The Changing Food Mix in the Nation's Schools

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Food service in the Nation's elementary and secondary schools represents a substantial outlet for agricultural products. In 1980, approximately 4.4 billion school lunches were served, about 70 percent more than in 1963. This increase was due primarily to regulatory changes which made it easier for schools and students to participate in programs administered by USDA's Food and Nutrition Service under the National School Lunch and Child Nutrition Acts.

Though school district consolidation led to an 11.4-percent decrease in the number of schools nationwide between 1963 and 1980, the number of schools participating in the National School Lunch Program (NSLP) increased 35 percent. By 1980, over 80 percent of all U.S. schools participated in the NSLP, up from only 53 percent in 1963. This upward trend was even more pronounced in terms of student participation, which increased 65 percent while student enrollment grew only 5.5 percent. And, 57 percent of the Nation's school children participated in the NSLP in 1980, up from only 36 percent in 1963.

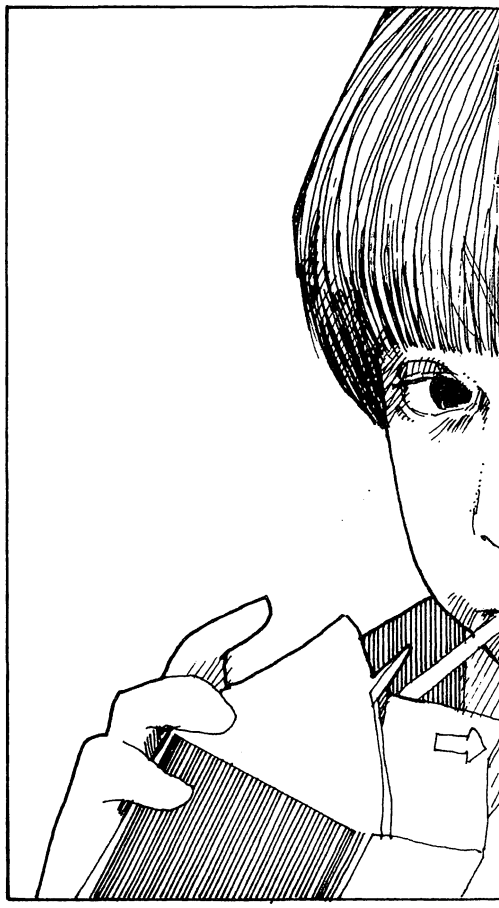
These increases in the rates of participation were, to a large extent, related to changes in Federal program regulations which encouraged schools and students, particularly those in low-income areas, to participate in the NSLP and the School Breakfast Program. Following are some of the more important program changes in this period.

- The Child Nutrition Act of 1966 provided nonfood assistance (equipment, etc.) to help schools serving low-income areas establish, maintain, and expand foodservice programs. The Act established the School Breakfast Program and permitted additional remuneration to schools classified as "severe need" in that program. More than 600 million school breakfasts were served in 1980; approximately 85 percent of these meals were served free or at a reduced price.
- A 1970 law required school districts that participated in the NSLP to serve free or reduced-price lunches to all children from families with incomes at or below the federally defined poverty level, thereby, converting the school lunch program into an entitlement. For reduced-price meals, schools could charge a maximum of 20 cents—a figure that did not change until the 1981-82 school year when it increased to 40 cents.
- A 1972 law set a separate income eligibility standard for reduced-price lunches of up to 125 percent of poverty. The income cut-off points were later raised to highs of 125 percent and 195 percent of poverty for free and reduced-price lunches, respectively, further increasing the number of eligible students.
- The same 1972 law also changed the basis for Federal NSLP funding from grant-in-aid to performance, based on the number of meals served; this prompted States to step up outreach efforts.

The big increase in participation among students from low-income families occurred in the early 1970's. The proportion of school lunches served free or at a reduced price was 10 percent in 1963, 40 percent in 1975, 45 percent in 1980, and 49 percent in 1981. The number of such meals in 1981 was up 700 percent from 1963. By 1981, 41 percent of all school lunches were served free and 8 percent at a reduced price.

The funding based on performance amendment in 1972 provided funds on a sliding scale that enabled schools to offer subsidized meals to all children. Schools received $1.13 from USDA for each free lunch they served in 1980; 95 cents for each reduced-price lunch; and 29.5 cents for each full-price lunch. The Federal subsidies for school lunches were $3.1 billion in 1980, up from only $576 million in 1970.

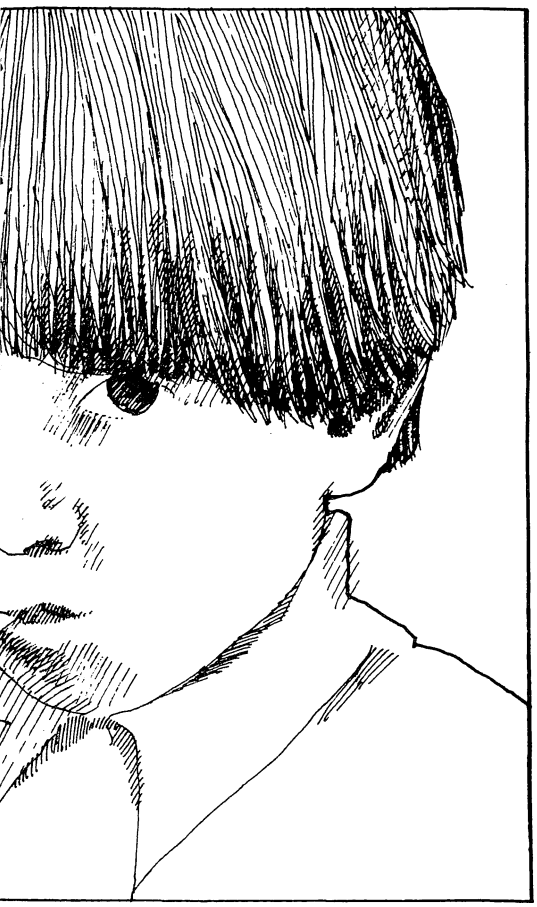
In addition to inducing higher rates of participation, these program changes also affected the distribution of meal costs. Whereas the cost per lunch, including the value of donated commodities, increased an estimated 127 percent between 1963 and 1980, the Federal input rose more than 300 percent. State and local payments increased 152 percent. Despite a rise in the average price of full-priced lunches, the overall contribution from children, relative to the total cost, actually declined due to the substantially higher number of free and reduced-price meals.



Trends in Food Use

Growth in the school market has probably equaled or surpassed that of other segments of the foodservice industry, except for fast foods. Unlike the limited menus at fast food places, however, the variety of food served in the Nation's schools encompasses nearly every food produced on American farms.

After adjusting for inflation, the real value of purchased and donated foods received by schools increased 36 percent between 1962-63 and 1974-75, the most recent period for which detailed product information is available. A significant increase in the quantity of food, the use of more processed, relatively expensive foods, and heavier demand for convenience foods explain the substantial rise in the real value of food received. In 1975, schools received significantly greater quantities of high-unit-cost foods such as beef, prepared foods, and



sweet baked goods. Use of milk, eggs, and bread as a proportion of all food declined. In recent years, a few school districts have been experimenting with menus that use minimally processed or natural foods and complementary protein dishes (see "Natural Twist to the School Lunch Program" in this issue).

The total quantity of food received by schools in 1975 was 8.1 billion pounds, up 35 percent from 1963. Essentially, the school market required more food because of increases in school and student participation in the NSLP. However, students in 1975 also were served 17 percent more, on a per pupil basis, than their counterparts in 1963. The primary reason for the quantity-per-pupil increase was the aging of the school population. By 1975, the baby boom children born in the late fifties and early sixties created a population bulge in secondary schools where the recommended serving sizes are larger. Enrollment in elementary schools decreased 3 percent between 1963 and 1975, whereas the secondary school population increased 26 percent.

Dairy Products

The quantity and real value of dairy products (excluding butter) delivered to the Nation's schools rose 28 percent and 29 percent, respectively, between 1963 and 1975. A rise in the number of students participating in school feeding programs as well as an 11-percent increase in the quantity of dairy foods available per pupil, from 98 pounds to 109 pounds, largely accounted for the increased value. Double servings of milk were permitted with free or reduced-price meals during this period. Students who paid full price for a meal could buy additional milk for a nominal charge. Since the median age of the school population increased between survey years, more students (particularly teenage males) may have consumed double servings in 1975.

Nevertheless, the dairy group's share of the school food market actually declined over the 12-year period. The quantity of dairy foods as a proportion of the quantity of all food in the school market dropped from 50.5 to 47.9 percent. With very high growth rates in the 1950's, the dairy group constituted one-half of the market by 1963. With such a large share of the market, its subsequent slower than average rate of growth was not unexpected.

Dairy foods accounted for 32 cents out of every dollar's worth of food used in the Nation's schools in 1975; fluid milk alone accounted for 25 cents. Cheese accounted for 4 cents out of every dollar spent, ice cream for 2 cents, and nonfat dry milk for 1 cent. Use of cheese more than doubled between 1963 and 1975 because of the popularity of menu items such as pizza, cheeseburgers, and submarine sandwiches. The Federal Government donated 85 percent of the cheese used by schools in both survey years.

A one-half print serving of fluid milk is one of the requirements for a meal served under the NSLP. Among common foods, milk and cheese are the richest sources of calcium. Data from the Health and Human Services Department's Health and Nutrition Examination Survey suggest that the calcium intakes of students who participate in at least one school feeding program typically exceed 100 percent of the Recommended Dietary Allowance (RDA) appropriate to the age of the child.

This is significant in light of data from USDA's 1977 Nationwide Food Consumption Survey (NFCS) which show that average calcium intakes for both sexes in the school-age population, except children aged 6-8 years, fall below their respective calcium RDA. The overriding implication of these two findings is that the diets of most children who do not regularly eat a school meal are woefully deficient in calcium. The NFCS data also show that soft drink consumption among children and teenagers has increased considerably.

Meat, Poultry, and Fish

The amount of meat, poultry, and fish used by schools increased about 60 percent between 1963 and 1975; per pupil consumption rose nearly 40 percent. Use of beef, particularly ground beef, and lunchmeats more than doubled. The quantity of federally donated ground beef increased more than 600 percent between survey years, and constituted 81 percent of the total supply in 1975 compared with 23 percent in 1963. Hamburger is popular, versatile, and easily handled in large quantities.

The marked increase in the use of lunchmeats was also largely due to Federal donations which accounted for nearly 40 percent of the total in 1975; little, if any, lunchmeat was donated in 1963. Lunchmeat menu items such as hot dogs and submarine and bologna sandwiches are popular with children and easily handled by schools with limited foodservice facilities. Use of seafood and poultry increased 38 percent and 22 percent, respectively. Use of pork, veal, and lamb declined.

The meat-poultry-fish group, with an estimated value of $567 million in 1975, ranked as the second most expensive food group—behind dairy products—in the school market; it accounted for 22 cents out

Table 1. Quality and Value of Food Delivered to Schools, 1962-63 and 1974-75

Kind of Food	Quantity: Total 1963	Quantity: Total 1975	Quantity: Total Percent change	Quantity: Per Pupil[1] 1963	Quantity: Per Pupil[1] 1975	Quantity: Per Pupil[1] Percent change	Value: Percent of all food 1963	Value: Percent of all food 1975	Value: Percent of all food 1963	Value: Percent of all food 1975
	Mil. lbs.			lbs.						
All food	6004.5	8105.4	35.0%	194.4 lbs.	227.5 lbs.	17.0%	100.0%	100.0%	100.0%	100.0%
Dairy products	3032.3	3886.1	28.2	98.2	109.0	11.0	50.5	47.9	36.8	31.9
Fluid milk	2860.5	3583.2	23.5	92.6	100.5	8.5	47.6	44.2	30.9	25.0
Cheese	61.2	131.2	114.4	2.0	3.7	85.0	1.0	1.6	2.4	3.7
Ice cream	81.0	88.2	9.0	2.6	2.5	−3.8	1.3	1.1	2.9	2.0
Nonfat dry milk	24.6	31.0	26.0	.8	.9	12.5	.4	.4	.5	.7
Meat, poultry, fish	481.2	773.7	60.8	15.6	21.7	39.1	8.0	9.5	21.2	21.9
Beef	168.8	368.5	118.3	5.4	10.4	92.6	2.8	4.5	8.0	10.7
Poultry	136.4	166.3	21.9	4.4	4.6	4.5	2.2	2.0	4.3	3.8
Lunchmeats	58.3	118.9	103.9	1.9	3.3	73.6	.9	1.4	2.6	3.3
Seafood	48.4	66.9	38.2	1.6	1.9	18.8	.8	.8	2.3	2.2
Pork	65.1	51.3	−21.2	2.1	1.4	−33.3	1.1	.6	3.6	1.7
Veal, lamb	4.1	1.7	−58.5	.1	—	NA	—	—	.3	.1
Fruits and vegetables	1321.6	1674.9	26.7	42.8	47.0	9.8	22.0	20.7	16.0	18.4
Vegetables	626.7	780.8	24.6	20.3	21.8	7.4	10.4	9.6	7.7	8.1
Fruits	407.8	564.3	38.4	13.2	15.9	20.5	6.8	7.0	5.8	6.3
Potatoes, sweet potatoes	287.1	329.8	14.9	9.3	9.3	—	4.8	4.1	2.5	4.0
Prepared foods	39.7	340.5	757.7	1.3	9.5	630.8	.7	4.2	.6	7.2
Bakery products	313.7	431.0	37.4	10.2	12.1	18.6	5.2	5.3	6.9	6.6
Bread	164.8	138.2	−16.1	5.3	3.9	−26.4	2.7	1.7	2.6	1.5
Other bakery items	148.9	292.8	96.6	4.9	8.2	67.3	2.5	3.6	4.3	5.1
Fats and oils	159.8	167.0	4.5	5.2	4.7	−9.6	2.7	2.1	7.0	3.3
Sugars and sweets	157.8	147.7	−6.4	5.1	4.1	−19.6	2.6	1.8	4.5	3.0
Grains and cereals	230.6	264.4	14.7	7.5	7.4	−1.3	3.8	3.3	2.6	2.4
Condiments seasonings	66.9	110.3	64.8	2.2	3.1	40.9	1.1	1.3	1.2	1.4
Juices, ades, drinks	41.8	158.1	278.2	1.4	4.4	214.3	.7	2.0	.2	1.4
Eggs	56.5	33.8	−40.2	1.8	.9	−50.0	.9	.4	1.6	.7
Peanut butter	16.1	32.8	103.7	.5	.9	80.0	.3	.4	.6	.6
Coffee, tea, cocoa	49.0	29.7	−39.4	1.6	.8	−50.0	.8	.4	.8	.5
Soups	27.1	44.5	64.2	.9	1.3	44.4	.5	.5	.5	.4

— = Less than 0.05 percent.
NA = Not ascertained.
[1]Data based on average daily attendance.

of every dollar spent. Ground beef (41 percent of total quantity), poultry (21 percent), and lunchmeats (15 percent) were the three leading constituents of the meat-poultry-fish group in terms of quantity and value.

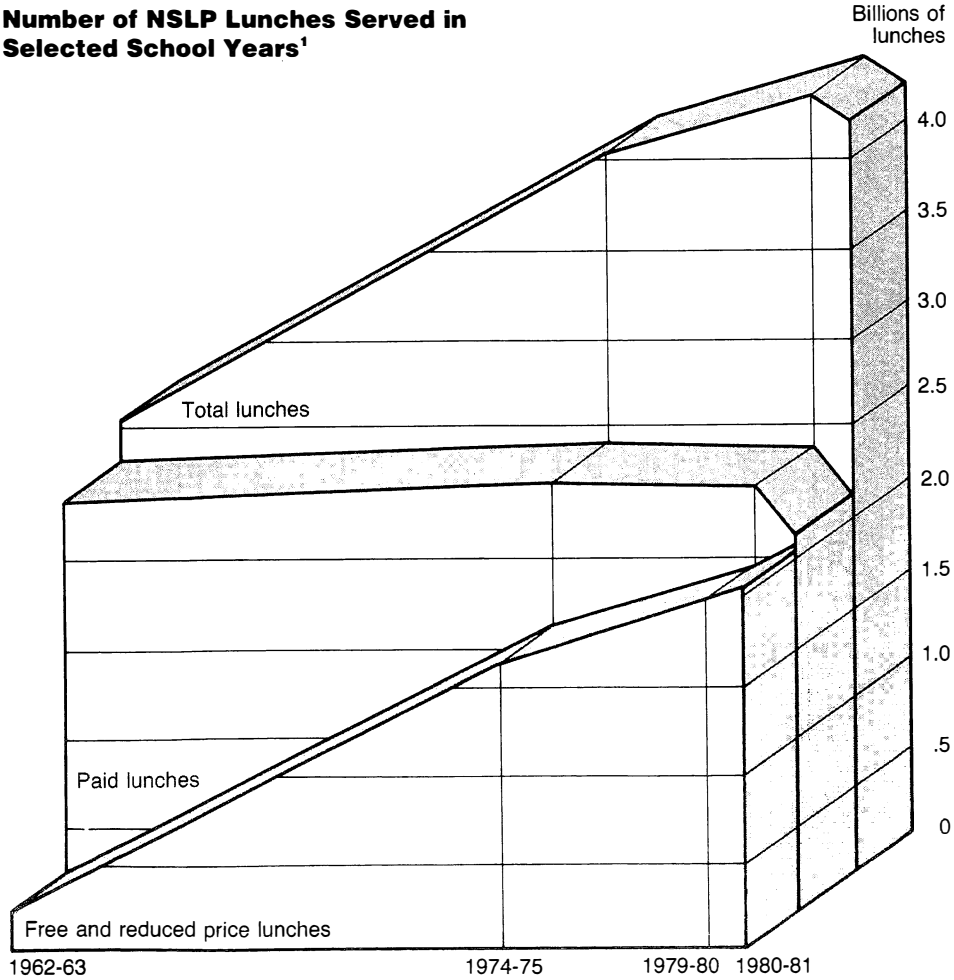
Fruits and Vegetables

The fruit and vegetable group ranked second in importance in terms of quantity and third in terms of value in both survey years. In 1975, per pupil consumption of fruits and vegetables was 47 pounds.

The fruit and vegetables group's share of the market in terms of quantity fell between 1963 and 1975; in particular, the quantity of potatoes and other vegetables relative to that of all food declined. However, a shift to higher priced, processed potato products, an increase in the use of fresh (up 60 percent) and frozen (up 300 percent) vegetables as well as a significant jump in fruit consumption raised the group's share of the food dollar from 16.0 cents in 1963 to 18.4 cents in 1975.

The total quantity of fruit and consumption per pupil rose 40 percent and 20 percent, respectively, possibly due to increasing emphasis on the use of vitamin A and C foods. The mix of fruit changed—fresh fruit doubled in quantity; fresh citrus tripled; and canned fruit increased a modest 14 percent. Per pupil consumption of canned fruit actually declined between survey years; nevertheless, canned fruit constituted 61 percent of the overall fruit supply. In 1975, the Federal Government donated only half as much canned fruit as it did in 1963.

Number of NSLP Lunches Served in Selected School Years[1]



[1]Data includes U.S. territories and excludes day care facilities and nursery schools.

Prepared Foods

The relative importance of fully prepared foods in the school market increased significantly between 1963 and 1975, a reflection of the national trend toward purchase of convenience. The prepared foods group, which ranked fourteenth in terms of quantity and twelth in value among food groups in 1963, jumped to fifth and fourth positions, respectively, by 1975.

The most popular prepared foods, listed in descending order by quantity in million pounds, were: pizza (44.9 million pounds); meat, poultry, and seafood items such as meatloaf, fried chicken, and breaded fish (43.3); baked beans (39.2); meat and pasta combination (39.2); meat mixtures such as chili, sloppy joes, barbecue, and stew (33.6); vegetable salads such as coleslaw and potato salad (23.8); burgers (17.3); hot dogs (15.9); tortillas and tacos (14.7); and cold meat sandwiches such as submarines (11.5). These foods were fully prepared or assumbled before delivery to schools.

Bakery Products

Per-pupil consumption of bakery products was 12.1 pounds in 1975, up 19 percent from 1963. Per capita consumption of bread, the principal bakery item in 1963, declined by more than 25 percent between survey years. In 1975, rolls and buns for hamburgers, hot dogs, and submarines were more popular. Use of sweet baked goods—cakes, pies, doughnuts, brownies, and cookies—more than tripled.

Sugars and Sweets

The schools received 4.1 pounds per student of sugars and sweets in 1975, down 20 percent from 1963. With the 1974 jump in sugar prices, the amount of refined sugar (the major item in this group) dropped 10 percent per student; increased use of corn syrup and molasses only partially offset the

decline. High sugar prices also led to a significant decline in use of jellies, candies, and miscellaneous sweets.

The survey data do not permit an accurate assessment of overall change in student consumption of refined and processed sugars. Declines in use of sugar/sweets and canned fruit (usually packed in heavy syrup), on a per pupil basis, were countered by a threefold rise in consumption of sweet baked goods and a significant increase in use of sugared fruit drinks and ades.

Fats and Oils

Per pupil consumption of fats and oils, including butter, declined 10 percent between survey years. Substitution of margarine for butter was a major reason for the significant decline in the relative value of the fats and oils group from 7 cents of every dollar's worth of food in 1963 to only 3 cents in 1975. Per pupil consumption of butter and shortening/lard declined 52 percent and 42 percent, respectively. Use of salad and cooking oils and salad dressings increased significantly because of rising consumption of french fries, batter-fried fish, green salads, and so forth.

Grains and Cereals

With only a 15-percent increase in the quantity of grain and cereal products going to schools, per capita consumption in 1975 was down slightly from 1963. Per pupil consumption of rice declined 50 percent, while spaghetti and noodle consumption rose nearly 40 percent.

Beverages and Miscellaneous Foods

Beverages and miscellaneous foods such as condiments, eggs, peanut butter, and soups did not comprise a large part of the school market as individual items, but had an aggregate value of over $139 million in 1975.

Per pupil consumption of condiments and seasonings—mainly, catsup, pickles, salt, mustard, relish, and barbecue sauces—was 3.1 pounds in 1975, up 41 percent from 1963.

Per pupil consumption of juices, ades, and drinks more than tripled between survey years. Use of citrus juices guadrupled, while per pupil consumption of noncitrus juices actually declined 15 percent. In 1975, the Federal Government donated about 45 percent of the juice. Little, if any, was donated in 1963. Fruit drinks and punches constituted over 25 percent of the juice-ade-drink group in 1975.

Use of peanut butter doubled between 1963 and 1975, while use of eggs declined by 40 percent. Soup consumption was up considerably. Coffee, tea, and cocoa consumption was down; these products were received by schools but were not part of the NSLP's meal pattern.

Conclusions

Emphasis under school lunch and other child feeding programs now has a nutritional focus, although market support for food surpluses remains an important feature. Changes in regulations in support of the primary program focus apparently have been successful in increasing school and student participation between 1963 and 1980 and increasing total quantity and value of foods used by schools. More recent changes in program regulations and direction, including those in the Omnibus Reconciliation Act of 1981, will bring further shifts in the size and nature of the market for food in schools—an area for further study. ■

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A Natural Twist to the School Lunch Program

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Natural foods—that are minimally processed and contain no artificial preservatives or additives—are inching their way from specialty stores to supermarkets and into school lunch programs.

As knowledge about the relationship of diet to health grows, more emphasis is being placed on using natural, additive-free foods in the school lunch program. The National School Lunch Program (NSLP), developed in 1947, traditionally consisted of a meal prepared from the four basic food groups. At that time, there were fewer concerns about additives, preservatives, and synthetic chemicals; and little or no emphasis was placed on restricting the levels of fats and sugars. But in 1980, USDA's Food and Nutrition Service (FNS), the agency responsible for administering the program, made a significant change in the guidelines of the NSLP.

Using nutrition research compiled over the last decade, FNS officials rewrote the guidelines to reduce the levels of starch, sugar, and fat in school lunches (see figure 1). To vary the types of starches in students' diets, schools were encouraged not to serve bread at every meal, but to offer bread-alternates such as enriched or whole-grain rice, macaroni, noodles, and other pasta products, as well as cereals such as bulgar and corn-grits. For fats, the guidelines encouraged schools to serve lowfat milk, skim milk, or buttermilk in addition to whole milk and flavored milks. Schools which do not offer a choice of foods were encouraged not to serve meat (ground, diced, pieces) more than three times per week.

More recently, legislation has been introduced in Congress that would amend the National School Lunch Act and set up new guidelines for nutritionally superior lunches. The guidelines would require: reducing salt, fat, and sugar levels in foods; serving unflavored, low-fat milk; at least 2 ounces of meat, poultry, or fish, or the nutritional equivalent of these in cheese, legumes, or a combination (1½ ounces for children under 8 years); two or more vegetables or a salad or both; whole-grain breads and pasta; fresh fruit or canned fruit packed in water or any other desert that does not contain refined sugar.