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- Newsroom
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You are here: [Home](#) / [Amber Waves](#) / [2014 - October](#) / [ERS's Food Consumption and Nutrient Intake Data—Tools for Assessing Americans' Diets](#)

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ERS's Food Consumption and Nutrient Intake Data—Tools for Assessing Americans' Diets

by Biing-Hwan Lin and Rosanna Mentzer Morrison



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Every 5 years since 1980, USDA and the U.S. Department of Health and Human Services publish the *Dietary Guidelines for Americans*—the U.S. Government's official recommendations for healthful eating. One way to assess how well Americans' diets adhere to recommendations in the *Dietary Guidelines* is by comparing actual intake to recommended consumption using a nutrient-density measure that expresses intake on a per-1,000-calorie basis. For example, the 2010 *Dietary Guidelines* recommends

Americans consume at least 3 ounces of whole grains for a diet of 2,000 calories per day, or 1.5 ounces of whole grains for each 1,000 calories. However, intake surveys from 2007-10 reveal that Americans age 2 and older consumed an average of 0.4 ounces of whole grains for each 1,000 calories consumed.

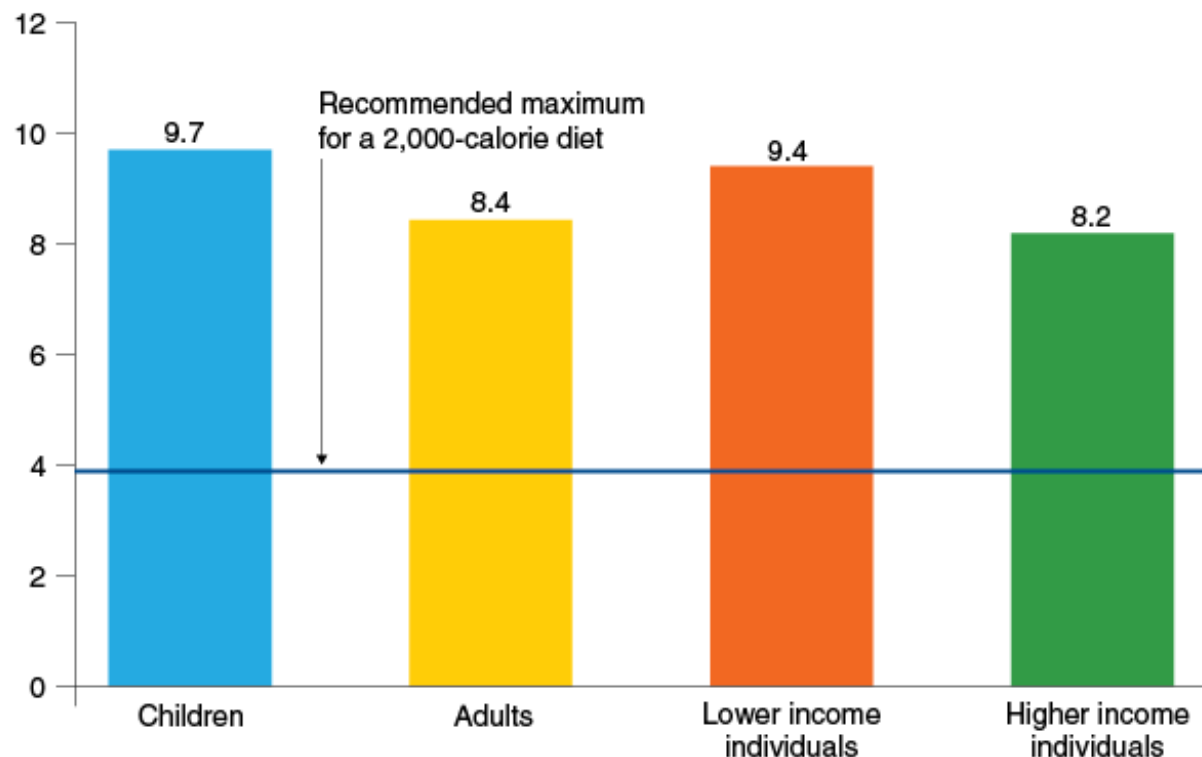
Knowing the degree of under- and over-consumption of foods and nutrients by population subgroups can help target nutrition campaigns and messages. ERS researchers used data from the 2007-10 National Health and Nutrition Examination Survey (NHANES) to examine intakes of the total U.S. population, children age 2-19, adults age 20 and older, lower income individuals (household income at or below 185 percent of the poverty threshold), and higher income individuals (income above 185 percent of the poverty threshold). Intakes of over 7,000 foods were converted into nutrient and food intakes using USDA's nutrient and Food Patterns Equivalent databases. ERS researchers also compared nutritional quality of foods consumed by source, whether prepared at home or by restaurants, schools, or other away-from-home sources.

Americans Consume Too Much Added Sugars, Solid Fats, and Sodium...

In 2007-10, Americans over-consumed added sugars and solid fats, which are high in calories. Federal recommendations state that consumption of added sugars and solid fats should be limited to no more than 258 calories for a 2,000-calorie diet. To compare intake with recommendations, the maximum calorie allowance is evenly divided between added sugars and solid fats and then calories are converted to teaspoons of sugars and grams of fats. On average, 9.7 and 8.4 teaspoons of added sugars for each 1,000 calories were consumed by children and adults, respectively, compared to the recommended maximum 3.9 teaspoons per 1,000 calories for a 2,000-calorie diet. On average, lower income individuals consumed more added sugars than higher income individuals.

Americans' consumption of added sugars is more than double the recommended maximum

Average density of added sugars, 2007–10 (tsp per 1,000 calories)



Lower income individuals had household incomes at or below 185 percent of the poverty threshold and higher income individuals had incomes above 185 percent.

Source: USDA, Economic Research Service, Food Consumption and Nutrient Intakes data product.

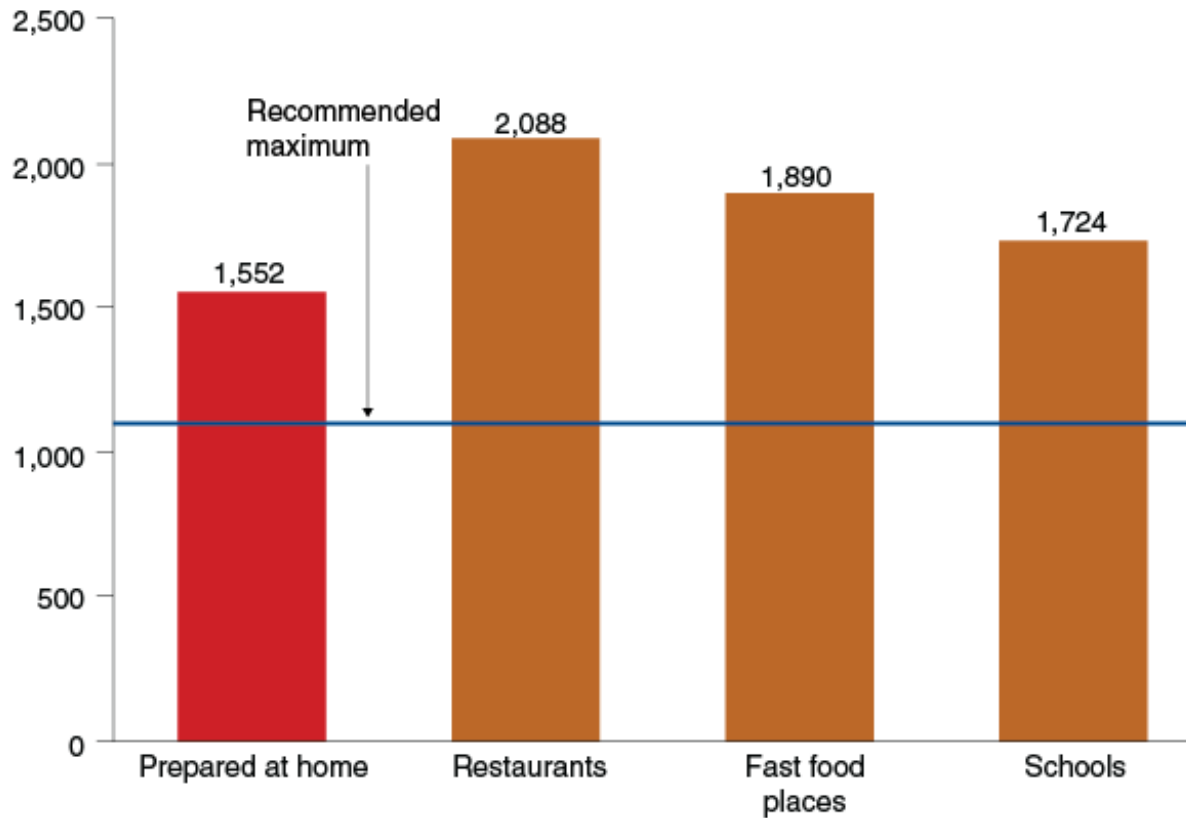
Children and adults consumed 19 and 18 grams of solid fats per 1,000 calories, respectively. The *Dietary Guidelines* suggest solid fat consumption not exceed 8.5 grams per 1,000 calories. Foods prepared by restaurants, fast food places, and schools were lower in added sugar density but higher in solid fats density than foods prepared at home.

Reducing sodium intake is a key dietary recommendation in the 2010 *Dietary*

Guidelines. On average, Americans consumed 1,649 mg of sodium for each 1,000 calories, compared to the recommended maximum of 1,100 mg per 1,000 calories. Higher income individuals' diets were higher in sodium than the diets of lower income individuals. Away-from-home foods contain more sodium than at-home foods, 1,879 mg versus 1,552 mg per 1,000 calories. Foods consumed at school cafeterias were found to be less sodium dense than foods eaten at restaurants and fast food places.

Restaurant foods have the highest sodium density among all food sources

Average sodium density, 2007-10 (mg per 1,000 calories)



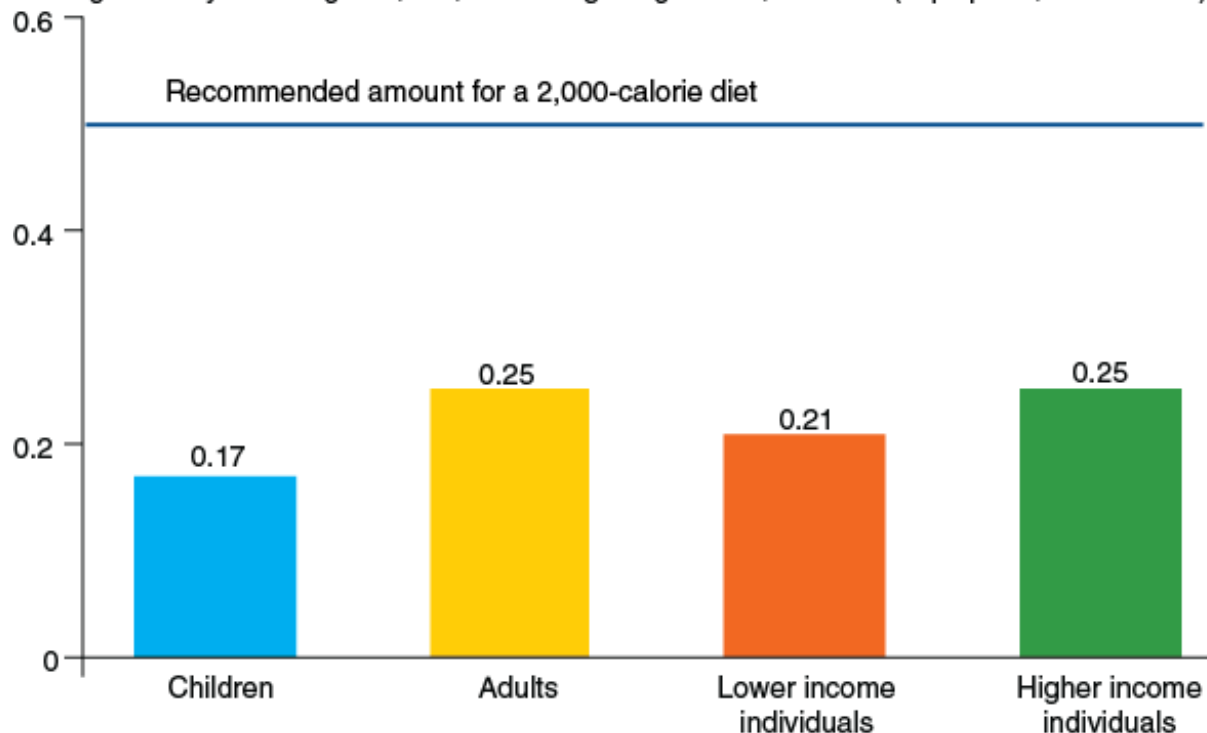
Source: USDA, Economic Research Service, Food Consumption and Nutrient Intakes data product.

...and Not Enough Fruits, Vegetables, and Dairy Products

In addition to under-consuming whole grains, Americans' diets fall short on fruits, vegetables, and low-fat dairy products. In 2007-10, U.S. adults consumed 0.8 cups of total vegetables per 1,000 calories and 0.3 cups of dark green, red, and orange vegetables; children consumed 0.5 cups and 0.2 cups, respectively. The *Dietary Guidelines* recommends 1.3 cups of total vegetables and 0.5 cups of dark green, red, and orange vegetables per 1,000 calories for a 2,000-calorie diet. Lower income individuals consumed a smaller amount of dark green, red, and orange vegetables than those with higher incomes. Average fruit consumption, at 0.5 cups per 1,000 calories, was also below the recommended 1 cup per 1,000 calories for a 2,000-calorie diet.

Lower income Americans' diets contain fewer dark green, red, and orange vegetables than higher income Americans

Average density of dark green, red, and orange vegetables, 2007-10 (cups per 1,000 calories)



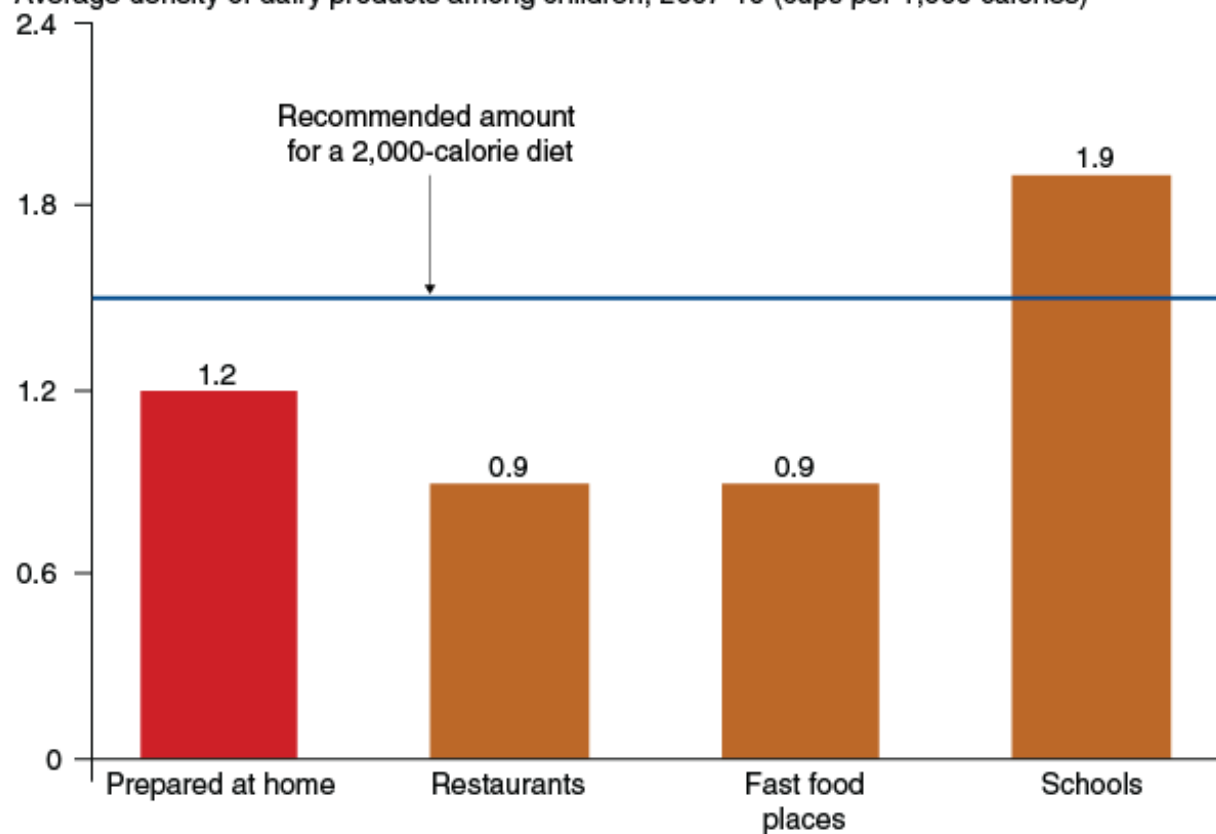
Lower income individuals had household incomes at or below 185 percent of the poverty threshold and higher income individuals had incomes above 185 percent.

Source: USDA, Economic Research Service, Food Consumption and Nutrient Intakes data product.

A bright spot is the amount of dairy foods consumed at school. For each 1,000 calories consumed by children, school foods offer 1.9 cups of dairy products, exceeding the recommended 1.5 cups per 1,000 calories. Home foods consumed by children contain 1.2 cups of dairy products for each 1,000 calories, higher than the 0.9 cups in home foods consumed by adults.

School foods provide the highest dairy product density among all food sources in children's diets

Average density of dairy products among children, 2007-10 (cups per 1,000 calories)



Source: USDA, Economic Research Service, Food Consumption and Nutrient Intakes data product.

This article is drawn from...

Food Consumption and Nutrient Intakes, by Biing-Hwan Lin, USDA, Economic Research Service, August 2014



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