



Economic Research Service  
U.S. DEPARTMENT OF AGRICULTURE

Economic  
Research  
Service

Economic  
Information  
Bulletin  
Number 249

March 2023

# Dietary Quality by Food Source and Demographics in the United States, 1977-2018

Biing-Hwan Lin, Joanne Guthrie, and Travis Smith





## Economic Research Service

U.S. DEPARTMENT OF AGRICULTURE

### Recommended citation format for this publication:

Lin, Biing-Hwan, Joanne Guthrie, and Travis Smith. March 2023. *Dietary Quality by Food Source and Demographics in the United States, 1977-2018*. EIB-249, U.S. Department of Agriculture, Economic Research Service.



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# Dietary Quality by Food Source and Demographics in the United States, 1977–2018

Biing-Hwan Lin, Joanne Guthrie, and Travis Smith

## Abstract

Food prepared away from home (FAFH) has become a mainstay in U.S. consumers' diets, accounting for more than 50 percent of total food expenditures since 2009 and more than 30 percent of total food energy intake since 2011. This report analyzes data from nationally representative food consumption surveys conducted between 1977 and 2018 to examine U.S. consumers' dietary quality relative to the Federal dietary guidance and how this varies by food source. The food sources this report examines include food at home, food purchased at restaurants, food purchased at fast-food establishments, food obtained at school among K–12 school and daycare children, and other food obtained away from home. Dietary quality is measured by nutrient and food-group density (i.e., intake amount per 1,000 calories) for 12 nutrients and 35 food groups. All analyses are conducted for individuals aged 2 and above, both as a group and subdivided by demographics. In general, U.S. consumers make more nutritious choices when grocery shopping for foods than when obtaining food from commercial eating establishments. Compared with FAFH, food at home (FAH) is denser in underconsumed nutrients and food groups—e.g., fiber, iron, whole grains, fruits, dairy, and dark green vegetables—and lower in the density of overconsumed nutrients and food groups, including saturated fats, sodium, and refined grains. However, FAH has more added sugars in addition to a lower intake of seafood and most types of vegetables. In recent years, school foods have differed from other FAFH consumption due to a lower density of saturated fats and a higher density of whole grain, fiber, and fruit.

**Keywords:** Food consumption survey, NFCS, CSFII, WWEIA, NHANES, food at home, food away from home, restaurant, fast food, school, consumer dietary quality, Healthy U.S.-Style Dietary Pattern, nutrient density, food group density.

## Acknowledgments

The authors thank Wen You of University of Virginia and Samara Nielsen of Russell Sage College for technical peer reviews and Katherine Ralston, USDA, Economic Research Service (ERS) for constructive comments and suggestions. We also thank USDA, ERS staff members Casey Keel and Grant Wall for editorial assistance and Xan Holt for design. The contribution from Travis Smith at the University of Georgia is partially funded under the cooperative agreement 58-4000-6-0009.

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Errata: On March 16, 2023, table 2 was updated with the correct recommended density per 1,000 calories for grains. Text on page 105 and figures 25 and 27 were also updated to reflect the correction. No other tables, text, or figures were affected.

On April 11, 2023, figures 25 and 27 were updated using the correct conversion factor for total fats. No other figures, tables, or text were affected.

On May 9, 2023, figure 10 was updated so the final data points correspond to the correct lines, and figures 25 and 27 were updated with the correct data for added sugars. No other figures, tables, or text were affected.

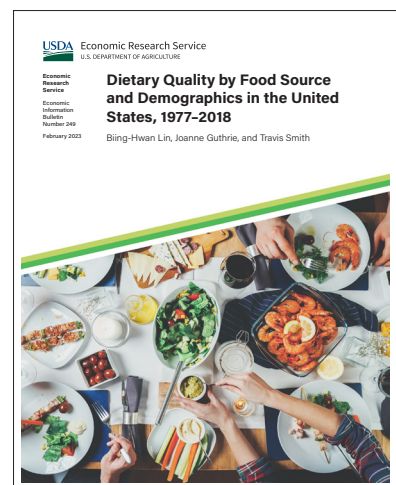
On March 14, 2025, a number of corrections were made to specific data points in tables 2 and 7 and figures 5, 10, 25, and 27; the titles of table 5 and figures 15 and 18; and text on pages 33, 36-39, and 102. Supplemental tables A1A-A6F were also reposted to match the corresponding data product, **Food Consumption, Nutrient Intakes, and Diet Quality**, correcting some standard errors, percents, and formatting inconsistencies. No major findings or conclusions in the report were impacted.

# Dietary Quality by Food Source and Demographics in the United States, 1977–2018

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## What Is the Issue?

Food prepared away from home (FAFH)—whether eaten at restaurants (waiting service), fast-food establishments (self-service), schools, various other locations, or as a take-out or delivery meals eaten at home—contributes to more than 30 percent of U.S. consumers' total food energy intake. The share of total food expenditure spent on FAFH rose steadily from 25.9 percent in 1970 to 54.8 percent in 2019 but dropped to 48.1 percent in 2020 due to the coronavirus (COVID-19) pandemic. Previous USDA, Economic Research Service (ERS) research found the nutritional quality of FAFH was inferior to food at home (FAH) and FAFH consumption increases daily calorie intake and reduces diet quality. Over time, however, differences between FAFH and FAH may have changed as consumers buy more preprepared items in grocery stores. This report updates previous research to include data from all nationally representative food consumption surveys collected for 1977–2018 to better understand how FAH and FAFH nutritional qualities evolved over time across various demographic populations, as well as how observed diets compare with Federal dietary guidance.



## What Did the Study Find?

Over time, restaurants and fast-food places have become increasingly important to consumers' diets. Between 1977 and 2018, the share of food energy coming from fast food rose from 5.9 to 16.3 percent, and the restaurant share more than doubled from 3.3 to 7.8 percent. USDA, ERS researchers examined differences in dietary quality by employing the nutrient and food-group density measure, which is defined as the amount of nutrient or food equivalent from foods that contain 1,000 calories, and found that:

- Foods from restaurants and fast-food places were lower in several underconsumed nutrients and foods—e.g., fiber, calcium, iron, fruits, dairy, whole grains, nuts, seeds, and soy products—and higher in saturated fats, sodium, and refined grains than FAH.

ERS is a primary source of economic research and analysis from the U.S. Department of Agriculture, providing timely information on economic and policy issues related to agriculture, food, the environment, and rural America.

- Restaurant foods were lower in added sugars and denser in vegetables, meats, poultry, eggs, and seafood than FAH.

Since USDA updated school meal nutrition standards in 2012–2013, school foods (mostly provided by USDA school meal programs) have become twice as dense in whole grains as FAH and seven times denser than fast food and restaurant foods. The density of saturated fats decreased and the density of fiber and fruits increased in school foods since 2005–2006.

The researchers also examined differences in dietary quality across several demographics, including age, sex, race and ethnicity, household income, and education among adults aged 20 and above. For some dietary components, there are density disparities across certain demographic groups, whereas, for other dietary components (e.g., sodium), all groups similarly do not meet Federal dietary guidance.

- Fiber density did not vary across race and ethnicity during 1977–1991, but the racial and ethnic gaps in fiber density have increased over time. Since 1994, non-Hispanic Black consumers' diets have had a lower fiber density than non-Black consumers.
- Foods consumed by higher income (exceeding 300-percent poverty level) and college-educated individuals were less dense in added sugars than their respective counterparts.
- The density of total vegetables consumed increased with age.
- Non-Hispanic Black consumers' diets were lower in total vegetables and dairy density than non-Black consumers.
- Females incorporated more fiber and fruits, by density, in their diets than males, but fruit-group density did not vary by age, race and ethnicity, or household income.

## How Was the Study Conducted?

The researchers examined data collected in Federal food consumption surveys from nationally representative samples of people living in the United States between 1977 and 2018. The surveys included information on the types and amounts of foods eaten, where the food was obtained, and demographic characteristics of the survey respondents and their households. USDA's Food and Nutrient Database for Dietary Studies and Food Patterns Equivalents Database were applied to translate reported food intakes into nutrient and food-group intakes. Reported intakes of nutrients and food groups were compared with the Daily Nutritional Goals and the Healthy U.S.-Style Dietary Pattern—treated as Federal dietary guidance in this study—summarized in the 2020–2025 *Dietary Guidelines for Americans* (DGA, appendixes 1 and 3).

The researchers analyzed how consumers' diets compare with Federal dietary guidance and how diets vary among FAH, FAFH, restaurants, fast food, school food, and other FAFH for 12 nutrients and 35 food groups. All analyses were conducted for individuals aged 2 and above, both as a group and subdivided by demographics. We excluded children under the age of 2 because the Daily Nutritional Goals and Healthy U.S.-Style Dietary Pattern are intended for consumers aged 2 and above.

The authors used the statistical software SAS/STAT Survey procedures to incorporate complex survey design effects and sample weights to generate estimates of means and standard errors. The mean ratio approach was used to generate national estimates of the average diet among the U.S. population aged 2 and above.

# Dietary Quality by Food Source and Demographics in the United States, 1977–2018

## Introduction

Since 1980, the Federal Government has issued the *Dietary Guidelines for Americans (DGA)*, providing practical advice on the foods and beverages to eat for a healthy diet (USDA and HHS, 2020). By law, *DGA* is updated every 5 years to maintain consistency with emerging scientific knowledge, yet the basic principles of obtaining adequate amounts of fruits, vegetables, and other healthful foods while moderating intakes of sodium, added sugars, and other components the U.S. population tends to consume in excess have remained consistent. Federal policy reinforces the message of the *DGA* through nutrition education, labeling, and standards for Federal food assistance programs. Nevertheless, the gap between eating patterns in the United States and Federal dietary recommendations remains wide (USDA and HHS, 2020). Consequently, 60 percent of adults have one or more diet-related chronic diseases such as cardiovascular disease, type 2 diabetes, obesity, liver disease, some types of cancer, and dental decay (USDA and HHS, 2020). In addition to their other impacts on mortality and morbidity, diabetes and obesity have been shown to be risk factors for severe disease resulting from the coronavirus (COVID-19) (Zhou et al., 2020; Lockhart and O’Rahilly, 2020).

Diet-related chronic diseases impose substantial economic burdens on individuals and society. For example, medical costs associated with overweight and obesity<sup>1</sup> were estimated as high as \$147 billion, or 10 percent of all medical costs in 2008 (Finkelstein et al., 2009; O’Grady and Capretta, 2012; Tsai et al., 2011), and obesity raised an individual’s medical care cost by \$3,429–\$3,728 among obese adults in 2010–2013 (Biener et al., 2017; Meyerhoefer et al., 2015). In addition to the direct healthcare costs, there are indirect costs associated with productivity loss caused by overweight and obesity, which are estimated to exceed direct healthcare costs (Cawley and Meyerhoefer, 2012; Dee et al., 2014; Ramasamy et al., 2019). These costs are one reason the U.S. Department of Agriculture (USDA), the U.S. Department of Health and Human Services (HHS), and other public and private entities prioritize improving the population’s diets. Research on environmental and behavioral factors associated with consumer food choices can inform these efforts.

Food prepared away from home (FAFH)—whether eaten in restaurants, fast-food establishments, various other locations, or as a take-out or delivery meal eaten at home—has accounted for a larger share of daily food energy intake and food expenditures since the 1970s. The share of total food expenditures spent on FAFH rose steadily from 25.9 percent in 1970 to 41.8 percent in 1997 and 54.8 percent in 2019. However, the share dropped to 48.1 percent in 2020 when the coronavirus COVID-19 pandemic caused a recession and limited visits to restaurants and fast-food places (USDA, ERS, 2022a). USDA, Economic Research Service (ERS) research found that in the 1990s, the nutritional quality of FAFH was inferior to food at home (FAH) (Guthrie et al., 2002). Further, USDA, ERS studies suggest that FAFH increases daily calorie intake

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<sup>1</sup> The most commonly used measure of weight status today is the body mass index (BMI), which is defined as the ratio of an individual’s weight in kilograms to the height in meter squared ( $BMI = kg/m^2$ ). For adult men and women, a BMI between 18.5 and 24.9 is considered healthy. Overweight is defined as a BMI between 25.0 and 29.9; and a BMI of 30 or higher is considered obese. Among children and adolescents aged 2 to 20, the definition is based on standard growth charts developed by the Centers for Disease Control and Prevention. A BMI in the 85th to 94th percentiles for age and sex is considered overweight; a BMI in the 95th percentile or higher is considered obese.

and reduces diet quality in both adults and children (Todd et al., 2010; Mancino et al., 2010). Consequently, FAFH has been considered a contributor to poor diet and obesity. Over time, however, differences between FAFH and FAH may change as consumers buy more pre-prepared items in grocery stores, possibly decreasing the differences between the two sources (Smith, 2010). Therefore, a better understanding of how U.S. consumers' diets at home and away from home have evolved over time and how these changes compare with dietary guidance motivates this study.

This report updates and builds on previous USDA, ERS studies on the diet quality of U.S. consumers by food source (Guthrie et al., 2002; Lin and Guthrie, 2012; Saksena et al., 2018). For this report, the researchers analyzed food consumption survey data collected by USDA and HHS during 1977–1978, 1989–1991, 1994–1996, 1998, and 2003–2018 to examine how the nutritional quality of FAH and FAFH has changed over the past four decades. These survey data are used because they are all the nationally representative food consumption surveys conducted by the Federal Government with consistent delineations of food sources. Food preparation sources are categorized into two broad categories—FAH and FAFH. FAFH is further disaggregated into four sources—restaurant with waiter service (restaurant), fast-food establishment (fast food), school cafeteria and daycare center (school), and other food-away-from-home places (other FAFH). We report mean intakes, shares (distribution percentage), and density of nutrients and food groups by food source for individuals aged 2 and older, as well as by selected demographic characteristics (age, sex, race and ethnicity, household income, and educational achievement among adults aged 20 and above). We exclude children under the age of 2 because the *DGA* recommendations for healthy dietary patterns are intended for those aged 2 and above (USDA and HHS, 2020). While the most recent *DGA* does have guidance concerning dietary intakes of infants and toddlers under the age of 2, *DGA* clarifies children aged 2 and younger cannot be considered to have transitioned fully to family foods, so making application of healthy eating patterns for those aged 2 and above inappropriate for children under the age of 2. The density measures—calculated as the amount of nutrients or food groups contained in foods that provide 1,000 calories—are used to measure dietary quality by food source (Lin et al., 1996) and are used as the yardstick to compare intake with recommendations for each dietary component in USDA's Healthy Eating Index (Krebs-Smith et al., 2018).

## Data

To monitor the nutritional status of U.S. consumers, USDA has conducted food consumption surveys since the 1930s, including several nationally representative surveys, namely the 1977–1978 Nationwide Food Consumption Survey (NFCs), as well as the 1989–1991, 1994–1996, and 1998 Continuing Survey of Food Intakes by Individuals (CSFII) (USDA, ARS, 2022a–2022c). Since the early 1960s, the HHS has conducted National Health and Nutrition Examination Surveys (NHANES) to assess the health and nutritional status of U.S. consumers of all ages (HHS, NCHS, 2022a–2022h). Starting in 2002, USDA and HHS have integrated their food consumption surveys into the What We Eat in America Survey (WWEIA), which is the nutritional component of NHANES. WWEIA is a continuous survey that collects data on a 2-year cycle using survey methodology and instruments that are consistent with USDA's 1994–1996 and 1998 CSFII.

This study analyzed food consumption data from USDA's 1977–1978 NFCs, 1989–1991, 1994–1996, and 1998 (hereafter 1994–1998) CSFII, and all the available WWEIA surveys that have consistent data on food sources—2003–2004, 2005–2006, 2007–2008, 2009–2010, 2011–2012, 2013–2014, 2015–2016, and 2017–



2018 NHANES—conducted jointly by USDA and HHS.<sup>2</sup> NFCS, CSFII, and WWEIA/NHANES cover all nationally representative data on dietary intakes of individual U.S. consumers conducted by Federal agencies. The descriptive statistics of the data are summarized in table 1.

Table 1

**Sample sizes by population subgroups: 1977–1978 NFCS, 1989–1991 and 1994–1998 CSFII, and 2003–2018 WWEIA/NHANES**

	1977–1978	1989–1991	1994–1998	2003–2004	2005–2006	2007–2008	2009–2010	2011–2012	2013–2014	2015–2016	2017–2018
U.S. aged 2 and above	41,471	14,646	19,022	8,272	8,549	8,528	9,042	7,933	8,067	7,917	7,121
Male	18,303	6,307	9,690	4,036	4,146	4,273	4,501	3,980	3,934	3,877	3,481
Female	23,168	8,339	9,332	4,236	4,403	4,255	4,541	3,953	4,133	4,040	3,640
Age 2–19	17,992	4,207	9,155	3,824	4,029	3,109	3,280	3,132	3,020	2,900	2,380
Age 20–64	18,896	8,118	7,553	3,152	3,472	4,023	4,383	3,769	3,941	3,807	3,520
Age 65 and above	4,583	2,321	2,314	1,296	1,048	1,396	1,379	1,032	1,106	1,210	1,221
Boys 2–19	8,947	2,091	4,635	1,901	1,983	1,612	1,712	1,586	1,520	1,462	1,174
Girls 2–19	9,045	2,116	4,520	1,923	2,046	1,497	1,568	1,546	1,500	1,438	1,206
Men 20 and above	9,356	4,216	5,055	2,135	2,163	2,661	2,789	2,394	2,414	2,415	2,307
Women 20 and above	14,123	6,223	4,812	2,313	2,357	2,758	2,973	2,407	2,633	2,602	2,434
Less than HS	NA	3,108	2,084	1,288	1,234	1,665	1,634	1,102	1,028	1,150	891
HS	NA	3,752	3,340	1,111	1,093	1,340	1,316	1,008	1,141	1,108	1,146
College	NA	3,502	4,284	2,043	2,191	2,410	2,799	2,688	2,875	2,757	2,696
Income < 186% poverty	26,548	8,121	7,666	4,370	4,099	4,577	5,142	4,561	4,377	4,302	3,797
Income 186–299% poverty	6,667	2,676	3,902	1,455	1,552	1,504	1,328	1,089	1,178	1,429	1,192
Income 300% poverty and above	8,256	3,849	7,454	2,447	2,898	2,447	2,572	2,283	2,512	2,186	2,132
Non-Hispanic White group	28,331	10,764	13,276	3,458	3,351	3,538	3,887	2,532	3,044	2,542	2,491
Non-Hispanic Black group	9,995	2,055	2,483	2,189	2,263	1,924	1,679	2,210	1,762	1,714	1,659
Hispanics	2,622	1,407	2,404	2,280	2,521	2,701	2,935	1,895	2,122	2,532	1,633
Other racial and ethnic groups	389	420	626	345	414	365	541	1,296	1,139	1,129	1,338

NFCS = Nationwide Food Consumption Survey; CSFII = Continuing Survey of Food Intakes by Individuals; WWEIA = What We Eat in America survey; NHANES = National Health and Nutrition Examination Survey; HS = high school.

Note: Not eating at a food source is considered as 0, so there is no missing value.

Source: USDA, Economic Research Service using USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data; USDA, Agricultural Research Service, 1989–1991, 1994–1996, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2003–2004, 2005–2006, 2007–2008, 2009–2010, 2011–2012, 2013–2014, 2015–2016, and 2017–2018 What We Eat in America, National Health and Nutrition Examination Survey data.

The 1977–1978 NFCS and 1989–1991 CSFII collected food intakes for 3 consecutive days, and the 1994–1998 and 2003–2018 WWEIA/NHANES recorded 2 nonconsecutive days of food intakes using a 24-hour dietary recall methodology. In all surveys, respondents were interviewed in person to collect intake data for

<sup>2</sup> WWEIA surveys started in 1999–2000, but the 1999–2000 and 2001–2002 surveys collected data on where the food was eaten but not where it was purchased, whereas the NFCS, CSFII, and 2003–2018 WWEIA/NHANES surveys collected data on both where it was eaten and obtained. In this study, the acquiring location is the primary determiner of the food source classification.

the first day, whereas intakes on subsequent days were collected using different methodologies (a self-reported food diary in 1977–1978 and 1989–1991, and a telephone interview in 1994–1998 and 2003–2018 surveys). We analyzed only the first-day data to minimize the potential bias that may occur due to differences in timing (consecutive versus nonconsecutive days) and data collection methods (Cavadini et al., 2000). The surveys collected data from a nationally representative sample of noninstitutionalized people living in the United States. Information obtained includes the types and amounts of foods individuals ate and where the food was obtained. USDA, Agricultural Research Service (ARS) has developed the Food and Nutrient Database for Dietary Studies (FNDDS, 2022d) to translate food intakes into nutrient intakes, which can be compared against the nutrient requirements or limits, known as Dietary Reference Intakes, developed and updated by the Institute of Medicine and the National Academies of Sciences, Engineering, and Medicine (USDA and HHS, 2020). FNDDS has been updated over time so that there are some key nutrients in current FNDDS not available in the older survey data, such as saturated fats, cholesterol, sodium, and dietary fiber in the 1977–1978 NFCS.

Because foods provide an array of nutrients and other components that have health benefits, the *DGA* translates the Academies' nutrient requirements into food and beverage recommendations. Since the first edition was published in 1980, *DGA* has provided advice on what and how much to eat and drink to promote health, reduce the risk of chronic disease, and meet nutrient needs. USDA, ARS develops and updates the Food Patterns Equivalents Database (FPED, formerly known as MyPyramid Equivalents Database (MPED)), which translates foods recorded in surveys into food equivalent amounts—cup equivalents for vegetables, fruits, and dairy; teaspoon equivalents for added sugars; and ounce equivalents for protein foods and grains—specified in *DGA* (USDA, ARS, 2022e). MPEDs were developed for the 1994–1998 CSFII and 2003–2004 WWEIA/NHANES, FPEDs were developed for 2005–2018, and there are no food equivalents data for the 1977–1978 NFCS and 1989–1991 CSFII. In online appendix A, this report includes the process adopted to develop consistent nutrient and food equivalents databases for all the survey data spanning 1977 to 2018. It is important to emphasize that the food equivalents and additional nutrient data developed for 1977–1978 and 1989–1991 were based on the assumption that foods recorded in the 1977–1978 and 1989–1991 surveys were formulated the same way as the corresponding foods recorded in the 1994–1998 survey. Therefore, comparisons of the dietary status in 1977–1978 and 1989–1991 with the dietary status in 1994–1998 and later years should be interpreted with this assumption in mind.

The food consumption survey methodology has improved over the past four decades. Some of the methodological changes could contribute to the differences reported in this study. A five-step Automated Multiple-Pass Method (AMPM) to improve the completeness of data collection has been employed since the 1994–1998 CSFII (Raper et al., 2004). The adoption of AMPM is likely to lessen the extent of under-reporting and result in increased food intakes, but the extent of reduction in under-reporting is unknown. Other changes in survey methodology and implementation, as well as the updated nutrient and food equivalent databases (FNDDS and FPED), need to be considered when comparing food intake and dietary changes as reported in the surveys conducted between 1977 and 2018. For example, intakes of tap water were not collected until 2003–2004. Tap water has no calories but contains minerals—e.g., calcium—such that this change in data collection was found to result in outliers in nutrient density for certain food sources, as discussed later.

## Definition of Food Sources

In the 1977–1978 NFCS, 1989–1991 and 1994–1998 CSFII, and the 2003–2018 WWEIA, survey respondents reported whether a food was eaten at home and where it was acquired. Food source coding differs between the NFCS, CSFII, and different waves of WWEIA (see appendix A, “Definition of Food Sources”), but major sources—such as supermarkets, restaurants with servers, fast-food establishments, and school cafeterias—are common to all surveys. In this study, there are two main categories of food sources: “food at home” (FAH) and “food away from home” (FAFH), with the latter separated into four subcategories: full-service restaurant, fast-food establishment, school (K–12 school and daycare), and other FAFH.<sup>3</sup>

## Methods

USDA’s Food and Nutrition Database for Dietary Studies translates food intakes reported in food consumption surveys into intakes of 65 nutrients and food components (USDA, ARS, 2021). The intakes of nutrients and food components are compared with the nutrient requirements or limits developed by the National Academies of Sciences, Engineering, and Medicine to monitor U.S. consumers’ diets (USDA and HHS, 2020). Because foods provide an array of nutrients and other components beneficial for consumers’ health, the Federal Government has published *DGA* every 5 years since 1980 to translate the Academies’ nutrient requirements into food and beverage recommendations—what and how much to eat and drink to promote health, reduce the risk of chronic disease, and meet nutrient needs. USDA’s MPED and FPED databases translate foods recorded in surveys into food equivalent amounts specified in the *DGA*. There are nine major food groups, including fruits, vegetables, grains, protein foods, dairy, oils, added sugars, solid fats, and alcoholic drinks, and their subgroups, specified in the FPED for which food equivalents have been estimated for the foods included in the FNDDS. *DGA* provides intake guidelines for these groups. Nutrient requirements or limits and recommended intakes of food groups by energy intake levels are summarized respectively in Daily Nutritional Goals<sup>4</sup> and the Healthy U.S.-Style Dietary Pattern (appendices 1 and 3), the 2020–2025 *Dietary Guidelines for Americans*.

In this report, the authors examined nutrients and food components that are of public concern (USDA and HHS, 2020) and/or incorporated in the Healthy Eating Index-2015 (Krebs-Smith et al., 2018), the USDA’s measure of the healthfulness of a diet. These dietary components include food energy, protein, carbohydrates, total fat, saturated fat, monounsaturated fatty acids, polyunsaturated fatty acids, iron, sodium, dietary fiber, and calcium. These targeted nutrients and food components are available in all surveys, except the 1977–1978 NFCS, which covered only six components such as food energy, protein, carbohydrates, total fat, iron, and calcium. In terms of food groups, the authors examined added sugars, solid fats, oils, fruit (total; citrus, melon, and berries; other fruit; whole; and juice), vegetables (total; dark green; potatoes; other starchy; tomatoes; other red and orange; other; and beans, peas, and lentils [legumes]), protein foods (total; meat; meat,

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<sup>3</sup> The determination of FAH versus FAFH is predicated on where the food was obtained. FAH can be eaten away from home, and FAFH can be eaten at home. For example, FAH includes bread and peanut butter purchased at grocery stores and eaten as a peanut butter sandwich at home, school, or work. Meanwhile, home delivery or takeout from a pizza parlor is classified as FAFH, even if it was eaten at home. Many foods purchased from grocery stores, such as items from the deli or salad bar, are ready to serve. These foods are classified as food at home even though the survey does not provide information on how they are prepared.

<sup>4</sup> Daily Nutritional Goals are the summary of the Dietary Reference Intakes released in three documents by The National Academies, including the Institute of Medicine’s *Dietary Reference Intakes: The Essential Guide to Nutrient Requirements* (2006); the Institute of Medicine’s *Dietary Reference Intakes for Calcium and Vitamin D* (2011); and National Academies of Sciences, Engineering, and Medicine’s *Dietary Reference Intakes for Sodium and Potassium* (2019).

poultry, and seafood; cured meat; organ meat; high Omega-3 [n-3] fatty acids seafood; low n-3 fatty acids seafood; eggs; nuts and seeds; and soy products), grains (total; whole; and refined), and dairy (total; fluid milk; cheese; and yogurt).

NFCS, CSFII, and NHANES surveys employed complex survey designs and provided sample weights to generate nationally representative estimates. The authors used the statistical software SAS/STAT Survey (SAS 2022) procedures to incorporate survey design effects and sample weights to generate estimates of means and standard errors.

There are two approaches to estimating population means and proportions (Freedman et al., 2008). These two approaches—the mean ratio and population proportion—may yield similar results, but they often produce different (but equally valid) results representing different interpretations of the data. For example, when considering the FAFH share of calories, the mean ratio approach calculates the share for each respondent and then calculates the weighted average using sample weights. Because the individual FAFH share is used in the mean ratio approach, differences in calorie intakes across individuals are not factored into the weighted average. The mean ratio approach yields the nutritional status of a representative person; it is adopted here since our objective was to track the average diet of consumers in the United States as a whole and by population subgroups. The population proportion approach calculates the weighted sum of calories from FAFH and the total from all individuals in a first step and then takes the ratio of the two sums. Unlike the mean ratio approach, the population proportion approach factors in an individual's calorie intakes and measures the proportion of total calorie intakes by a population from the FAFH sector.<sup>5</sup> In this study, we report mean dietary patterns by food sources, as well as by selected demographic factors, during 1977–2018.

## Nutritional Quality of Food at Home and Away From Home: 1977–2018

Mean intakes and associated standard errors of nutrients and food components by food sources—FAH, FAFH, restaurant, fast food, school, and other FAFH—and by selected demographic characteristics—e.g., age, sex, race and ethnicity, income, and educational achievement among adults—are summarized in this report. Mean intakes by food source are divided by total intakes from all food sources to express intake distribution (share) by food source. The recommended intakes of nutrients and food equivalents are based on recommended food energy intakes, which in turn are determined by age, sex, and physical activity level.<sup>6</sup> In recent years, U.S. consumers aged 2 and above consumed slightly more than 2,000 calories a day on average—2,093 calories a day in 2017–18. Therefore, we converted the Daily Nutritional Goals and the Healthy U.S.-Style Dietary Pattern summarized in the 2020–25 *DGA* for a 2,000-calorie diet into a density measure, i.e., express the goals and patterns per 1,000 calories, which are treated as the benchmark for comparison with the reported density from food consumption surveys (table 2).

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<sup>5</sup> Lin et al. (2016) provides the mathematical derivations of the mean ratio and population proportion approaches as well as a simplified illustration to demonstrate the differences in data interpretations between the two approaches. Which approach should be adopted depends on the research objective. The mean ratio approach is adopted in this study because our objective is to describe the average diet of consumers in the United States and compare it with the Federal dietary recommendations. Lin et al. (2016) and Lin (2020) adopted the population proportion approach because they wanted to separate total U.S. food consumption into two sectors—FAH and FAFH.

<sup>6</sup> In this report, we include only four age and sex subpopulation groups—males and females aged 2 to 19 and aged 20 and above. For more information, see the *Dietary Guidelines for Americans* (USDA and HHS, 2020).



Table 2

**The 2020–25 recommended density for a 2,000-calorie diet versus the 2017–18 actual density among U.S. consumers aged 2 and above**

	Recommended-density per 1,000 calories*	2017–2018 Actual density per 1,000 kcal		
		Total	FAH	FAFH
Fiber (g)	14.00	8.05	8.40	6.87
Added sugars (tsp)	5.95	7.90	9.27	7.66
Total fats (percent of calories)**	20–35	35.89	33.13	37.86
Saturated fats (percent of calories)**	10	11.81	10.94	12.54
Calcium (mg)	500	488	573	462
Iron (mg)	9.00	6.88	7.39	5.90
Sodium (mg)	1,150	1,688	1,536	1,993
Total vegetables (cup)	1.25	0.71	0.64	0.72
Dark green (cup)	0.11	0.08	0.08	0.07
Red & orange (cup)	0.39	0.18	0.16	0.18
Legumes (cup)	0.11	0.05	0.04	0.05
Starchy (cup)	0.36	0.20	0.18	0.20
Other vegetables (cup)	0.29	0.25	0.22	0.27
Fruits (cup)	1.00	0.49	0.69	0.29
Grains (oz)	3.00	3.20	2.90	3.24
Whole grains (oz)	1.50	0.43	0.52	0.19
Refined grains (oz)	1.50	2.77	2.45	3.05
Dairy (cup)	1.50	0.75	0.77	0.70
Protein foods (oz)	2.75	2.83	2.58	2.81
Meats, poultry, and eggs (oz)	1.86	1.72	1.41	1.94
Seafood (oz)	0.57	0.27	0.23	0.29
Nuts, seeds, and soy (oz)	0.36	0.38	0.49	0.21
Oils (g)	13.50	13.61	11.17	15.19

FAH = Food at home; FAFH = Food away from home; g = Grams; tsp = Teaspoons; mg = Milligrams; oz = Ounces.

\*The recommended densities are calculated for a 2,000-calorie diet. Some recommended densities are identical across different levels of calorie intakes.

\*\*Intakes of total and saturated fats are reported in grams (tables 3a and 3b), and their densities are in grams per 1,000 calories (tables 5a and 5b). Each gram of fat is the equivalent of 9 calories, and this conversion factor is used to convert grams per 1,000 calories to percent of calories in this table. *The Dietary Guidelines for Americans, 2020–2025* expresses the recommendations for total fats and saturated fats in percent of calories. For a 2,000-calorie diet, saturated fats should not exceed 10 percent of calorie intake, and total fats should be in the range of 20–35 percent of calorie intake—35 percent is treated here as meeting the recommendation for total fats.

Source: USDA, Economic Research Service using data from USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention 2017–2018 What We Eat in America, National Health and Nutrition Examination Survey data; Daily Nutritional Goals, Ages 2 and Older, appendix 1, *Dietary Guidelines for Americans, 2020–2025*; and Healthy U.S.-Style Dietary Pattern for Ages 2 and Older, appendix 3, *Dietary Guidelines for Americans, 2020–2025*.

The primary focus of the report is to examine trends in dietary quality in terms of nutrients and food groups by food source. Changes in intake amounts for a given food group or nutrient do not necessarily translate directly into dietary quality changes, given an individual's variation in energy needs and amounts of foods consumed. For this reason, recommended food group and nutrient intakes are suggested for various levels of energy intakes, which are determined by age, sex, and physical-activity level, and a more reliable comparison of dietary quality is on the basis of density—or amounts consumed per 1,000 calories. A comparison of the reported nutrient and food group densities against the recommended densities indicates whether the quality

of intake of a particular nutrient or food group has improved over time and the extent to which consumption deviates from recommended amounts. The authors interpreted selected statistics with a focus on the density measure. Furthermore, the results are discussed only for the U.S. population aged 2 and above as a group.<sup>7</sup> Results on nutrients are discussed first, followed by results of food groups.

## Food Energy

Reported food energy intakes of consumers in the United States have increased over time, from an average of 1,807 calories per day in 1977–1978 to 2,093 in 2017–2018. Daily food energy from FAH is relatively stable, fluctuating between 1,347 and 1,460 calories over the 1977–2018 period, and daily food energy intake from FAFH rose significantly from 345 to 691 calories during the same period (tables 3a and 3b, and figure 1), consequently FAFH’s share of food energy intake has increased over time (tables 4a and 4b). The rise in FAFH’s share of daily food energy intake is consistent with rising FAFH’s share of food expenditures noted in the introduction and is particularly noticeable during 1977–2004, from 18.2 to 31.4 percent, mainly due to the popularity of fast food and restaurant food.

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<sup>7</sup> Mean intakes, shares, and densities of nutrients by food source and demographics are reported in online appendix tables A-1A–A-1F, A-2A–A-2F, and A-3A–A-3F, respectively. Appendix tables A-4A–A-4F, A-5A–A-5F, and A-6A–A-6F cover the mean intakes, shares, and densities of food groups and subgroups by food source and demographics.

Table 3a

**Daily nutrient intake by food source for U.S. consumers aged 2 and above, 1977–2008**

		1977–78		1989–91		1994–98		2003–04		2005–06		2007–08	
Variable	Measurement	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean
U.S. consumers aged 2 and above													
Energy	Calories	1,806.88	12.39	1,847.48	18.90	2,033.93	16.20	2,194.78	15.59	2,157.35	29.02	2,069.79	24.55
FAH	Calories	1,462.27	11.13	1,347.04	17.60	1,380.76	14.93	1,458.96	21.46	1,429.30	18.10	1,396.89	23.87
FAFH	Calories	344.61	8.73	500.44	14.38	653.17	14.97	735.83	16.47	728.05	24.69	672.91	15.81
Restaurant	Calories	61.17	3.73	114.22	7.76	163.75	5.39	203.32	7.29	195.17	13.01	192.91	12.22
Fast food	Calories	110.45	3.90	262.37	11.32	286.52	8.80	388.88	18.18	359.71	17.79	316.26	15.15
School	Calories	66.11	2.64	46.16	5.09	46.05	2.11	38.91	4.80	35.10	3.56	39.74	3.81
Others	Calories	106.88	4.14	77.70	3.63	156.85	8.46	104.71	6.33	138.07	9.05	124.00	8.05
Calcium	Milligrams	756.92	10.95	766.76	10.58	804.31	7.35	917.76	16.62	969.64	18.89	946.04	20.23
FAH	Milligrams	624.25	9.08	590.29	10.11	583.27	6.48	660.21	19.85	691.16	13.93	676.12	17.93
FAFH	Milligrams	132.67	3.26	176.47	5.75	221.05	5.25	257.54	7.57	278.47	10.34	269.92	8.39
Restaurant	Milligrams	17.87	1.12	34.23	2.32	48.46	1.75	63.67	2.72	62.11	4.38	63.67	4.93
Fast food	Milligrams	36.90	1.58	88.07	4.34	94.37	3.04	137.67	7.78	127.14	6.27	115.77	5.22
School	Milligrams	43.13	1.82	28.92	3.11	30.31	1.42	25.90	3.44	22.34	1.99	26.13	2.99
Others	Milligrams	34.77	1.48	25.24	1.53	47.90	2.72	30.31	2.52	66.88	3.55	64.35	3.54
Fiber, dietary	Grams	12.83	0.11	13.97	0.19	15.41	0.14	14.84	0.33	15.12	0.26	15.15	0.44
FAH	Grams	10.79	0.12	10.88	0.19	11.27	0.13	10.53	0.31	10.63	0.27	11.04	0.40
FAFH	Grams	2.05	0.04	3.10	0.09	4.13	0.09	4.32	0.13	4.49	0.14	4.11	0.12
Restaurant	Grams	0.35	0.02	0.72	0.05	1.10	0.04	1.29	0.07	1.32	0.07	1.29	0.10
Fast food	Grams	0.56	0.02	1.55	0.07	1.62	0.05	2.12	0.09	2.06	0.11	1.75	0.09
School	Grams	0.47	0.02	0.34	0.03	0.32	0.02	0.26	0.03	0.24	0.02	0.29	0.03
Others	Grams	0.66	0.03	0.49	0.03	1.09	0.05	0.64	0.04	0.88	0.07	0.79	0.05
Iron	Milligrams	13.09	0.05	14.08	0.18	15.48	0.14	15.66	0.19	15.90	0.19	14.75	0.26
FAH	Milligrams	11.01	0.06	11.03	0.17	11.41	0.13	11.05	0.22	11.19	0.15	10.65	0.25
FAFH	Milligrams	2.07	0.05	3.05	0.10	4.07	0.11	4.61	0.11	4.71	0.17	4.10	0.10
Restaurant	Milligrams	0.40	0.02	0.73	0.05	1.08	0.04	1.33	0.05	1.30	0.09	1.22	0.08
Fast food	Milligrams	0.65	0.02	1.62	0.08	1.70	0.05	2.40	0.11	2.28	0.11	1.88	0.09
School	Milligrams	0.38	0.02	0.27	0.03	0.28	0.02	0.26	0.03	0.23	0.02	0.25	0.03
Others	Milligrams	0.64	0.02	0.44	0.02	1.01	0.07	0.62	0.03	0.90	0.07	0.74	0.05
Protein	Grams	78.25	0.60	73.89	0.58	76.33	0.59	80.42	0.94	81.76	1.15	78.12	1.08
FAH	Grams	63.94	0.69	54.16	0.71	51.49	0.65	51.47	1.05	52.70	0.66	50.96	1.06
FAFH	Grams	14.31	0.32	19.74	0.57	24.84	0.55	28.95	0.65	29.06	1.08	27.16	0.73
Restaurant	Grams	2.82	0.16	4.95	0.33	7.06	0.24	9.07	0.31	8.75	0.57	8.86	0.58
Fast food	Grams	4.51	0.17	10.33	0.45	10.49	0.32	14.99	0.64	14.30	0.71	12.61	0.61
School	Grams	2.81	0.12	1.77	0.20	1.72	0.08	1.51	0.19	1.34	0.14	1.54	0.15
Others	Grams	4.17	0.15	2.68	0.13	5.57	0.33	3.38	0.22	4.67	0.37	4.16	0.31
Carbohydrate	Grams	202.15	1.51	224.54	2.65	259.51	2.07	274.08	2.64	264.54	3.60	256.20	2.49
FAH	Grams	165.08	1.19	168.50	2.31	184.89	1.77	192.52	3.14	184.43	2.47	183.33	2.64
FAFH	Grams	37.06	0.98	56.04	1.63	74.62	1.74	81.56	1.85	80.11	2.70	72.86	1.62
Restaurant	Grams	5.35	0.33	11.25	0.78	16.59	0.56	20.81	0.85	19.92	1.32	18.58	1.13
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Fast food	Grams	12.31	0.42	29.86	1.31	33.09	1.01	43.25	2.06	38.91	1.98	33.99	1.64
School	Grams	7.50	0.29	5.65	0.59	5.78	0.27	4.96	0.61	4.48	0.44	5.00	0.49
Others	Grams	11.90	0.51	9.27	0.48	19.16	0.98	12.54	0.72	16.80	1.10	15.30	0.95
Cholesterol	Milligrams	325.17	4.14	257.50	3.53	260.31	2.64	272.99	4.63	278.07	3.26	276.05	5.44
FAH	Milligrams	270.52	4.60	186.70	3.64	174.03	2.87	174.98	4.10	175.01	2.29	175.46	4.45
FAFH	Milligrams	54.65	1.47	70.80	2.48	86.28	1.99	98.01	3.11	103.06	4.43	100.59	2.80
Restaurant	Milligrams	13.54	0.89	22.26	1.74	29.52	1.04	35.64	2.24	36.21	2.77	39.00	2.71
Fast food	Milligrams	16.35	0.61	34.55	1.80	32.87	1.03	46.48	2.51	45.24	2.21	41.79	2.12
School	Milligrams	8.78	0.37	4.84	0.61	4.75	0.25	4.02	0.52	3.58	0.37	4.54	0.44
Others	Milligrams	15.97	0.59	9.14	0.46	19.15	1.33	11.87	0.88	18.02	1.52	15.26	1.41
Total Fat	Grams	76.21	0.79	72.97	0.86	75.55	0.76	82.65	0.71	81.91	1.35	78.33	1.20
FAH	Grams	61.29	0.69	51.43	0.77	48.45	0.70	51.62	0.83	51.10	0.72	49.39	1.11
FAFH	Grams	14.92	0.37	21.54	0.65	27.10	0.65	31.04	0.76	30.82	1.12	28.94	0.68
Restaurant	Grams	2.92	0.18	5.21	0.36	7.24	0.23	8.88	0.32	8.55	0.61	8.66	0.55
Fast food	Grams	4.86	0.18	11.26	0.49	11.89	0.36	16.54	0.79	15.51	0.74	13.92	0.70
School	Grams	2.83	0.12	1.89	0.22	1.85	0.09	1.49	0.19	1.36	0.15	1.56	0.15
Others	Grams	4.31	0.16	3.18	0.15	6.12	0.38	4.13	0.26	5.40	0.36	4.80	0.35
Saturated fatty acids	Grams	26.18	0.33	24.06	0.30	25.86	0.28	27.66	0.24	27.83	0.49	26.34	0.46
FAH	Grams	21.04	0.28	17.11	0.27	16.74	0.24	17.59	0.32	17.75	0.30	16.84	0.41
FAFH	Grams	5.14	0.13	6.95	0.22	9.12	0.23	10.07	0.26	10.08	0.37	9.50	0.23
Restaurant	Grams	0.94	0.06	1.62	0.12	2.25	0.07	2.71	0.10	2.63	0.20	2.67	0.16
Fast food	Grams	1.63	0.06	3.61	0.16	4.08	0.12	5.45	0.26	5.17	0.25	4.61	0.22
School	Grams	1.13	0.05	0.73	0.09	0.73	0.03	0.57	0.07	0.50	0.05	0.56	0.05
Others	Grams	1.44	0.05	0.98	0.05	2.06	0.14	1.34	0.09	1.78	0.11	1.66	0.13
Fatty acids, mono-unsaturated	Grams	28.33	0.23	27.28	0.32	29.01	0.31	30.99	0.29	30.13	0.48	28.80	0.45
FAH	Grams	22.74	0.20	19.04	0.30	18.39	0.28	18.87	0.31	18.44	0.25	17.95	0.41
FAFH	Grams	5.59	0.13	8.25	0.25	10.62	0.25	12.12	0.32	11.70	0.43	10.84	0.26
Restaurant	Grams	1.06	0.06	1.91	0.13	2.77	0.09	3.37	0.13	3.19	0.23	3.24	0.21
Fast food	Grams	1.88	0.07	4.49	0.20	4.79	0.15	6.60	0.33	6.01	0.29	5.29	0.28
School	Grams	1.03	0.04	0.72	0.09	0.71	0.03	0.55	0.07	0.50	0.06	0.58	0.06
Others	Grams	1.63	0.06	1.13	0.06	2.35	0.14	1.60	0.10	2.00	0.13	1.74	0.13
Fatty acids, poly-unsaturated	Grams	13.38	0.20	14.02	0.21	14.84	0.17	17.15	0.25	16.95	0.31	16.39	0.27
FAH	Grams	10.84	0.17	9.86	0.18	9.50	0.15	10.77	0.20	10.42	0.20	10.20	0.24
FAFH	Grams	2.54	0.07	4.15	0.12	5.34	0.14	6.38	0.16	6.53	0.23	6.18	0.16
Restaurant	Grams	0.55	0.03	1.09	0.08	1.67	0.06	2.02	0.09	1.96	0.14	2.00	0.14
Fast food	Grams	0.77	0.03	2.17	0.10	2.13	0.07	3.23	0.16	3.14	0.14	2.89	0.16
School	Grams	0.41	0.02	0.28	0.03	0.29	0.02	0.26	0.03	0.25	0.03	0.30	0.03
Others	Grams	0.80	0.03	0.62	0.03	1.25	0.08	0.86	0.05	1.18	0.10	0.99	0.07
Sodium	Milligrams	3,192.57	15.70	3,300.03	33.81	3,515.54	29.27	3,536.57	30.17	3,582.88	46.16	3,466.86	54.07
FAH	Milligrams	2,624.79	17.86	2,440.55	34.96	2,400.06	28.50	2,260.36	39.27	2,247.23	27.59	2,221.69	47.71
FAFH	Milligrams	567.78	12.91	859.48	27.06	1,115.47	26.14	1,276.21	28.57	1,335.64	47.81	1,245.17	31.24
Restaurant	Milligrams	114.48	7.04	230.58	16.80	322.19	12.17	406.38	14.60	400.04	26.65	401.87	28.40
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Fast food	Milligrams	169.96	5.90	439.94	19.79	460.19	13.74	655.99	30.13	634.42	31.63	558.44	28.44
School	Milligrams	106.80	5.06	68.25	6.89	73.27	3.31	62.60	7.75	56.90	5.96	66.03	6.68
Others	Milligrams	176.54	6.95	120.70	6.24	259.82	13.10	151.23	9.17	244.28	17.57	218.84	13.73

SE of mean = Standard error of the mean, FAH = food at home, FAFH= food away from home.

Source: USDA, Economic Research Service using USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data, and 1989–1991, 1994–96, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2003–04, 2005–06, 2007–08, 2009–10, 2011–12, 2013–14, 2015–16, and 2017–18 What We Eat in America, National Health and Nutrition Examination Survey data.

Table 3b

**Daily nutrient intake by food source for U.S. consumers aged 2 and above, 2009–2018**

		2009–10		2011–12		2013–14		2015–16		2017–18	
Variable	Measurement	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean
U.S. consumers aged 2 and above											
Energy	Calories	2,080.56	12.91	2,138.89	12.34	2,079.32	17.17	2,048.24	18.25	2,093.14	14.12
FAH	Calories	1,460.34	16.85	1,398.98	31.55	1,368.60	15.84	1,369.60	20.87	1,402.55	22.45
FAFH	Calories	620.22	13.11	739.91	28.67	710.73	13.83	678.64	17.65	690.60	25.02
Restaurant	Calories	159.58	6.72	171.06	10.81	177.04	8.86	178.61	6.64	173.28	10.87
Fast food	Calories	299.26	8.07	362.31	23.83	352.13	9.36	330.94	11.75	360.90	17.92
School	Calories	39.24	5.25	40.52	4.59	38.76	2.93	34.62	3.56	28.21	4.88
Others	Calories	122.14	5.29	166.01	10.17	142.80	8.32	134.47	7.81	128.20	6.27
Calcium	Milligrams	1,028.64	7.12	1,012.16	13.76	978.38	11.19	956.45	19.06	968.02	13.01
FAH	Milligrams	765.74	9.24	691.67	18.28	675.17	8.23	665.64	16.45	680.48	14.89
FAFH	Milligrams	262.89	7.19	320.49	13.04	303.20	7.27	290.80	7.53	287.55	9.37
Restaurant	Milligrams	59.07	3.13	59.56	4.72	57.41	3.16	60.10	2.81	56.80	3.67
Fast food	Milligrams	117.61	4.56	153.84	10.96	146.58	4.15	132.56	6.17	143.72	6.80
School	Milligrams	28.64	3.32	30.15	3.32	28.96	2.15	27.36	2.61	21.43	3.58
Others	Milligrams	57.57	2.07	76.94	4.56	70.25	3.96	70.79	2.94	65.60	2.92
Fiber, dietary	Grams	16.21	0.20	17.20	0.28	16.30	0.21	16.50	0.35	16.21	0.33
FAH	Grams	12.26	0.18	12.12	0.34	11.53	0.19	11.80	0.37	11.60	0.31
FAFH	Grams	3.95	0.12	5.08	0.17	4.77	0.10	4.69	0.14	4.61	0.20
Restaurant	Grams	1.05	0.06	1.26	0.09	1.30	0.08	1.27	0.05	1.20	0.11
Fast food	Grams	1.78	0.06	2.35	0.16	2.18	0.06	2.18	0.10	2.24	0.12
School	Grams	0.30	0.04	0.34	0.04	0.33	0.03	0.31	0.03	0.29	0.05
Others	Grams	0.82	0.04	1.13	0.07	0.96	0.06	0.94	0.06	0.88	0.04
Iron	Milligrams	14.92	0.11	15.41	0.13	14.38	0.14	13.96	0.17	13.97	0.15
FAH	Milligrams	11.16	0.12	10.83	0.24	10.12	0.17	9.95	0.17	9.96	0.20
FAFH	Milligrams	3.77	0.09	4.58	0.16	4.26	0.09	4.01	0.12	4.01	0.16
Restaurant	Milligrams	0.99	0.05	1.09	0.07	1.07	0.06	1.04	0.03	1.00	0.07
Fast food	Milligrams	1.79	0.06	2.19	0.14	2.05	0.06	1.92	0.08	2.06	0.11
School	Milligrams	0.26	0.03	0.28	0.03	0.28	0.02	0.25	0.03	0.21	0.04
Others	Milligrams	0.73	0.03	1.03	0.06	0.87	0.05	0.80	0.04	0.74	0.04
Protein	Grams	79.51	0.70	79.91	0.52	80.28	0.74	78.79	1.10	78.28	0.87
FAH	Grams	54.87	0.84	50.87	1.14	51.61	0.62	51.81	1.21	51.39	0.96

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FAFH	Grams	24.64	0.45	29.04	1.10	28.67	0.57	26.98	0.86	26.89	1.10
Restaurant	Grams	7.03	0.26	7.72	0.46	8.07	0.43	8.04	0.43	7.76	0.57
Fast food	Grams	12.00	0.34	14.00	0.92	13.99	0.41	13.05	0.58	13.73	0.66
School	Grams	1.54	0.21	1.70	0.22	1.61	0.12	1.45	0.16	1.10	0.20
Others	Grams	4.08	0.21	5.62	0.35	5.00	0.30	4.43	0.28	4.29	0.21
Carbohydrate	Grams	259.19	1.68	265.80	1.91	251.22	2.08	243.30	1.94	246.94	2.16
FAH	Grams	190.06	1.63	181.36	4.34	172.35	2.17	168.83	2.38	172.22	3.19
FAFH	Grams	69.13	1.75	84.43	3.44	78.87	1.64	74.47	1.92	74.72	2.91
Restaurant	Grams	16.02	0.80	17.75	1.27	17.74	0.91	17.48	0.70	16.57	1.06
Fast food	Grams	32.56	1.00	41.30	2.91	39.02	1.19	35.81	1.10	39.01	1.97
School	Grams	5.14	0.63	5.27	0.59	5.09	0.39	4.56	0.45	3.88	0.67
Others	Grams	15.40	0.68	20.11	1.24	17.02	0.92	16.62	0.99	15.26	0.76
Cholesterol	Milligrams	260.50	4.32	267.38	3.32	276.42	3.65	282.09	5.17	287.39	3.22
FAH	Milligrams	176.84	4.90	165.27	4.82	177.02	2.93	183.76	4.30	187.71	3.88
FAFH	Milligrams	83.66	1.75	102.11	4.66	99.39	2.64	98.33	4.08	99.68	3.34
Restaurant	Milligrams	28.02	1.26	32.33	2.23	32.69	1.66	33.27	2.05	32.68	1.74
Fast food	Milligrams	37.41	1.15	45.37	3.42	45.25	1.69	45.13	2.59	48.08	2.49
School	Milligrams	4.12	0.65	4.51	0.71	4.13	0.34	3.73	0.46	2.55	0.50
Others	Milligrams	14.11	0.75	19.90	1.66	17.32	1.24	16.21	1.35	16.37	0.98
Total Fat	Grams	76.84	0.75	80.00	0.75	79.99	0.79	81.44	1.03	85.03	0.68
FAH	Grams	51.11	0.94	49.59	1.09	50.28	0.59	51.95	1.03	54.50	0.83
FAFH	Grams	25.74	0.47	30.41	1.16	29.71	0.62	29.48	0.89	30.53	1.10
Restaurant	Grams	7.09	0.30	7.17	0.47	7.55	0.37	8.06	0.25	7.92	0.53
Fast food	Grams	12.59	0.33	15.42	0.99	15.06	0.40	14.79	0.59	16.21	0.83
School	Grams	1.44	0.22	1.45	0.17	1.38	0.11	1.23	0.14	0.96	0.17
Others	Grams	4.63	0.20	6.36	0.40	5.72	0.36	5.40	0.35	5.43	0.29
Saturated fatty acids	Grams	25.51	0.30	26.19	0.35	26.26	0.24	27.06	0.42	28.01	0.28
FAH	Grams	17.23	0.34	16.14	0.44	16.56	0.18	17.41	0.41	18.08	0.35
FAFH	Grams	8.29	0.19	10.05	0.40	9.70	0.20	9.65	0.28	9.93	0.35
Restaurant	Grams	2.22	0.10	2.21	0.15	2.22	0.12	2.50	0.07	2.37	0.16
Fast food	Grams	4.03	0.13	5.17	0.32	5.05	0.12	4.89	0.19	5.40	0.27
School	Grams	0.54	0.08	0.54	0.06	0.49	0.04	0.45	0.05	0.35	0.06
Others	Grams	1.50	0.06	2.13	0.15	1.95	0.13	1.81	0.14	1.80	0.09
Fatty acids, mono-unsaturated	Grams	27.52	0.24	28.41	0.27	27.56	0.30	28.40	0.37	28.85	0.32
FAH	Grams	18.25	0.33	17.75	0.37	17.49	0.23	18.21	0.40	18.56	0.27
FAFH	Grams	9.27	0.19	10.66	0.40	10.07	0.24	10.19	0.32	10.30	0.39
Restaurant	Grams	2.52	0.11	2.52	0.16	2.57	0.13	2.82	0.10	2.67	0.19
Fast food	Grams	4.57	0.12	5.38	0.34	5.06	0.15	5.08	0.20	5.45	0.29
School	Grams	0.49	0.08	0.48	0.06	0.45	0.04	0.40	0.05	0.29	0.05
Others	Grams	1.68	0.08	2.28	0.14	2.00	0.13	1.90	0.12	1.89	0.11
Fatty acids, poly-unsaturated	Grams	16.85	0.23	18.88	0.21	18.58	0.26	18.57	0.26	19.90	0.30
FAH	Grams	10.97	0.22	11.75	0.25	11.46	0.20	11.55	0.21	12.47	0.32
FAFH	Grams	5.87	0.09	7.12	0.28	7.12	0.15	7.02	0.23	7.43	0.27
Restaurant	Grams	1.69	0.08	1.85	0.12	2.04	0.10	2.01	0.08	2.13	0.14
Fast food	Grams	2.87	0.08	3.56	0.27	3.51	0.10	3.52	0.18	3.84	0.21
School	Grams	0.28	0.04	0.30	0.03	0.32	0.02	0.26	0.03	0.21	0.04
Others	Grams	1.03	0.06	1.41	0.09	1.26	0.08	1.23	0.07	1.25	0.08

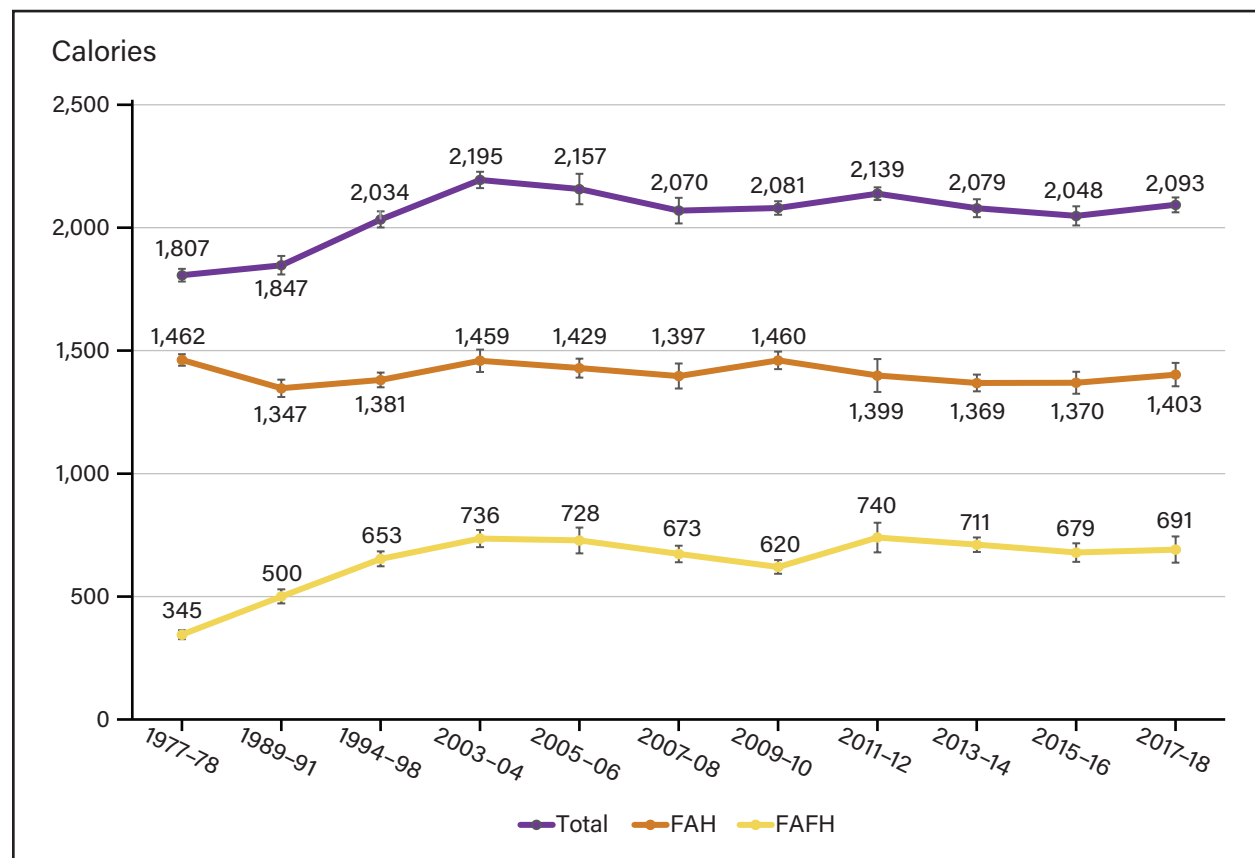
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Sodium	Milligrams	3,462.75	19.40	3,477.98	24.37	3,409.17	27.67	3,410.57	33.61	3,389.87	34.73
FAH	Milligrams	2,313.06	31.86	2,141.42	55.93	2,103.88	27.20	2,138.74	44.91	2,109.32	40.02
FAFH	Milligrams	1,149.68	20.94	1,336.56	49.65	1,305.28	28.22	1,271.83	37.29	1,280.54	52.29
Restaurant	Milligrams	325.35	12.88	346.27	22.58	362.18	20.81	373.66	15.22	376.76	28.08
Fast food	Milligrams	548.30	13.63	649.39	45.30	629.87	18.82	613.25	26.82	644.24	34.88
School	Milligrams	64.95	9.87	67.83	9.18	64.79	4.15	54.94	5.74	40.86	7.40
Others	Milligrams	211.09	9.56	273.07	15.53	248.44	15.69	229.98	12.85	218.68	9.07

SE of mean = Standard error of the mean, FAH = food at home, FAFH= food away from home.

Source: USDA, Economic Research Service using USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data, and 1989–1991, 1994–96, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2003–04, 2005–06, 2007–08, 2009–10, 2011–12, 2013–14, 2015–16, and 2017–18 What We Eat in America, National Health and Nutrition Examination Survey data.

Figure 1

**Daily food energy intake among U.S. consumers aged 2 and above: Total, FAH, and FAFH, 1977–2018**

FAH = Food at home; FAFH = Food away from home.

Note: The vertical bar associated with each data point is its 95-percent confidence interval.

Source: USDA, Economic Research Service using data from USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data; USDA, Agricultural Research Service, 1989–1991, 1994–1996, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2003–2004, 2005–2006, 2007–2008, 2009–2010, 2011–2012, 2013–2014, 2015–2016, and 2017–2018 What We Eat in America, National Health and Nutrition Examination Survey data.

The distribution of food energy intake between FAH and FAFH can be affected by the economy and other factors. During the recession between December 2007 and June 2009, consumers reduced their FAFH spending such that their daily food energy intakes decreased from 360 to 299 calories from fast-food places and from 195 to 160 from restaurants during 2005–2006 and 2009–2010 (tables 3a and 3b, and figure 2). When the economy recovered, the FAFH's share of total energy intake rose from 28.3 percent in 2009–2010 to 33.1 percent in 2011–2012 (table 4b).



Table 4a

**Daily nutrient intake and share by food source for U.S. consumers aged 2 and above, 1977–2008**

		1977–78		1989–91		1994–98		2003–04		2005–06		2007–08	
Variable	Measurement	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean
U.S. consumers aged 2 and above													
Energy	Calories	1,806.88	12.39	1,847.48	18.90	2,033.93	16.20	2,194.78	15.59	2,157.35	29.02	2,069.79	24.55
FAH	Percent of total	81.81	0.42	74.42	0.66	69.97	0.53	68.64	0.60	68.19	0.82	69.47	0.60
FAFH	Percent of total	18.19	0.42	25.58	0.66	30.03	0.53	31.36	0.60	31.81	0.82	30.53	0.60
Restaurant	Percent of total	3.27	0.20	6.02	0.41	7.82	0.24	8.55	0.34	8.63	0.50	8.54	0.47
Fast food	Percent of total	5.92	0.21	13.11	0.52	12.86	0.36	16.35	0.74	15.32	0.62	14.15	0.63
School	Percent of total	3.35	0.14	2.41	0.24	2.32	0.11	1.87	0.23	1.77	0.19	2.09	0.20
Others	Percent of total	5.66	0.21	4.04	0.17	7.03	0.29	4.58	0.25	6.09	0.36	5.76	0.35
Calcium	Miligrams	756.92	10.95	766.76	10.58	804.31	7.35	917.76	16.62	969.64	18.89	946.04	20.23
FAH	Percent of total	82.68	0.36	76.35	0.61	71.81	0.46	71.23	0.63	69.85	0.86	70.67	0.54
FAFH	Percent of total	17.32	0.36	23.65	0.61	28.19	0.46	28.77	0.63	30.15	0.86	29.33	0.54
Restaurant	Percent of total	2.87	0.18	5.26	0.36	6.90	0.22	7.38	0.29	6.83	0.44	6.89	0.39
Fast food	Percent of total	5.43	0.20	12.09	0.50	12.21	0.34	15.24	0.65	13.37	0.48	12.62	0.57
School	Percent of total	4.07	0.16	2.82	0.27	2.98	0.14	2.37	0.31	2.16	0.22	2.63	0.29
Others	Percent of total	4.95	0.18	3.48	0.15	6.09	0.27	3.78	0.24	7.79	0.31	7.19	0.30
Fiber, dietary	Grams	12.83	0.11	13.97	0.19	15.41	0.14	14.84	0.33	15.12	0.26	15.15	0.44
FAH	Percent of total	82.88	0.38	75.71	0.66	70.99	0.55	69.08	0.62	68.75	0.90	70.25	0.60
FAFH	Percent of total	17.12	0.38	24.29	0.66	29.01	0.55	30.92	0.62	31.25	0.90	29.75	0.60
Restaurant	Percent of total	3.10	0.18	5.69	0.39	7.65	0.24	8.72	0.28	8.76	0.47	8.32	0.41
Fast food	Percent of total	5.18	0.19	12.43	0.50	12.10	0.37	15.86	0.73	14.76	0.67	13.57	0.63
School	Percent of total	3.41	0.17	2.54	0.24	2.45	0.11	2.00	0.25	1.82	0.21	2.30	0.24
Others	Percent of total	5.44	0.21	3.63	0.18	6.81	0.28	4.33	0.21	5.91	0.32	5.57	0.36
Iron	Milligrams	13.09	0.05	14.08	0.18	15.48	0.14	15.66	0.19	15.90	0.19	14.75	0.26
FAH	Percent of total	83.31	0.40	76.43	0.63	71.86	0.56	69.54	0.60	69.34	0.83	70.78	0.58
FAFH	Percent of total	16.69	0.40	23.57	0.63	28.14	0.56	30.46	0.60	30.66	0.83	29.22	0.58
Restaurant	Percent of total	3.26	0.20	5.72	0.39	7.51	0.24	8.45	0.30	8.53	0.50	8.37	0.47
Fast food	Percent of total	5.39	0.20	12.29	0.48	12.07	0.38	15.97	0.72	14.73	0.57	13.54	0.60
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School	Percent of total	2.88	0.14	2.08	0.22	2.06	0.12	1.78	0.21	1.68	0.19	2.03	0.19
Others	Percent of total	5.16	0.20	3.49	0.17	6.49	0.29	4.25	0.26	5.72	0.34	5.26	0.33
Protein	Grams	78.25	0.60	73.89	0.58	76.33	0.59	80.42	0.94	81.76	1.15	78.12	1.08
FAH	Percent of total	82.10	0.41	74.18	0.69	68.73	0.58	65.78	0.65	65.50	0.89	66.67	0.73
FAFH	Percent of total	17.90	0.41	25.82	0.69	31.27	0.58	34.22	0.65	34.50	0.89	33.33	0.73
Restaurant	Percent of total	3.46	0.21	6.34	0.43	8.66	0.26	10.11	0.35	10.06	0.57	10.08	0.53
Fast food	Percent of total	5.70	0.22	13.45	0.55	13.41	0.41	17.87	0.78	16.91	0.63	15.74	0.77
School	Percent of total	3.38	0.15	2.42	0.24	2.43	0.12	2.06	0.25	1.91	0.21	2.29	0.22
Others	Percent of total	5.35	0.19	3.62	0.17	6.77	0.29	4.18	0.28	5.62	0.36	5.22	0.35
Carbohydrate	Grams	202.15	1.51	224.54	2.65	259.51	2.07	274.08	2.64	264.54	3.60	256.20	2.49
FAH	Percent of total	82.23	0.41	75.70	0.62	72.12	0.48	71.50	0.56	70.94	0.74	72.52	0.47
FAFH	Percent of total	17.77	0.41	24.30	0.62	27.88	0.48	28.50	0.56	29.06	0.74	27.48	0.47
Restaurant	Percent of total	2.89	0.17	5.35	0.37	6.76	0.21	7.38	0.33	7.51	0.42	7.19	0.43
Fast food	Percent of total	6.03	0.21	12.54	0.50	12.03	0.34	14.83	0.68	13.79	0.59	12.53	0.51
School	Percent of total	3.24	0.13	2.34	0.23	2.21	0.11	1.79	0.22	1.68	0.17	1.99	0.19
Others	Percent of total	5.61	0.22	4.08	0.18	6.88	0.29	4.50	0.24	6.09	0.35	5.77	0.34
Cholesterol	Milligrams	325.17	4.14	257.50	3.53	260.31	2.64	272.99	4.63	278.07	3.26	276.05	5.44
FAH	Percent of total	82.26	0.41	73.04	0.71	67.24	0.62	64.13	0.61	63.40	0.93	64.25	0.81
FAFH	Percent of total	17.74	0.41	26.96	0.71	32.76	0.62	35.87	0.61	36.60	0.93	35.75	0.81
Restaurant	Percent of total	3.67	0.22	6.94	0.48	9.65	0.30	11.04	0.45	11.18	0.70	11.36	0.58
Fast food	Percent of total	5.52	0.22	13.93	0.58	13.57	0.41	18.41	0.78	17.55	0.58	16.61	0.91
School	Percent of total	3.31	0.15	2.43	0.26	2.44	0.12	2.04	0.26	1.90	0.20	2.26	0.21
Others	Percent of total	5.24	0.19	3.66	0.18	7.10	0.33	4.37	0.32	5.98	0.40	5.52	0.39
Total Fat	Grams	76.21	0.79	72.97	0.86	75.55	0.76	82.65	0.71	81.91	1.35	78.33	1.20
FAH	Percent of total	81.22	0.42	72.84	0.68	67.21	0.60	65.28	0.64	64.82	0.85	65.89	0.73
FAFH	Percent of total	18.78	0.42	27.16	0.68	32.79	0.60	34.72	0.64	35.18	0.85	34.11	0.73
Restaurant	Percent of total	3.52	0.21	6.51	0.44	8.85	0.28	9.71	0.34	9.71	0.57	9.64	0.52
Fast food	Percent of total	6.10	0.22	14.05	0.55	14.17	0.40	18.22	0.80	17.33	0.62	16.36	0.78
School	Percent of total	3.58	0.15	2.55	0.25	2.50	0.12	1.97	0.25	1.90	0.21	2.20	0.20
Others	Percent of total	5.58	0.20	4.05	0.17	7.27	0.32	4.83	0.26	6.25	0.37	5.91	0.40
Saturated fatty acids	Grams	26.18	0.33	24.06	0.30	25.86	0.28	27.66	0.24	27.83	0.49	26.34	0.46
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FAH	Percent of total	81.23	0.41	73.20	0.67	67.34	0.59	66.11	0.60	65.61	0.81	66.40	0.70
FAFH	Percent of total	18.77	0.41	26.80	0.67	32.66	0.59	33.89	0.60	34.39	0.81	33.60	0.70
Restaurant	Percent of total	3.44	0.22	6.41	0.43	8.55	0.27	9.27	0.34	9.14	0.54	9.30	0.49
Fast food	Percent of total	6.03	0.22	13.85	0.54	14.21	0.39	17.88	0.74	17.10	0.59	16.13	0.77
School	Percent of total	3.83	0.15	2.69	0.26	2.67	0.13	2.06	0.26	1.98	0.21	2.29	0.21
Others	Percent of total	5.47	0.20	3.85	0.16	7.23	0.32	4.69	0.28	6.16	0.34	5.89	0.38
Fatty acids, mono-unsaturated	Grams	28.33	0.23	27.28	0.32	29.01	0.31	30.99	0.29	30.13	0.48	28.80	0.45
FAH	Percent of total	81.10	0.42	72.33	0.71	66.70	0.61	64.43	0.67	64.16	0.90	65.34	0.76
FAFH	Percent of total	18.90	0.42	27.67	0.71	33.30	0.61	35.57	0.67	35.84	0.90	34.66	0.76
Restaurant	Percent of total	3.54	0.21	6.60	0.43	8.91	0.29	9.82	0.34	9.85	0.58	9.75	0.52
Fast food	Percent of total	6.21	0.23	14.59	0.57	14.56	0.41	18.85	0.85	17.77	0.66	16.79	0.81
School	Percent of total	3.52	0.15	2.55	0.25	2.51	0.12	1.96	0.25	1.91	0.22	2.21	0.21
Others	Percent of total	5.64	0.21	3.93	0.18	7.32	0.32	4.94	0.27	6.30	0.37	5.92	0.41
Fatty acids, poly-unsaturated	Grams	13.38	0.20	14.02	0.21	14.84	0.17	17.15	0.25	16.95	0.31	16.39	0.27
FAH	Percent of total	81.70	0.44	72.85	0.68	67.58	0.59	65.04	0.65	63.96	0.87	65.46	0.76
FAFH	Percent of total	18.30	0.44	27.15	0.68	32.42	0.59	34.96	0.65	36.04	0.87	34.54	0.76
Restaurant	Percent of total	3.62	0.22	6.67	0.45	9.14	0.29	10.14	0.36	10.20	0.60	9.99	0.56
Fast food	Percent of total	5.67	0.22	14.15	0.56	13.65	0.39	18.07	0.83	17.59	0.65	16.39	0.76
School	Percent of total	3.29	0.15	2.35	0.21	2.27	0.10	1.87	0.23	1.77	0.21	2.08	0.19
Others	Percent of total	5.73	0.23	3.97	0.19	7.37	0.32	4.89	0.23	6.48	0.41	6.08	0.43
Sodium	Milligrams	3,192.57	15.70	3,300.03	33.81	3,515.54	29.27	3,536.57	30.17	3,582.88	46.16	3,466.86	54.07
FAH	Percent of total	82.19	0.41	74.32	0.68	69.02	0.58	65.75	0.56	64.42	0.93	65.80	0.70
FAFH	Percent of total	17.81	0.41	25.68	0.68	30.98	0.58	34.25	0.56	35.58	0.93	34.20	0.70
Restaurant	Percent of total	3.52	0.21	6.56	0.44	8.81	0.27	10.38	0.35	10.23	0.58	10.19	0.54
Fast food	Percent of total	5.52	0.21	13.22	0.54	13.04	0.39	17.70	0.77	16.73	0.66	15.72	0.75
School	Percent of total	3.29	0.16	2.22	0.22	2.30	0.11	1.92	0.24	1.85	0.20	2.18	0.21
Others	Percent of total	5.48	0.20	3.68	0.18	6.84	0.28	4.25	0.24	6.77	0.36	6.11	0.34

SE of mean = Standard error of the mean, FAH = food at home, FAFH= food away from home.

Source: USDA, Economic Research Service using USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data, and 1989–1991, 1994–96, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2003–04, 2005–06, 2007–08, 2009–10, 2011–12, 2013–14, 2015–16, and 2017–18 What We Eat in America, National Health and Nutrition Examination Survey data.

Table 4b

**Daily nutrient intake and share by food source for U.S. consumers aged 2 and above, 2009–2018**

		2009–10		2011–12		2013–14		2015–16		2017–18	
Variable	Measurement	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean
U.S. consumers aged 2 and above											
Energy	Calories	2,080.56	12.91	2,138.89	12.34	2,079.32	17.17	2,048.24	18.25	2,093.14	14.12
FAH	Percent of total	71.74	0.52	66.90	1.03	67.21	0.61	68.44	0.87	68.39	1.07
FAFH	Percent of total	28.26	0.52	33.10	1.03	32.79	0.61	31.56	0.87	31.61	1.07
Restaurant	Percent of total	7.20	0.30	7.88	0.46	8.20	0.43	7.90	0.43	7.77	0.45
Fast food	Percent of total	13.43	0.32	15.84	0.78	16.13	0.35	15.27	0.52	16.26	0.82
School	Percent of total	2.09	0.26	2.13	0.22	2.05	0.16	1.88	0.22	1.57	0.26
Others	Percent of total	5.54	0.21	7.24	0.44	6.41	0.34	6.51	0.41	6.01	0.31
Calcium	Milligrams	1,028.64	7.12	1,012.16	13.76	978.38	11.19	956.45	19.06	968.02	13.01
FAH	Percent of total	73.42	0.59	67.66	0.99	68.02	0.57	68.81	0.75	69.06	0.95
FAFH	Percent of total	26.58	0.59	32.34	0.99	31.98	0.57	31.19	0.75	30.94	0.95
Restaurant	Percent of total	5.78	0.28	6.24	0.42	6.37	0.37	6.39	0.33	6.29	0.39
Fast food	Percent of total	11.64	0.39	14.86	0.78	14.90	0.35	13.59	0.47	14.67	0.67
School	Percent of total	2.70	0.30	2.72	0.31	2.59	0.17	2.46	0.27	2.03	0.34
Others	Percent of total	6.47	0.25	8.53	0.47	8.12	0.35	8.75	0.37	7.95	0.37
Fiber, dietary	Grams	16.21	0.20	17.20	0.28	16.30	0.21	16.50	0.35	16.21	0.33
FAH	Percent of total	72.85	0.51	68.35	1.07	68.75	0.59	69.56	0.98	68.82	1.23
FAFH	Percent of total	27.15	0.51	31.65	1.07	31.25	0.59	30.44	0.98	31.18	1.23
Restaurant	Percent of total	7.01	0.28	7.42	0.37	7.86	0.43	7.80	0.46	7.64	0.45
Fast food	Percent of total	12.81	0.35	15.21	0.87	15.18	0.34	14.51	0.54	15.76	0.88
School	Percent of total	2.19	0.27	2.31	0.24	2.32	0.20	2.08	0.24	0.29	0.05
Others	Percent of total	5.15	0.20	6.71	0.40	5.89	0.35	6.05	0.47	5.83	0.34
Iron	Milligrams	14.92	0.11	15.41	0.13	14.38	0.14	13.96	0.17	13.97	0.15
FAH	Percent of total	73.10	0.51	68.46	1.01	68.54	0.61	69.68	0.83	69.30	1.11
FAFH	Percent of total	26.90	0.51	31.54	1.01	31.46	0.61	30.32	0.83	30.70	1.11
Restaurant	Percent of total	7.05	0.30	7.74	0.45	7.95	0.39	7.73	0.35	7.52	0.46
Fast food	Percent of total	12.84	0.35	14.95	0.76	15.34	0.33	14.65	0.56	15.81	0.81
School	Percent of total	2.00	0.24	2.06	0.22	2.09	0.16	1.86	0.20	1.66	0.29
Others	Percent of total	5.01	0.18	6.79	0.41	6.08	0.35	6.08	0.37	5.71	0.31
Protein	Grams	79.51	0.70	79.91	0.52	80.28	0.74	78.79	1.10	78.28	0.87
FAH	Percent of total	69.92	0.58	64.77	1.09	65.05	0.63	66.71	1.07	66.36	1.16
FAFH	Percent of total	30.08	0.58	35.23	1.09	34.95	0.63	33.29	1.07	33.64	1.16
Restaurant	Percent of total	8.35	0.32	9.13	0.53	9.20	0.49	8.95	0.49	9.03	0.60
Fast food	Percent of total	14.54	0.37	16.99	0.86	17.43	0.35	16.31	0.67	17.39	0.85
School	Percent of total	2.22	0.28	2.40	0.27	2.27	0.17	2.13	0.27	1.72	0.28
Others	Percent of total	4.97	0.19	6.71	0.45	6.05	0.37	5.91	0.43	5.50	0.33
Carbohydrate	Grams	259.19	1.68	265.80	1.91	251.22	2.08	243.30	1.94	246.94	2.16
FAH	Percent of total	74.11	0.52	69.11	1.05	69.38	0.60	70.31	0.78	70.15	1.11
FAFH	Percent of total	25.89	0.52	30.89	1.05	30.62	0.60	29.69	0.78	29.85	1.11
Restaurant	Percent of total	6.13	0.27	6.88	0.41	7.21	0.39	6.94	0.37	6.89	0.38
Fast food	Percent of total	12.12	0.32	14.80	0.80	14.98	0.38	14.17	0.44	15.20	0.76
School	Percent of total	2.07	0.25	2.05	0.21	2.06	0.16	1.88	0.21	1.63	0.28

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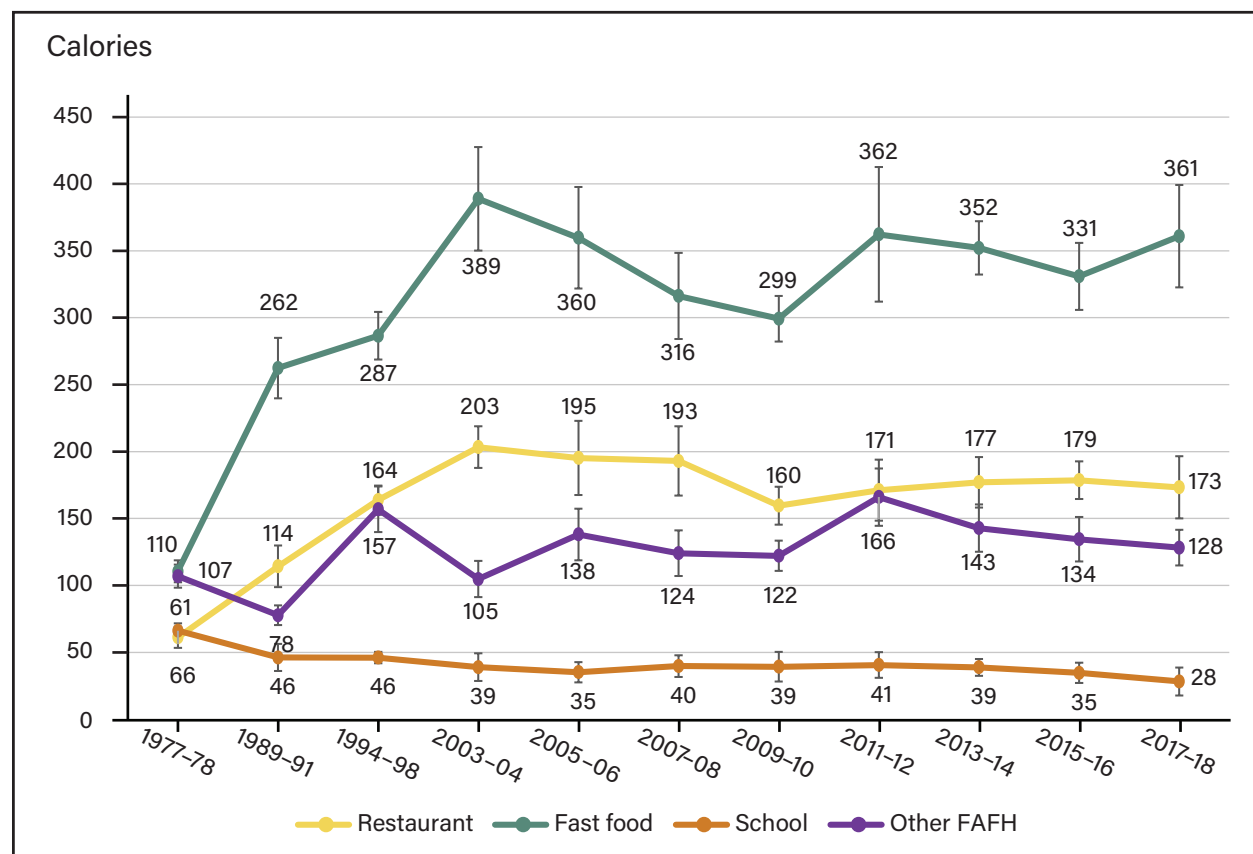


Others	Percent of total	5.57	0.23	7.16	0.47	6.35	0.32	6.70	0.42	6.13	0.29
Cholesterol	Milligrams	260.50	4.32	267.38	3.32	276.42	3.65	282.09	5.17	287.39	3.22
FAH	Percent of total	68.02	0.74	62.01	1.11	63.04	0.70	64.78	1.15	64.59	1.16
FAFH	Percent of total	31.98	0.74	37.99	1.11	36.96	0.70	35.22	1.15	35.41	1.16
Restaurant	Percent of total	9.43	0.42	10.44	0.76	10.42	0.51	9.69	0.47	9.82	0.71
Fast food	Percent of total	15.13	0.45	18.03	0.88	18.11	0.41	17.39	0.80	18.39	0.92
School	Percent of total	2.18	0.29	2.43	0.32	2.20	0.17	2.08	0.29	1.56	0.26
Others	Percent of total	5.24	0.22	7.10	0.53	6.24	0.39	6.06	0.40	5.65	0.35
Total Fat	Grams	76.84	0.75	80.00	0.75	79.99	0.79	81.44	1.03	85.03	0.68
FAH	Percent of total	68.76	0.58	64.08	1.00	64.63	0.69	66.12	0.97	65.98	1.06
FAFH	Percent of total	31.24	0.58	35.92	1.00	35.37	0.69	33.88	0.97	34.02	1.06
Restaurant	Percent of total	8.30	0.33	8.71	0.53	8.99	0.47	8.65	0.45	8.44	0.52
Fast food	Percent of total	15.08	0.34	17.55	0.84	17.71	0.37	16.79	0.58	17.89	0.89
School	Percent of total	2.13	0.28	2.19	0.24	1.99	0.16	1.84	0.23	1.46	0.23
Others	Percent of total	5.73	0.21	7.46	0.43	6.68	0.37	6.59	0.42	6.23	0.35
Saturated fatty acids	Grams	25.51	0.30	26.19	0.35	26.26	0.24	27.06	0.42	28.01	0.28
FAH	Percent of total	69.29	0.59	63.87	1.01	64.77	0.70	66.20	0.94	66.06	1.00
FAFH	Percent of total	30.71	0.59	36.13	1.01	35.23	0.70	33.80	0.94	33.94	1.00
Restaurant	Percent of total	7.97	0.34	8.43	0.55	8.51	0.46	8.34	0.43	8.08	0.51
Fast food	Percent of total	14.73	0.37	17.83	0.83	17.78	0.36	16.91	0.57	17.98	0.83
School	Percent of total	2.29	0.30	2.30	0.26	2.05	0.16	1.91	0.24	1.52	0.24
Others	Percent of total	5.73	0.20	7.58	0.45	6.88	0.41	6.64	0.45	6.36	0.35
Fatty acids, mono-unsaturated	Grams	27.52	0.24	28.41	0.27	27.56	0.30	28.40	0.37	28.85	0.32
FAH	Percent of total	68.56	0.63	64.16	0.98	64.67	0.71	66.15	1.00	65.94	1.08
FAFH	Percent of total	31.44	0.63	35.84	0.98	35.33	0.71	33.85	1.00	34.06	1.08
Restaurant	Percent of total	8.31	0.33	8.70	0.51	9.03	0.48	8.69	0.44	8.39	0.54
Fast food	Percent of total	15.29	0.36	17.48	0.83	17.60	0.37	16.79	0.59	17.95	0.94
School	Percent of total	2.08	0.28	2.15	0.23	1.93	0.15	1.81	0.24	1.42	0.22
Others	Percent of total	5.77	0.21	7.51	0.42	6.78	0.39	6.57	0.42	6.30	0.36
Fatty acids, poly-unsaturated	Grams	16.85	0.23	18.88	0.21	18.58	0.26	18.57	0.26	19.90	0.30
FAH	Percent of total	68.13	0.55	64.42	1.01	64.05	0.69	65.52	0.95	65.08	1.17
FAFH	Percent of total	31.87	0.55	35.58	1.01	35.95	0.69	34.48	0.95	34.92	1.17
Restaurant	Percent of total	8.67	0.34	9.18	0.54	9.58	0.49	9.13	0.48	9.06	0.51
Fast food	Percent of total	15.46	0.32	17.16	0.86	17.83	0.41	16.97	0.62	18.25	0.98
School	Percent of total	2.03	0.27	2.06	0.23	2.04	0.16	1.79	0.23	1.44	0.22
Others	Percent of total	5.72	0.24	7.17	0.43	6.51	0.34	6.59	0.38	6.17	0.38
Sodium	Milligrams	3,462.75	19.40	3,477.98	24.37	3,409.17	27.67	3,410.57	33.61	3,389.87	34.73
FAH	Percent of total	68.30	0.58	63.47	1.08	63.52	0.70	64.78	1.09	64.65	1.14
FAFH	Percent of total	31.70	0.58	36.53	1.08	36.48	0.70	35.22	1.09	35.35	1.14
Restaurant	Percent of total	8.60	0.33	9.40	0.56	9.73	0.52	9.38	0.47	9.51	0.61
Fast food	Percent of total	14.99	0.36	17.17	0.91	17.59	0.35	16.89	0.72	17.86	0.94
School	Percent of total	2.14	0.27	2.23	0.26	2.09	0.15	1.87	0.22	1.49	0.24
Others	Percent of total	5.96	0.22	7.72	0.45	7.07	0.35	7.08	0.44	6.49	0.33

SE of mean = Standard error of the mean, FAH = food at home, FAFH= food away from home.

Source: USDA, Economic Research Service using USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data, and 1989–1991, 1994–96, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2003–04, 2005–06, 2007–08, 2009–10, 2011–12, 2013–14, 2015–16, and 2017–18 What We Eat in America, National Health and Nutrition Examination Survey data.

Figure 2

**Daily food energy intake at restaurants, fast food, school, and other FAFH, 1977–2018**

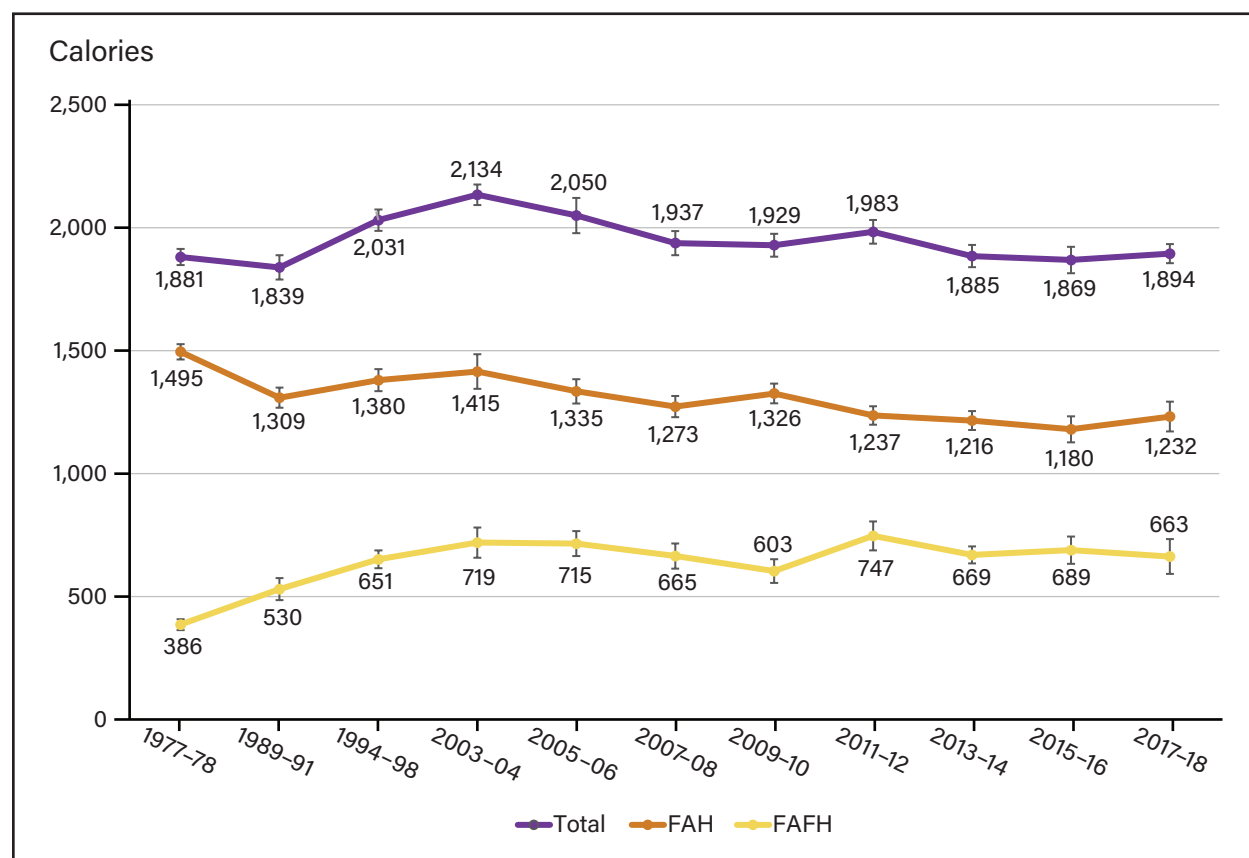
FAFH = Food away from home.

Note: The vertical bar associated with each data point is its 95-percent confidence interval.

Source: USDA, Economic Research Service using data from USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data; USDA, Agricultural Research Service, 1989–1991, 1994–1996, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2003–2004, 2005–2006, 2007–2008, 2009–2010, 2011–2012, 2013–2014, 2015–2016, and 2017–2018 What We Eat in America, National Health and Nutrition Examination Survey data.

Children aged 2–19 have substituted foods from restaurants and fast-food places for home foods, which declined from 1,495 to 1,232 calories a day between 1977 and 2018 (figure 3). Over time, children aged 2–19 decreased their caloric intake from schools and daycares from 190 to 119 calories throughout 1977–2018.

Figure 3  
**Daily food energy intake among children aged 2–19: Total, food at home, and food away from home, 1977–2018**



FAH = Food at home; FAFH = Food away from home

Note: The vertical bar associated with each data point is its 95-percent confidence interval.

Source: USDA, Economic Research Service using data from USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data; USDA, Agricultural Research Service, 1989–1991, 1994–1996, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2003–2004, 2005–2006, 2007–2008, 2009–2010, 2011–2012, 2013–2014, 2015–2016, and 2017–2018 What We Eat in America, National Health and Nutrition Examination Survey data.

## Total and Saturated Fat

The recommended total fat density varies by energy level. For a diet of 2,000 calories, total fat intake is recommended to account for 20–35 percent of calories. The recommended intake of saturated fat should be less than 10 percent of total calories across all energy intake levels (USDA and HHS, 2020). The total fat and saturated fat intakes described in tables 3a and 3b are expressed in grams, and their densities in tables 5a and 5b are expressed in grams per 1,000 calories, which can be converted into percent of calories from fat using the conversion factor that each gram of fat generates 9 calories.

Table 5a  
**Daily nutrient density among U.S. consumers aged 2 and above: Total, food at home, and food away from home, 1977–2008**

		1977–78		1989–91		1994–98		2003–04		2005–06		2007–08	
Variable	Measure- ment	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean
U.S. consumers aged 2 and above													
Energy	Calories	1,806.88	12.39	1,847.48	18.90	2,033.93	16.20	2,194.78	15.59	2,157.35	29.02	2,069.79	24.55
FAH	Calories	1,462.27	11.13	1,347.04	17.60	1,380.76	14.93	1,458.96	21.46	1,429.30	18.10	1,396.89	23.87
FAFH	Calories	344.61	8.73	500.44	14.38	653.17	14.97	735.83	16.47	728.05	24.69	672.91	15.81
Fast food	Calories	61.17	3.73	114.22	7.76	163.75	5.39	203.32	7.29	195.17	13.01	192.91	12.22
School	Calories	110.45	3.90	262.37	11.32	286.52	8.80	388.88	18.18	359.71	17.79	316.26	15.15
Others	Calories	66.11	2.64	46.16	5.09	46.05	2.11	38.91	4.80	35.10	3.56	39.74	3.81
Others	Calories	106.88	4.14	77.70	3.63	156.85	8.46	104.71	6.33	138.07	9.05	124.00	8.05
Calcium	Milligrams per 1,000 calories	425.81	3.67	427.08	5.03	406.81	2.95	426.19	7.16	455.09	4.40	466.32	6.04
FAH	Milligrams per 1,000 calories	443.52	3.51	461.34	5.93	442.55	4.40	463.54	9.65	662.46	102.09	533.04	10.07
FAFH	Milligrams per 1,000 calories	434.14	6.10	387.95	6.77	392.14	7.47	357.58	5.92	385.84	9.25	491.90	84.33
Restaurant	Milligrams per 1,000 calories	318.75	4.22	313.76	9.52	329.42	9.43	328.96	9.73	337.25	11.94	331.64	12.49
Fast food	Milligrams per 1,000 calories	366.94	6.90	383.75	9.78	403.30	11.16	355.20	7.63	368.85	10.84	387.13	9.87
School	Milligrams per 1,000 calories	738.54	17.40	711.28	26.33	717.29	17.56	667.02	30.29	661.38	26.65	673.65	23.30
Others	Milligrams per 1,000 calories	351.31	5.36	333.41	14.75	377.04	13.74	351.24	26.36	584.85	130.56	723.96	224.67
Fiber, di- etary	Grams per 1,000 calories	7.33	0.05	7.84	0.08	7.94	0.06	7.05	0.12	7.34	0.12	7.68	0.16
FAH	Grams per 1,000 calories	7.59	0.06	8.22	0.10	8.30	0.07	7.34	0.14	7.66	0.14	8.03	0.19
FAFH	Grams per 1,000 calories	5.68	0.08	6.14	0.11	6.57	0.08	6.27	0.12	6.38	0.12	6.45	0.12
Restaurant	Grams per 1,000 calories	5.95	0.13	6.61	0.16	7.07	0.13	6.73	0.22	7.17	0.24	6.79	0.13
Fast food	Grams per 1,000 calories	4.39	0.06	5.82	0.18	5.48	0.10	5.57	0.08	5.83	0.13	5.63	0.15
School	Grams per 1,000 calories	6.70	0.20	7.06	0.20	6.96	0.16	7.53	0.63	6.66	0.22	7.80	0.30
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Others	Grams per 1,000 calories	5.98	0.09	5.69	0.25	7.54	0.23	6.32	0.23	6.30	0.25	6.95	0.30
Iron	Milligrams per 1,000 calories	7.43	0.03	7.88	0.07	7.87	0.05	7.37	0.05	7.65	0.06	7.43	0.07
FAH	Milligrams per 1,000 calories	7.81	0.04	8.57	0.11	8.62	0.08	7.91	0.11	8.37	0.12	8.04	0.13
FAFH	Milligrams per 1,000 calories	5.77	0.05	6.19	0.17	6.65	0.07	6.40	0.04	6.64	0.10	6.28	0.08
Restaurant	Milligrams per 1,000 calories	6.74	0.12	6.55	0.14	6.99	0.12	7.16	0.25	7.05	0.10	6.64	0.15
Fast food	Milligrams per 1,000 calories	5.44	0.06	6.49	0.27	6.34	0.08	6.28	0.10	6.57	0.13	6.27	0.10
School	Milligrams per 1,000 calories	5.41	0.11	5.47	0.14	5.92	0.11	6.59	0.20	6.82	0.36	6.50	0.16
Others	Milligrams per 1,000 calories	5.73	0.06	5.31	0.20	7.46	0.17	6.05	0.17	6.51	0.24	6.18	0.18
Protein	Grams per 1,000 calories	44.13	0.32	41.17	0.29	38.55	0.15	37.35	0.32	38.54	0.14	38.37	0.26
FAH	Grams per 1,000 calories	43.95	0.35	40.26	0.33	36.83	0.21	34.22	0.42	35.91	0.31	35.58	0.34
FAFH	Grams per 1,000 calories	39.44	0.30	38.50	0.47	38.06	0.23	39.52	0.42	39.94	0.45	39.79	0.51
Restaurant	Grams per 1,000 calories	45.54	0.61	43.34	1.05	43.96	0.52	46.76	1.08	47.10	0.71	47.73	0.91
Fast food	Grams per 1,000 calories	36.62	0.39	39.33	0.63	36.54	0.33	38.41	0.41	39.52	0.65	39.65	0.60
School	Grams per 1,000 calories	42.54	0.26	39.00	1.05	37.66	0.49	37.31	0.94	36.73	1.13	38.28	0.71
Others	Grams per 1,000 calories	34.63	0.47	29.36	0.90	32.08	0.64	30.27	1.32	29.56	0.70	28.13	0.68
Carbohydrate	Grams per 1,000 calories	112.88	0.54	122.77	0.54	129.41	0.31	126.51	0.64	124.64	0.63	126.13	0.73
FAH	Grams per 1,000 calories	115.70	0.54	128.96	0.67	139.53	0.49	137.99	1.00	136.09	0.81	137.43	1.09
FAFH	Grams per 1,000 calories	115.39	0.78	116.54	0.88	121.92	0.51	115.11	0.91	113.99	1.03	114.13	1.04
Restaurant	Grams per 1,000 calories	91.86	1.20	102.44	1.84	106.31	0.91	104.00	1.94	103.24	1.68	99.13	1.63
Fast food	Grams per 1,000 calories	121.23	1.40	117.81	1.14	123.62	1.13	115.08	1.35	111.80	1.48	112.46	1.22
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School	Grams per 1,000 calories	115.04	0.62	124.38	2.36	128.42	0.97	134.13	2.02	131.77	2.45	131.42	2.67
Others	Grams per 1,000 calories	123.77	1.21	127.40	2.33	142.62	1.18	133.96	2.55	136.61	1.58	140.89	1.39
Cholesterol	Milligrams per 1,000 calories	183.80	2.57	141.84	2.06	130.45	1.16	127.71	1.75	129.68	1.12	132.90	1.74
FAH	Milligrams per 1,000 calories	186.67	2.72	134.92	2.16	122.75	1.67	115.27	2.49	116.02	2.59	118.72	2.13
FAFH	Milligrams per 1,000 calories	142.76	2.39	129.78	3.42	124.32	2.07	129.20	4.11	137.28	2.55	141.65	3.17
Restaurant	Milligrams per 1,000 calories	223.58	5.34	188.10	8.58	178.23	4.80	184.21	10.85	196.65	7.43	209.07	8.19
Fast food	Milligrams per 1,000 calories	122.25	3.30	122.48	3.99	106.42	2.00	119.13	2.93	124.60	3.98	129.30	2.11
School	Milligrams per 1,000 calories	128.22	1.70	103.24	3.38	99.09	2.03	94.23	3.14	91.56	3.16	103.47	5.45
Others	Milligrams per 1,000 calories	126.93	2.93	82.85	4.03	94.91	3.72	76.71	4.07	94.91	7.15	84.88	5.75
Total Fat	Grams per 1,000 calories	41.69	0.19	38.77	0.21	36.37	0.14	37.16	0.27	37.30	0.21	37.08	0.18
FAH	Grams per 1,000 calories	40.94	0.18	37.27	0.30	33.05	0.18	33.72	0.35	33.65	0.21	33.54	0.28
FAFH	Grams per 1,000 calories	43.72	0.36	43.59	0.38	39.09	0.21	40.80	0.28	41.17	0.37	41.29	0.33
Restaurant	Grams per 1,000 calories	48.44	0.55	45.07	0.78	42.28	0.34	42.41	0.52	42.97	0.71	43.89	0.57
Fast food	Grams per 1,000 calories	46.44	0.76	42.56	0.51	38.34	0.43	41.21	0.48	41.70	0.47	42.10	0.44
School	Grams per 1,000 calories	42.28	0.21	39.69	0.73	38.79	0.36	36.35	0.78	37.49	0.80	37.18	1.06
Others	Grams per 1,000 calories	39.69	0.48	47.97	1.69	33.27	0.37	34.67	0.34	35.52	0.60	34.34	0.63
Saturated fatty acids	Grams per 1,000 calories	14.24	0.10	12.72	0.09	12.42	0.06	12.45	0.12	12.66	0.10	12.43	0.10
FAH	Grams per 1,000 calories	13.96	0.10	12.19	0.10	11.49	0.08	11.64	0.19	11.81	0.11	11.47	0.11
FAFH	Grams per 1,000 calories	14.21	0.09	13.26	0.13	13.36	0.08	13.23	0.10	13.60	0.18	13.58	0.12
Restaurant	Grams per 1,000 calories	14.90	0.19	13.59	0.25	13.21	0.14	12.80	0.24	13.19	0.22	13.51	0.26
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Fast food	Grams per 1,000 calories	12.74	0.12	13.04	0.15	13.37	0.15	13.52	0.18	14.00	0.17	13.92	0.17
School	Grams per 1,000 calories	17.59	0.15	15.98	0.38	15.68	0.18	13.58	0.38	13.87	0.34	13.51	0.43
Others	Grams per 1,000 calories	12.26	0.17	10.60	0.36	11.80	0.18	11.35	0.34	12.39	0.33	11.93	0.24
Fatty acids, mono-unsaturated	Grams per 1,000 calories	15.41	0.04	14.38	0.09	13.91	0.07	13.87	0.10	13.66	0.08	13.58	0.07
FAH	Grams per 1,000 calories	14.96	0.04	13.30	0.10	12.46	0.08	12.23	0.11	12.06	0.10	12.08	0.12
FAFH	Grams per 1,000 calories	14.75	0.09	15.29	0.12	15.23	0.10	15.91	0.16	15.51	0.15	15.35	0.15
Restaurant	Grams per 1,000 calories	16.67	0.16	16.11	0.32	16.08	0.15	16.12	0.23	15.85	0.22	16.39	0.25
Fast food	Grams per 1,000 calories	14.01	0.14	15.86	0.16	15.35	0.19	16.25	0.25	15.90	0.24	15.85	0.25
School	Grams per 1,000 calories	14.89	0.16	14.85	0.28	14.77	0.19	13.41	0.35	13.81	0.32	13.44	0.50
Others	Grams per 1,000 calories	13.35	0.15	11.19	0.33	12.49	0.16	13.80	0.27	13.28	0.22	12.34	0.26
Fatty acids, poly-unsaturated	Grams per 1,000 calories	7.29	0.08	7.42	0.07	7.19	0.04	7.73	0.10	7.76	0.09	7.83	0.06
FAH	Grams per 1,000 calories	7.12	0.08	6.89	0.07	6.48	0.05	6.96	0.12	6.79	0.10	7.00	0.08
FAFH	Grams per 1,000 calories	6.57	0.08	7.70	0.10	7.62	0.08	8.38	0.11	8.74	0.11	8.85	0.12
Restaurant	Grams per 1,000 calories	8.77	0.20	9.23	0.27	9.72	0.17	9.66	0.19	9.95	0.33	10.12	0.20
Fast food	Grams per 1,000 calories	5.68	0.12	7.69	0.15	6.82	0.12	8.23	0.12	8.55	0.17	8.82	0.17
School	Grams per 1,000 calories	5.80	0.10	5.64	0.16	5.68	0.17	6.42	0.20	6.70	0.19	7.10	0.21
Others	Grams per 1,000 calories	6.56	0.14	5.95	0.21	6.67	0.13	6.81	0.18	7.25	0.27	7.20	0.27
Sodium	Milligrams per 1,000 calories	1,810.51	6.90	1,822.70	9.30	1,779.05	6.05	1,649.02	10.19	1,699.85	12.44	1,704.31	12.32
FAH	Milligrams per 1,000 calories	1,815.11	6.76	1,792.08	12.87	1,720.97	8.35	1,519.01	12.83	1,578.81	32.45	1,555.14	11.18
FAFH	Milligrams per 1,000 calories	1,575.87	19.53	1,677.12	21.43	1,725.98	15.66	1,731.59	16.59	1,904.39	35.18	1,910.86	28.58
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Restaurant	Milligrams per 1,000 calories	1,955.18	26.61	2,081.44	51.90	2,077.00	33.82	2,178.84	59.14	2,152.61	43.51	2,215.40	62.03
Fast food	Milligrams per 1,000 calories	1,377.44	18.92	1,712.59	54.39	1,624.45	17.87	1,671.60	26.15	1,760.45	29.17	1,769.48	31.12
School	Milligrams per 1,000 calories	1,590.18	57.20	1,437.87	35.91	1,563.19	36.91	1,558.73	58.13	1,575.99	49.52	1,628.41	42.53
Others	Milligrams per 1,000 calories	1,497.14	19.73	1,278.24	55.54	1,598.59	48.96	1,223.06	46.41	1,977.92	138.28	1,982.22	169.87

SE of mean = Standard error of the mean, FAH = food at home, FAFH= food away from home.

Source: USDA, Economic Research Service using USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data, and 1989–1991, 1994–96, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2003–04, 2005–06, 2007–08, 2009–10, 2011–2012, 2013–14, 2015–16, and 2017–18 What We Eat in America, National Health and Nutrition Examination Survey data.

Table 5b  
**Daily nutrient density among U.S. consumers aged 2 and above: Total, food at home, and food away from home, 2009–2018**

		2009–10		2011–12		2013–14		2015–16		2017–18	
Variable	Measurement	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean
U.S. consumers aged 2 and above											
Energy	Calories	2,080.56	12.91	2,138.89	12.34	2,079.32	17.17	2,048.24	18.25	2,093.14	14.12
FAH	Calories	1,460.34	16.85	1,398.98	31.55	1,368.60	15.84	1,369.60	20.87	1,402.55	22.45
FAFH	Calories	620.22	13.11	739.91	28.67	710.73	13.83	678.64	17.65	690.60	25.02
Restaurant	Calories	159.58	6.72	171.06	10.81	177.04	8.86	178.61	6.64	173.28	10.87
Fast food	Calories	299.26	8.07	362.31	23.83	352.13	9.36	330.94	11.75	360.90	17.92
School	Calories	39.24	5.25	40.52	4.59	38.76	2.93	34.62	3.56	28.21	4.88
Others	Calories	122.14	5.29	166.01	10.17	142.80	8.32	134.47	7.81	128.20	6.27
Calcium	Milligrams per 1,000 calories	503.73	4.09	480.60	6.53	479.50	5.21	473.06	5.91	487.67	12.64
FAH	Milligrams per 1,000 calories	563.68	7.95	548.57	13.50	546.88	11.39	535.39	10.99	573.20	13.56
FAFH	Milligrams per 1,000 calories	465.93	32.36	444.64	8.92	461.75	15.64	526.48	102.83	461.81	27.92
Restaurant	Milligrams per 1,000 calories	378.19	13.15	362.85	9.75	343.98	6.11	356.35	13.76	344.70	10.37
Fast food	Milligrams per 1,000 calories	408.87	15.83	480.28	20.05	461.80	10.18	436.85	15.98	459.51	19.84
School	Milligrams per 1,000 calories	795.73	31.56	754.78	16.69	765.20	31.74	784.72	37.25	805.32	33.12
Others	Milligrams per 1,000 calories	520.68	84.47	594.90	105.12	766.37	243.93	767.69	320.01	609.15	107.52
Fiber, dietary	Grams per 1,000 calories	8.23	0.09	8.37	0.14	8.21	0.11	8.33	0.14	8.05	0.14
FAH	Grams per 1,000 calories	8.64	0.10	8.81	0.20	8.79	0.15	8.75	0.22	8.40	0.19
FAFH	Grams per 1,000 calories	6.80	0.18	7.17	0.12	6.95	0.12	7.13	0.15	6.87	0.15
Restaurant	Grams per 1,000 calories	7.31	0.26	7.74	0.26	7.49	0.26	7.55	0.23	7.37	0.26

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Fast food	Grams per 1,000 calories	6.17	0.21	6.32	0.12	6.17	0.13	6.37	0.13	5.95	0.12
School	Grams per 1,000 calories	7.94	0.23	9.03	0.43	8.85	0.35	9.61	0.36	0.29	0.05
Others	Grams per 1,000 calories	6.73	0.30	7.06	0.24	6.78	0.27	7.18	0.29	7.11	0.28
Iron	Milligrams per 1,000 calories	7.48	0.04	7.43	0.06	7.14	0.06	7.03	0.06	6.88	0.05
FAH	Milligrams per 1,000 calories	8.00	0.07	8.12	0.14	7.76	0.13	7.54	0.09	7.39	0.08
FAFH	Milligrams per 1,000 calories	6.17	0.10	6.52	0.15	6.13	0.06	6.00	0.10	5.90	0.06
Restaurant	Milligrams per 1,000 calories	6.65	0.11	6.54	0.11	6.15	0.08	6.10	0.13	6.16	0.12
Fast food	Milligrams per 1,000 calories	6.13	0.20	6.36	0.20	6.07	0.09	5.82	0.12	5.86	0.10
School	Milligrams per 1,000 calories	6.28	0.12	6.88	0.24	7.22	0.17	6.97	0.24	7.23	0.37
Others	Milligrams per 1,000 calories	5.88	0.13	6.51	0.26	6.20	0.17	6.41	0.36	5.62	0.15
Protein	Grams per 1,000 calories	38.89	0.30	38.13	0.26	39.45	0.43	39.22	0.33	38.18	0.33
FAH	Grams per 1,000 calories	36.92	0.34	35.61	0.34	37.18	0.48	37.04	0.50	36.26	0.48
FAFH	Grams per 1,000 calories	38.87	0.65	39.52	0.57	40.70	0.55	38.99	0.47	38.54	0.66
Restaurant	Grams per 1,000 calories	46.72	1.15	48.22	1.20	47.10	1.02	45.99	1.19	47.13	1.00
Fast food	Grams per 1,000 calories	39.48	0.64	38.52	0.61	40.28	0.55	38.81	0.65	37.22	0.72
School	Grams per 1,000 calories	39.59	0.88	41.09	1.11	41.53	0.72	41.13	1.71	38.18	1.17
Others	Grams per 1,000 calories	28.80	1.34	30.74	0.85	32.01	0.98	29.97	1.14	29.50	1.15
Carbohydrate	Grams per 1,000 calories	126.84	0.55	126.31	0.56	122.72	0.52	120.12	0.67	119.81	0.61
FAH	Grams per 1,000 calories	135.93	0.67	136.02	0.78	132.14	0.78	128.99	0.87	127.96	0.91
FAFH	Grams per 1,000 calories	117.73	1.28	118.85	0.89	115.51	0.55	115.56	1.01	113.25	1.41
Restaurant	Grams per 1,000 calories	100.86	2.08	104.54	2.71	101.57	1.45	100.00	1.63	97.15	1.63
Fast food	Grams per 1,000 calories	114.26	1.37	118.20	1.27	114.19	1.00	112.86	1.54	113.01	1.32
School	Grams per 1,000 calories	134.52	2.53	133.83	2.97	135.27	1.94	138.35	2.13	145.09	2.96
Others	Grams per 1,000 calories	142.14	2.70	137.84	1.68	134.97	1.81	137.88	1.76	132.34	2.10
Cholesterol	Milligrams per 1,000 calories	125.60	2.19	126.96	1.69	134.15	1.44	139.45	2.00	139.53	2.26
FAH	Milligrams per 1,000 calories	116.09	2.89	112.41	2.09	122.79	1.59	127.78	2.86	130.44	3.52
FAFH	Milligrams per 1,000 calories	125.80	2.83	133.82	3.26	135.02	3.53	134.12	3.55	140.74	3.73
Restaurant	Milligrams per 1,000 calories	182.14	6.72	196.42	9.28	187.64	6.97	182.74	9.69	193.70	6.16

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Fast food	Milligrams per 1,000 calories	120.89	2.88	118.80	2.92	125.62	2.63	131.17	6.54	131.26	5.97
School	Milligrams per 1,000 calories	98.92	5.90	105.83	9.07	103.74	6.11	99.10	5.41	82.93	4.83
Others	Milligrams per 1,000 calories	80.47	3.06	96.61	5.92	92.36	5.57	86.86	5.34	99.34	7.16
Total Fat	Grams per 1,000 calories	36.26	0.21	36.63	0.24	37.72	0.18	39.21	0.25	39.88	0.22
FAH	Grams per 1,000 calories	33.34	0.23	33.53	0.30	34.73	0.23	36.25	0.33	36.81	0.25
FAFH	Grams per 1,000 calories	39.93	0.33	39.39	0.27	40.22	0.28	41.18	0.40	42.07	0.41
Restaurant	Grams per 1,000 calories	43.81	0.74	41.13	0.82	41.79	0.56	44.14	0.70	44.64	0.67
Fast food	Grams per 1,000 calories	40.40	0.53	40.17	0.58	41.20	0.45	42.55	0.72	42.65	0.52
School	Grams per 1,000 calories	35.44	1.00	34.87	0.79	33.95	0.73	33.08	0.54	31.60	0.97
Others	Grams per 1,000 calories	33.36	0.63	34.32	0.55	35.32	0.56	34.91	0.72	37.06	0.76
Saturated fatty acids	Grams per 1,000 calories	11.99	0.09	11.96	0.12	12.35	0.10	12.99	0.12	13.12	0.12
FAH	Grams per 1,000 calories	11.26	0.11	10.94	0.15	11.43	0.11	12.09	0.12	12.16	0.14
FAFH	Grams per 1,000 calories	13.00	0.19	13.15	0.10	13.26	0.18	13.71	0.13	13.93	0.24
Restaurant	Grams per 1,000 calories	13.56	0.37	12.60	0.29	12.24	0.29	13.60	0.42	13.25	0.31
Fast food	Grams per 1,000 calories	12.99	0.22	13.80	0.16	13.81	0.19	14.44	0.29	14.52	0.26
School	Grams per 1,000 calories	13.29	0.30	12.85	0.52	12.04	0.31	12.08	0.33	11.53	0.40
Others	Grams per 1,000 calories	11.43	0.26	12.06	0.28	12.41	0.32	12.14	0.27	12.89	0.38
Fatty acids, mono-unsaturated	Grams per 1,000 calories	12.92	0.07	12.95	0.10	12.94	0.06	13.68	0.11	13.46	0.11
FAH	Grams per 1,000 calories	11.80	0.09	11.87	0.11	11.99	0.10	12.67	0.16	12.49	0.13
FAFH	Grams per 1,000 calories	14.22	0.09	13.83	0.15	13.63	0.11	14.17	0.19	14.23	0.18
Restaurant	Grams per 1,000 calories	15.51	0.25	14.52	0.32	14.16	0.22	15.44	0.31	15.02	0.30
Fast food	Grams per 1,000 calories	14.50	0.20	13.96	0.24	13.88	0.17	14.56	0.29	14.41	0.27
School	Grams per 1,000 calories	11.95	0.47	11.35	0.31	10.79	0.32	10.58	0.20	9.57	0.40
Others	Grams per 1,000 calories	11.98	0.21	12.23	0.34	12.37	0.31	12.17	0.34	12.79	0.36
Fatty acids, poly-unsaturated	Grams per 1,000 calories	8.04	0.08	8.69	0.07	8.81	0.07	8.96	0.09	9.36	0.13
FAH	Grams per 1,000 calories	7.23	0.08	8.00	0.10	7.94	0.09	8.11	0.13	8.43	0.15
FAFH	Grams per 1,000 calories	9.12	0.11	9.04	0.14	9.52	0.11	9.61	0.14	9.94	0.11
Restaurant	Grams per 1,000 calories	10.67	0.31	10.54	0.26	11.31	0.23	11.10	0.17	12.06	0.27
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Fast food	Grams per 1,000 calories	9.27	0.18	8.94	0.27	9.50	0.16	9.75	0.30	9.77	0.16
School	Grams per 1,000 calories	7.05	0.36	7.52	0.38	7.88	0.35	7.13	0.34	6.98	0.30
Others	Grams per 1,000 calories	7.04	0.25	7.22	0.22	7.38	0.15	7.43	0.23	7.98	0.22
Sodium	Milligrams per 1,000 calories	1,695.85	9.31	1,659.29	8.05	1,682.86	11.47	1,693.63	12.62	1,687.77	46.45
FAH	Milligrams per 1,000 calories	1,564.33	12.41	1,521.33	12.91	1,561.17	25.51	1,533.14	24.32	1,535.71	45.92
FAFH	Milligrams per 1,000 calories	1,935.72	27.80	1,901.68	37.87	1,964.43	33.15	2,115.60	105.15	1,993.35	92.69
Restaurant	Milligrams per 1,000 calories	2,213.63	49.96	2,184.94	47.60	2,116.35	33.61	2,135.56	43.91	2,324.64	74.78
Fast food	Milligrams per 1,000 calories	1,828.74	28.61	1,714.52	40.47	1,776.61	27.22	1,766.68	32.65	1,747.65	23.11
School	Milligrams per 1,000 calories	1,625.65	42.61	1,652.75	84.80	1,646.43	34.65	1,543.16	53.16	1,342.52	34.76
Others	Milligrams per 1,000 calories	1,915.62	124.54	1,751.14	47.91	1,964.62	68.80	2,273.15	218.06	2,066.39	223.78

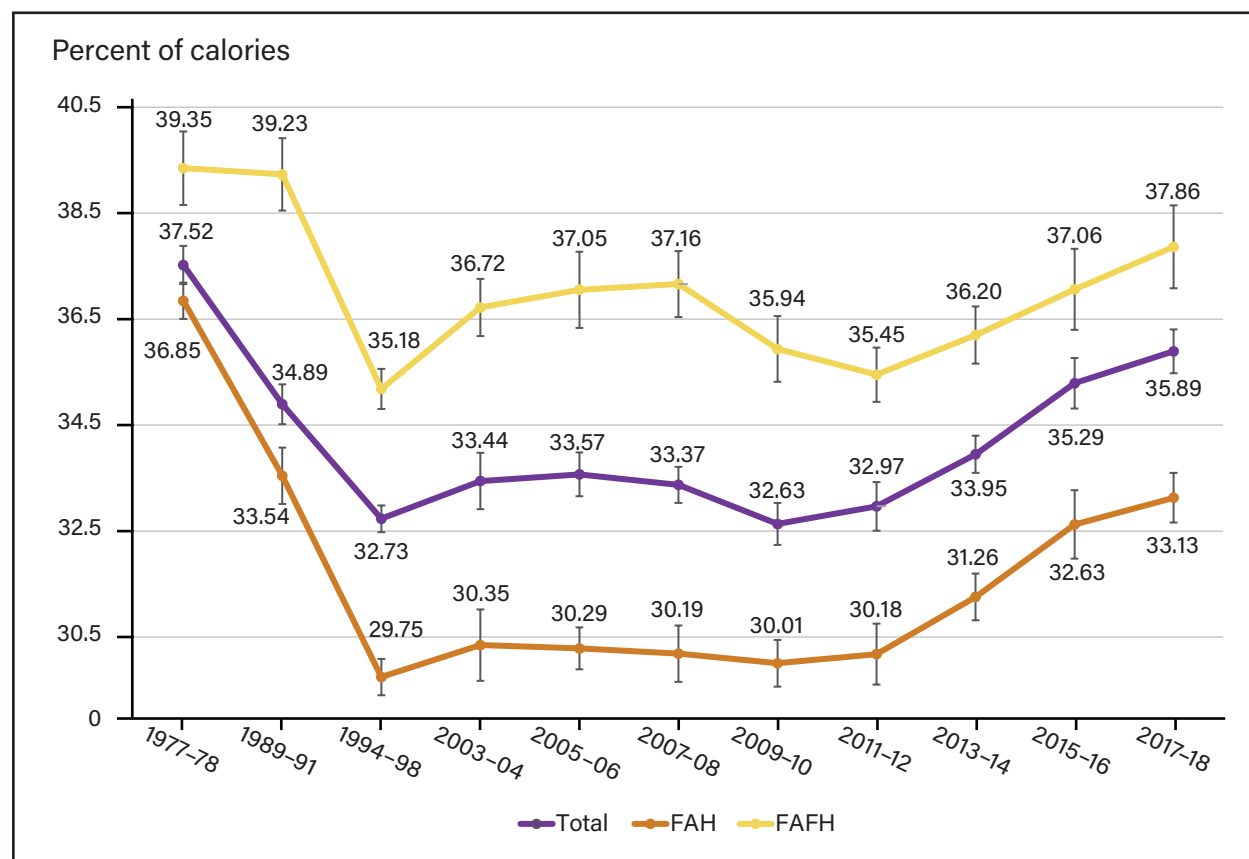
SE of mean = Standard error of the mean, FAH = food at home, FAFH= food away from home.

Source: USDA, Economic Research Service using USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data, and 1989–1991, 1994–96, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2003–04, 2005–06, 2007–08, 2009–10, 2011–2012, 2013–14, 2015–16, and 2017–18 What We Eat in America, National Health and Nutrition Examination Survey data.

The total fat density in FAH and FAFH declined during the 1977–1998 period and then rebounded, averaging 33.1 and 37.9 percent of calories, respectively, in 2017–2018 (figure 4). Throughout the 1977–2018 period, the total fat density in FAFH was higher than the density in FAH. Similar to the total fat density in FAH, the density in restaurant foods and fast food has exhibited a slight upward trend since 1994–1998 (figure 5). However, the total fat density in school foods has continuously declined since 1977–1978, averaging 28.4 percent of calories in 2017–2018 versus 38.4 and 40.2 percent in fast food and restaurant foods, respectively.

Figure 4

**Total fat density among U.S. consumers aged 2 and above: Total, food at home, and food away from home, 1977–2018**



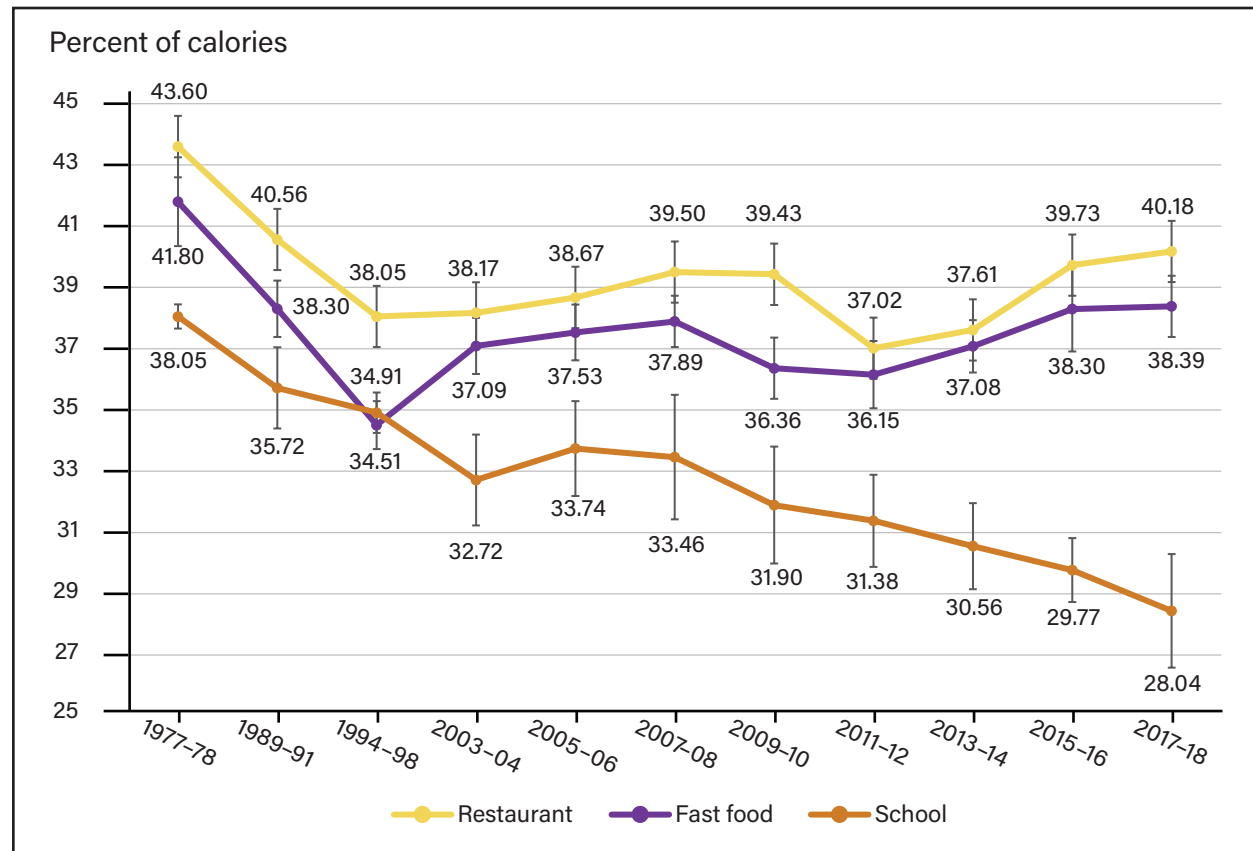
FAH = Food at home; FAFH = Food away from home.

Note: The vertical bar associated with each data point is its 95-percent confidence interval.

Source: USDA, Economic Research Service using data from USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data; USDA, Agricultural Research Service, 1989–1991, 1994–1996, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2003–2004, 2005–2006, 2007–2008, 2009–2010, 2011–2012, 2013–2014, 2015–2016, and 2017–2018 What We Eat in America, National Health and Nutrition Examination Survey data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, Daily Nutritional Goals, Ages 2 and Older, appendix 1, *Dietary Guidelines for Americans 2020–2025*.

Figure 5

# Total fat density among U.S. consumers aged 2 and above: Restaurant, fast food, and school, 1977–2018

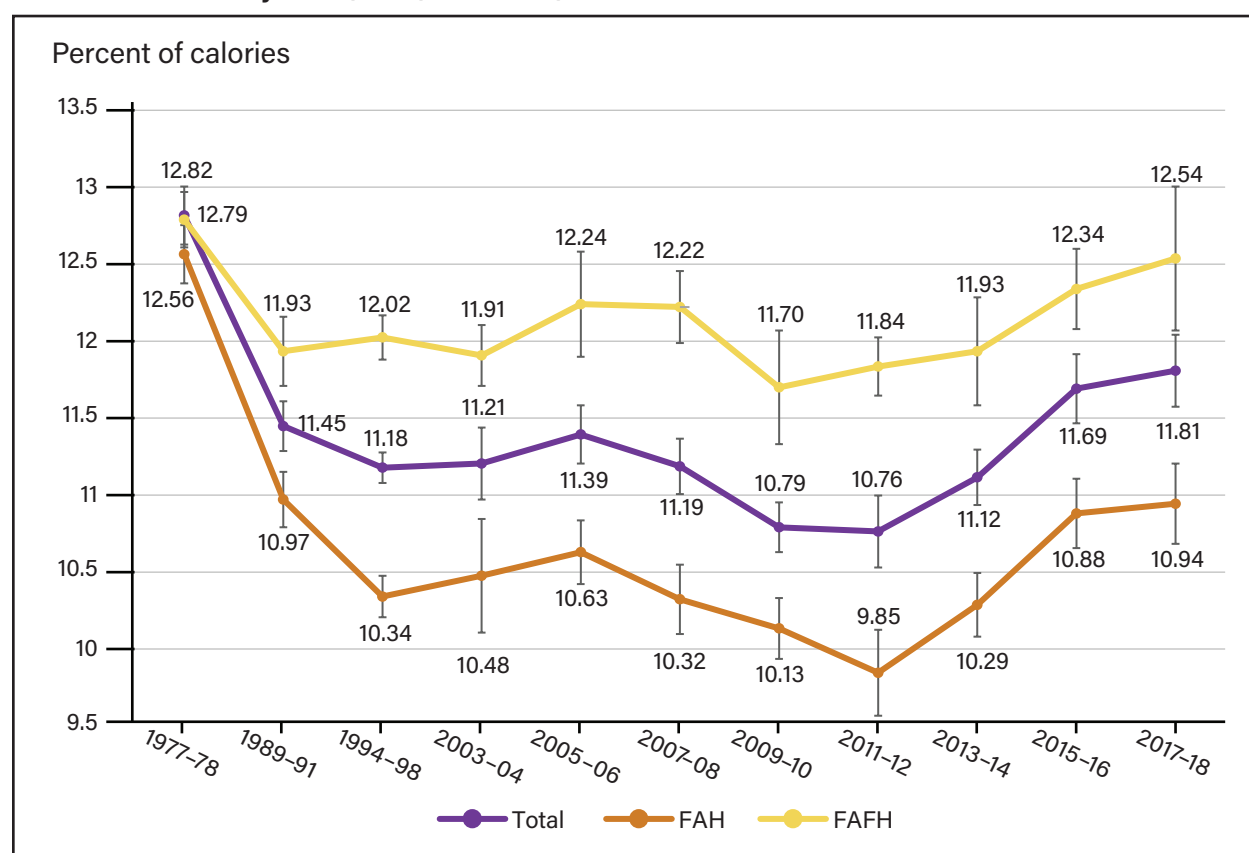


Note: The vertical bar associated with each data point is its 95-percent confidence interval.

Source: USDA, Economic Research Service using data from USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data; USDA, Agricultural Research Service, 1989–1991, 1994–1996, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2003–2004, 2005–2006, 2007–2008, 2009–2010, 2011–2012, 2013–2014, 2015–2016, and 2017–2018 What We Eat in America, National Health and Nutrition Examination Survey data.

FAH and FAFH contained similar densities of saturated fats in 1977–1978, averaging 12.6 and 12.8 percent of calories, respectively (figure 6). Since then, the saturated fat density in FAH fluctuated between 10 and 11 percent of calories, compared with about 12 percent in FAFH. Both FAH and FAFH have become denser in saturated fat since 2011–2012, but the upward trend in FAFH was not statistically significant at the 5-percent probability level.

Figure 6  
**Saturated fat density: Total, FAH, and FAFH, 1977–2018**



FAH = Food at home; FAFH = Food away from home.

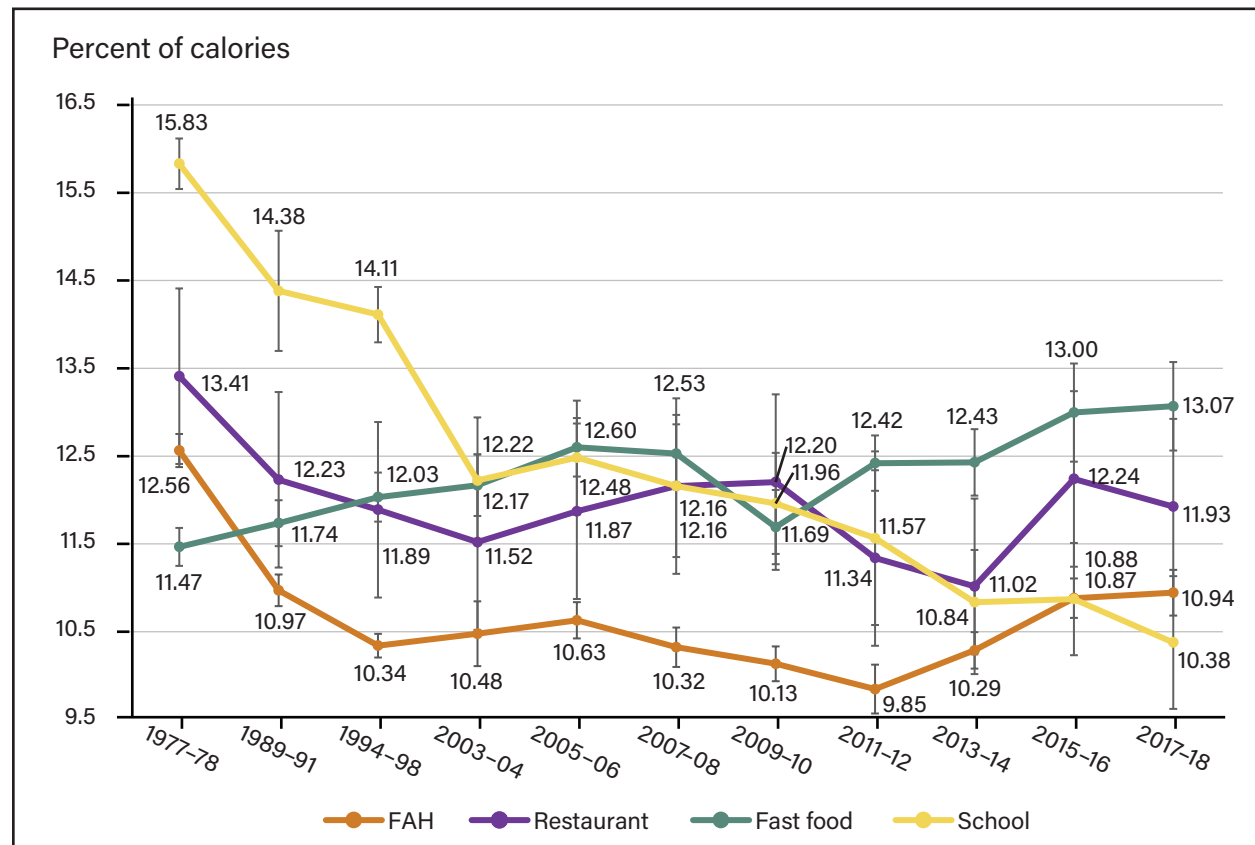
Note: The vertical bar associated with each data point is its 95-percent confidence interval.

Source: USDA, Economic Research Service using data from USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data; USDA, Agricultural Research Service, 1989–1991, 1994–1996, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2003–2004, 2005–2006, 2007–2008, 2009–2010, 2011–2012, 2013–2014, 2015–2016, and 2017–2018 What We Eat in America, National Health and Nutrition Examination Survey data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, Daily Nutritional Goals, Ages 2 and Older, appendix 1, *Dietary Guidelines for Americans 2020–2025*.

Like the total fat density, the saturated fat density in school foods exhibited a continuous downward trend throughout 1977–2018, averaging 10.4 percent of calories compared to 13.1 percent in fast food during 2017–2018 (figure 7). In recent years, the saturated fat density did not vary significantly by age and income (tables A-3B and A-3D), but the diet of non-Hispanic White people was denser in saturated fat than that of their race and ethnic counterparts, 13.7 percent of calories versus 12.2–12.5 percent among non-White people in 2017–2018 (table A-3E).

Figure 7

### Saturated fat density among U.S. consumers aged 2 and above: Food at home, restaurant, fast food, and school, 1977–2018



FAH = Food at home.

Note: The vertical bar associated with each data point is its 95-percent confidence interval.

Source: USDA, Economic Research Service using data from USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data; USDA, Agricultural Research Service, 1989–1991, 1994–1996, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2003–2004, 2005–2006, 2007–2008, 2009–2010, 2011–2012, 2013–2014, 2015–2016, and 2017–2018 What We Eat in America, National Health and Nutrition Examination Survey data; and Agricultural Research Service and U.S. Department of Health and Human Services, Daily Nutritional Goals, Ages 2 and Older, appendix 1, *Dietary Guidelines for Americans 2020–2025*.

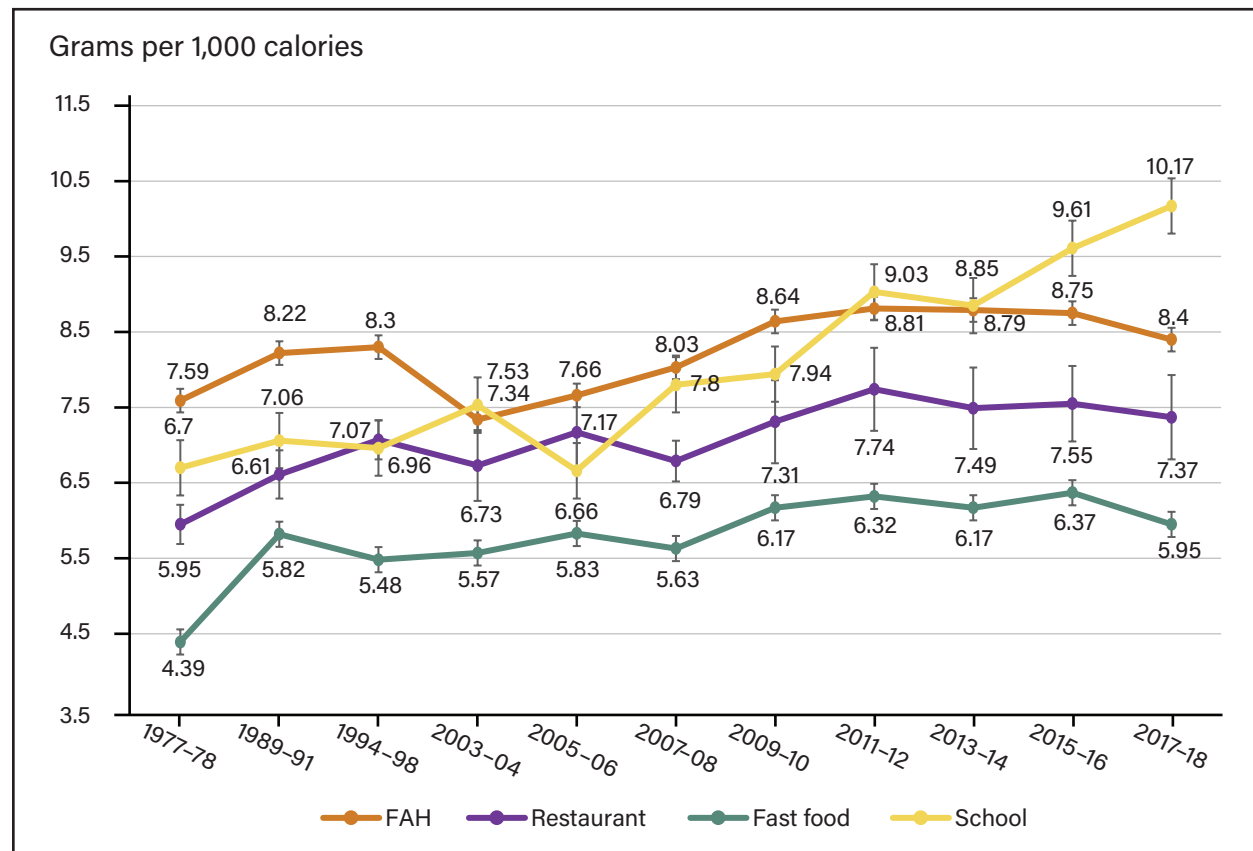
## Fiber

The diet of consumers in the United States averaged 8.1 grams of dietary fiber for each 1,000 calories in 2017–2018, or 58 percent of the recommended 14 grams per 1,000 calories, as 28 grams are recommended for a 2,000-calorie diet (USDA and HHS, 2020). The fiber density in the diet of U.S. consumers has been on an upward trend since 2003–2004, rising from 7.1 grams to 8.1 grams per 1,000 calories in 2017–2018 (tables 5a and 5b). An identical trend in fiber density is observed for both FAH and FAFH, and FAH was denser in fiber than FAFH over the 1977–2018 period, 8.4 compared with 6.9 grams in 2017–2018 (tables 5a and 5b, and figure 8). In 2017–2018, fiber density has become significantly different among food sources, 10.2, 8.4, 7.4, and 6 grams per 1,000 calories in schools, FAH, restaurants, and fast-food places, respectively.



Figure 8

# Fiber density among U.S. consumers aged 2 and above: Food at home, restaurant, fast food, and school, 1977–2018



FAH = Food at home.

Note: The vertical bar associated with each data point is its 95-percent confidence interval.

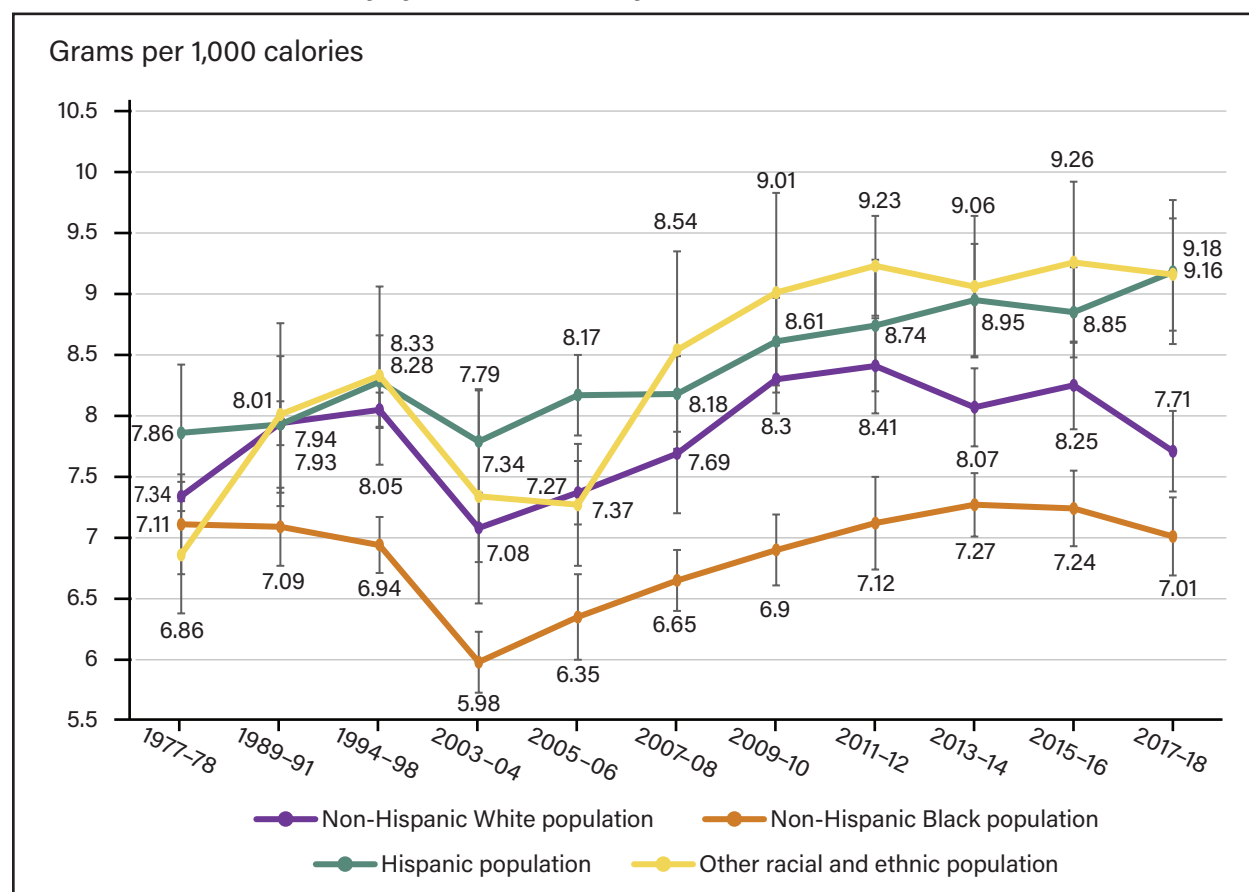
Source: USDA, Economic Research Service using data from USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data; USDA, Agricultural Research Service, 1989–1991, 1994–1996, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2003–2004, 2005–2006, 2007–2008, 2009–2010, 2011–2012, 2013–2014, 2015–2016, and 2017–2018 What We Eat in America, National Health and Nutrition Examination Survey data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, Daily Nutritional Goals, Ages 2 and Older, appendix 1, *Dietary Guidelines for Americans 2020–2025*.

The fiber density varied by sex and rose with age during 1977 and 2018 (tables A-3A and A-3B). Females' diets were on average denser in fiber than the diet of males throughout the entire 1977 to 2018 period—8.5 compared with 7.5 grams in 2017–2018. Seniors aged 65 and above incorporated more fiber—9 grams per 1,000 calories—in their diet than younger adults aged 20–64 (8 grams) and children aged 2–19 (7.7 grams). The diet of adults aged 20–64 was higher in fiber density than children's diet during 1977–2012, but the difference became insignificant at the 5-percent probability level since 2013.

In a recent article by the authors (Lin et al., 2019), the whole grain density in school foods was found to have increased since USDA's updated nutrition standards for school meals served through the National School Lunch Program were implemented in the 2012–2013 school year. Consequently, foods from schools and daycares consumed by children were denser in fiber than foods consumed by children from other sources. They were significantly denser than food from restaurants and fast-food places, but the difference with FAH was not significant (table A-3B).

Fiber density did not vary across race and ethnicity in the early years of the study period, but the gap in fiber density across race and ethnicity has widened over time (figure 9, table A-3E). Since 1994–1998, the diets of non-Hispanic Black people have been lower in fiber density than those of non-Black people. In 2017–2018, Hispanic populations and individuals of other races and ethnicities had a diet of 9.2 grams of fiber per 1,000 calories—higher than the 7.7 and 7 grams consumed by non-Hispanic White people and Black people, respectively.

Figure 9  
**U.S. consumers' fiber density by race and ethnicity, 1977–2018**



Note: The vertical bar associated with each data point is its 95-percent confidence interval.

Source: USDA, Economic Research Service using data from USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data; USDA, Agricultural Research Service, 1989–1991, 1994–1996, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2003–2004, 2005–2006, 2007–2008, 2009–2010, 2011–2012, 2013–2014, 2015–2016, and 2017–2018 What We Eat in America, National Health and Nutrition Examination Survey data.

## Sodium

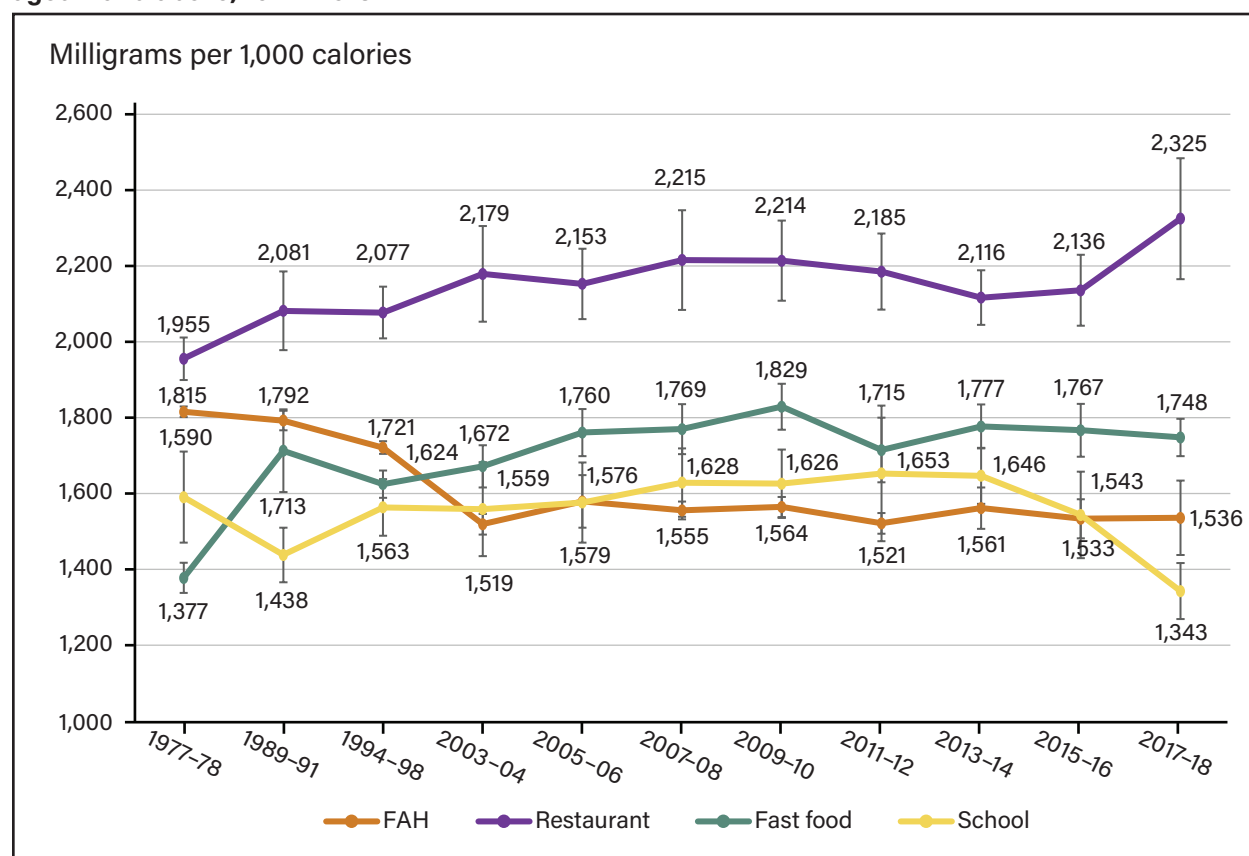
For a diet of 2,000 calories, daily sodium intake should not exceed 2,300 mg (or a density of 1,150 mg per 1,000 calories) to reduce chronic diseases, such as hypertension (USDA and HHS, 2020). Overconsumption of sodium is pervasive across demographic factors and by a substantial margin from all FAH and FAFH

sources.<sup>8</sup> During 2005–2018, the sodium density in the average consumer’s diet has been relatively stable, fluctuating between 1,649 and 1,704 mg per 1,000 calories (tables 5a and 5b).

As shown in figure 10, restaurant foods have the highest sodium density among foods from all sources during the 1977–2018 period—ultimately rising from 1,955 to 2,325 mg per 1,000 calories. FAH’s sodium density dropped significantly from 1,721 mg per 1,000 calories in 1994–1998 to 1,519 mg in 2003–2004 and has become less sodium dense than fast food. The sodium density in FAH has fluctuated between 1,521 and 1,579 mg since 2003–2004. Foods served in schools recorded their highest sodium density of 1,653 mg per 1,000 calories in 2011–2012 but then declined significantly to 1,343 mg in 2017–2018, when it became the least sodium dense among all food sources (tables 5a and 5b, and figure 10).

Figure 10

**Sodium density intake for food at home, restaurants, fast food, and school among U.S. consumers aged 2 and above, 1977–2018**



FAH = Food at home.

Note: The vertical bar associated with each data point is its 95-percent confidence interval.

Source: USDA, Economic Research Service using data from USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data; USDA, Agricultural Research Service, 1989–1991, 1994–1996, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2003–2004, 2005–2006, 2007–2008, 2009–2010, 2011–2012, 2013–2014, 2015–2016, and 2017–2018 What We Eat in America, National Health and Nutrition Examination Survey data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, Daily Nutritional Goals, Ages 2 and Older, appendix 1, *Dietary Guidelines for Americans 2020–2025*.

<sup>8</sup> Researchers who are conducting in-depth analysis of sodium intake over time should become familiar with the salt adjustment, which is applied to the 1985–2008 dietary record data to be consistent with sodium data reported in later surveys. See Sebastian et al. (2013) for the adjustment procedure and the rationales for adjustment.

# Calcium

An intake of 1,000 mg of calcium is recommended for a 2,000-calorie diet or a recommended density of 500 mg per 1,000 calories (Institute of Medicine, 2011; appendix 1, USDA and HHS, 2020). Over time, U.S. consumers have gradually incorporated more calcium into their diets, nearing the recommended 500 mg in 2017–2018 (table 5b). Foods eaten at restaurants and fast-food places generally have a calcium density of 345 and 460 mg per 1,000 calories, respectively, and in 2017–2018, they were less dense in calcium than the 573 mg in FAH (figure 11). Milk is a required component of school meal programs, so the calcium density in school foods (805 mg per 1,000 calories in 2017–2018) is the highest among all food sources. Consequently, children’s diets were denser in calcium than adults aged 20–64 and seniors aged 65 and above (table A-3B).

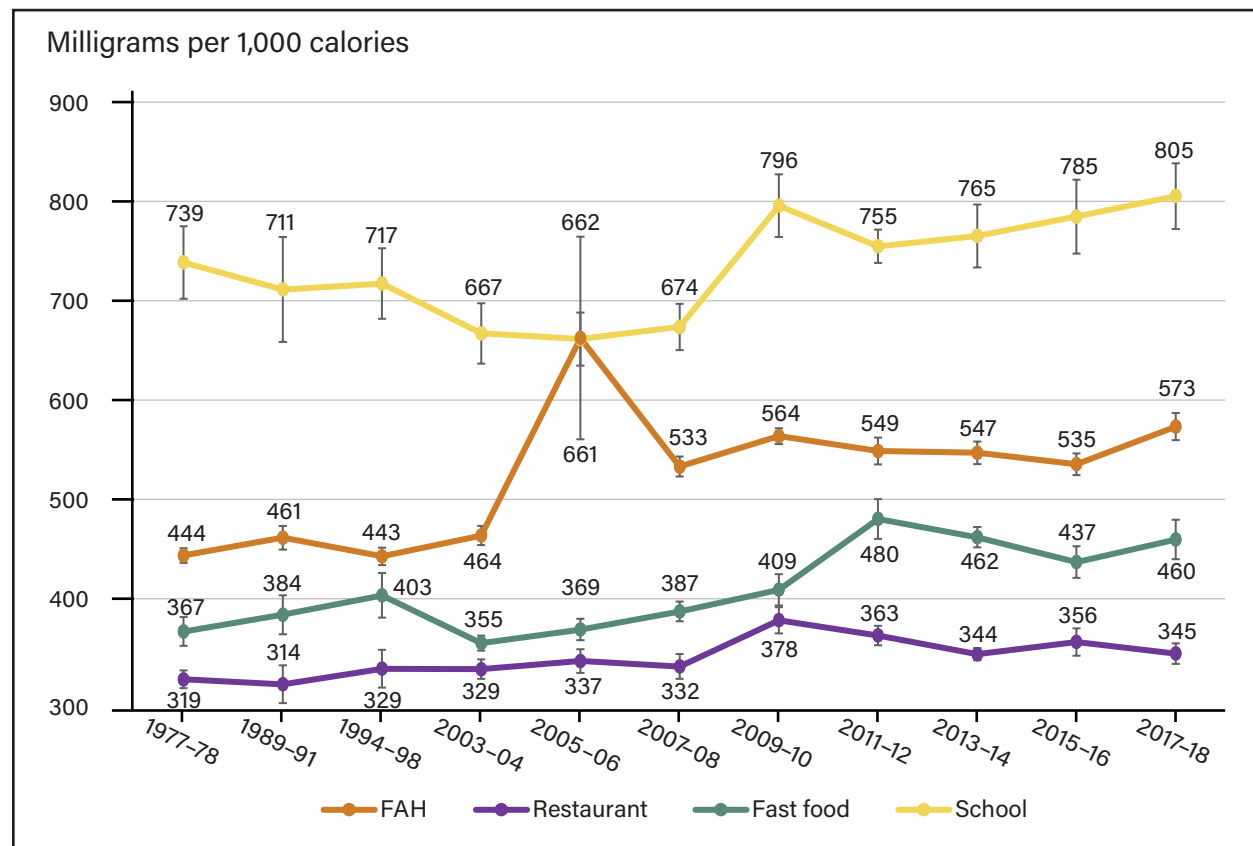
The calcium density in U.S. consumers’ diets did not vary by sex, income, or education among adults, but it did vary by race and ethnicity (tables A-3A, A-3D–A-3F). Non-Hispanic Black people had a diet lower in calcium density than non-Hispanic White people and Hispanic people.

The authors observed outliers in some mean calcium densities and the associated standard errors in certain survey years (tables 5a and 5b). For instance, the calcium density in FAH rose from 464 mg per 1,000 calories in 2003–2004 to 662 in 2005–2006—a 43-percent increase—and then fell by 19 percent to 557 mg in 2007–2008. Additionally, FAFH’s average calcium density rose from 599 mg per 1,000 calories in 2013–2014 to 760 mg in 2015–2016—an increase of 27 percent—and then fell back to 604 mg in 2017–2018.

The large increase in FAH’s calcium density in 2005–2006 corresponded to a spike in FAH’s calcium density for adults aged 20–64, although no noticeable changes in the FAH calcium density among children aged 2–19 and seniors aged 65 and above were present during the same period (table A-3B). There are no noticeable changes in the calcium density of foods from restaurants or fast-food places during the 2013–2018 period (figure 11), and the spike in FAFH’s calcium density in 2013–2014 is caused by the corresponding spike in the calcium density for the other FAFH source (table 5b).

When the USDA and HHS merged their surveys into WWEIA/NHANES in 2002, intakes of tap water started being recorded. Tap water has no calories, but starting in the 2005–2006 survey period, positive values of minerals, including calcium, have been added. Comparing with the data prior to 2005–2006, the authors recalculated the calcium density by adjusting the calcium value in tap water to zero (values in table 5b). Figure 12 shows the adjustment of the calcium value in tap water made the calcium density for FAFH and other FAFH more consistent. Because tap water is coded in this study exclusively in the other FAFH source, the adjustment does not change the calcium density of the FAH, restaurant, fast food, or school categories.

Figure 11

**Calcium density in food at home, restaurant, fast food, and school, 1977–2018, U.S. population**

FAH = Food at home.

Note: The vertical bar associated with each data point is its 95-percent confidence interval.

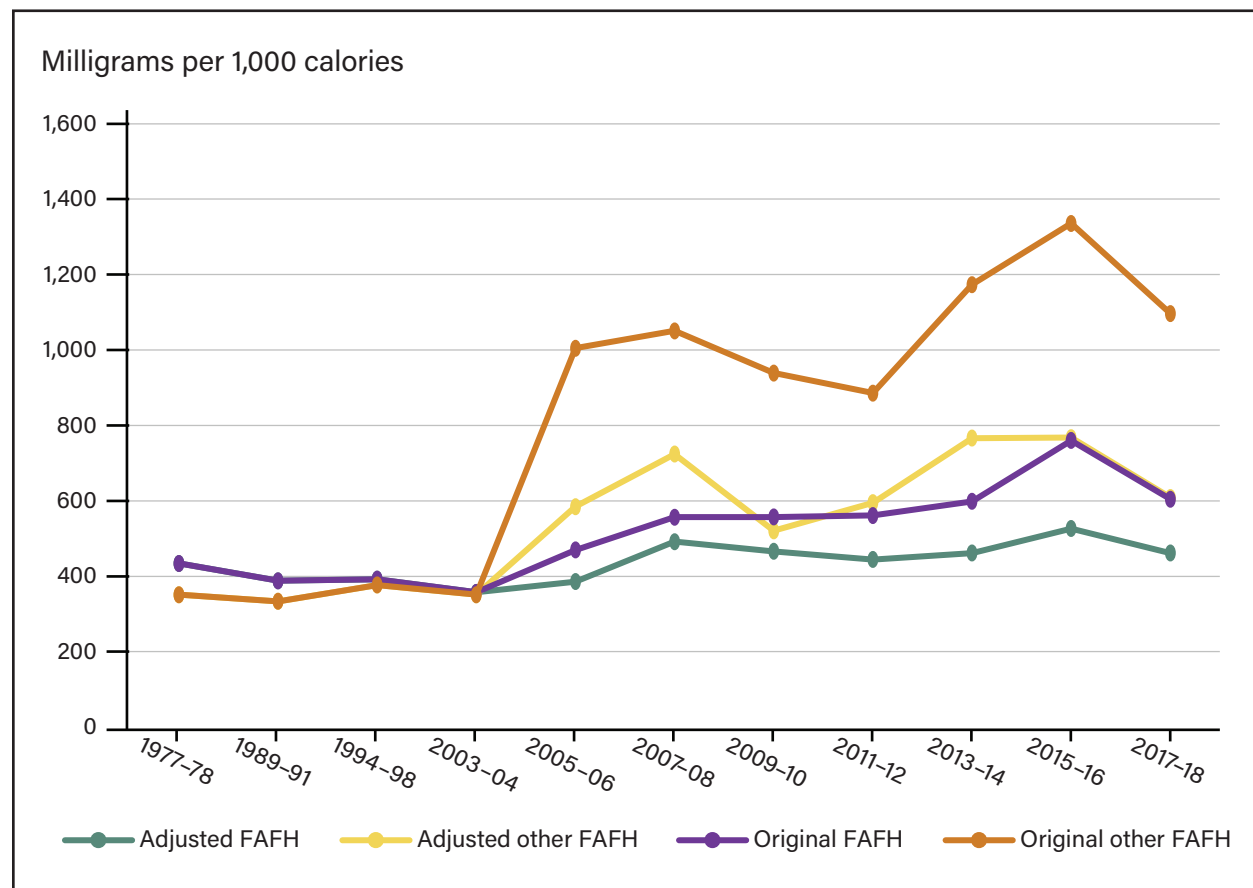
Source: USDA, Economic Research Service using data from USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data; USDA, Agricultural Research Service, 1989–1991, 1994–1996, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2003–2004, 2005–2006, 2007–2008, 2009–2010, 2011–2012, 2013–2014, 2015–2016, and 2017–2018 What We Eat in America, National Health and Nutrition Examination Survey data.

It is important to point out that there is an apparent structural break in the calcium density for other FAFH occurring after the two Federal surveys were integrated into WWEIA/NANHES. In 1994–1998 and 2003–2004, the other FAFH’s calcium density was 377 and 351 mg per 1,000 calories, respectively, before surging to 1,005 mg per 1,000 calories in 2005–2006. During the 2003–2004 and 2005–2006 survey periods, the standard errors of mean calcium density for other FAFH rose more than sixfold from 56 to 367 mg before adjusting the calcium content in tap water to zero. When the authors adjusted the calcium content in tap water to zero, the calcium density for other FAFH rose from 351 mg per 1,000 calories in 2003–2004 to 585 mg in 2005–2006. Their associated standard errors of the mean density rose from 26 to 131 mg. Therefore, the adjustment dampened the variations around the density for other FAFH, but the structural break persists. As noted earlier, there was a surge in FAH’s calcium density in 2005–2006 among adults aged 20–64. Additional research into the reasons for these changes in calcium content is warranted. For example, the appropriate sample size for a population subgroup by five food sources should be examined by combining two survey waves into a single period to see if it would smooth out the trend in calcium density.



Figure 12

**Calcium density among U.S. consumers aged 2 and above for food away from home's and other food away from home's original value and adjusted for tap water inclusion, 1977–2018**



FAFH = Food away from home.

Note: The vertical bar associated with each data point is its 95-percent confidence interval.

Source: USDA, Economic Research Service using data from USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data; USDA, Agricultural Research Service, 1989–1991, 1994–1996, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2003–2004, 2005–2006, 2007–2008, 2009–2010, 2011–2012, 2013–2014, 2015–2016, and 2017–2018 What We Eat in America, National Health and Nutrition Examination Survey data.

## Dietary Quality Based on Food Groups

The mean intakes of food groups and their associated standard errors among the U.S. population aged 2 and above are reported in tables 6a and 6b. The shares of total food group intakes by food source are reported in tables 7a and 7b. As stated before, the primary focus of the report is to examine the trend in dietary quality. Changes in intake amounts per se do not necessarily translate directly into changes in dietary quality. Comparing the reported food group densities with the recommended densities can indicate whether the quality of a particular food-group intake has improved over time and the extent of dietary deficiency when consumption deviates from the recommended amounts. The authors interpreted selected statistics with a focus on the density measure. Furthermore, the results are discussed for the U.S. population aged 2 and above as a group, as well as for selected population subgroups.<sup>9</sup>

<sup>9</sup> Mean intakes, shares, and densities of food groups by food source and demographics are reported in online appendix tables A-4A–A-4F, A-5A–A-5F, and A-6A–A-6F, respectively.

Table 6a

**U.S. food group intakes by food source, U.S. consumers aged 2 and above, 1977–2008**

		1977–78		1989–91		1994–98		2003–04		2005–06		2007–08	
Variable	Measure- ment	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean
U.S. consumers aged 2 and above													
Energy	Calories	1,806.88	12.39	1,847.48	18.90	2,033.93	16.20	2,194.78	15.59	2,157.35	29.02	2,069.79	24.55
FAH	Calories	1,462.27	11.13	1,347.04	17.60	1,380.76	14.93	1,458.96	21.46	1,429.30	18.10	1,396.89	23.87
FAFH	Calories	344.61	8.73	500.44	14.38	653.17	14.97	735.83	16.47	728.05	24.69	672.91	15.81
Restaurant	Calories	61.17	3.73	114.22	7.76	163.75	5.39	203.32	7.29	195.17	13.01	192.91	12.22
Fast food	Calories	110.45	3.90	262.37	11.32	286.52	8.80	388.88	18.18	359.71	17.79	316.26	15.15
School	Calories	66.11	2.64	46.16	5.09	46.05	2.11	38.91	4.80	35.10	3.56	39.74	3.81
Others	Calories	106.88	4.14	77.70	3.63	156.85	8.46	104.71	6.33	138.07	9.05	124.00	8.05
Added sugars	Teaspoons	14.53	0.28	15.33	0.31	19.74	0.29	20.98	0.41	19.43	0.49	18.91	0.57
FAH	Teaspoons	11.32	0.20	10.99	0.23	13.47	0.21	14.93	0.33	13.74	0.35	13.64	0.46
FAFH	Teaspoons	3.21	0.12	4.34	0.15	6.27	0.18	6.06	0.21	5.69	0.22	5.27	0.18
Restaurant	Teaspoons	0.35	0.02	0.68	0.06	1.09	0.05	1.35	0.08	1.16	0.11	1.00	0.07
Fast food	Teaspoons	1.30	0.05	2.44	0.12	3.01	0.10	3.28	0.22	2.76	0.17	2.58	0.14
School	Teaspoons	0.48	0.02	0.33	0.03	0.37	0.02	0.28	0.04	0.25	0.03	0.29	0.03
Others	Teaspoons	1.09	0.06	0.89	0.06	1.80	0.11	1.15	0.08	1.53	0.09	1.40	0.11
Discretionary fats and oils	Grams	58.46	0.76	57.25	0.77	60.64	0.68	66.82	0.63	63.31	1.08	60.27	0.98
FAH	Grams	46.83	0.65	40.02	0.67	38.43	0.59	41.33	0.69	38.90	0.58	37.41	0.90
FAFH	Grams	11.64	0.30	17.22	0.54	22.21	0.56	25.49	0.65	24.41	0.87	22.86	0.53
Restaurant	Grams	2.22	0.14	4.15	0.29	5.80	0.18	7.02	0.26	6.67	0.49	6.67	0.41
Fast food	Grams	3.71	0.14	9.05	0.40	9.85	0.30	13.83	0.69	12.33	0.58	11.12	0.55
School	Grams	2.39	0.10	1.60	0.18	1.60	0.08	1.26	0.16	1.07	0.12	1.22	0.12
Others	Grams	3.31	0.13	2.42	0.13	4.96	0.32	3.37	0.21	4.34	0.29	3.84	0.28
Discretionary fats	Grams	49.87	0.52	45.22	0.58	45.99	0.56	47.58	0.51	41.47	0.78	39.40	0.76
FAH	Grams	40.12	0.47	31.60	0.56	28.91	0.47	28.75	0.55	25.76	0.51	24.62	0.68
FAFH	Grams	9.75	0.24	13.62	0.42	17.08	0.44	18.83	0.53	15.71	0.48	14.78	0.33
Restaurant	Grams	1.75	0.11	3.15	0.23	4.03	0.13	4.83	0.20	3.89	0.31	3.99	0.20
Fast food	Grams	3.13	0.12	7.19	0.33	7.95	0.25	10.59	0.53	8.05	0.35	7.18	0.34
School	Grams	2.15	0.09	1.40	0.16	1.31	0.06	1.00	0.13	0.76	0.09	0.83	0.09
Others	Grams	2.72	0.11	1.87	0.10	3.78	0.24	2.41	0.16	3.01	0.20	2.78	0.22
Discretionary oils	Grams	8.59	0.29	12.03	0.31	14.65	0.28	19.24	0.45	21.84	0.40	20.86	0.48
FAH	Grams	6.71	0.24	8.43	0.24	9.52	0.20	12.58	0.32	13.14	0.24	12.78	0.37
FAFH	Grams	1.88	0.08	3.60	0.16	5.13	0.18	6.66	0.23	8.70	0.42	8.08	0.28
Restaurant	Grams	0.47	0.04	1.00	0.09	1.77	0.08	2.19	0.12	2.78	0.21	2.68	0.22
Fast food	Grams	0.58	0.03	1.86	0.11	1.90	0.08	3.25	0.22	4.28	0.26	3.95	0.25
School	Grams	0.24	0.02	0.20	0.03	0.29	0.03	0.26	0.04	0.31	0.04	0.39	0.04
Others	Grams	0.59	0.03	0.55	0.05	1.17	0.10	0.96	0.07	1.33	0.11	1.07	0.09
Dairy, total	Cups	1.59	0.04	1.59	0.03	1.56	0.02	1.76	0.05	1.80	0.05	1.70	0.05
FAH	Cups	1.31	0.03	1.26	0.03	1.16	0.02	1.27	0.05	1.32	0.04	1.22	0.05
FAFH	Cups	0.28	0.01	0.34	0.01	0.39	0.01	0.49	0.02	0.48	0.02	0.47	0.02
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Restaurant	Cups	0.03	0.00	0.06	0.00	0.07	0.00	0.11	0.01	0.10	0.01	0.11	0.01
Fast food	Cups	0.07	0.00	0.16	0.01	0.16	0.01	0.27	0.02	0.25	0.01	0.22	0.01
School	Cups	0.12	0.01	0.08	0.01	0.08	0.00	0.07	0.01	0.06	0.01	0.07	0.01
Others	Cups	0.06	0.00	0.05	0.00	0.08	0.01	0.04	0.01	0.07	0.01	0.08	0.01
Dairy, fluid milk	Cups	1.27	0.03	1.12	0.03	1.02	0.01	1.03	0.04	1.04	0.04	0.95	0.03
FAH	Cups	1.06	0.02	0.94	0.03	0.85	0.01	0.90	0.04	0.89	0.03	0.81	0.03
FAFH	Cups	0.21	0.01	0.18	0.01	0.17	0.01	0.13	0.01	0.15	0.01	0.15	0.01
Restaurant	Cups	0.01	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00
Fast food	Cups	0.04	0.00	0.06	0.01	0.04	0.00	0.04	0.00	0.05	0.01	0.04	0.00
School	Cups	0.11	0.00	0.07	0.01	0.07	0.00	0.05	0.01	0.05	0.00	0.05	0.01
Others	Cups	0.04	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.03	0.00	0.03	0.01
Dairy, cheese	Cups	0.30	0.01	0.45	0.01	0.50	0.01	0.69	0.02	0.70	0.03	0.68	0.03
FAH	Cups	0.23	0.01	0.29	0.01	0.28	0.01	0.34	0.02	0.37	0.02	0.36	0.02
FAFH	Cups	0.07	0.00	0.15	0.01	0.22	0.01	0.36	0.02	0.33	0.02	0.32	0.01
Restaurant	Cups	0.01	0.00	0.03	0.00	0.05	0.00	0.09	0.01	0.08	0.01	0.08	0.01
Fast food	Cups	0.03	0.00	0.09	0.01	0.12	0.01	0.23	0.02	0.20	0.01	0.18	0.01
School	Cups	0.01	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.02	0.00
Others	Cups	0.02	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.04	0.00	0.04	0.00
Dairy, yogurt	Cups	0.01	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.05	0.00	0.05	0.00
FAH	Cups	0.01	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04	0.00
FAFH	Cups	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Restaurant	Cups	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fast food	Cups	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
School	Cups	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	Cups	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fruit, total	Cups	0.80	0.02	0.90	0.02	1.03	0.02	1.00	0.05	0.97	0.03	1.00	0.05
FAH	Cups	0.71	0.02	0.77	0.02	0.89	0.02	0.87	0.05	0.86	0.03	0.88	0.04
FAFH	Cups	0.08	0.00	0.13	0.01	0.15	0.00	0.13	0.01	0.12	0.01	0.12	0.00
Restaurant	Cups	0.01	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02	0.00
Fast food	Cups	0.01	0.00	0.05	0.00	0.03	0.00	0.04	0.01	0.03	0.00	0.03	0.00
School	Cups	0.03	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02	0.00	0.03	0.00
Others	Cups	0.03	0.00	0.03	0.00	0.06	0.00	0.04	0.01	0.04	0.00	0.05	0.00
Fruit, citrus, melon, and berries	Cups	0.37	0.01	0.41	0.01	0.48	0.01	0.42	0.03	0.17	0.01	0.18	0.02
FAH	Cups	0.33	0.01	0.35	0.01	0.41	0.01	0.36	0.02	0.15	0.01	0.15	0.02
FAFH	Cups	0.03	0.00	0.06	0.00	0.07	0.00	0.07	0.00	0.02	0.00	0.02	0.00
Restaurant	Cups	0.00	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.01	0.00
Fast food	Cups	0.01	0.00	0.03	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00
School	Cups	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Others	Cups	0.01	0.00	0.01	0.00	0.03	0.00	0.02	0.00	0.01	0.00	0.01	0.00
Fruit, other	Cups	0.43	0.01	0.50	0.01	0.55	0.01	0.58	0.03	0.41	0.02	0.50	0.03
FAH	Cups	0.38	0.01	0.42	0.01	0.48	0.01	0.51	0.03	0.37	0.02	0.44	0.03
FAFH	Cups	0.05	0.00	0.07	0.01	0.07	0.00	0.07	0.01	0.04	0.00	0.05	0.00
Restaurant	Cups	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00
Fast food	Cups	0.01	0.00	0.03	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.01	0.00
School	Cups	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.01	0.00
Others	Cups	0.02	0.00	0.02	0.00	0.03	0.00	0.03	0.01	0.02	0.00	0.02	0.00
Fruit, juice	Cups	0.29	0.01	0.38	0.01	0.44	0.01	0.46	0.03	0.39	0.02	0.33	0.02

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FAH	Cups	0.26	0.01	0.33	0.01	0.37	0.01	0.39	0.03	0.34	0.02	0.28	0.01
FAFH	Cups	0.03	0.00	0.06	0.00	0.07	0.00	0.07	0.01	0.06	0.01	0.05	0.00
Restaurant	Cups	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00
Fast food	Cups	0.01	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.01	0.00
School	Cups	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00
Others	Cups	0.01	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00
Fruit, whole fruit	Cups	0.51	0.01	0.52	0.01	0.59	0.01	0.55	0.03	0.58	0.02	0.67	0.03
FAH	Cups	0.45	0.01	0.44	0.01	0.52	0.01	0.48	0.03	0.52	0.02	0.60	0.03
FAFH	Cups	0.06	0.00	0.08	0.01	0.08	0.00	0.07	0.01	0.06	0.00	0.07	0.00
Restaurant	Cups	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00
Fast food	Cups	0.01	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00
School	Cups	0.02	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.02	0.00
Others	Cups	0.02	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.03	0.00	0.03	0.00
Vegetable, total	Cups	1.42	0.02	1.43	0.02	1.57	0.02	1.49	0.02	1.45	0.03	1.38	0.04
FAH	Cups	1.15	0.02	1.01	0.02	1.01	0.02	0.91	0.02	0.87	0.03	0.88	0.03
FAFH	Cups	0.27	0.01	0.42	0.02	0.55	0.01	0.59	0.01	0.57	0.02	0.50	0.02
Restaurant	Cups	0.06	0.00	0.12	0.01	0.19	0.01	0.22	0.01	0.20	0.01	0.20	0.02
Fast food	Cups	0.08	0.00	0.21	0.01	0.22	0.01	0.29	0.01	0.26	0.01	0.21	0.01
School	Cups	0.05	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02	0.00	0.02	0.00
Others	Cups	0.09	0.00	0.05	0.00	0.12	0.01	0.06	0.00	0.10	0.01	0.08	0.01
Vegetables, potatoes	Cups	0.43	0.01	0.43	0.01	0.45	0.01	0.39	0.02	0.35	0.02	0.36	0.01
FAH	Cups	0.35	0.01	0.30	0.01	0.28	0.01	0.24	0.01	0.21	0.01	0.22	0.01
FAFH	Cups	0.09	0.00	0.14	0.01	0.17	0.00	0.15	0.01	0.14	0.01	0.14	0.01
Restaurant	Cups	0.02	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.05	0.00
Fast food	Cups	0.03	0.00	0.07	0.01	0.08	0.00	0.09	0.01	0.07	0.01	0.07	0.01
School	Cups	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.01	0.00
Others	Cups	0.03	0.00	0.02	0.00	0.03	0.00	0.01	0.00	0.02	0.00	0.02	0.00
Vegetables, other starchy	Cups	0.15	0.00	0.12	0.01	0.11	0.00	0.07	0.01	0.08	0.01	0.08	0.00
FAH	Cups	0.13	0.00	0.10	0.01	0.08	0.00	0.06	0.00	0.06	0.01	0.06	0.00
FAFH	Cups	0.02	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.02	0.00	0.02	0.00
Restaurant	Cups	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00
Fast food	Cups	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
School	Cups	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	Cups	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.00
Vegetable, tomatoes	Cups	0.23	0.00	0.25	0.01	0.29	0.00	0.37	0.02	0.32	0.01	0.29	0.01
FAH	Cups	0.18	0.00	0.18	0.01	0.18	0.00	0.21	0.01	0.18	0.01	0.18	0.01
FAFH	Cups	0.05	0.00	0.07	0.00	0.10	0.00	0.16	0.01	0.14	0.01	0.11	0.00
Restaurant	Cups	0.01	0.00	0.02	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.04	0.00
Fast food	Cups	0.01	0.00	0.04	0.00	0.05	0.00	0.09	0.01	0.07	0.00	0.05	0.00
School	Cups	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Others	Cups	0.01	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.02	0.00	0.01	0.00
Vegetable, red and orange	Cups	0.08	0.00	0.08	0.00	0.08	0.00	0.06	0.00	0.07	0.00	0.07	0.01
FAH	Cups	0.07	0.00	0.06	0.00	0.06	0.00	0.04	0.00	0.05	0.00	0.05	0.00
FAFH	Cups	0.01	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00
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Restaurant	Cups	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00
Fast food	Cups	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
School	Cups	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	Cups	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Vegetable, dark green	Cups	0.05	0.00	0.07	0.00	0.09	0.00	0.08	0.00	0.11	0.01	0.11	0.01
FAH	Cups	0.05	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.07	0.01	0.08	0.01
FAFH	Cups	0.01	0.00	0.01	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03	0.00
Restaurant	Cups	0.00	0.00	0.01	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.02	0.00
Fast food	Cups	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00
School	Cups	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	Cups	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.00
Vegetable, others	Cups	0.48	0.01	0.48	0.01	0.55	0.01	0.52	0.01	0.52	0.02	0.47	0.02
FAH	Cups	0.38	0.01	0.32	0.01	0.34	0.01	0.30	0.01	0.30	0.02	0.29	0.02
FAFH	Cups	0.10	0.00	0.16	0.01	0.21	0.01	0.22	0.01	0.23	0.01	0.18	0.01
Restaurant	Cups	0.03	0.00	0.05	0.00	0.09	0.00	0.10	0.00	0.09	0.01	0.08	0.01
Fast food	Cups	0.03	0.00	0.08	0.01	0.07	0.00	0.10	0.01	0.10	0.01	0.07	0.00
School	Cups	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Others	Cups	0.03	0.00	0.02	0.00	0.04	0.00	0.02	0.00	0.03	0.00	0.02	0.00
Legumes	Cups	0.10	0.01	0.09	0.01	0.10	0.01	0.10	0.01	0.09	0.01	0.10	0.01
FAH	Cups	0.08	0.01	0.07	0.01	0.07	0.00	0.07	0.01	0.06	0.01	0.07	0.01
FAFH	Cups	0.01	0.00	0.02	0.00	0.03	0.00	0.03	0.01	0.03	0.00	0.03	0.00
Restaurant	Cups	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00
Fast food	Cups	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00
School	Cups	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	Cups	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.00
Grains, total	Ounces	5.20	0.03	6.09	0.08	6.67	0.05	6.91	0.10	6.71	0.10	6.37	0.09
FAH	Ounces	4.26	0.04	4.48	0.07	4.63	0.06	4.43	0.11	4.22	0.09	4.19	0.11
FAFH	Ounces	0.94	0.03	1.61	0.05	2.04	0.05	2.48	0.06	2.48	0.08	2.18	0.05
Restaurant	Ounces	0.16	0.01	0.34	0.02	0.48	0.02	0.62	0.03	0.64	0.04	0.59	0.04
Fast food	Ounces	0.33	0.01	0.91	0.04	0.97	0.03	1.43	0.08	1.32	0.06	1.10	0.05
School	Ounces	0.18	0.01	0.14	0.02	0.14	0.01	0.13	0.01	0.12	0.01	0.13	0.01
Others	Ounces	0.27	0.01	0.22	0.01	0.45	0.02	0.30	0.02	0.41	0.03	0.37	0.02
Grains, non- whole grains	Ounces	4.69	0.04	5.44	0.08	5.93	0.05	6.31	0.09	6.03	0.10	5.73	0.07
FAH	Ounces	3.78	0.05	3.89	0.06	3.98	0.05	3.89	0.10	3.62	0.08	3.61	0.09
FAFH	Ounces	0.91	0.03	1.55	0.05	1.95	0.05	2.42	0.07	2.42	0.08	2.12	0.05
Restaurant	Ounces	0.15	0.01	0.32	0.02	0.46	0.02	0.61	0.03	0.62	0.04	0.57	0.04
Fast food	Ounces	0.32	0.01	0.88	0.04	0.94	0.03	1.40	0.08	1.30	0.06	1.08	0.05
School	Ounces	0.18	0.01	0.14	0.02	0.13	0.01	0.12	0.01	0.11	0.01	0.12	0.01
Others	Ounces	0.26	0.01	0.21	0.01	0.41	0.02	0.29	0.02	0.39	0.03	0.35	0.02
Grains, whole grains	Ounces	0.51	0.02	0.64	0.02	0.75	0.02	0.59	0.03	0.68	0.03	0.64	0.04
FAH	Ounces	0.48	0.02	0.58	0.02	0.66	0.02	0.53	0.03	0.61	0.03	0.58	0.04
FAFH	Ounces	0.03	0.00	0.06	0.01	0.09	0.01	0.06	0.01	0.07	0.01	0.07	0.01
Restaurant	Ounces	0.01	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.01
Fast food	Ounces	0.01	0.00	0.03	0.00	0.03	0.00	0.02	0.01	0.03	0.00	0.02	0.00
School	Ounces	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Others	Ounces	0.01	0.00	0.01	0.00	0.04	0.00	0.02	0.00	0.02	0.00	0.02	0.00
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Protein foods, total	Ounces	6.01	0.07	5.16	0.05	5.19	0.06	5.58	0.12	5.79	0.10	5.58	0.10
FAH	Ounces	4.88	0.07	3.70	0.06	3.33	0.06	3.50	0.08	3.66	0.07	3.57	0.08
FAFH	Ounces	1.12	0.03	1.46	0.05	1.85	0.05	2.08	0.06	2.13	0.09	2.02	0.07
Fast food	Ounces	0.26	0.01	0.42	0.03	0.59	0.02	0.74	0.04	0.71	0.05	0.74	0.05
School	Ounces	0.37	0.01	0.76	0.03	0.75	0.02	1.01	0.04	1.00	0.05	0.88	0.06
Others	Ounces	0.16	0.01	0.08	0.01	0.08	0.00	0.07	0.01	0.07	0.01	0.08	0.01
Others	Ounces	0.34	0.01	0.20	0.01	0.43	0.03	0.27	0.02	0.36	0.03	0.31	0.02
Protein foods, meats, poultry, and fish	Ounces	5.14	0.07	4.42	0.05	4.43	0.05	4.50	0.12	4.66	0.08	4.49	0.07
FAH	Ounces	4.13	0.08	3.11	0.06	2.76	0.06	2.63	0.08	2.76	0.06	2.69	0.06
FAFH	Ounces	1.02	0.02	1.31	0.04	1.67	0.04	1.87	0.06	1.90	0.08	1.80	0.06
Restaurant	Ounces	0.23	0.01	0.37	0.03	0.52	0.02	0.66	0.03	0.62	0.04	0.65	0.05
Fast food	Ounces	0.34	0.01	0.70	0.03	0.70	0.02	0.93	0.04	0.93	0.05	0.82	0.05
School	Ounces	0.15	0.01	0.08	0.01	0.07	0.00	0.06	0.01	0.06	0.01	0.07	0.01
Others	Ounces	0.30	0.01	0.17	0.01	0.38	0.03	0.21	0.01	0.29	0.03	0.26	0.02
Protein foods, meats (beef, veal, pork, lamb, game)	Ounces	3.06	0.05	2.09	0.05	2.01	0.04	1.83	0.07	1.67	0.06	1.56	0.05
FAH	Ounces	2.44	0.04	1.46	0.05	1.23	0.04	1.03	0.04	0.95	0.04	0.94	0.04
FAFH	Ounces	0.62	0.02	0.63	0.03	0.78	0.02	0.80	0.04	0.72	0.05	0.62	0.03
Restaurant	Ounces	0.14	0.01	0.17	0.02	0.23	0.01	0.28	0.01	0.23	0.02	0.22	0.03
Fast food	Ounces	0.22	0.01	0.34	0.02	0.35	0.02	0.40	0.03	0.37	0.03	0.30	0.02
School	Ounces	0.09	0.00	0.05	0.01	0.03	0.00	0.03	0.01	0.02	0.00	0.02	0.00
Others	Ounces	0.17	0.01	0.07	0.01	0.18	0.02	0.09	0.00	0.10	0.01	0.08	0.01
Protein foods, poultry	Ounces	0.95	0.04	1.13	0.04	1.19	0.04	1.32	0.05	1.43	0.06	1.44	0.06
FAH	Ounces	0.78	0.04	0.75	0.03	0.70	0.03	0.64	0.03	0.73	0.04	0.77	0.04
FAFH	Ounces	0.17	0.01	0.37	0.02	0.48	0.02	0.68	0.04	0.70	0.03	0.67	0.04
Restaurant	Ounces	0.03	0.00	0.09	0.01	0.15	0.01	0.23	0.02	0.22	0.01	0.23	0.02
Fast food	Ounces	0.05	0.01	0.22	0.02	0.21	0.01	0.36	0.03	0.37	0.03	0.33	0.03
School	Ounces	0.02	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.04	0.00
Others	Ounces	0.07	0.01	0.05	0.01	0.10	0.01	0.07	0.01	0.09	0.01	0.08	0.01
Protein foods, high Omega-3 fatty fish	Ounces	0.07	0.00	0.11	0.01	0.11	0.01	0.12	0.02	0.13	0.01	0.12	0.01
FAH	Ounces	0.06	0.00	0.08	0.01	0.08	0.01	0.08	0.01	0.10	0.01	0.08	0.01
FAFH	Ounces	0.01	0.00	0.03	0.01	0.02	0.00	0.04	0.01	0.02	0.00	0.05	0.01
Restaurant	Ounces	0.00	0.00	0.01	0.00	0.01	0.00	0.03	0.01	0.01	0.00	0.03	0.01
Fast food	Ounces	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
School	Ounces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	Ounces	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Protein foods, low Omega-3 fatty fish	Ounces	0.35	0.02	0.44	0.03	0.35	0.02	0.37	0.03	0.42	0.04	0.35	0.02
FAH	Ounces	0.25	0.02	0.29	0.02	0.18	0.01	0.23	0.02	0.26	0.04	0.20	0.02
FAFH	Ounces	0.10	0.01	0.15	0.01	0.17	0.01	0.14	0.02	0.16	0.02	0.15	0.02
Restaurant	Ounces	0.05	0.00	0.07	0.01	0.09	0.01	0.08	0.02	0.10	0.01	0.10	0.01
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Fast food	Ounces	0.03	0.00	0.06	0.01	0.04	0.01	0.04	0.01	0.03	0.01	0.04	0.01
School	Ounces	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	Ounces	0.02	0.00	0.02	0.01	0.03	0.01	0.01	0.00	0.03	0.01	0.01	0.00
Protein foods, cured meat	Ounces	0.65	0.02	0.63	0.02	0.75	0.02	0.84	0.02	0.99	0.05	1.01	0.04
FAH	Ounces	0.55	0.02	0.51	0.02	0.55	0.01	0.62	0.02	0.70	0.04	0.70	0.04
FAFH	Ounces	0.10	0.00	0.12	0.01	0.20	0.01	0.22	0.01	0.29	0.02	0.30	0.01
Restaurant	Ounces	0.01	0.00	0.02	0.00	0.03	0.00	0.04	0.01	0.06	0.01	0.07	0.01
Fast food	Ounces	0.03	0.00	0.07	0.01	0.09	0.01	0.13	0.01	0.15	0.01	0.14	0.01
School	Ounces	0.02	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.02	0.00	0.02	0.00
Others	Ounces	0.03	0.00	0.02	0.00	0.05	0.01	0.04	0.01	0.06	0.01	0.08	0.01
Protein foods, organ meats	Ounces	0.06	0.01	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.01	0.00
FAH	Ounces	0.05	0.01	0.01	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.01	0.00
FAFH	Ounces	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Restaurant	Ounces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fast food	Ounces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
School	Ounces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	Ounces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Protein foods, eggs	Ounces	0.58	0.01	0.40	0.01	0.38	0.01	0.42	0.02	0.47	0.01	0.49	0.02
FAH	Ounces	0.51	0.01	0.31	0.01	0.28	0.01	0.30	0.02	0.32	0.01	0.34	0.01
FAFH	Ounces	0.07	0.00	0.09	0.01	0.11	0.00	0.12	0.01	0.15	0.01	0.15	0.01
Restaurant	Ounces	0.03	0.00	0.04	0.01	0.05	0.00	0.06	0.01	0.07	0.01	0.07	0.01
Fast food	Ounces	0.02	0.00	0.04	0.01	0.03	0.00	0.05	0.01	0.05	0.00	0.05	0.00
School	Ounces	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Others	Ounces	0.02	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.04	0.00	0.03	0.00
Protein foods, soy products	Ounces	0.01	0.00	0.01	0.00	0.03	0.00	0.07	0.01	0.05	0.01	0.07	0.01
FAH	Ounces	0.01	0.00	0.01	0.00	0.02	0.00	0.07	0.01	0.05	0.01	0.06	0.01
FAFH	Ounces	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00
Restaurant	Ounces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fast food	Ounces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
School	Ounces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	Ounces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Protein foods, nuts and seeds	Ounces	0.28	0.02	0.32	0.02	0.35	0.02	0.60	0.03	0.60	0.03	0.53	0.04
FAH	Ounces	0.24	0.02	0.27	0.02	0.28	0.01	0.51	0.03	0.53	0.02	0.48	0.04
FAFH	Ounces	0.04	0.00	0.05	0.01	0.07	0.01	0.09	0.01	0.07	0.01	0.06	0.01
Restaurant	Ounces	0.00	0.00	0.01	0.00	0.01	0.00	0.02	0.01	0.01	0.00	0.01	0.00
Fast food	Ounces	0.01	0.00	0.02	0.00	0.02	0.00	0.02	0.01	0.03	0.01	0.02	0.00
School	Ounces	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	Ounces	0.02	0.00	0.02	0.00	0.03	0.00	0.05	0.01	0.03	0.00	0.03	0.00

SE of mean = Standard error of the mean, FAH = food at home, FAFH= food away from home.

Source: USDA, Economic Research Service using USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data, and 1989–1991, 1994–96, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2003–04, 2005–06, 2007–08, 2009–10, 2011–2012, 2013–14, 2015–16, and 2017–18 What We Eat in America, National Health and Nutrition Examination Survey data.

Table 6b

**U.S. food group intakes by food source, U.S. consumers aged 2 and above, 2009–2018**

		2009–10		2011–12		2013–14		2015–16		2017–18	
Variable	Measurement	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean
U.S. consumers aged 2 and above											
Energy	Calories	2,080.56	12.91	2,138.89	12.34	2,079.32	17.17	2,048.24	18.25	2,093.14	14.12
FAH	Calories	1,460.34	16.85	1,398.98	31.55	1,368.60	15.84	1,369.60	20.87	1,402.55	22.45
FAFH	Calories	620.22	13.11	739.91	28.67	710.73	13.83	678.64	17.65	690.60	25.02
Restaurant	Calories	159.58	6.72	171.06	10.81	177.04	8.86	178.61	6.64	173.28	10.87
Fast food	Calories	299.26	8.07	362.31	23.83	352.13	9.36	330.94	11.75	360.90	17.92
School	Calories	39.24	5.25	40.52	4.59	38.76	2.93	34.62	3.56	28.21	4.88
Others	Calories	122.14	5.29	166.01	10.17	142.80	8.32	134.47	7.81	128.20	6.27
Added sugars	Teaspoons	18.14	0.31	18.39	0.34	17.44	0.36	16.20	0.36	16.94	0.40
FAH	Teaspoons	13.29	0.26	12.43	0.44	12.13	0.38	11.31	0.23	12.13	0.28
FAFH	Teaspoons	4.85	0.16	5.96	0.30	5.30	0.20	4.89	0.20	4.81	0.24
Restaurant	Teaspoons	1.01	0.07	1.06	0.11	0.96	0.10	0.94	0.07	0.85	0.07
Fast food	Teaspoons	2.24	0.10	2.93	0.25	2.65	0.12	2.26	0.08	2.53	0.15
School	Teaspoons	0.27	0.04	0.26	0.04	0.24	0.02	0.20	0.03	0.17	0.03
Others	Teaspoons	1.34	0.07	1.71	0.13	1.46	0.09	1.48	0.12	1.26	0.10
Discretionary fats and oils	Grams	58.93	0.65	61.77	0.67	60.72	0.66	61.98	0.85	65.36	0.50
FAH	Grams	38.54	0.78	37.94	0.91	37.77	0.51	39.13	0.78	41.49	0.68
FAFH	Grams	20.39	0.40	23.83	0.92	22.94	0.51	22.85	0.70	23.87	0.82
Restaurant	Grams	5.58	0.25	5.59	0.38	5.77	0.29	6.18	0.19	6.14	0.41
Fast food	Grams	9.99	0.26	12.09	0.78	11.61	0.32	11.48	0.46	12.68	0.67
School	Grams	1.13	0.18	1.10	0.12	1.05	0.08	0.92	0.10	0.74	0.12
Others	Grams	3.69	0.17	5.05	0.33	4.52	0.29	4.26	0.28	4.31	0.25
Discretionary fats	Grams	37.37	0.54	36.52	0.66	35.32	0.40	34.86	0.69	36.24	0.64
FAH	Grams	24.39	0.54	22.21	0.77	22.02	0.32	22.82	0.60	23.92	0.66
FAFH	Grams	12.98	0.37	14.30	0.56	13.30	0.28	12.04	0.40	12.32	0.42
Restaurant	Grams	3.38	0.15	2.91	0.21	2.73	0.17	2.95	0.13	2.64	0.20
Fast food	Grams	6.37	0.24	7.31	0.41	6.97	0.15	5.87	0.24	6.66	0.37
School	Grams	0.84	0.14	0.77	0.09	0.64	0.06	0.55	0.06	0.45	0.08
Others	Grams	2.39	0.10	3.31	0.25	2.97	0.21	2.67	0.21	2.58	0.14
Discretionary oils	Grams	21.55	0.38	25.26	0.41	25.40	0.39	27.11	0.46	29.12	0.70
FAH	Grams	14.15	0.35	15.73	0.31	15.75	0.27	16.30	0.37	17.58	0.65
FAFH	Grams	7.40	0.17	9.53	0.41	9.64	0.31	10.81	0.35	11.55	0.45
Restaurant	Grams	2.19	0.14	2.68	0.19	3.04	0.16	3.24	0.15	3.50	0.26
Fast food	Grams	3.62	0.13	4.78	0.41	4.64	0.20	5.61	0.29	6.02	0.34
School	Grams	0.28	0.05	0.32	0.04	0.41	0.04	0.37	0.05	0.29	0.05
Others	Grams	1.30	0.08	1.74	0.12	1.55	0.11	1.59	0.09	1.74	0.14
Dairy, total	Cups	1.85	0.02	1.79	0.04	1.74	0.03	1.60	0.05	1.53	0.03
FAH	Cups	1.38	0.02	1.22	0.04	1.20	0.02	1.12	0.05	1.07	0.03
FAFH	Cups	0.47	0.02	0.57	0.03	0.55	0.02	0.48	0.02	0.47	0.02
Restaurant	Cups	0.10	0.01	0.10	0.01	0.09	0.01	0.09	0.01	0.09	0.01
Fast food	Cups	0.22	0.01	0.32	0.02	0.31	0.01	0.25	0.01	0.26	0.01
School	Cups	0.08	0.01	0.08	0.01	0.07	0.01	0.07	0.01	0.05	0.01

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Others	Cups	0.06	0.00	0.08	0.01	0.08	0.01	0.07	0.00	0.06	0.01
Dairy, fluid milk	Cups	1.00	0.01	0.91	0.03	0.83	0.02	0.75	0.03	0.69	0.02
FAH	Cups	0.86	0.01	0.73	0.03	0.67	0.02	0.60	0.03	0.55	0.02
FAFH	Cups	0.14	0.01	0.18	0.01	0.16	0.01	0.15	0.00	0.14	0.01
Restaurant	Cups	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.01	0.00
Fast food	Cups	0.04	0.00	0.07	0.01	0.07	0.01	0.05	0.01	0.06	0.01
School	Cups	0.05	0.01	0.05	0.01	0.05	0.01	0.05	0.01	0.04	0.01
Others	Cups	0.03	0.00	0.04	0.00	0.03	0.00	0.03	0.00	0.02	0.00
Dairy, cheese	Cups	0.78	0.02	0.80	0.02	0.81	0.01	0.74	0.03	0.74	0.02
FAH	Cups	0.46	0.02	0.41	0.02	0.43	0.01	0.42	0.02	0.43	0.02
FAFH	Cups	0.32	0.01	0.38	0.02	0.38	0.01	0.32	0.02	0.32	0.01
Restaurant	Cups	0.08	0.01	0.08	0.01	0.07	0.01	0.08	0.01	0.07	0.01
Fast food	Cups	0.18	0.01	0.24	0.02	0.23	0.01	0.19	0.01	0.19	0.01
School	Cups	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.01	0.00
Others	Cups	0.03	0.00	0.04	0.00	0.05	0.01	0.03	0.00	0.04	0.00
Dairy, yogurt	Cups	0.06	0.00	0.06	0.01	0.07	0.00	0.08	0.00	0.06	0.01
FAH	Cups	0.05	0.00	0.05	0.00	0.06	0.00	0.07	0.00	0.05	0.01
FAFH	Cups	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00
Restaurant	Cups	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fast food	Cups	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00
School	Cups	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	Cups	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fruit, total	Cups	1.09	0.02	1.03	0.04	0.93	0.03	0.94	0.03	0.93	0.04
FAH	Cups	0.95	0.02	0.86	0.03	0.80	0.03	0.80	0.03	0.80	0.04
FAFH	Cups	0.14	0.01	0.16	0.01	0.12	0.01	0.15	0.01	0.13	0.01
Restaurant	Cups	0.02	0.00	0.02	0.00	0.02	0.00	0.03	0.01	0.01	0.00
Fast food	Cups	0.03	0.00	0.04	0.01	0.03	0.00	0.03	0.00	0.04	0.00
School	Cups	0.03	0.00	0.04	0.01	0.03	0.00	0.03	0.00	0.03	0.01
Others	Cups	0.06	0.01	0.06	0.01	0.04	0.00	0.05	0.01	0.05	0.01
Fruit, citrus, melon, and berries	Cups	0.20	0.01	0.19	0.02	0.21	0.01	0.23	0.02	0.24	0.02
FAH	Cups	0.18	0.01	0.16	0.01	0.17	0.01	0.19	0.02	0.21	0.02
FAFH	Cups	0.02	0.00	0.04	0.01	0.03	0.00	0.04	0.01	0.03	0.00
Restaurant	Cups	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.00
Fast food	Cups	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00
School	Cups	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	Cups	0.01	0.00	0.02	0.00	0.01	0.00	0.02	0.00	0.02	0.00
Fruit, other	Cups	0.53	0.02	0.49	0.02	0.45	0.02	0.46	0.02	0.45	0.02
FAH	Cups	0.47	0.01	0.43	0.02	0.40	0.02	0.40	0.02	0.40	0.02
FAFH	Cups	0.06	0.01	0.07	0.00	0.05	0.00	0.06	0.01	0.06	0.01
Restaurant	Cups	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Fast food	Cups	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00
School	Cups	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00
Others	Cups	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00
Fruit, juice	Cups	0.36	0.01	0.34	0.02	0.27	0.01	0.26	0.01	0.23	0.01
FAH	Cups	0.30	0.01	0.28	0.02	0.23	0.01	0.21	0.01	0.19	0.01
FAFH	Cups	0.06	0.01	0.06	0.01	0.04	0.00	0.05	0.00	0.04	0.00
Restaurant	Cups	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00
Fast food	Cups	0.02	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.01	0.00
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School	Cups	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00
Others	Cups	0.02	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.01	0.00
Fruit, whole fruit	Cups	0.73	0.02	0.69	0.03	0.66	0.02	0.69	0.04	0.70	0.03
FAH	Cups	0.65	0.01	0.59	0.02	0.57	0.02	0.59	0.03	0.60	0.03
FAFH	Cups	0.08	0.01	0.10	0.01	0.08	0.01	0.10	0.01	0.09	0.01
Restaurant	Cups	0.01	0.00	0.01	0.00	0.01	0.00	0.02	0.01	0.01	0.00
Fast food	Cups	0.01	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00
School	Cups	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00
Others	Cups	0.03	0.01	0.04	0.00	0.03	0.00	0.04	0.01	0.04	0.00
Vegetable, total	Cups	1.41	0.03	1.46	0.04	1.36	0.03	1.40	0.04	1.39	0.04
FAH	Cups	0.97	0.03	0.92	0.04	0.86	0.02	0.92	0.04	0.90	0.04
FAFH	Cups	0.45	0.01	0.54	0.02	0.51	0.01	0.47	0.02	0.49	0.02
Restaurant	Cups	0.15	0.01	0.18	0.01	0.18	0.01	0.16	0.01	0.17	0.01
Fast food	Cups	0.20	0.01	0.24	0.02	0.22	0.01	0.22	0.01	0.23	0.01
School	Cups	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.01	0.00
Others	Cups	0.08	0.01	0.10	0.01	0.09	0.01	0.08	0.01	0.08	0.01
Vegetables, potatoes	Cups	0.35	0.01	0.33	0.01	0.33	0.01	0.35	0.02	0.36	0.01
FAH	Cups	0.22	0.01	0.20	0.01	0.19	0.01	0.22	0.01	0.22	0.01
FAFH	Cups	0.13	0.00	0.13	0.01	0.14	0.01	0.13	0.01	0.14	0.00
Restaurant	Cups	0.04	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04	0.00
Fast food	Cups	0.06	0.00	0.07	0.01	0.07	0.01	0.06	0.00	0.07	0.01
School	Cups	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Others	Cups	0.02	0.00	0.03	0.00	0.02	0.00	0.02	0.00	0.02	0.00
Vegetables, other starchy	Cups	0.08	0.01	0.08	0.01	0.06	0.00	0.07	0.01	0.06	0.00
FAH	Cups	0.06	0.01	0.06	0.01	0.05	0.00	0.06	0.00	0.05	0.00
FAFH	Cups	0.02	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.01	0.00
Restaurant	Cups	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fast food	Cups	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
School	Cups	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	Cups	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Vegetable, tomatoes	Cups	0.27	0.01	0.29	0.01	0.27	0.01	0.26	0.01	0.26	0.01
FAH	Cups	0.18	0.01	0.18	0.01	0.16	0.01	0.16	0.01	0.16	0.01
FAFH	Cups	0.09	0.00	0.11	0.00	0.11	0.00	0.10	0.01	0.09	0.00
Restaurant	Cups	0.03	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03	0.00
Fast food	Cups	0.04	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05	0.00
School	Cups	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	Cups	0.01	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.01	0.00
Vegetable, red and orange	Cups	0.08	0.00	0.09	0.01	0.09	0.01	0.09	0.01	0.09	0.01
FAH	Cups	0.06	0.00	0.07	0.01	0.07	0.00	0.07	0.01	0.07	0.01
FAFH	Cups	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.03	0.00
Restaurant	Cups	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00
Fast food	Cups	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00
School	Cups	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	Cups	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00
Vegetable, dark green	Cups	0.12	0.01	0.14	0.01	0.14	0.01	0.14	0.01	0.14	0.01
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FAH	Cups	0.09	0.01	0.09	0.01	0.11	0.01	0.10	0.01	0.10	0.01
FAFH	Cups	0.03	0.00	0.04	0.01	0.04	0.00	0.04	0.01	0.04	0.00
Restaurant	Cups	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00
Fast food	Cups	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00
School	Cups	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	Cups	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00
Vegetable, others	Cups	0.51	0.02	0.53	0.02	0.47	0.01	0.48	0.02	0.48	0.02
FAH	Cups	0.34	0.02	0.31	0.02	0.29	0.01	0.31	0.02	0.30	0.02
FAFH	Cups	0.17	0.01	0.21	0.01	0.18	0.01	0.17	0.01	0.18	0.01
Restaurant	Cups	0.06	0.00	0.08	0.01	0.07	0.01	0.06	0.01	0.07	0.01
Fast food	Cups	0.07	0.00	0.09	0.01	0.08	0.00	0.08	0.00	0.08	0.01
School	Cups	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Others	Cups	0.03	0.00	0.04	0.00	0.03	0.00	0.03	0.00	0.03	0.00
Legumes	Cups	0.10	0.01	0.12	0.01	0.11	0.01	0.11	0.01	0.11	0.01
FAH	Cups	0.08	0.01	0.08	0.01	0.07	0.00	0.08	0.01	0.07	0.01
FAFH	Cups	0.02	0.00	0.04	0.00	0.03	0.00	0.03	0.00	0.03	0.00
Restaurant	Cups	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00
Fast food	Cups	0.01	0.00	0.02	0.00	0.01	0.00	0.02	0.00	0.01	0.00
School	Cups	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	Cups	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00
Grains, total	Ounces	6.57	0.08	6.81	0.07	6.61	0.06	6.44	0.05	6.64	0.11
FAH	Ounces	4.51	0.06	4.36	0.11	4.20	0.07	4.15	0.06	4.28	0.13
FAFH	Ounces	2.07	0.06	2.44	0.10	2.42	0.06	2.29	0.06	2.36	0.10
Restaurant	Ounces	0.50	0.03	0.54	0.04	0.55	0.03	0.57	0.03	0.54	0.04
Fast food	Ounces	1.07	0.04	1.28	0.08	1.30	0.04	1.21	0.05	1.32	0.07
School	Ounces	0.14	0.02	0.14	0.02	0.15	0.01	0.12	0.01	0.11	0.02
Others	Ounces	0.35	0.02	0.48	0.03	0.42	0.02	0.39	0.02	0.40	0.02
Grains, non-whole grains	Ounces	5.78	0.09	5.89	0.08	5.74	0.07	5.53	0.06	5.79	0.09
FAH	Ounces	3.78	0.06	3.57	0.09	3.47	0.07	3.39	0.05	3.55	0.10
FAFH	Ounces	2.00	0.06	2.31	0.10	2.27	0.06	2.14	0.06	2.24	0.10
Restaurant	Ounces	0.48	0.03	0.51	0.04	0.52	0.03	0.54	0.03	0.52	0.04
Fast food	Ounces	1.05	0.04	1.24	0.08	1.24	0.04	1.16	0.05	1.28	0.07
School	Ounces	0.13	0.02	0.13	0.01	0.11	0.01	0.09	0.01	0.08	0.01
Others	Ounces	0.33	0.02	0.43	0.03	0.40	0.02	0.35	0.02	0.37	0.02
Grains, whole grains	Ounces	0.79	0.03	0.92	0.04	0.87	0.03	0.91	0.04	0.84	0.05
FAH	Ounces	0.73	0.03	0.79	0.04	0.73	0.03	0.76	0.04	0.73	0.04
FAFH	Ounces	0.06	0.01	0.13	0.01	0.15	0.01	0.15	0.01	0.12	0.01
Restaurant	Ounces	0.02	0.00	0.03	0.00	0.03	0.00	0.04	0.01	0.02	0.00
Fast food	Ounces	0.02	0.00	0.04	0.01	0.05	0.01	0.04	0.01	0.04	0.01
School	Ounces	0.01	0.00	0.01	0.00	0.03	0.00	0.04	0.00	0.03	0.01
Others	Ounces	0.02	0.00	0.05	0.00	0.03	0.00	0.04	0.00	0.02	0.00
Protein foods, total	Ounces	5.74	0.11	5.70	0.09	5.83	0.10	5.80	0.11	5.84	0.11
FAH	Ounces	3.87	0.09	3.57	0.09	3.72	0.07	3.79	0.11	3.80	0.08
FAFH	Ounces	1.87	0.05	2.13	0.08	2.11	0.06	2.00	0.09	2.04	0.09
Restaurant	Ounces	0.59	0.02	0.64	0.04	0.69	0.04	0.68	0.05	0.67	0.05
Fast food	Ounces	0.88	0.04	0.94	0.08	0.94	0.04	0.90	0.05	0.97	0.05
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School	Ounces	0.07	0.01	0.09	0.02	0.08	0.01	0.07	0.01	0.04	0.01
Others	Ounces	0.32	0.02	0.46	0.03	0.40	0.03	0.35	0.03	0.35	0.03
Protein foods, meats, poultry, and fish	Ounces	4.61	0.10	4.44	0.09	4.54	0.11	4.46	0.11	4.47	0.09
FAH	Ounces	2.92	0.08	2.57	0.08	2.65	0.08	2.69	0.09	2.69	0.08
FAFH	Ounces	1.68	0.05	1.87	0.08	1.89	0.06	1.77	0.08	1.78	0.09
Restaurant	Ounces	0.53	0.02	0.56	0.04	0.61	0.04	0.61	0.05	0.59	0.05
Fast food	Ounces	0.83	0.04	0.87	0.07	0.88	0.04	0.83	0.05	0.89	0.05
School	Ounces	0.06	0.01	0.08	0.02	0.07	0.01	0.06	0.01	0.04	0.01
Others	Ounces	0.26	0.02	0.36	0.02	0.33	0.03	0.27	0.03	0.26	0.02
Protein foods, meats (beef, veal, pork, lamb, game)	Ounces	1.52	0.06	1.56	0.07	1.43	0.04	1.49	0.04	1.45	0.08
FAH	Ounces	0.96	0.06	0.86	0.05	0.82	0.03	0.87	0.03	0.87	0.05
FAFH	Ounces	0.57	0.01	0.70	0.04	0.60	0.03	0.62	0.03	0.58	0.05
Restaurant	Ounces	0.17	0.01	0.20	0.02	0.20	0.02	0.23	0.02	0.20	0.03
Fast food	Ounces	0.26	0.01	0.32	0.03	0.28	0.01	0.28	0.02	0.28	0.03
School	Ounces	0.02	0.00	0.02	0.01	0.02	0.00	0.02	0.00	0.01	0.00
Others	Ounces	0.11	0.01	0.15	0.01	0.11	0.01	0.09	0.01	0.09	0.01
Protein foods, poultry	Ounces	1.44	0.05	1.37	0.09	1.53	0.07	1.48	0.07	1.56	0.07
FAH	Ounces	0.80	0.04	0.73	0.05	0.82	0.04	0.83	0.04	0.81	0.06
FAFH	Ounces	0.64	0.03	0.64	0.05	0.71	0.04	0.65	0.06	0.74	0.04
Restaurant	Ounces	0.18	0.01	0.19	0.02	0.22	0.02	0.20	0.03	0.22	0.03
Fast food	Ounces	0.37	0.03	0.32	0.03	0.38	0.03	0.35	0.03	0.42	0.03
School	Ounces	0.02	0.00	0.03	0.01	0.03	0.00	0.02	0.00	0.02	0.00
Others	Ounces	0.06	0.01	0.10	0.01	0.09	0.02	0.08	0.01	0.09	0.01
Protein foods, high Omega-3 fatty fish	Ounces	0.14	0.01	0.12	0.01	0.16	0.02	0.15	0.03	0.12	0.02
FAH	Ounces	0.11	0.01	0.08	0.01	0.11	0.02	0.10	0.03	0.10	0.01
FAFH	Ounces	0.03	0.00	0.04	0.01	0.05	0.01	0.05	0.01	0.03	0.01
Restaurant	Ounces	0.02	0.00	0.02	0.01	0.03	0.00	0.03	0.01	0.02	0.01
Fast food	Ounces	0.00	0.00	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00
School	Ounces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	Ounces	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Protein foods, low Omega-3 fatty fish	Ounces	0.44	0.04	0.39	0.04	0.44	0.07	0.37	0.05	0.40	0.03
FAH	Ounces	0.26	0.02	0.24	0.03	0.25	0.04	0.21	0.03	0.23	0.03
FAFH	Ounces	0.18	0.02	0.15	0.02	0.18	0.02	0.16	0.03	0.17	0.02
Restaurant	Ounces	0.09	0.01	0.09	0.01	0.10	0.02	0.10	0.03	0.10	0.02
Fast food	Ounces	0.06	0.01	0.04	0.01	0.05	0.01	0.04	0.00	0.05	0.01
School	Ounces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	Ounces	0.03	0.01	0.02	0.00	0.03	0.01	0.02	0.00	0.02	0.00
Protein foods, cured meat	Ounces	1.04	0.04	0.98	0.04	0.96	0.04	0.96	0.04	0.92	0.04
FAH	Ounces	0.79	0.04	0.64	0.04	0.64	0.03	0.67	0.03	0.67	0.03
FAFH	Ounces	0.26	0.02	0.34	0.02	0.33	0.03	0.28	0.02	0.25	0.02
Restaurant	Ounces	0.06	0.01	0.06	0.01	0.06	0.01	0.05	0.01	0.04	0.01
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Fast food	Ounces	0.13	0.01	0.18	0.02	0.17	0.01	0.14	0.01	0.14	0.01
School	Ounces	0.01	0.00	0.02	0.01	0.02	0.00	0.01	0.00	0.01	0.00
Others	Ounces	0.05	0.00	0.07	0.01	0.09	0.02	0.07	0.01	0.07	0.01
Protein foods, organ meats	Ounces	0.01	0.00	0.02	0.01	0.02	0.01	0.01	0.00	0.01	0.01
FAH	Ounces	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00
FAFH	Ounces	0.01	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01
Restaurant	Ounces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Fast food	Ounces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
School	Ounces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	Ounces	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Protein foods, eggs	Ounces	0.47	0.02	0.49	0.01	0.51	0.02	0.53	0.02	0.57	0.02
FAH	Ounces	0.35	0.02	0.34	0.02	0.38	0.02	0.39	0.02	0.42	0.02
FAFH	Ounces	0.11	0.01	0.15	0.01	0.13	0.01	0.14	0.01	0.15	0.01
Restaurant	Ounces	0.05	0.00	0.06	0.01	0.06	0.01	0.06	0.01	0.06	0.01
Fast food	Ounces	0.03	0.00	0.05	0.01	0.04	0.00	0.05	0.01	0.06	0.01
School	Ounces	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Others	Ounces	0.03	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03	0.00
Protein foods, soy products	Ounces	0.07	0.00	0.07	0.01	0.07	0.01	0.10	0.01	0.09	0.01
FAH	Ounces	0.06	0.00	0.05	0.01	0.06	0.01	0.08	0.01	0.07	0.01
FAFH	Ounces	0.01	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.01	0.00
Restaurant	Ounces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fast food	Ounces	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
School	Ounces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	Ounces	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Protein foods, nuts and seeds	Ounces	0.60	0.02	0.70	0.05	0.71	0.05	0.71	0.06	0.72	0.05
FAH	Ounces	0.54	0.02	0.61	0.04	0.62	0.04	0.63	0.06	0.63	0.05
FAFH	Ounces	0.06	0.01	0.09	0.01	0.08	0.01	0.08	0.01	0.09	0.01
Restaurant	Ounces	0.01	0.00	0.01	0.00	0.02	0.01	0.01	0.00	0.02	0.01
Fast food	Ounces	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00
School	Ounces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	Ounces	0.03	0.01	0.06	0.01	0.04	0.01	0.04	0.01	0.05	0.01

SE of mean = Standard error of the mean, FAH = food at home, FAFH= food away from home.

Source: USDA, Economic Research Service using USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data, and 1989–1991, 1994–96, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2003–04, 2005–06, 2007–08, 2009–10, 2011–2012, 2013–14, 2015–16, and 2017–18 What We Eat in America, National Health and Nutrition Examination Survey data.

Table 7a

**Daily food group intake and share by food source, U.S. consumers aged 2 and above, 1977–2008**

		1977–78		1989–91		1994–98		2003–04		2005–06		2007–08	
Variable	Measure- ment	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean
U.S. consumers aged 2 and above													
Energy	Calories	1,806.88	12.39	1,847.48	18.90	2,033.93	16.20	2,194.78	15.59	2,157.35	29.02	2,069.79	24.55
FAH	Percent of total	81.81	0.42	74.42	0.66	69.97	0.53	68.64	0.60	68.19	0.82	69.47	0.60
FAFH	Percent of total	18.19	0.42	25.58	0.66	30.03	0.53	31.36	0.60	31.81	0.82	30.53	0.60
Restaurant	Percent of total	3.27	0.20	6.02	0.41	7.82	0.24	8.55	0.34	8.63	0.50	8.54	0.47
Fast food	Percent of total	5.92	0.21	13.11	0.52	12.86	0.36	16.35	0.74	15.32	0.62	14.15	0.63
School	Percent of total	3.35	0.14	2.41	0.24	2.32	0.11	1.87	0.23	1.77	0.19	2.09	0.20
Others	Percent of total	5.66	0.21	4.04	0.17	7.03	0.29	4.58	0.25	6.09	0.36	5.76	0.35
Added sugars	Teaspoons	14.53	0.28	15.33	0.31	19.74	0.29	20.98	0.41	19.43	0.49	18.91	0.57
FAH	Percent of total	80.02	0.93	74.52	1.25	71.27	0.96	73.62	1.49	72.76	1.60	74.20	1.19
FAFH	Percent of total	19.98	0.93	25.48	1.26	28.73	0.97	26.38	1.48	27.24	1.59	25.80	1.18
Restaurant	Percent of total	2.86	0.33	4.90	0.74	5.99	0.43	6.09	0.83	5.89	0.82	5.43	0.71
Fast food	Percent of total	7.63	0.54	13.34	1.07	12.77	0.70	13.11	1.55	12.24	1.25	11.61	0.87
School	Percent of total	3.19	0.29	2.24	0.50	2.03	0.22	1.56	0.43	1.46	0.34	1.77	0.37
Others	Percent of total	6.29	0.57	5.00	0.56	7.94	0.72	5.62	0.72	7.64	0.85	6.98	1.05
Discretion- ary fats and oils	Grams	58.46	0.76	57.25	0.77	60.64	0.68	66.82	0.63	63.31	1.08	60.27	0.98
FAH	Percent of total	80.97	0.89	72.57	1.35	66.76	1.22	65.14	1.42	64.26	1.81	65.53	1.55
FAFH	Percent of total	19.03	0.89	27.43	1.36	33.24	1.21	34.86	1.42	35.74	1.81	34.47	1.56
Restaurant	Percent of total	3.54	0.47	6.60	0.88	8.82	0.58	9.53	0.70	9.69	1.23	9.48	1.07
Fast food	Percent of total	6.14	0.47	14.27	1.11	14.49	0.79	18.46	1.73	17.65	1.31	16.69	1.65
School	Percent of total	3.77	0.32	2.65	0.51	2.62	0.26	1.99	0.54	1.92	0.46	2.21	0.44
Others	Percent of total	5.58	0.44	3.92	0.32	7.31	0.66	4.87	0.53	6.48	0.80	6.09	0.87
Discretion- ary fats	Grams	49.87	0.52	45.22	0.58	45.99	0.56	47.58	0.51	41.47	0.78	39.40	0.76
FAH	Percent of total	81.15	0.87	72.42	1.41	66.45	1.25	64.72	1.48	64.55	1.54	65.54	1.50
FAFH	Percent of total	18.85	0.86	27.58	1.41	33.55	1.24	35.28	1.48	35.45	1.54	34.46	1.50
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Restaurant	Percent of total	3.45	0.44	6.53	0.90	8.51	0.59	9.40	0.81	9.08	1.30	9.12	0.92
Fast food	Percent of total	6.13	0.47	14.31	1.10	14.89	0.83	18.94	1.72	17.47	1.14	16.46	1.63
School	Percent of total	3.82	0.31	2.78	0.57	2.71	0.27	2.09	0.56	2.00	0.47	2.33	0.49
Others	Percent of total	5.45	0.43	3.95	0.32	7.43	0.67	4.85	0.64	6.90	0.84	6.55	0.95
Discretionary oils	Grams	8.59	0.29	12.03	0.31	14.65	0.28	19.24	0.45	21.84	0.40	20.86	0.48
FAH	Percent of total	77.97	1.01	71.45	1.53	67.51	1.21	67.24	1.39	62.76	2.48	64.98	1.91
FAFH	Percent of total	22.03	1.02	28.55	1.53	32.49	1.21	32.76	1.39	37.24	2.49	35.02	1.91
Restaurant	Percent of total	4.45	0.60	6.79	0.90	9.31	0.65	9.17	0.78	11.02	1.36	10.55	1.30
Fast food	Percent of total	6.64	0.61	15.27	1.34	13.41	0.88	16.46	1.82	17.96	1.86	16.59	1.96
School	Percent of total	4.23	0.53	2.39	0.51	2.51	0.30	1.78	0.53	1.83	0.51	2.09	0.38
Others	Percent of total	6.70	0.64	4.11	0.47	7.27	0.63	5.35	0.57	6.43	0.85	5.79	0.84
Dairy, total	Cups	1.59	0.04	1.59	0.03	1.56	0.02	1.76	0.05	1.80	0.05	1.70	0.05
FAH	Percent of total	82.86	0.69	76.93	1.38	72.30	0.95	70.47	1.23	70.88	1.51	71.88	1.55
FAFH	Percent of total	17.14	0.70	23.07	1.39	27.70	0.95	29.53	1.24	29.12	1.51	28.12	1.55
Restaurant	Percent of total	2.58	0.39	4.76	0.77	6.19	0.50	7.20	0.88	6.68	1.10	6.87	0.94
Fast food	Percent of total	5.07	0.44	11.70	1.14	12.33	0.69	16.17	1.37	14.81	0.92	13.39	1.36
School	Percent of total	5.01	0.40	3.47	0.70	3.74	0.37	2.80	0.79	2.58	0.55	3.23	0.77
Others	Percent of total	4.48	0.37	3.14	0.36	5.44	0.53	3.37	0.63	5.05	0.65	4.62	0.82
Dairy, fluid milk	Cups	1.27	0.03	1.12	0.03	1.02	0.01	1.03	0.04	1.04	0.04	0.95	0.03
FAH	Percent of total	84.41	0.56	81.73	1.25	79.49	0.94	80.54	1.62	79.10	1.45	79.91	1.00
FAFH	Percent of total	15.59	0.55	18.27	1.24	20.51	0.94	19.46	1.62	20.90	1.46	20.09	1.00
Restaurant	Percent of total	2.00	0.25	3.67	0.73	4.43	0.39	4.93	0.76	4.92	0.93	4.91	0.66
Fast food	Percent of total	4.03	0.29	7.79	0.99	6.39	0.45	8.22	1.41	7.66	0.95	6.25	0.77
School	Percent of total	5.31	0.42	3.97	0.85	4.28	0.43	3.17	0.93	2.78	0.59	3.64	0.97
Others	Percent of total	4.24	0.40	2.83	0.35	5.42	0.66	3.14	0.77	5.55	0.76	5.29	0.79
Dairy, cheese	Cups	0.30	0.01	0.45	0.01	0.50	0.01	0.69	0.02	0.70	0.03	0.68	0.03
FAH	Percent of total	74.74	1.41	63.58	2.39	56.46	1.54	54.66	2.35	56.71	2.06	57.85	2.32
FAFH	Percent of total	25.26	1.42	36.42	2.39	43.54	1.54	45.34	2.34	43.29	2.05	42.15	2.33
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Restaurant	Percent of total	5.02	0.92	7.40	1.10	10.53	0.99	10.98	0.91	10.37	1.58	10.81	1.53
Fast food	Percent of total	8.95	0.92	21.18	2.00	22.74	1.25	27.19	2.30	24.75	1.90	23.08	2.22
School	Percent of total	5.04	0.68	4.06	1.17	3.94	0.45	2.79	0.89	2.62	0.75	2.97	0.56
Others	Percent of total	6.26	0.47	3.78	0.60	6.33	0.61	4.38	0.95	5.54	0.91	5.29	1.15
Dairy, yogurt	Cups	0.01	0.00	0.02	0.00	0.03	0.01	0.03	0.01	0.05	0.01	0.05	0.00
FAH	Percent of total	88.60	4.38	84.80	8.59	95.64	1.95	91.90	3.92	87.02	2.31	89.01	3.47
FAFH	Percent of total	11.40	4.38	15.20	8.59	4.36	1.96	8.10	3.92	12.98	2.32	10.99	3.48
Restaurant	Percent of total	1.17	2.00	0.68	0.90	0.68	1.00	0.00	0.00	3.61	2.33	2.23	1.94
Fast food	Percent of total	6.12	4.74	7.91	5.31	1.04	0.88	4.23	4.38	4.60	3.14	5.09	3.13
School	Percent of total	0.45	0.68	1.01	1.06	0.29	0.30	3.64	3.27	0.91	1.49	1.06	0.75
Others	Percent of total	3.65	1.84	5.60	4.41	2.36	0.99	0.24	0.35	3.86	3.89	2.61	2.38
Fruit, total	Cups	0.80	0.02	0.90	0.02	1.03	0.02	1.00	0.05	0.97	0.03	1.00	0.05
FAH	Percent of total	85.61	0.81	80.63	1.51	79.06	1.00	82.52	1.71	82.64	1.65	83.01	2.22
FAFH	Percent of total	14.39	0.81	19.37	1.51	20.94	0.99	17.48	1.71	17.36	1.65	16.99	2.22
Restaurant	Percent of total	1.93	0.32	3.44	0.74	5.42	0.59	4.57	0.60	4.29	0.89	3.62	0.68
Fast food	Percent of total	3.52	0.41	8.08	1.11	5.43	0.68	5.89	1.37	4.78	0.75	4.58	1.24
School	Percent of total	4.11	0.56	3.84	0.80	3.33	0.42	2.54	0.67	2.76	0.71	3.05	0.77
Others	Percent of total	4.83	0.41	4.01	0.56	6.75	0.64	4.48	0.83	5.53	1.04	5.74	1.11
Fruit, citrus, melon, and berries	Cups	0.37	0.01	0.41	0.01	0.48	0.01	0.42	0.03	0.17	0.01	0.18	0.02
FAH	Percent of total	85.94	0.84	79.00	1.85	76.75	1.26	80.44	1.90	84.56	2.45	82.09	2.69
FAFH	Percent of total	14.06	0.84	21.00	1.85	23.25	1.25	19.56	1.91	15.44	2.44	17.91	2.68
Fast food	Percent of total	2.31	0.42	4.52	0.86	7.05	0.73	6.37	1.37	5.35	1.33	5.21	1.44
School	Percent of total	3.90	0.35	9.69	1.28	6.85	0.88	6.78	1.43	2.13	1.04	4.53	1.11
Others	Percent of total	2.62	0.39	2.65	0.96	2.46	0.43	2.26	0.68	2.02	1.15	1.83	0.77
Others	Percent of total	5.23	0.51	4.14	0.79	6.89	0.65	4.15	0.82	5.93	1.80	6.34	1.71
Fruit, other	Cups	0.43	0.01	0.50	0.01	0.55	0.01	0.58	0.03	0.41	0.02	0.50	0.03
FAH	Percent of total	84.71	1.23	82.24	1.64	81.35	1.10	83.71	1.74	84.65	1.30	84.38	2.05
FAFH	Percent of total	15.29	1.22	17.76	1.64	18.65	1.09	16.29	1.75	15.35	1.30	15.62	2.05

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Restaurant	Percent of total	1.48	0.27	2.18	0.83	3.84	0.56	3.41	0.72	3.28	0.95	2.63	0.69
Fast food	Percent of total	3.06	0.47	6.66	1.23	3.71	0.43	5.00	1.23	3.70	0.97	4.23	1.49
School	Percent of total	5.73	0.90	4.70	0.85	4.12	0.53	2.98	0.87	2.67	0.63	3.20	0.80
Others	Percent of total	5.03	0.43	4.22	0.60	6.97	0.73	4.90	0.94	5.70	1.30	5.56	1.39
Fruit, juice	Cups	0.29	0.01	0.38	0.01	0.44	0.01	0.46	0.03	0.39	0.02	0.33	0.02
FAH	Percent of total	86.76	0.73	79.71	1.74	76.63	1.21	80.19	2.41	78.39	2.49	79.26	1.57
FAFH	Percent of total	13.24	0.73	20.29	1.74	23.37	1.22	19.81	2.41	21.61	2.50	20.74	1.56
Restaurant	Percent of total	2.36	0.46	4.68	0.95	7.01	0.71	5.85	1.13	6.09	1.44	5.77	1.37
Fast food	Percent of total	3.77	0.33	9.05	1.23	7.18	0.83	6.86	1.48	6.47	1.63	5.57	1.11
School	Percent of total	2.18	0.32	2.73	1.00	2.87	0.44	2.65	0.73	3.19	0.95	4.01	1.41
Others	Percent of total	4.93	0.50	3.83	0.68	6.31	0.73	4.45	1.27	5.86	1.16	5.38	0.73
Fruit, whole fruit	Cups	0.51	0.01	0.52	0.01	0.59	0.01	0.55	0.03	0.58	0.02	0.67	0.03
FAH	Percent of total	84.21	1.36	81.51	1.61	81.14	1.00	84.42	1.39	84.99	1.35	84.11	2.34
FAFH	Percent of total	15.79	1.36	18.49	1.62	18.86	0.99	15.58	1.39	15.01	1.35	15.89	2.35
Restaurant	Percent of total	1.65	0.27	2.13	0.64	4.26	0.54	3.66	0.83	3.75	1.03	2.89	0.58
Fast food	Percent of total	3.16	0.50	7.19	1.34	3.33	0.53	3.95	0.89	3.16	0.76	4.32	1.31
School	Percent of total	6.04	1.04	4.83	0.91	4.07	0.57	2.99	1.04	2.75	0.80	2.98	0.82
Others	Percent of total	4.94	0.47	4.35	0.61	7.19	0.68	4.97	1.04	5.36	1.07	5.71	1.40
Vegetable, total	Cups	1.42	0.02	1.43	0.02	1.57	0.02	1.49	0.02	1.45	0.03	1.38	0.04
FAH	Percent of total	79.46	0.98	68.90	1.76	62.56	1.51	58.33	1.39	57.59	2.53	60.44	2.09
FAFH	Percent of total	20.54	0.98	31.10	1.76	37.44	1.52	41.67	1.39	42.41	2.53	39.56	2.09
Restaurant	Percent of total	4.26	0.50	7.87	1.00	11.04	0.74	13.46	1.00	12.83	1.27	12.50	1.28
Fast food	Percent of total	6.31	0.54	16.73	1.42	16.51	1.05	22.12	1.91	21.44	2.12	18.94	2.05
School	Percent of total	3.84	0.42	2.72	0.53	2.63	0.31	1.97	0.69	1.91	0.50	2.35	0.69
Others	Percent of total	6.13	0.48	3.78	0.50	7.26	0.62	4.11	0.40	6.24	1.02	5.77	0.85
Vegetables, potatoes	Cups	0.43	0.01	0.43	0.01	0.45	0.01	0.39	0.02	0.35	0.02	0.36	0.01
FAH	Percent of total	75.99	1.17	63.73	2.76	56.88	1.96	56.55	2.65	55.10	5.43	57.25	3.94
FAFH	Percent of total	24.01	1.17	36.27	2.75	43.12	1.96	43.45	2.65	44.90	5.44	42.75	3.94
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Restaurant	Percent of total	4.95	0.69	8.70	1.63	11.09	1.06	12.00	1.87	12.40	2.08	12.98	2.10
Fast food	Percent of total	8.09	0.72	20.45	2.15	20.99	1.43	25.09	3.02	24.67	4.19	21.26	3.28
School	Percent of total	4.41	0.58	3.35	0.82	3.43	0.54	1.86	0.78	1.54	0.53	2.59	1.06
Others	Percent of total	6.56	0.53	3.76	0.73	7.61	0.79	4.51	0.87	6.29	1.15	5.91	1.49
Vegetables, other starchy	Cups	0.15	0.01	0.12	0.01	0.11	0.01	0.07	0.01	0.08	0.01	0.08	0.01
FAH	Percent of total	83.38	0.91	77.78	3.88	73.53	1.80	70.72	4.15	66.93	4.68	68.81	4.35
FAFH	Percent of total	16.62	0.91	22.22	3.88	26.47	1.81	29.28	4.15	33.07	4.68	31.19	4.35
Restaurant	Percent of total	2.68	0.45	6.29	1.75	9.60	1.54	16.17	3.54	14.00	2.86	13.45	2.50
Fast food	Percent of total	2.75	0.48	8.01	2.33	5.71	1.13	7.17	2.09	7.95	2.16	8.26	2.79
School	Percent of total	5.18	0.57	4.16	2.44	2.21	0.49	1.30	0.87	2.11	0.99	2.14	1.15
Others	Percent of total	6.01	0.74	3.76	0.99	8.95	1.38	4.64	1.55	9.00	2.75	7.33	2.37
Vegetable, tomatoes	Cups	0.23	0.01	0.25	0.01	0.29	0	0.37	0.02	0.32	0.01	0.29	0.01
FAH	Percent of total	74.36	1.04	63.50	2.14	56.86	1.83	52.06	2.60	50.67	3.00	54.58	2.30
FAFH	Percent of total	25.64	1.04	36.50	2.14	43.14	1.83	47.94	2.59	49.33	3.00	45.42	2.31
Restaurant	Percent of total	5.38	0.71	9.09	1.13	10.91	0.92	13.38	1.25	12.77	1.87	11.60	1.69
Fast food	Percent of total	8.85	0.67	19.83	1.91	21.76	1.34	28.08	2.93	27.60	2.77	25.49	2.16
School	Percent of total	5.54	0.62	3.71	1.10	3.53	0.44	2.56	0.82	2.67	0.85	2.95	0.69
Others	Percent of total	5.87	0.47	3.86	0.69	6.93	0.70	3.92	0.66	6.30	1.27	5.38	0.95
Vegetable, red and orange	Cups	0.08	0.01	0.08	0.01	0.08	0.01	0.06	0.01	0.07	0.01	0.07	0.01
FAH	Percent of total	78.83	1.34	71.62	2.80	69.48	1.90	63.33	3.80	63.79	2.63	66.89	4.22
FAFH	Percent of total	21.17	1.35	28.38	2.81	30.52	1.91	36.67	3.79	36.21	2.63	33.11	4.22
Restaurant	Percent of total	5.30	0.59	9.27	1.74	12.01	1.36	18.48	2.88	15.08	2.30	13.93	2.11
Fast food	Percent of total	4.99	0.53	11.31	1.91	7.43	1.29	9.90	2.29	8.99	2.27	9.19	3.05
School	Percent of total	4.73	0.82	3.35	0.98	2.61	0.61	2.54	1.33	1.75	0.68	1.84	0.88
Others	Percent of total	6.16	0.81	4.46	0.92	8.48	0.88	5.75	1.58	10.39	2.96	8.14	1.55
Vegetable, dark green	Cups	0.05	0.01	0.07	0.01	0.09	0.01	0.08	0.01	0.11	0.01	0.11	0.01
FAH	Percent of total	84.61	1.89	75.34	3.58	67.49	2.98	63.02	3.39	61.21	4.00	63.21	4.34
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FAFH	Percent of total	15.39	1.89	24.66	3.58	32.51	2.98	36.98	3.39	38.79	4.00	36.79	4.34
Restaurant	Percent of total	4.24	1.21	8.91	2.45	15.48	2.16	21.28	3.02	20.83	2.46	18.84	3.17
Fast food	Percent of total	2.98	0.83	8.56	2.16	6.62	1.19	9.05	2.61	8.38	2.01	9.11	1.93
School	Percent of total	2.33	0.99	2.06	1.00	1.68	0.54	1.19	0.81	1.03	0.61	0.59	0.40
Others	Percent of total	5.84	1.29	5.13	1.89	8.74	1.63	5.46	1.92	8.55	2.98	8.25	2.25
Vegetable, others	Cups	0.48	0.01	0.48	0.01	0.55	0.01	0.52	0.01	0.52	0.02	0.47	0.02
FAH	Percent of total	77.11	0.91	66.18	1.88	59.73	1.58	55.46	1.92	54.16	2.72	58.15	2.48
FAFH	Percent of total	22.89	0.91	33.82	1.88	40.27	1.58	44.54	1.91	45.84	2.71	41.85	2.48
Restaurant	Percent of total	4.84	0.56	8.37	1.01	11.77	0.88	14.68	1.30	14.15	1.79	14.29	1.47
Fast food	Percent of total	7.10	0.57	18.74	1.62	18.14	1.20	23.83	2.24	23.20	2.26	19.90	2.87
School	Percent of total	4.52	0.59	2.78	0.77	2.81	0.39	1.90	0.68	1.78	0.45	1.75	0.50
Others	Percent of total	6.44	0.53	3.93	0.54	7.55	0.68	4.12	0.58	6.71	1.00	5.90	0.91
Legumes	Cups	0.10	0.01	0.09	0.01	0.10	0.01	0.10	0.01	0.09	0.01	0.10	0.01
FAH	Percent of total	81.88	2.83	74.04	4.29	65.32	3.15	63.54	5.50	58.91	3.98	65.75	5.35
FAFH	Percent of total	18.12	2.83	25.96	4.28	34.68	3.15	36.46	5.50	41.09	3.97	34.25	5.34
Restaurant	Percent of total	3.00	0.97	5.94	1.98	11.01	1.50	13.42	3.77	14.41	3.70	12.80	4.42
Fast food	Percent of total	4.54	1.19	12.95	3.41	12.84	1.92	17.18	3.24	16.65	3.73	13.04	4.43
School	Percent of total	5.15	1.08	2.74	1.03	2.35	0.66	1.19	0.59	0.89	0.56	0.78	0.55
Others	Percent of total	5.43	1.15	4.33	1.46	8.48	1.50	4.67	1.92	9.13	2.69	7.64	2.71
Grains, total	Ounces	5.20	0.03	6.09	0.08	6.67	0.05	6.91	0.10	6.71	0.10	6.37	0.09
FAH	Percent of total	81.99	0.93	74.45	1.31	70.15	1.17	66.33	1.38	65.70	1.76	67.42	1.34
FAFH	Percent of total	18.01	0.93	25.55	1.32	29.85	1.17	33.67	1.38	34.30	1.76	32.58	1.35
Restaurant	Percent of total	3.18	0.42	5.70	0.77	7.30	0.48	8.86	0.67	9.14	1.14	8.80	1.14
Fast food	Percent of total	6.21	0.50	13.95	1.06	13.77	0.82	18.39	1.77	17.05	1.15	16.19	1.58
School	Percent of total	3.39	0.30	2.35	0.45	2.28	0.25	1.96	0.53	1.86	0.43	2.11	0.38
Others	Percent of total	5.23	0.45	3.56	0.35	6.50	0.55	4.47	0.57	6.25	0.85	5.47	0.73
Grains, non-whole grains	Ounces	4.69	0.04	5.44	0.08	5.93	0.05	6.31	0.09	6.03	0.10	5.73	0.07
FAH	Percent of total	80.93	1.04	73.13	1.39	68.62	1.22	64.56	1.50	63.39	1.76	65.56	1.26

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FAFH	Percent of total	19.07	1.04	26.87	1.39	31.38	1.21	35.44	1.50	36.61	1.76	34.44	1.27
Restaurant	Percent of total	3.36	0.45	6.04	0.82	7.81	0.55	9.40	0.70	9.82	1.21	9.40	1.26
Fast food	Percent of total	6.57	0.55	14.60	1.12	14.49	0.85	19.34	1.89	18.17	1.10	17.14	1.59
School	Percent of total	3.64	0.31	2.49	0.47	2.40	0.26	2.02	0.53	1.94	0.45	2.18	0.38
Others	Percent of total	5.50	0.48	3.73	0.36	6.67	0.56	4.68	0.59	6.68	0.96	5.72	0.74
Grains, whole grains	Ounces	0.51	0.02	0.64	0.02	0.75	0.02	0.59	0.03	0.68	0.03	0.64	0.04
FAH	Percent of total	91.08	0.54	86.10	1.43	82.62	1.19	85.05	2.50	86.85	1.86	87.80	2.24
FAFH	Percent of total	8.92	0.55	13.90	1.43	17.38	1.18	14.95	2.51	13.15	1.85	12.20	2.25
Restaurant	Percent of total	1.85	0.29	3.49	0.75	3.95	0.57	3.72	1.01	2.99	0.73	2.70	0.84
Fast food	Percent of total	2.20	0.38	6.16	0.87	4.83	0.80	4.96	1.53	3.76	0.85	3.81	1.17
School	Percent of total	1.26	0.33	1.22	0.40	1.92	0.37	1.63	0.66	1.44	0.50	1.73	0.59
Others	Percent of total	3.62	0.57	3.04	0.62	6.67	0.80	4.65	1.14	4.96	1.06	3.97	0.82
Protein foods, total	Ounces	6.01	0.07	5.16	0.05	5.19	0.06	5.58	0.12	5.79	0.10	5.58	0.10
FAH	Percent of total	81.34	0.97	72.07	1.62	65.64	1.46	62.55	1.45	62.59	2.10	63.67	1.69
FAFH	Percent of total	18.66	0.97	27.93	1.62	34.36	1.47	37.45	1.45	37.41	2.10	36.33	1.69
Restaurant	Percent of total	3.79	0.46	7.00	0.95	9.84	0.59	11.54	1.05	11.15	1.35	11.26	1.25
Fast food	Percent of total	6.10	0.52	15.01	1.26	14.88	0.97	19.48	1.91	18.36	1.60	17.20	2.09
School	Percent of total	3.10	0.37	2.13	0.44	2.20	0.27	1.90	0.51	1.77	0.43	2.03	0.39
Others	Percent of total	5.67	0.42	3.79	0.40	7.45	0.68	4.52	0.69	6.13	0.90	5.84	0.96
Protein foods, meats, poultry, and fish	Ounces	5.14	0.07	4.42	0.05	4.43	0.05	4.50	0.12	4.66	0.08	4.49	0.07
FAH	Percent of total	80.31	1.04	70.28	1.66	63.20	1.60	58.50	1.67	58.15	2.52	59.57	2.11
FAFH	Percent of total	19.69	1.04	29.72	1.65	36.80	1.61	41.50	1.67	41.85	2.52	40.43	2.11
Restaurant	Percent of total	3.94	0.49	7.31	0.97	10.52	0.76	12.70	1.27	12.49	1.48	12.46	1.43
Fast food	Percent of total	6.61	0.56	16.38	1.36	16.48	1.14	22.44	2.23	21.57	1.98	19.81	2.49
School	Percent of total	3.28	0.40	2.16	0.47	2.28	0.30	1.95	0.56	1.91	0.44	2.19	0.48
Others	Percent of total	5.86	0.44	3.87	0.48	7.52	0.68	4.40	0.74	5.89	0.92	5.96	1.04
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Protein foods, meats (beef, veal, pork, lamb, game)	Ounces	3.06	0.05	2.09	0.05	2.01	0.04	1.83	0.07	1.67	0.06	1.56	0.05
FAH	Percent of total	78.45	1.09	65.37	2.32	57.53	1.81	52.85	2.26	51.36	3.59	55.58	2.98
FAFH	Percent of total	21.55	1.10	34.63	2.31	42.47	1.81	47.15	2.26	48.64	3.59	44.42	2.99
Restaurant	Percent of total	4.33	0.56	7.76	1.08	11.29	0.97	13.70	1.54	13.23	2.47	13.43	2.60
Fast food	Percent of total	8.02	0.69	20.20	1.84	20.62	1.57	27.10	2.64	26.97	2.72	23.10	3.14
School	Percent of total	3.52	0.33	2.95	0.96	2.58	0.40	1.77	0.68	1.97	0.34	1.90	0.47
Others	Percent of total	5.68	0.47	3.71	0.58	7.97	0.86	4.58	0.64	6.48	1.26	5.99	1.11
Protein foods, poultry	Ounces	0.95	0.04	1.13	0.04	1.19	0.04	1.32	0.05	1.43	0.06	1.44	0.06
FAH	Percent of total	80.83	1.54	67.83	2.57	59.57	2.13	49.26	2.50	50.91	2.58	52.05	3.28
FAFH	Percent of total	19.17	1.53	32.17	2.57	40.43	2.13	50.74	2.49	49.09	2.57	47.95	3.29
Restaurant	Percent of total	3.70	0.54	7.46	1.33	12.53	1.35	16.95	1.82	15.72	2.22	15.06	2.01
Fast food	Percent of total	4.69	0.71	18.13	2.36	17.42	1.78	26.55	2.15	25.29	3.35	24.25	3.87
School	Percent of total	3.30	0.83	1.87	0.64	2.33	0.47	2.14	0.87	2.22	0.67	2.82	0.74
Others	Percent of total	7.48	0.85	4.71	0.98	8.14	0.88	5.09	1.48	5.86	1.51	5.83	1.29
Protein foods, high Omega-3 fatty fish	Ounces	0.07	0.01	0.11	0.01	0.11	0.01	0.12	0.02	0.13	0.01	0.12	0.01
FAH	Percent of total	81.13	2.82	76.45	4.24	72.58	4.62	70.97	8.19	78.26	5.74	68.17	9.34
FAFH	Percent of total	18.87	2.81	23.55	4.23	27.42	4.61	29.03	8.18	21.74	5.74	31.83	9.34
Restaurant	Percent of total	4.14	1.39	9.72	4.06	13.21	2.72	15.40	6.49	9.06	2.71	14.14	6.47
Fast food	Percent of total	6.19	1.66	8.23	2.21	5.72	2.57	8.01	4.42	7.04	2.99	11.73	5.23
School	Percent of total	2.86	0.89	0.79	0.59	1.64	0.86	0.41	0.40	0.11	0.14	0.27	0.27
Others	Percent of total	5.68	1.04	4.81	1.76	6.86	2.13	5.21	3.06	5.54	3.91	5.70	3.02
Protein foods, low Omega-3 fatty fish	Ounces	0.35	0.02	0.44	0.03	0.35	0.02	0.37	0.03	0.42	0.04	0.35	0.02
FAH	Percent of total	69.88	2.01	66.10	3.05	55.76	3.75	59.20	5.94	54.75	6.28	57.84	4.86
FAFH	Percent of total	30.12	2.01	33.90	3.06	44.24	3.75	40.80	5.94	45.25	6.28	42.16	4.86
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Restaurant	Percent of total	10.48	1.62	12.82	2.65	21.59	2.74	23.00	5.79	26.74	6.04	24.76	4.32
Fast food	Percent of total	8.94	0.93	14.27	2.39	12.15	2.52	12.64	3.54	11.31	1.91	10.54	3.62
School	Percent of total	4.73	0.89	1.84	0.85	1.99	0.88	0.83	0.76	0.77	0.30	0.65	0.34
Others	Percent of total	5.97	0.95	4.98	1.57	8.51	2.24	4.34	2.19	6.44	2.25	6.21	2.41
Protein foods, cured meats	Ounces	0.65	0.02	0.63	0.02	0.75	0.02	0.84	0.02	0.99	0.05	1.01	0.04
FAH	Percent of total	82.94	1.01	74.97	2.15	66.46	1.91	64.67	2.34	63.08	3.87	62.63	2.60
FAFH	Percent of total	17.06	1.01	25.03	2.16	33.54	1.91	35.33	2.35	36.92	3.87	37.37	2.60
Restaurant	Percent of total	1.96	0.48	4.62	1.15	5.74	0.87	5.26	1.59	8.00	1.61	8.29	1.50
Fast food	Percent of total	4.86	0.62	13.74	1.66	16.77	1.29	22.31	2.58	20.05	2.61	19.11	2.00
School	Percent of total	4.90	0.88	2.76	0.85	3.89	0.55	2.97	1.26	3.06	1.00	3.19	0.89
Others	Percent of total	5.34	0.55	3.92	0.96	7.14	0.97	4.78	1.48	5.81	1.03	6.78	1.62
Protein foods, organ meats	Ounces	0.06	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.00	0.01	0.00
FAH	Percent of total	86.93	3.34	72.78	8.05	74.95	8.06	79.55	8.22	56.79	15.81	49.73	11.42
FAFH	Percent of total	13.07	3.35	27.22	8.04	25.05	8.06	20.45	8.23	43.21	15.81	50.27	11.41
Restaurant	Percent of total	3.26	2.72	6.46	6.30	11.41	5.14	10.26	6.55	16.60	14.39	12.17	4.72
Fast food	Percent of total	2.70	1.40	14.75	7.93	3.73	3.08	2.87	2.91	9.24	8.72	22.40	16.32
School	Percent of total	0.72	0.86	0.82	0.47	0.00	0.00	0.19	0.44	0.00	0.00	0.00	0.00
Others	Percent of total	6.39	1.55	5.19	2.33	9.91	4.87	7.13	4.17	17.38	14.30	15.69	13.95
Protein foods, eggs	Ounces	0.58	0.01	0.40	0.01	0.38	0.01	0.42	0.02	0.47	0.01	0.49	0.02
FAH	Percent of total	81.93	1.17	69.46	1.75	63.24	1.47	61.26	2.90	64.17	2.51	66.50	2.03
FAFH	Percent of total	18.07	1.16	30.54	1.74	36.76	1.47	38.74	2.90	35.83	2.51	33.50	2.03
Restaurant	Percent of total	4.59	0.67	8.81	1.41	11.82	0.84	12.54	2.17	11.95	2.18	11.48	1.57
Fast food	Percent of total	6.03	0.55	16.52	1.64	16.00	1.19	20.53	3.09	13.34	1.09	11.83	1.60
School	Percent of total	2.55	0.41	1.44	0.37	1.62	0.28	1.27	0.49	1.51	0.46	1.86	0.52
Others	Percent of total	4.91	0.46	3.77	0.65	7.32	0.85	4.40	0.76	9.04	1.10	8.33	1.80
Protein foods, soy products	Ounces	0.01	0.00	0.01	0.01	0.03	0.01	0.07	0.01	0.05	0.01	0.07	0.01
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FAH	Percent of total	72.40	1.59	68.58	3.32	65.59	2.47	71.06	2.99	81.03	4.29	84.03	5.28
FAFH	Percent of total	27.60	1.59	31.42	3.33	34.41	2.48	28.94	2.99	18.97	4.30	15.97	5.28
Restaurant	Percent of total	5.63	0.73	7.59	1.78	12.02	1.21	12.60	2.19	8.64	3.60	5.39	2.94
Fast food	Percent of total	9.96	1.30	12.40	2.02	10.24	1.57	9.18	1.87	2.28	1.45	3.09	1.99
School	Percent of total	5.10	0.93	4.74	2.18	3.48	0.59	1.75	0.92	0.63	0.48	0.36	0.31
Others	Percent of total	6.91	1.06	6.68	1.54	8.67	1.43	5.40	1.31	7.42	3.21	7.13	3.10
Protein foods, nuts and seeds	Ounces	0.28	0.02	0.32	0.02	0.35	0.02	0.60	0.03	0.60	0.03	0.53	0.04
FAH	Percent of total	81.83	1.93	82.90	2.13	78.34	1.80	82.30	2.93	82.14	2.68	81.99	2.13
FAFH	Percent of total	18.17	1.93	17.10	2.14	21.66	1.81	17.70	2.93	17.86	2.68	18.01	2.12
Restaurant	Percent of total	1.06	0.32	1.83	0.86	2.74	0.72	3.22	1.33	2.95	1.56	2.66	1.45
Fast food	Percent of total	3.77	0.64	7.40	1.58	5.71	0.82	3.74	1.80	4.16	1.04	4.07	1.34
School	Percent of total	5.52	1.24	2.13	0.81	2.26	0.53	1.49	0.75	1.05	0.71	1.15	0.52
Others	Percent of total	7.82	1.04	5.75	1.15	10.96	1.63	9.25	1.35	9.70	1.47	10.12	1.26

SE of mean = Standard error of the mean, FAH = food at home, FAFH= food away from home.

Source: USDA, Economic Research Service using USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data, and 1989–1991, 1994–96, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2003–04, 2005–06, 2007–08, 2009–10, 2011–2012, 2013–14, 2015–16, and 2017–18 What We Eat in America, National Health and Nutrition Examination Survey data.

Table 7b  
**Daily food group intake and share by food source, U.S. consumers aged 2 and above, 2009–2018**

		2009–10		2011–12		2013–14		2015–16		2017–18	
Variable	Measurement	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean
U.S. consumers aged 2 and above											
Energy	Calories	2,080.56	12.91	2,138.89	12.34	2,079.32	17.17	2,048.24	18.25	2,093.14	14.12
FAH	Percent of total	71.74	0.52	66.90	1.03	67.21	0.61	68.44	0.87	68.39	1.07
FAFH	Percent of total	28.26	0.52	33.10	1.03	32.79	0.61	31.56	0.87	31.61	1.07
Restaurant	Percent of total	7.20	0.30	7.88	0.46	8.20	0.43	7.90	0.43	7.77	0.45
Fast food	Percent of total	13.43	0.32	15.84	0.78	16.13	0.35	15.27	0.52	16.26	0.82
School	Percent of total	2.09	0.26	2.13	0.22	2.05	0.16	1.88	0.22	1.57	0.26
Others	Percent of total	5.54	0.21	7.24	0.44	6.41	0.34	6.51	0.41	6.01	0.31
Added sugars	Teaspoons	18.14	0.31	18.39	0.34	17.44	0.36	16.2	0.36	16.94	0.40
FAH	Percent of total	74.95	1.28	69.49	2.39	70.67	1.81	71.34	1.54	71.51	2.29
FAFH	Percent of total	25.05	1.28	30.51	2.38	29.33	1.82	28.66	1.54	28.49	2.28
Restaurant	Percent of total	5.12	0.54	5.66	1.05	5.84	0.87	5.50	0.77	5.43	0.78
Fast food	Percent of total	11.05	0.87	14.24	1.99	13.93	1.24	13.05	0.79	13.91	1.44
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School	Percent of total	1.89	0.57	1.75	0.44	1.72	0.28	1.63	0.44	1.46	0.66
Others	Percent of total	6.98	0.73	8.86	1.14	7.84	0.75	8.48	1.08	7.68	0.94
Discretionary fats and oils	Grams	58.93	0.65	61.77	0.67	60.72	0.66	61.98	0.85	65.36	0.50
FAH	Percent of total	68.14	1.24	63.82	2.11	64.24	1.53	65.77	2.01	65.53	2.22
FAFH	Percent of total	31.86	1.24	36.18	2.11	35.76	1.54	34.23	2.02	34.47	2.21
Restaurant	Percent of total	8.33	0.67	8.69	1.19	9.02	1.03	8.63	0.94	8.43	1.11
Fast food	Percent of total	15.39	0.75	17.72	1.74	17.86	0.83	17.04	1.21	18.15	1.92
School	Percent of total	2.18	0.61	2.17	0.50	2.01	0.33	1.82	0.50	1.47	0.48
Others	Percent of total	5.97	0.49	7.60	0.89	6.87	0.79	6.73	0.86	6.42	0.74
Discretionary fats	Grams	37.37	0.54	36.52	0.66	35.32	0.40	34.86	0.69	36.24	0.64
FAH	Percent of total	68.32	1.31	63.50	2.19	64.81	1.66	66.80	1.86	66.83	1.86
FAFH	Percent of total	31.68	1.32	36.50	2.19	35.19	1.65	33.20	1.85	33.17	1.85
Restaurant	Percent of total	7.98	0.61	8.16	1.25	8.02	1.01	7.72	0.73	7.31	1.16
Fast food	Percent of total	15.13	0.76	17.66	1.79	17.56	0.66	16.35	1.10	17.49	1.66
School	Percent of total	2.40	0.69	2.34	0.56	2.04	0.35	1.89	0.53	1.51	0.51
Others	Percent of total	6.17	0.56	8.34	1.12	7.57	0.94	7.24	1.06	6.86	0.88
Discretionary oils	Grams	21.55	0.38	25.26	0.41	25.40	0.39	27.11	0.46	29.12	0.70
FAH	Percent of total	68.06	1.48	64.94	2.18	64.23	1.83	64.00	2.12	63.13	2.82
FAFH	Percent of total	31.94	1.48	35.06	2.18	35.77	1.82	36.00	2.11	36.87	2.82
Restaurant	Percent of total	8.95	0.90	9.54	1.08	10.13	1.18	9.90	1.19	9.80	1.12
Fast food	Percent of total	15.34	0.88	16.69	1.91	17.13	1.07	18.02	1.47	19.46	2.35
School	Percent of total	1.82	0.51	1.94	0.48	2.21	0.41	1.87	0.51	1.49	0.57
Others	Percent of total	5.82	0.58	6.90	0.93	6.29	0.78	6.21	0.72	6.12	0.75
Dairy, total	Cups	1.85	0.02	1.79	0.04	1.74	0.03	1.60	0.05	1.53	0.03
FAH	Percent of total	73.73	1.41	67.61	2.60	68.23	1.72	69.24	1.81	67.95	2.36
FAFH	Percent of total	26.27	1.40	32.39	2.60	31.77	1.72	30.76	1.81	32.05	2.37
Restaurant	Percent of total	5.99	0.84	6.30	0.92	6.19	1.16	6.47	0.78	7.04	1.16
Fast food	Percent of total	12.56	0.98	17.35	2.16	17.03	0.94	15.69	1.60	17.21	1.68
School	Percent of total	3.36	0.81	3.31	0.76	3.14	0.46	2.93	0.70	2.56	0.96
Others	Percent of total	4.36	0.59	5.43	1.26	5.42	0.74	5.68	0.71	5.25	0.93
Dairy, fluid milk	Cups	1.00	0.01	0.91	0.03	0.83	0.02	0.75	0.03	0.69	0.02
FAH	Percent of total	81.08	1.67	74.76	2.65	75.93	1.51	75.59	2.02	74.76	2.57
FAFH	Percent of total	18.92	1.67	25.24	2.64	24.07	1.51	24.41	2.02	25.24	2.57
Restaurant	Percent of total	3.78	0.80	4.08	0.90	4.09	0.93	4.26	0.67	4.41	0.87
Fast food	Percent of total	6.13	0.74	10.23	1.97	9.71	0.95	9.74	1.95	11.29	1.67
School	Percent of total	3.67	0.74	3.93	0.96	3.87	0.57	3.53	0.89	3.29	1.35
Others	Percent of total	5.35	0.57	6.99	1.58	6.40	0.93	6.88	1.21	6.25	0.95
Dairy, cheese	Cups	0.78	0.02	0.80	0.02	0.81	0.01	0.74	0.03	0.74	0.02
FAH	Percent of total	61.27	2.21	56.13	3.28	56.89	2.41	59.87	2.27	58.83	2.78
FAFH	Percent of total	38.73	2.21	43.87	3.27	43.11	2.41	40.13	2.27	41.17	2.78
Restaurant	Percent of total	9.47	1.62	10.83	1.71	10.26	1.68	10.05	1.55	9.60	1.59
Fast food	Percent of total	21.06	1.58	24.30	3.26	24.25	1.20	21.75	1.78	23.74	2.29
School	Percent of total	3.54	1.03	3.03	0.81	2.93	0.72	2.79	0.70	2.14	0.69
Others	Percent of total	4.65	0.70	5.70	1.16	5.67	0.67	5.54	0.96	5.69	1.35
Dairy, yogurt	Cups	0.06	0.01	0.06	0.01	0.07	0.01	0.08	0.01	0.06	0.01
FAH	Percent of total	88.13	3.62	83.19	5.07	87.02	3.47	85.92	4.79	82.29	5.38
FAFH	Percent of total	11.87	3.62	16.81	5.08	12.98	3.48	14.08	4.79	17.71	5.38
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Restaurant	Percent of total	1.08	0.71	1.46	0.96	2.33	1.17	3.14	1.92	4.68	3.59
Fast food	Percent of total	6.46	2.26	10.44	3.65	7.01	2.53	6.86	3.30	5.90	2.73
School	Percent of total	1.23	1.07	1.69	0.89	1.17	0.69	1.37	1.04	2.05	0.92
Others	Percent of total	3.09	2.03	3.22	1.85	2.47	1.40	2.71	2.33	5.08	3.16
Fruit, total	Cups	1.09	0.02	1.03	0.04	0.93	0.03	0.94	0.03	0.93	0.04
FAH	Percent of total	85.15	1.36	80.87	1.61	82.92	1.19	81.35	2.51	81.65	1.63
FAFH	Percent of total	14.85	1.36	19.13	1.60	17.08	1.18	18.65	2.50	18.35	1.63
Restaurant	Percent of total	3.05	0.63	3.46	0.75	3.13	0.78	3.21	0.91	2.81	0.73
Fast food	Percent of total	3.90	0.57	5.41	1.00	4.40	0.65	5.55	0.81	5.36	1.21
School	Percent of total	2.74	0.51	3.52	0.98	3.79	0.76	3.63	0.89	3.01	1.19
Others	Percent of total	5.16	0.68	6.73	1.00	5.76	0.98	6.25	1.42	7.17	1.20
Fruit, citrus, melon, and berries	Cups	0.20	0.01	0.19	0.02	0.21	0.01	0.23	0.02	0.24	0.02
FAH	Percent of total	86.66	1.61	80.63	2.81	83.00	1.82	83.58	2.11	81.91	2.20
FAFH	Percent of total	13.34	1.60	19.37	2.81	17.00	1.82	16.42	2.12	18.09	2.19
Restaurant	Percent of total	3.04	1.01	3.74	1.04	3.73	1.31	2.63	1.25	3.65	2.02
Fast food	Percent of total	2.67	1.00	5.65	1.64	3.97	1.33	4.61	1.49	4.01	1.02
School	Percent of total	1.55	0.42	2.82	0.94	2.96	0.69	2.66	1.08	2.74	1.20
Others	Percent of total	6.08	0.96	7.16	1.34	6.34	1.20	6.53	1.89	7.68	2.41
Fruit, other	Cups	0.53	0.02	0.49	0.02	0.45	0.02	0.46	0.02	0.45	0.02
FAH	Percent of total	86.02	1.65	81.56	2.01	84.51	1.59	82.77	2.76	83.51	2.49
FAFH	Percent of total	13.98	1.65	18.44	2.02	15.49	1.58	17.23	2.75	16.49	2.48
Restaurant	Percent of total	2.40	0.86	2.70	0.98	2.17	0.54	2.66	1.08	2.25	1.13
Fast food	Percent of total	3.38	0.76	4.46	1.19	4.03	0.89	4.89	1.04	4.42	1.20
School	Percent of total	3.36	0.67	4.41	1.43	3.99	1.13	3.53	0.97	3.21	1.35
Others	Percent of total	4.84	0.97	6.87	1.19	5.29	1.07	6.15	1.82	6.61	1.33
Fruit, juice	Cups	0.36	0.01	0.34	0.02	0.27	0.01	0.26	0.01	0.23	0.01
FAH	Percent of total	80.41	1.56	75.92	3.45	79.03	2.23	76.40	2.63	77.33	3.37
FAFH	Percent of total	19.59	1.57	24.08	3.45	20.97	2.23	23.60	2.64	22.67	3.37
Restaurant	Percent of total	4.79	1.07	6.86	1.62	4.70	1.40	5.53	1.34	3.48	1.09
Fast food	Percent of total	5.74	1.27	7.00	1.31	6.09	0.92	7.34	1.49	8.82	2.39
School	Percent of total	3.61	0.87	3.70	1.32	4.00	1.05	5.06	1.21	4.25	2.08
Others	Percent of total	5.46	0.77	6.52	1.64	6.18	1.58	5.68	1.50	6.11	1.60
Fruit, whole fruit	Cups	0.73	0.02	0.69	0.03	0.66	0.02	0.69	0.04	0.70	0.03
FAH	Percent of total	86.15	1.61	81.96	1.55	84.26	1.28	82.84	2.41	83.23	1.89
FAFH	Percent of total	13.85	1.62	18.04	1.55	15.74	1.28	17.16	2.41	16.77	1.89
Restaurant	Percent of total	2.58	0.86	2.58	0.80	2.55	0.57	2.68	1.07	2.54	0.92
Fast food	Percent of total	3.05	0.68	4.33	0.99	3.62	0.72	4.68	0.89	4.00	1.18
School	Percent of total	3.01	0.55	4.00	1.19	4.07	1.05	3.43	0.93	3.05	1.26
Others	Percent of total	5.22	1.05	7.13	1.12	5.50	0.88	6.37	1.66	7.18	1.45
Vegetable, total	Cups	1.41	0.03	1.46	0.04	1.36	0.03	1.40	0.04	1.39	0.04
FAH	Percent of total	63.42	1.62	59.78	2.55	59.63	1.77	61.61	2.47	60.39	3.20
FAFH	Percent of total	36.58	1.61	40.22	2.55	40.37	1.76	38.39	2.48	39.61	3.19
Restaurant	Percent of total	11.01	0.93	11.69	1.42	12.29	1.39	11.07	1.35	11.34	1.50
Fast food	Percent of total	17.90	1.23	19.20	2.24	19.72	0.98	19.22	1.98	21.04	2.51
School	Percent of total	1.93	0.62	2.11	0.51	2.21	0.50	1.99	0.59	1.50	0.52
Others	Percent of total	5.73	0.68	7.22	0.97	6.14	0.93	6.11	1.18	5.73	1.30
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Vegetables, potatoes	Cups	0.35	0.01	0.33	0.01	0.33	0.01	0.35	0.02	0.36	0.01
FAH	Percent of total	58.94	3.03	57.24	4.67	55.28	3.10	59.79	3.60	57.67	3.83
FAFH	Percent of total	41.06	3.04	42.76	4.66	44.72	3.10	40.21	3.60	42.33	3.82
Restaurant	Percent of total	11.31	1.72	10.75	2.24	11.68	1.97	10.87	1.87	10.98	2.25
Fast food	Percent of total	21.02	2.24	23.31	3.07	23.84	2.52	20.44	2.41	24.21	4.47
School	Percent of total	1.57	0.61	1.08	0.58	2.13	0.50	1.50	0.66	1.18	0.70
Others	Percent of total	7.17	1.43	7.62	2.16	7.07	1.27	7.39	1.52	5.96	1.65
Vegetables, other starchy	Cups	0.08	0.01	0.08	0.01	0.06	0.01	0.07	0.01	0.06	0.01
FAH	Percent of total	78.51	3.62	69.47	4.38	75.03	4.80	79.54	4.96	75.51	3.83
FAFH	Percent of total	21.49	3.62	30.53	4.38	24.97	4.80	20.46	4.96	24.49	3.83
Restaurant	Percent of total	6.07	2.19	7.62	2.46	8.15	1.88	5.52	1.88	9.56	3.49
Fast food	Percent of total	5.71	2.33	7.86	2.19	5.69	1.97	6.41	1.77	6.75	2.21
School	Percent of total	1.83	0.82	2.05	0.64	1.34	0.82	1.73	0.89	0.90	0.53
Others	Percent of total	7.88	1.40	13.00	3.67	9.81	3.89	6.80	2.95	7.28	2.34
Vegetable, tomatoes	Cups	0.27	0.01	0.29	0.01	0.27	0.01	0.26	0.01	0.26	0.01
FAH	Percent of total	57.03	2.01	53.46	2.18	52.40	2.15	54.68	2.51	54.04	3.49
FAFH	Percent of total	42.97	2.00	46.54	2.18	47.60	2.15	45.32	2.51	45.96	3.48
Restaurant	Percent of total	11.08	0.97	11.98	2.24	12.75	1.74	12.35	1.93	12.15	1.45
Fast food	Percent of total	22.90	1.41	24.44	2.66	26.12	1.17	25.05	2.13	25.60	3.57
School	Percent of total	3.11	0.96	2.94	0.95	2.84	0.78	2.23	0.57	2.14	0.78
Others	Percent of total	5.88	0.94	7.19	0.95	5.89	0.89	5.70	1.29	6.06	1.26
Vegetable, red and orange	Cups	0.08	0.01	0.09	0.01	0.09	0.01	0.09	0.01	0.09	0.01
FAH	Percent of total	69.26	2.54	64.40	3.07	65.17	2.29	66.80	4.02	64.36	3.62
FAFH	Percent of total	30.74	2.54	35.60	3.06	34.83	2.30	33.20	4.03	35.64	3.62
Restaurant	Percent of total	12.14	1.77	14.31	2.23	14.40	3.09	12.42	2.38	14.11	1.72
Fast food	Percent of total	8.80	1.72	10.51	2.26	10.49	1.47	11.21	2.20	13.76	2.31
School	Percent of total	1.41	0.64	1.75	0.74	2.13	0.82	2.70	1.07	1.54	0.63
Others	Percent of total	8.38	1.67	9.04	1.69	7.81	2.36	6.87	1.95	6.23	1.58
Vegetable, dark green	Cups	0.12	0.01	0.14	0.01	0.14	0.01	0.14	0.01	0.14	0.01
FAH	Percent of total	68.99	3.35	65.36	5.49	68.13	3.26	64.21	5.17	64.30	6.26
FAFH	Percent of total	31.01	3.34	34.64	5.49	31.87	3.27	35.79	5.17	35.70	6.26
Restaurant	Percent of total	15.00	3.04	17.32	3.37	16.39	3.16	15.25	3.38	16.61	3.85
Fast food	Percent of total	9.36	3.28	8.75	2.68	8.80	1.75	11.93	3.94	13.88	3.81
School	Percent of total	1.04	0.69	1.73	1.03	1.51	0.72	1.84	0.96	0.71	0.52
Others	Percent of total	5.61	2.39	6.84	2.89	5.17	1.57	6.77	2.08	4.51	1.40
Vegetable, others	Cups	0.51	0.02	0.53	0.02	0.47	0.01	0.48	0.02	0.48	0.02
FAH	Percent of total	61.83	2.35	56.88	2.76	57.21	2.28	58.39	2.38	58.15	3.69
FAFH	Percent of total	38.17	2.34	43.12	2.77	42.79	2.29	41.61	2.37	41.85	3.68
Restaurant	Percent of total	12.01	0.90	13.46	1.78	14.21	1.87	13.06	1.83	13.13	2.16
Fast food	Percent of total	19.20	1.35	21.03	2.57	21.16	1.01	20.97	1.92	21.79	2.68
School	Percent of total	1.35	0.44	1.75	0.55	1.63	0.52	1.56	0.59	0.92	0.37
Others	Percent of total	5.60	0.75	6.88	1.05	5.80	1.09	6.01	1.21	6.01	1.05
Legumes	Cups	0.10	0.01	0.12	0.01	0.11	0.01	0.11	0.01	0.11	0.01
FAH	Percent of total	69.42	2.77	60.76	3.75	63.56	4.82	65.26	3.91	63.02	4.47

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FAFH	Percent of total	30.58	2.76	39.24	3.75	36.44	4.83	34.74	3.91	36.98	4.47
Restaurant	Percent of total	10.76	3.24	14.11	3.89	14.47	3.39	11.08	3.04	13.73	3.16
Fast food	Percent of total	11.58	3.58	16.02	4.02	12.88	3.58	15.30	4.25	15.02	3.23
School	Percent of total	1.39	0.73	1.05	0.42	1.77	0.85	1.51	0.63	1.36	0.69
Others	Percent of total	6.85	2.89	8.06	2.17	7.32	1.49	6.85	1.27	6.87	1.98
Grains, total	Ounces	6.57	0.08	6.81	0.07	6.61	0.06	6.44	0.05	6.64	0.11
FAH	Percent of total	69.92	1.17	65.19	2.53	64.47	1.73	65.89	1.70	65.06	2.88
FAFH	Percent of total	30.08	1.18	34.81	2.53	35.53	1.73	34.11	1.71	34.94	2.89
Restaurant	Percent of total	7.24	0.60	8.13	1.08	8.59	0.97	8.36	0.91	8.27	0.94
Fast food	Percent of total	15.22	0.80	17.63	1.83	18.53	0.95	17.48	1.33	18.67	2.18
School	Percent of total	2.25	0.64	2.22	0.48	2.16	0.42	1.91	0.44	1.67	0.55
Others	Percent of total	5.37	0.44	6.83	0.91	6.24	0.70	6.37	0.84	6.33	0.89
Grains, non-whole grains	Ounces	5.78	0.09	5.89	0.08	5.74	0.07	5.53	0.06	5.79	0.09
FAH	Percent of total	67.73	1.28	62.92	2.59	61.92	1.79	63.69	1.88	62.98	2.90
FAFH	Percent of total	32.27	1.27	37.08	2.60	38.08	1.80	36.31	1.88	37.02	2.89
Restaurant	Percent of total	7.82	0.70	8.88	1.19	9.52	1.05	9.07	0.99	8.96	1.08
Fast food	Percent of total	16.23	0.90	18.80	1.81	19.83	0.99	19.02	1.51	19.84	2.26
School	Percent of total	2.36	0.68	2.28	0.51	2.10	0.40	1.65	0.35	1.53	0.50
Others	Percent of total	5.85	0.50	7.11	0.95	6.63	0.67	6.57	0.83	6.68	0.93
Grains, whole grains	Ounces	0.79	0.03	0.92	0.04	0.87	0.03	0.91	0.04	0.84	0.05
FAH	Percent of total	89.94	1.17	83.01	2.01	81.84	2.56	81.19	2.79	81.84	2.56
FAFH	Percent of total	10.06	1.18	16.99	2.02	18.16	2.56	18.81	2.78	18.16	2.57
Restaurant	Percent of total	2.19	0.46	2.84	0.58	2.85	0.85	3.74	1.17	3.46	1.10
Fast food	Percent of total	3.31	0.64	5.59	1.46	6.59	0.94	5.54	1.14	5.18	1.08
School	Percent of total	1.62	0.52	2.39	0.58	4.37	0.91	4.57	1.46	4.07	1.62
Others	Percent of total	2.95	0.44	6.18	1.05	4.35	0.71	4.95	1.14	5.45	1.76
Protein foods, total	Ounces	5.74	0.11	5.70	0.09	5.83	0.10	5.80	0.11	5.84	0.11
FAH	Percent of total	67.65	1.64	63.05	2.39	62.85	1.46	65.02	2.90	64.65	2.46
FAFH	Percent of total	32.35	1.64	36.95	2.39	37.15	1.46	34.98	2.90	35.35	2.46
Restaurant	Percent of total	9.55	0.90	10.22	1.44	10.46	1.15	9.78	1.19	10.11	1.55
Fast food	Percent of total	15.81	0.96	17.04	2.14	17.98	0.86	16.85	1.64	17.72	1.83
School	Percent of total	1.76	0.58	2.29	0.55	2.07	0.41	1.98	0.68	1.45	0.52
Others	Percent of total	5.23	0.49	7.40	1.06	6.64	0.84	6.38	1.13	6.07	0.96
Protein foods, meats, poultry, and fish	Ounces	4.61	0.10	4.44	0.09	4.54	0.11	4.46	0.11	4.47	0.09
FAH	Percent of total	63.15	1.68	58.78	2.94	58.06	2.01	60.50	3.16	59.82	2.89
FAFH	Percent of total	36.85	1.68	41.22	2.93	41.94	2.01	39.50	3.17	40.18	2.90
Restaurant	Percent of total	10.95	0.92	11.81	1.93	11.84	1.34	11.44	1.39	12.21	2.00
Fast food	Percent of total	18.68	1.17	19.90	2.36	21.41	1.09	19.91	2.11	21.02	2.24
School	Percent of total	1.86	0.59	2.27	0.59	2.11	0.45	2.10	0.70	1.36	0.49
Others	Percent of total	5.36	0.47	7.24	1.07	6.58	0.90	6.05	1.15	5.59	1.06
Protein foods, meats (beef, veal, pork, lamb, game)	Ounces	1.52	0.06	1.56	0.07	1.43	0.04	1.49	0.04	1.45	0.08
FAH	Percent of total	59.30	3.16	53.89	2.96	54.76	3.10	57.95	2.72	57.58	3.65
FAFH	Percent of total	40.70	3.16	46.11	2.96	45.24	3.10	42.05	2.73	42.42	3.64
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Restaurant	Percent of total	10.91	1.78	12.58	2.87	12.64	1.73	12.84	1.32	12.54	1.95
Fast food	Percent of total	20.56	2.53	22.95	3.29	23.74	2.15	20.75	2.13	22.28	2.75
School	Percent of total	1.82	0.63	1.85	0.79	1.85	0.60	1.76	0.61	1.29	0.62
Others	Percent of total	7.41	1.21	8.74	1.33	7.02	1.11	6.71	1.21	6.30	1.52
Protein foods, poultry	Ounces	1.44	0.05	1.37	0.09	1.53	0.07	1.48	0.07	1.56	0.07
FAH	Percent of total	55.08	2.67	53.05	3.61	52.15	3.60	55.28	4.50	51.60	4.44
FAFH	Percent of total	44.92	2.67	46.95	3.62	47.85	3.59	44.72	4.50	48.40	4.44
Restaurant	Percent of total	13.27	1.51	13.39	2.23	13.64	1.60	11.24	1.94	14.07	2.50
Fast food	Percent of total	24.70	2.38	23.17	2.85	25.91	2.95	25.30	3.22	27.19	3.27
School	Percent of total	1.91	0.58	3.02	1.15	2.68	0.82	2.50	1.20	1.87	0.94
Others	Percent of total	5.04	1.06	7.37	1.71	5.61	1.51	5.67	1.49	5.28	1.08
Protein foods, high Omega-3 fatty fish	Ounces	0.14	0.01	0.12	0.01	0.16	0.02	0.15	0.03	0.12	0.02
FAH	Percent of total	75.80	5.57	72.79	5.51	64.98	7.40	68.22	8.13	75.43	8.36
FAFH	Percent of total	24.20	5.57	27.21	5.51	35.02	7.40	31.78	8.13	24.57	8.35
Restaurant	Percent of total	12.22	3.27	12.59	4.62	19.42	6.44	15.70	6.99	13.48	6.00
Fast food	Percent of total	6.60	2.56	8.20	2.59	5.96	2.73	9.67	5.09	7.16	4.30
School	Percent of total	0.75	0.93	0.25	0.46	0.53	0.61	0.87	0.70	0.09	0.21
Others	Percent of total	4.64	2.33	6.18	3.57	9.11	3.31	5.55	2.13	3.83	1.59
Protein foods, low Omega-3 fatty fish	Ounces	0.44	0.04	0.39	0.04	0.44	0.07	0.37	0.05	0.40	0.03
FAH	Percent of total	55.75	3.94	56.87	4.81	51.36	3.89	56.69	5.57	53.21	7.93
FAFH	Percent of total	44.25	3.94	43.13	4.82	48.64	3.89	43.31	5.58	46.79	7.92
Restaurant	Percent of total	20.93	3.10	24.74	5.42	27.67	5.07	21.47	5.33	28.25	7.58
Fast food	Percent of total	13.14	2.91	11.94	4.70	13.95	4.19	13.19	3.09	11.91	3.33
School	Percent of total	1.30	1.58	0.60	0.49	0.85	0.93	0.97	0.53	0.53	0.48
Others	Percent of total	8.87	2.95	5.85	1.27	6.18	2.07	7.68	2.68	6.10	2.12
Protein foods, cured meats	Ounces	1.04	0.04	0.98	0.04	0.96	0.04	0.96	0.04	0.92	0.04
FAH	Percent of total	67.75	2.48	60.09	3.46	60.22	3.42	62.29	3.57	63.14	2.70
FAFH	Percent of total	32.25	2.49	39.91	3.46	39.78	3.42	37.71	3.56	36.86	2.70
Restaurant	Percent of total	7.30	1.31	8.89	1.82	6.63	1.62	8.43	2.04	6.91	1.97
Fast food	Percent of total	16.50	1.95	21.05	3.46	22.64	1.71	20.11	2.21	21.26	2.38
School	Percent of total	2.99	1.12	3.02	1.11	2.81	0.81	2.73	0.81	1.74	0.80
Others	Percent of total	5.46	0.73	6.96	1.71	7.69	1.47	6.44	1.56	6.95	1.76
Protein foods, organ meats	Ounces	0.01	0.01	0.02	0.01	0.02	0.01	0.01	0.01	0.01	0.01
FAH	Percent of total	68.43	6.98	56.89	21.17	58.12	13.65	58.06	13.47	41.91	21.73
FAFH	Percent of total	31.57	6.98	43.11	21.16	41.88	13.66	41.94	13.47	58.09	21.74
Restaurant	Percent of total	10.39	5.96	15.38	17.70	10.53	8.07	12.06	3.68	30.39	25.57
Fast food	Percent of total	11.61	6.99	1.68	1.72	9.81	13.67	15.76	8.63	14.70	10.64
School	Percent of total	0.00	0.00	0.00	0.00	1.93	3.01	0.00	0.00	0.00	0.00
Others	Percent of total	9.57	4.87	26.05	18.23	19.62	19.57	14.12	9.02	13.00	17.50
Protein foods, eggs	Ounces	0.47	0.02	0.49	0.01	0.51	0.02	0.53	0.02	0.57	0.02
FAH	Percent of total	70.83	2.19	64.75	2.68	64.74	1.46	66.70	2.45	66.44	2.96
FAFH	Percent of total	29.17	2.19	35.25	2.68	35.26	1.46	33.30	2.45	33.56	2.96
Restaurant	Percent of total	9.62	1.42	10.51	2.11	10.42	1.36	9.15	1.34	9.18	1.14
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Fast food	Percent of total	10.34	1.11	13.26	1.95	13.73	1.21	14.02	1.78	14.63	2.25
School	Percent of total	1.70	0.55	1.83	0.64	2.74	0.59	2.21	0.74	1.70	0.78
Others	Percent of total	7.52	1.15	9.65	1.74	8.37	0.91	7.92	0.93	8.05	1.49
Protein foods, soy products	Ounces	0.07	0.01	0.07	0.01	0.07	0.01	0.10	0.01	0.09	0.01
FAH	Percent of total	86.08	3.69	65.85	5.80	69.12	4.56	74.22	5.25	68.12	6.49
FAFH	Percent of total	13.92	3.68	34.15	5.79	30.88	4.56	25.78	5.26	31.88	6.50
Restaurant	Percent of total	4.37	2.00	6.06	4.62	7.07	3.12	4.97	1.88	7.44	4.14
Fast food	Percent of total	3.69	2.23	11.87	4.09	6.58	2.11	4.42	1.72	9.41	3.75
School	Percent of total	1.23	1.04	7.75	2.76	12.67	3.35	10.91	3.62	10.07	4.33
Others	Percent of total	4.63	1.91	8.47	4.17	4.56	2.06	5.48	3.67	4.95	2.86
Protein foods, nuts and seeds	Ounces	0.60	0.02	0.70	0.05	0.71	0.05	0.71	0.06	0.72	0.05
FAH	Percent of total	85.29	2.46	81.14	2.74	82.14	1.96	82.79	2.75	81.05	2.29
FAFH	Percent of total	14.71	2.47	18.86	2.74	17.86	1.95	17.21	2.74	18.95	2.29
Restaurant	Percent of total	2.60	1.00	2.00	0.41	3.14	1.31	2.93	1.30	3.05	1.20
Fast food	Percent of total	3.57	0.95	5.29	1.29	4.58	0.91	5.38	1.40	5.07	1.92
School	Percent of total	0.66	0.35	0.78	0.52	0.57	0.36	0.37	0.21	0.66	0.47
Others	Percent of total	7.88	1.64	10.79	1.90	9.58	1.41	8.52	2.52	10.17	2.63

SE of mean = Standard error of the mean, FAH = food at home, FAFH= food away from home.

Source: USDA, Economic Research Service using USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data, and 1989–1991, 1994–96, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2003–04, 2005–06, 2007–08, 2009–10, 2011–2012, 2013–14, 2015–16, and 2017–18 What We Eat in America, National Health and Nutrition Examination Survey data.

## Added Sugars

The intake of added sugars should be limited to no more than 10 percent of caloric intake (USDA and HHS, 2020). Each teaspoon of sugar has 4.2 grams, and each gram has 4 calories, so the intake of added sugars should be limited to 11.9 teaspoons for a diet of 2,000 calories or a density of 5.95 teaspoons for every 1,000 calories. In 2017–2018, foods in every source, except restaurant foods, contained more added sugars than the recommended upper limit of 5.95 teaspoons (table 8b).

The density of added sugars in U.S. consumers' diets peaked at 9.5 teaspoons per 1,000 calories in 1994–1998 and 2003–2004, then exhibited a declining trend to 7.9 teaspoons—or 26 percent above the recommended level in 2017–2018. During 1977 and 2004, the added sugar density trended downward in FAFH (11.3 to 8.9 teaspoons), while the density in FAH rose sharply from 7.9 to 11.2 teaspoons (figure 13). Since 2003–2004, both FAH and FAFH have exhibited a downward trend in added sugar density, and FAH has become denser in added sugars than FAFH, 9.3 compared with 7.7 teaspoons in 2017–2018.

Table 8a

**Density of food group by food source, U.S. consumers aged 2 and above, 1977–2008**

		1977–78		1989–91		1994–98		2003–04		2005–06		2007–08	
Variable	Measure- ment	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean
U.S. consumers aged 2 and above													
Energy	Calories	1,806.88	12.39	1,847.48	18.90	2,033.93	16.20	2,194.78	15.59	2,157.35	29.02	2,069.79	24.55
FAH	Calories	1,462.27	11.13	1,347.04	17.60	1,380.76	14.93	1,458.96	21.46	1,429.30	18.10	1,396.89	23.87
FAFH	Calories	344.61	8.73	500.44	14.38	653.17	14.97	735.83	16.47	728.05	24.69	672.91	15.81
Restaurant	Calories	61.17	3.73	114.22	7.76	163.75	5.39	203.32	7.29	195.17	13.01	192.91	12.22
Fast food	Calories	110.45	3.90	262.37	11.32	286.52	8.80	388.88	18.18	359.71	17.79	316.26	15.15
School	Calories	66.11	2.64	46.16	5.09	46.05	2.11	38.91	4.80	35.10	3.56	39.74	3.81
Others	Calories	106.88	4.14	77.70	3.63	156.85	8.46	104.71	6.33	138.07	9.05	124.00	8.05
Added sugars	Teaspoons per 1,000 calories	7.92	0.13	8.13	0.13	9.45	0.10	9.45	0.21	8.83	0.15	9.01	0.25
FAH	Teaspoons per 1,000 calories	7.82	0.14	8.53	0.16	10.40	0.15	11.20	0.34	10.43	0.26	10.65	0.35
FAFH	Teaspoons per 1,000 calories	11.30	0.21	9.69	0.27	10.43	0.15	8.90	0.24	8.24	0.23	8.66	0.26
Restaurant	Teaspoons per 1,000 calories	6.38	0.23	6.41	0.46	6.70	0.26	6.14	0.39	5.47	0.24	5.36	0.28
Fast food	Teaspoons per 1,000 calories	15.03	0.38	10.20	0.32	11.97	0.33	9.38	0.35	8.31	0.41	8.91	0.34
School	Teaspoons per 1,000 calories	7.66	0.13	7.61	0.55	8.32	0.34	7.62	0.64	8.14	0.51	7.36	0.38
Others	Teaspoons per 1,000 calories	13.13	0.32	14.47	0.74	13.68	0.30	14.27	0.67	13.79	0.29	14.36	0.48
Discretion- ary fats and oils	Grams per 1,000 calories	31.57	0.22	29.96	0.21	28.91	0.14	29.83	0.31	28.58	0.19	28.25	0.20
FAH	Grams per 1,000 calories	30.76	0.24	28.06	0.21	26.08	0.17	26.99	0.36	25.44	0.19	25.30	0.26
FAFH	Grams per 1,000 calories	31.60	0.11	32.35	0.26	32.06	0.21	33.14	0.29	32.46	0.37	32.28	0.28
Restaurant	Grams per 1,000 calories	35.30	0.44	34.82	0.67	33.65	0.34	32.87	0.52	33.07	0.70	33.09	0.55
Fast food	Grams per 1,000 calories	28.57	0.26	32.28	0.34	31.89	0.38	34.17	0.48	32.89	0.44	33.21	0.36
School	Grams per 1,000 calories	36.06	0.21	34.15	0.69	33.74	0.38	30.76	0.80	29.54	0.77	28.83	0.95
Others	Grams per 1,000 calories	28.19	0.30	25.04	0.71	27.29	0.34	28.06	0.40	28.96	0.61	27.80	0.62
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Discretionary fats	Grams per 1,000 calories	27.00	0.13	23.75	0.14	21.93	0.16	21.23	0.26	18.59	0.20	18.34	0.19
FAH	Grams per 1,000 calories	26.52	0.14	22.33	0.18	19.75	0.17	18.93	0.33	16.95	0.18	16.63	0.24
FAFH	Grams per 1,000 calories	26.80	0.14	25.77	0.26	24.90	0.23	24.32	0.38	20.79	0.40	21.14	0.29
Restaurant	Grams per 1,000 calories	27.86	0.36	26.40	0.73	23.48	0.39	22.74	0.46	19.00	0.45	20.05	0.55
Fast food	Grams per 1,000 calories	24.34	0.26	25.69	0.28	25.77	0.37	25.66	0.44	21.03	0.42	21.81	0.39
School	Grams per 1,000 calories	32.70	0.22	30.24	0.64	28.09	0.37	24.32	0.73	20.59	0.73	19.82	0.60
Others	Grams per 1,000 calories	23.49	0.29	20.07	0.71	21.52	0.27	19.72	0.67	21.09	0.54	20.35	0.68
Discretionary oils	Grams per 1,000 calories	4.57	0.14	6.20	0.13	6.98	0.09	8.60	0.19	9.99	0.13	9.91	0.15
FAH	Grams per 1,000 calories	4.25	0.15	5.73	0.15	6.33	0.08	8.05	0.20	8.49	0.16	8.67	0.18
FAFH	Grams per 1,000 calories	4.80	0.12	6.59	0.20	7.16	0.16	8.82	0.27	11.68	0.27	11.14	0.24
Restaurant	Grams per 1,000 calories	7.44	0.37	8.42	0.46	10.17	0.37	10.13	0.44	14.08	0.64	13.04	0.34
Fast food	Grams per 1,000 calories	4.23	0.13	6.59	0.28	6.13	0.23	8.50	0.36	11.86	0.47	11.40	0.40
School	Grams per 1,000 calories	3.35	0.12	3.90	0.36	5.65	0.38	6.44	0.53	8.95	0.56	9.01	0.66
Others	Grams per 1,000 calories	4.70	0.20	4.97	0.43	5.77	0.25	8.34	0.38	7.86	0.29	7.45	0.36
Dairy, total	Cups per 1,000 calories	0.88	0.01	0.88	0.02	0.78	0.01	0.81	0.02	0.85	0.01	0.83	0.02
FAH	Cups per 1,000 calories	0.92	0.01	0.98	0.02	0.87	0.01	0.87	0.03	0.94	0.02	0.91	0.02
FAFH	Cups per 1,000 calories	0.93	0.02	0.73	0.02	0.66	0.01	0.63	0.02	0.66	0.02	0.67	0.03
Restaurant	Cups per 1,000 calories	0.49	0.01	0.49	0.03	0.49	0.02	0.50	0.03	0.51	0.03	0.52	0.03
Fast food	Cups per 1,000 calories	0.61	0.03	0.62	0.03	0.61	0.02	0.64	0.03	0.65	0.03	0.66	0.03
School	Cups per 1,000 calories	2.15	0.07	2.01	0.10	2.01	0.06	1.84	0.12	1.85	0.09	1.77	0.09
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Others	Cups per 1,000 calories	0.62	0.02	0.50	0.04	0.45	0.02	0.33	0.04	0.48	0.03	0.45	0.03
Dairy, fluid milk	Cups per 1,000 calories	0.71	0.01	0.64	0.02	0.53	0.01	0.49	0.02	0.51	0.01	0.49	0.01
FAH	Cups per 1,000 calories	0.76	0.01	0.76	0.02	0.66	0.01	0.63	0.02	0.66	0.02	0.63	0.01
FAFH	Cups per 1,000 calories	0.75	0.02	0.43	0.02	0.33	0.01	0.21	0.02	0.24	0.01	0.24	0.02
Restaurant	Cups per 1,000 calories	0.26	0.01	0.23	0.02	0.17	0.02	0.11	0.01	0.12	0.01	0.13	0.01
Fast food	Cups per 1,000 calories	0.42	0.02	0.27	0.02	0.20	0.02	0.12	0.01	0.15	0.01	0.14	0.02
School	Cups per 1,000 calories	1.98	0.07	1.76	0.10	1.68	0.06	1.38	0.12	1.43	0.10	1.35	0.08
Others	Cups per 1,000 calories	0.45	0.02	0.31	0.03	0.29	0.02	0.21	0.03	0.30	0.03	0.26	0.02
Dairy, cheese	Cups per 1,000 calories	0.16	0.01	0.23	0.01	0.24	0.01	0.30	0.01	0.31	0.01	0.31	0.01
FAH	Cups per 1,000 calories	0.15	0.01	0.20	0.01	0.18	0.00	0.21	0.01	0.24	0.01	0.23	0.01
FAFH	Cups per 1,000 calories	0.18	0.01	0.29	0.01	0.32	0.01	0.42	0.01	0.41	0.02	0.41	0.02
Restaurant	Cups per 1,000 calories	0.23	0.01	0.27	0.02	0.31	0.02	0.39	0.03	0.39	0.03	0.39	0.03
Fast food	Cups per 1,000 calories	0.18	0.01	0.34	0.02	0.40	0.01	0.52	0.03	0.49	0.03	0.50	0.02
School	Cups per 1,000 calories	0.17	0.01	0.24	0.02	0.34	0.02	0.43	0.04	0.40	0.05	0.42	0.04
Others	Cups per 1,000 calories	0.16	0.01	0.16	0.02	0.16	0.01	0.12	0.02	0.16	0.01	0.18	0.02
Dairy, yogurt	Cups per 1,000 calories	0.01	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00
FAH	Cups per 1,000 calories	0.01	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03	0.00	0.04	0.00
FAFH	Cups per 1,000 calories	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00
Restaurant	Cups per 1,000 calories	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00
Fast food	Cups per 1,000 calories	0.01	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00
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School	Cups per 1,000 calories	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.01	0.01	0.01	0.00	0.00
Others	Cups per 1,000 calories	0.01	0.00	0.02	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.01	0.00
Fruit, total	Cups per 1,000 calories	0.48	0.01	0.54	0.01	0.57	0.01	0.51	0.02	0.51	0.02	0.55	0.03
FAH	Cups per 1,000 calories	0.56	0.02	0.68	0.02	0.75	0.02	0.69	0.03	0.73	0.02	0.73	0.04
FAFH	Cups per 1,000 calories	0.28	0.01	0.32	0.02	0.30	0.01	0.28	0.02	0.24	0.02	0.29	0.01
Restaurant	Cups per 1,000 calories	0.14	0.01	0.14	0.02	0.20	0.02	0.15	0.02	0.12	0.02	0.12	0.02
Fast food	Cups per 1,000 calories	0.17	0.01	0.24	0.02	0.13	0.01	0.15	0.03	0.13	0.03	0.14	0.02
School	Cups per 1,000 calories	0.45	0.02	0.67	0.05	0.68	0.04	1.00	0.17	0.64	0.05	0.82	0.08
Others	Cups per 1,000 calories	0.42	0.03	0.58	0.08	0.60	0.03	0.55	0.05	0.49	0.06	0.67	0.06
Fruit, citrus, melon, and berries	Cups per 1,000 calories	0.23	0.01	0.24	0.01	0.26	0.01	0.21	0.01	0.09	0.01	0.10	0.01
FAH	Cups per 1,000 calories	0.27	0.01	0.32	0.02	0.34	0.01	0.28	0.02	0.13	0.01	0.13	0.01
FAFH	Cups per 1,000 calories	0.12	0.01	0.13	0.01	0.15	0.01	0.14	0.01	0.04	0.01	0.08	0.02
Restaurant	Cups per 1,000 calories	0.09	0.01	0.09	0.01	0.14	0.02	0.10	0.02	0.04	0.01	0.04	0.01
Fast food	Cups per 1,000 calories	0.09	0.01	0.13	0.02	0.07	0.01	0.09	0.02	0.01	0.00	0.04	0.01
School	Cups per 1,000 calories	0.13	0.01	0.17	0.03	0.24	0.03	0.44	0.13	0.05	0.01	0.06	0.01
Others	Cups per 1,000 calories	0.20	0.03	0.20	0.04	0.28	0.02	0.22	0.05	0.14	0.05	0.18	0.04
Fruit, others	Cups per 1,000 calories	0.25	0.01	0.30	0.01	0.31	0.01	0.30	0.02	0.22	0.01	0.28	0.01
FAH	Cups per 1,000 calories	0.29	0.01	0.36	0.01	0.41	0.01	0.41	0.03	0.33	0.01	0.38	0.02
FAFH	Cups per 1,000 calories	0.16	0.01	0.19	0.02	0.15	0.01	0.14	0.02	0.10	0.02	0.13	0.01
Restaurant	Cups per 1,000 calories	0.05	0.01	0.05	0.01	0.06	0.00	0.05	0.01	0.04	0.01	0.04	0.01
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Fast food	Cups per 1,000 calories	0.08	0.01	0.12	0.01	0.06	0.01	0.06	0.01	0.07	0.03	0.05	0.01
School	Cups per 1,000 calories	0.31	0.02	0.50	0.05	0.44	0.02	0.55	0.10	0.24	0.03	0.49	0.08
Others	Cups per 1,000 calories	0.23	0.02	0.38	0.06	0.32	0.02	0.33	0.04	0.19	0.03	0.33	0.05
Fruit, juice	Cups per 1,000 calories	0.18	0.01	0.22	0.01	0.23	0.01	0.22	0.01	0.20	0.01	0.17	0.01
FAH	Cups per 1,000 calories	0.22	0.01	0.30	0.01	0.30	0.01	0.29	0.02	0.27	0.01	0.22	0.01
FAFH	Cups per 1,000 calories	0.09	0.00	0.12	0.01	0.12	0.01	0.11	0.01	0.09	0.01	0.08	0.01
Restaurant	Cups per 1,000 calories	0.06	0.01	0.07	0.01	0.09	0.01	0.06	0.01	0.04	0.00	0.04	0.01
Fast food	Cups per 1,000 calories	0.08	0.00	0.11	0.02	0.09	0.01	0.09	0.02	0.06	0.01	0.05	0.01
School	Cups per 1,000 calories	0.10	0.01	0.22	0.03	0.32	0.03	0.37	0.06	0.34	0.05	0.27	0.03
Others	Cups per 1,000 calories	0.13	0.01	0.16	0.03	0.18	0.02	0.18	0.03	0.16	0.04	0.17	0.03
Fruit, whole fruit	Cups per 1,000 calories	0.30	0.01	0.31	0.01	0.34	0.01	0.29	0.02	0.31	0.01	0.38	0.02
FAH	Cups per 1,000 calories	0.35	0.01	0.39	0.01	0.44	0.01	0.41	0.03	0.46	0.02	0.50	0.03
FAFH	Cups per 1,000 calories	0.20	0.01	0.20	0.02	0.17	0.01	0.17	0.02	0.15	0.03	0.21	0.02
Restaurant	Cups per 1,000 calories	0.08	0.01	0.08	0.02	0.10	0.01	0.09	0.02	0.08	0.02	0.08	0.02
Fast food	Cups per 1,000 calories	0.09	0.01	0.13	0.02	0.04	0.01	0.06	0.02	0.08	0.03	0.09	0.01
School	Cups per 1,000 calories	0.35	0.03	0.45	0.06	0.36	0.02	0.63	0.17	0.30	0.04	0.54	0.08
Others	Cups per 1,000 calories	0.30	0.03	0.41	0.07	0.42	0.03	0.37	0.05	0.33	0.06	0.50	0.06
Vegetable, total	Cups per 1,000 calories	0.84	0.01	0.83	0.01	0.83	0.01	0.72	0.01	0.72	0.02	0.71	0.01
FAH	Cups per 1,000 calories	0.81	0.01	0.75	0.02	0.72	0.01	0.60	0.01	0.61	0.02	0.63	0.01
FAFH	Cups per 1,000 calories	0.75	0.02	0.85	0.02	0.90	0.02	0.86	0.03	0.83	0.02	0.77	0.03
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Restaurant	Cups per 1,000 calories	1.11	0.03	1.19	0.05	1.24	0.04	1.23	0.05	1.17	0.04	1.15	0.03
Fast food	Cups per 1,000 calories	0.57	0.01	0.81	0.04	0.77	0.04	0.78	0.03	0.79	0.03	0.66	0.03
School	Cups per 1,000 calories	0.73	0.04	0.65	0.04	0.62	0.04	0.51	0.04	0.51	0.05	0.47	0.04
Others	Cups per 1,000 calories	0.71	0.02	0.60	0.04	0.91	0.07	0.51	0.07	0.56	0.05	0.69	0.11
Vegetables, potatoes	Cups per 1,000 calories	0.24	0.01	0.24	0.01	0.22	0.01	0.18	0.01	0.17	0.01	0.18	0.01
FAH	Cups per 1,000 calories	0.23	0.01	0.20	0.01	0.19	0.01	0.16	0.01	0.14	0.01	0.15	0.01
FAFH	Cups per 1,000 calories	0.22	0.01	0.24	0.01	0.23	0.01	0.19	0.01	0.19	0.01	0.20	0.01
Restaurant	Cups per 1,000 calories	0.29	0.01	0.33	0.03	0.26	0.02	0.22	0.02	0.23	0.03	0.27	0.03
Fast food	Cups per 1,000 calories	0.18	0.01	0.23	0.01	0.24	0.01	0.22	0.01	0.21	0.01	0.19	0.01
School	Cups per 1,000 calories	0.20	0.01	0.24	0.03	0.20	0.02	0.15	0.02	0.10	0.01	0.15	0.02
Others	Cups per 1,000 calories	0.20	0.01	0.13	0.02	0.17	0.01	0.09	0.01	0.11	0.01	0.14	0.02
Vegetables, other starchy	Cups per 1,000 calories	0.09	0.00	0.07	0.00	0.06	0.00	0.04	0.00	0.04	0.00	0.04	0.00
FAH	Cups per 1,000 calories	0.09	0.00	0.07	0.00	0.06	0.00	0.04	0.00	0.04	0.00	0.04	0.00
FAFH	Cups per 1,000 calories	0.06	0.00	0.04	0.00	0.04	0.00	0.02	0.00	0.03	0.00	0.03	0.00
Restaurant	Cups per 1,000 calories	0.05	0.01	0.04	0.01	0.04	0.01	0.04	0.00	0.04	0.01	0.04	0.00
Fast food	Cups per 1,000 calories	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.01	0.03	0.01	0.02	0.00
School	Cups per 1,000 calories	0.10	0.01	0.08	0.01	0.04	0.00	0.02	0.01	0.04	0.01	0.05	0.01
Others	Cups per 1,000 calories	0.07	0.01	0.03	0.01	0.05	0.01	0.02	0.01	0.03	0.01	0.04	0.01
Vegetable, tomatoes	Cups per 1,000 calories	0.14	0.00	0.14	0.00	0.14	0.00	0.17	0.01	0.15	0.01	0.14	0.00
FAH	Cups per 1,000 calories	0.13	0.00	0.13	0.00	0.13	0.00	0.13	0.01	0.12	0.01	0.12	0.00
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FAFH	Cups per 1,000 calories	0.13	0.00	0.16	0.01	0.17	0.01	0.22	0.01	0.20	0.01	0.15	0.01
Restaurant	Cups per 1,000 calories	0.22	0.02	0.20	0.02	0.20	0.02	0.24	0.02	0.22	0.01	0.19	0.01
Fast food	Cups per 1,000 calories	0.11	0.01	0.16	0.01	0.18	0.01	0.23	0.02	0.21	0.01	0.16	0.01
School	Cups per 1,000 calories	0.12	0.01	0.11	0.01	0.14	0.01	0.16	0.01	0.14	0.01	0.11	0.01
Others	Cups per 1,000 calories	0.11	0.01	0.10	0.01	0.14	0.03	0.13	0.03	0.14	0.03	0.10	0.03
Vegetables, red and orange color	Cups per 1,000 calories	0.05	0.00	0.05	0.00	0.05	0.00	0.03	0.00	0.04	0.00	0.04	0.00
FAH	Cups per 1,000 calories	0.05	0.00	0.05	0.00	0.05	0.00	0.03	0.00	0.04	0.00	0.04	0.00
FAFH	Cups per 1,000 calories	0.04	0.00	0.04	0.00	0.04	0.00	0.03	0.01	0.03	0.00	0.04	0.01
Restaurant	Cups per 1,000 calories	0.05	0.01	0.06	0.01	0.06	0.01	0.05	0.01	0.06	0.01	0.05	0.01
Fast food	Cups per 1,000 calories	0.02	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.02	0.00
School	Cups per 1,000 calories	0.03	0.00	0.04	0.01	0.04	0.01	0.04	0.01	0.05	0.01	0.05	0.02
Others	Cups per 1,000 calories	0.04	0.00	0.04	0.01	0.05	0.01	0.04	0.01	0.03	0.01	0.04	0.01
Vegetables, dark green	Cups per 1,000 calories	0.03	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.06	0.00	0.06	0.01
FAH	Cups per 1,000 calories	0.03	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05	0.01	0.06	0.01
FAFH	Cups per 1,000 calories	0.02	0.00	0.03	0.00	0.05	0.01	0.05	0.01	0.05	0.00	0.06	0.01
Restaurant	Cups per 1,000 calories	0.02	0.00	0.05	0.01	0.09	0.01	0.10	0.01	0.12	0.01	0.11	0.01
Fast food	Cups per 1,000 calories	0.01	0.00	0.03	0.01	0.02	0.00	0.04	0.01	0.02	0.00	0.04	0.01
School	Cups per 1,000 calories	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.00	0.01	0.00	0.02	0.01
Others	Cups per 1,000 calories	0.02	0.00	0.03	0.01	0.08	0.02	0.04	0.01	0.05	0.01	0.08	0.03
Vegetables, others	Cups per 1,000 calories	0.29	0.01	0.29	0.01	0.30	0.01	0.26	0.00	0.27	0.01	0.25	0.01
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FAH	Cups per 1,000 calories	0.28	0.01	0.25	0.01	0.25	0.01	0.20	0.01	0.22	0.01	0.21	0.01
FAFH	Cups per 1,000 calories	0.29	0.01	0.35	0.02	0.38	0.02	0.33	0.02	0.33	0.01	0.29	0.02
Restaurant	Cups per 1,000 calories	0.49	0.03	0.51	0.03	0.58	0.03	0.57	0.04	0.50	0.02	0.49	0.03
Fast food	Cups per 1,000 calories	0.22	0.01	0.35	0.03	0.31	0.03	0.27	0.01	0.31	0.02	0.24	0.02
School	Cups per 1,000 calories	0.26	0.03	0.18	0.02	0.19	0.02	0.13	0.02	0.17	0.03	0.11	0.02
Others	Cups per 1,000 calories	0.26	0.01	0.27	0.03	0.43	0.06	0.19	0.05	0.21	0.02	0.30	0.10
Legumes	Cups per 1,000 calories	0.05	0.00	0.05	0.00	0.05	0.00	0.04	0.00	0.04	0.00	0.05	0.00
FAH	Cups per 1,000 calories	0.06	0.01	0.05	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.04	0.00
FAFH	Cups per 1,000 calories	0.03	0.00	0.03	0.00	0.04	0.00	0.04	0.01	0.04	0.00	0.04	0.00
Restaurant	Cups per 1,000 calories	0.03	0.00	0.03	0.01	0.05	0.01	0.05	0.01	0.06	0.01	0.05	0.01
Fast food	Cups per 1,000 calories	0.02	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03	0.01
School	Cups per 1,000 calories	0.05	0.01	0.03	0.01	0.02	0.00	0.02	0.01	0.01	0.00	0.01	0.00
Others	Cups per 1,000 calories	0.03	0.00	0.03	0.00	0.03	0.00	0.03	0.01	0.04	0.01	0.03	0.00
Grains, total	Ounces per 1,000 calories	2.91	0.02	3.33	0.02	3.34	0.02	3.18	0.04	3.14	0.03	3.11	0.03
FAH	Ounces per 1,000 calories	2.95	0.02	3.31	0.03	3.37	0.02	3.02	0.06	2.93	0.04	2.97	0.05
FAFH	Ounces per 1,000 calories	2.61	0.03	3.15	0.05	3.13	0.03	3.24	0.06	3.31	0.05	3.15	0.03
Restaurant	Ounces per 1,000 calories	2.75	0.07	3.09	0.10	3.09	0.07	3.09	0.13	3.28	0.10	3.06	0.08
Fast food	Ounces per 1,000 calories	2.58	0.07	3.44	0.08	3.37	0.06	3.41	0.12	3.41	0.08	3.39	0.06
School	Ounces per 1,000 calories	2.60	0.03	2.93	0.11	3.02	0.08	3.08	0.15	3.35	0.12	3.33	0.17
Others	Ounces per 1,000 calories	2.43	0.04	2.27	0.10	2.63	0.06	2.52	0.10	2.67	0.09	2.50	0.08
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Grains, non-whole grains	Ounces per 1,000 calories	2.61	0.03	2.95	0.02	2.95	0.01	2.88	0.04	2.79	0.03	2.76	0.03
FAH	Ounces per 1,000 calories	2.59	0.03	2.84	0.03	2.86	0.02	2.61	0.05	2.46	0.04	2.51	0.04
FAFH	Ounces per 1,000 calories	2.52	0.04	3.01	0.05	2.96	0.03	3.13	0.06	3.20	0.05	3.03	0.04
Restaurant	Ounces per 1,000 calories	2.60	0.08	2.95	0.10	2.95	0.06	3.00	0.12	3.19	0.10	2.95	0.08
Fast food	Ounces per 1,000 calories	2.51	0.07	3.31	0.07	3.25	0.06	3.33	0.12	3.32	0.07	3.29	0.06
School	Ounces per 1,000 calories	2.56	0.04	2.88	0.11	2.84	0.08	2.96	0.16	3.19	0.13	3.18	0.17
Others	Ounces per 1,000 calories	2.29	0.04	2.08	0.10	2.32	0.06	2.32	0.10	2.48	0.08	2.31	0.09
Grains, whole grains	Ounces per 1,000 calories	0.29	0.01	0.38	0.01	0.40	0.01	0.29	0.01	0.34	0.01	0.35	0.02
FAH	Ounces per 1,000 calories	0.36	0.02	0.47	0.01	0.51	0.02	0.41	0.02	0.47	0.02	0.45	0.02
FAFH	Ounces per 1,000 calories	0.09	0.01	0.14	0.01	0.17	0.01	0.11	0.02	0.11	0.01	0.13	0.01
Restaurant	Ounces per 1,000 calories	0.16	0.02	0.14	0.02	0.14	0.02	0.09	0.02	0.09	0.01	0.11	0.02
Fast food	Ounces per 1,000 calories	0.07	0.01	0.13	0.02	0.12	0.02	0.08	0.02	0.09	0.02	0.10	0.01
School	Ounces per 1,000 calories	0.05	0.02	0.06	0.01	0.18	0.02	0.12	0.02	0.16	0.03	0.15	0.02
Others	Ounces per 1,000 calories	0.14	0.01	0.19	0.02	0.31	0.03	0.20	0.03	0.19	0.02	0.18	0.01
Protein foods, total	Ounces per 1,000 calories	3.38	0.05	2.88	0.04	2.61	0.02	2.61	0.04	2.72	0.04	2.73	0.04
FAH	Ounces per 1,000 calories	3.28	0.05	2.65	0.04	2.29	0.03	2.23	0.04	2.34	0.05	2.35	0.04
FAFH	Ounces per 1,000 calories	2.79	0.05	2.63	0.07	2.65	0.03	2.84	0.07	2.89	0.05	2.94	0.07
Restaurant	Ounces per 1,000 calories	3.97	0.08	3.55	0.15	3.54	0.09	3.77	0.18	3.87	0.13	4.04	0.17
Fast food	Ounces per 1,000 calories	2.59	0.05	2.69	0.08	2.38	0.04	2.64	0.05	2.75	0.07	2.78	0.11
School	Ounces per 1,000 calories	2.14	0.08	1.67	0.11	1.58	0.06	1.64	0.11	1.68	0.08	1.93	0.11
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Others	Ounces per 1,000 calories	2.51	0.06	1.65	0.09	2.07	0.08	1.87	0.08	1.93	0.12	1.81	0.08
Protein foods, meats, poultry and fish	Ounces per 1,000 calories	2.91	0.05	2.49	0.03	2.24	0.02	2.11	0.05	2.21	0.04	2.21	0.04
FAH	Ounces per 1,000 calories	2.76	0.05	2.23	0.04	1.88	0.03	1.66	0.04	1.75	0.04	1.75	0.03
FAFH	Ounces per 1,000 calories	2.51	0.04	2.37	0.06	2.39	0.03	2.54	0.06	2.55	0.05	2.59	0.07
Restaurant	Ounces per 1,000 calories	3.47	0.08	3.11	0.14	3.15	0.09	3.35	0.16	3.35	0.11	3.59	0.17
Fast food	Ounces per 1,000 calories	2.37	0.05	2.48	0.08	2.19	0.04	2.43	0.04	2.53	0.06	2.56	0.11
School	Ounces per 1,000 calories	1.98	0.08	1.51	0.12	1.41	0.06	1.50	0.11	1.51	0.09	1.76	0.10
Others	Ounces per 1,000 calories	2.18	0.06	1.37	0.09	1.73	0.08	1.30	0.08	1.42	0.12	1.33	0.08
Protein foods, meats (beef, veal, pork, lamb, game)	Ounces per 1,000 calories	1.68	0.03	1.14	0.03	0.98	0.02	0.83	0.03	0.76	0.02	0.74	0.02
FAH	Ounces per 1,000 calories	1.58	0.02	1.01	0.03	0.79	0.02	0.63	0.03	0.57	0.02	0.57	0.02
FAFH	Ounces per 1,000 calories	1.49	0.03	1.08	0.04	1.04	0.03	1.00	0.05	0.90	0.05	0.84	0.04
Restaurant	Ounces per 1,000 calories	2.00	0.08	1.36	0.09	1.32	0.07	1.33	0.05	1.11	0.09	1.15	0.12
Fast food	Ounces per 1,000 calories	1.51	0.02	1.14	0.05	0.98	0.04	0.93	0.05	0.91	0.06	0.82	0.05
School	Ounces per 1,000 calories	1.14	0.04	0.84	0.10	0.57	0.04	0.58	0.08	0.42	0.04	0.47	0.07
Others	Ounces per 1,000 calories	1.19	0.05	0.59	0.05	0.78	0.05	0.50	0.03	0.45	0.07	0.40	0.06
Protein foods, poultry	Ounces per 1,000 calories	0.57	0.03	0.67	0.02	0.63	0.02	0.64	0.02	0.70	0.03	0.73	0.03
FAH	Ounces per 1,000 calories	0.55	0.03	0.57	0.02	0.50	0.02	0.41	0.02	0.48	0.02	0.52	0.02
FAFH	Ounces per 1,000 calories	0.42	0.03	0.72	0.05	0.74	0.02	0.97	0.06	0.98	0.05	1.05	0.05
Restaurant	Ounces per 1,000 calories	0.43	0.04	0.81	0.10	0.96	0.06	1.26	0.11	1.26	0.11	1.38	0.13
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Fast food	Ounces per 1,000 calories	0.33	0.03	0.84	0.08	0.73	0.03	1.03	0.06	1.07	0.07	1.11	0.07
School	Ounces per 1,000 calories	0.30	0.05	0.32	0.10	0.35	0.04	0.54	0.09	0.62	0.06	0.86	0.07
Others	Ounces per 1,000 calories	0.52	0.04	0.40	0.05	0.48	0.04	0.42	0.06	0.45	0.06	0.43	0.06
Protein foods, high Omega-3 fatty fish	Ounces per 1,000 calories	0.05	0.00	0.07	0.01	0.06	0.00	0.05	0.01	0.06	0.01	0.06	0.00
FAH	Ounces per 1,000 calories	0.05	0.00	0.06	0.01	0.06	0.00	0.05	0.01	0.06	0.01	0.05	0.01
FAFH	Ounces per 1,000 calories	0.03	0.00	0.05	0.01	0.04	0.00	0.06	0.01	0.03	0.01	0.06	0.01
Restaurant	Ounces per 1,000 calories	0.07	0.01	0.14	0.05	0.07	0.01	0.14	0.06	0.07	0.02	0.12	0.04
Fast food	Ounces per 1,000 calories	0.03	0.00	0.03	0.01	0.01	0.00	0.02	0.00	0.01	0.00	0.03	0.01
School	Ounces per 1,000 calories	0.02	0.00	0.00	0.00	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Others	Ounces per 1,000 calories	0.02	0.00	0.03	0.01	0.04	0.01	0.03	0.02	0.03	0.01	0.04	0.02
Protein foods, low Omega-3 fatty fish	Ounces per 1,000 calories	0.21	0.01	0.26	0.02	0.19	0.01	0.18	0.02	0.21	0.02	0.18	0.01
FAH	Ounces per 1,000 calories	0.18	0.01	0.22	0.02	0.13	0.01	0.15	0.01	0.16	0.02	0.14	0.01
FAFH	Ounces per 1,000 calories	0.28	0.01	0.27	0.03	0.26	0.02	0.19	0.02	0.25	0.04	0.20	0.01
Restaurant	Ounces per 1,000 calories	0.75	0.05	0.60	0.07	0.57	0.06	0.41	0.07	0.57	0.07	0.55	0.06
Fast food	Ounces per 1,000 calories	0.24	0.02	0.20	0.03	0.15	0.02	0.12	0.01	0.11	0.02	0.10	0.01
School	Ounces per 1,000 calories	0.18	0.03	0.08	0.02	0.09	0.03	0.03	0.02	0.03	0.01	0.02	0.01
Others	Ounces per 1,000 calories	0.14	0.01	0.15	0.03	0.14	0.02	0.09	0.02	0.20	0.08	0.10	0.02
Protein foods, cured meats	Ounces per 1,000 calories	0.36	0.01	0.35	0.01	0.38	0.01	0.40	0.01	0.47	0.02	0.49	0.02
FAH	Ounces per 1,000 calories	0.36	0.01	0.37	0.02	0.38	0.01	0.40	0.02	0.46	0.03	0.46	0.02
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FAFH	Ounces per 1,000 calories	0.27	0.01	0.24	0.01	0.30	0.01	0.32	0.02	0.38	0.02	0.44	0.02
Restaurant	Ounces per 1,000 calories	0.18	0.02	0.19	0.03	0.21	0.02	0.20	0.04	0.31	0.04	0.37	0.04
Fast food	Ounces per 1,000 calories	0.25	0.02	0.25	0.02	0.31	0.02	0.35	0.02	0.42	0.03	0.49	0.04
School	Ounces per 1,000 calories	0.34	0.03	0.25	0.03	0.39	0.04	0.35	0.05	0.45	0.07	0.40	0.05
Others	Ounces per 1,000 calories	0.27	0.01	0.20	0.03	0.28	0.02	0.25	0.05	0.29	0.03	0.36	0.04
Protein foods, organ meats	Ounces per 1,000 calories	0.04	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00
FAH	Ounces per 1,000 calories	0.04	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00
FAFH	Ounces per 1,000 calories	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.01	0.00
Restaurant	Ounces per 1,000 calories	0.04	0.02	0.01	0.01	0.02	0.01	0.01	0.01	0.03	0.02	0.02	0.01
Fast food	Ounces per 1,000 calories	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
School	Ounces per 1,000 calories	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	Ounces per 1,000 calories	0.03	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.00
Protein foods, eggs	Ounces per 1,000 calories	0.34	0.01	0.23	0.01	0.20	0.00	0.20	0.01	0.22	0.01	0.24	0.01
FAH	Ounces per 1,000 calories	0.37	0.01	0.23	0.01	0.21	0.01	0.20	0.01	0.22	0.01	0.24	0.01
FAFH	Ounces per 1,000 calories	0.18	0.01	0.17	0.01	0.15	0.01	0.16	0.02	0.21	0.01	0.22	0.01
Restaurant	Ounces per 1,000 calories	0.47	0.03	0.39	0.04	0.32	0.02	0.34	0.05	0.37	0.03	0.40	0.03
Fast food	Ounces per 1,000 calories	0.14	0.01	0.13	0.02	0.10	0.01	0.12	0.01	0.14	0.02	0.15	0.01
School	Ounces per 1,000 calories	0.06	0.01	0.03	0.01	0.04	0.01	0.04	0.01	0.06	0.01	0.10	0.02
Others	Ounces per 1,000 calories	0.16	0.01	0.09	0.01	0.10	0.01	0.06	0.01	0.20	0.03	0.16	0.02
Protein foods, soy products	Ounces per 1,000 calories	0.01	0.00	0.01	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.04	0.00
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FAH	Ounces per 1,000 calories	0.01	0.00	0.01	0.00	0.01	0.00	0.04	0.01	0.03	0.01	0.04	0.01
FAFH	Ounces per 1,000 calories	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.01	0.02	0.01
Restaurant	Ounces per 1,000 calories	0.00	0.00	0.01	0.00	0.03	0.01	0.01	0.00	0.09	0.07	0.02	0.01
Fast food	Ounces per 1,000 calories	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.01
School	Ounces per 1,000 calories	0.01	0.00	0.01	0.01	0.02	0.01	0.03	0.02	0.00	0.00	0.00	0.00
Others	Ounces per 1,000 calories	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.04	0.02
Protein foods, nuts and seeds	Ounces per 1,000 calories	0.14	0.01	0.16	0.01	0.16	0.01	0.25	0.01	0.26	0.01	0.25	0.01
FAH	Ounces per 1,000 calories	0.14	0.01	0.18	0.01	0.19	0.01	0.32	0.02	0.34	0.02	0.32	0.02
FAFH	Ounces per 1,000 calories	0.09	0.01	0.09	0.01	0.10	0.01	0.14	0.01	0.12	0.02	0.12	0.01
Restaurant	Ounces per 1,000 calories	0.02	0.01	0.05	0.02	0.05	0.01	0.06	0.02	0.06	0.02	0.04	0.01
Fast food	Ounces per 1,000 calories	0.07	0.01	0.07	0.01	0.08	0.01	0.07	0.03	0.07	0.02	0.06	0.01
School	Ounces per 1,000 calories	0.09	0.02	0.13	0.04	0.11	0.02	0.07	0.01	0.10	0.03	0.07	0.01
Others	Ounces per 1,000 calories	0.17	0.02	0.18	0.03	0.22	0.02	0.50	0.04	0.30	0.04	0.28	0.04

SE of mean = Standard error of the mean, FAH = food at home, FAFH= food away from home.

Source: USDA, Economic Research Service using USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data, and 1989–1991, 1994–96, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2003–04, 2005–06, 2007–08, 2009–10, 2011–2012, 2013–14, 2015–16, and 2017–18 What We Eat in America, National Health and Nutrition Examination Survey data.

Table 8b  
**Density of food group by food source, U.S. consumers aged 2 and above, 2009–2018**

		2009–10		2011–12		2013–14		2015–16		2017–18	
Variable	Measurement	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean	Mean	SE of mean
U.S. consumers aged 2 and above											
Energy	Calories	2,080.56	12.91	2,138.89	12.34	2,079.32	17.17	2,048.24	18.25	2,093.14	14.12
FAH	Calories	1,460.34	16.85	1,398.98	31.55	1,368.60	15.84	1,369.60	20.87	1,402.55	22.45
FAFH	Calories	620.22	13.11	739.91	28.67	710.73	13.83	678.64	17.65	690.60	25.02
Restaurant	Calories	159.58	6.72	171.06	10.81	177.04	8.86	178.61	6.64	173.28	10.87
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Fast food	Calories	299.26	8.07	362.31	23.83	352.13	9.36	330.94	11.75	360.90	17.92
School	Calories	39.24	5.25	40.52	4.59	38.76	2.93	34.62	3.56	28.21	4.88
Others	Calories	122.14	5.29	166.01	10.17	142.80	8.32	134.47	7.81	128.20	6.27
Added sugars	Teaspoons per 1,000 calories	8.51	0.14	8.49	0.14	8.22	0.15	7.74	0.14	7.90	0.18
FAH	Teaspoons per 1,000 calories	9.74	0.16	9.70	0.22	9.51	0.21	8.92	0.23	9.27	0.25
FAFH	Teaspoons per 1,000 calories	8.64	0.33	8.56	0.22	7.95	0.19	8.24	0.24	7.66	0.25
Restaurant	Teaspoons per 1,000 calories	5.67	0.24	5.85	0.44	5.38	0.40	5.44	0.41	4.46	0.32
Fast food	Teaspoons per 1,000 calories	8.36	0.40	9.12	0.34	8.13	0.21	8.16	0.37	7.85	0.26
School	Teaspoons per 1,000 calories	7.04	0.42	6.11	0.25	6.15	0.33	6.12	0.54	6.86	0.54
Others	Teaspoons per 1,000 calories	13.67	0.63	13.07	0.54	13.13	0.49	13.33	0.50	12.35	0.42
Discretionary fats and oils	Grams per 1,000 calories	27.56	0.19	28.04	0.23	28.40	0.20	29.64	0.23	30.43	0.19
FAH	Grams per 1,000 calories	24.96	0.22	25.48	0.30	25.88	0.25	27.17	0.25	27.77	0.22
FAFH	Grams per 1,000 calories	31.52	0.30	30.49	0.25	30.83	0.28	31.82	0.34	32.74	0.38
Restaurant	Grams per 1,000 calories	33.84	0.68	31.46	0.62	31.68	0.51	33.67	0.71	34.22	0.67
Fast food	Grams per 1,000 calories	31.88	0.53	31.08	0.55	31.57	0.51	32.94	0.57	33.40	0.51
School	Grams per 1,000 calories	27.53	0.99	26.38	0.50	25.43	0.74	24.55	0.64	23.92	0.93
Others	Grams per 1,000 calories	26.97	0.66	26.96	0.54	27.51	0.49	27.35	0.67	29.47	0.73
Discretionary fats	Grams per 1,000 calories	17.31	0.17	16.48	0.25	16.39	0.17	16.63	0.22	16.82	0.30
FAH	Grams per 1,000 calories	15.80	0.19	14.99	0.31	15.14	0.18	15.76	0.20	16.01	0.35
FAFH	Grams per 1,000 calories	20.25	0.35	18.80	0.22	18.19	0.32	17.34	0.24	17.55	0.40
Restaurant	Grams per 1,000 calories	20.29	0.59	16.37	0.52	14.88	0.56	16.05	0.90	14.67	0.62
Fast food	Grams per 1,000 calories	20.38	0.45	19.48	0.35	19.06	0.37	17.70	0.39	18.26	0.50
School	Grams per 1,000 calories	20.16	1.01	18.42	0.68	15.53	0.77	14.37	0.56	14.24	0.57
Others	Grams per 1,000 calories	18.66	0.44	18.82	0.64	18.66	0.51	18.12	0.57	18.81	0.70
Discretionary oils	Grams per 1,000 calories	10.25	0.16	11.57	0.17	12.01	0.10	13.01	0.18	13.61	0.30
FAH	Grams per 1,000 calories	9.16	0.15	10.49	0.21	10.74	0.15	11.41	0.25	11.77	0.33
FAFH	Grams per 1,000 calories	11.26	0.20	11.69	0.20	12.64	0.25	14.48	0.23	15.19	0.30
Restaurant	Grams per 1,000 calories	13.55	0.53	15.10	0.40	16.81	0.60	17.63	0.56	19.56	0.54
Fast food	Grams per 1,000 calories	11.49	0.31	11.60	0.50	12.51	0.32	15.24	0.53	15.14	0.39
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School	Grams per 1,000 calories	7.37	0.72	7.96	0.61	9.90	0.65	10.18	0.81	9.68	0.69
Others	Grams per 1,000 calories	8.31	0.35	8.14	0.46	8.85	0.36	9.23	0.48	10.66	0.48
Dairy, total	Cups per 1,000 calories	0.90	0.01	0.85	0.02	0.85	0.02	0.79	0.02	0.75	0.01
FAH	Cups per 1,000 calories	0.97	0.02	0.88	0.02	0.89	0.02	0.84	0.03	0.77	0.02
FAFH	Cups per 1,000 calories	0.75	0.02	0.77	0.03	0.77	0.02	0.71	0.02	0.70	0.02
Restaurant	Cups per 1,000 calories	0.62	0.04	0.57	0.03	0.51	0.03	0.53	0.04	0.50	0.03
Fast food	Cups per 1,000 calories	0.73	0.04	0.86	0.05	0.85	0.04	0.78	0.04	0.74	0.04
School	Cups per 1,000 calories	2.19	0.11	1.89	0.06	1.96	0.11	1.94	0.13	1.99	0.09
Others	Cups per 1,000 calories	0.48	0.02	0.48	0.06	0.50	0.03	0.44	0.03	0.43	0.05
Dairy, fluid milk	Cups per 1,000 calories	0.51	0.01	0.45	0.01	0.42	0.01	0.38	0.01	0.35	0.01
FAH	Cups per 1,000 calories	0.64	0.01	0.55	0.02	0.52	0.02	0.47	0.02	0.43	0.02
FAFH	Cups per 1,000 calories	0.28	0.01	0.30	0.03	0.29	0.02	0.27	0.02	0.27	0.02
Restaurant	Cups per 1,000 calories	0.13	0.01	0.11	0.01	0.11	0.02	0.11	0.01	0.08	0.01
Fast food	Cups per 1,000 calories	0.18	0.03	0.29	0.04	0.26	0.02	0.26	0.03	0.26	0.03
School	Cups per 1,000 calories	1.63	0.12	1.32	0.07	1.44	0.14	1.43	0.11	1.48	0.10
Others	Cups per 1,000 calories	0.31	0.03	0.27	0.05	0.24	0.02	0.23	0.03	0.21	0.03
Dairy, cheese	Cups per 1,000 calories	0.35	0.01	0.36	0.01	0.37	0.01	0.35	0.01	0.35	0.01
FAH	Cups per 1,000 calories	0.29	0.01	0.27	0.01	0.30	0.01	0.28	0.01	0.28	0.01
FAFH	Cups per 1,000 calories	0.44	0.01	0.45	0.02	0.46	0.01	0.42	0.01	0.41	0.02
Restaurant	Cups per 1,000 calories	0.48	0.04	0.45	0.03	0.39	0.02	0.41	0.04	0.41	0.03
Fast food	Cups per 1,000 calories	0.53	0.02	0.54	0.03	0.56	0.02	0.49	0.02	0.47	0.02
School	Cups per 1,000 calories	0.52	0.05	0.54	0.06	0.50	0.06	0.49	0.05	0.45	0.07
Others	Cups per 1,000 calories	0.15	0.01	0.19	0.03	0.23	0.03	0.18	0.02	0.18	0.02
Dairy, yogurt	Cups per 1,000 calories	0.03	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.03	0.00
FAH	Cups per 1,000 calories	0.04	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.04	0.01
FAFH	Cups per 1,000 calories	0.01	0.00	0.02	0.00	0.01	0.00	0.02	0.00	0.01	0.00
Restaurant	Cups per 1,000 calories	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.00
Fast food	Cups per 1,000 calories	0.02	0.01	0.03	0.01	0.02	0.00	0.02	0.01	0.01	0.00
School	Cups per 1,000 calories	0.02	0.01	0.03	0.01	0.02	0.00	0.03	0.02	0.06	0.01
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Others	Cups per 1,000 calories	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.02	0.01
Fruit, total	Cups per 1,000 calories	0.58	0.01	0.54	0.02	0.51	0.01	0.51	0.02	0.49	0.02
FAH	Cups per 1,000 calories	0.75	0.02	0.74	0.03	0.73	0.02	0.69	0.02	0.69	0.04
FAFH	Cups per 1,000 calories	0.32	0.05	0.34	0.02	0.28	0.02	0.34	0.03	0.29	0.02
Restaurant	Cups per 1,000 calories	0.18	0.06	0.15	0.02	0.13	0.03	0.15	0.04	0.08	0.02
Fast food	Cups per 1,000 calories	0.15	0.02	0.17	0.02	0.11	0.01	0.16	0.03	0.16	0.02
School	Cups per 1,000 calories	0.83	0.09	1.18	0.15	0.94	0.11	1.28	0.17	1.36	0.21
Others	Cups per 1,000 calories	0.67	0.12	0.69	0.07	0.61	0.06	0.66	0.10	0.65	0.07
Fruit, citrus, melon, and berries	Cups per 1,000 calories	0.11	0.01	0.10	0.01	0.11	0.01	0.13	0.01	0.13	0.01
FAH	Cups per 1,000 calories	0.15	0.01	0.13	0.01	0.16	0.01	0.17	0.02	0.21	0.03
FAFH	Cups per 1,000 calories	0.07	0.02	0.09	0.02	0.10	0.02	0.10	0.02	0.08	0.01
Restaurant	Cups per 1,000 calories	0.03	0.01	0.04	0.01	0.06	0.02	0.05	0.03	0.02	0.01
Fast food	Cups per 1,000 calories	0.04	0.02	0.05	0.01	0.03	0.01	0.04	0.01	0.04	0.01
School	Cups per 1,000 calories	0.07	0.01	0.18	0.06	0.17	0.04	0.11	0.02	0.30	0.16
Others	Cups per 1,000 calories	0.21	0.05	0.20	0.05	0.23	0.05	0.21	0.05	0.23	0.05
Fruit, others	Cups per 1,000 calories	0.29	0.01	0.27	0.01	0.25	0.01	0.25	0.01	0.25	0.01
FAH	Cups per 1,000 calories	0.37	0.01	0.38	0.02	0.36	0.02	0.35	0.02	0.33	0.02
FAFH	Cups per 1,000 calories	0.15	0.03	0.15	0.01	0.11	0.01	0.16	0.03	0.13	0.01
Restaurant	Cups per 1,000 calories	0.10	0.06	0.05	0.01	0.05	0.01	0.06	0.02	0.03	0.01
Fast food	Cups per 1,000 calories	0.05	0.01	0.06	0.01	0.04	0.01	0.06	0.01	0.07	0.02
School	Cups per 1,000 calories	0.46	0.05	0.70	0.12	0.47	0.05	0.71	0.15	0.70	0.14
Others	Cups per 1,000 calories	0.30	0.09	0.32	0.04	0.22	0.03	0.34	0.09	0.28	0.04
Fruit, juice	Cups per 1,000 calories	0.18	0.01	0.17	0.01	0.14	0.01	0.13	0.01	0.12	0.00
FAH	Cups per 1,000 calories	0.23	0.01	0.23	0.02	0.20	0.01	0.17	0.01	0.15	0.01
FAFH	Cups per 1,000 calories	0.10	0.01	0.09	0.01	0.07	0.01	0.08	0.01	0.08	0.01
Restaurant	Cups per 1,000 calories	0.05	0.01	0.06	0.01	0.03	0.00	0.04	0.01	0.02	0.01
Fast food	Cups per 1,000 calories	0.06	0.01	0.06	0.01	0.04	0.01	0.06	0.02	0.05	0.01
School	Cups per 1,000 calories	0.30	0.05	0.30	0.05	0.30	0.05	0.47	0.09	0.36	0.07
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Others	Cups per 1,000 calories	0.17	0.02	0.17	0.04	0.16	0.04	0.12	0.02	0.14	0.03
Fruit, whole fruit	Cups per 1,000 calories	0.40	0.01	0.37	0.02	0.37	0.01	0.38	0.02	0.38	0.02
FAH	Cups per 1,000 calories	0.52	0.01	0.51	0.03	0.53	0.02	0.52	0.03	0.54	0.04
FAFH	Cups per 1,000 calories	0.22	0.05	0.25	0.02	0.21	0.02	0.26	0.03	0.21	0.02
Restaurant	Cups per 1,000 calories	0.13	0.06	0.09	0.02	0.11	0.03	0.11	0.03	0.06	0.02
Fast food	Cups per 1,000 calories	0.09	0.02	0.11	0.02	0.07	0.01	0.11	0.03	0.11	0.02
School	Cups per 1,000 calories	0.54	0.07	0.88	0.14	0.64	0.09	0.81	0.14	0.99	0.22
Others	Cups per 1,000 calories	0.51	0.12	0.52	0.05	0.44	0.06	0.55	0.10	0.51	0.06
Vegetable, total	Cups per 1,000 calories	0.73	0.01	0.73	0.02	0.71	0.01	0.73	0.02	0.71	0.02
FAH	Cups per 1,000 calories	0.68	0.03	0.65	0.02	0.66	0.02	0.67	0.03	0.64	0.02
FAFH	Cups per 1,000 calories	0.79	0.03	0.76	0.02	0.74	0.02	0.72	0.02	0.72	0.03
Restaurant	Cups per 1,000 calories	1.18	0.06	1.18	0.05	1.11	0.07	1.03	0.07	1.11	0.06
Fast food	Cups per 1,000 calories	0.71	0.06	0.63	0.03	0.64	0.02	0.62	0.02	0.64	0.03
School	Cups per 1,000 calories	0.44	0.05	0.49	0.06	0.57	0.06	0.62	0.08	0.48	0.08
Others	Cups per 1,000 calories	0.58	0.06	0.59	0.05	0.63	0.07	0.65	0.09	0.51	0.05
Vegetables, potatoes	Cups per 1,000 calories	0.17	0.00	0.16	0.01	0.16	0.01	0.18	0.01	0.17	0.01
FAH	Cups per 1,000 calories	0.14	0.01	0.14	0.01	0.13	0.01	0.16	0.01	0.15	0.01
FAFH	Cups per 1,000 calories	0.20	0.00	0.17	0.01	0.18	0.01	0.18	0.01	0.18	0.00
Restaurant	Cups per 1,000 calories	0.23	0.01	0.21	0.02	0.21	0.01	0.20	0.02	0.23	0.02
Fast food	Cups per 1,000 calories	0.20	0.01	0.17	0.01	0.19	0.01	0.17	0.01	0.19	0.02
School	Cups per 1,000 calories	0.11	0.03	0.07	0.02	0.19	0.03	0.12	0.02	0.13	0.03
Others	Cups per 1,000 calories	0.16	0.02	0.12	0.02	0.13	0.01	0.14	0.02	0.12	0.01
Vegetables, other starchy	Cups per 1,000 calories	0.04	0.00	0.04	0.00	0.03	0.00	0.04	0.00	0.03	0.00
FAH	Cups per 1,000 calories	0.04	0.00	0.04	0.00	0.04	0.00	0.05	0.00	0.03	0.00
FAFH	Cups per 1,000 calories	0.04	0.02	0.03	0.01	0.03	0.01	0.02	0.00	0.02	0.00
Restaurant	Cups per 1,000 calories	0.03	0.01	0.03	0.00	0.03	0.00	0.02	0.01	0.03	0.01
Fast food	Cups per 1,000 calories	0.05	0.03	0.02	0.00	0.01	0.01	0.02	0.01	0.01	0.00
School	Cups per 1,000 calories	0.03	0.01	0.03	0.01	0.03	0.01	0.03	0.01	0.02	0.01

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Others	Cups per 1,000 calories	0.04	0.01	0.05	0.01	0.05	0.02	0.03	0.01	0.05	0.01
Vegetable, tomatoes	Cups per 1,000 calories	0.14	0.01	0.14	0.00	0.13	0.00	0.13	0.01	0.13	0.00
FAH	Cups per 1,000 calories	0.12	0.01	0.13	0.01	0.12	0.00	0.11	0.01	0.11	0.01
FAFH	Cups per 1,000 calories	0.15	0.01	0.16	0.02	0.16	0.01	0.13	0.00	0.13	0.01
Restaurant	Cups per 1,000 calories	0.19	0.01	0.22	0.03	0.19	0.01	0.17	0.01	0.19	0.02
Fast food	Cups per 1,000 calories	0.15	0.01	0.13	0.01	0.14	0.01	0.13	0.01	0.13	0.01
School	Cups per 1,000 calories	0.11	0.01	0.13	0.02	0.13	0.02	0.11	0.02	0.12	0.02
Others	Cups per 1,000 calories	0.10	0.02	0.14	0.04	0.16	0.04	0.09	0.02	0.07	0.01
Vegetables, red and orange color	Cups per 1,000 calories	0.04	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05	0.00
FAH	Cups per 1,000 calories	0.04	0.00	0.05	0.00	0.05	0.00	0.05	0.01	0.05	0.00
FAFH	Cups per 1,000 calories	0.03	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04	0.00
Restaurant	Cups per 1,000 calories	0.05	0.01	0.07	0.01	0.05	0.01	0.07	0.02	0.08	0.01
Fast food	Cups per 1,000 calories	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.03	0.00
School	Cups per 1,000 calories	0.03	0.00	0.05	0.01	0.06	0.02	0.11	0.01	0.07	0.03
Others	Cups per 1,000 calories	0.04	0.01	0.03	0.00	0.05	0.01	0.05	0.01	0.05	0.01
Vegetables, dark green	Cups per 1,000 calories	0.07	0.00	0.07	0.01	0.08	0.00	0.08	0.01	0.08	0.01
FAH	Cups per 1,000 calories	0.07	0.00	0.07	0.01	0.08	0.01	0.08	0.01	0.08	0.01
FAFH	Cups per 1,000 calories	0.06	0.00	0.06	0.01	0.07	0.01	0.08	0.02	0.07	0.01
Restaurant	Cups per 1,000 calories	0.13	0.02	0.14	0.03	0.17	0.04	0.18	0.05	0.13	0.02
Fast food	Cups per 1,000 calories	0.03	0.01	0.04	0.01	0.04	0.01	0.05	0.01	0.04	0.01
School	Cups per 1,000 calories	0.02	0.01	0.04	0.01	0.03	0.01	0.06	0.02	0.02	0.01
Others	Cups per 1,000 calories	0.05	0.03	0.04	0.01	0.06	0.03	0.11	0.06	0.05	0.01
Vegetables, others	Cups per 1,000 calories	0.27	0.01	0.27	0.01	0.25	0.01	0.25	0.01	0.25	0.01
FAH	Cups per 1,000 calories	0.26	0.03	0.22	0.01	0.24	0.01	0.22	0.01	0.22	0.01
FAFH	Cups per 1,000 calories	0.31	0.02	0.30	0.01	0.26	0.01	0.27	0.02	0.27	0.02
Restaurant	Cups per 1,000 calories	0.55	0.04	0.52	0.03	0.45	0.03	0.38	0.03	0.46	0.04
Fast food	Cups per 1,000 calories	0.27	0.03	0.25	0.02	0.23	0.01	0.23	0.01	0.25	0.02
School	Cups per 1,000 calories	0.13	0.03	0.19	0.05	0.13	0.02	0.19	0.06	0.12	0.05
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Others	Cups per 1,000 calories	0.19	0.02	0.21	0.03	0.19	0.04	0.24	0.05	0.17	0.03
Legumes	Cups per 1,000 calories	0.05	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05	0.00
FAH	Cups per 1,000 calories	0.05	0.00	0.05	0.00	0.04	0.00	0.05	0.00	0.04	0.00
FAFH	Cups per 1,000 calories	0.04	0.00	0.05	0.01	0.04	0.00	0.05	0.00	0.05	0.01
Restaurant	Cups per 1,000 calories	0.05	0.01	0.08	0.01	0.06	0.01	0.06	0.01	0.07	0.01
Fast food	Cups per 1,000 calories	0.03	0.00	0.04	0.01	0.03	0.01	0.04	0.01	0.03	0.01
School	Cups per 1,000 calories	0.03	0.01	0.02	0.00	0.03	0.01	0.02	0.00	0.03	0.01
Others	Cups per 1,000 calories	0.03	0.00	0.03	0.00	0.03	0.01	0.03	0.00	0.06	0.02
Grains, total	Ounces per 1,000 calories	3.22	0.03	3.21	0.03	3.22	0.03	3.17	0.03	3.20	0.04
FAH	Ounces per 1,000 calories	3.08	0.03	3.07	0.03	3.00	0.04	2.96	0.03	2.97	0.04
FAFH	Ounces per 1,000 calories	3.23	0.06	3.16	0.06	3.30	0.04	3.24	0.03	3.24	0.05
Restaurant	Ounces per 1,000 calories	3.18	0.10	3.18	0.11	3.12	0.07	3.29	0.07	3.23	0.12
Fast food	Ounces per 1,000 calories	3.46	0.08	3.25	0.10	3.52	0.07	3.44	0.06	3.47	0.07
School	Ounces per 1,000 calories	3.33	0.12	3.48	0.13	3.67	0.15	3.46	0.15	3.59	0.14
Others	Ounces per 1,000 calories	2.49	0.11	2.42	0.09	2.44	0.06	2.37	0.07	2.41	0.09
Grains, non-whole grains	Ounces per 1,000 calories	2.79	0.03	2.74	0.03	2.76	0.03	2.70	0.03	2.77	0.03
FAH	Ounces per 1,000 calories	2.54	0.03	2.48	0.03	2.42	0.03	2.38	0.04	2.45	0.04
FAFH	Ounces per 1,000 calories	3.09	0.06	2.96	0.06	3.06	0.04	2.97	0.04	3.05	0.06
Restaurant	Ounces per 1,000 calories	3.06	0.10	3.01	0.11	2.94	0.07	3.08	0.08	3.10	0.12
Fast food	Ounces per 1,000 calories	3.35	0.08	3.11	0.10	3.32	0.07	3.28	0.07	3.35	0.07
School	Ounces per 1,000 calories	3.16	0.13	3.18	0.11	2.84	0.13	2.31	0.13	2.55	0.13
Others	Ounces per 1,000 calories	2.30	0.10	2.12	0.08	2.21	0.05	2.07	0.08	2.21	0.10
Grains, whole grains	Ounces per 1,000 calories	0.42	0.01	0.47	0.02	0.46	0.01	0.48	0.02	0.43	0.02
FAH	Ounces per 1,000 calories	0.55	0.02	0.59	0.02	0.59	0.03	0.58	0.03	0.52	0.02
FAFH	Ounces per 1,000 calories	0.13	0.01	0.20	0.01	0.25	0.02	0.26	0.02	0.19	0.01
Restaurant	Ounces per 1,000 calories	0.12	0.02	0.17	0.02	0.18	0.03	0.21	0.03	0.13	0.01
Fast food	Ounces per 1,000 calories	0.11	0.02	0.15	0.02	0.20	0.02	0.16	0.03	0.12	0.01
School	Ounces per 1,000 calories	0.17	0.03	0.30	0.04	0.83	0.05	1.15	0.08	1.04	0.08

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Others	Ounces per 1,000 calories	0.19	0.03	0.30	0.02	0.23	0.03	0.30	0.04	0.20	0.02
Protein foods, total	Ounces per 1,000 calories	2.78	0.05	2.72	0.04	2.85	0.05	2.87	0.05	2.83	0.05
FAH	Ounces per 1,000 calories	2.50	0.05	2.42	0.05	2.54	0.05	2.62	0.06	2.58	0.04
FAFH	Ounces per 1,000 calories	2.86	0.11	2.83	0.08	2.90	0.07	2.75	0.07	2.81	0.07
Restaurant	Ounces per 1,000 calories	3.96	0.18	4.06	0.17	4.01	0.11	3.81	0.16	4.10	0.15
Fast food	Ounces per 1,000 calories	2.84	0.12	2.45	0.11	2.61	0.08	2.56	0.10	2.48	0.09
School	Ounces per 1,000 calories	1.69	0.14	2.16	0.15	1.91	0.10	1.82	0.15	1.36	0.12
Others	Ounces per 1,000 calories	1.82	0.12	2.16	0.13	2.17	0.13	1.93	0.11	2.07	0.13
Protein foods, meats, poultry and fish	Ounces per 1,000 calories	2.24	0.04	2.14	0.05	2.24	0.05	2.23	0.05	2.17	0.05
FAH	Ounces per 1,000 calories	1.85	0.04	1.73	0.04	1.80	0.06	1.82	0.06	1.77	0.05
FAFH	Ounces per 1,000 calories	2.57	0.12	2.49	0.08	2.57	0.08	2.39	0.07	2.38	0.08
Restaurant	Ounces per 1,000 calories	3.55	0.20	3.63	0.18	3.53	0.12	3.37	0.16	3.61	0.17
Fast food	Ounces per 1,000 calories	2.67	0.13	2.21	0.12	2.42	0.08	2.30	0.09	2.21	0.10
School	Ounces per 1,000 calories	1.53	0.13	1.87	0.15	1.67	0.10	1.65	0.16	1.13	0.12
Others	Ounces per 1,000 calories	1.36	0.12	1.66	0.12	1.60	0.13	1.36	0.13	1.32	0.09
Protein foods, meats (beef, veal, pork, lamb, game)	Ounces per 1,000 calories	0.72	0.03	0.71	0.04	0.68	0.02	0.73	0.02	0.68	0.04
FAH	Ounces per 1,000 calories	0.58	0.03	0.56	0.03	0.54	0.02	0.57	0.03	0.54	0.04
FAFH	Ounces per 1,000 calories	0.78	0.04	0.83	0.06	0.75	0.02	0.80	0.03	0.71	0.04
Restaurant	Ounces per 1,000 calories	1.05	0.08	1.09	0.11	1.10	0.06	1.19	0.09	1.10	0.09
Fast food	Ounces per 1,000 calories	0.73	0.04	0.73	0.06	0.67	0.03	0.75	0.03	0.62	0.06
School	Ounces per 1,000 calories	0.45	0.06	0.49	0.10	0.39	0.06	0.50	0.11	0.30	0.04
Others	Ounces per 1,000 calories	0.51	0.07	0.63	0.07	0.46	0.03	0.44	0.07	0.42	0.05
Protein foods, poultry	Ounces per 1,000 calories	0.73	0.03	0.69	0.04	0.77	0.03	0.75	0.04	0.76	0.03
FAH	Ounces per 1,000 calories	0.53	0.03	0.50	0.03	0.56	0.03	0.58	0.02	0.55	0.03
FAFH	Ounces per 1,000 calories	1.04	0.06	0.91	0.06	1.00	0.05	0.90	0.06	1.00	0.06
Restaurant	Ounces per 1,000 calories	1.34	0.12	1.34	0.16	1.28	0.11	1.15	0.15	1.38	0.11
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Fast food	Ounces per 1,000 calories	1.29	0.10	0.86	0.08	1.09	0.05	1.00	0.08	1.05	0.08
School	Ounces per 1,000 calories	0.59	0.10	0.87	0.14	0.75	0.10	0.65	0.12	0.53	0.10
Others	Ounces per 1,000 calories	0.35	0.06	0.44	0.06	0.45	0.07	0.38	0.05	0.37	0.05
Protein foods, high Omega-3 fatty fish	Ounces per 1,000 calories	0.07	0.01	0.06	0.01	0.08	0.01	0.08	0.01	0.07	0.01
FAH	Ounces per 1,000 calories	0.07	0.01	0.06	0.01	0.08	0.01	0.07	0.01	0.07	0.01
FAFH	Ounces per 1,000 calories	0.05	0.01	0.05	0.01	0.08	0.01	0.08	0.02	0.04	0.01
Restaurant	Ounces per 1,000 calories	0.16	0.04	0.13	0.04	0.19	0.03	0.17	0.04	0.10	0.02
Fast food	Ounces per 1,000 calories	0.02	0.00	0.03	0.01	0.03	0.01	0.03	0.01	0.02	0.01
School	Ounces per 1,000 calories	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.00
Others	Ounces per 1,000 calories	0.04	0.01	0.03	0.01	0.09	0.03	0.05	0.02	0.03	0.01
Protein foods, low Omega-3 fatty fish	Ounces per 1,000 calories	0.22	0.02	0.20	0.02	0.21	0.03	0.18	0.02	0.20	0.02
FAH	Ounces per 1,000 calories	0.17	0.01	0.16	0.02	0.17	0.03	0.14	0.01	0.16	0.02
FAFH	Ounces per 1,000 calories	0.29	0.04	0.24	0.03	0.25	0.04	0.21	0.03	0.25	0.03
Restaurant	Ounces per 1,000 calories	0.60	0.07	0.66	0.10	0.62	0.08	0.55	0.12	0.69	0.12
Fast food	Ounces per 1,000 calories	0.18	0.04	0.12	0.03	0.14	0.03	0.10	0.02	0.16	0.04
School	Ounces per 1,000 calories	0.07	0.05	0.02	0.01	0.04	0.02	0.06	0.03	0.02	0.01
Others	Ounces per 1,000 calories	0.19	0.05	0.11	0.02	0.16	0.05	0.11	0.03	0.11	0.03
Protein foods, cured meats	Ounces per 1,000 calories	0.48	0.02	0.47	0.01	0.48	0.02	0.48	0.02	0.45	0.02
FAH	Ounces per 1,000 calories	0.49	0.02	0.45	0.02	0.44	0.02	0.46	0.02	0.45	0.02
FAFH	Ounces per 1,000 calories	0.39	0.03	0.44	0.03	0.46	0.05	0.40	0.02	0.35	0.02
Restaurant	Ounces per 1,000 calories	0.39	0.07	0.40	0.05	0.33	0.05	0.29	0.05	0.27	0.03
Fast food	Ounces per 1,000 calories	0.44	0.04	0.47	0.05	0.48	0.05	0.42	0.03	0.37	0.03
School	Ounces per 1,000 calories	0.41	0.08	0.49	0.10	0.43	0.06	0.41	0.06	0.28	0.04
Others	Ounces per 1,000 calories	0.27	0.04	0.39	0.09	0.43	0.07	0.37	0.05	0.38	0.06
Protein foods, organ meats	Ounces per 1,000 calories	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00
FAH	Ounces per 1,000 calories	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00
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FAFH	Ounces per 1,000 calories	0.01	0.00	0.02	0.01	0.02	0.01	0.01	0.00	0.02	0.01
Restaurant	Ounces per 1,000 calories	0.01	0.00	0.01	0.01	0.03	0.01	0.01	0.01	0.07	0.04
Fast food	Ounces per 1,000 calories	0.01	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00
School	Ounces per 1,000 calories	0.00	0.00	0.00	0.00	0.05	0.05	0.00	0.00	0.00	0.00
Others	Ounces per 1,000 calories	0.01	0.01	0.05	0.04	0.01	0.00	0.01	0.00	0.01	0.01
Protein foods, eggs	Ounces per 1,000 calories	0.23	0.01	0.23	0.01	0.25	0.01	0.27	0.01	0.28	0.01
FAH	Ounces per 1,000 calories	0.24	0.01	0.24	0.01	0.28	0.01	0.28	0.01	0.32	0.02
FAFH	Ounces per 1,000 calories	0.16	0.01	0.18	0.02	0.18	0.01	0.19	0.01	0.22	0.02
Restaurant	Ounces per 1,000 calories	0.32	0.03	0.35	0.05	0.34	0.03	0.32	0.04	0.32	0.05
Fast food	Ounces per 1,000 calories	0.11	0.01	0.13	0.02	0.11	0.01	0.15	0.02	0.19	0.04
School	Ounces per 1,000 calories	0.10	0.03	0.11	0.03	0.11	0.02	0.07	0.01	0.06	0.01
Others	Ounces per 1,000 calories	0.14	0.01	0.17	0.02	0.16	0.02	0.15	0.02	0.22	0.04
Protein foods, soy products	Ounces per 1,000 calories	0.04	0.00	0.03	0.00	0.04	0.00	0.05	0.01	0.05	0.01
FAH	Ounces per 1,000 calories	0.05	0.00	0.04	0.01	0.04	0.00	0.08	0.01	0.07	0.01
FAFH	Ounces per 1,000 calories	0.02	0.01	0.03	0.00	0.02	0.00	0.03	0.00	0.03	0.01
Restaurant	Ounces per 1,000 calories	0.02	0.00	0.02	0.01	0.03	0.01	0.02	0.01	0.03	0.02
Fast food	Ounces per 1,000 calories	0.02	0.01	0.02	0.00	0.01	0.01	0.01	0.00	0.01	0.00
School	Ounces per 1,000 calories	0.01	0.00	0.11	0.02	0.07	0.01	0.07	0.01	0.06	0.01
Others	Ounces per 1,000 calories	0.02	0.01	0.03	0.01	0.03	0.01	0.07	0.03	0.04	0.03
Protein foods, nuts and seeds	Ounces per 1,000 calories	0.28	0.01	0.31	0.02	0.32	0.02	0.33	0.03	0.33	0.03
FAH	Ounces per 1,000 calories	0.36	0.02	0.41	0.03	0.42	0.03	0.44	0.04	0.42	0.03
FAFH	Ounces per 1,000 calories	0.11	0.01	0.13	0.01	0.13	0.02	0.15	0.02	0.18	0.02
Restaurant	Ounces per 1,000 calories	0.07	0.02	0.06	0.01	0.11	0.04	0.09	0.02	0.14	0.05
Fast food	Ounces per 1,000 calories	0.05	0.01	0.10	0.02	0.06	0.01	0.10	0.01	0.07	0.01
School	Ounces per 1,000 calories	0.05	0.02	0.08	0.03	0.06	0.02	0.04	0.02	0.11	0.04
Others	Ounces per 1,000 calories	0.29	0.05	0.30	0.04	0.38	0.06	0.35	0.07	0.48	0.07

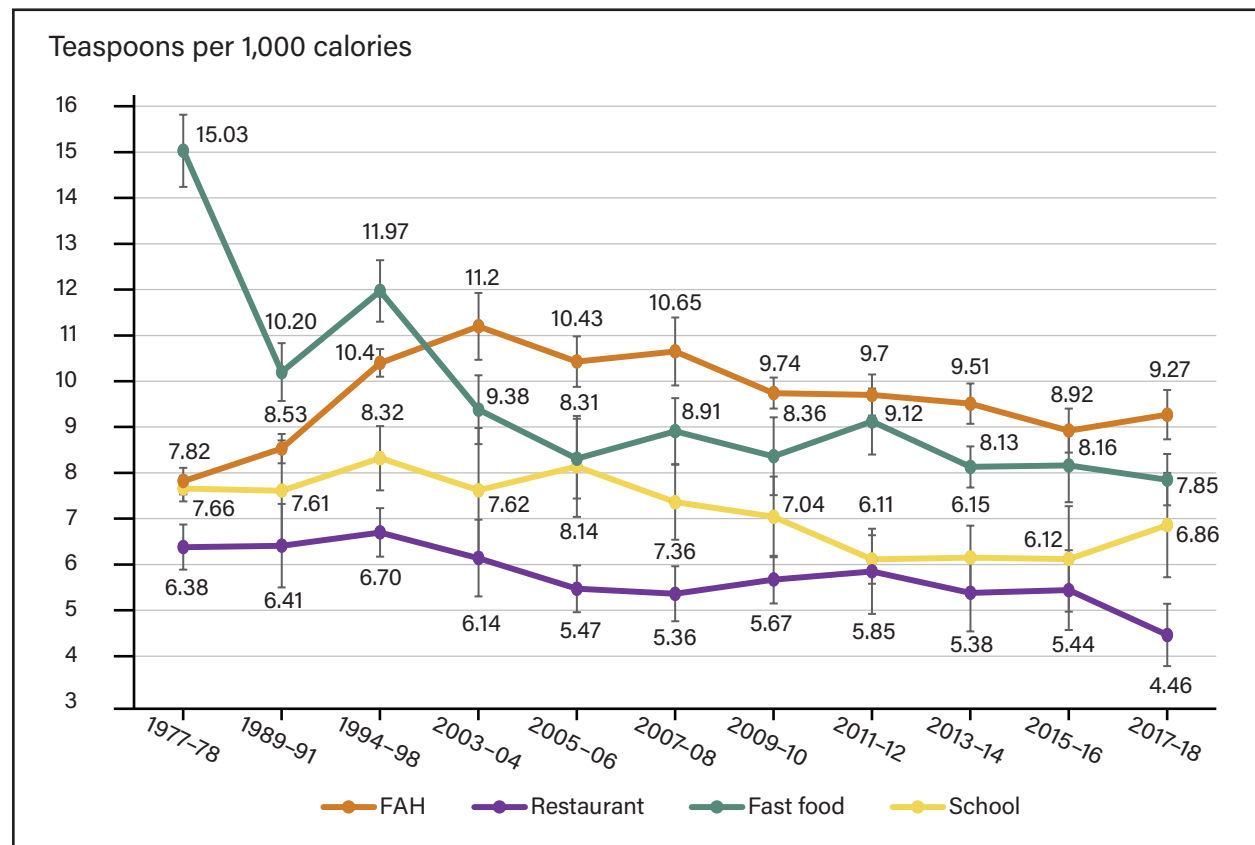
SE of mean = Standard error of the mean, FAH = food at home, FAFH= food away from home.

Source: USDA, Economic Research Service using USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data, and 1989–1991, 1994–96, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2003–04, 2005–06, 2007–08, 2009–10, 2011–2012, 2013–14, 2015–16, and 2017–18 What We Eat in America, National Health and Nutrition Examination Survey data.



Figure 13

### Added sugar density among U.S. consumers aged 2 and above for food at home, restaurants, fast food, and school, 1977–2018



FAH = Food at home.

Note: The vertical bar associated with each data point is its 95-percent confidence interval.

Source: USDA, Economic Research Service using data from USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data; USDA, Agricultural Research Service, 1989–1991, 1994–1996, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2003–2004, 2005–2006, 2007–2008, 2009–2010, 2011–2012, 2013–2014, 2015–2016, and 2017–2018 What We Eat in America, National Health and Nutrition Examination Survey data.

Fast food had the highest added-sugars density among all FAFH sources, 7.9 teaspoons per 1,000 calories, compared with 6.9 teaspoons for school and 4.5 teaspoons for restaurant foods in 2017–2018 (figure 13). Restaurant foods were less dense in added sugars than school foods, and their density declined significantly from 6.4 to 4.5 teaspoons per 1,000 calories, while the added-sugars density in school foods fluctuated between 6.1 and 8.3 teaspoons during the 1977–2018 period.

Similar added-sugars density is observed in foods consumed by males and females (table A-6A). Foods consumed by high-income households with income exceeding 300 percent of the poverty level (table A-6D) and those who attended college (table A-6F) were less dense in added sugars than their respective counterparts. For example, in 2017–2018, foods consumed by high-income households contained 7.2 teaspoons for each 1,000 calories, compared with 8.4 and 8.6 teaspoons for lower income households.

Significant differences in the density of added sugars are observed by age and race (tables A-6B and A-6E). The added-sugars density declined with age, and the differences narrowed slightly in recent years. For

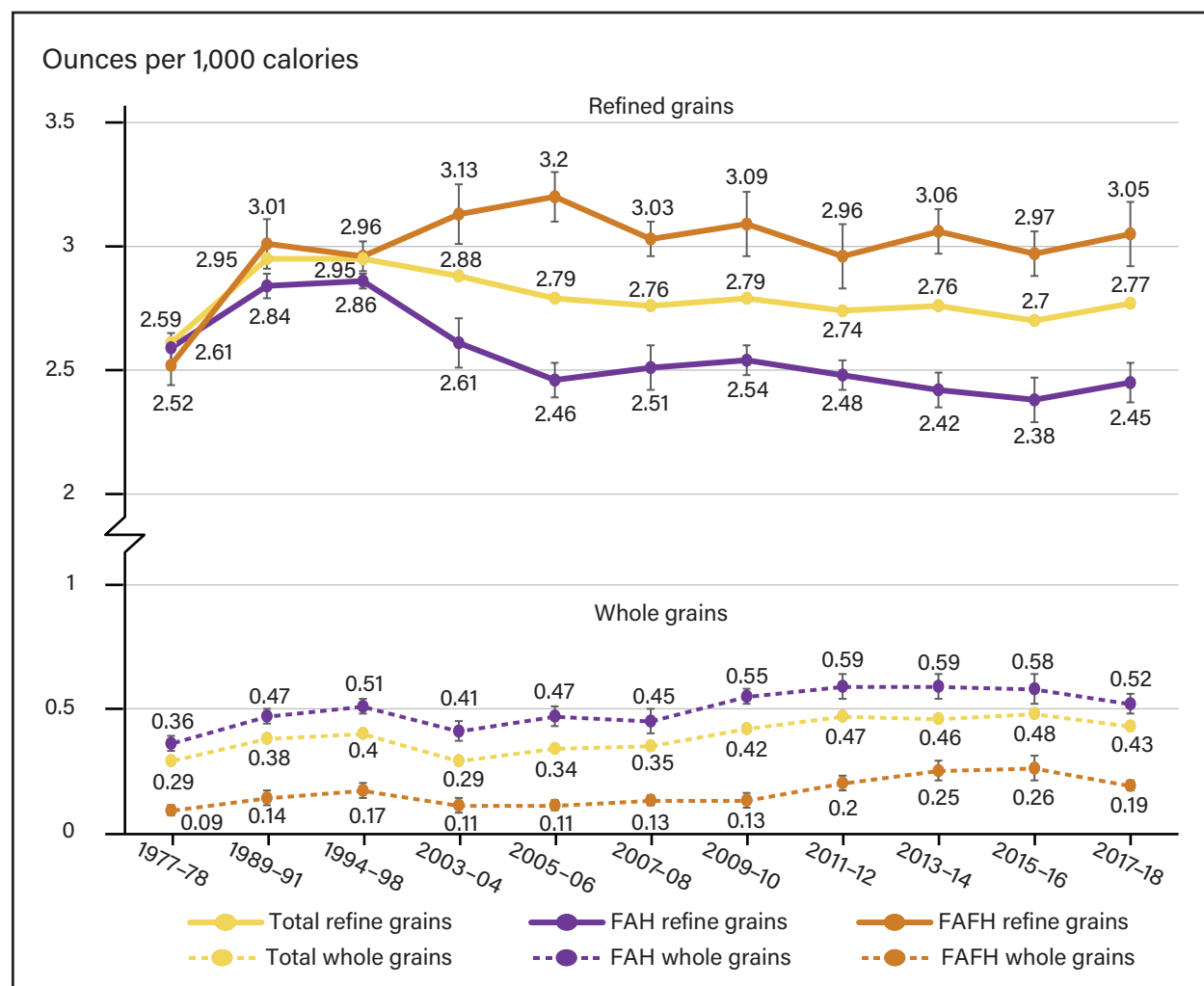
example, the differences during 1977–1978 are significant between children aged 2–19 (9 teaspoons), adults aged 20–64 (7.5 teaspoons), and seniors aged 65 and above (6.7 teaspoons). By 2017–2018, children’s diets had a density of 8.6 teaspoons, which was not statistically different at the 5-percent level from the 7.8 teaspoons among adults, which in turn, was not statistically higher than the 7.2 teaspoons among seniors, but the difference between children and seniors was significant. Non-Hispanic Black people had the highest added-sugars density in FAH and total diet than non-Black peoples’ diets, the density was similar between non-Hispanic White people and Hispanic people, and the density in other races and ethnicities was the lowest (table A-6E).

## Refined and Whole Grains

*DGA* recommends 6 ounces of grain products for a diet of 2,000 calories, and at least half of grain consumption should be whole grains—or no more than half of the total intake be refined grains (such as white rice), given that refined and whole grains make up total grains. Therefore, the density of grain products should be at least 1.5 ounces per 1,000 calories for whole grains and no more than 1.5 ounces for refined grains.

As shown in figure 14, consumers in the United States over-consumed refined grains (2.77 ounces per 1,000 calories in 2017–2018) and underconsumed whole grains (0.43 ounces) by a large margin from the recommended upper and lower limits of 1.5 ounces. The density of refined grains was similar between FAH and FAFH in 1977–1978, but the difference grew over time as FAH’s density declined, while FAFH’s density was relatively stable—3.05 compared with 2.45 ounces per 1,000 calories for FAFH and FAH, respectively, in 2017–2018. Consumers in the United States ate more whole grains at home than away from home, and the density of whole grains trended upward slightly for both FAFH and FAH, reaching a density of 0.19 and 0.52 ounces per 1,000 calories, respectively, in 2017–2018.

Figure 14

**Whole and refined grain density among U.S. consumers aged 2 and above, 1977–2018**

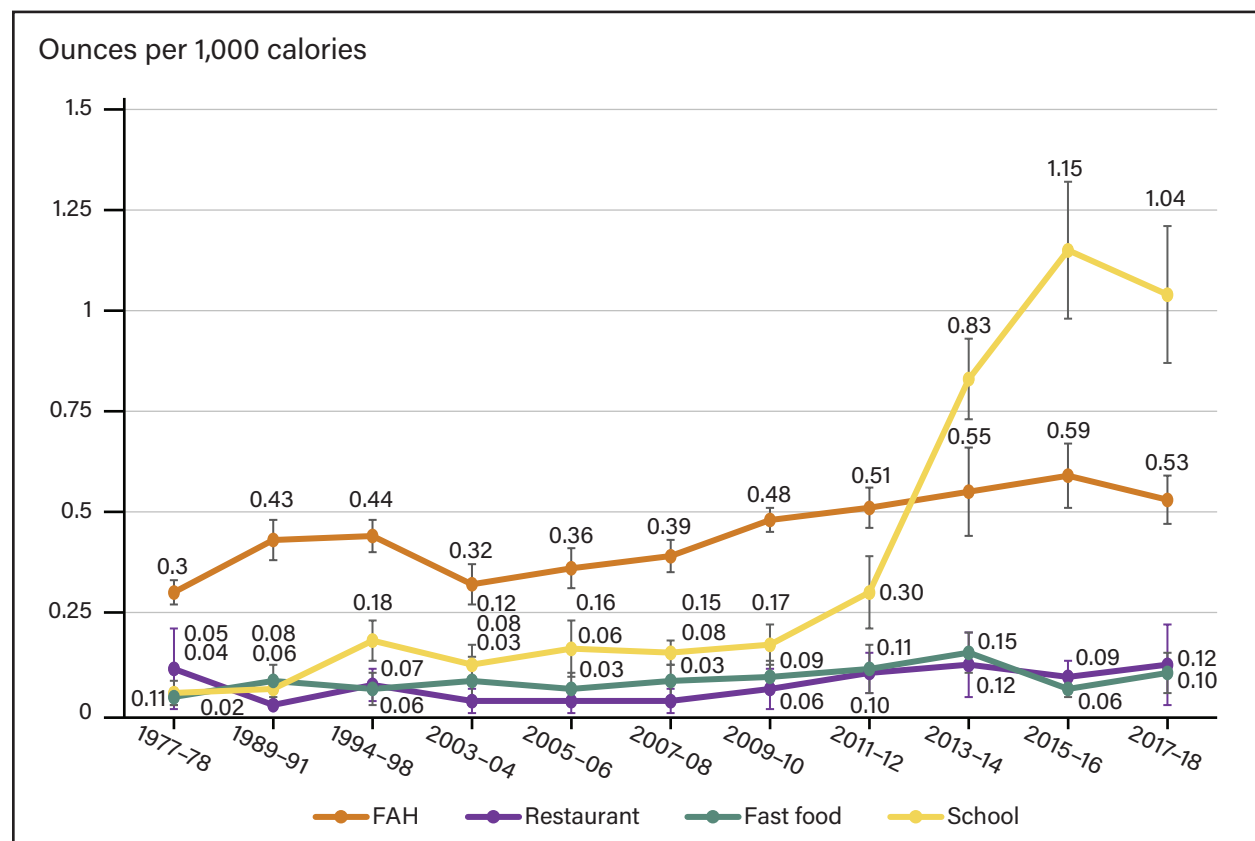
FAH = Food at home; FAFH = Food away from home.

Note: The vertical bar associated with each data point is its 95-percent confidence interval.

Source: USDA, Economic Research Service using data from USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data; USDA, Agricultural Research Service, 1989–1991, 1994–1996, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2003–2004, 2005–2006, 2007–2008, 2009–2010, 2011–2012, 2013–2014, 2015–2016, and 2017–2018 What We Eat in America, National Health and Nutrition Examination Survey data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, Healthy U.S.-Style Dietary Pattern for Ages 2 and Older, appendix 3, *Dietary Guidelines for Americans 2020–2025*.

Following the implementation of updated USDA school meal standards in the 2012–2013 school year, the proportion of schoolchildren consuming whole grains at school increased, and the intake amount rose among those who consumed them (Lin et al., 2019). Consequently, the diet of children aged 2–19 became denser in whole grains during the 2013–2018 period, rising from a density of 0.05 ounces per 1,000 calories in 1977–1978 to 0.3 ounces in 2011–2012 and ultimately to the range of 0.83 to 1.15 ounces in 2013–2018 (figure 15).

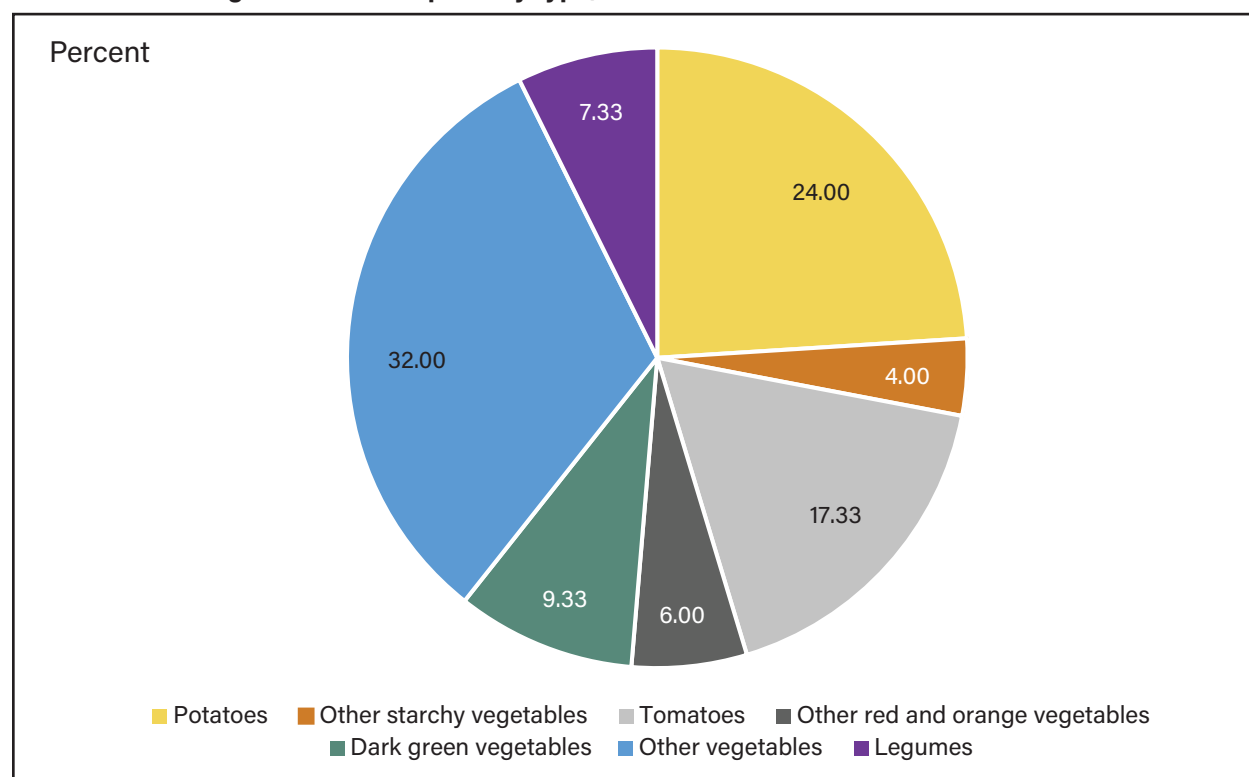
Figure 15

**Density of whole grains at home, restaurants, fast food, and school, children aged 2-19, 1977-2018**

## Vegetables

*DGA* includes recommended intakes by energy intake level for total vegetables, starchy vegetables, red and orange vegetables, dark green vegetables, other vegetables, and legumes (USDA and HHS, 2020). To achieve a healthy diet at the 2,000-calorie level, U.S. consumers are recommended to consume 2.5 cups of total vegetables a day or 17.5 cups per week, which is distributed on a weekly basis as 1.5 cups (8.6 percent of total) of dark green vegetables, 5.5 cups (31.4 percent) of red and orange vegetables, 5 cups (28.6 percent) of starchy vegetables, and 4 cups (22.9 percent) of other vegetables. Legumes (beans, peas, and lentils) can be treated as vegetables or as part of the protein group; 1.5 cups (8.6 percent) per week are recommended when treated as vegetables. During 2017-2018, consumers in the United States aged 2 and above consumed an average of 1.5 cups of vegetables and legumes on a given day, of which 28 percent were starchy (potatoes and other starchy) vegetables, 23.3 percent were red and orange (tomatoes and other red and orange) vegetables, 9.3 percent were dark green, 7.3 percent were legumes, and 32 percent were other vegetables (figure 16).

Figure 16

**Distribution of vegetable consumption by type, 2017–2018**

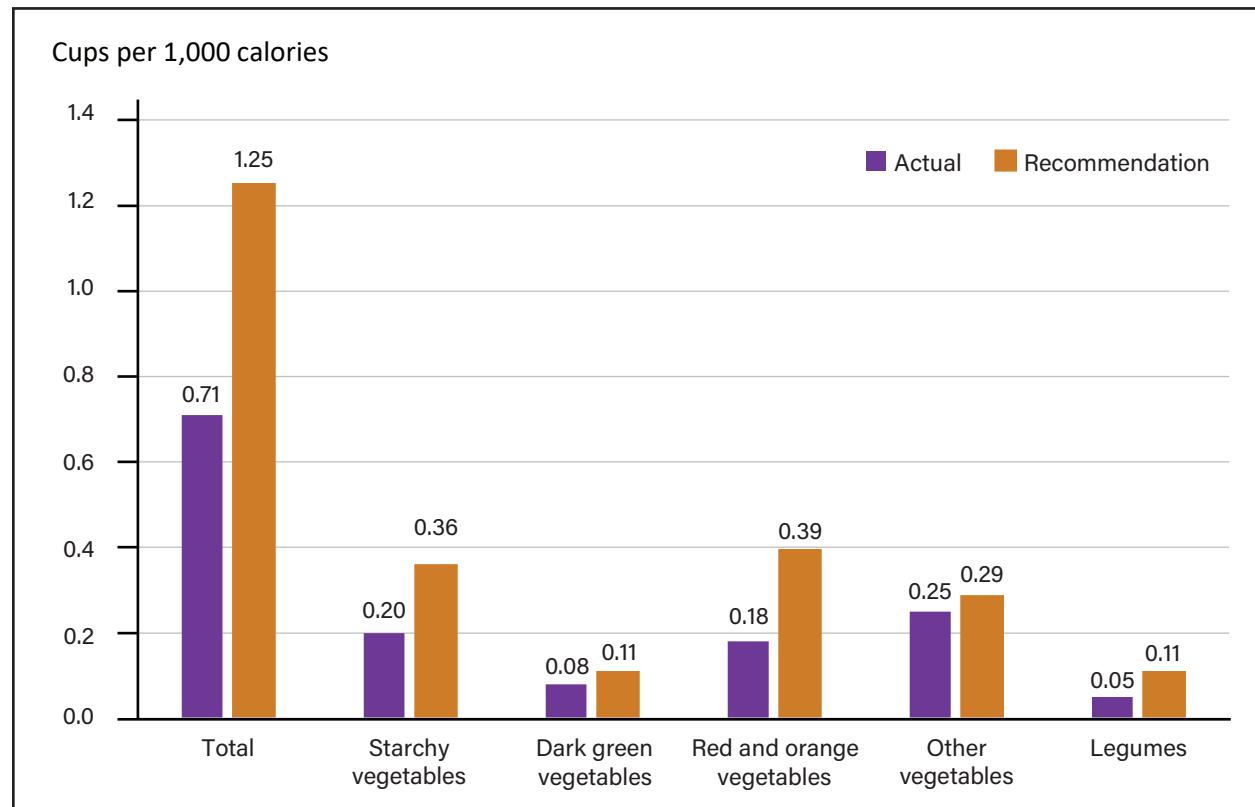
Note: Starchy vegetables include potatoes and other starchey vegetables. Tomatoes and other red/orange vegetables make up total red and orange vegetables.

Source: USDA, Economic Research Service using data from USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2017–2018 What We Eat in America, National Health and Nutrition Examination Survey data.

U.S. consumers underconsumed vegetables by a large margin, especially red and orange vegetables. During the 2017–2018 period, when the reported density of each vegetable subgroup is compared with what is recommended, reported densities range from a low of 46 percent (0.18 to 0.39 cup) among red and orange vegetables to 88 percent (0.25 to 0.29) among other vegetables, with an average of 57 percent (0.71 to 1.25) of the recommended density for total vegetables excluding legumes (figure 17).

Figure 17

### Vegetable density consumption compared with *Dietary Guidelines for Americans* recommendation, 2017–2018



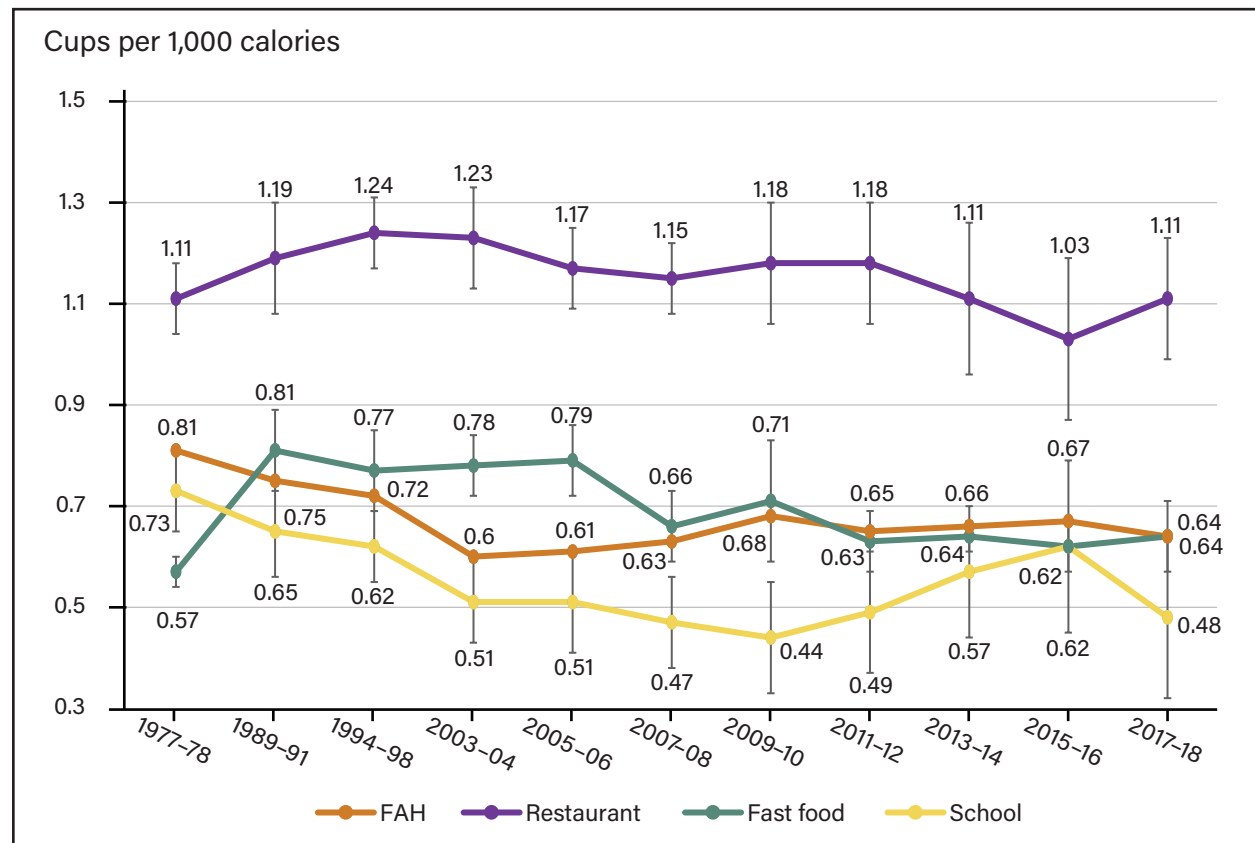
Note: To calculate the recommended densities of various vegetables, the recommended weekly intakes are converted into daily intakes and then expressed in terms of intake per 1,000 calories.

Source: USDA, Economic Research Service using data from USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2017–2018 What We Eat in America, National Health and Nutrition Examination Survey data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, Healthy U.S.-Style Dietary Pattern for Ages 2 and Older, appendix 3, *Dietary Guidelines for Americans 2020–2025*.

The density of total vegetables for FAFH was higher than FAH during 1989–2010. Since 2010, the gap has narrowed and became not statistically significant at the 5-percent probability level—0.72 compared with 0.64 cups per 1,000 calories in 2017–2018 (table 8b). The density of total vegetables from restaurants was stable and the highest among all food sources over the 1977–2018 period, whereas the differences in densities among fast food, school, and FAH were not statistically significant (figure 18). In 2017–2018, the density of other vegetables in restaurants was 65 percent above the recommended density, and the density of dark green vegetables was 25 percent higher than the recommended density, resulting in a ratio of 89 percent of total vegetables density to the recommended density (1.11 to 1.25 cups).

Figure 18

# Vegetable density consumption compared with *Dietary Guideline for Americans* recommendation, 1977–2018



The density of total vegetable rose with age (table A-6B). The diet of non-Hispanic Black populations was the lowest in total vegetable density, whereas the differences in the density among non-Hispanic White populations, Hispanic populations, and other racial/ethnic populations were not statistically significant (table A-6E). No significant differences in total vegetable density between sexes were found (table A-6A). High-income households had higher total vegetable density than their lower income counterpart populations in some but not across all survey wave years (table A-6D).



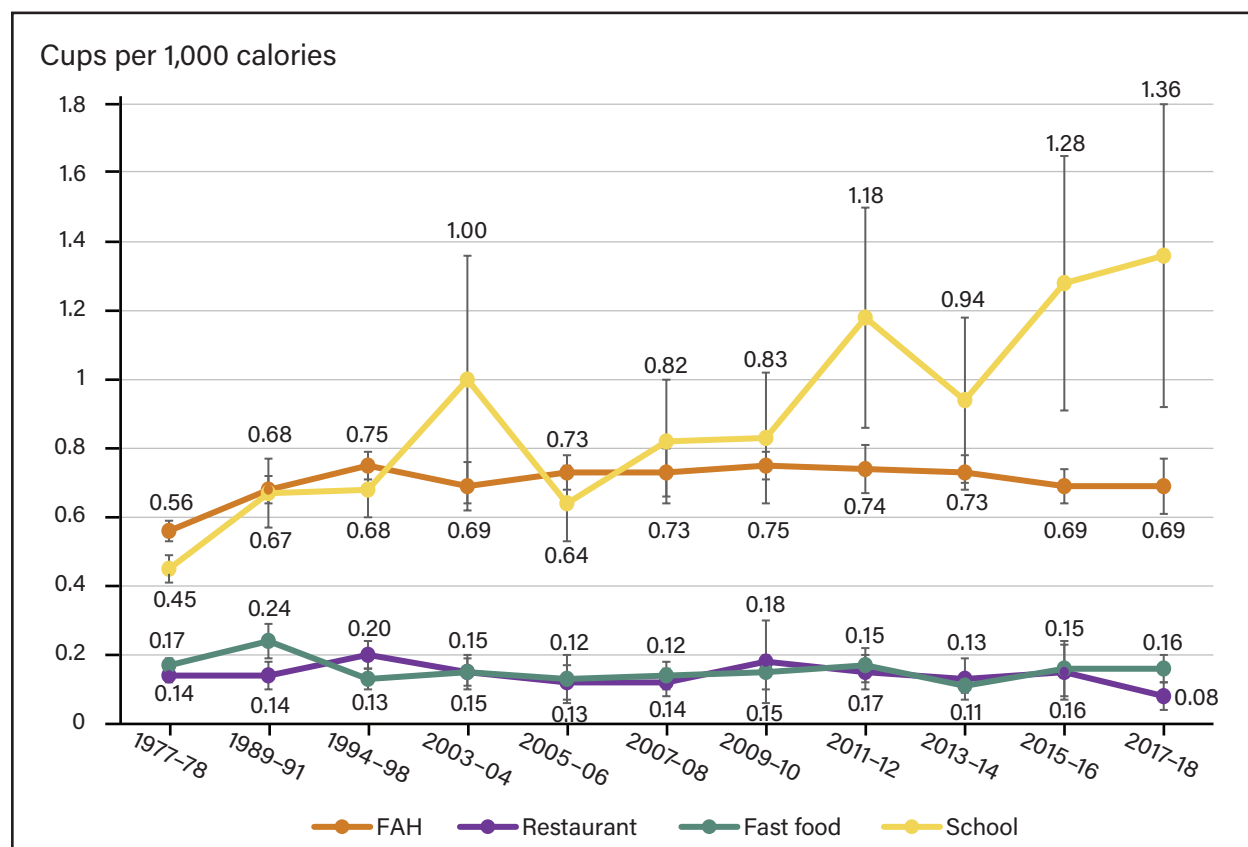
## Fruits

Like vegetables, consumers in the United States underconsumed fruits, averaging 0.49 cup per 1,000 calories in 2017–2018, only half of the recommended 2 cups for a diet of 2,000 calories (table 8b). In addition to recommending the consumption quantity, *DGA* also recommends at least half of fruit consumption should be whole fruits and the rest as juice. In 2017–2018, whole fruits accounted for 75 percent of total fruit consumption.

Unlike vegetable consumption, FAH had a higher density of fruits than FAFH—0.69 compared with 0.29 cup per 1,000 calories in 2017–2018. The density of fruits in school foods has risen over time, ultimately reaching 1.36 cups per 1,000 calories in 2017–2018 (figure 19), which was statistically higher than that of FAH (0.69 cup), fast food (0.16 cup), and restaurants (0.08 cup). Females consumed more fruits than males on a per 1,000 calories basis (table A-6A). The density of fruits did not vary significantly across age, race, or household income (A-6B, A-6D, and A-6E).

Figure 19

### Total fruit density for food at home, restaurants, fast food, and school, 1977–2018



FAH = Food at home.

Note: The vertical bar associated with each data point is its 95-percent confidence interval.

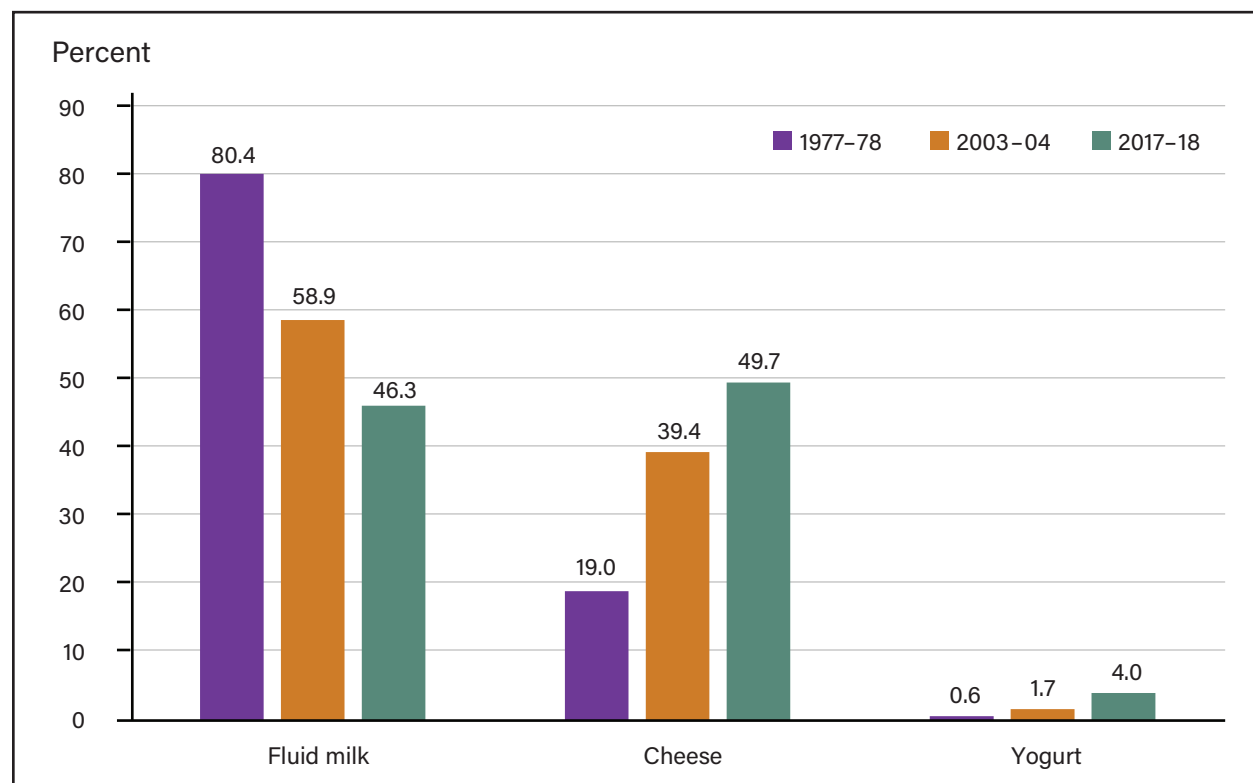
Source: USDA, Economic Research Service using data from USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data; USDA, Agricultural Research Service, 1989–1991, 1994–1996, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2003–2004, 2005–2006, 2007–2008, 2009–2010, 2011–2012, 2013–2014, 2015–2016, and 2017–2018 What We Eat in America, National Health and Nutrition Examination Survey data.

## Dairy

*DGA* recommends 3 cups of dairy products (fluid milk, cheese, and yogurt) per day for a diet of 2,000 calories. Over time, cheese consumption has risen while fluid milk, which accounted for 80 percent of dairy intake in 1977–1978, saw its share drop to 59 percent in 2003–2004 and 46 percent in 2017–2018. Cheese accounted for a 50-percent share, and yogurt held a 4-percent share (table 7b and figure 20) in 2017–2018.

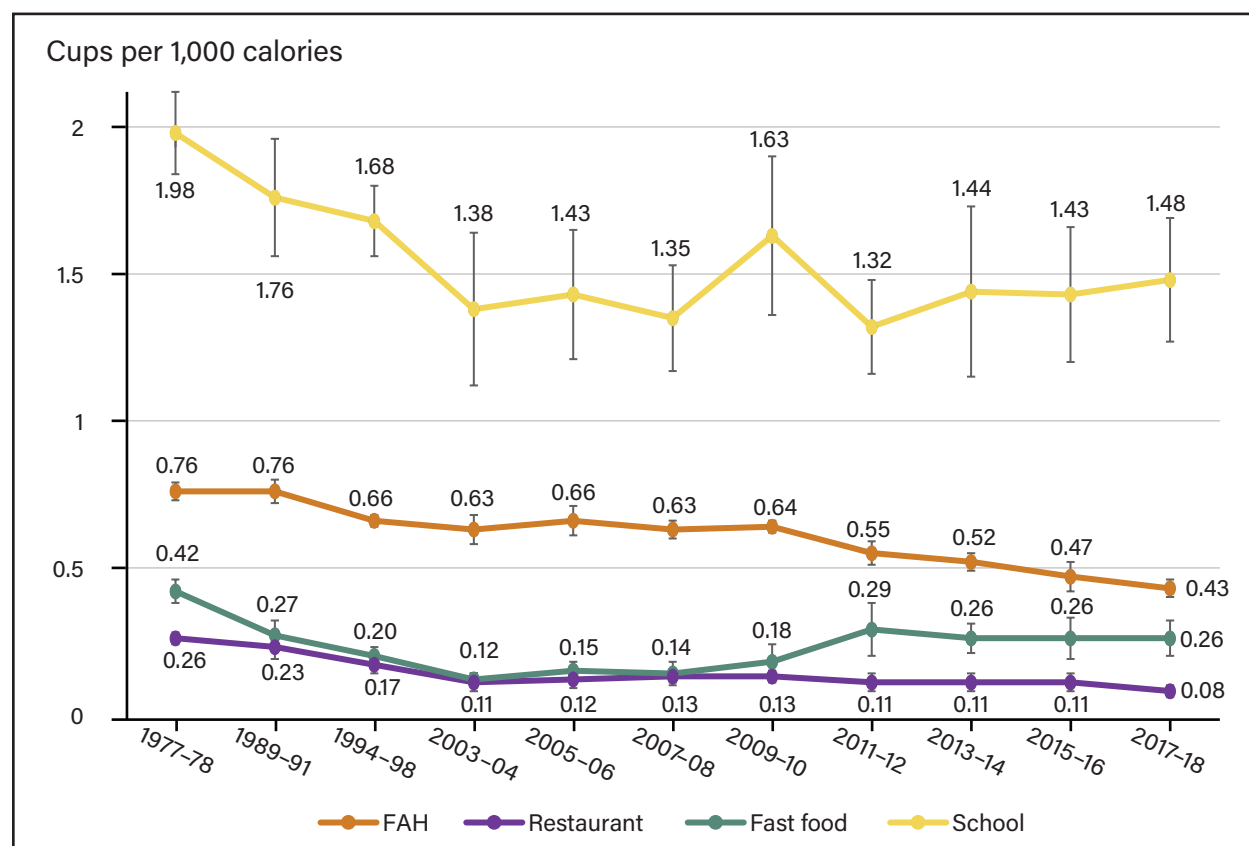
Figure 20

**Dairy intake distribution among U.S. consumers aged 2 and above, 1977–1978, 2003–04, and 2017–2018**



Source: USDA, Economic Research Service using data from USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data; USDA, Agricultural Research Service, 1989–1991, 1994–1996, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2003–2004, 2005–2006, 2007–2008, 2009–2010, 2011–2012, 2013–2014, 2015–2016, and 2017–2018 What We Eat in America, National Health and Nutrition Examination Survey data.

Figure 21

**Dairy, fluid milk, intake distribution among U.S. consumers aged 2 and above, 1977–2018**

FAH = Food at home.

Note: The vertical bar associated with each data point is its 95-percent confidence interval.

Source: USDA, Economic Research Service using data from USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data; USDA, Agricultural Research Service, 1989–1991, 1994–1996, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2003–2004, 2005–2006, 2007–2008, 2009–2010, 2011–2012, 2013–2014, 2015–2016, and 2017–2018 What We Eat in America, National Health and Nutrition Examination Survey data.

The density of fluid milk consumption did not vary between sexes or household income (tables A-6A and A-6D). Among all racial and ethnic population subgroups, non-Hispanic Black populations had the lowest density of fluid milk consumption in their diets (table A-6E). Adults aged 20–64 had the lowest density of fluid milk consumption (table A-6B) compared with seniors and children—0.27, 0.35, and 0.56 cup per 1,000 calories, respectively, in 2017–2018.

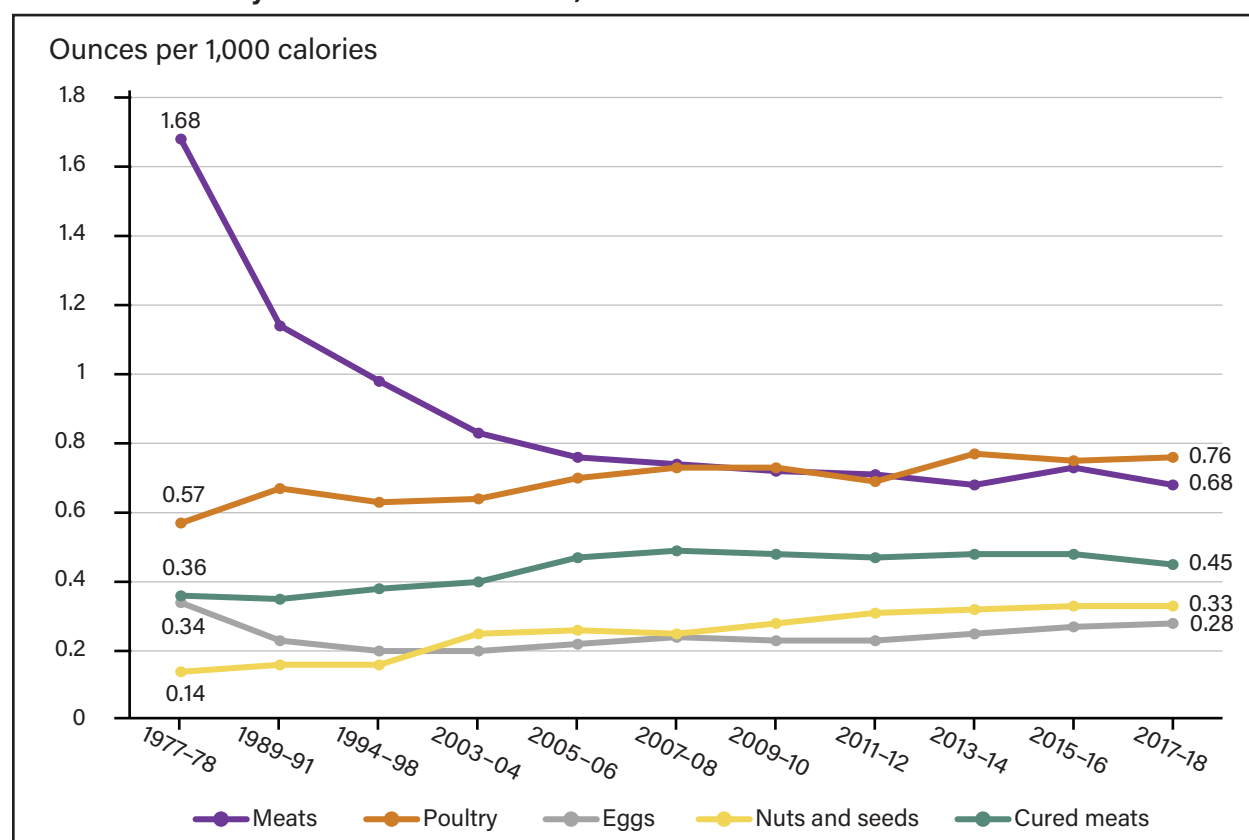
Although the density of fluid milk consumption has declined over time among all food sources and across demographic spectrums, the density of cheese consumption has followed an opposite trajectory but not enough to offset the decline in fluid milk consumption, which has resulted in a reduction in total dairy consumption over time. Since 1977–1978, cheese density in FAFH has risen at a faster rate than FAH—0.41 compared with 0.28 cup per 1,000 calories in 2017–2018 (tables 8a and 8b). The density of cheese consumption has risen over time across demographic population subgroups (tables A-6A–A-6F). The differences across sexes and income were not statistically significant, but seniors had a diet less dense in cheese intake than younger counterparts, and non-Hispanic Black populations had lower cheese density in their diets than non-Hispanic White populations.

## Protein Foods

For a diet of 2,000 calories, *DGA* recommends a daily intake of 5.5 ounces of protein foods, distributed as 67 percent of meats, poultry, and eggs; 21 percent seafood; and 13 percent soy, nuts, and seeds. In 2017–2018, meats, poultry, and eggs accounted for 77 percent of total protein foods, while seafood accounted for 10 percent (table 7b).

The density of protein foods in U.S. consumers' diets has declined over time, from 3.83 ounces per 1,000 calories in 1977–1978 to 2.83 ounces in 2017–2018 (tables 8a and 8b), as compared with the recommended 2.75 ounces specified in the Healthy U.S.-Style Dietary Pattern. In terms of food sources, the decline in protein food density came from the FAH segment, which declined from 3.28 to 2.28 ounces per 1,000 calories during 1977–2018, while the protein food density in FAFH was relatively stable, fluctuating between 2.63 and 2.94 ounces per 1,000 calories. In terms of types of protein foods, the declining protein food consumption came from the meat group (beef, veal, pork, lamb, and game meat, excluding cured and organ meats) as its density declined by 60 percent during 1977–2018, from 1.68 to 0.68 ounces per 1,000 calories (figure 22). Over time, U.S. consumers have consumed fewer eggs, from a density of 0.34 ounces per 1,000 calories in 1977–1978 to 0.28 ounces in 2017–2018, whereas the consumption of nuts and seeds more than doubled from 0.14 to 0.33 ounces per 1,000 calories during 1977–2018.

Figure 22  
Protein food density in U.S. consumers' diets, 1977–2018

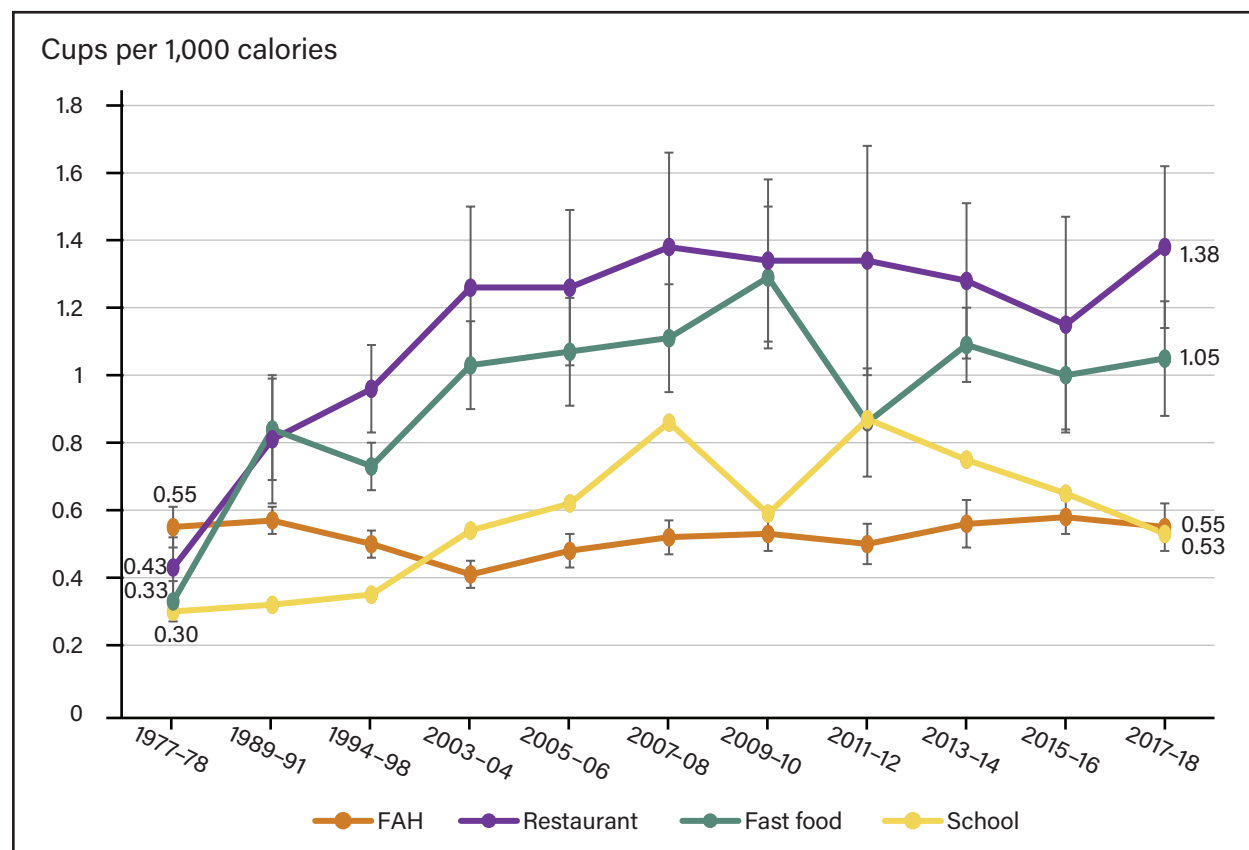


Source: USDA, Economic Research Service using data from USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data; USDA, Agricultural Research Service, 1989–1991, 1994–1996, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2003–2004, 2005–2006, 2007–2008, 2009–2010, 2011–2012, 2013–2014, 2015–2016, and 2017–2018 What We Eat in America, National Health and Nutrition Examination Survey data.

Over time, U.S. consumers ate more poultry (chicken, turkey, Cornish hens, duck, goose, quail, and game birds) and the increase mainly came from FAFH as the FAH's poultry density did not change between the 1977–1978 and 2017–2018 survey waves. The poultry density rose among foods from restaurants, fast-food places, and schools. The poultry density in school foods rose the least from 0.3 ounces per 1,000 calories to a high of 0.87 ounces in 2011–2012 and then dropped to 0.53 ounces in 2017–2018. Restaurant poultry density rose from 0.43 to 1.38 ounces during 1977–2018, and fast-food places grew from 0.33 to 1.05 ounces (figure 23).

Figure 23

**U.S. consumers' poultry density for food at home, restaurant, fast food, and school, 1977–2018**



FAH = Food at home.

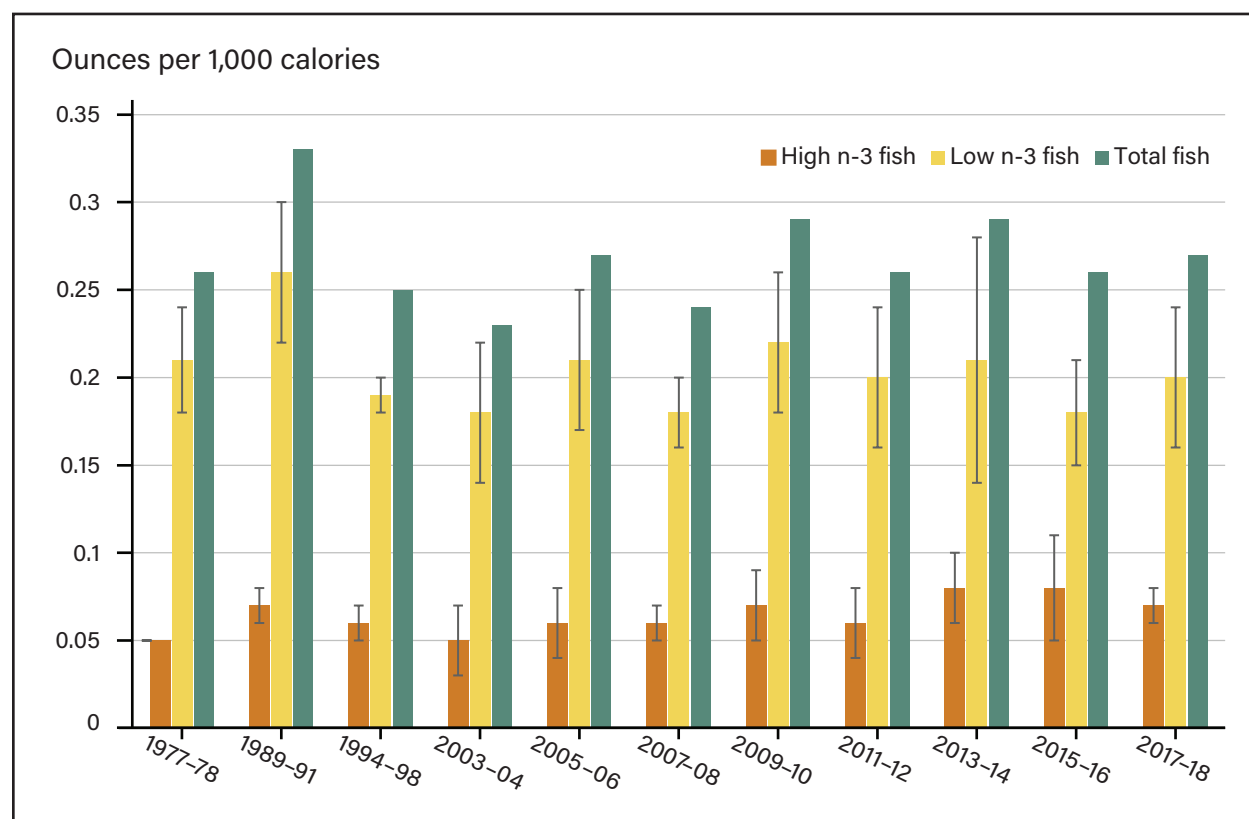
Note: The vertical bar associated with each data point is its 95-percent confidence interval.

Source: USDA, Economic Research Service using data from USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data; USDA, Agricultural Research Service, 1989–1991, 1994–1996, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2003–2004, 2005–2006, 2007–2008, 2009–2010, 2011–2012, 2013–2014, 2015–2016, and 2017–2018 What We Eat in America, National Health and Nutrition Examination Survey data.

The density of meat consumption declined over time across all racial and ethnic groups, and the differences in the density across racial and ethnic groups were not statistically significant (table A-6E). Poultry intake on a density basis, on the other hand, rose over time across all racial and ethnic population groups, and the differences between non-Hispanic Black populations (the racial and ethnic subgroups that consumed the most poultry) and non-Hispanic White populations (the group with the lowest poultry intake) were statistically significant throughout 1977–2018.

For a diet of 2,000 calories, *DGA* recommends a weekly intake of 8 ounces of seafood or a density of 0.57 ounces per 1,000 calories. The seafood density in the diet of U.S. consumers did not change significantly over the 1977–2018 period, ranging from 0.23 to 0.33 ounces per 1,000 calories. Seafood is separated into two groups according to the content of polyunsaturated Omega-3 (n-3) fatty acids, which are known to be associated with reduced cardiac deaths among individuals with and without preexisting cardiovascular disease and improved infant health outcomes, including improved visual and cognitive development (USDA and HHS, 2020). U.S. consumers both underconsumed seafood and tended to consume seafood low in n-3 at a density of 0.2 ounces per 1,000 calories as compared with 0.07 ounces of high n-3 seafood in 2017–2018 (figure 24).

Figure 24  
**Fish density among U.S. consumers aged 2 and above, 1977–2018**



n-3 = Omega-3

Note: The vertical bar associated with each data point is its 95-percent confidence interval.

Source: USDA, Economic Research Service using data from USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey data; USDA, Agricultural Research Service, 1989–1991, 1994–1996, and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2003–2004, 2005–2006, 2007–2008, 2009–2010, 2011–2012, 2013–2014, 2015–2016, and 2017–2018 What We Eat in America, National Health and Nutrition Examination Survey data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, Healthy U.S.-Style Dietary Pattern for Ages 2 and Older, appendix 3, *Dietary Guidelines for Americans 2020–2025*.

## Discussion and Conclusions

Because human diets evolve gradually over time, long-term dietary data are crucial for understanding dietary trends, examining factors affecting dietary quality, informing policy, regulations, and promotional activities aiming at dietary improvement. In this study, the authors examined data from all nationally representative surveys, which have consistent data on FAFH sources (full-service restaurants, fast food, school meals, and other FAFH), including the 1977–1978 NFCS, 1989–1991, 1994–1996, and 1998 (referred to as 1994–1998) CSFII, and 2003–2004, 2005–2006, 2007–2008, 2009–2010, 2011–2012, 2013–2014, 2015–2016, and 2017–2018 WWEIA/NHANES.

The authors made use of USDA's databases that allow estimation of nutritional quality and comparison with Federal dietary guidance. USDA, ARS develops and maintains the FNDDBS to translate food intakes collected under Federal food consumption surveys into nutrient intakes to monitor the quality of U.S. consumers' diets, as well as the MPED and FPED databases that translate foods reported in surveys into food group equivalent specified in *DGA*.

These databases have been updated over time to address emerging nutrition information. Several key nutrients and food components—e.g., saturated fats, cholesterol, sodium, and dietary fiber—were added to FNDDBS after the 1977–1978 NFCS survey. MPED was first introduced for the 1994–1998 CSFII and the 2003–2004 WWEIA/NHANES, and FPED had been developed and updated for the 2005–2006 and later surveys. In a supplementary appendix on data linkage—posted on USDA, Economic Research Service's (ERS) web page for this report—the authors documented the process used to develop consistent nutrient and food equivalents databases for all the survey data spanning between 1977 and 2018. Under the assumption that the foods eaten in 1977–1978 and 1989–1991 were formulated the same as the corresponding foods recorded in the 1994–1998 surveys, by linking foods coded in 1994–1998 CSFII to foods coded in 1977–1978 NFCS and 1989–1991 CSFII, we filled the nutrient and food-group equivalent data gaps.

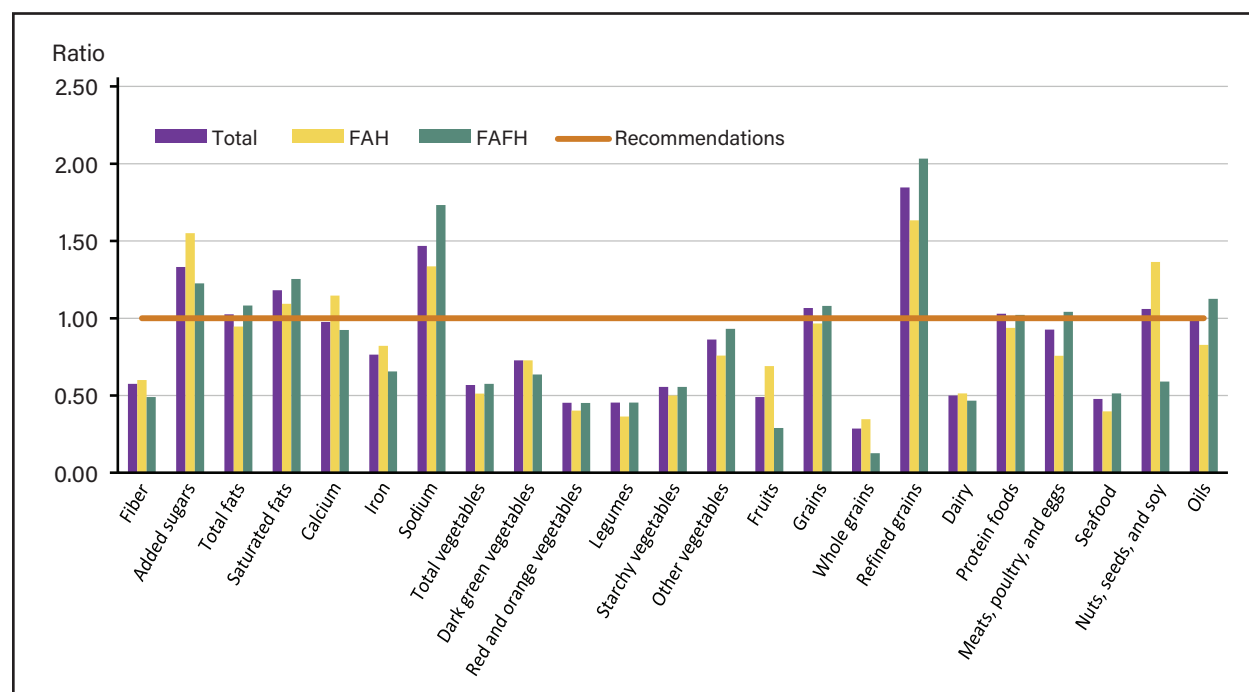
The authors analyzed the diets of U.S. consumers between 1977 and 2018 and included the following components: intake amounts, distribution, and density by food source categories for 12 nutrients and food components, as well as 35 food groups and subgroups. Food source categories are food at home, food away from home, restaurants, fast-food establishments, schools, and other foods away from home. The analysis covers consumers in the United States aged 2 and above in total and by selected demographic population groups, including age, sex, race and ethnicity, household income, and educational achievement among adults. The descriptive statistics of the samples for population subgroups by survey are reported in table 1.

Daily Nutritional Goals and the Healthy U.S.-Style Dietary Pattern for ages 2 and above summarized in the *Dietary Guidelines for Americans* are treated as Federal recommendations in this study. USDA worked with researchers at the National Cancer Institute, which is part of HHS, to develop the 2015 Healthy Eating Index (HEI), which measures the adherence of U.S. consumers' diets to the *DGA* (Krebs-Smith et al., 2018). HEI standards for intakes of foods and nutrients are based on the *DGA*'s recommended intakes expressed on a per 1,000-calories basis—i.e., the density measure, which was also adopted by USDA, ERS researchers to measure children's dietary quality (Lin et al., 1996). Dietary recommendations vary by the estimated energy allowances, which are, in turn, determined by age, sex, and physical activity level. Consumers in the United States aged 2 and above consumed an average of 2,093 calories a day during 2017–2018. Therefore, in this study, we expressed the recommended intake in terms of density for a diet of 2,000 calories, which—when compared with the density calculated from the survey data—indicates whether consumers in the United States overconsume or underconsume a nutrient, food component, or food group and the extent of the overconsumption or underconsumption.

Table 2 shows the 2020–2025 recommended density measures for a 2,000-calorie diet and the 2017–2018 actual reported densities for total foods, FAH, and FAFH. Figure 25 depicts the ratios of the actual densities to the recommended densities. Figure 25 indicates—except for total fats, calcium, most of protein foods, and oils—U.S. consumers’ diets fall short of the *DGA* recommendations by substantial margins. Of the 23 densities analyzed for this report, the authors found 16 deviated from their recommended levels by more than 20 percent, including inadequate fiber, added sugars, saturated fats, iron, sodium, total vegetables, dark green vegetables, red and orange color vegetables, starchy vegetables, legumes, other vegetables, fruits, whole grains, refined grains, dairy, and seafood intake densities.

Figure 25

**Ratios of 2017–2018 nutrient, food component, and food equivalent density to the recommended density among U.S. consumers aged 2 and above**



FAH = Food at home; FAFH = Food away from home.

Source: USDA, Economic Research Service using data from USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2017–2018 What We Eat in America, National Health and Nutrition Examination Survey data; USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, Daily Nutritional Goals, Ages 2 and Older, appendix 1, *Dietary Guidelines for Americans 2020–2025*; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, Healthy U.S.-Style Dietary Pattern for Ages 2 and Older, appendix 3, *Dietary Guidelines for Americans 2020–2025*.

During the 1977–2018 period, consumers in the United States increased their calorie intake by 15 percent from 1,807 calories per person per day in 1977–1978 to 2,093 calories in 2017–2018. The trend in calorie intake is consistent with the rising obesity rate in the United States, but the rise in obesity rate outpaced the increase in calorie intake.<sup>10</sup> Weight gain is a result of an imbalance between energy intake and expenditure, the latter of which is affected by an array of lifestyle and environmental factors such as physical activity level, sleep, healthfulness of diet, food environment, advances in modern technology, etc. (Variyam, 2005;

<sup>10</sup> The obesity rate among children aged 2–19 rose from 5.5 percent in 1976–1980 to 19.3 percent in 2017–2018 (Fryar et al., 2020). The adult obesity rate rose by 39 percent from 30.5 percent in 1999 to 42.4 percent in 2017–2018 (CDC, 2022).

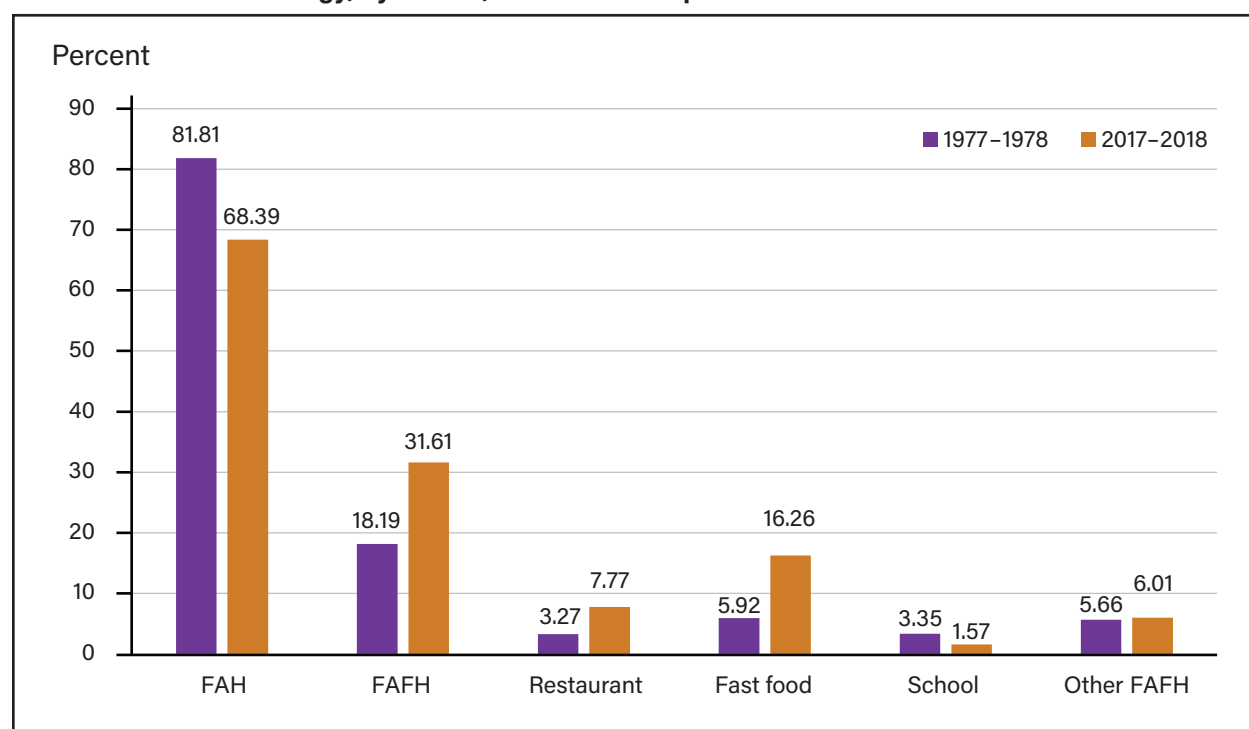


T.H. Chan School of Public Health, Harvard University, 2022). Future research is needed to understand the complex roles that lifestyle, environmental, and economic factors play in increasing obesity rates in the United States.

FAH's share of food energy declined over time from 81.8 percent in 1977–1978 to 68.4 percent in 2017–2018, the share of fast-food energy rose from 5.9 to 16.3 percent, and the share of restaurant food energy more than doubled from 3.3 to 7.8 percent during the 1977–1978 and 2017–2018 period (figure 26). In general, consumers in the United States make more nutritious choices when grocery shopping for foods than when ordering from the menu in a commercial eating establishment. Compared with FAFH, FAH has a higher density of underconsumed nutrients and food groups, including fiber, iron, whole grains, fruits, dairy, and dark green vegetables, as well as a lower density of overconsumed nutrients and food groups, such as saturated fats, sodium, and refined grains (figure 25). Conversely, FAH is denser in added sugars and less dense in seafood and all types of vegetables except dark green vegetables relative to FAFH.

Figure 26

**Distribution of food energy, by source, 1977–1978 compared with 2017–2018**



FAH = Food at home; FAFH = Food away from home.

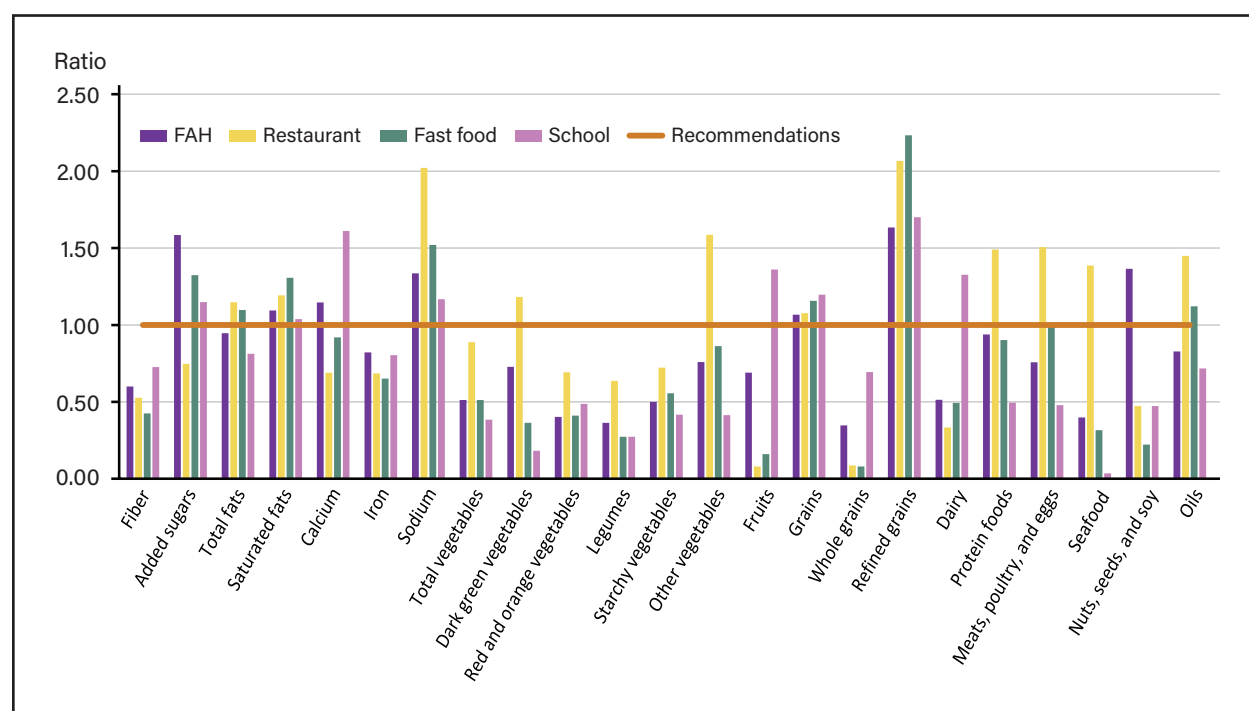
Source: USDA, Economic Research Service using data from USDA, Agricultural Research Service, 1977–1978 Nationwide Food Consumption Survey; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2017–2018 What We Eat in America, National Health and Nutrition Examination Survey data.

The study observed changes over time in the nutrient and food component density of school foods. Most of the foods served at schools have been a part of USDA school meal programs, which are subject to USDA-established nutrition standards. School foods have included other foods obtained at school such as snacks served in addition to school meals. In the Healthy, Hunger-Free Act of 2010, the U.S. Congress mandated changes in school meal standards to be consistent with the *DGA*. In response, USDA made several changes in school meal nutrition standards that were implemented in the 2012–2013 school year. These standards required school meals to include whole grain-rich foods, daily fruit offerings, and a more varied mix of vegetables, including regular servings of dark green as well as red and orange vegetables, among other changes.

USDA also established updated nutrition standards for other foods and beverages sold in schools that participate in USDA school meal programs; these were implemented in the 2014–2015 school year (Guthrie and Newman, 2013). Milk has been a required component in school meals throughout the survey years, so in 2017–18, school foods were found to be 75 and 130 percent denser in calcium than fast food and restaurant foods, respectively. After the USDA’s updated school meal nutrition standards were implemented, school foods became twice as dense in whole grains as home foods and seven times denser than fast food and restaurant foods in 2017–2018 (figure 27). In addition, the density of some overconsumed nutrients, such as saturated fats, has been falling, and the density of some underconsumed nutrients and foods, such as fiber and fruits, has been rising in school foods since 2005–2006. However, our results suggested vegetable consumption from school foods has not had the same improvement despite expanded vegetable offerings as part of updated school meal standards. Identifying strategies to improve vegetable acceptance may be helpful. Furthermore, the role of school foods in children’s diets has diminished over time as its share of food energy intake dropped by more than half from 3.4 percent in 1977–1978 to 1.6 percent in 2017–2018.

Figure 27

**Nutrient, food component, and food equivalent density ratios compared with the *DGA* recommended density among U.S. consumers aged 2 and above for at home, restaurant, fast food, and school, 2017–2018**



FAH = Food at home.

Source: USDA, Economic Research Service using data from USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2017–2018 What We Eat in America, National Health and Nutrition Examination Survey data; USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, Daily Nutritional Goals, Ages 2 and Older, appendix 1, *Dietary Guidelines for Americans 2020–2025 (DGA)*; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, Healthy U.S.-Style Dietary Pattern for Ages 2 and Older, appendix 3, *Dietary Guidelines for Americans 2020–2025*.

During the 1977–2018 survey period, restaurants and fast-food places became increasingly important in U.S. consumers’ diets. Therefore, qualitative differences between foods from restaurants and fast-food places and FAH remain important considerations for policies and strategies designed to improve diet and health. Compared with FAH in terms of density, foods from restaurants and fast-food places are lower in several underconsumed nutrients and foods—including fiber, calcium, iron, fruits, dairy, whole grains, nuts, seeds, and soy products—and higher in saturated fat, sodium, and refined grains (figure 27). On the other hand, restaurant foods are lower in added sugars and richer in vegetables, meats, poultry, eggs, and seafood relative to food at home. However, it is important to note most of the seafood consumed in restaurants is from the low Omega-3 fatty acid seafood types at a 7-to-1 ratio when compared with healthier seafood types high in Omega-3 fatty acids. At home, the average U.S. consumer ate 1 ounce of high Omega-3 fatty acid seafood out of every 4 ounces of seafood.

In this study, the authors also examined differences in dietary quality by food source across several demographic characteristics, including age, sex, race and ethnicity, household income, and educational achievement among adults. For some dietary components, there were intake disparities across certain demographic groups, whereas for other dietary components, such as sodium, overconsumption is pervasive across demographic factors and, by a substantial margin, from all FAH and FAFH sources.

Fiber density did not vary across race and ethnicity in the early years of the study period, but the racial and ethnic gaps in fiber density widened over time. In 2017–2018, non-Hispanic White populations and Black populations, respectively, had a diet containing 7.7 and 7.0 grams of fiber per 1,000 calories, which was lower than the 9.2 grams per 1,000 calories in the diet of Hispanics and individuals of other racial and ethnic groups. Foods consumed by those with high household income (income exceeding 300 percent of the poverty level) and those who attended college had less dense intakes of added sugars than their respective counterparts. For example, in 2017–2018, foods consumed by high-income households contained 7.2 teaspoons of added sugars for every 1,000 calories, compared with lower income households who were, on average, consuming 8.4 to 8.6 teaspoons for every 1,000 calories. The density of total vegetable intake rose with age. The diet of non-Hispanic Black populations was lower in total vegetables density as well as dairy products than non-Black populations. Females incorporated more fiber and fruits in their diets than males in terms of density, but the density of fruits did not vary by age, race, ethnicity, or household income.

## Policy Strategies for Improving Diet Quality

Through the *DGA*, the Federal Government provides U.S. consumers with basic information on nutritional food choices. Federal agencies, including USDA, continue to support consumers’ efforts to follow *DGA* guidance through a wide range of policies and programs. To communicate *DGA*-based recommendations to consumers in a more comprehensible and practical manner, the Center for Nutrition Policy and Promotion—a unit within USDA’s Food and Nutrition Service (FNS)—along with Federal agency partners, supports nutrition education through developing communication devices such as MyPlate, which translates *DGA* guidelines into food choice visual guides and provides educational messages and materials (Post, 2011; Post et al., 2013). To put this advice into practice, consumers need accurate information from a trustworthy source on the nutritional content of foods they choose.

In 2017–2018, FAH accounted for 68 percent of total calorie intakes, even though its share has declined from 82 percent in 1977–1978. To provide consumers with accurate nutrition information, packaged foods sold as FAH have been required to provide nutrition facts labels since the mid-1990s. The content and format of nutrition fact labels, as well as front-of-package nutrition and health claims such as “low sodium,” are

federally regulated (U.S. Food and Drug Administration, 2022). Some studies have provided evidence this nutritional label information may have improved diet quality in some ways (Campos et al., 2011; Kim et al., 2001; Kuchler et al., 2017; Rahkovsky et al., 2013; Variyam, 2008). To keep pace with emerging science and changes in *DGA*, the requirements for nutrition fact labels were revised with new label requirements implemented as of 2021. Important changes included more emphasis on calorie content and information on added sugars content.

Since 2018, chain fast-food and full-service restaurants—20 or more establishments—have been required to include calorie information for all standard menu items (Restrepo et al., 2018). When analyzing national data, Restrepo et al. (2018) found that while only a minority of adults dining at fast-food and full-service restaurants saw and made use of this menu information, those who did consider it ate fewer calories as part of their FAFH meals and over the course of the day.

Nutrition information may shape consumers' choices among existing products. It may also incentivize the development of products better aligned with nutrition guidance. In 2005, *DGA* recommended U.S. consumers' grain intake contain 50 percent whole grains, and the food industry responded by introducing more whole grain products (Mancino et al., 2008). Our findings show that foods from all sources are high in sodium density. Since most of the sodium consumed by U.S. consumers comes from purchased foods rather than salt added in cooking or at the table (IOM, 2010), product changes will help lowering sodium intake among U.S. consumers. With this in mind, the U.S. Food and Drug Administration has proposed voluntary industry actions to reduce sodium (Watson, 2021).

One of the most important ways the Federal Government can impact U.S. consumers' diets has been through its food assistance and nutrition programs. In fiscal year (FY) 2020, Federal spending on USDA food assistance programs totaled \$122.1 billion (Toossi et al., 2021). Through foods purchased with USDA's Supplemental Nutrition Assistance Program (SNAP), the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) benefits, or meals served in schools, childcare centers, summer camps, and after school programs, these programs affected the diets of millions of U.S. consumers every day.

As our findings demonstrate, updated school meal standards have had measurable impacts on children's consumption of nutritious foods such as whole grains (Lin et al., 2019). Low-income students and those from food-insecure households are more likely to participate in USDA school meal programs, yet recent studies indicate school meals contribute positively to the diets of participating higher income students as well (Smith et al., 2021; Forrestal et al., 2021).

WIC provides educational opportunities and foods to meet the nutrition needs of its target population, including low-fat dairy, whole grain products, and cash-value incentives for purchasing fruits and vegetables, along with nutrition education. Findings from the 2016 Feeding Infants and Toddler Study (FITS)—a national sample of infants and preschool-aged children—indicated WIC participation had been associated with a likelihood of increased consumption of some of the nutritional foods targeted by the program (Guthrie et al., 2018). Nutrition research has indicated food preferences can be shaped by repeated exposure to target foods early in life (Pliner, 1982). By encouraging regular consumption of healthy foods during childhood, nutrition assistance programs targeting young children may help form habits promoting long-term consumption, ultimately increasing their health benefits. Further research on Federal nutrition programs' effects on long-term food and nutrition intakes could be important to establish this value.

SNAP benefits are set at a level estimated to allow participants to purchase foods to fulfill *DGA* recommendations (Carlson et al., 2007). However, SNAP participants are free to make their own food purchasing choices from approved retailers, with a few limitations (hot, prepared foods are excluded). To encourage nutritious choices, nutrition education is provided through SNAP-Ed. SNAP-Ed employs a range of strate-

gies, including direct, face-to-face nutrition education, social marketing health promotion campaigns, as well as collaborative work to effect policy, system, and environmental changes supporting SNAP participants in making healthy, economical food choices (Gleason et al., 2018).

In addition to SNAP-Ed, USDA has been exploring other strategies for encouraging SNAP participants and other low-income consumers to make healthy food choices (Guthrie et al., 2007). Most notably, numerous projects have explored the impacts of providing targeted subsidies for purchasing fruits and vegetables (Olsho et al., 2016; Vericker et al., 2019). Results have been mixed, possibly due to the differences in the design and implementation of the interventions (Vericker et al., 2019). Some projects have integrated SNAP-Ed with promising results (Dannefer et al., 2015); others have leveraged relationships with health providers to designate fruit and vegetable vouchers as “produce prescriptions,” a message that may increase the perceived benefit of the subsidy (Cavanagh et al., 2016). Other interventions have leveraged insights from behavioral economics and marketing to encourage consumers to purchase fruits and vegetables (Payne and Niculescu, 2018). The Gus Schumacher Nutrition Incentive Program (GusNIP), established through the 2018 Farm Bill, provides funding for new projects exploring SNAP incentives for healthy eating, including produce prescription programs.

Despite these efforts, our findings demonstrate U.S. consumers’ diets remain below the nutritional standards recommended by expert guidance. It is likely important to understand how consumers respond to the changing social and environmental circumstances in which they live. Zeballos and Restrepo (2021) noted that working at home results in more home preparation, leading to speculation as to whether the rise in telework and other work-at-home adjustments during the coronavirus (COVID-19) pandemic will continue and what impacts it will have on food choice. Will work-from-home adjustments reverse some of the FAFH intake increases? Or will FAFH establishments continue to adapt to increased meal delivery, and will this result in a need to develop new methods of communicating nutrition information about FAFH? Understanding U.S. consumer trends and their dietary impacts underscore the importance of continued research on U.S. consumers’ eating habits to interpret how these habits change and what the implications are for diet quality and dietary improvement strategies.

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## Appendix A. Definition of Food Sources

Food source coding differs across the Nationwide Food Consumption Survey (NFCS, 1977–1978), Continuing Survey of Food Intakes by Individuals (CSFII, 1989–1991 and 1994–1998), and different waves of the What We Eat In America, National Health and Nutrition Examination Survey (WWEIA/NHANES, 2003–2004, 2005–2006, 2007–2008, 2009–2010, 2011–2012, 2013–2014, 2015–2016, and 2017–2018), but major sources—including grocery stores, full-service restaurants, fast-food restaurants, and school cafeterias—are identified in all surveys. The variables defining food sources in 1977–1978 NFCS and 1989–1991 CSFII are listed separately in tables A-1 and A-2, respectively. The variables defining food sources in 1994–1998 CSFII and 2003–2018 WWEIA/ NHANES surveys are listed together in table A-3 because they are similar among themselves but different from 1977–1978 NFCS and 1989–1991 CSFII.

Table A-1

**Coding in the survey and the authors' definitions of food sources, 1977-1978**

Definitions of food sources by the authors, 1977-1978			
Survey coding			The authors' definitions
Food-at-home source	Food-away-from-home source	Service type	Food source
1			FAH
2			FAH
3	10 and 11		FAH
3	1	1	Restaurant
3	1	2 to 7	Fast food
3	2, 4, 5		Fast food
3	6, 7, 8, 14, 15		School
All else	All else	All else	Other FAFH
Coding of food from home source in the survey			
Food-at-home source		Description	
1		Yes, and eaten at home	
2		Yes, but eaten away form home	
3		No, obtained and eaten away	
Space		Missing	
Food-away-from-home source		Description	
1		Restaurant	
2		Fast-food place	
3		Other public eating place	
4		Dining room or cafeteria at work	
5		Other place at work	
6		School	
7		Daycare center	
8		Summer day camp	
9		Community feeding program for seniors	
10		Grocery or other food store	
11		Drug store or other store	
12		At someone else's home	
13		Other	
14		School cafeteria meal	
15		School a la carte meal	
Space		Missing	
Coding of service type in the survey			
Type of service		Description	
1		Served at a table	
2		Counter service	
3		Cafeteria or buffet style	
4		Vending machine	
5		Carry out	
6		Car service	
7		Other	
Space		Missing	

FAH = Food at home. FAFH = Food away from home.

Source: USDA, Economic Research Service using data from USDA, Agricultural Research Service, 1977-1978 Nationwide Food Consumption Survey.

Table A-2

**Coding in the survey and the authors' definitions of food sources, 1989–1991**

Definitions of food sources by the authors, 1989-1991			
Survey coding			The authors' definitions
Food-at-home source (where eaten)	Food-away-from-home source	Fast food	Food source
1, 2			FAH, can be overwritten below
	8, 9, 10		FAH
	1		Restaurant
		1	Fast food
	2, 3, 7, 11		Fast food
	4, 5		School
All else	All else	All else	Other FAFH
Coding food-at-home source (where eaten) in the survey			
Food-at-home source (where eaten)		Description	
1		Eaten at home	
2		Brought into home, but later eaten away from home	
3		Never brought into the home	
8		Don't know	
9		No answer	
Coding food-away-from-home source in the survey			
Food-away-from-home source		Description	
1		Restaurant with waiter service	
2		Cafeteria or self-serve restaurant	
3		Restaurant where food is ordered or picked up at counter	
4		School	
5		Daycare center or summer day camp	
6		Community feeding program for seniors	
7		Vending machine	
8		Store (1989)	
9		Supermarket, grocery store, deli (1990–1991)	
10		Convenience store (1990–1991)	
11		Recreation/entertainment facility (1990–1991)	
12		At someone else's home	
13		Some other place	
98		Don't know	
99		No answer	
Space		Not applicable	
Coding of service type in the survey			
Fast food (fast-food places or Meals on Wheels)		Description	
1		Fast-food/carryout place	
2		Meals on Wheels	
3		Some other place	
8		Don't know	
9		No Answer	
Space		Not applicable	

FAH = Food at home. FAFH = Food away from home.

Source: USDA, Economic Research Service using data from USDA, Agricultural Research Service, 1989–1991 Continuing Survey of Food Intakes by Individuals.

Table A-3

**Coding in the survey and the authors' definitions of food sources: 1994–1998, 2003–2010, and 2011–2018**

Survey coding and description				The authors' definitions
2011–2018	2003–2010	1994–98		
Food source code			Where the food was obtained	Food source
0	1	1	Store	FAH
2	2	2	Restaurant with server	Restaurant
3	3	3	Fast-food restaurant/pizza	Restaurant
4	4	4	Bar/tavern/lounge	Restaurant
5	5		Restaurant no additional information	Restaurant
6	6	6	Cafeteria not at school	Restaurant
7	7	5	School cafeteria	School
8	8	8	Children care center	School
9	9	8	Family/adult care center	Other FAFH
10	10	9	Soup kitchen/shelter/food pantry	FAH if eaten at home; otherwise other FAFH
11	11	10	Meals on Wheels	Other FAFH
12	12	11	Community food program - other	Other FAFH
13	13		Community food program no additional information	Other FAFH
14	14	7	Vending machine	Other FAFH
15	15	15	Common coffee pot or snack tray	Other FAFH
16	16	13	From someone else/gift	FAH
17	17	14	Mail order purchase	FAH
18	18	16	Residential dining facility	Restaurant
19	19	12	Grown by you or someone you know	FAH
20	20	71–74	Fish caught by you or someone you know	FAH
24	24		Sport, recreation, entertainment facility	Restaurant
25	25		Street vendor, vending truck	Other FAFH
26			Fundraiser sales	Other FAH
27			Store - convenience type	FAH
28			Store - no additional info	FAH
91	91	96	Other, specify	Other FAFH
99	99	98	Don't know	Missing

FAH = Food at home. FAFH = Food away from home.

Source: USDA, Economic Research Service using USDA, Agricultural Research Service 1994–1996 and 1998 Continuing Survey of Food Intakes by Individuals data; and USDA, Agricultural Research Service and U.S. Department of Health and Human Services, Center for Disease Control and Prevention, 2003–2004, 2005–2006, 2007–2008, 2009–2010, 2011–2012, 2013–2014, 2015–2016, and 2017–2018 What We Eat in America, National Health and Nutrition Examination Survey data.