



# Comparison of Beverage Choices among Adults: What We Eat in America, NHANES 2007-2008 and 2017-2018

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## Highlights

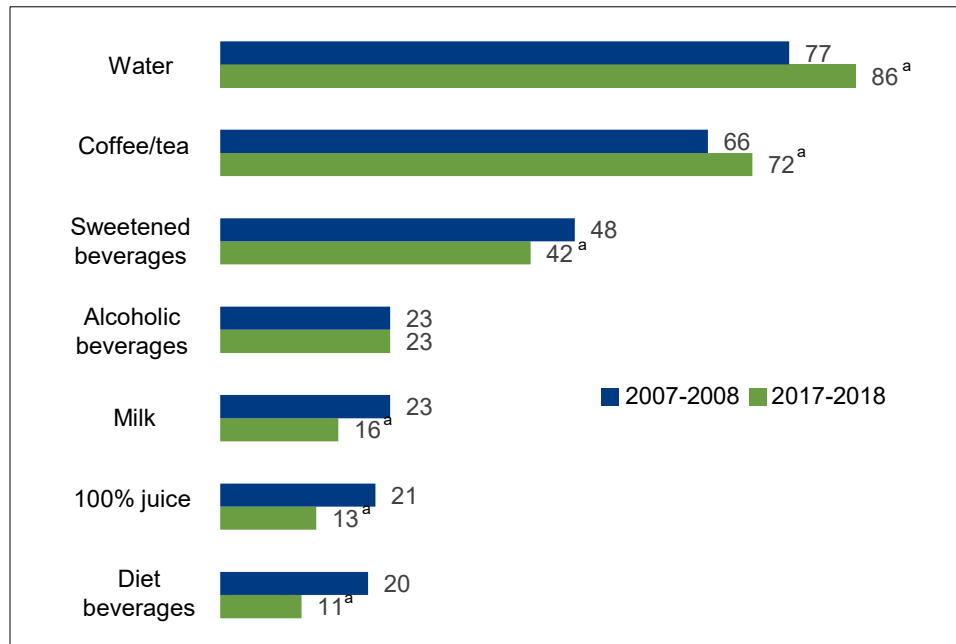
- Water, coffee/tea, and sweetened beverages, were the most popular beverages in both 2007-2008 and 2017-2018.
- Milk, 100% juice, and diet beverages were reported less frequently in 2017-2018 than 2007-2008 among both males and females.
- Adults ages 20-29 yrs were the only age group to report sweetened beverages less frequently in 2017-2018 compared to 2007-2008.
- Non-Hispanic (NH) White, NH Blacks, and Hispanics all reported diet beverages less frequently in 2017-2018 than 2007-2008.
- Beverages contributed less vitamin C and vitamin D to daily intake in 2017-2018 compared to 2007-2008.
- Among adults, more than half of the energy provided by beverages were from alcoholic and sweetened beverages during both time periods.

Beverages, a source of hydration, are an important contributor to energy and nutrients in the diet. This report presents results on beverage consumption on a single day among U.S. adults, 20 years and older, using data from What We Eat in America, NHANES 2007-2008 and 2017-2018. For this report, beverages included liquids consumed as beverages and excluded liquids added to foods, such as milk to cereal.

## Did beverage consumption change from 2007-2008 to 2017-2018?

The popularity of the different categories of beverages among adults was the same in both timeframes with water reported by the highest percentage of adults followed by coffee/tea and sweetened beverages. The percentages reporting water and coffee/tea were higher in 2017-2018 compared to 2007-2008, whereas sweetened beverages, milk, 100% juice, and diet beverages were lower.

**Figure 1. Percentage of adults who consumed beverages\*, 2007-2008 and 2017-2018**



\* Beverage groups are defined on page 8

<sup>a</sup> Significantly different from 2007-2008, (p<0.01)

SOURCE: WWEIA, NHANES 2007-2008 and 2017-2018, day 1, individuals 20+ years



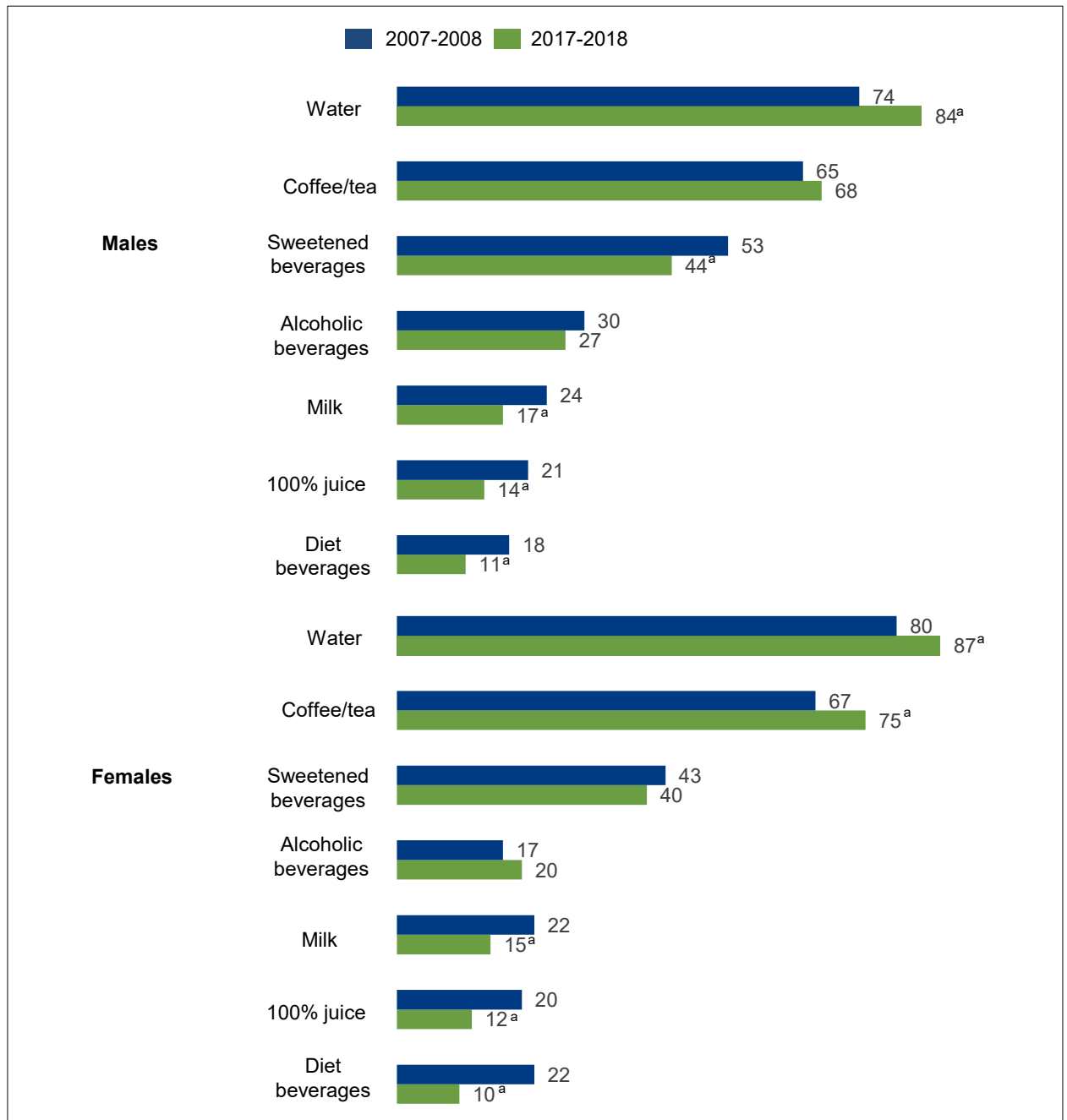
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### Did beverage choice by gender change from 2007-2008 to 2017-2018?

Comparing beverage choices in 2017-2018 to those in 2007-2008, the percentage reporting water was higher for males and females while milk, 100% juice, and diet beverages were lower. The percentage of males reporting sweetened beverages was also lower and attributable to a decrease in soft drinks ( $p < 0.01$ ; *data not shown*). The percentage of females reporting coffee/tea was higher and attributable to an increase in coffee ( $p < 0.01$ ; *data not shown*).

**Figure 2. Percentage of adults consuming beverages by gender, 2007-2008 and 2017-2018**



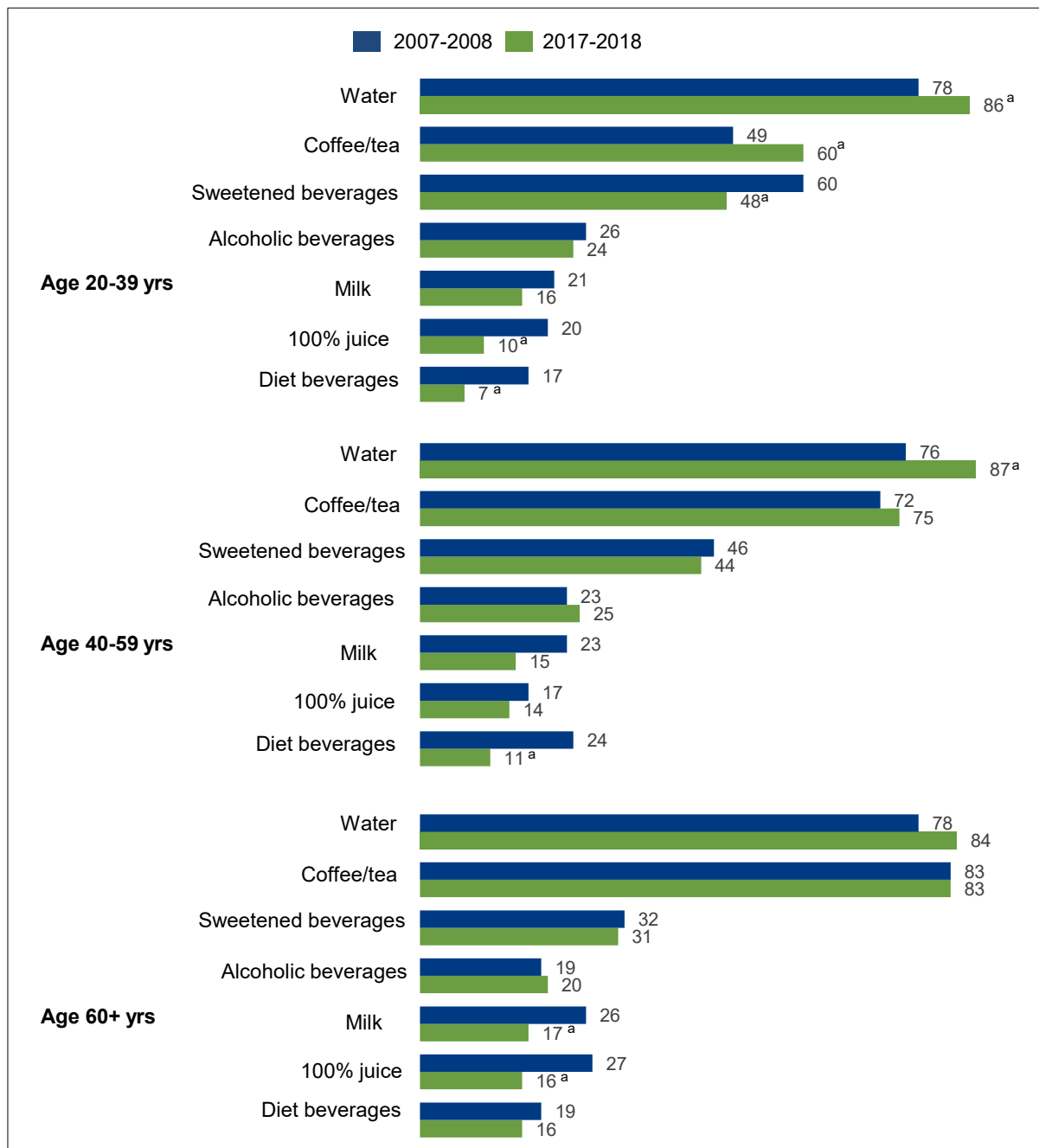
<sup>a</sup> Significantly different from 2007-2008, ( $p < 0.01$ )

SOURCE: WWEIA, NHANES 2007-2008 and 2017-2018, day 1, individuals 20+ years

### Did beverage choice by age change from 2007-2008 to 2017-2018?

When comparing beverage choices in 2017-2018 to 2007-2008, a greater percentage of young adults reported water and coffee/tea whereas a lower percentage reported sweetened beverages, 100% juice, and diet beverages. Among adults ages 40-59 yrs, a higher percentage reported water and a lower percentage reported diet beverages. Both milk and 100% juice were reported by a lower percentage of adults ages 60 yrs and older.

**Figure 3. Percentage of adults consuming beverages by age, 2007-2008 and 2017-2018**



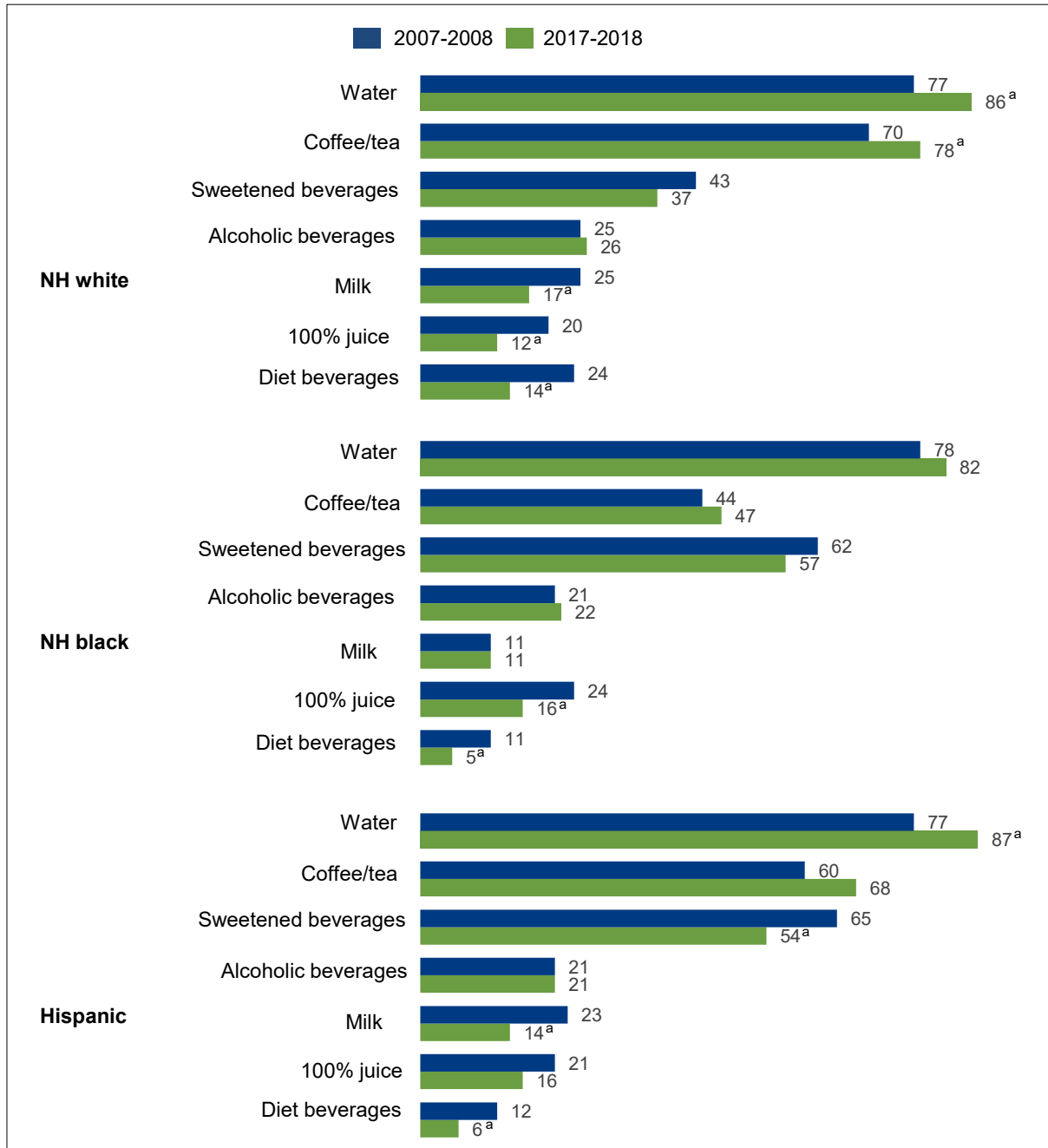
<sup>a</sup> Significantly different from 2007-2008, (p<0.01)

SOURCE: WWEIA, NHANES 2007-2008 and 2017-2018, day 1, individuals 20+ years

Did beverage choice by race/ethnicity change from 2007-2008 to 2017-2018?

The percentage of non-Hispanic (NH) whites and Hispanics reporting water was greater and the percentage reporting milk was lower in 2017-2018 compared to 2007-2008. The percentage of all three race/ethnicity groups reporting diet beverages was also lower. NH white and NH blacks had a lower percentage reporting 100% juice while only Hispanics had a lower percentage reporting sweetened beverages. The decrease in sweetened beverages by Hispanics was attributable to a decrease in both soft drinks and fruit drinks ( $p < 0.01$ ; data not shown).

Figure 4. Percentage of adults consuming beverages by race/ethnicity, 2007-2008 and 2017-2018



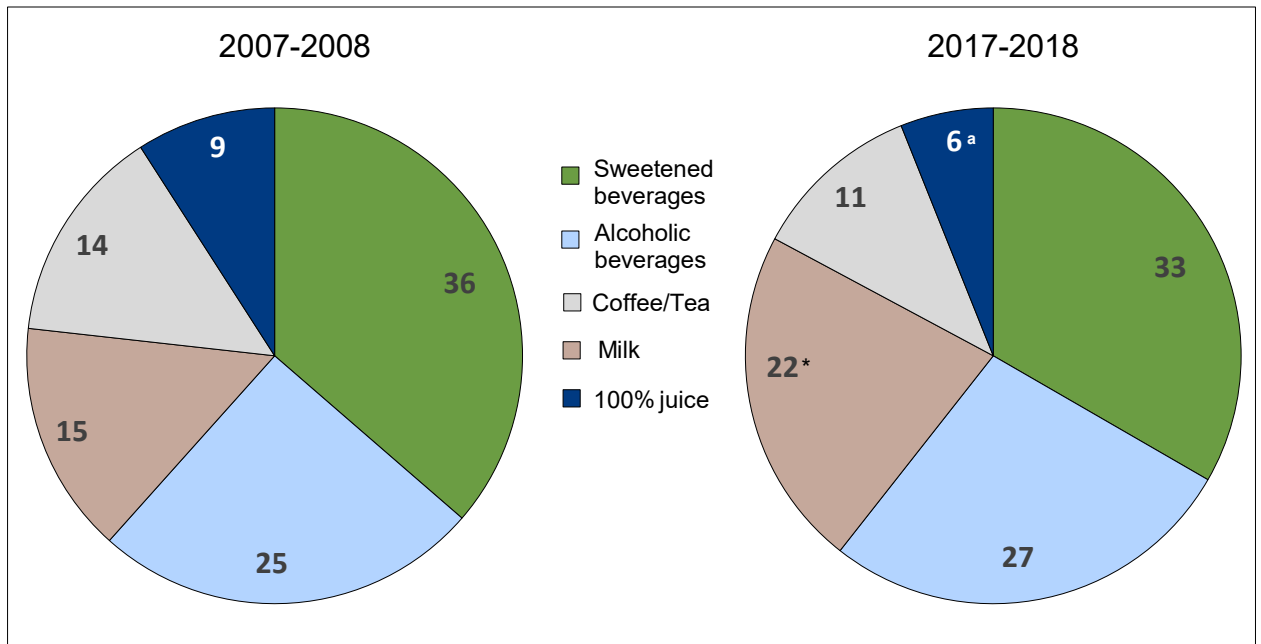
<sup>a</sup> Significantly different from 2007-2008, ( $p < 0.01$ )

SOURCE: WWEIA, NHANES 2007-2008 and 2017-2018, day 1, individuals 20+ years

## Did the types of beverages that contributed energy change from 2007-2008 to 2017-2018?

Mean daily energy intake from beverages was 388 kilocalories in 2007-2008 and 359 kilocalories in 2017-2018 which corresponded to 18% and 17% of total daily energy intake, respectively (*data not shown*). Sweetened beverages and alcoholic beverages combined accounted for over half of mean daily energy intake from beverages in both timeframes. The percentage of daily energy from beverages contributed by coffee/tea was higher in 2017-2018 while the contribution from 100% juice was lower.

**Figure 5. Percentage of daily energy from beverages by beverage type among adults, 2007-2008 and 2017-2018**



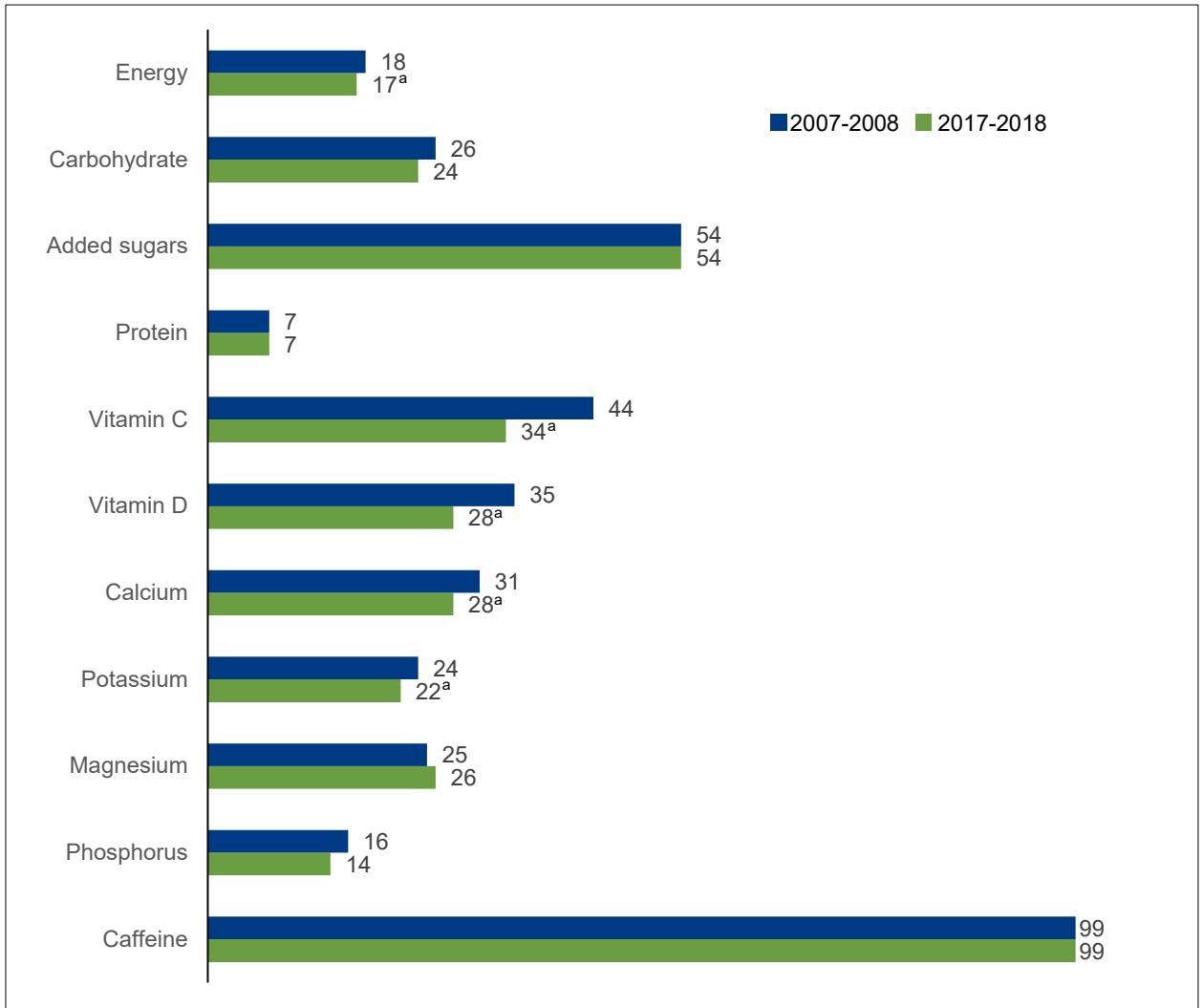
<sup>a</sup> Significantly different from 2007-2008, (p<0.01)

SOURCE: WWEIA, NHANES 2007-2008 and 2017-2018, day 1, individuals 20+ years

## Did the contribution of daily nutrients from beverages change from 2007-2008 to 2017-2018?

When comparing the contribution of nutrients from beverages in 2017-2018 to 2007-2008, the contribution to daily energy intake, vitamin D, calcium, and potassium was lower. The contribution of vitamin C from beverages was also lower, primarily due to a lower contribution from 100% fruit juice, fruit drinks, and sports drinks ( $p < 0.01$ ; data not shown).

**Figure 6. Percentage of daily energy and selected dietary components contributed by beverages among adults, 2007-2008 and 2017-2018**



<sup>a</sup> Significantly different from 2007-2008, ( $p < 0.01$ )

SOURCE: WWEIA, NHANES 2007-2008 and 2017-2018, day 1, individuals 20+ years

**Did the daily intake of select beverages by reporters change from 2007-2008 to 2017-2018?**

Mean daily intake of select beverages in fluid ounces (fl oz) did not differ between the two timeframes among adult reporters. Although the mean daily intake by reporters did not differ, the percentages reporting milk, soft drinks, 100% juice, and sports drinks were lower in 2017-2018 and the percentage reporting coffee was higher.

**Table 1. Mean daily intake of select beverages by reporters, 2007-2008 and 2017-2018**

Beverage	2007-2008		2017-2018	
	% reporting	Intake fl oz	% reporting	Intake fl oz
Coffee	51	22	57 <sup>a</sup>	20
Tea	29	24	30	23
Milk	23	14	16 <sup>a</sup>	13
Soft drinks, sweetened	34	24	26 <sup>a</sup>	22
Soft drinks, diet	20	26	11 <sup>a</sup>	27
100% juice	21	12	13 <sup>a</sup>	12
Fruit drinks	13	16	10	16
Sports drinks	7	21	12 <sup>a</sup>	19
Beer	14	36	12	35
Wine	6	9	8	10
Liquor & cocktails	6	13	7	14

<sup>a</sup> Significantly different from 2007-2008, (p<0.01)

SOURCE: WWEIA, NHANES 2007-2008 and 2017-2018, day 1, individuals 20+ years

## Definitions

**Beverages:** Beverages identified using WWEIA Food Categories including any additions to those beverages (e.g., sugar, milk) and excluded any beverages added to foods such as milk to cereal or water to soup.

### Beverage Groups:

**Milk:** Plain and flavored milk, other milk drinks and milk substitutes.

**100% Juice:** 100% fruit and/or vegetable juice.

**Coffee/tea:** Regular and decaffeinated coffee or tea with additions such as milk, cream and/or sweeteners, and coffee and tea drinks, including ready-to-drink.

**Diet beverages:** Diet soft drinks, diet sport/energy drinks and other diet drinks that are low- and no-calorie-sweetened, containing 40 kcal or less per reference amount customarily consumed.

**Alcoholic beverages:** Beer, wine and spirits (liquors and cocktails).

**Beer:** Regular and light varieties of beer and malt beverages.

**Wine:** Table wine, wine spritzers, sangria, and sparkling wine.

**Spirits:** Distilled spirits, cordial or liqueurs, mixed drinks, and cocktails.

**Sweetened beverages:** Energy containing soft drinks, fruit drinks, and sports/energy drinks that contain more than 40 kcal per reference amount customarily consumed.

**Soft drinks:** Energy-containing drinks made with carbonated water.

**Fruit Drinks:** Energy-containing fruit and/or vegetable drinks that are not 100% juice.

**Sports/energy drinks:** Energy-containing sport/energy drinks, nutritional beverages and protein/nutritional powders consumed with a beverage, smoothies and grain drinks. Note: The categories for protein/nutritional powders and smoothies and grain drinks were not created until WWEIA 2011-2012 and 2013-2014, respectively. For the purpose of this study, these categories were added for 2007-2008 and relevant food codes from that time period included.

**Water:** Tap, bottled, flavored, carbonated and enhanced/fortified water.

## Data Source

Estimates in this report are based on one day of dietary intake data collected in *What We Eat in America* (WWEIA), the dietary intake interview component of the National Health and Nutrition Examination Survey (NHANES), in 2007-2008 and 2017-2018. The study sample included 5,420 (2,662 men and 2,758 women) and 4,742 adults (2,307 men and 2,435 women), age 20 and over with complete and reliable intakes in 2007-2008 and 2017-2018, respectively. Only in the race-specific analysis, non-Hispanic individuals who were multi-racial or of a racial group other than those presented (211 and 862 adults in 2007-2008 and 2017-2018, respectively) were excluded. Sample weights were applied in all analyses to produce nationally representative estimates. Dietary intake of beverages were collected from an in-person 24-hour recall using the interviewer-administered 5-step USDA Automated Multiple-Pass Method (1). Intakes of energy and nutrients were calculated using the 4.1 (2007-2008) and 2017-2018 versions of USDA's Food and Nutrient Database for Dietary Studies (2). Intake of added sugars was estimated using the 2007-2008 and 2017-2018 Food Patterns Equivalents Database (3).

## References

1. USDA Food Surveys Research Group. *AMPM - USDA Automated Multiple Pass Method*. <http://www.ars.usda.gov/nea/bhnrc/fsrg/ampm>. Updated January, 2021.
2. USDA Food Surveys Research Group. *FNDDS Documentation and Databases*. <http://www.ars.usda.gov/fsrg/fndds/download>. Updated February, 2023.
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## About the Authors

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