



Food Surveys Research Group  
Dietary Data Brief No. 66  
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# Consumption of Eggs/Omelets and Egg Sandwiches by U.S. Adults

## What We Eat in America, NHANES 2017 – March 2020

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### Highlights

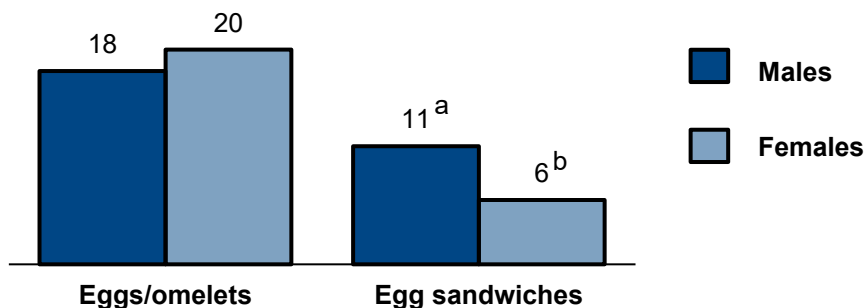
- ▶ On any given day, 19% of adults consume eggs as an individual item or in an omelet, and 8% consume an egg sandwich.
- ▶ As compared to females, a larger percentage of males consume egg sandwiches.
- ▶ Hispanic adults are more likely to consume eggs/omelets than are non-Hispanic Black and White adults.
- ▶ Three-fourths of eggs/omelets and egg sandwiches are consumed at breakfast.
- ▶ Eggs/omelets provide an average of 213 kilocalories to adults who consume them on the intake day, whereas egg sandwiches provide 506 kilocalories.
- ▶ On a 1,000 kilocalorie basis, consumers of eggs/omelets and egg sandwiches have lower intakes of carbohydrate and higher intakes of fat, saturated fat, monounsaturated fat, choline and (egg/omelet consumers only) vitamin D.
- ▶ Among consumers, these egg-based foods account for >40% of daily intake of choline and ≥ 25% of vitamins A and D.

Eggs are ubiquitous in the American diet. They are nutritious, providing high-quality protein, vitamins, and other essential dietary components (1-3). Though eggs are an ingredient of many foods, among adults in the U.S, the majority (78%) are consumed as an individual item (e.g., fried eggs), in omelets, and in sandwiches (*see definition of “eggs” on page 8*). In this report, intakes of eggs consumed by adults 20+ years as eggs and omelets (hereafter referred to as “eggs/omelets”) and egg sandwiches are presented. This analysis is based on one day of dietary intake data from What We Eat in America (WWEIA), National Health and Nutrition Examination Survey (NHANES) 2017 – March 2020. A complementary report (Dietary Data Brief No. 65) describes egg consumption by U.S. children 2-19 years.

### What percentage of adults consume eggs/omelets and egg sandwiches, and does it differ by sex or age?

On any given day, 19% of adults consume eggs as an individual item or in omelets and 8% consume an egg sandwich (*data not shown*). Prevalence of consumption of eggs/omelets does not differ by sex (Figure 1;  $p > 0.001$ ); however, males are more likely to consume an egg sandwich on the intake day relative to females. The percentage of adults consuming eggs/omelets and egg sandwiches is not statistically different by age for all adults or within sex (*data not shown*).

**Figure 1. Prevalence (%) of consumption of eggs/omelets and egg sandwiches<sup>1</sup> among adults age 20+ years by sex, WWEIA, NHANES 2017 – March 2020**



<sup>1</sup>See definition of “eggs” on page 8.

<sup>a,b</sup>Within egg category, estimates with different superscripts differ by sex ( $p < 0.001$ ) based on a two-sided t-test.

SOURCE: WWEIA, NHANES 2017 – March 2020, day 1, adults 20 years of age and older.



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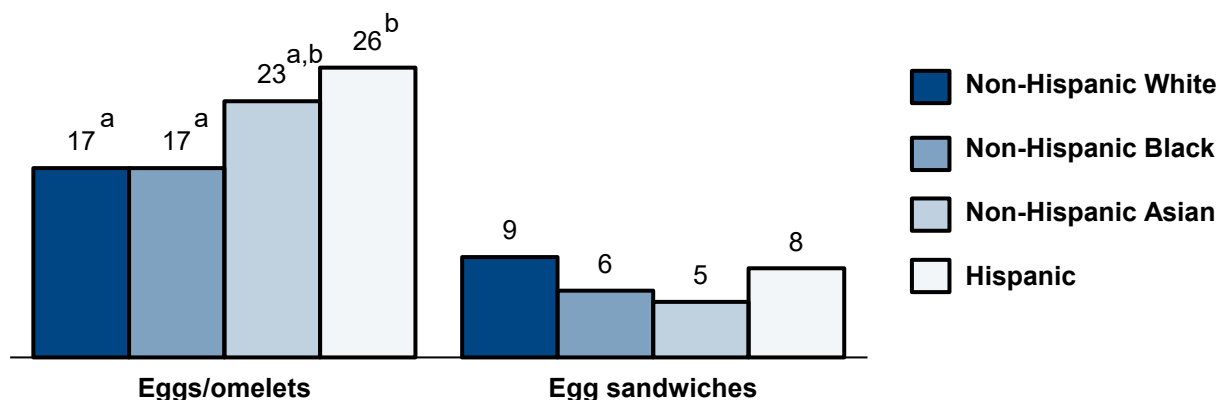
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## Does consumption of eggs/omelets and egg sandwiches differ by race/ethnicity or family income?

Hispanic adults are more likely to consume eggs/omelets on the intake day than are non-Hispanic (NH) white and NH Black adults (Figure 2). On the other hand, the percentage of adults reporting egg sandwiches does not differ by race/ethnic group.

No differences are seen in the prevalence of either egg category by family income (Figure 3).

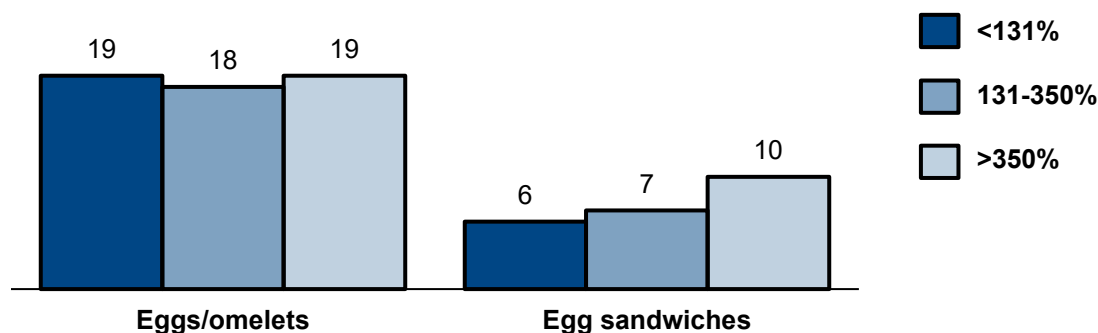
**Figure 2. Prevalence (%) of consumption of eggs/omelets and egg sandwiches<sup>1</sup> among adults age 20+ years, by race/ethnicity, WWEIA, NHANES 2017 – March 2020**



<sup>1</sup>See definition of “eggs” on page 8.

<sup>a,b</sup>Within egg category, percentage estimates with different superscripts differ by race/ethnicity ( $p < 0.001$ ) based on a two-tailed t-test. SOURCE: WWEIA, NHANES 2017 – March 2020, day 1, adults 20 years of age and older.

**Figure 3. Prevalence (%)<sup>a</sup> of consumption of eggs/omelets and egg sandwiches<sup>1</sup> among adults age 20+ years, by family income as % of poverty level<sup>2</sup>, WWEIA, NHANES 2017- March 2020**



<sup>1</sup>See definition of “eggs” on page 8.

<sup>2</sup>Ratio of family income to the federal poverty guidelines expressed as a percentage. See definition of “family income” on page 8.

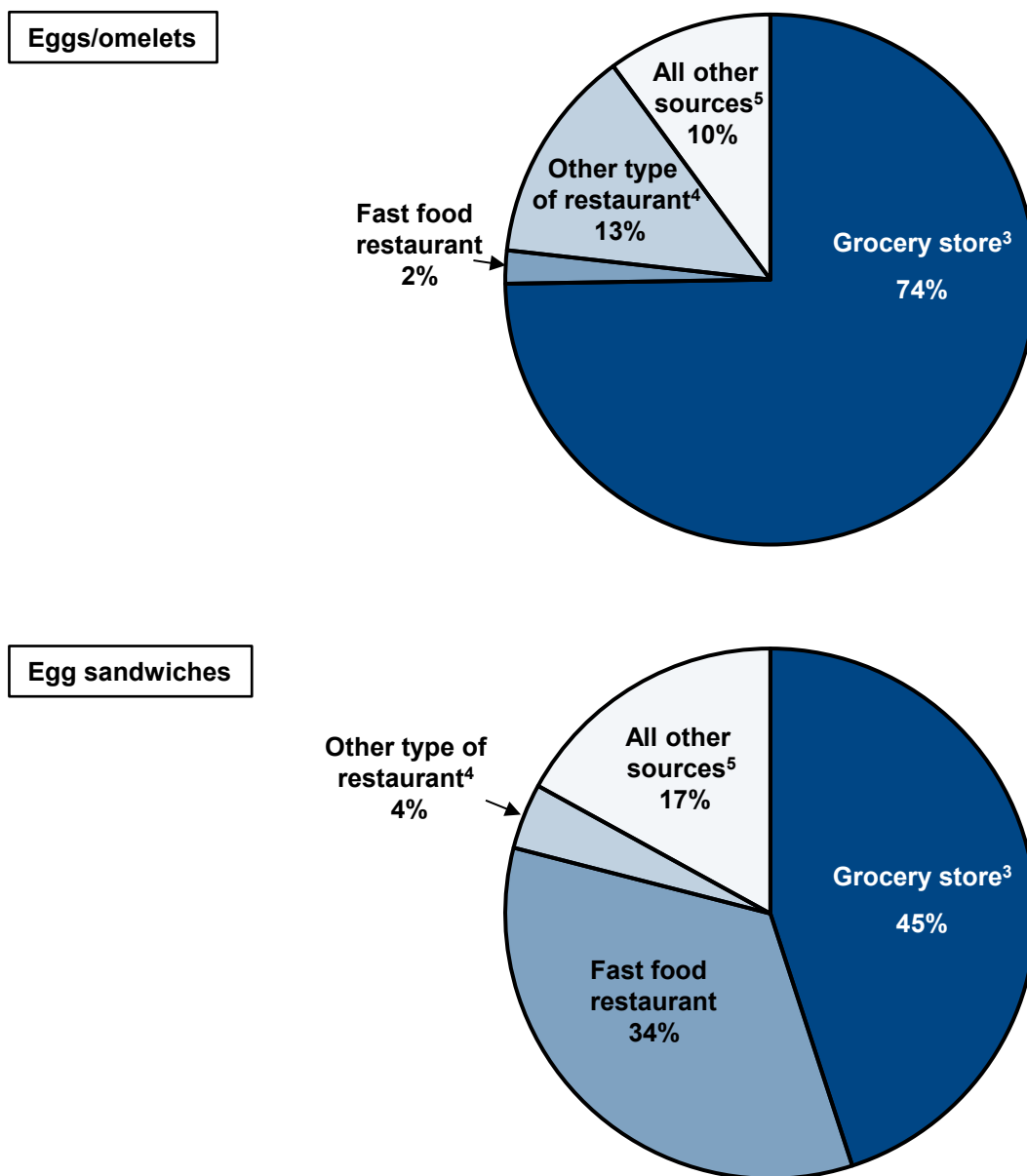
<sup>a</sup>Within egg category, percentage estimates do not differ by income ( $p > 0.001$ ) based on a two-tailed t-test.

SOURCE: WWEIA, NHANES 2017 – March 2020, day 1, adults 20 years of age and older.

## From what sources are eggs/omelets and egg sandwiches obtained?

Grocery stores account for the largest percentage of reports of eggs/omelets and egg sandwiches by adults at 74% and 45%, respectively (Figure 4). In addition, fast food restaurants are the source of about one-third of all egg sandwich reports, but only 2% of eggs/omelets reports. Consequently, it is not surprising that twice as many egg sandwiches are consumed away from home (47%) as compared to eggs/omelets (23%; *data not shown*).

**Figure 4. Percentage (%)<sup>1</sup> of egg/omelet and egg sandwich<sup>2</sup> reports by source, adults age 20+ years, WWEIA, NHANES 2017- March 2020**



<sup>1</sup>Estimates may not add to 100 due to rounding.

<sup>2</sup>See definition of "eggs" on page 8.

<sup>3</sup>Includes supermarkets, warehouse clubs, specialty stores, and ethnic food stores.

<sup>4</sup>Includes restaurant with waiter/waitress service; bar/tavern/lounge; cafeteria; and restaurant, not further specified.

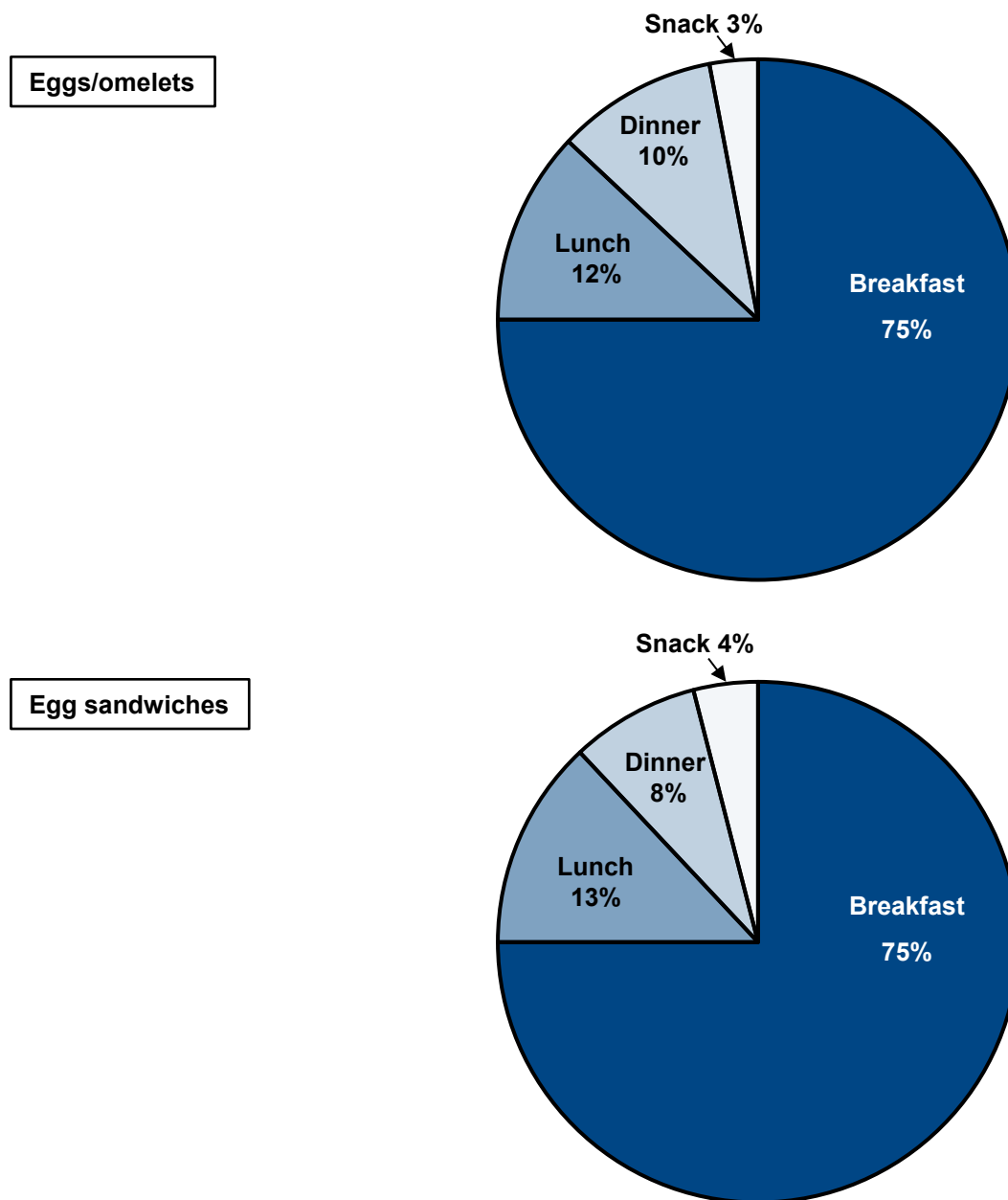
<sup>5</sup>Includes sources not specifically shown, e.g., someone else/gift and convenience store.

SOURCE: WWEIA, NHANES 2017 – March 2020, day 1, adults 20 years of age and older.

**At what eating occasions are eggs/omelets and egg sandwiches consumed?**

Seventy-five percent of reports of eggs- both eggs/omelets and egg sandwiches- are consumed at breakfast, with lunch accounting for a distant second (Figure 5).

**Figure 5. Percentage (%) of egg/omelet and egg sandwich<sup>1</sup> reports by eating occasion<sup>2</sup> at which they are consumed, adults age 20+ years, WWEIA, NHANES 2017- March 2020**



<sup>1</sup>See definition of “eggs” on page 8.

<sup>2</sup>See definition of “eating occasion” on page 8.

SOURCE: WWEIA, NHANES 2017 – March 2020, day 1, adults 20 years of age and older.

## How much energy do eggs/omelets and egg sandwiches provide to adults who consume them?

As shown in Table 1, among both males and females, the mean energy contribution from egg sandwiches is more than double that of eggs/omelets. The examples suggest the reason. The non-egg components inherent to most sandwiches (e.g., bread, cheese, and meat) all contain substantial energy, boosting their caloric contribution. Only 6% of eggs/omelets consumers obtain a quarter or more of their total daily energy intake from foods in that category; among egg sandwich consumers, that percentage is 32% (*data not shown*).

**Table 1. Mean daily contribution to energy per consumer<sup>1</sup> of eggs/omelets and egg sandwiches<sup>2</sup> and examples, adults 20+ years WWEIA, NHANES 2017 – March 2020**

	Mean energy contribution per consumer (kilocalories <sup>3</sup> )			Examples of egg in category; portion size (energy content) <sup>4</sup>
	All adults	Males	Females	
Eggs/omelets	213	235	195	Egg omelet or scrambled egg, made with fat 3 eggs (318) <sup>5</sup>
Egg sandwiches	506	533	463	Egg sandwich on croissant, with sausage and cheese 1 regular (585) <sup>6</sup>

<sup>1</sup>See definition of “consumer/nonconsumer” on page 8.

<sup>2</sup>See definition of “eggs” on page 8.

<sup>3</sup>See definition of “kilocalories” on page 8.

<sup>4</sup>Portion sizes and associated energy content are available in the Food and Nutrient Database for Dietary Studies (FNDDS; 4).

<sup>5</sup>In this example, the energy contributions of the individual ingredients are as follows: egg, whole 214 calories; oil, 104 calories.

<sup>6</sup>In this example, the energy contributions of the individual ingredients are as follows: croissant, 247 calories; egg, whole, fried, 103 calories; pork sausage, 159 calories; cheese, 76 calories.

SOURCE: WWEIA, NHANES 2017 – March 2020, day 1, adults 20 years of age and older.

## Does total daily intake of nutrients per 1,000 kilocalories differ between consumers and non-consumers of eggs/omelets and egg sandwiches?

Total daily intake of protein, total fat, saturated fat, monounsaturated fat, cholesterol, and vitamin A, choline, and D are higher whereas carbohydrate and added sugars are lower among consumers of eggs/omelets relative to non-consumers on a 1,000 kilocalorie basis (Table 2). Fewer differences are seen among egg sandwich consumers and non-consumers.

**Table 2. Mean daily intake from all foods and beverages of select nutrients per 1,000 kilocalories<sup>1</sup> among consumers<sup>2</sup> of eggs/omelets and egg sandwiches<sup>3</sup>, adults age 20+ years, 2017 – March 2020**

Nutrient	Eggs/omelets		Egg sandwiches	
	Consumers	Non-consumers	Consumers	Non-consumers
<b>Macronutrients/food components:</b>				
Protein (g)	43*	38	38	39
Carbohydrate (g)	101*	118	108*	116
Added sugars (tsp eq.)	6*	8	7	8
Dietary fiber (g)	8	8	7	8
Total fat (g)	44*	40	43*	40
Saturated fat (g)	14*	13	14*	13
Monounsaturated fat (g)	15*	13	15*	14
Polyunsaturated fat (g)	10	9	10	10
Cholesterol (mg)	312*	114	227*	145
<b>Vitamins:</b>				
Vitamin A (mcg RAE)	388*	295	298	314
Choline (mg)	265*	139	200*	160
Vitamin B12 (mcg)	2.4	2.2	2.0	2.3
Vitamin D (mcg)	3.0*	1.9	2.2	2.1
Vitamin E (mg)	4.8	4.5	4.1	4.6
<b>Minerals:</b>				
Calcium (mg)	460	477	454	476
Potassium (mg)	1332	1261	1136	1287
Sodium (mg)	1689	1678	1690	1680

Abbreviations: g, grams; tsp eq, teaspoon equivalents; mcg, micrograms; RAE, retinol activity equivalents; mg, milligrams.

<sup>1</sup>See definition of "kilocalories" on page 8.

<sup>2</sup>See definition of "consumer/non-consumer" on page 8.

<sup>3</sup>See definition of "eggs" on page 8.

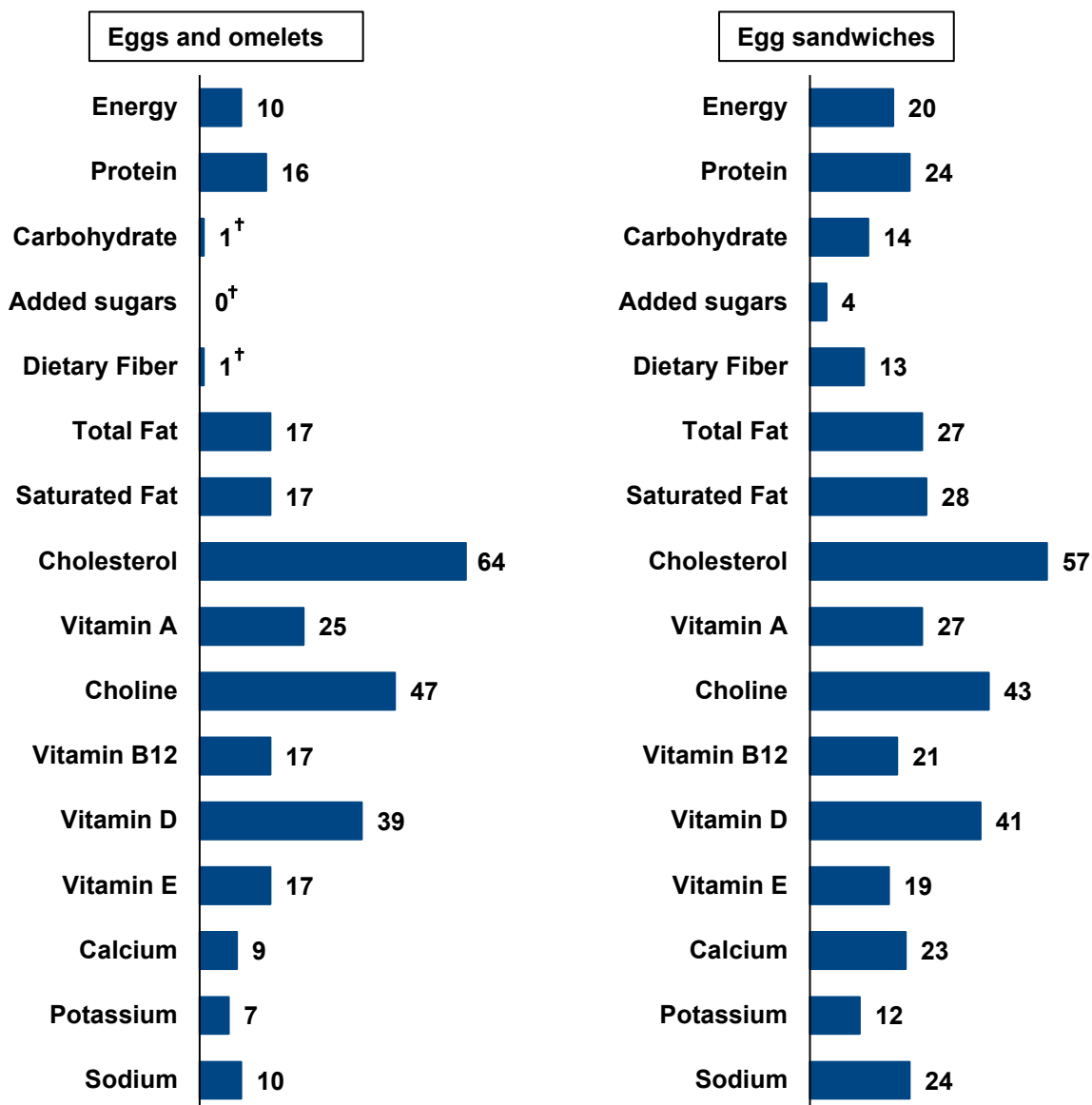
\*Within egg group, intake is significantly different from non-consumers ( $p < 0.001$ ) based on a two-tailed t-test.

SOURCE: WWEIA, NHANES 2017 - 2018, day 1, adults 20 years of age and older.

## How much do eggs/omelets and egg sandwiches contribute to mean daily intakes of energy and nutrients among adults who consume them?

As shown in Figure 7, both eggs/omelets and egg sandwiches provide notable percentages of daily intake of protein, total fat, saturated fat, and particularly cholesterol and choline among adults who consume them. They also account for 25% or more of daily intake of vitamins A and D, nutrients that are broadly underconsumed in the U.S. diet (5). Moreover, the non-egg ingredients of egg sandwiches explain the contributions to carbohydrate and dietary fiber (bread), calcium (cheese) and saturated fat and sodium (cheese, cured meats such as sausage) attributed to these foods.

**Figure 7. Percentage (%) contributions of eggs/omelets and egg sandwiches to mean daily intakes of energy and selected nutrients among consumers<sup>2</sup>, adults age 20+ years, 2017 – March 2020**



<sup>1</sup>See definition of "eggs" on page 8.

<sup>2</sup>See definition of "consumer/non-consumer" on page 8.

<sup>†</sup>Estimate less statistically reliable than other estimates presented due to small sample size.

SOURCE: WWEIA, NHANES 2017 – March 2020, day 1, adults 20 years of age and older.

## Definitions

**Consumer/non-consumer:** In general, adults who consumed eggs as eggs/omelets and/or an egg sandwich on the intake day were considered a “consumer,” whereas those who did not were considered a “non-consumer.” A total of 1,548 adults were classified as consumers of eggs/omelets (790 males and 758 females), and 571 were consumers of egg sandwiches (322 males and 249 females). Classification as a consumer or non-consumer for this analysis has no implications as to habitual consumption.

**Eating occasion:** Designated by the respondent, eating occasions with the following English and Spanish names were grouped together: breakfast, desayuno, and almuerzo; lunch, brunch, and comida; dinner, supper, and cena; and snack, drink, merienda, entre comida, botana, bocadillo, tentempie, bebida, and items consumed over an extended period of time. The time an eating occasion occurs has no implications as to its type, e.g., breakfast occasions could occur at all times of day and night.

**Eggs:** For this report, refers to items that are included in the What We Eat in America (WWEIA) Food Categories “Eggs and omelets” and “Egg/breakfast sandwiches” (*see definition of “WWEIA Food Categories” below*). Among adults 20+ years, these two Categories account for 78% of egg consumption, as measured in egg ounce equivalents (*see definition of Food Patterns component- eggs” below*). Notable exclusions from this analysis are eggs that 1) are a distinct component in a multi-component food other than sandwiches (e.g., a boiled egg in a garden salad; 3% of all egg consumed), or 2) serve as a functional ingredient (19% of all egg consumed). Eggs are included as functional ingredients in a variety of foods, including bakery products (e.g., cakes, cookies), bread items (e.g., waffles, dumplings), sauces and condiments (e.g., Hollandaise sauce, mayonnaise), coatings on meat and vegetables (e.g., chicken nuggets/tenders, vegetable tempura), and mixed dishes (e.g., meat loaf, lasagna).

**Family income (as percentage of poverty level):** The ratio of family income to poverty expressed as a percentage. The Department of Health and Human Services’ poverty guidelines, which are based upon the number of persons in the family/household, were used as the poverty measure to calculate the ratio (6).

**Food Patterns component-eggs:** As described at <https://www.ars.usda.gov/nea/bhnrc/fsrg/fped>, the Food Patterns Equivalents Database defines all foods and beverages reported in WWEIA, NHANES in terms of amounts of 37 Food Patterns (FP) components. Translating intakes to FP components permits them to be evaluated with respect to the Dietary Guidelines for Americans (5). The Protein Foods group, of which eggs are included, are measured in ounce equivalents. Egg intake in ounce equivalents, inclusive of egg in all foods, is available on the FSRG website at <https://www.ars.usda.gov/nea/bhnrc/fsrg/fpeddatatables>.

**Kilocalories:** Scientific unit used in reporting the energy content of food; shortened to “calories” in casual usage in the U.S.

**WWEIA Food Categories:** Available at [https://www.ars.usda.gov/nea/bhnrc/fsrg/wweia\\_categories](https://www.ars.usda.gov/nea/bhnrc/fsrg/wweia_categories), classifies each food and beverage reported in WWEIA, NHANES into one of 169 mutually exclusive categories. In contrast to the Categories’ item-by-item classification, this analysis classified as a group any foods that were represented in the dietary data by two or more items linked as having been consumed together into the most appropriate WWEIA Food Category. For example, if an egg sandwich was represented in the dietary data as white bread, butter, fried egg, and cheese, all these components would be assigned to the “egg sandwiches/breakfast sandwich” WWEIA Food Category along with similar items that were not represented by multiple foods, e.g., an item that assigned the food code 34001110 “Egg sandwich on white bread with cheese.” It is important to note that breakfast sandwiches that do not include egg (e.g., sausage biscuit) were excluded from this analysis. Consequently, in this brief, this category is termed “Egg sandwiches.”



## Data source

Estimates in this data brief are based on one day of dietary intake data from WWEIA, NHANES 2017–March 2020 Prepandemic (7). Day 1 dietary data were collected in person using the 5-step USDA Automated Multiple-Pass Method for the 24-hour recall. A total of 7,707 individuals 20 years of age and older (3,745 males and 3,962 females) provided complete and reliable dietary intake data. Pregnant (n = 77) and lactating (n = 54) females were retained. In the race-specific analyses (see page 2), individuals who were multi-racial or of a racial group other than those listed (368 adults, of whom 61 were consumers of eggs/omelets and 33 were consumers of an egg sandwich) were excluded. Likewise, in the income-specific analyses (also on page 2), individuals with missing family income information (971 adults, of whom 203 were consumers of eggs/omelets and 74 were consumers of an egg sandwich) were excluded. Sample weights were applied in all analyses to produce estimates that were representative of the U.S. population for the years of collection. Intakes of energy and nutrients were calculated using the 2017–2018 and 2019–2020 versions of USDA’s Food and Nutrient Database for Dietary Studies (4). Intake of added sugars was calculated using the Food Patterns Equivalents Database for Use with WWEIA, NHANES 2017–March 2020 Prepandemic (8).

## References

1. USDA Agricultural Research Service. *Food Data Central*. <https://fdc.nal.usda.gov>. Accessed November 1, 2024.
2. Walker S, Baum JJ. Eggs as an affordable source of nutrients for adults and children living in food-insecure environments. *Nutr Rev*. 2022;80(2):178–186. doi:10.1093/nutrit/nuab019.
3. Papanikolaou Y, Fulgoni VL 3<sup>rd</sup>. Eggs are cost-efficient in delivering several shortfall nutrients in the American diet: A cost-analysis in children and adults. *Nutrients*. 2020;12(8)2406. Published 2020 Aug 11. doi:10.3390/nu12082406.
4. USDA Food Surveys Research Group. *FNDDS Documentation and Databases*. [www.ars.usda.gov/fsrg/fndds/download](http://www.ars.usda.gov/fsrg/fndds/download). Accessed November 4, 2024.
5. U.S. Department of Agriculture and U.S. Department of Health and Human Services. Dietary Guidelines 2020–2025. 9th edition. December 2020. Available at: <https://www.dietaryguidelines.gov>. Accessed December 17, 2024.
6. U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation. Poverty guidelines. <https://aspe.hhs.gov/poverty-guidelines>. Accessed November 12, 2024.
7. Centers for Disease Control and Prevention, National Center for Health Statistics. *NHANES Questionnaires, Datasets, and Related Documentation*. <https://wwwn.cdc.gov/nchs/nhanes/>. Accessed December 17, 2024.
8. USDA Food Surveys Research Group. *Food Patterns Equivalents Databases and SAS Datasets*. [www.ars.usda.gov/fsrg/fped/download](http://www.ars.usda.gov/fsrg/fped/download). Accessed November 4, 2024.

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