered* to Students in Middle Schools

			Percentiles						
	Average	SE	5th	10th	25th	50th	75th	90th	95th
Calories	785	9.7	633	652	691	759	840	957	1,014
Macronutrients									
Total fat (g)	28	0.6	19	20	23	26	31	37	41
Saturated fat (g)	9	0.1	6	7	7	8	10	11	12
Monounsaturated fat (g)	10	0.2	7	7	8	9	11	13	14
Polyunsaturated fat (g)	7	0.3	4	4	6	7	8	10	12
Linoleic acid (g)	6	0.2	3	4	5	6	7	9	11
Alpha-linolenic acid (g)	0.8	0.03	0.4	0.4	0.5	0.7	0.9	1.1	1.3
Carbohydrate (g)	104	1.4	78	83	91	102	115	127	136
Protein (g)	32	0.3	28	28	30	32	34	37	39
Vitamins									
Vitamin A (mcg RE)	457	11.4	236	273	334	444	531	664	759
Vitamin A (mcg RAE)	339	6.0	221	247	278	331	389	451	479
Vitamin C (mg)	37	1.6	12	15	22	35	46	62	72
Vitamin E (mg AT)	2.9	0.08	1.8	1.9	2.3	2.7	3.3	4.0	4.4
Vitamin B_6 (mg)	0.6	0.01	0.5	0.5	0.5	0.6	0.6	0.7	0.8
Vitamin B_{12} (mcg)	1.8	0.03	1.5	1.5	1.7	1.8	1.9	2.1	2.2
Folate (mcg)	135	2.2	99	103	117	130	148	166	188
Folate (mcg DFE)	169	3.1	118	125	145	162	184	211	236
Niacin (mg)	7	0.1	5	6	6	7	8	9	9
Riboflavin (mg)	0.9	0.01	0.8	0.8	0.9	0.9	1.0	1.1	1.1
Thiamin (mg)	0.6	0.01	0.4	0.5	0.5	0.6	0.7	0.7	0.8
Minerals									
Calcium (mg)	552	5.1	459	481	504	541	583	629	684
Iron (mg)	4.9	0.07	3.7	3.9	4.2	4.8	5.3	5.8	6.6
Magnesium (mg)	112	1.2	90	93	100	110	120	132	143
Phosphorus (mg)	603	5.3	519	536	551	592	635	666	738
Potassium (mg)	1,216	13.4	983	1,029	1,097	1,186	1,280	1,420	1,577
Sodium (mg)	1,545	24.6	1,123	1,190	1,317	1,485	1,680	1,896	2,124
Zinc (mg)	4.1	0.05	3.4	3.5	3.7	4.0	4.4	4.8	5.5
Other Components									
Cholesterol (mg)	62	1.1	42	46	52	61	71	82	87
Dietary fiber (g)	8	0.1	6	6	7	8	9	10	11

Table E.10 *(continued)*

	Average	SE	Percentiles						
			5th	10th	25th	50th	75th	90th	95th
Percentage of Calories from:									
Total fat	32.0	0.40	24.7	26.4	28.5	31.2	34.3	38.2	40.0
Saturated fat	10.0	0.11	8.0	8.3	9.0	9.9	10.8	12.0	12.2
Monosaturated fat	11.2	0.15	8.4	9.0	10.0	10.9	12.2	13.6	14.9
Polyunsaturated fat	8.3	0.19	5.0	5.6	6.8	7.8	9.3	10.8	12.8
Linoleic acid	7.3	0.17	4.5	5.0	6.0	6.9	8.2	9.5	11.4
Alpha-linolenic acid	0.9	0.02	0.5	0.5	0.7	0.8	1.0	1.2	1.4
Carbohydrate	53.3	0.40	44.2	47.4	50.2	53.3	56.5	59.7	60.4
Protein	16.7	0.13	13.7	14.3	15.7	16.8	17.9	18.7	19.5
Number of Schools	**287**								

Source: School Nutrition Dietary Assessment Study–IV, Menu Survey, school year 2009–2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

AT = Alpha-tocopherol; DFE = Dietary folate equivalents; RE = Retinol equivalents; RAE = Retinol activity equivalents; SE = Standard error.

Table E.11. Average and Distribution of Calories and Nutrients in National School Lunch Program Lunches *Offered* to Students in High Schools

			Percentiles						
	Average	SE	5th	10th	25th	50th	75th	90th	95th
Calories	843	12.5	632	673	734	820	932	1,041	1,106
Macronutrients									
Total fat (g)	31	0.6	20	22	25	29	35	41	46
Saturated fat (g)	9	0.2	7	7	8	9	10	12	14
Monounsaturated fat (g)	11	0.2	7	7	9	10	12	14	15
Polyunsaturated fat (g)	8	0.2	4	5	6	8	10	12	14
Linoleic acid (g)	7	0.2	4	4	6	7	9	11	12
Alpha-linolenic acid (g)	0.9	0.03	0.4	0.5	0.6	0.8	1.0	1.4	1.7
Carbohydrate (g)	112	1.8	82	86	95	109	126	144	149
Protein (g)	34	0.4	28	29	31	33	35	39	41
Vitamins									
Vitamin A (mcg RE)	455	11.9	245	286	342	430	546	661	776
Vitamin A (mcg RAE)	342	6.4	233	250	281	331	387	450	522
Vitamin C (mg)	40	1.7	15	19	26	35	47	67	80
Vitamin E (mg AT)	3.2	0.07	1.8	2.1	2.5	3.1	3.7	4.3	4.9
Vitamin B_6 (mg)	0.6	0.01	0.5	0.5	0.6	0.6	0.7	0.8	0.9
Vitamin B_{12} (mcg)	1.9	0.08	1.5	1.6	1.7	1.8	2.0	2.1	2.5
Folate (mcg)	146	2.5	103	111	124	142	159	178	199
Folate (mcg DFE)	183	3.7	126	135	152	175	203	237	258
Niacin (mg)	8	0.1	6	6	7	7	8	9	10
Riboflavin (mg)	1.0	0.01	0.8	0.8	0.9	0.9	1.0	1.1	1.2
Thiamin (mg)	0.6	0.01	0.4	0.5	0.5	0.6	0.7	0.8	0.8
Minerals									
Calcium (mg)	565	5.9	464	475	510	558	615	651	682
Iron (mg)	5.2	0.08	3.9	4.1	4.5	5.0	5.7	6.6	6.7
Magnesium (mg)	117	1.8	90	94	102	115	128	141	148
Phosphorus (mg)	626	8.6	524	541	572	614	661	736	781
Potassium (mg)	1,269	19.8	975	1,014	1,128	1,237	1,361	1,524	1,649
Sodium (mg)	1,651	30.8	1,162	1,262	1,413	1,598	1,832	2,070	2,377
Zinc (mg)	4.2	0.07	3.3	3.5	3.8	4.1	4.5	5.1	5.7
Other Components									
Cholesterol (mg)	66	1.6	44	48	55	64	72	85	105
Dietary fiber (g)	9	0.2	6	6	7	8	10	11	12

Table E.11 *(continued)*

	Average	SE	Percentiles						
			5th	10th	25th	50th	75th	90th	95th
Percentage of Calories from:									
Total fat	32.6	0.34	25.8	27.2	29.7	31.8	35.6	38.1	40.6
Saturated fat	10.0	0.10	7.9	8.3	9.0	9.8	10.8	11.5	12.3
Monosaturated fat	11.3	0.14	8.7	9.2	10.2	11.2	12.2	13.6	14.7
Polyunsaturated fat	8.8	0.17	5.5	6.1	7.0	8.5	9.9	12.0	13.7
Linoleic acid	7.7	0.15	4.8	5.4	6.2	7.5	8.8	10.5	12.1
Alpha-linolenic acid	0.9	0.02	0.5	0.6	0.7	0.9	1.1	1.3	1.5
Carbohydrate	53.1	0.33	44.9	46.6	50.4	53.3	56.2	58.5	60.8
Protein	16.3	0.14	13.2	14.0	15.1	16.2	17.4	18.6	19.5
Number of Schools	**279**								

Source: School Nutrition Dietary Assessment Study-IV, Menu Survey, school year 2009-2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

AT = Alpha-tocopherol; DFE = Dietary folate equivalents; RE = Retinol equivalents; RAE = Retinol activity equivalents; SE = Standard error.

Table E.12. Average and Distribution of Calories and Nutrients in National School Lunch Program Lunches *Offered* to Students in All Schools

			Percentiles						
	Average	SE	5th	10th	25th	50th	75th	90th	95th
Calories	761	6.8	576	606	667	738	825	937	1,018
Macronutrients									
Total fat (g)	27	0.4	18	19	22	26	31	37	40
Saturated fat (g)	8	0.1	6	6	7	8	10	11	12
Monounsaturated fat (g)	10	0.1	6	7	8	9	11	13	14
Polyunsaturated fat (g)	7	0.1	4	4	5	7	8	10	12
Linoleic acid (g)	6	0.1	3	4	5	6	7	9	11
Alpha–linolenic acid (g)	0.7	0.02	0.3	0.4	0.5	0.7	0.9	1.1	1.3
Carbohydrate (g)	102	1.0	74	80	88	98	112	127	141
Protein (g)	31	0.2	26	26	28	31	33	36	38
Vitamins									
Vitamin A (mcg RE)	454	9.4	235	272	329	420	536	657	787
Vitamin A (mcg RAE)	336	4.9	214	237	274	321	379	450	513
Vitamin C (mg)	34	1.0	11	14	20	32	43	58	72
Vitamin E (mg AT)	2.9	0.05	1.7	1.8	2.2	2.8	3.4	3.9	4.4
Vitamin B_6 (mg)	0.6	0.01	0.4	0.5	0.5	0.6	0.6	0.7	0.8
Vitamin B_{12} (mcg)	1.8	0.02	1.4	1.5	1.6	1.7	1.9	2.1	2.2
Folate (mcg)	129	1.4	90	97	109	125	143	166	180
Folate (mcg DFE)	161	2.0	107	117	134	154	178	212	230
Niacin (mg)	7	0.1	5	5	6	7	8	8	9
Riboflavin (mg)	0.9	0.01	0.8	0.8	0.8	0.9	1.0	1.0	1.1
Thiamin (mg)	0.6	0.01	0.4	0.4	0.5	0.5	0.6	0.7	0.8
Minerals									
Calcium (mg)	540	3.4	446	460	490	531	579	632	656
Iron (mg)	4.7	0.05	3.4	3.6	4.1	4.5	5.1	5.8	6.3
Magnesium (mg)	110	0.9	85	90	98	108	120	132	140
Phosphorus (mg)	590	3.6	494	511	543	582	627	665	715
Potassium (mg)	1,183	9.6	918	977	1,060	1,161	1,275	1,404	1,531
Sodium (mg)	1,474	16.4	1,061	1,121	1,258	1,430	1,638	1,882	2,057
Zinc (mg)	4.0	0.04	3.2	3.3	3.5	3.9	4.3	4.8	5.2
Other Components									
Cholesterol (mg)	59	0.8	36	40	48	57	67	78	89
Dietary fiber (g)	8	0.1	5	5	6	7	9	10	11

Table E.12 *(continued)*

	Average	SE	Percentiles						
			5th	10th	25th	50th	75th	90th	95th
Percentage of Calories from:									
Total fat	32.1	0.25	25.0	26.4	28.9	31.5	34.8	38.3	40.3
Saturated fat	10.0	0.08	7.8	8.3	9.0	9.9	10.8	11.7	12.6
Monosaturated fat	11.3	0.09	8.4	9.0	10.1	11.1	12.4	13.7	14.9
Polyunsaturated fat	8.3	0.12	5.2	5.6	6.6	8.0	9.6	11.3	12.5
Linoleic acid	7.4	0.10	4.6	4.9	5.9	7.0	8.5	10.1	11.0
Alpha-linolenic acid	0.8	0.02	0.5	0.5	0.6	0.8	1.0	1.2	1.3
Carbohydrate	53.4	0.25	44.8	47.4	50.5	53.7	56.5	59.4	60.9
Protein	16.6	0.09	13.6	14.4	15.4	16.6	17.7	19.1	19.8
Number of Schools	**884**								

Source: School Nutrition Dietary Assessment Study-IV, Menu Survey, school year 2009-2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

AT = Alpha-tocopherol; DFE = Dietary folate equivalents; RE = Retinol equivalents; RAE = Retinol activity equivalents; SE = Standard error.

Table E.13. Average and Distribution of Calories and Nutrients in National School Lunch Program Lunches *Served* to Students in Elementary Schools

			Percentiles						
	Average	SE	5th	10th	25th	50th	75th	90th	95th
Calories	661	6.5	505	533	587	654	721	793	846
Macronutrients									
Total fat (g)	23	0.4	16	17	19	22	26	31	34
Saturated fat (g)	7	0.1	5	5	6	7	9	10	11
Monounsaturated fat (g)	8	0.1	5	6	7	8	9	11	13
Polyunsaturated fat (g)	6	0.1	3	3	4	5	7	9	9
Linoleic acid (g)	5	0.1	3	3	4	5	6	8	8
Alpha-linolenic acid (g)	0.6	0.02	0.3	0.3	0.4	0.5	0.7	0.9	1.0
Carbohydrate (g)	88	0.9	66	70	78	87	96	103	112
Protein (g)	28	0.2	23	24	26	27	30	33	35
Vitamins									
Vitamin A (mcg RE)	351	7.3	197	214	263	329	421	511	581
Vitamin A (mcg RAE)	279	4.2	183	204	233	270	314	375	406
Vitamin C (mg)	23	0.8	9	11	14	21	27	37	45
Vitamin E (mg AT)	2.3	0.04	1.4	1.5	1.8	2.1	2.7	3.2	3.6
Vitamin B_6 (mg)	0.5	0.01	0.4	0.4	0.4	0.5	0.5	0.6	0.6
Vitamin B_{12} (mcg)	1.6	0.02	1.2	1.3	1.4	1.6	1.8	2.0	2.1
Folate (mcg)	104	1.2	73	80	90	103	115	126	134
Folate (mcg DFE)	130	1.6	90	98	112	129	146	162	173
Niacin (mg)	6	0.1	5	5	5	6	6	7	8
Riboflavin (mg)	0.8	0.01	0.6	0.7	0.7	0.8	0.9	0.9	1.0
Thiamin (mg)	0.5	0.01	0.3	0.4	0.4	0.5	0.5	0.6	0.7
Minerals									
Calcium (mg)	481	4.9	365	400	439	475	521	563	606
Iron (mg)	4.2	0.04	3.1	3.3	3.7	4.1	4.6	5.0	5.3
Magnesium (mg)	96	0.9	75	80	86	93	106	116	121
Phosphorus (mg)	534	4.6	422	458	490	519	572	629	654
Potassium (mg)	1,018	9.9	785	827	908	1,004	1,112	1,202	1,250
Sodium (mg)	1,324	17.3	943	1,004	1,129	1,302	1,447	1,728	1,885
Zinc (mg)	3.6	0.04	2.8	2.9	3.2	3.6	3.9	4.6	5.0
Other Components									
Cholesterol (mg)	54	0.9	36	39	44	51	60	68	78
Dietary fiber (g)	6	0.1	4	5	5	6	7	8	9

Table E.13 *(continued)*

	Average	SE	Percentiles						
			5th	10th	25th	50th	75th	90th	95th
Percentage of Calories from:									
Total fat	31.5	0.29	24.4	26.3	28.9	31.1	33.6	37.2	39.2
Saturated fat	10.1	0.10	7.9	8.3	9.0	9.9	10.8	11.8	12.7
Monosaturated fat	11.2	0.10	8.7	9.3	10.1	11.1	12.0	13.1	14.0
Polyunsaturated fat	7.7	0.14	4.9	5.3	6.2	7.4	8.7	10.5	11.7
Linoleic acid	6.8	0.12	4.3	4.7	5.5	6.5	7.7	9.4	10.4
Alpha-linolenic acid	0.8	0.02	0.5	0.5	0.6	0.7	0.9	1.1	1.3
Carbohydrate	53.3	0.29	45.2	47.8	50.7	53.5	56.2	58.8	59.8
Protein	17.1	0.10	14.4	15.3	16.0	17.1	18.2	19.3	20.0
Number of Schools	**317**								

Source: School Nutrition Dietary Assessment Study-IV, Menu Survey, school year 2009-2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

AT = Alpha-tocopherol; DFE = Dietary folate equivalents; RE = Retinol equivalents; RAE = Retinol activity equivalents; SE = Standard error.

Table E.14. Average and Distribution of Calories and Nutrients in National School Lunch Program Lunches *Served* to Students in Middle Schools

			Percentiles						
	Average	SE	5th	10th	25th	50th	75th	90th	95th
Calories	683	9.4	486	529	607	681	750	841	892
Macronutrients									
Total fat (g)	25	0.5	16	18	21	24	28	33	37
Saturated fat (g)	8	0.1	5	6	6	7	9	10	11
Monounsaturated fat (g)	9	0.2	6	6	7	8	10	12	13
Polyunsaturated fat (g)	6	0.2	4	4	5	6	7	9	11
Linoleic acid (g)	5	0.2	3	3	4	5	6	8	9
Alpha-linolenic acid (g)	0.6	0.02	0.3	0.4	0.5	0.6	0.8	1.0	1.2
Carbohydrate (g)	89	1.3	60	69	77	88	100	111	117
Protein (g)	29	0.3	22	24	26	29	31	34	35
Vitamins									
Vitamin A (mcg RE)	309	6.8	194	210	244	302	352	413	492
Vitamin A (mcg RAE)	255	4.1	172	189	214	253	290	327	361
Vitamin C (mg)	23	1.0	9	11	14	20	28	42	49
Vitamin E (mg AT)	2.3	0.06	1.4	1.5	1.8	2.2	2.7	3.3	3.8
Vitamin B_6 (mg)	0.5	0.01	0.3	0.4	0.4	0.5	0.6	0.6	0.7
Vitamin B_{12} (mcg)	1.6	0.03	1.0	1.1	1.3	1.5	1.8	2.0	2.1
Folate (mcg)	109	1.5	81	87	96	105	121	134	145
Folate (mcg DFE)	139	2.0	101	108	122	133	156	172	185
Niacin (mg)	6	0.1	5	5	6	6	7	8	8
Riboflavin (mg)	0.8	0.01	0.6	0.6	0.7	0.8	0.9	1.0	1.0
Thiamin (mg)	0.5	0.01	0.4	0.4	0.4	0.5	0.6	0.6	0.7
Minerals									
Calcium (mg)	470	6.4	344	372	414	465	522	567	616
Iron (mg)	4.4	0.06	3.4	3.6	3.9	4.3	4.8	5.4	5.7
Magnesium (mg)	95	1.3	71	76	84	93	107	118	122
Phosphorus (mg)	529	6.6	398	420	479	523	578	635	665
Potassium (mg)	1,003	12.9	717	789	888	987	1,110	1,232	1,303
Sodium (mg)	1,392	22.2	978	1,027	1,181	1,371	1,554	1,790	1,993
Zinc (mg)	3.7	0.06	2.7	2.9	3.2	3.6	4.0	4.7	5.0
Other Components									
Cholesterol (mg)	54	0.9	37	42	46	53	61	69	75
Dietary fiber (g)	6	0.1	4	5	5	6	7	8	9

Table E.14 *(continued)*

	Average	SE	Percentiles						
			5th	10th	25th	50th	75th	90th	95th
Percentage of Calories from:									
Total fat	32.4	0.39	25.0	26.6	29.3	31.7	35.5	38.7	40.9
Saturated fat	10.2	0.12	8.0	8.4	9.2	10.1	11.1	11.8	12.7
Monosaturated fat	11.5	0.14	8.9	9.3	10.3	11.3	12.5	13.5	14.7
Polyunsaturated fat	8.0	0.18	4.9	5.4	6.3	7.5	9.4	10.8	11.7
Linoleic acid	7.0	0.16	4.3	4.8	5.5	6.6	8.3	9.5	10.2
Alpha-linolenic acid	0.8	0.02	0.5	0.5	0.6	0.8	1.0	1.2	1.4
Carbohydrate	52.2	0.36	44.2	46.0	49.0	52.7	55.3	57.9	59.4
Protein	17.0	0.13	14.2	14.9	15.8	17.0	18.2	19.1	19.9
Number of Schools	**285**								

Source: School Nutrition Dietary Assessment Study-IV, Menu Survey, school year 2009-2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

AT = Alpha-tocopherol; DFE = Dietary folate equivalents; RE = Retinol equivalents; RAE = Retinol activity equivalents; SE = Standard error.

Table E.15. Average and Distribution of Calories and Nutrients in National School Lunch Program Lunches *Served* to Students in High Schools

			Percentiles						
	Average	SE	5th	10th	25th	50th	75th	90th	95th
Calories	730	10.7	517	557	654	712	825	923	963
Macronutrients									
Total fat (g)	27	0.5	18	19	22	26	32	37	40
Saturated fat (g)	8	0.2	6	6	7	8	9	11	12
Monounsaturated fat (g)	10	0.2	6	7	8	9	11	13	14
Polyunsaturated fat (g)	7	0.2	3	4	5	7	8	11	12
Linoleic acid (g)	6	0.2	3	4	5	6	7	10	10
Alpha-linolenic acid (g)	0.8	0.02	0.3	0.4	0.6	0.7	0.9	1.2	1.4
Carbohydrate (g)	94	1.5	65	71	83	91	105	121	127
Protein (g)	30	0.4	24	25	28	30	32	36	40
Vitamins									
Vitamin A (mcg RE)	336	9.7	183	206	248	306	391	494	634
Vitamin A (mcg RAE)	273	5.9	165	187	220	260	318	372	419
Vitamin C (mg)	25	1.0	10	12	16	22	31	44	54
Vitamin E (mg AT)	2.6	0.07	1.3	1.6	2.1	2.6	3.0	3.8	4.1
Vitamin B_6 (mg)	0.5	0.01	0.4	0.4	0.5	0.5	0.6	0.7	0.7
Vitamin B_{12} (mcg)	1.7	0.06	1.1	1.2	1.4	1.6	1.8	2.1	2.5
Folate (mcg)	116	1.6	84	88	101	113	131	143	155
Folate (mcg DFE)	148	2.2	103	110	126	146	167	184	206
Niacin (mg)	7	0.1	5	5	6	7	7	8	9
Riboflavin (mg)	0.8	0.01	0.6	0.7	0.7	0.8	0.9	1.0	1.1
Thiamin (mg)	0.5	0.01	0.4	0.4	0.5	0.5	0.6	0.7	0.7
Minerals									
Calcium (mg)	489	8.5	327	373	428	482	545	637	659
Iron (mg)	4.7	0.06	3.4	3.7	4.2	4.6	5.1	5.8	6.0
Magnesium (mg)	100	1.5	74	80	87	97	112	123	130
Phosphorus (mg)	550	8.2	406	434	488	541	606	674	705
Potassium (mg)	1,067	21.4	735	806	929	1,044	1,198	1,324	1,434
Sodium (mg)	1,515	25.4	1,001	1,124	1,267	1,466	1,738	1,984	2,064
Zinc (mg)	3.8	0.06	2.8	2.9	3.2	3.7	4.1	4.9	5.1
Other Components									
Cholesterol (mg)	58	1.2	39	43	49	56	65	76	82
Dietary fiber (g)	7	0.1	4	5	6	6	8	9	9

Table E.15 *(continued)*

	Average	SE	Percentiles						
			5th	10th	25th	50th	75th	90th	95th
Percentage of Calories from:									
Total fat	33.5	0.34	26.6	28.3	30.3	33.3	36.6	39.1	41.2
Saturated fat	10.3	0.10	8.1	8.7	9.3	10.1	11.2	12.0	12.3
Monosaturated fat	11.8	0.14	8.9	9.5	10.6	11.8	12.8	13.9	14.8
Polyunsaturated fat	8.7	0.19	5.4	5.9	6.9	8.3	10.1	12.4	13.0
Linoleic acid	7.7	0.17	4.7	5.2	6.0	7.2	9.0	11.0	11.4
Alpha-linolenic acid	0.9	0.02	0.5	0.6	0.7	0.9	1.1	1.4	1.5
Carbohydrate	51.4	0.29	45.4	46.3	48.6	51.5	54.0	55.9	58.4
Protein	16.8	0.15	13.3	14.2	15.5	17.0	18.0	19.0	20.0
Number of Schools	**278**								

Source: School Nutrition Dietary Assessment Study-IV, Menu Survey, school year 2009-2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

AT = Alpha-tocopherol; DFE = Dietary folate equivalents; RE = Retinol equivalents; RAE = Retinol activity equivalents; SE = Standard error.

Table E.16. Average and Distribution of Calories and Nutrients in National School Lunch Program Lunches *Served* to Students in All Schools

			Percentiles						
	Average	SE	5th	10th	25th	50th	75th	90th	95th
Calories	679	5.8	511	538	599	665	738	832	905
Macronutrients									
Total fat (g)	24	0.3	16	18	20	23	28	33	37
Saturated fat (g)	8	0.1	5	6	6	7	9	10	11
Monounsaturated fat (g)	9	0.1	5	6	7	8	10	12	13
Polyunsaturated fat (g)	6	0.1	3	4	5	6	7	9	11
Linoleic acid (g)	5	0.1	3	3	4	5	6	8	10
Alpha-linolenic acid (g)	0.6	0.01	0.3	0.3	0.4	0.6	0.7	1.0	1.2
Carbohydrate (g)	89	0.8	66	70	79	88	98	110	118
Protein (g)	29	0.2	23	24	26	28	31	34	36
Vitamins									
Vitamin A (mcg RE)	340	5.6	193	210	256	320	404	496	581
Vitamin A (mcg RAE)	273	3.2	176	198	227	264	311	362	404
Vitamin C (mg)	23	0.6	9	11	14	21	28	39	47
Vitamin E (mg AT)	2.4	0.04	1.4	1.5	1.8	2.2	2.8	3.3	3.8
Vitamin B_6 (mg)	0.5	0.00	0.4	0.4	0.4	0.5	0.6	0.6	0.7
Vitamin B_{12} (mcg)	1.6	0.02	1.1	1.2	1.4	1.6	1.8	2.0	2.1
Folate (mcg)	107	1.0	77	82	93	106	120	133	144
Folate (mcg DFE)	136	1.3	94	101	115	133	152	170	184
Niacin (mg)	6	0.1	5	5	5	6	7	7	8
Riboflavin (mg)	0.8	0.01	0.6	0.7	0.7	0.8	0.9	1.0	1.0
Thiamin (mg)	0.5	0.01	0.3	0.4	0.4	0.5	0.6	0.6	0.7
Minerals									
Calcium (mg)	481	3.9	355	390	435	475	525	570	637
Iron (mg)	4.3	0.04	3.2	3.4	3.8	4.2	4.7	5.2	5.7
Magnesium (mg)	97	0.8	74	79	86	94	107	119	124
Phosphorus (mg)	536	3.9	413	447	489	524	578	636	668
Potassium (mg)	1,025	9.0	771	810	906	1,013	1,124	1,233	1,314
Sodium (mg)	1,375	15.0	957	1,023	1,168	1,340	1,523	1,808	1,987
Zinc (mg)	3.7	0.04	2.8	2.9	3.2	3.6	4.0	4.6	5.0
Other Components									
Cholesterol (mg)	55	0.7	37	40	46	52	61	71	78
Dietary fiber (g)	6	0.1	4	5	5	6	7	8	9

Table E.16 *(continued)*

	Average	SE	Percentiles						
			5th	10th	25th	50th	75th	90th	95th
Percentage of Calories from:									
Total fat	32.1	0.24	25.1	26.6	29.2	31.4	34.7	38.2	40.0
Saturated fat	10.1	0.08	8.0	8.4	9.1	10.0	11.0	11.9	12.7
Monosaturated fat	11.4	0.08	8.7	9.3	10.3	11.2	12.3	13.5	14.4
Polyunsaturated fat	8.0	0.12	5.0	5.4	6.4	7.6	9.3	11.2	12.4
Linoleic acid	7.0	0.10	4.4	4.8	5.6	6.7	8.1	9.8	11.0
Alpha-linolenic acid	0.8	0.01	0.5	0.5	0.6	0.7	1.0	1.2	1.4
Carbohydrate	52.7	0.23	45.2	47.0	50.0	53.0	55.6	58.5	59.6
Protein	17.0	0.09	14.2	15.0	15.8	17.0	18.1	19.2	19.9
Number of Schools	**880**								

Source: School Nutrition Dietary Assessment Study-IV, Menu Survey, school year 2009-2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

AT = Alpha-tocopherol; DFE = Dietary folate equivalents; RE = Retinol equivalents; RAE = Retinol activity equivalents; SE = Standard error.

Table E.17. Average and Distribution of Nutrients per 1,000 Calories in National School Lunch Program Lunches *Offered* to Students in Elementary Schools

			Reference Standard[a]		Percentiles per 1,000 Calories						
	Average per 1,000 Calories	SE	Ages 4 – 8 Males/ Females	Ages 9 – 13 Males/ Females	5th	10th	25th	50th	75th	90th	95th
Macronutrients											
Total fat (g)	35	0.3	n.a.	n.a.	27	29	32	35	39	43	45
Saturated fat (g)	11	0.1	n.a.	n.a.	9	9	10	11	12	13	14
Monounsaturated fat (g)	13	0.1	n.a.	n.a.	9	10	11	12	14	15	17
Polyunsaturated fat (g)	9	0.1	n.a.	n.a.	6	6	7	9	11	12	13
Linoleic acid (g)[b]	8	0.1	6	6	5	5	6	8	9	11	12
Alpha-linolenic acid (g)[b]	0.9	0.02	0.5	0.6	0.5	0.6	0.7	0.8	1.0	1.3	1.5
Carbohydrate (g)[c]	134	0.8	76	68	112	119	126	135	141	148	153
Protein (g)[c]	42	0.3	11	18	34	36	38	42	45	48	50
Vitamins											
Vitamin A (mcg RE)[c]	625	14.9	n.a.	n.a.	321	365	454	580	733	931	1,037
Vitamin A (mcg RAE)[c]	462	7.8	235	316	291	323	377	445	521	619	680
Vitamin C (mg)[c]	44	1.4	15	24	15	18	25	40	58	74	85
Vitamin E (mg AT)[c]	3.8	0.06	4	6	2.5	2.7	3.1	3.7	4.3	5.0	5.5
Vitamin B_6 (mg)[c]	0.8	0.01	0.4	0.5	0.6	0.6	0.7	0.8	0.8	0.9	1.0
Vitamin B_{12} (mcg)[c]	2.4	0.03	0.7	0.9	1.8	1.9	2.1	2.3	2.6	3.0	3.2
Folate (mcg)[c]	169	1.7	n.a.	n.a.	129	137	150	168	181	195	205
Folate (mcg DFE)[c]	208	2.5	118	158	157	164	184	206	227	244	257
Niacin (mg)[c]	9	0.1	5	6	7	7	8	9	10	11	11
Riboflavin (mg)[c]	1.2	0.01	0.4	0.5	1.0	1.1	1.1	1.2	1.3	1.4	1.4
Thiamin (mg)[c]	0.7	0.01	0.4	0.5	0.6	0.6	0.6	0.7	0.8	0.9	0.9
Minerals											
Calcium (mg)[c]	739	6.5	588	684	581	614	664	730	807	873	915
Iron (mg)[c]	6.1	0.05	6	4	5.1	5.2	5.5	6.0	6.5	6.9	7.4
Magnesium (mg)[c]	149	1.3	76	126	123	128	137	148	158	170	184
Phosphorus (mg)[c]	801	5.5	294	658	662	693	742	794	862	914	956
Potassium (mg)[b]	1,590	10.9	2235	2368	1,293	1,347	1,476	1,590	1,709	1,809	1,867
Sodium (mg)[d]	1,930	19.3	< 1118	< 1158	1,475	1,574	1,690	1,918	2,099	2,314	2,477
Zinc (mg)[c]	5.4	0.05	3	4	4.4	4.6	4.8	5.2	5.8	6.4	7.0
Other Components											
Cholesterol (mg)[e]	78	1.3	< 176	< 158	48	52	64	74	88	100	118
Dietary fiber (g)[f]	10	0.1	14	14	7	8	9	10	11	13	14
Number of Schools	**318**										

Table E.17 *(continued)*

Source: School Nutrition Dietary Assessment Study–IV, Menu Survey, school year 2009–2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

[a]The "per 1,000 calorie" reference standards are based on Dietary Reference Intakes and assume a 1,700 calorie diet for 4–8 year olds and a 1,900 calorie diet for 9–13 year olds. These calorie levels represent weighted averages for each age group, assuming an active level of physical activity for 4–8 year olds and a moderately active level of physical activity for 9–13 year olds (IOM 2010).
[b]Reference standards is based on the Adequate Intake (AI), Institute of Medicine, IOM. Dietary Reference intakes: The essential guide to nutrient requirements. Washington (DC): The National Academies Press; 2006.
[c]Reference standard is based on the Recommended Dietary Allowance (RDA), IOM. Dietary Reference intakes: The essential guide to nutrient requirements. Washington (DC): The National Academies Press; 2006.
[d]Reference standard is based on the Upper Limit (UL), *Dietary Guidelines*, 2010 recommendation
[e]Reference standard is based on the *Dietary Guidelines*, 2010 recommendation
[f]Reference standard is based on the *Dietary Guidelines*, 2005 recommendation.

n.a. = Not applicable; AT = Alpha–tocopherol; DFE = Dietary folate equivalents; RE = Retinol equivalents; RAE = Retinol activity equivalents; SE = Standard error.

Table E.18. Average and Distribution of Nutrients per 1,000 Calories in National School Lunch Program Lunches *Offered* to Students in Middle Schools

	Average per 1,000 Calories	SE	Reference Standard[a] Ages 9 – 13 Males/ Females	Percentiles per 1,000 Calories 5th	10th	25th	50th	75th	90th	95th
Macronutrients										
Total fat (g)	36	0.4	n.a.	27	29	32	35	38	42	44
Saturated fat (g)	11	0.1	n.a.	9	9	10	11	12	13	14
Monounsaturated fat (g)	12	0.2	n.a.	9	10	11	12	14	15	17
Polyunsaturated fat (g)	9	0.2	n.a.	6	6	8	9	10	12	14
Linoleic acid (g)[b]	8	0.2	6	5	6	7	8	9	11	13
Alpha-linolenic acid (g)[b]	1.0	0.03	0.6	0.5	0.6	0.7	0.9	1.1	1.3	1.5
Carbohydrate (g)[c]	133	1.0	68	111	118	126	133	141	149	151
Protein (g)[c]	42	0.3	18	34	36	39	42	45	47	49
Vitamins										
Vitamin A (mcg RE)[c]	590	15.3	n.a.	316	358	437	549	692	885	1,063
Vitamin A (mcg RAE)[c]	439	8.1	316	292	308	354	421	499	597	682
Vitamin C (mg)[c]	48	2.1	24	16	21	29	44	61	79	93
Vitamin E (mg AT)[c]	3.6	0.07	6	2.6	2.7	3.0	3.5	4.1	4.6	5.4
Vitamin B_6 (mg)[c]	0.8	0.01	0.5	0.6	0.6	0.7	0.8	0.8	0.9	0.9
Vitamin B_{12} (mcg)[c]	2.4	0.03	0.9	1.7	1.9	2.1	2.3	2.6	2.8	3.1
Folate (mcg)[c]	173	2.0	n.a.	133	143	155	170	187	208	215
Folate (mcg DFE)[c]	215	2.7	158	163	172	189	210	235	255	265
Niacin (mg)[c]	9	0.1	6	7	8	8	9	10	11	11
Riboflavin (mg)[c]	1.2	0.01	0.5	1.0	1.1	1.1	1.2	1.3	1.3	1.4
Thiamin (mg)[c]	0.8	0.01	0.5	0.6	0.6	0.7	0.7	0.8	0.9	0.9
Minerals										
Calcium (mg)[c]	713	6.9	684	556	599	641	710	776	836	876
Iron (mg)[c]	6.3	0.05	4	5.3	5.5	5.8	6.2	6.7	7.1	7.3
Magnesium (mg)[c]	143	1.2	126	118	122	131	143	156	166	172
Phosphorus (mg)[c]	779	6.1	658	634	668	728	779	827	889	921
Potassium (mg)[b]	1,564	14.4	2368	1,247	1,348	1,436	1,548	1,699	1,790	1,856
Sodium (mg)[d]	1,970	18.8	< 1158	1,584	1,653	1,794	1,953	2,130	2,331	2,411
Zinc (mg)[c]	5.3	0.06	4	4.2	4.5	4.9	5.3	5.6	6.2	6.9
Other Components										
Cholesterol (mg)[e]	80	1.4	< 158	57	60	66	78	92	102	112
Dietary fiber (g)[f]	10	0.1	14	7	8	9	10	11	13	14
Number of Schools	**287**									

Table E.18 *(continued)*

Source: School Nutrition Dietary Assessment Study–IV, Menu Survey, school year 2009–2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

[a]The "per 1,000 calorie" reference standards are based on Dietary Reference Intakes and assume a 1,900 calorie diet for 9–13 year olds. These calorie levels represent weighted averages for each age group, assuming a moderately active level of physical activity for 9–13 year olds (IOM 2010). Reference standards were the same for males and females ages 9–13 with the exception of Linoleic acid and Alpha–linolenic acid, in which case the average was used.
[b]Reference standards is based on the Adequate Intake (AI), Institute of Medicine, IOM. Dietary Reference intakes: The essential guide to nutrient requirements. Washington (DC): The National Academies Press; 2006.
[c]Reference standard is based on the Recommended Dietary Allowance (RDA), IOM. Dietary Reference intakes: The essential guide to nutrient requirements. Washington (DC): The National Academies Press; 2006.
[d]Reference standard is based on the Upper Limit (UL), *Dietary Guidelines*, 2010 recommendation
[e]Reference standard is based on the *Dietary Guidelines*, 2010 recommendation
[f]Reference standard is based on the *Dietary Guidelines*, 2005 recommendation.

n.a. = Not applicable; AT = Alpha–tocopherol; DFE = Dietary folate equivalents; RE = Retinol equivalents; RAE = Retinol activity equivalents; SE = Standard error.

Table E.19. Average and Distribution of Nutrients per 1,000 Calories in National School Lunch Program Lunches *Offered* to Students in High Schools

			Reference Standard[a]		Percentiles per 1,000 Calories						
	Average per 1,000 Calories	SE	Ages 14 – 18 Males	Ages 14 – 18 Females	5th	10th	25th	50th	75th	90th	95th
Macronutrients											
Total fat (g)	36	0.4	n.a.	n.a.	29	30	33	35	40	42	45
Saturated fat (g)	11	0.1	n.a.	n.a.	9	9	10	11	12	13	14
Monounsaturated fat (g)	13	0.2	n.a.	n.a.	10	10	11	12	14	15	16
Polyunsaturated fat (g)	10	0.2	n.a.	n.a.	6	7	8	9	11	13	15
Linoleic acid (g)[b]	9	0.2	6	6	5	6	7	8	10	12	13
Alpha-linolenic acid (g)[b]	1.0	0.03	0.6	0.6	0.6	0.6	0.8	1.0	1.2	1.5	1.6
Carbohydrate (g)[c]	133	0.8	50	65	112	116	126	133	141	146	152
Protein (g)[c]	41	0.4	20	23	33	35	38	41	43	46	49
Vitamins											
Vitamin A (mcg RE)[c]	548	15.8	n.a.	n.a.	318	344	408	505	640	800	964
Vitamin A (mcg RAE)[c]	412	8.5	346	350	275	303	340	384	465	541	655
Vitamin C (mg)[c]	47	1.7	29	33	18	23	33	43	57	75	90
Vitamin E (mg AT)[c]	3.8	0.06	6	8	2.7	2.8	3.1	3.6	4.2	4.8	5.3
Vitamin B_6 (mg)[c]	0.8	0.01	0.5	0.6	0.6	0.6	0.7	0.8	0.8	0.9	1.0
Vitamin B_{12} (mcg)[c]	2.3	0.06	0.9	1.2	1.7	1.8	2.0	2.2	2.5	2.9	3.1
Folate (mcg)[c]	173	2.2	n.a.	n.a.	133	141	154	171	189	205	215
Folate (mcg DFE)[c]	217	3.2	154	200	160	170	192	215	238	266	276
Niacin (mg)[c]	9	0.1	6	7	7	7	8	9	10	11	11
Riboflavin (mg)[c]	1.2	0.01	0.5	0.5	1.0	1.0	1.1	1.2	1.2	1.3	1.4
Thiamin (mg)[c]	0.8	0.01	0.5	0.5	0.6	0.6	0.7	0.8	0.8	0.9	1.0
Minerals											
Calcium (mg)[c]	681	6.3	500	650	554	571	617	673	728	806	844
Iron (mg)[c]	6.2	0.05	4	8	5.1	5.4	5.8	6.1	6.6	7.1	7.5
Magnesium (mg)[c]	140	1.6	158	180	111	117	126	138	151	166	176
Phosphorus (mg)[c]	752	6.4	481	625	619	648	692	744	806	861	895
Potassium (mg)[b]	1,521	16.3	1808	2350	1,212	1,244	1,380	1,531	1,654	1,731	1,829
Sodium (mg)[d]	1,963	21.4	< 885	< 1150	1,566	1,671	1,778	1,941	2,127	2,307	2,415
Zinc (mg)[c]	5.1	0.06	4	5	4.0	4.3	4.6	5.0	5.5	6.0	6.5
Other Components											
Cholesterol (mg)[e]	79	1.3	< 115	<150	54	58	67	76	90	100	111
Dietary fiber (g)[f]	10	0.2	14	14	7	8	9	10	11	13	14
Number of Schools	279										

Table E.19 *(continued)*

Source: School Nutrition Dietary Assessment Study–IV, Menu Survey, school year 2009–2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

[a]The "per 1,000 calorie" reference standards are based on Dietary Reference Intakes and assume a 2,600 calorie diet for 14–18 year old males and a 2,000 calorie diet for 14–18 year old females. These calorie levels represent weighted averages for each age group, assuming a moderately active level of physical activity for all 14–18 year olds (IOM 2010).
[b]Reference standards is based on the Adequate Intake (AI), Institute of Medicine, IOM. Dietary Reference intakes: The essential guide to nutrient requirements. Washington (DC): The National Academies Press; 2006.
[c]Reference standard is based on the Recommended Dietary Allowance (RDA), IOM. Dietary Reference intakes: The essential guide to nutrient requirements. Washington (DC): The National Academies Press; 2006.
[d]Reference standard is based on the Upper Limit (UL), *Dietary Guidelines*, 2010 recommendation
[e]Reference standard is based on the Dietary *Guidelines*, 2010 recommendation
[f]Reference standard is based on the *Dietary Guidelines*, 2005 recommendation.

n.a. = Not applicable; AT = Alpha-tocopherol; DFE = Dietary folate equivalents; RE = Retinol equivalents; RAE = Retinol activity equivalents; SE = Standard error.

Table E.20. Average and Distribution of Nutrients per 1,000 Calories in National School Lunch Program Lunches *Offered* to Students in All Schools

			Reference Standard[a]				Percentiles per 1,000 Calories						
	Average per 1,000 Calories	SE	Ages 4 – 8 Males/ Females	Ages 9 – 13 Males/ Females	Ages 14 – 18 Males	Ages 14 – 18 Females	5th	10th	25th	50th	75th	90th	95th
Macronutrients													
Total fat (g)	36	0.3	n.a.	n.a.	n.a.	n.a.	28	29	32	35	39	43	45
Saturated fat (g)	11	0.1	n.a.	n.a.	n.a.	n.a.	9	9	10	11	12	13	14
Monounsaturated fat (g)	13	0.1	n.a.	n.a.	n.a.	n.a.	9	10	11	12	14	15	17
Polyunsaturated fat (g)	9	0.1	n.a.	n.a.	n.a.	n.a.	6	6	7	9	11	13	14
Linoleic acid (g)[b]	8	0.1	6	6	6	6	5	5	7	8	9	11	12
Alpha-linolenic acid (g)[b]	0.9	0.02	0.5	0.6	0.6	0.6	0.5	0.6	0.7	0.9	1.1	1.4	1.5
Carbohydrate (g)[c]	134	0.6	76	68	50	65	112	118	126	134	141	148	152
Protein (g)[c]	42	0.2	11	18	20	23	34	36	38	42	44	48	49
Vitamins													
Vitamin A (mcg RE)[c]	603	11.6	n.a.	n.a.	n.a.	n.a.	320	360	437	564	713	879	1,029
Vitamin A (mcg RAE)[c]	447	6.1	235	316	346	350	289	313	359	427	508	602	670
Vitamin C (mg)[c]	45	1.2	15	24	29	33	15	20	27	41	58	76	87
Vitamin E (mg AT)[c]	3.7	0.05	4	6	6	8	2.5	2.7	3.1	3.6	4.2	5.0	5.4
Vitamin B_6 (mg)[c]	0.8	0.01	0.4	0.5	0.5	0.6	0.6	0.6	0.7	0.8	0.8	0.9	1.0
Vitamin B_{12} (mcg)[c]	2.4	0.03	0.7	0.9	0.9	1.2	1.7	1.9	2.1	2.3	2.6	2.9	3.2
Folate (mcg)[c]	170	1.4	n.a.	n.a.	n.a.	n.a.	130	140	152	169	184	198	213
Folate (mcg DFE)[c]	211	2.0	118	158	154	200	159	168	187	208	230	254	266
Niacin (mg)[c]	9	0.1	5	6	6	7	7	7	8	9	10	11	11
Riboflavin (mg)[c]	1.2	0.01	0.4	0.5	0.5	0.5	1.0	1.1	1.1	1.2	1.3	1.4	1.4
Thiamin (mg)[c]	0.7	0.01	0.4	0.5	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.9	0.9
Minerals													
Calcium (mg)[c]	723	5.0	588	684	500	650	573	604	649	710	789	860	905
Iron (mg)[c]	6.1	0.04	6	4	4	8	5.1	5.3	5.6	6.1	6.5	7.0	7.4
Magnesium (mg)[c]	146	1.0	76	126	158	180	119	124	134	145	157	169	181
Phosphorus (mg)[c]	787	4.5	294	658	481	625	643	679	728	780	843	905	931
Potassium (mg)[b]	1,571	9.0	2235	2368	1808	2350	1,268	1,333	1,453	1,573	1,699	1,798	1,851
Sodium (mg)[d]	1,944	15.0	< 1118	< 1158	< 885	< 1150	1,498	1,606	1,731	1,932	2,103	2,317	2,460
Zinc (mg)[c]	5.3	0.04	3	4	4	5	4.3	4.5	4.8	5.2	5.7	6.3	6.9
Other Components													
Cholesterol (mg)[e]	78	1.0	< 176	< 158	< 115	<150	50	56	65	75	89	101	114
Dietary fiber (g)[f]	10	0.1	14	14	14	14	7	8	9	10	11	13	14
Number of Schools	**884**												

Table E.20 *(continued)*

Source: School Nutrition Dietary Assessment Study–IV, Menu Survey, school year 2009–2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

[a]The "per 1,000 calorie" reference standards are based on Dietary Reference Intakes and assume a 2,600 calorie diet for 14–18 year old males and a 2,000 calorie diet for 14–18 year old females. These calorie levels represent weighted averages for each age group, assuming a moderately active level of physical activity for all 14–18 year olds (IOM 2010).
[b]Reference standards is based on the Adequate Intake (AI), Institute of Medicine, IOM. Dietary Reference intakes: The essential guide to nutrient requirements. Washington (DC): The National Academies Press; 2006.
[c]Reference standard is based on the Recommended Dietary Allowance (RDA), IOM. Dietary Reference intakes: The essential guide to nutrient requirements. Washington (DC): The National Academies Press; 2006.
[d]Reference standard is based on the Upper Limit (UL), *Dietary Guidelines*, 2010 recommendation
[e]Reference standard is based on the *Dietary Guidelines*, 2010 recommendation
[f]Reference standard is based on the *Dietary Guidelines*, 2005 recommendation.

n.a. = Not applicable; AT = Alpha-tocopherol; DFE = Dietary folate equivalents; RE = Retinol equivalents; RAE = Retinol activity equivalents; SE = Standard error.

Table E.21. Average and Distribution of Nutrients per 1,000 Calories in National School Lunch Program Lunches *Served* to Students in Elementary Schools

	Average per 1,000 Calories	SE	Reference Standard[a] Ages 4 – 8 Males/ Females	Reference Standard[a] Ages 9 – 13 Males/ Females	Percentiles per 1,000 Calories 5th	10th	25th	50th	75th	90th	95th
Macronutrients											
Total fat (g)	35	0.3	n.a.	n.a.	27	29	32	35	37	41	44
Saturated fat (g)	11	0.1	n.a.	n.a.	9	9	10	11	12	13	14
Monounsaturated fat (g)	12	0.1	n.a.	n.a.	10	10	11	12	13	15	16
Polyunsaturated fat (g)	9	0.2	n.a.	n.a.	5	6	7	8	10	12	13
Linoleic acid (g)[b]	8	0.1	6	6	5	5	6	7	9	10	12
Alpha-linolenic acid (g)[b]	0.9	0.02	0.5	0.6	0.5	0.6	0.6	0.8	1.0	1.3	1.4
Carbohydrate (g)[c]	133	0.7	76	68	113	119	127	134	140	147	149
Protein (g)[c]	43	0.3	11	18	36	38	40	43	46	48	50
Vitamins											
Vitamin A (mcg RE)[c]	533	10.1	n.a.	n.a.	331	352	407	502	638	766	819
Vitamin A (mcg RAE)[c]	424	5.6	235	316	302	320	360	408	472	544	575
Vitamin C (mg)[c]	34	1.1	15	24	13	16	23	30	43	57	64
Vitamin E (mg AT)[c]	3.4	0.05	4	6	2.3	2.5	2.9	3.4	3.9	4.3	4.7
Vitamin B_6 (mg)[c]	0.7	0.01	0.4	0.5	0.6	0.6	0.7	0.7	0.8	0.9	0.9
Vitamin B_{12} (mcg)[c]	2.4	0.03	0.7	0.9	1.9	1.9	2.2	2.4	2.7	3.0	3.2
Folate (mcg)[c]	158	1.4	n.a.	n.a.	124	130	143	155	172	186	196
Folate (mcg DFE)[c]	198	2.0	118	158	151	160	177	196	217	238	252
Niacin (mg)[c]	9	0.1	5	6	7	8	8	9	10	10	11
Riboflavin (mg)[c]	1.2	0.01	0.4	0.5	1.1	1.1	1.1	1.2	1.3	1.4	1.4
Thiamin (mg)[c]	0.7	0.01	0.4	0.5	0.6	0.6	0.7	0.7	0.8	0.9	0.9
Minerals											
Calcium (mg)[c]	735	6.1	588	684	590	616	669	728	801	856	893
Iron (mg)[c]	6.3	0.04	6	4	5.2	5.5	5.9	6.3	6.7	7.1	7.3
Magnesium (mg)[c]	147	1.1	76	126	122	127	137	146	157	168	174
Phosphorus (mg)[c]	815	5.2	294	658	667	712	762	821	869	918	947
Potassium (mg)[b]	1,549	9.7	2235	2368	1,271	1,347	1,454	1,547	1,651	1,732	1,788
Sodium (mg)[d]	2,003	16.6	< 1118	< 1158	1,610	1,688	1,818	1,960	2,158	2,383	2,481
Zinc (mg)[c]	5.5	0.05	3	4	4.4	4.7	5.1	5.4	6.0	6.4	7.0
Other Components											
Cholesterol (mg)[e]	82	1.2	< 176	< 158	59	63	70	78	88	104	115
Dietary fiber (g)[f]	9	0.1	14	14	7	8	8	9	10	12	13
Number of Schools	**317**										

Table E.21 *(continued)*

Source: School Nutrition Dietary Assessment Study–IV, Menu Survey, school year 2009–2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

[a]The "per 1,000 calorie" reference standards are based on Dietary Reference Intakes and assume a 1,700 calorie diet for 4–8 year olds and a 1,900 calorie diet for 9–13 year olds. These calorie levels represent weighted averages for each age group, assuming an active level of physical activity for 4–8 year olds and a moderately active level of physical activity for 9–13 year olds (IOM 2010).
[b]Reference standards is based on the Adequate Intake (AI), Institute of Medicine, IOM. Dietary Reference intakes: The essential guide to nutrient requirements. Washington (DC): The National Academies Press; 2006.
[c]Reference standard is based on the Recommended Dietary Allowance (RDA), IOM. Dietary Reference intakes: The essential guide to nutrient requirements. Washington (DC): The National Academies Press; 2006.
[d]Reference standard is based on the Upper Limit (UL), *Dietary Guidelines*, 2010 recommendation
[e]Reference standard is based on the *Dietary Guidelines*, 2010 recommendation
[f]Reference standard is based on the *Dietary Guidelines*, 2005 recommendation.

n.a. = Not applicable; AT = Alpha–tocopherol; DFE = Dietary folate equivalents; RE = Retinol equivalents; RAE = Retinol activity equivalents; SE = Standard error.

Table E.22. Average and Distribution of Nutrients per 1,000 Calories in National School Lunch Program Lunches *Served* to Students in Middle Schools

	Average per 1,000 Calories	SE	Reference Standard[a] Ages 9 – 13 Males/ Females	Percentiles per 1,000 Calories 5th	10th	25th	50th	75th	90th	95th
Macronutrients										
Total fat (g)	36	0.4	n.a.	28	30	33	35	39	43	45
Saturated fat (g)	11	0.1	n.a.	9	9	10	11	12	13	14
Monounsaturated fat (g)	13	0.2	n.a.	10	10	11	13	14	15	16
Polyunsaturated fat (g)	9	0.2	n.a.	5	6	7	8	10	12	13
Linoleic acid (g)[b]	8	0.2	6	5	5	6	7	9	11	11
Alpha-linolenic acid (g)[b]	0.9	0.02	0.6	0.5	0.6	0.7	0.9	1.1	1.4	1.5
Carbohydrate (g)[c]	130	0.9	68	111	115	123	132	138	145	149
Protein (g)[c]	43	0.3	18	36	37	40	43	45	48	50
Vitamins										
Vitamin A (mcg RE)[c]	457	10.7	n.a.	280	314	359	432	515	656	704
Vitamin A (mcg RAE)[c]	378	6.2	316	263	285	325	374	419	492	518
Vitamin C (mg)[c]	34	1.8	24	13	14	21	30	44	56	70
Vitamin E (mg AT)[c]	3.4	0.06	6	2.4	2.5	2.9	3.3	3.8	4.4	4.7
Vitamin B_6 (mg)[c]	0.7	0.01	0.5	0.6	0.6	0.7	0.7	0.8	0.9	0.9
Vitamin B_{12} (mcg)[c]	2.3	0.03	0.9	1.6	1.8	2.0	2.3	2.6	2.9	3.0
Folate (mcg)[c]	160	1.8	n.a.	128	134	142	158	173	190	204
Folate (mcg DFE)[c]	205	2.4	158	160	169	180	204	224	249	261
Niacin (mg)[c]	9	0.1	6	7	8	9	9	10	11	11
Riboflavin (mg)[c]	1.2	0.01	0.5	0.9	1.0	1.1	1.2	1.3	1.3	1.4
Thiamin (mg)[c]	0.8	0.01	0.5	0.6	0.6	0.7	0.8	0.8	0.9	0.9
Minerals										
Calcium (mg)[c]	696	7.4	684	520	557	632	697	756	822	872
Iron (mg)[c]	6.5	0.05	4	5.5	5.6	6.1	6.5	7.0	7.4	7.7
Magnesium (mg)[c]	141	1.4	126	113	119	127	140	152	165	175
Phosphorus (mg)[c]	783	6.3	658	636	668	722	782	831	901	928
Potassium (mg)[b]	1,479	15.3	2368	1,200	1,238	1,344	1,468	1,601	1,713	1,818
Sodium (mg)[d]	2,041	17.2	< 1158	1,638	1,750	1,880	2,023	2,213	2,373	2,435
Zinc (mg)[c]	5.4	0.06	4	4.2	4.6	4.9	5.3	5.8	6.4	6.9
Other Components										
Cholesterol (mg)[e]	80	1.0	< 158	58	64	71	79	88	99	108
Dietary fiber (g)[f]	9	0.1	14	7	7	8	9	10	11	12
Number of Schools	**285**									

Table E.22 *(continued)*

Source: School Nutrition Dietary Assessment Study–IV, Menu Survey, school year 2009–2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

[a]The "per 1,000 calorie" reference standards are based on Dietary Reference Intakes and assume a 1,900 calorie diet for 9–13 year olds. These calorie levels represent weighted averages for each age group, assuming a moderately active level of physical activity for 9–13 year olds (IOM 2010). Reference standards were the same for males and females ages 9–13 with the exception of Linoleic acid and Alpha–linolenic acid, in which case the average was used.
[b]Reference standards is based on the Adequate Intake (AI), Institute of Medicine, IOM. Dietary Reference intakes: The essential guide to nutrient requirements. Washington (DC): The National Academies Press; 2006.
[c]Reference standard is based on the Recommended Dietary Allowance (RDA), IOM. Dietary Reference intakes: The essential guide to nutrient requirements. Washington (DC): The National Academies Press; 2006.
[d]Reference standard is based on the Upper Limit (UL), *Dietary Guidelines*, 2010 recommendation
[e]Reference standard is based on the *Dietary Guidelines*, 2010 recommendation
[f]Reference standard is based on the *Dietary Guidelines*, 2005 recommendation.

n.a. = Not applicable; AT = Alpha–tocopherol; DFE = Dietary folate equivalents; RE = Retinol equivalents; RAE = Retinol activity equivalents; SE = Standard error.

Table E.23. Average and Distribution of Nutrients per 1,000 Calories in National School Lunch Program Lunches *Served* to Students in High Schools

			Reference Standard[a]		Percentiles per 1,000 Calories						
	Average per 1,000 Calories	SE	Ages 14 – 18 Males	Ages 14 – 18 Females	5th	10th	25th	50th	75th	90th	95th
Macronutrients											
Total fat (g)	37	0.4	n.a.	n.a.	30	31	34	37	41	43	46
Saturated fat (g)	11	0.1	n.a.	n.a.	9	10	10	11	12	13	14
Monounsaturated fat (g)	13	0.2	n.a.	n.a.	10	11	12	13	14	15	16
Polyunsaturated fat (g)	10	0.2	n.a.	n.a.	6	7	8	9	11	14	14
Linoleic acid (g)[b]	9	0.2	6	6	5	6	7	8	10	12	13
Alpha-linolenic acid (g)[b]	1.0	0.02	0.6	0.6	0.6	0.6	0.8	1.0	1.2	1.5	1.7
Carbohydrate (g)[c]	129	0.7	50	65	114	116	121	129	135	140	146
Protein (g)[c]	42	0.4	20	23	33	36	39	42	45	48	50
Vitamins											
Vitamin A (mcg RE)[c]	461	11.9	n.a.	n.a.	285	307	359	412	531	691	734
Vitamin A (mcg RAE)[c]	376	6.8	346	350	248	284	315	363	422	490	542
Vitamin C (mg)[c]	35	1.2	29	33	15	17	23	30	43	53	66
Vitamin E (mg AT)[c]	3.6	0.07	6	8	2.2	2.5	3.1	3.5	4.0	4.6	4.9
Vitamin B_6 (mg)[c]	0.7	0.01	0.5	0.6	0.6	0.6	0.7	0.7	0.8	0.9	1.0
Vitamin B_{12} (mcg)[c]	2.3	0.06	0.9	1.2	1.5	1.7	1.9	2.2	2.5	3.0	3.2
Folate (mcg)[c]	161	2.0	n.a.	n.a.	119	130	143	160	178	192	199
Folate (mcg DFE)[c]	205	2.9	154	200	151	161	181	204	226	249	270
Niacin (mg)[c]	9	0.1	6	7	7	8	8	9	10	11	11
Riboflavin (mg)[c]	1.2	0.01	0.5	0.5	0.9	1.0	1.1	1.1	1.3	1.3	1.4
Thiamin (mg)[c]	0.8	0.01	0.5	0.5	0.6	0.6	0.7	0.8	0.8	0.9	0.9
Minerals											
Calcium (mg)[c]	678	11.0	500	650	479	535	610	667	742	816	928
Iron (mg)[c]	6.4	0.05	4	8	5.4	5.6	6.0	6.4	6.8	7.3	7.6
Magnesium (mg)[c]	138	1.4	158	180	108	117	126	137	148	161	172
Phosphorus (mg)[c]	761	8.3	481	625	582	620	701	763	822	889	943
Potassium (mg)[b]	1,468	17.7	1808	2350	1,155	1,210	1,313	1,455	1,599	1,727	1,802
Sodium (mg)[d]	2,074	19.7	< 885	< 1150	1,638	1,785	1,910	2,072	2,211	2,393	2,499
Zinc (mg)[c]	5.2	0.06	4	5	4.0	4.3	4.7	5.1	5.6	6.3	6.7
Other Components											
Cholesterol (mg)[e]	80	1.0	< 115	<150	60	63	72	79	88	99	102
Dietary fiber (g)[f]	9	0.1	14	14	7	7	8	9	10	11	12
Number of Schools	**278**										

Source: School Nutrition Dietary Assessment Study–IV, Menu Survey, school year 2009–2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

Table E.23 *(continued)*

[a]The "per 1,000 calorie" reference standards are based on Dietary Reference Intakes and assume a 2,600 calorie diet for 14–18 year old males and a 2,000 calorie diet for 14–18 year old females. These calorie levels represent weighted averages for each age group, assuming a moderately active level of physical activity for all 14–18 year olds (IOM 2010).
[b]Reference standards is based on the Adequate Intake (AI), Institute of Medicine, IOM. Dietary Reference intakes: The essential guide to nutrient requirements. Washington (DC): The National Academies Press; 2006.
[c]Reference standard is based on the Recommended Dietary Allowance (RDA), IOM. Dietary Reference intakes: The essential guide to nutrient requirements. Washington (DC): The National Academies Press; 2006.
[d]Reference standard is based on the Upper Limit (UL), *Dietary Guidelines*, 2010 recommendation
[e]Reference standard is based on the *Dietary Guidelines*, 2010 recommendation
[f]Reference standard is based on the *Dietary Guidelines*, 2005 recommendation.

n.a. = Not applicable; AT = Alpha-tocopherol; DFE = Dietary folate equivalents; RE = Retinol equivalents; RAE = Retinol activity equivalents; SE = Standard error.

Table E.24. Average and Distribution of Nutrients per 1,000 Calories in National School Lunch Program Lunches *Served* to Students in All Schools

			Reference Standard[a]				Percentiles per 1,000 Calories						
	Average per 1,000 Calories	SE	Ages 4 – 8 Males/ Females	Ages 9 – 13 Males/ Females	Ages 14 – 18 Males	Ages 14 – 18 Females	5th	10th	25th	50th	75th	90th	95th
Macronutrients													
Total fat (g)	36	0.3	n.a.	n.a.	n.a.	n.a.	28	30	32	35	39	42	44
Saturated fat (g)	11	0.1	n.a.	n.a.	n.a.	n.a.	9	9	10	11	12	13	14
Monounsaturated fat (g)	13	0.1	n.a.	n.a.	n.a.	n.a.	10	10	11	12	14	15	16
Polyunsaturated fat (g)	9	0.1	n.a.	n.a.	n.a.	n.a.	6	6	7	8	10	12	14
Linoleic acid (g)[b]	8	0.1	6	6	6	6	5	5	6	7	9	11	12
Alpha-linolenic acid (g)[b]	0.9	0.02	0.5	0.6	0.6	0.6	0.5	0.6	0.7	0.8	1.1	1.4	1.6
Carbohydrate (g)[c]	132	0.6	76	68	50	65	113	118	125	133	139	146	149
Protein (g)[c]	43	0.2	11	18	20	23	36	37	40	42	45	48	50
Vitamins													
Vitamin A (mcg RE)[c]	504	7.7	n.a.	n.a.	n.a.	n.a.	314	336	383	469	595	731	814
Vitamin A (mcg RAE)[c]	406	4.4	235	316	346	350	285	302	344	393	461	524	564
Vitamin C (mg)[c]	34	0.9	15	24	29	33	13	16	22	30	44	56	66
Vitamin E (mg AT)[c]	3.5	0.04	4	6	6	8	2.3	2.5	2.9	3.4	3.9	4.4	4.8
Vitamin B_6 (mg)[c]	0.7	0.01	0.4	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.8	0.9	0.9
Vitamin B_{12} (mcg)[c]	2.4	0.02	0.7	0.9	0.9	1.2	1.7	1.9	2.1	2.4	2.6	2.9	3.2
Folate (mcg)[c]	159	1.1	n.a.	n.a.	n.a.	n.a.	124	130	143	156	173	188	198
Folate (mcg DFE)[c]	201	1.6	118	158	154	200	151	163	178	198	220	243	256
Niacin (mg)[c]	9	0.1	5	6	6	7	7	8	8	9	10	11	11
Riboflavin (mg)[c]	1.2	0.01	0.4	0.5	0.5	0.5	1.0	1.0	1.1	1.2	1.3	1.4	1.4
Thiamin (mg)[c]	0.7	0.01	0.4	0.5	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.9	0.9
Minerals													
Calcium (mg)[c]	716	5.2	588	684	500	650	555	591	649	713	781	846	892
Iron (mg)[c]	6.4	0.03	6	4	4	8	5.3	5.5	5.9	6.3	6.8	7.2	7.5
Magnesium (mg)[c]	144	0.9	76	126	158	180	117	123	132	143	154	166	174
Phosphorus (mg)[c]	798	4.5	294	658	481	625	640	682	740	800	853	914	944
Potassium (mg)[b]	1,520	8.8	2235	2368	1808	2350	1,217	1,277	1,414	1,522	1,634	1,728	1,789
Sodium (mg)[d]	2,024	13.2	< 1118	< 1158	< 885	< 1150	1,623	1,712	1,844	2,006	2,176	2,381	2,478
Zinc (mg)[c]	5.5	0.04	3	4	4	5	4.3	4.6	5.0	5.3	5.9	6.4	6.9
Other Components													
Cholesterol (mg)[e]	81	0.9	< 176	< 158	< 115	<150	59	63	70	78	88	102	112
Dietary fiber (g)[f]	9	0.1	14	14	14	14	7	7	8	9	10	11	12
Number of Schools	**880**												

Source: School Nutrition Dietary Assessment Study–IV, Menu Survey, school year 2009–2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

Table E.24 *(continued)*

[a]The "per 1,000 calorie" reference standards are based on Dietary Reference Intakes and assume a 1,700 calorie diet for 4–8 year olds, a 1,900 calorie diet for 9–13 year olds, a 2,600 calorie diet for 14–18 year old males and a 2,000 calorie diet for 14–18 year old females. These calorie levels represent weighted averages for each age group, assuming an active level of physical activity for 4–8 year olds and a moderately active level of physical activity for 9–13 and 14–18 year olds (IOM 2010).
[b]Reference standards is based on the Adequate Intake (AI), Institute of Medicine, IOM. Dietary Reference intakes: The essential guide to nutrient requirements. Washington (DC): The National Academies Press; 2006.
[c]Reference standard is based on the Recommended Dietary Allowance (RDA), IOM. Dietary Reference intakes: The essential guide to nutrient requirements. Washington (DC): The National Academies Press; 2006.
[d]Reference standard is based on the Upper Limit (UL), *Dietary Guidelines*, 2010 recommendation
[e]Reference standard is based on the *Dietary Guidelines*, 2010 recommendation
[f]Reference standard is based on the *Dietary Guidelines*, 2005 recommendation.

n.a. = Not applicable; AT = Alpha-tocopherol; DFE = Dietary folate equivalents; RE = Retinol equivalents; RAE = Retinol activity equivalents; SE = Standard error.

Table E.25. Average Calories and Nutrient Content of National School Lunch Program Lunches *Offered* to Students, by Menu Planning System *All Schools*

	Food-Based			Nutrient-Based (NSMP or ANSMP)
	Traditional	Enhanced	All	
Average Amount				
Calories	757	800	769	739
Macronutrients				
Total fat (g)	27	30	28	26
Saturated fat (g)	8	9	9	8
Monounsaturated fat (g)	10	10	10	9
Polyunsaturated fat (g)	7	8	7	7
Linoleic acid (g)	6	7	6	6
Alpha-linolenic acid (g)	0.7	0.8	0.7	0.7
Carbohydrate (g)	101	106	102	99
Protein (g)	31	32	32	30
Vitamins				
Vitamin A (mcg RE)	444	469	451	463
Vitamin A (mcg RAE)	330	349	335	339
Vitamin C (mg)	33	35	34	36
Vitamin E (mg AT)	2.8	3.0	2.9	2.8
Vitamin B_6 (mg)	0.6	0.6	0.6	0.6
Vitamin B_{12} (mcg)	1.8	1.8	1.8	1.8
Folate (mcg)	128	134	130	127
Folate (mcg DFE)	159	168	161	158
Niacin (mg)	7	7	7	6
Riboflavin (mg)	0.9	0.9	0.9	0.9
Thiamin (mg)	0.6	0.6	0.6	0.5
Minerals				
Calcium (mg)	536	558	542	536
Iron (mg)	4.7	4.8	4.7	4.5
Magnesium (mg)	110	114	111	108
Phosphorus (mg)	587	611	593	582
Potassium (mg)	1,175	1,215	1,185	1,178
Sodium (mg)	1,448	1,570	1,480	1,458
Zinc (mg)	4.0	4.1	4.0	3.9
Other Dietary Components				
Cholesterol (mg)	59	61	60	57
Dietary fiber (g)	8	8	8	8
Dietary fiber (g/1,000 kcal)	10	10	10	10
Average Percentage of Calories from:				
Total fat	31.9	33.0	32.2	31.7
Saturated fat	10.0	10.3	10.1	9.8
Monounsaturated fat	11.3	11.5	11.4	11.0
Polyunsaturated fat	8.1	8.7	8.3	8.4
Linoleic acid	7.2	7.7	7.3	7.4
Alpha-linolenic acid	0.8	0.9	0.8	0.8
Carbohydrate	53.5	52.7	53.3	53.8
Protein	16.7	16.3	16.6	16.6
Number of Schools	**454**	**171**	**625**	**259**

Source: School Nutrition Dietary Assessment Study-IV, Menu Survey, school year 2009-2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

AT = Alpha-tocopherol; DFE = Dietary folate equivalents; RE = Retinol equivalents; RAE = Retinol activity equivalents; NSMP = Nutrient Standard Menu Planning; ANSMP = Assisted Nutrient Standard Menu Planning.

Table E.26. Average Calories and Nutrient Content of National School Lunch Program Lunches *Served* to Students, by Menu Planning System *All Schools*

	Food-Based			Nutrient-Based (NSMP or ANSMP)
	Traditional	Enhanced	All	
Average Amount				
Calories	669	716	682	671
Macronutrients				
Total fat (g)	24	26	25	24
Saturated fat (g)	8	8	8	7
Monounsaturated fat (g)	9	9	9	8
Polyunsaturated fat (g)	6	7	6	6
Linoleic acid (g)	5	6	5	5
Alpha-linolenic acid (g)	0.6	0.7	0.6	0.6
Carbohydrate (g)	88	93	89	89
Protein (g)	29	30	29	28
Vitamins				
Vitamin A (mcg RE)	330	363	339	344
Vitamin A (mcg RAE)	267	293	274	271
Vitamin C (mg)	23	24	23	24
Vitamin E (mg AT)	2.3	2.5	2.4	2.4
Vitamin B_6 (mg)	0.5	0.5	0.5	0.5
Vitamin B_{12} (mcg)	1.6	1.6	1.6	1.6
Folate (mcg)	106	111	107	107
Folate (mcg DFE)	134	140	135	136
Niacin (mg)	6	6	6	6
Riboflavin (mg)	0.8	0.9	0.8	0.8
Thiamin (mg)	0.5	0.5	0.5	0.5
Minerals				
Calcium (mg)	476	512	486	466
Iron (mg)	4.3	4.4	4.3	4.3
Magnesium (mg)	96	100	97	96
Phosphorus (mg)	533	564	542	522
Potassium (mg)	1,020	1,066	1,033	1,006
Sodium (mg)	1,348	1,479	1,383	1,355
Zinc (mg)	3.7	3.8	3.7	3.6
Other Dietary Components				
Cholesterol (mg)	55	57	55	53
Dietary fiber (g)	6	7	6	6
Dietary fiber (g/1,000 kcal)	9	9	9	9
Average Percentage of Calories from:				
Total fat	32.0	33.0	32.2	31.6
Saturated fat	10.2	10.5	10.3	9.8
Monounsaturated fat	11.4	11.5	11.4	11.1
Polyunsaturated fat	7.8	8.4	7.9	8.0
Linoleic acid	6.9	7.4	7.0	7.1
Alpha-linolenic acid	0.8	0.9	0.8	0.8
Carbohydrate	52.6	52.0	52.5	53.4
Protein	17.2	16.7	17.1	16.9
Number of Schools	**453**	**170**	**623**	**257**

Source: School Nutrition Dietary Assessment Study-IV, Menu Survey, school year 2009-2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

AT = Alpha-tocopherol; DFE = Dietary folate equivalents; RE = Retinol equivalents; RAE = Retinol activity equivalents; NSMP = Nutrient Standard Menu Planning; ANSMP = Assisted Nutrient Standard Menu Planning.

Table E.27. Average and Distribution of Calories and Nutrients in National School Lunch Program Lunches *Offered* to Students, in Schools with a Traditional Food-Based Menu Planning System *All Schools*

			Percentiles						
	Average	SE	5th	10th	25th	50th	75th	90th	95th
Calories	757	8.4	577	616	670	735	821	908	994
Macronutrients									
Total fat (g)	27	0.5	18	19	22	26	30	37	39
Saturated fat (g)	8	0.1	6	6	7	8	10	11	12
Monounsaturated fat (g)	10	0.2	6	7	8	9	11	13	14
Polyunsaturated fat (g)	7	0.2	3	4	5	7	8	10	12
Linoleic acid (g)	6	0.1	3	4	5	6	7	9	10
Alpha-linolenic acid (g)	0.7	0.02	0.3	0.4	0.5	0.6	0.8	1.1	1.3
Carbohydrate (g)	101	1.3	76	80	88	99	112	126	138
Protein (g)	31	0.3	26	27	29	31	33	35	38
Vitamins									
Vitamin A (mcg RE)	444	13.9	229	257	314	410	510	623	796
Vitamin A (mcg RAE)	330	7.2	205	232	266	314	370	423	504
Vitamin C (mg)	33	1.2	11	14	20	32	43	57	67
Vitamin E (mg AT)	2.8	0.06	1.6	1.8	2.1	2.7	3.4	3.8	4.3
Vitamin B_6 (mg)	0.6	0.01	0.4	0.5	0.5	0.6	0.6	0.7	0.8
Vitamin B_{12} (mcg)	1.8	0.03	1.4	1.4	1.6	1.7	1.9	2.1	2.3
Folate (mcg)	128	1.8	90	96	109	124	143	164	175
Folate (mcg DFE)	159	2.5	106	117	134	153	177	208	225
Niacin (mg)	7	0.1	5	5	6	7	8	8	9
Riboflavin (mg)	0.9	0.01	0.8	0.8	0.8	0.9	1.0	1.0	1.1
Thiamin (mg)	0.6	0.01	0.4	0.4	0.5	0.5	0.6	0.7	0.8
Minerals									
Calcium (mg)	536	4.8	438	453	484	525	580	632	655
Iron (mg)	4.7	0.06	3.4	3.7	4.1	4.5	5.1	5.7	6.2
Magnesium (mg)	110	1.2	85	90	98	109	119	132	139
Phosphorus (mg)	587	5.1	487	507	542	580	620	662	707
Potassium (mg)	1,175	12.7	900	975	1,065	1,163	1,262	1,381	1,495
Sodium (mg)	1,448	23.2	996	1,096	1,228	1,407	1,591	1,878	2,022
Zinc (mg)	4.0	0.05	3.1	3.3	3.5	3.9	4.3	4.8	5.3
Other Components									
Cholesterol (mg)	59	1.0	35	42	51	59	68	77	86
Dietary fiber (g)	8	0.1	5	5	7	7	8	10	11

Table E.27 *(continued)*

	Average	SE	Percentiles						
			5th	10th	25th	50th	75th	90th	95th
Percentage of Calories from:									
Total fat	31.9	0.33	24.7	26.4	29.0	31.2	34.4	38.2	40.0
Saturated fat	10.0	0.12	7.7	8.2	8.9	10.0	10.8	11.6	12.9
Monosaturated fat	11.3	0.13	8.5	9.0	10.1	11.1	12.3	13.9	15.0
Polyunsaturated fat	8.1	0.14	5.1	5.6	6.5	7.8	9.3	10.8	11.9
Linoleic acid	7.2	0.12	4.4	4.9	5.8	7.0	8.3	9.7	10.6
Alpha-linolenic acid	0.8	0.02	0.5	0.5	0.6	0.8	1.0	1.2	1.3
Carbohydrate	53.5	0.32	44.4	48.0	50.6	53.8	56.5	58.8	60.4
Protein	16.7	0.12	14.0	14.6	15.5	16.6	17.7	19.1	19.8
Number of Schools	**454**								

Source: School Nutrition Dietary Assessment Study-IV, Menu Survey, school year 2009-2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

AT = Alpha-tocopherol; DFE = Dietary folate equivalents; RE = Retinol equivalents; RAE = Retinol activity equivalents; SE = Standard error.

Table E.28. Average and Distribution of Calories and Nutrients in National School Lunch Program Lunches *Offered* to Students, in Schools with an Enhanced Food-Based Menu Planning System *All Schools*

			Percentiles						
	Average	SE	5th	10th	25th	50th	75th	90th	95th
Calories	800	16.9	628~	651	693	768	874	1,001	1,092~
Macronutrients									
Total fat (g)	30	0.9	19~	21	25	28	33	39	43
Saturated fat (g)	9	0.3	7~	7	8	9	10	12	13
Monounsaturated fat (g)	10	0.3	7~	7	9	10	12	13	15
Polyunsaturated fat (g)	8	0.3	4~	5	6	7	9	11	13
Linoleic acid (g)	7	0.3	3~	4	5	7	8	10	11
Alpha-linolenic acid (g)	0.8	0.04	0.4~	0.5	0.6	0.7	1.0	1.2	1.4
Carbohydrate (g)	106	2.5	79~	84	89	100	117	136	152
Protein (g)	32	0.4	26~	27	29	32	34	37	39
Vitamins									
Vitamin A (mcg RE)	469	16.3	238~	281	358	448	549	724	776
Vitamin A (mcg RAE)	349	8.8	227~	246	290	336	387	474	519
Vitamin C (mg)	35	2.1	12~	16	20	29	40	59	72
Vitamin E (mg AT)	3.0	0.10	1.7~	1.9	2.4	3.0	3.4	4.0	4.4
Vitamin B_6 (mg)	0.6	0.01	0.4~	0.5	0.5	0.6	0.7	0.7	0.8
Vitamin B_{12} (mcg)	1.8	0.04	1.3~	1.5	1.6	1.7	1.9	2.1	2.2
Folate (mcg)	134	3.5	97~	104	116	128	144	175	199
Folate (mcg DFE)	168	5.2	117~	126	140	159	181	225	238
Niacin (mg)	7	0.1	5~	6	6	7	8	8	9
Riboflavin (mg)	0.9	0.01	0.8~	0.8	0.9	0.9	1.0	1.1	1.2
Thiamin (mg)	0.6	0.01	0.4~	0.5	0.5	0.6	0.6	0.8	0.8
Minerals									
Calcium (mg)	558	7.3	449~	463	507	557	600	636	660
Iron (mg)	4.8	0.11	3.5~	3.7	4.2	4.7	5.3	6.1	6.7
Magnesium (mg)	114	2.0	92~	94	102	112	121	137	150
Phosphorus (mg)	611	8.0	518~	532	565	602	635	694	748
Potassium (mg)	1,215	20.8	987~	1,022	1,077	1,169	1,322	1,422	1,599
Sodium (mg)	1,570	35.0	1,096~	1,168	1,362	1,500	1,764	1,984	2,163
Zinc (mg)	4.1	0.08	3.3~	3.4	3.6	4.0	4.4	4.8	5.1
Other Components									
Cholesterol (mg)	61	2.1	37~	41	48	58	70	83	93
Dietary fiber (g)	8	0.2	5~	6	7	8	9	10	11

Table E.28 *(continued)*

	Average	SE	Percentiles						
			5th	10th	25th	50th	75th	90th	95th
Percentage of Calories from:									
Total fat	33.0	0.52	25.9~	27.4	29.9	33.2	35.2	38.2	39.2
Saturated fat	10.3	0.16	8.0~	8.7	9.5	10.0	10.9	12.1	13.1
Monosaturated fat	11.5	0.20	8.5~	9.2	10.3	11.7	12.6	13.6	14.2
Polyunsaturated fat	8.7	0.26	5.6~	5.8	7.0	8.4	10.4	12.0	12.6
Linoleic acid	7.7	0.23	4.8~	5.2	6.1	7.5	9.1	10.6	11.1
Alpha-linolenic acid	0.9	0.03	0.5~	0.6	0.7	0.9	1.1	1.3	1.4
Carbohydrate	52.7	0.46	45.7~	47.3	50.5	52.8	55.7	57.4	58.8
Protein	16.3	0.25	13.2~	13.6	15.1	16.1	17.7	18.9	19.6
Number of Schools	**171**								

Source: School Nutrition Dietary Assessment Study-IV, Menu Survey, school year 2009-2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

AT = Alpha-tocopherol; DFE = Dietary folate equivalents; RE = Retinol equivalents; RAE = Retinol activity equivalents; SE = Standard error.

~ Point estimate is considered less precise than estimates that are not flagged because the sample size is small or the coefficient of variation is large. The rules used in flagging estimates are described in Chapter 1. When these rules are applied, percentages close to 0 or 100 are often flagged. In this table, flagged percentages between 0 and 3 percent are displayed as <3 and flagged percentages between 97 and 100 percent are displayed as >97.

Table E.29. Average and Distribution of Calories and Nutrients in National School Lunch Program Lunches *Offered* to Students, in Schools with a Nutrient-Based Menu Planning System *All Schools*

			Percentiles						
	Average	SE	5th	10th	25th	50th	75th	90th	95th
Calories	739	14.4	542	580	646	719	801	935	1,006
Macronutrients									
Total fat (g)	26	0.8	17	18	21	25	30	36	40
Saturated fat (g)	8	0.2	5	6	7	8	9	11	12
Monounsaturated fat (g)	9	0.3	6	6	7	9	10	12	14
Polyunsaturated fat (g)	7	0.3	3	4	5	6	8	10	13
Linoleic acid (g)	6	0.3	3	3	4	6	7	9	12
Alpha-linolenic acid (g)	0.7	0.04	0.3	0.4	0.5	0.6	0.8	1.1	1.4
Carbohydrate (g)	99	2.3	72	74	85	95	109	125	135
Protein (g)	30	0.4	25	26	27	30	33	35	38
Vitamins									
Vitamin A (mcg RE)	463	17.1	245	279	331	422	569	672	786
Vitamin A (mcg RAE)	339	8.9	218	244	274	318	396	451	511
Vitamin C (mg)	36	2.1	11	14	21	32	48	61	78
Vitamin E (mg AT)	2.8	0.10	1.7	1.8	2.2	2.7	3.2	4.0	4.7
Vitamin B_6 (mg)	0.6	0.01	0.4	0.4	0.5	0.5	0.6	0.7	0.8
Vitamin B_{12} (mcg)	1.8	0.03	1.4	1.5	1.6	1.7	1.8	2.0	2.2
Folate (mcg)	127	2.9	84	93	107	122	144	166	179
Folate (mcg DFE)	158	4.0	103	111	131	150	179	210	227
Niacin (mg)	6	0.1	5	5	5	6	7	8	9
Riboflavin (mg)	0.9	0.01	0.8	0.8	0.8	0.9	0.9	1.0	1.1
Thiamin (mg)	0.5	0.01	0.4	0.4	0.5	0.5	0.6	0.7	0.7
Minerals									
Calcium (mg)	536	5.8	450	475	490	527	567	622	652
Iron (mg)	4.5	0.10	3.1	3.4	3.8	4.4	5.0	5.8	6.3
Magnesium (mg)	108	1.6	83	88	96	104	118	129	139
Phosphorus (mg)	582	6.0	490	502	536	577	611	662	692
Potassium (mg)	1,178	19.7	908	954	1,035	1,150	1,275	1,435	1,602
Sodium (mg)	1,458	33.7	993	1,123	1,224	1,408	1,603	1,836	2,052
Zinc (mg)	3.9	0.06	3.0	3.2	3.4	3.9	4.2	4.5	5.1
Other Components									
Cholesterol (mg)	57	1.7	36	39	45	54	63	79	93
Dietary fiber (g)	8	0.2	4	5	6	7	9	11	12

Table E.29 *(continued)*

	Average	SE	Percentiles						
			5th	10th	25th	50th	75th	90th	95th
Percentage of Calories from:									
Total fat	31.7	0.55	23.8	25.4	28.3	30.6	34.6	38.4	41.2
Saturated fat	9.8	0.13	7.6	8.2	8.8	9.7	10.6	11.5	12.2
Monosaturated fat	11.0	0.19	8.2	8.8	9.8	10.9	12.0	13.2	14.4
Polyunsaturated fat	8.4	0.28	5.0	5.5	6.7	7.9	9.6	11.9	13.4
Linoleic acid	7.4	0.24	4.5	4.7	5.8	7.0	8.4	10.7	11.8
Alpha-linolenic acid	0.8	0.04	0.5	0.5	0.6	0.8	1.0	1.3	1.5
Carbohydrate	53.8	0.58	44.3	46.8	50.4	54.0	57.2	60.5	63.2
Protein	16.6	0.18	13.5	14.3	15.4	16.7	17.8	19.1	19.8
Number of Schools	**259**								

Source: School Nutrition Dietary Assessment Study-IV, Menu Survey, school year 2009-2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

AT = Alpha-tocopherol; DFE = Dietary folate equivalents; RE = Retinol equivalents; RAE = Retinol activity equivalents; SE = Standard error.

Table E.30. Average and Distribution of Calories and Nutrients in National School Lunch Program Lunches *Served* to Students, in Schools with a Traditional Food-Based Menu Planning System *All Schools*

			Percentiles						
	Average	SE	5th	10th	25th	50th	75th	90th	95th
Calories	669	7.4	510	548	599	661	730	803	854
Macronutrients									
Total fat (g)	24	0.4	16	17	19	23	27	32	35
Saturated fat (g)	8	0.1	5	6	6	7	9	10	11
Monounsaturated fat (g)	9	0.2	6	6	7	8	10	12	13
Polyunsaturated fat (g)	6	0.2	3	3	4	5	7	9	10
Linoleic acid (g)	5	0.1	3	3	4	5	6	8	9
Alpha-linolenic acid (g)	0.6	0.02	0.3	0.3	0.4	0.5	0.7	0.9	1.2
Carbohydrate (g)	88	1.0	67	70	77	87	96	103	111
Protein (g)	29	0.3	23	24	26	28	31	34	35
Vitamins									
Vitamin A (mcg RE)	330	7.2	195	210	252	309	389	475	530
Vitamin A (mcg RAE)	267	4.2	177	198	223	259	303	353	381
Vitamin C (mg)	23	0.8	9	11	14	21	28	37	46
Vitamin E (mg AT)	2.3	0.05	1.3	1.5	1.8	2.2	2.7	3.2	3.8
Vitamin B_6 (mg)	0.5	0.01	0.4	0.4	0.4	0.5	0.6	0.6	0.7
Vitamin B_{12} (mcg)	1.6	0.03	1.2	1.2	1.4	1.6	1.8	2.1	2.1
Folate (mcg)	106	1.3	77	82	92	106	117	130	138
Folate (mcg DFE)	134	1.8	92	100	114	133	148	167	181
Niacin (mg)	6	0.1	5	5	6	6	7	7	8
Riboflavin (mg)	0.8	0.01	0.6	0.7	0.7	0.8	0.9	0.9	1.0
Thiamin (mg)	0.5	0.01	0.4	0.4	0.4	0.5	0.5	0.6	0.7
Minerals									
Calcium (mg)	476	5.8	353	386	431	473	517	562	646
Iron (mg)	4.3	0.05	3.2	3.5	3.8	4.2	4.6	5.2	5.5
Magnesium (mg)	96	1.1	74	79	86	94	106	118	124
Phosphorus (mg)	533	5.7	412	443	488	520	572	633	663
Potassium (mg)	1,020	12.5	790	817	915	1,010	1,114	1,226	1,286
Sodium (mg)	1,348	19.7	974	1,023	1,165	1,305	1,489	1,752	1,899
Zinc (mg)	3.7	0.05	2.8	2.9	3.2	3.6	4.0	4.7	5.0
Other Components									
Cholesterol (mg)	55	0.8	38	42	47	53	61	69	77
Dietary fiber (g)	6	0.1	4	5	5	6	7	8	9

Table E.30 *(continued)*

	Average	SE	Percentiles						
			5th	10th	25th	50th	75th	90th	95th
Percentage of Calories from:									
Total fat	32.0	0.33	24.8	26.6	29.1	31.4	34.1	38.5	40.0
Saturated fat	10.2	0.11	8.1	8.4	9.1	10.1	11.0	12.0	12.8
Monosaturated fat	11.4	0.12	8.7	9.3	10.3	11.3	12.4	13.6	14.7
Polyunsaturated fat	7.8	0.16	4.6	5.2	6.3	7.4	9.0	10.8	12.3
Linoleic acid	6.9	0.14	4.0	4.6	5.5	6.6	7.9	9.5	10.9
Alpha-linolenic acid	0.8	0.02	0.5	0.5	0.6	0.7	0.9	1.2	1.4
Carbohydrate	52.6	0.31	44.6	46.9	50.2	52.8	55.6	58.4	59.4
Protein	17.2	0.12	14.5	15.4	16.2	17.2	18.3	19.3	20.0
Number of Schools	**453**								

Source: School Nutrition Dietary Assessment Study-IV, Menu Survey, school year 2009-2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

AT = Alpha-tocopherol; DFE = Dietary folate equivalents; RE = Retinol equivalents; RAE = Retinol activity equivalents; SE = Standard error.

Table E.31. Average and Distribution of Calories and Nutrients in National School Lunch Program Lunches *Served* to Students, in Schools with an Enhanced Food-Based Menu Planning System *All Schools*

			Percentiles						
	Average	SE	5th	10th	25th	50th	75th	90th	95th
Calories	716	14.5	523~	582	635	686	764	875	967~
Macronutrients									
Total fat (g)	26	0.7	18~	19	22	25	30	36	40~
Saturated fat (g)	8	0.2	6~	6	7	8	9	11	12~
Monounsaturated fat (g)	9	0.3	6~	6	7	9	11	13	14~
Polyunsaturated fat (g)	7	0.3	4~	4	5	6	8	9	11~
Linoleic acid (g)	6	0.2	3~	4	4	6	7	8	10~
Alpha-linolenic acid (g)	0.7	0.03	0.3~	0.4	0.5	0.6	0.9	1.0	1.2~
Carbohydrate (g)	93	2.1	66~	71	83	90	101	117	128~
Protein (g)	30	0.4	24~	26	27	29	31	34	38~
Vitamins									
Vitamin A (mcg RE)	363	12.7	208~	244	284	336	411	536	608~
Vitamin A (mcg RAE)	293	7.2	198~	223	254	279	323	377	414~
Vitamin C (mg)	24	1.5	9~	12	16	21	28	39	50~
Vitamin E (mg AT)	2.5	0.08	1.6~	1.7	2.0	2.4	3.0	3.6	3.8~
Vitamin B_6 (mg)	0.5	0.01	0.4~	0.4	0.4	0.5	0.6	0.6	0.7~
Vitamin B_{12} (mcg)	1.6	0.03	1.2~	1.3	1.4	1.6	1.8	1.9	2.1~
Folate (mcg)	111	2.4	80~	90	98	107	124	131	150~
Folate (mcg DFE)	140	3.2	98~	111	123	133	157	173	193~
Niacin (mg)	6	0.1	5~	5	6	6	7	8	8~
Riboflavin (mg)	0.9	0.01	0.7~	0.7	0.8	0.8	0.9	1.0	1.0~
Thiamin (mg)	0.5	0.01	0.4~	0.4	0.5	0.5	0.6	0.7	0.7~
Minerals									
Calcium (mg)	512	8.4	404~	425	456	503	547	604	651~
Iron (mg)	4.4	0.09	3.2~	3.5	3.9	4.3	4.8	5.5	5.9~
Magnesium (mg)	100	1.7	81~	84	89	95	110	120	123~
Phosphorus (mg)	564	8.2	456~	489	517	551	604	653	702~
Potassium (mg)	1,066	21.1	811~	872	943	1,037	1,124	1,264	1,382~
Sodium (mg)	1,479	39.4	1,042~	1,134	1,246	1,402	1,642	2,042	2,076~
Zinc (mg)	3.8	0.07	2.9~	3.1	3.3	3.7	4.1	4.5	5.0~
Other Components									
Cholesterol (mg)	57	1.6	39~	43	46	55	64	73	80~
Dietary fiber (g)	7	0.2	5~	5	5	6	7	9	9~

Table E.31 *(continued)*

	Average	SE	Percentiles						
			5th	10th	25th	50th	75th	90th	95th
Percentage of Calories from:									
Total fat	33.0	0.45	26.7~	28.6	29.6	32.1	36.4	38.5	39.7~
Saturated fat	10.5	0.17	8.2~	8.7	9.4	10.4	11.2	12.1	12.7~
Monosaturated fat	11.5	0.18	9.0~	9.4	10.3	11.7	12.6	13.7	13.9~
Polyunsaturated fat	8.4	0.24	5.5~	5.7	6.8	7.9	10.0	11.4	12.7~
Linoleic acid	7.4	0.22	4.8~	5.1	6.1	6.9	8.7	10.0	11.3~
Alpha-linolenic acid	0.9	0.03	0.5~	0.6	0.7	0.8	1.1	1.3	1.4~
Carbohydrate	52.0	0.44	45.4~	46.5	48.6	52.7	54.9	56.9	57.7~
Protein	16.7	0.20	13.9~	15.0	15.7	16.5	17.8	18.9	19.6~
Number of Schools	**170**								

Source: School Nutrition Dietary Assessment Study-IV, Menu Survey, school year 2009-2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

AT = Alpha-tocopherol; DFE = Dietary folate equivalents; RE = Retinol equivalents; RAE = Retinol activity equivalents; SE = Standard error.

~ Point estimate is considered less precise than estimates that are not flagged because the sample size is small or the coefficient of variation is large. The rules used in flagging estimates are described in Chapter 1. When these rules are applied, percentages close to 0 or 100 are often flagged. In this table, flagged percentages between 0 and 3 percent are displayed as <3 and flagged percentages between 97 and 100 percent are displayed as >97.

Table E.32. Average and Distribution of Calories and Nutrients in National School Lunch Program Lunches *Served* to Students, in Schools with a Nutrient-Based Menu Planning System *All Schools*

			Percentiles						
	Average	SE	5th	10th	25th	50th	75th	90th	95th
Calories	671	12.7	503	524	565	654	762	839	912
Macronutrients									
Total fat (g)	24	0.7	15	16	19	22	27	33	38
Saturated fat (g)	7	0.2	5	5	6	7	8	10	12
Monounsaturated fat (g)	8	0.2	5	6	7	8	9	12	13
Polyunsaturated fat (g)	6	0.3	3	4	5	5	7	9	11
Linoleic acid (g)	5	0.2	3	3	4	5	6	8	10
Alpha-linolenic acid (g)	0.6	0.03	0.3	0.3	0.4	0.5	0.7	1.0	1.3
Carbohydrate (g)	89	1.8	62	69	76	87	102	115	118
Protein (g)	28	0.4	22	23	25	27	30	34	35
Vitamins									
Vitamin A (mcg RE)	344	12.4	189	199	246	306	426	552	612
Vitamin A (mcg RAE)	271	7.1	157	183	217	255	319	398	420
Vitamin C (mg)	24	1.2	10	12	14	21	29	41	48
Vitamin E (mg AT)	2.4	0.07	1.4	1.6	1.9	2.1	2.7	3.3	3.9
Vitamin B_6 (mg)	0.5	0.01	0.3	0.4	0.4	0.5	0.6	0.6	0.7
Vitamin B_{12} (mcg)	1.6	0.03	1.0	1.1	1.4	1.6	1.8	1.9	2.0
Folate (mcg)	107	2.1	77	81	90	103	121	135	152
Folate (mcg DFE)	136	2.8	94	101	113	132	155	173	192
Niacin (mg)	6	0.1	4	5	5	6	7	7	8
Riboflavin (mg)	0.8	0.01	0.6	0.6	0.7	0.8	0.9	1.0	1.0
Thiamin (mg)	0.5	0.01	0.3	0.4	0.4	0.5	0.5	0.6	0.7
Minerals									
Calcium (mg)	466	6.7	346	389	422	462	498	554	596
Iron (mg)	4.3	0.08	3.2	3.3	3.6	4.2	4.8	5.3	5.7
Magnesium (mg)	96	1.6	71	78	85	93	108	119	125
Phosphorus (mg)	522	7.6	406	429	471	506	577	626	652
Potassium (mg)	1,006	18.4	712	778	866	1,001	1,134	1,244	1,305
Sodium (mg)	1,355	31.2	923	976	1,117	1,335	1,504	1,793	1,922
Zinc (mg)	3.6	0.08	2.7	2.8	3.1	3.4	3.9	4.6	4.8
Other Components									
Cholesterol (mg)	53	1.6	37	38	42	50	59	71	80
Dietary fiber (g)	6	0.2	4	4	5	6	7	9	9

Table E.32 *(continued)*

	Average	SE	Percentiles						
			5th	10th	25th	50th	75th	90th	95th
Percentage of Calories from:									
Total fat	31.6	0.49	24.5	25.8	28.6	31.1	34.4	37.0	40.0
Saturated fat	9.8	0.13	7.6	8.1	8.9	9.7	10.6	11.3	12.1
Monosaturated fat	11.1	0.16	8.6	9.2	10.1	11.1	11.8	13.0	13.9
Polyunsaturated fat	8.0	0.24	5.0	5.4	6.2	7.5	9.3	11.3	12.5
Linoleic acid	7.1	0.21	4.5	4.8	5.5	6.7	8.1	9.9	11.0
Alpha-linolenic acid	0.8	0.03	0.5	0.5	0.6	0.7	0.9	1.2	1.4
Carbohydrate	53.4	0.49	46.0	47.3	50.2	53.9	56.1	59.6	60.6
Protein	16.9	0.17	14.1	14.7	15.7	16.7	18.0	19.4	20.0
Number of Schools	**257**								

Source: School Nutrition Dietary Assessment Study-IV, Menu Survey, school year 2009-2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

AT = Alpha-tocopherol; DFE = Dietary folate equivalents; RE = Retinol equivalents; RAE = Retinol activity equivalents; SE = Standard error.

Table E.33. Average Calories and Nutrient Content of National School Lunch Program Lunches *Offered* to Students—Estimated Without SNDA-IV Adjustment for Fruits and Vegetables

	Elementary Schools	Middle Schools	High Schools	All Schools
Average Amount				
Calories	719	778	833	753
Macronutrients				
Total fat (g)	26	28	30	27
Saturated fat (g)	8	9	9	8
Monounsaturated fat (g)	9	10	11	10
Polyunsaturated fat (g)	7	7	8	7
Linoleic acid (g)	6	6	7	6
Alpha-linolenic acid (g)	0.6	0.8	0.9	0.7
Carbohydrate (g)	96	103	110	100
Protein (g)	30	32	34	31
Vitamins				
Vitamin A (mcg RE)	440	447	446	443
Vitamin A (mcg RAE)	326	334	337	330
Vitamin C (mg)	31	36	38	33
Vitamin E (mg AT)	2.7	2.8	3.1	2.8
Vitamin B_6 (mg)	0.5	0.6	0.6	0.6
Vitamin B_{12} (mcg)	1.7	1.8	1.9	1.8
Folate (mcg)	121	134	143	128
Folate (mcg DFE)	149	167	181	159
Niacin (mg)	6	7	8	7
Riboflavin (mg)	0.9	0.9	1.0	0.9
Thiamin (mg)	0.5	0.6	0.6	0.6
Minerals				
Calcium (mg)	527	550	562	538
Iron (mg)	4.4	4.9	5.2	4.6
Magnesium (mg)	106	110	115	109
Phosphorus (mg)	572	600	622	587
Potassium (mg)	1,129	1,199	1,247	1,166
Sodium (mg)	1,383	1,532	1,633	1,461
Zinc (mg)	3.8	4.1	4.2	4.0
Other Dietary Components				
Cholesterol (mg)	56	62	66	59
Dietary fiber (g)	7	8	8	8
Dietary fiber (g/1,000 kcal)	10	10	10	10
Average Percentage of Calories from:				
Total fat	32.0	32.1	32.7	32.2
Saturated fat	10.1	10.0	10.0	10.1
Monounsaturated fat	11.3	11.2	11.4	11.3
Polyunsaturated fat	8.1	8.3	8.7	8.3
Linoleic acid	7.3	7.3	7.7	7.4
Alpha-linolenic acid	0.8	0.9	0.9	0.8
Carbohydrate	53.4	53.1	52.9	53.2
Protein	16.8	16.8	16.4	16.7
Number of Schools	**318**	**287**	**279**	**884**

Source: School Nutrition Dietary Assessment Study-IV, Menu Survey, school year 2009-2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

AT = Alpha-tocopherol; DFE = Dietary folate equivalents; RE = Retinol equivalents; RAE = Retinol activity equivalents.

Table E.34. Average Calories and Nutrient Content of National School Lunch Program Lunches *Offered* to Students, Relative to SMI Nutrition Standards and Related Benchmarks—Estimated Without SNDA-IV Adjustment for Fruits and Vegetables

	Standard/ Recommendation	Elementary Schools	Middle Schools	High Schools	All Schools
Average Percentage of 1989 REA/RDA					
Calories	33%	36.6$^{\alpha}$	33.3	32.9$^{\gamma}$	35.3
Protein	33%	106.3$^{\alpha}$	71.9$^{\beta}$	67.6$^{\gamma}$	92.3
Vitamin A[a]	33%	68.1$^{\alpha}$	50.2	49.6$^{\gamma}$	61.1
Vitamin C	33%	67.5	72.4$^{\beta}$	66.1	68.1
Calcium	33%	63.3$^{\alpha}$	46.4	46.9$^{\gamma}$	56.9
Iron	33%	42.2$^{\alpha}$	36.3$^{\beta}$	38.3$^{\gamma}$	40.4
Average Percentage of Calories from:					
Total fat	≤ 30%[b]	32.0	32.1	32.7	32.2
Saturated fat	< 10%	10.1	10.0	10.0	10.1
Average Amount					
Cholesterol	< 100 mg[c,d]	56$^{\alpha}$	62$^{\beta}$	66$^{\gamma}$	59
Sodium	< 767 mg[c,d]	1,383$^{\alpha}$	1,532$^{\beta}$	1,633$^{\gamma}$	1,461
Dietary fiber (g/1,000 calories)	14[c]	10	10	10	10
Number of Schools		**318**	**287**	**279**	**884**

Source: School Nutrition Dietary Assessment Study-IV, Menu Survey, school year 2009-2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

[a]In retinol equivalents (RE).
[b]The 2010 *Dietary Guidelines for Americans* recommendation for the percentage of calories from total fat is 25-35%.
[c]Based on the 2010 *Dietary Guidelines for Americans.*
[d]Benchmarks are one-third of suggested maximum daily intake.

SMI = School Meals Initiative for Healthy Children; REA = Recommended Energy Allowance; RDA = Recommended Dietary Allowances.

[α]Difference between elementary and middle schools is significantly different from zero at the .05 level.
[β]Difference between middle and high schools is significantly different from zero at the .05 level.
[γ]Difference between elementary and high schools is significantly different from zero at the .05 level.

Table E.35. Proportion of Schools *Offering* National School Lunch Program Lunches that Satisfied Each of the SMI Nutrition Standards and Related Benchmarks and Different Combinations of the Standards and Benchmarks —Estimated Without SNDA-IV Adjustment for Fruits and Vegetables

	Standard/ Recommendation	Elementary Schools	Middle Schools	High Schools	All Schools
SMI Nutrition Standards					
Calories	33% of 1989 REA	74.3[α]	45.6	41.6[γ]	62.5
Protein	33% of 1989 RDA	100.0	100.0	100.0	100.0
Vitamin A[a]	33% of 1989 RDA	97.4[α]	85.8	87.4[γ]	93.3
Vitamin C	33% of 1989 RDA	82.3	88.3	89.5[γ]	84.8
Calcium	33% of 1989 RDA	100.0	99.9	98.8	99.7
Iron	33% of 1989 RDA	91.7[α]	65.3[β]	75.8[γ]	83.8
Percentage of Calories from Total Fat	≤ 30%	35.4	36.0	31.4	34.7
Percentage of Calories from Saturated Fat	< 10%	48.5	50.5	52.5	49.7
Other Nutrition Benchmarks					
Percentage of Calories from Total Fat	25% – 35%[b]	70.6	71.4	70.2	70.6
Cholesterol	< 100 mg[b,c]	99	98	93[γ]	98
Sodium	< 767 mg[b,c]	0	0	0	0
Dietary fiber (g/1,000 kcal)	14[b]	3	4	3	3
Combinations of Standards					
All SMI Standards		15.0	10.8	8.1[γ]	12.9
SMI Standards for all RDA Nutrients[c]		74.8[α]	51.5[β]	65.1[γ]	68.7
SMI Standards for All RDA Nutrients[d] and SMI Standard for Saturated Fat		36.6	29.8	37.8	35.6
SMI Standards for All RDA Nutrients[d] SMI Standard for Saturated Fat, and 2005 *Dietary Guidelines* Standard for Total Fat		30.5	25.8	31.9	29.9
Updated Standards for All RDA Nutrients[e] SMI Standard for Saturated Fat, and 2005 *Dietary Guidelines* Standard for Total Fat		32.7	35.3[β]	18.7[γ]	30.3
Number of Schools		**318**	**287**	**279**	**884**

Source: School Nutrition Dietary Assessment Study–IV, Menu Survey, school year 2009–2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

[a]In retinol equivalents (RE).
[b]Based on the 2010 *Dietary Guidelines for Americans*.
[c]Benchmarks are one-third of suggested maximum daily intake.
[d]Includes protein, vitamin A, vitamin C, calcium and iron.

Table E.35 *(continued)*

[e]Updated to reflect RDA values included in the Dietary Reference Intakes.

RDA = Recommended Dietary Allowances; REA = Recommended Energy Allowance; SMI = School Meals Initiative for Healthy Children.

[α]Difference between elementary and middle schools is significantly different from zero at the .05 level.
[β]Difference between middle and high schools is significantly different from zero at the .05 level.
[γ]Difference between elementary and high schools is significantly different from zero at the .05 level.

Table E.36. Average Calorie and Nutrient Content of National School Lunch Program Lunches *Offered*, Relative to SMI Nutrition Standards and Related Benchmarks, by School Size

	Standard/ Recommendation	School Size			All Schools
		Small (Less than 500 Students)	Medium (500–999 Students)	Large (1,000 or more Students)	
Average Percentage of 1989 REA/RDA					
Calories	33%	35.8	35.7	34.3	35.6
Protein	33%	96.8	93.3$^{\beta}$	70.8$^{\gamma}$	92.7
Vitamin A[a]	33%	62.8	65.6$^{\beta}$	52.3$^{\gamma}$	62.7
Vitamin C	33%	65.0$^{\alpha}$	76.8	75.6$^{\gamma}$	70.4
Calcium	33%	58.0	58.5$^{\beta}$	48.6$^{\gamma}$	57.1
Iron	33%	41.7$^{\alpha}$	39.9	39.2$^{\gamma}$	40.8
Average Percentage of Calories from:					
Total fat	≤ 30%[b]	32.3	31.8	32.1	32.1
Saturated fat	< 10%	10.2$^{\alpha}$	9.8	9.7$^{\gamma}$	10.0
Average Amount					
Cholesterol	< 100 mg[c,d]	59	58$^{\beta}$	64	59
Sodium	< 767 mg[c,d]	1,454	1,451$^{\beta}$	1,646$^{\gamma}$	1,474
Dietary fiber (g/1,000 calories)	14[c]	10	10	10	10
Number of Schools		**357**	**320**	**207**	**884**

Source: School Nutrition Dietary Assessment Study–IV, Menu Survey, school year 2009–2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

[a]In retinol equivalents (RE).
[b]The 2010 *Dietary Guidelines for Americans* recommendation for the percentage of calories from total fat is 25–35%.
[c]Based on the 2010 *Dietary Guidelines for Americans.*
[d]Benchmarks are one-third of suggested maximum daily intake.

RDA = Recommended Dietary Allowances; REA = Recommended Energy Allowance; SMI = School Meals Initiative for Healthy Children.

[α]Difference between small and medium size schools is significantly different from zero at the .05 level.
[β]Difference between middle and large size schools is significantly different from zero at the .05 level.
[γ]Difference between small and large size schools is significantly different from zero at the .05 level.

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Table E.37. Proportion of Schools *Offering* National School Lunch Program Lunches that Satisfied Each of the SMI Nutrition Standards and Related Benchmarks and Different Combinations of the Standards and Benchmarks, by School Size

	Standard/ Recommendation	School Size			All Schools
		Small (Less than 500 Students)	Medium (500–999 Students)	Large (1,000 or more Students)	
SMI Nutrition Standards					
Calories	33% of 1989 REA	64.1	68.2[β]	53.9	64.5
Protein	33% of 1989 RDA	>97	>97	>97	>97
Vitamin A[a]	33% of 1989 RDA	93.1	94.8	91.1	93.5
Vitamin C	33% of 1989 RDA	78.4[α]	91.9	95.9[γ]~	85.3
Calcium	33% of 1989 RDA	>97	>97	>97	>97
Iron	33% of 1989 RDA	88.3	82.8	74.4[γ]	84.8
Percentage of Calories from Total Fat	≤ 30%	34.8	34.8	35.4	34.9
Percentage of Calories from Saturated Fat	< 10%	47.6	53.6	61.8[γ]	51.4
Other Nutrition Benchmarks					
Percentage of Calories from Total Fat	25% – 35%[b]	68.0	72.3	75.3	70.4
Cholesterol	< 100 mg[b,c]	>97[α]	>97	92	98
Sodium	< 767 mg[b,c]	<3	<3	<3	<3
Dietary fiber (g/1,000 calories)	14[b]	4~	4~	4~	4
Combinations of Standards					
All SMI Standards		11.9	17.8	14.4	14.3
SMI Standards for all RDA Nutrients[c]		65.8[α]	77.0	67.8	70.1
SMI Standards for all RDA Nutrients[d] and SMI Standard for Saturated Fat		33.0	42.8	46.7[γ]	38.1
SMI Standards for all RDA Nutrients,[d] SMI Standard for Saturated Fat, and 2010 *Dietary Guidelines* Standard for Total Fat		27.0	36.0	37.1	31.4
Updated Standards for all RDA Nutrients,[e] SMI Standard for Saturated Fat, and 2010 *Dietary Guidelines* Standard for Total Fat		27.4	36.3	34.6	31.4
Number of Schools		**357**	**320**	**207**	**884**

Source: School Nutrition Dietary Assessment Study–IV, Menu Survey, school year 2009–2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

[a]In retinol equivalents (RE).

Table E.37 *(continued)*

[b]Based on the 2010 *Dietary Guidelines* for Americans.
[c]Benchmarks are one-third of suggested maximum daily intake.
[d]Includes protein, vitamin A, vitamin C, calcium and iron.
[e]Updated to reflect RDA values included in the Dietary Reference Intakes.

RDA = Recommended Dietary Allowances; REA = Recommended Energy Allowance; SMI = School Meals Initiative for Healthy Children.

[α]Difference between small and medium size schools is significantly different from zero at the .05 level.
[β]Difference between middle and large size schools is significantly different from zero at the .05 level.
[γ]Difference between small and large size schools is significantly different from zero at the .05 level.

~ Point estimate is considered less precise than estimates that are not flagged because the sample size is small or the coefficient of variation is large. The rules used in flagging estimates are described in Chapter 1. When these rules are applied, percentages close to 0 or 100 are often flagged. In this table, flagged percentages between 0 and 3 percent are displayed as <3 and flagged percentages between 97 and 100 percent are displayed as >97.

Table E.38. Average Calorie and Nutrient Content of National School Lunch Program Lunches *Served*, Relative to SMI Nutrition Standards and Related Benchmarks, by School Size

	Standard/ Recommendation	School Size: Small (Less than 500 Students)	School Size: Medium (500–999 Students)	School Size: Large (1,000 or more Students)	All Schools
Average Percentage of 1989 REA/RDA					
Calories	33%	33.4$^{\alpha}$	30.8$^{\beta}$	27.9$^{\gamma}$	31.9
Protein	33%	92.4$^{\alpha}$	83.8$^{\beta}$	59.9$^{\gamma}$	85.6
Vitamin A[a]	33%	52.1$^{\alpha}$	44.4$^{\beta}$	33.2$^{\gamma}$	47.2
Vitamin C	33%	47.5	48.9	46.1	47.9
Calcium	33%	54.5$^{\alpha}$	49.8$^{\beta}$	39.1$^{\gamma}$	51.1
Iron	33%	39.8$^{\alpha}$	36.5$^{\beta}$	33.0$^{\gamma}$	37.8
Average Percentage of Calories from:					
Total fat	≤ 30%[b]	32.0	31.8$^{\beta}$	33.3$^{\gamma}$	32.1
Saturated fat	< 10%	10.2	10.0	10.2	10.1
Average Amount					
Cholesterol	< 100 mg[c,d]	57$^{\alpha}$	52	53	55
Sodium	< 767 mg[c,d]	1,416$^{\alpha}$	1,305$^{\beta}$	1,413	1,375
Dietary fiber (g/1,000 calories)	14[c]	10$^{\alpha}$	9$^{\beta}$	9$^{\gamma}$	9
Number of Schools		**354**	**319**	**207**	**880**

Source: School Nutrition Dietary Assessment Study–IV, Menu Survey, school year 2009–2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

[a]In retinol equivalents (RE).
[b]The 2010 *Dietary Guidelines for Americans* recommendation for the percentage of calories from total fat is 25–35%.
[c]Based on the 2010 *Dietary Guidelines for Americans.*
[d]Benchmarks are one-third of suggested maximum daily intake.

RDA = Recommended Dietary Allowances; REA = Recommended Energy Allowance; SMI = School Meals Initiative for Healthy Children.

[α]Difference between small and medium size schools is significantly different from zero at the .05 level.
[β]Difference between middle and large size schools is significantly different from zero at the .05 level.
[γ]Difference between small and large size schools is significantly different from zero at the .05 level.

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Table E.39. Proportion of Schools *Serving* National School Lunch Program Lunches that Satisfied Each of the SMI Nutrition Standards and Related Benchmarks and Different Combinations of the Standards and Benchmarks, by School Size

	Standard/ Recommendation	School Size			All Schools
		Small (Less than 500 Students)	Medium (500–999 Students)	Large (1,000 or more Students)	
SMI Nutrition Standards					
Calories	33% of 1989 REA	50.0$^{\alpha}$	27.9	20.3$^{\gamma}$	38.7
Protein	33% of 1989 RDA	>97	>97	>97	>97
Vitamin A[a]	33% of 1989 RDA	85.1$^{\alpha}$	72.8$^{\beta}$	41.8$^{\gamma}$	75.9
Vitamin C	33% of 1989 RDA	66.3	70.1	66.6	67.7
Calcium	33% of 1989 RDA	97.0~	93.5$^{\beta}$	79.9$^{\gamma}$	93.8
Iron	33% of 1989 RDA	86.4$^{\alpha}$	67.9$^{\beta}$	43.2$^{\gamma}$	74.9
Percentage of Calories from Total Fat	≤ 30%	33.4	37.2	27.4	34.1
Percentage of Calories from Saturated Fat	< 10%	47.0	56.2	46.4	50.3
Other Nutrition Benchmarks					
Percentage of Calories from Total Fat	25% – 35%[b]	72.1	74.3	65.2	72.2
Cholesterol	< 100 mg[b,c]	>97$^{\alpha}$	>97	>97$^{\gamma}$	>97
Sodium	< 767 mg[b,c]	<3	<3	<3	<3
Dietary fiber (g/1,000 calories)	14[b]	<3	<3	<3	<3
Combinations of Standards					
All SMI Standards		7.2	6.5	3.4~	6.5
SMI Standards for all RDA Nutrients[c]		49.3	45.4$^{\beta}$	25.2$^{\gamma}$	45.2
SMI Standards for all RDA Nutrients[d] and SMI Standard for Saturated Fat		23.1	26.6$^{\beta}$	12.1$^{\gamma}$	23.1
SMI Standards for all RDA Nutrients,[d] SMI Standard for Saturated Fat, and 2010 *Dietary Guidelines* Standard for Total Fat		18.9	20.6$^{\beta}$	8.0$^{\gamma}$	18.3
Updated Standards for all RDA Nutrients,[e] SMI Standard for Saturated Fat, and 2010 *Dietary Guidelines* Standard for Total Fat		18.1	19.7$^{\beta}$	5.4$^{\gamma}$~	17.3
Number of Schools		**354**	**319**	**207**	**880**

Source: School Nutrition Dietary Assessment Study–IV, Menu Survey, school year 2009–2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

[a]In retinol equivalents (RE).

Table E.39 *(continued)*

[b]Based on the 2010 *Dietary Guidelines for Americans*.
[c]Benchmarks are one-third of suggested maximum daily intake.
[d]Includes protein, vitamin A, vitamin C, calcium and iron.
[e]Updated to reflect RDA values included in the Dietary Reference Intakes.

RDA = Recommended Dietary Allowances; REA = Recommended Energy Allowance; SMI = School Meals Initiative for Healthy Children.

[α]Difference between small and medium size schools is significantly different from zero at the .05 level.
[β]Difference between middle and large size schools is significantly different from zero at the .05 level.
[γ]Difference between small and large size schools is significantly different from zero at the .05 level.

~ Point estimate is considered less precise than estimates that are not flagged because the sample size is small or the coefficient of variation is large. The rules used in flagging estimates are described in Chapter 1. When these rules are applied, percentages close to 0 or 100 are often flagged. In this table, flagged percentages between 0 and 3 percent are displayed as <3 and flagged percentages between 97 and 100 percent are displayed as >97.

Table E.40. Average Calorie and Nutrient Content of National School Lunch Program Lunches *Offered*, Relative to SMI Nutrition Standards and Related Benchmarks, by District Child Poverty Level

	Standard/ Recommendation	District Child Poverty Level		All Schools
		Low Poverty (Less than 30% of children in poverty	Higher Poverty (30% or more of children in poverty)	
Average Percentage of 1989 REA/RDA				
Calories	33%	36.5$^{\alpha}$	33.8	35.6
Protein	33%	93.8$^{\alpha}$	90.4	92.7
Vitamin A[a]	33%	64.6$^{\alpha}$	58.9	62.7
Vitamin C	33%	73.4$^{\alpha}$	64.6	70.4
Calcium	33%	58.4$^{\alpha}$	54.5	57.1
Iron	33%	41.5$^{\alpha}$	39.2	40.8
Average Percentage of Calories from:				
Total fat	≤ 30%[b]	32.2	31.8	32.1
Saturated fat	< 10%	10.0	10.1	10.0
Average Amount				
Cholesterol	< 100 mg[c,d]	59	59	59
Sodium	< 767 mg[c,d]	1,508$^{\alpha}$	1,406	1,474
Dietary fiber (g/1,000 calories)	14[c]	10$^{\alpha}$	10	10
Number of Schools		**598**	**286**	**884**

Source: School Nutrition Dietary Assessment Study–IV, Menu Survey, school year 2009–2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

[a]In retinol equivalents (RE).
[b]The 2010 *Dietary Guidelines for Americans* recommendation for the percentage of calories from total fat is 25–35%.
[c]Based on the 2010 *Dietary Guidelines for Americans.*
[d]Benchmarks are one-third of suggested maximum daily intake.

RDA = Recommended Dietary Allowances; REA = Recommended Energy Allowance; SMI = School Meals Initiative for Healthy Children.

[α]Difference between low and higher district child poverty level is significantly different from zero at the .05 level.

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Table E.41. Proportion of Schools *Offering* National School Lunch Program Lunches that Satisfied Each of the SMI Nutrition Standards and Related Benchmarks and Different Combinations of the Standards and Benchmarks, by District Child Poverty Level

	Standard/ Recommendation	District Child Poverty Level		All Schools
		Low Poverty (Less than 30% of children in poverty	Higher Poverty (30% or more of children in poverty)	
SMI Nutrition Standards				
Calories	33% of 1989 REA	69.9[α]	53.7	64.5
Protein	33% of 1989 RDA	>97	>97	>97
Vitamin A[a]	33% of 1989 RDA	95.4[α]	89.6	93.5
Vitamin C	33% of 1989 RDA	86.5	82.7	85.3
Calcium	33% of 1989 RDA	>97	>97	>97
Iron	33% of 1989 RDA	86.6	80.5	84.8
Percentage of Calories from Total Fat	≤ 30%	33.5	37.6	34.9
Percentage of Calories from Saturated Fat	< 10%	50.9	52.4	51.4
Other Nutrition Benchmarks				
Percentage of Calories from Total Fat	25% – 35%[b]	68.7	73.7	70.4
Cholesterol	< 100 mg[b,c]	98	>97	98
Sodium	< 767 mg[b,c]	<3	0	<3
Dietary fiber (g/1,000 calories)	14[b]	4	3	4
Combinations of Standards				
All SMI Standards		15.9	11.2	14.3
SMI Standards for all RDA Nutrients[c]		73.3	63.6	70.1
SMI Standards for all RDA Nutrients[d] and SMI Standard for Saturated Fat		39.1	36.0	38.1
SMI Standards for all RDA Nutrients,[d] SMI Standard for Saturated Fat, and 2010 *Dietary Guidelines* Standard for Total Fat		31.1	31.9	31.4
Updated Standards for all RDA Nutrients,[e] SMI Standard for Saturated Fat, and 2010 *Dietary Guidelines* Standard for Total Fat		31.1	32.1	31.4
Number of Schools		**598**	**286**	**884**

Table E.41 *(continued)*

Source: School Nutrition Dietary Assessment Study–IV, Menu Survey, school year 2009–2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

[a]In retinol equivalents (RE).
[b]Based on the 2010 *Dietary Guidelines* for Americans.
[c]Benchmarks are one-third of suggested maximum daily intake.
[d]Includes protein, vitamin A, vitamin C, calcium and iron.
[e]Updated to reflect RDA values included in the Dietary Reference Intakes.

RDA = Recommended Dietary Allowances; REA = Recommended Energy Allowance; SMI = School Meals Initiative for Healthy Children.

[α]Difference between low and higher district child poverty level is significantly different from zero at the .05 level.

~ Point estimate is considered less precise than estimates that are not flagged because the sample size is small or the coefficient of variation is large. The rules used in flagging estimates are described in Chapter 1. When these rules are applied, percentages close to 0 or 100 are often flagged. In this table, flagged percentages between 0 and 3 percent are displayed as <3 and flagged percentages between 97 and 100 percent are displayed as >97.

Table E.42. Average Calorie and Nutrient Content of National School Lunch Program Lunches *Served*, Relative to SMI Nutrition Standards and Related Benchmarks, by District Child Poverty Level

	Standard/ Recommendation	District Child Poverty Level		All Schools
		Low Poverty (Less than 30% of children in poverty	Higher Poverty (30% or more of children in poverty)	
Average Percentage of 1989 REA/RDA				
Calories	33%	32.1	31.3	31.9
Protein	33%	85.9	85.2	85.6
Vitamin A[a]	33%	48.1	45.5	47.2
Vitamin C	33%	47.7	48.1	47.9
Calcium	33%	51.7	49.8	51.1
Iron	33%	37.9	37.7	37.8
Average Percentage of Calories from:				
Total fat	≤ 30%[b]	32.3	31.5	32.1
Saturated fat	< 10%	10.2	10.1	10.1
Average Amount				
Cholesterol	< 100 mg[c,d]	55	55	55
Sodium	< 767 mg[c,d]	1,395	1,336	1,375
Dietary fiber (g/1,000 calories)	14[c]	9[α]	10	9
Number of Schools		**595**	**285**	**880**

Source: School Nutrition Dietary Assessment Study–IV, Menu Survey, school year 2009–2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

[a]In retinol equivalents (RE).
[b]The 2010 *Dietary Guidelines for Americans* recommendation for the percentage of calories from total fat is 25–35%.
[c]Based on the 2010 *Dietary Guidelines for Americans.*
[d]Benchmarks are one–third of suggested maximum daily intake.

RDA = Recommended Dietary Allowances; REA = Recommended Energy Allowance; SMI = School Meals Initiative for Healthy Children.

[α]Difference between low and higher district child poverty level is significantly different from zero at the .05 level.

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Table E.43. Proportion of Schools *Serving* National School Lunch Program Lunches that Satisfied Each of the SMI Nutrition Standards and Related Benchmarks and Different Combinations of the Standards and Benchmarks, by District Child Poverty Level

		District Child Poverty Level		
	Standard/ Recommendation	Low Poverty (Less than 30% of children in poverty	Higher Poverty (30% or more of children in poverty)	All Schools
SMI Nutrition Standards				
Calories	33% of 1989 REA	40.3	35.4	38.7
Protein	33% of 1989 RDA	>97	>97	>97
Vitamin A[a]	33% of 1989 RDA	77.8	71.9	75.9
Vitamin C	33% of 1989 RDA	68.9	65.4	67.7
Calcium	33% of 1989 RDA	94.8	92.0	93.8
Iron	33% of 1989 RDA	76.7	71.1	74.9
Percentage of Calories from Total Fat	≤ 30%	30.0[α]	42.4	34.1
Percentage of Calories from Saturated Fat	< 10%	49.2	52.4	50.3
Other Nutrition Benchmarks				
Percentage of Calories from Total Fat	25% – 35%[b]	71.0	74.6	72.2
Cholesterol	< 100 mg[b,c]	>97[α]	>97	>97
Sodium	< 767 mg[b,c]	<3	1	<3
Dietary fiber (g/1,000 calories)	14[b]	<3	0	<3
Combinations of Standards				
All SMI Standards		6.8	5.9	6.5
SMI Standards for all RDA Nutrients[c]		48.4	38.9	45.2
SMI Standards for all RDA Nutrients[d] and SMI Standard for Saturated Fat		24.3	20.9	23.1
SMI Standards for all RDA Nutrients,[d] SMI Standard for Saturated Fat, and 2010 *Dietary Guidelines* Standard for Total Fat		19.5	15.8	18.3
Updated Standards for all RDA Nutrients,[e] SMI Standard for Saturated Fat, and 2010 *Dietary Guidelines* Standard for Total Fat		17.8	16.2	17.3
Number of Schools		**595**	**285**	**880**

Table E.43 *(continued)*

Source: School Nutrition Dietary Assessment Study–IV, Menu Survey, school year 2009–2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

[a]In retinol equivalents (RE).
[b]Based on the 2010 *Dietary Guidelines for Americans*.
[c]Benchmarks are one-third of suggested maximum daily intake.
[d]Includes protein, vitamin A, vitamin C, calcium and iron.
[e]Updated to reflect RDA values included in the Dietary Reference Intakes.

RDA = Recommended Dietary Allowances; REA = Recommended Energy Allowance; SMI = School Meals Initiative for Healthy Children.

[α]Difference between low and higher district child poverty level is significantly different from zero at the .05 level.

~ Point estimate is considered less precise than estimates that are not flagged because the sample size is small or the coefficient of variation is large. The rules used in flagging estimates are described in Chapter 1. When these rules are applied, percentages close to 0 or 100 are often flagged. In this table, flagged percentages between 0 and 3 percent are displayed as <3 and flagged percentages between 97 and 100 percent are displayed as >97.

Table E.44. Average Calorie and Nutrient Content of National School Lunch Program Lunches *Offered*, Relative to SMI Nutrition Standards and Related Benchmarks, by Community Type

		Community Type			
	Standard/ Recommendation	Urban	Suburban	Rural	All Schools
Average Percentage of 1989 REA/RDA					
Calories	33%	34.1$^{\alpha}$	36.5	35.6	35.6
Protein	33%	92.3	92.6	93.2	92.7
Vitamin A[a]	33%	63.8	65.2$^{\beta}$	57.0$^{\gamma}$	62.7
Vitamin C	33%	72.9	74.8$^{\beta}$	60.1$^{\gamma}$	70.4
Calcium	33%	57.4	58.1$^{\beta}$	55.3	57.1
Iron	33%	39.1$^{\alpha}$	41.2	41.7$^{\gamma}$	40.8
Average Percentage of Calories from:					
Total fat	≤ 30%[b]	31.4	32.2	32.6	32.1
Saturated fat	< 10%	9.8	10.0	10.3$^{\gamma}$	10.0
Average Amount					
Cholesterol	< 100 mg[c,d]	58	59	61	59
Sodium	< 767 mg[c,d]	1,379$^{\alpha}$	1,506	1,519$^{\gamma}$	1,474
Dietary fiber (g/1,000 calories)	14[c]	10	10	10	10
Number of Schools		**277**	**407**	**200**	**884**

Source: School Nutrition Dietary Assessment Study–IV, Menu Survey, school year 2009–2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

[a]In retinol equivalents (RE).
[b]The 2010 *Dietary Guidelines for Americans* recommendation for the percentage of calories from total fat is 25–35%.
[c]Based on the 2010 *Dietary Guidelines for Americans.*
[d]Benchmarks are one-third of suggested maximum daily intake.

RDA = Recommended Dietary Allowances; REA = Recommended Energy Allowance; SMI = School Meals Initiative for Healthy Children.

$^{\alpha}$Difference between urban and suburban community types is significantly different from zero at the .05 level.
$^{\beta}$Difference between suburban and rural community types is significantly different from zero at the .05 level.
$^{\gamma}$Difference between urban and rural community types is significantly different from zero at the .05 level.

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Table E.45. Proportion of Schools *Offering* National School Lunch Program Lunches that Satisfied Each of the SMI Nutrition Standards and Related Benchmarks and Different Combinations of the Standards and Benchmarks, by Community Type

	Standard/ Recommendation	Community Type			All Schools
		Urban	Suburban	Rural	
SMI Nutrition Standards					
Calories	33% of 1989 REA	57.0[α]	70.4	61.9	64.5
Protein	33% of 1989 RDA	>97	>97	>97	>97
Vitamin A[a]	33% of 1989 RDA	94.9	94.7	89.8	93.5
Vitamin C	33% of 1989 RDA	91.0	89.3[β]	72.0[γ]	85.3
Calcium	33% of 1989 RDA	>97	>97	>97	>97
Iron	33% of 1989 RDA	80.7	84.7	89.1	84.8
Percentage of Calories from Total Fat	≤ 30%	36.9	34.7	32.9	34.9
Percentage of Calories from Saturated Fat	< 10%	52.6	53.5	46.4	51.4
Other Nutrition Benchmarks					
Percentage of Calories from Total Fat	25% – 35%[b]	73.0	71.2	66.2	70.4
Cholesterol	< 100 mg[b,c]	>97	>97	>97	98
Sodium	< 767 mg[b,c]	<3	<3	<3	<3
Dietary fiber (g/1,000 calories)	14[b]	4~	3~	4~	4
Combinations of Standards					
All SMI Standards		15.8	16.1	9.6	14.3
SMI Standards for all RDA Nutrients[c]		71.2	74.0	62.1	70.1
SMI Standards for all RDA Nutrients[d] and SMI Standard for Saturated Fat		41.9	39.9	30.8	38.1
SMI Standards for all RDA Nutrients,[d] SMI Standard for Saturated Fat, and 2010 *Dietary Guidelines* Standard for Total Fat		35.9	32.2	25.2	31.4
Updated Standards for all RDA Nutrients,[e] SMI Standard for Saturated Fat, and 2010 *Dietary Guidelines* Standard for Total Fat		29.9	35.7	25.5	31.4
Number of Schools		**277**	**407**	**200**	**884**

Source: School Nutrition Dietary Assessment Study–IV, Menu Survey, school year 2009–2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

[a]In retinol equivalents (RE).
[b]Based on the 2010 *Dietary Guidelines* for Americans.
[c]Benchmarks are one-third of suggested maximum daily intake.

Table E.45 *(continued)*

[d]Includes protein, vitamin A, vitamin C, calcium and iron.
[e]Updated to reflect RDA values included in the Dietary Reference Intakes.

RDA = Recommended Dietary Allowances; REA = Recommended Energy Allowance; SMI = School Meals Initiative for Healthy Children.

[α]Difference between urban and suburban community types is significantly different from zero at the .05 level.
[β]Difference between suburban and rural community types is significantly different from zero at the .05 level.
[γ]Difference between urban and rural community types is significantly different from zero at the .05 level.

~ Point estimate is considered less precise than estimates that are not flagged because the sample size is small or the coefficient of variation is large. The rules used in flagging estimates are described in Chapter 1. When these rules are applied, percentages close to 0 or 100 are often flagged. In this table, flagged percentages between 0 and 3 percent are displayed as <3 and flagged percentages between 97 and 100 percent are displayed as >97.

Table E.46. Average Calorie and Nutrient Content of National School Lunch Program Lunches *Served*, Relative to SMI Nutrition Standards and Related Benchmarks, by Community Type

		Community Type			
	Standard/ Recommendation	Urban	Suburban	Rural	All Schools
Average Percentage of 1989 REA/RDA					
Calories	33%	30.0$^{\alpha}$	31.9$^{\beta}$	33.8$^{\gamma}$	31.9
Protein	33%	83.9	84.3$^{\beta}$	89.9$^{\gamma}$	85.6
Vitamin A[a]	33%	44.5	47.8	49.0$^{\gamma}$	47.2
Vitamin C	33%	49.7	47.4	46.6	47.9
Calcium	33%	49.1$^{\alpha}$	51.3	52.7$^{\gamma}$	51.1
Iron	33%	36.0	37.5$^{\beta}$	40.3$^{\gamma}$	37.8
Average Percentage of Calories from:					
Total fat	≤ 30%[b]	31.1$^{\alpha}$	32.3	32.6$^{\gamma}$	32.1
Saturated fat	< 10%	9.8$^{\alpha}$	10.2	10.4$^{\gamma}$	10.1
Average Amount					
Cholesterol	< 100 mg[c,d]	51	55$^{\beta}$	58$^{\gamma}$	55
Sodium	< 767 mg[c,d]	1,260$^{\alpha}$	1,384$^{\beta}$	1,481$^{\gamma}$	1,375
Dietary fiber (g/1,000 calories)	14[c]	9$^{\alpha}$	9$^{\beta}$	10	9
Number of Schools		**276**	**406**	**198**	**880**

Source: School Nutrition Dietary Assessment Study–IV, Menu Survey, school year 2009–2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

[a]In retinol equivalents (RE).
[b]The 2010 *Dietary Guidelines for Americans* recommendation for the percentage of calories from total fat is 25–35%.
[c]Based on the 2010 *Dietary Guidelines for Americans.*
[d]Benchmarks are one-third of suggested maximum daily intake.

RDA = Recommended Dietary Allowances; REA = Recommended Energy Allowance; SMI = School Meals Initiative for Healthy Children.

[α]Difference between urban and suburban community types is significantly different from zero at the .05 level.
[β]Difference between suburban and rural community types is significantly different from zero at the .05 level.
[γ]Difference between urban and rural community types is significantly different from zero at the .05 level.

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Table E.47. Proportion of Schools *Serving* National School Lunch Program Lunches that Satisfied Each of the SMI Nutrition Standards and Related Benchmarks and Different Combinations of the Standards and Benchmarks, by Community Type

		Community Type			
	Standard/ Recommendation	Urban	Suburban	Rural	All Schools
SMI Nutrition Standards					
Calories	33% of 1989 REA	26.5	37.1$^{\beta}$	54.2$^{\gamma}$	38.7
Protein	33% of 1989 RDA	>97	>97	>97	>97
Vitamin A[a]	33% of 1989 RDA	69.2	77.0	80.9$^{\gamma}$	75.9
Vitamin C	33% of 1989 RDA	71.0	71.7$^{\beta}$	57.2	67.7
Calcium	33% of 1989 RDA	89.7$^{\alpha}$	94.9	96.4$^{\gamma}$~	93.8
Iron	33% of 1989 RDA	64.5$^{\alpha}$	74.9$^{\beta}$	85.8$^{\gamma}$	74.9
Percentage of Calories from Total Fat	≤ 30%	39.8	33.0	30.0	34.1
Percentage of Calories from Saturated Fat	< 10%	60.6	48.4	42.6$^{\gamma}$	50.3
Other Nutrition Benchmarks					
Percentage of Calories from Total Fat	25% – 35%[b]	77.9	69.3	71.3	72.2
Cholesterol	< 100 mg[b,c]	>97	>97	>97	>97
Sodium	< 767 mg[b,c]	<3	<3	<3	<3
Dietary fiber (g/1,000 calories)	14[b]	<3	<3	<3	<3
Combinations of Standards					
All SMI Standards		6.8	7.3	4.8~	6.5
SMI Standards for all RDA Nutrients[c]		39.6	50.0	42.8	45.2
SMI Standards for all RDA Nutrients[d] and SMI Standard for Saturated Fat		26.4	23.8	18.5	23.1
SMI Standards for all RDA Nutrients,[d] SMI Standard for Saturated Fat, and 2010 *Dietary Guidelines* Standard for Total Fat		22.8	17.8	14.4	18.3
Updated Standards for all RDA Nutrients,[e] SMI Standard for Saturated Fat, and 2010 *Dietary Guidelines* Standard for Total Fat		17.1	18.3	15.7	17.3
Number of Schools		**276**	**406**	**198**	**880**

Source: School Nutrition Dietary Assessment Study–IV, Menu Survey, school year 2009–2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

[a]In retinol equivalents (RE).
[b]Based on the 2010 *Dietary Guidelines for Americans*.

Table E.47 *(continued)*

[c]Benchmarks are one-third of suggested maximum daily intake.
[d]Includes protein, vitamin A, vitamin C, calcium and iron.
[e]Updated to reflect RDA values included in the Dietary Reference Intakes.

RDA = Recommended Dietary Allowances; REA = Recommended Energy Allowance; SMI = School Meals Initiative for Healthy Children.

[α]Difference between urban and suburban community types is significantly different from zero at the .05 level.
[β]Difference between suburban and rural community types is significantly different from zero at the .05 level.
[γ]Difference between urban and rural community types is significantly different from zero at the .05 level.

~ Point estimate is considered less precise than estimates that are not flagged because the sample size is small or the coefficient of variation is large. The rules used in flagging estimates are described in Chapter 1. When these rules are applied, percentages close to 0 or 100 are often flagged. In this table, flagged percentages between 0 and 3 percent are displayed as <3 and flagged percentages between 97 and 100 percent are displayed as >97.

Table E.48. Average Calorie and Nutrient Content of National School Lunch Program Lunches *Offered*, Relative to SMI Nutrition Standards and Related Benchmarks

	Standard/ Recommendation	Elementary School Students	Middle School Students	High School Students	All Students
Average Percentage of 1989 REA/RDA					
Calories	33%	37.0$^{\alpha}$	33.8	33.6$^{\gamma}$	35.2
Protein	33%	106.9$^{\alpha}$	72.0$^{\beta}$	67.9$^{\gamma}$	87.0
Vitamin A[a]	33%	70.7$^{\alpha}$	53.3$^{\beta}$	49.9$^{\gamma}$	60.3
Vitamin C	33%	72.2	76.9	75.0	74.1
Calcium	33%	64.0$^{\alpha}$	47.1	47.8$^{\gamma}$	55.2
Iron	33%	42.4$^{\alpha}$	36.8$^{\beta}$	39.0$^{\gamma}$	40.2
Average Percentage of Calories from:					
Total fat	≤ 30%[b]	31.5	32.0	32.3	31.9
Saturated fat	< 10%	9.9	10.0	9.8	9.9
Average Amount					
Cholesterol	< 100 mg[c,d]	55$^{\alpha}$	61	65$^{\gamma}$	60
Sodium	< 767 mg[c,d]	1,382$^{\alpha}$	1,551$^{\beta}$	1,648$^{\gamma}$	1,504
Dietary fiber (g/1,000 calories)	14[c]	10	10	10	10
Number of Schools		**318**	**287**	**279**	**884**

Source: School Nutrition Dietary Assessment Study-IV, Menu Survey, school year 2009-2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

[a]In retinol equivalents (RE).
[b]The 2010 *Dietary Guidelines for Americans* recommendation for the percentage of calories from total fat is 25-35%.
[c]Based on the 2010 *Dietary Guidelines for Americans.*
[d]Benchmarks are one-third of suggested maximum daily intake.

RDA = Recommended Dietary Allowances; REA = Recommended Energy Allowance; SMI = School Meals Initiative for Healthy Children.

[α]Difference between elementary and middle school students is significantly different from zero at the .05 level.
[β]Difference between middle and high school students is significantly different from zero at the .05 level.
[γ]Difference between elementary and high school students is significantly different from zero at the .05 level.

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Table E.49. Proportion of Schools *Offering* National School Lunch Program Lunches that Satisfied Each of the SMI Nutrition Standards and Related Benchmarks and Different Combinations of the Standards and Benchmarks

	Standard/ Recommendation	Elementary School Students	Middle School Students	High School Students	All Students
SMI Nutrition Standards					
Calories	33% of 1989 REA	76.4$^{\alpha}$	49.5	48.2$^{\gamma}$	61.7
Protein	33% of 1989 RDA	>97	>97	>97	>97
Vitamin A[a]	33% of 1989 RDA	>97$^{\alpha}$	88.7	89.4$^{\gamma}$	93.2
Vitamin C	33% of 1989 RDA	85.6$^{\alpha}$	91.4	95.1$^{\gamma}$	89.9
Calcium	33% of 1989 RDA	>97	>97	96.5~	>97
Iron	33% of 1989 RDA	92.3$^{\alpha}$	66.8	75.1$^{\gamma}$	81.6
Percentage of Calories from Total Fat	≤ 30%	37.3	37.3	34.7	36.4
Percentage of Calories from Saturated Fat	< 10%	51.6	53.0	60.3	54.8
Other Nutrition Benchmarks					
Percentage of Calories from Total Fat	25% – 35%[b]	73.1	73.5	71.4	72.6
Cholesterol	< 100 mg[b,c]	>97	>97	92	97
Sodium	< 767 mg[b,c]	<3	<3	<3	<3
Dietary fiber (g/1,000 calories)	14[b]	<3	4~	<3	3
Combinations of Standards					
All SMI Standards		19.7	13.5	9.8$^{\gamma}$	15.2
SMI Standards for all RDA Nutrients[c]		79.5$^{\alpha}$	55.9$^{\beta}$	68.7$^{\gamma}$	71.3
SMI Standards for all RDA Nutrients[d] and SMI Standard for Saturated Fat		42.0	33.7	44.1	41.1
SMI Standards for all RDA Nutrients,[d] SMI Standard for Saturated Fat, and 2010 *Dietary Guidelines* Standard for Total Fat		33.9	30.0	34.2	33.2
Updated Standards for all RDA Nutrients,[e] SMI Standard for Saturated Fat, and 2010 *Dietary Guidelines* Standard for Total Fat		35.1	39.7$^{\beta}$	23.6$^{\gamma}$	32.1
Number of Schools		**318**	**287**	**279**	**884**

Source: School Nutrition Dietary Assessment Study–IV, Menu Survey, school year 2009–2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

[a]In retinol equivalents (RE).
[b]Based on the 2010 *Dietary Guidelines* for Americans.
[c]Benchmarks are one-third of suggested maximum daily intake.
[d]Includes protein, vitamin A, vitamin C, calcium and iron.

Table E.49 *(continued)*

[e]Updated to reflect RDA values included in the Dietary Reference Intakes.

RDA = Recommended Dietary Allowances; REA = Recommended Energy Allowance; SMI = School Meals Initiative for Healthy Children.

[α]Difference between elementary and middle school students is significantly different from zero at the .05 level.
[β]Difference between middle and high school students is significantly different from zero at the .05 level.
[γ]Difference between elementary and high school students is significantly different from zero at the .05 level.

~ Point estimate is considered less precise than estimates that are not flagged because the sample size is small or the coefficient of variation is large. The rules used in flagging estimates are described in Chapter 1. When these rules are applied, percentages close to 0 or 100 are often flagged. In this table, flagged percentages between 0 and 3 percent are displayed as <3 and flagged percentages between 97 and 100 percent are displayed as >97.

Table E.50. Average Calorie and Nutrient Content of National School Lunch Program Lunches *Served*, Relative to SMI Nutrition Standards and Related Benchmarks

	Standard/ Recommendation	Elementary School Students	Middle School Students	High School Students	All Students
Average Percentage of 1989 REA/RDA					
Calories	33%	33.2$^{\alpha}$	28.6	27.8$^{\gamma}$	30.5
Protein	33%	99.2$^{\alpha}$	62.9$^{\beta}$	58.1$^{\gamma}$	78.2
Vitamin A[a]	33%	52.8$^{\alpha}$	33.8	33.8$^{\gamma}$	42.7
Vitamin C	33%	49.9	47.3	44.5$^{\gamma}$	47.6
Calcium	33%	57.1$^{\alpha}$	39.1	39.0$^{\gamma}$	47.5
Iron	33%	39.9$^{\alpha}$	32.5	33.3$^{\gamma}$	36.2
Average Percentage of Calories from:					
Total fat	≤ 30%[b]	31.2$^{\alpha}$	32.5$^{\beta}$	33.7$^{\gamma}$	32.3
Saturated fat	< 10%	9.9$^{\alpha}$	10.3	10.2	10.1
Average Amount					
Cholesterol	< 100 mg[c,d]	53	53	55	54
Sodium	< 767 mg[c,d]	1,298$^{\alpha}$	1,365$^{\beta}$	1,450$^{\gamma}$	1,362
Dietary fiber (g/1,000 calories)	14[c]	9$^{\alpha}$	9	9$^{\gamma}$	9
Number of Schools		**317**	**285**	**278**	**880**

Source: School Nutrition Dietary Assessment Study–IV, Menu Survey, school year 2009–2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

[a]In retinol equivalents (RE).
[b]The 2010 *Dietary Guidelines for Americans* recommendation for the percentage of calories from total fat is 25–35%.
[c]Based on the 2010 *Dietary Guidelines for Americans.*
[d]Benchmarks are one-third of suggested maximum daily intake.

RDA = Recommended Dietary Allowances; REA = Recommended Energy Allowance; SMI = School Meals Initiative for Healthy Children.

[α]Difference between elementary and middle school students is significantly different from zero at the .05 level.
[β]Difference between middle and high school students is significantly different from zero at the .05 level.
[γ]Difference between elementary and high school students is significantly different from zero at the .05 level.

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Table E.51. Proportion of Schools *Serving* National School Lunch Program Lunches that Satisfied Each of the SMI Nutrition Standards and Related Benchmarks and Different Combinations of the Standards and Benchmarks

	Standard/ Recommendation	Elementary School Students	Middle School Students	High School Students	All Students
SMI Nutrition Standards					
Calories	33% of 1989 REA	45.8$^{\alpha}$	17.1	19.3$^{\gamma}$	31.3
Protein	33% of 1989 RDA	>97	>97	>97	>97
Vitamin A[a]	33% of 1989 RDA	87.2$^{\alpha}$	48.3	42.5$^{\gamma}$	64.5
Vitamin C	33% of 1989 RDA	72.4	66.3	63.9	68.3
Calcium	33% of 1989 RDA	>97$^{\alpha}$	79.4	83.6$^{\gamma}$	90.3
Iron	33% of 1989 RDA	86.7$^{\alpha}$	40.9	47.5$^{\gamma}$	64.5
Percentage of Calories from Total Fat	≤ 30%	41.1$^{\alpha}$	30.1	22.2$^{\gamma}$	32.6
Percentage of Calories from Saturated Fat	< 10%	57.0$^{\alpha}$	46.0	45.1$^{\gamma}$	50.9
Other Nutrition Benchmarks					
Percentage of Calories from Total Fat	25% – 35%[b]	77.7	69.6	61.5$^{\gamma}$	70.7
Cholesterol	< 100 mg[b,c]	>97	>97	>97	>97
Sodium	< 767 mg[b,c]	<3	<3	<3	<3
Dietary fiber (g/1,000 calories)	14[b]	<3	<3	<3	<3
Combinations of Standards					
All SMI Standards		9.3$^{\alpha}$	3.4~	<3$^{\gamma}$	5.8
SMI Standards for all RDA Nutrients[c]		59.6$^{\alpha}$	16.0$^{\beta}$	26.3$^{\gamma}$	39.9
SMI Standards for all RDA Nutrients[d] and SMI Standard for Saturated Fat		32.4$^{\alpha}$	9.4	11.1$^{\gamma}$	20.8
SMI Standards for all RDA Nutrients,[d] SMI Standard for Saturated Fat, and 2010 *Dietary Guidelines* Standard for Total Fat		26.0$^{\alpha}$	7.8	6.5$^{\gamma}$	15.9
Updated Standards for all RDA Nutrients,[e] SMI Standard for Saturated Fat, and 2010 *Dietary Guidelines* Standard for Total Fat		23.5$^{\alpha}$	11.9$^{\beta}$	<3$^{\gamma}$	14.2
Number of Schools		**317**	**285**	**278**	**880**

Source: School Nutrition Dietary Assessment Study–IV, Menu Survey, school year 2009–2010. Tabulations prepared by Mathematica Policy Research are weighted to be representative of all public schools offering the National School Lunch Program.

[a]In retinol equivalents (RE).
[b]Based on the 2010 *Dietary Guidelines* for Americans.
[c]Benchmarks are one–third of suggested maximum daily intake.
[d]Includes protein, vitamin A, vitamin C, calcium and iron.

Table E.51 *(continued)*

[e]Updated to reflect RDA values included in the Dietary Reference Intakes.

RDA = Recommended Dietary Allowances; REA = Recommended Energy Allowance; SMI = School Meals Initiative for Healthy Children.

[α]Difference between elementary and middle school students is significantly different from zero at the .05 level.
[β]Difference between middle and high school students is significantly different from zero at the .05 level.
[γ]Difference between elementary and high school students is significantly different from zero at the .05 level.

~ Point estimate is considered less precise than estimates that are not flagged because the sample size is small or the coefficient of variation is large. The rules used in flagging estimates are described in Chapter 1. When these rules are applied, percentages close to 0 or 100 are often flagged. In this table, flagged percentages between 0 and 3 percent are displayed as <3 and flagged percentages between 97 and 100 percent are displayed as >97.