



# Intake of Vegetables by Adults, What We Eat in America, NHANES 2017-2018

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## Highlights

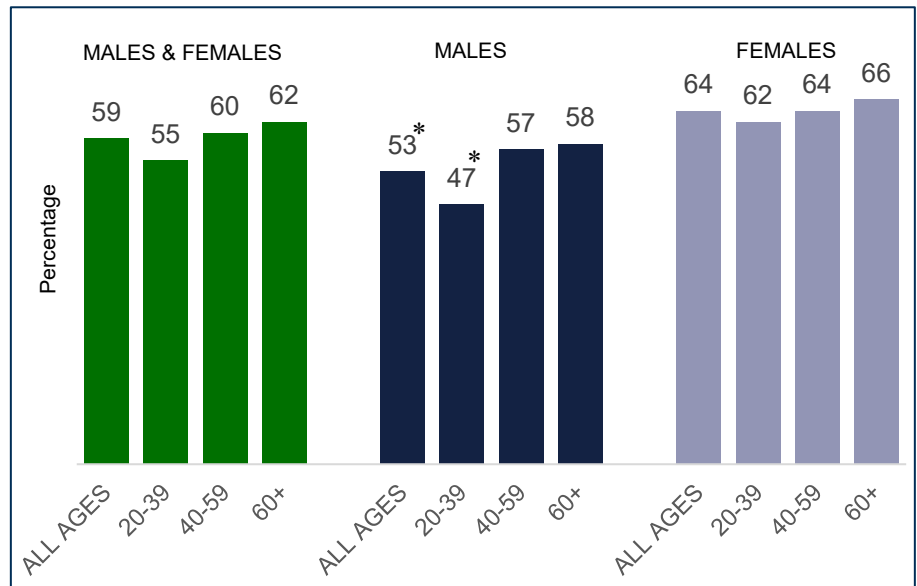
- On any given day, 6 out of 10 adults report consuming vegetables.
- Of those who had vegetables, over half included one item and one-quarter had two different items on the reporting day.
- The most frequently consumed vegetables by adults were potatoes and salad.
- Vegetables were reported least often by Hispanics, and most often by Non-Hispanic Asians and Non-Hispanic whites.
- Percentages who consumed vegetables increased with income.
- Vegetables were reported most frequently at dinner, followed by lunch.

Dietary guidance recommends consuming a variety of fruit and vegetables (FV) for the wide range of nutrients and bioactive components they provide<sup>1</sup>. Variety is associated with greater FV intake<sup>2</sup>, particularly vegetables. This report describes intake of discrete vegetables by adults 20 years and older in What We Eat in America, NHANES 2017-2018. In this analysis, vegetables include discrete vegetables consumed as side dishes and salads as reported by survey respondents and do not include vegetable juice or those in mixed dishes.

## What percentage of adults report consuming discrete vegetables on a given day?

Overall, significantly fewer males than females consumed vegetables on any given day, particularly among those 20-39 years of age ( $P < 0.001$ ). There were no significant differences between age groups by gender.

**Figure 1. Percentage of adults who report consuming discrete vegetables on a given day by gender and age, What We Eat in America, NHANES 2017-2018**



\* Differences between males and females are significant,  $P < 0.001$ .

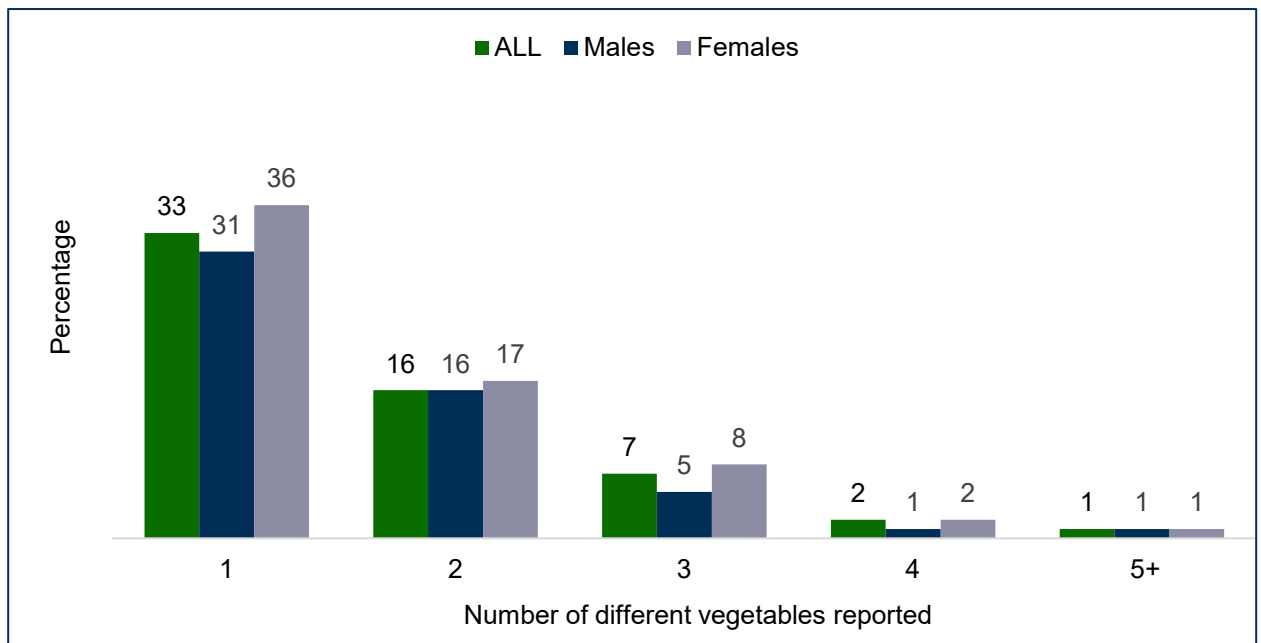
SOURCE: What We Eat in America, NHANES 2017-18, day 1, individuals 20+ years



## How many different vegetables do adults report on a given day?

About one-third of adults had one type of vegetable, and 16% had two different types. As Figure 2 illustrates, fewer than 10% of adults had three or more different vegetables on the reporting day.

**Figure 2. Distribution of the number of different discrete vegetables among adults**

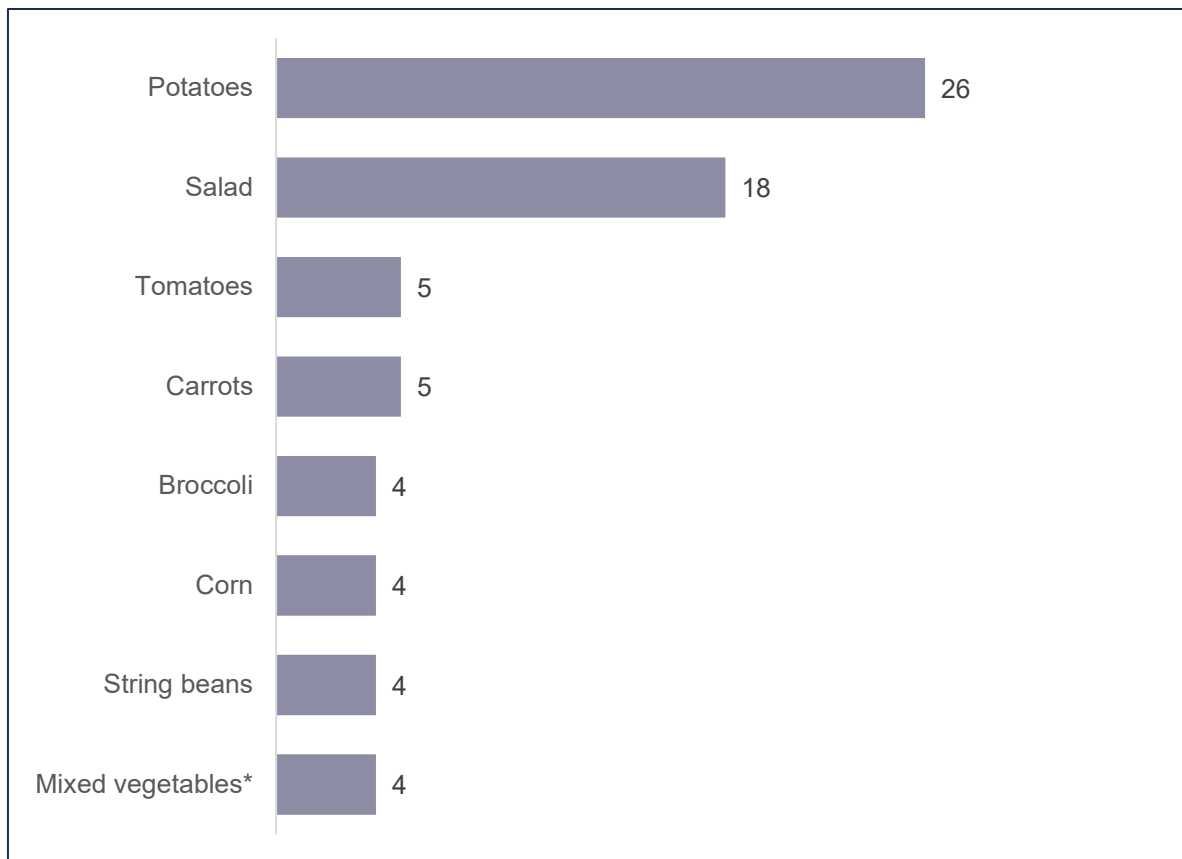


SOURCE: What We Eat in America, NHANES 2017-2018, day 1, individuals 20+ years

### What vegetables are reported most frequently by adults?

Potatoes (primarily fried) and salad were the most frequently consumed vegetables, reported by over one-quarter of adults on a given day. As shown in Figure 3, other top consumed vegetables were reported by about 4-5% of adults. Cabbage, greens, summer squash, sweet potato, and cucumber were less frequently consumed, reported by around 2% of adults (*data not shown*). Among the vegetables reported infrequently were celery, cauliflower, Brussels sprouts, asparagus and green peas (*data not shown*).

**Figure 3. Percentages of adults reporting discrete vegetables by kind on a given day**



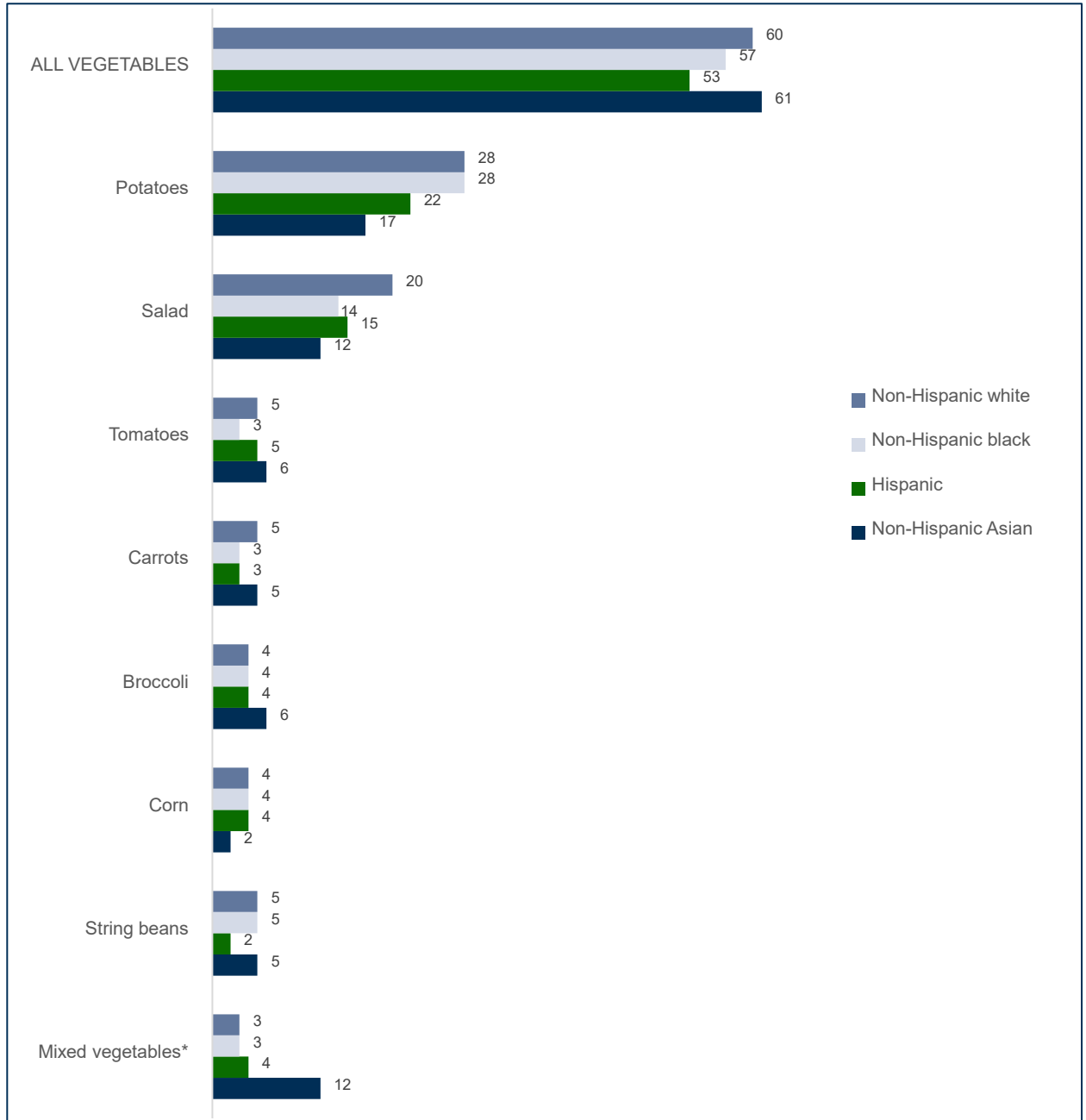
\* Mixed vegetables include any combination of two or more vegetables such as peas and carrots, or broccoli and cauliflower; does not include salad.

SOURCE: What We Eat in America, NHANES 2017-2018, day 1, individuals 20+ years

## What is the consumption of vegetables by race/ethnicity?

Vegetables were consumed more frequently by Non-Hispanic Asians and Non-Hispanic whites and less frequently by Hispanics. Non-Hispanic whites and blacks reported potatoes more often, whereas Non-Hispanic Asians had them less frequently. Higher percentages of Non-Hispanic whites had salad whereas the lowest percentage reporting salad was among Non-Hispanic Asians. Greens, mixed vegetables\* and cabbage were reported by Non-Hispanic Asians more frequently (*data not shown*).

**Figure 4. Percentages of adults reporting discrete vegetables by race/ethnicity**



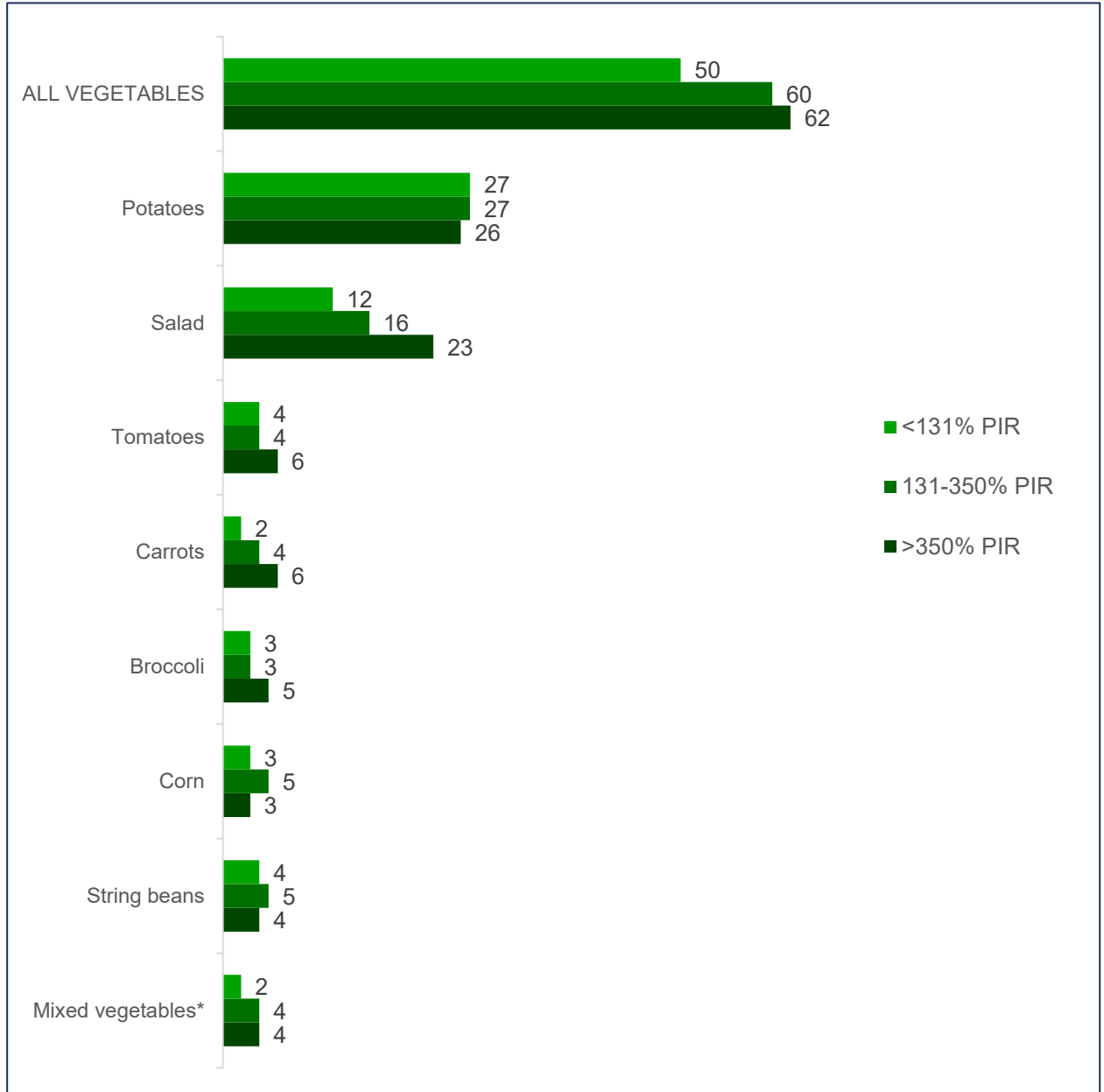
\* Mixed vegetables include any combination of two or more vegetables such as peas and carrots, or broccoli and cauliflower; does not include salad.

SOURCE: What We Eat in America, NHANES 2017-2018, day 1, individuals 20+ years

## What is the consumption of vegetables by income level?

Percentages of those reporting vegetables tended to increase as income went up, particularly among those with incomes <131% and 131-350% Poverty Income Ratio. Similar percentages of adults within each income level reported potatoes. Of the top reported vegetables, those with higher incomes reported salad, tomatoes, carrots and broccoli more frequently.

**Figure 5. Percentages of adults reporting discrete vegetables by income level<sup>1</sup>**



<sup>1</sup>Income level is based on percent Poverty Income Ratio (PIR)

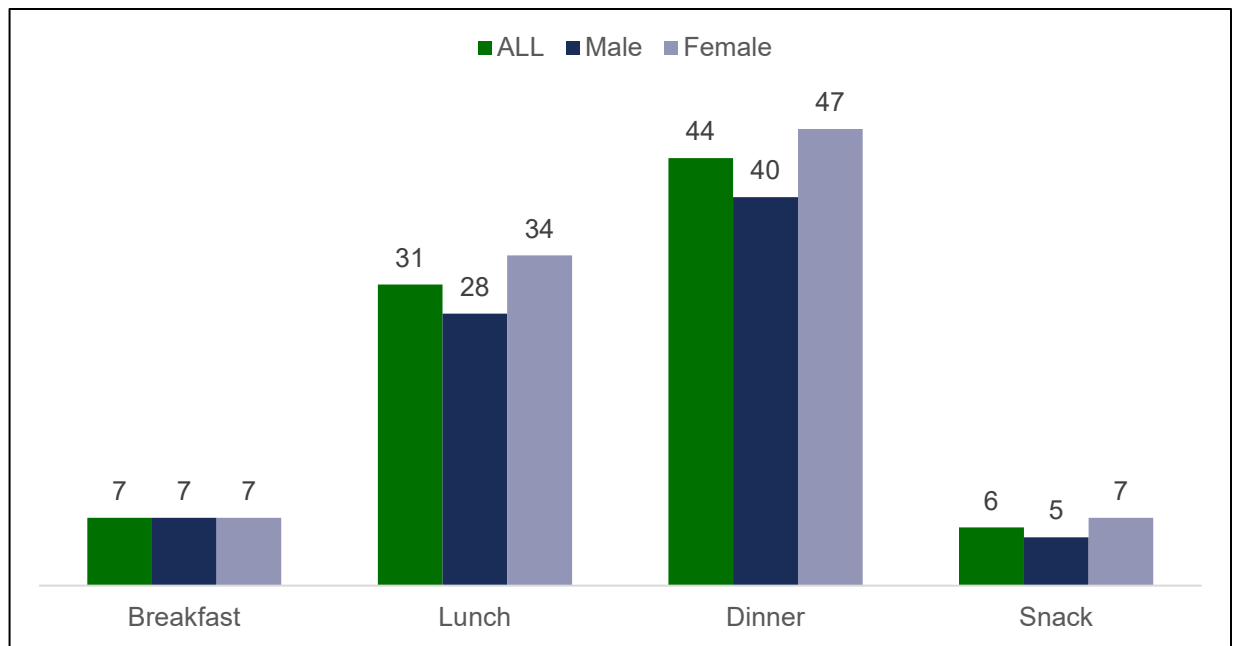
\* Mixed vegetables include any combination of two or more vegetables such as peas and carrots, or broccoli and cauliflower; does not include salad.

SOURCE: What We Eat in America, NHANES 2017-2018, day 1, individuals 20+ years

## What is the consumption of vegetables at eating occasions?

Vegetables are consumed most often at dinner, followed by lunch. However, less than half of adults had vegetables at any meal. Smaller percentages of individuals 20-39 years, Hispanics and those at the lowest income level had vegetables at dinner compared to other demographic groups (*data not shown*). At lunch, percentages reporting vegetable intake were higher among females and those at the highest income level (*data not shown*).

**Figure 6. Percentages of adults reporting discrete vegetables at eating occasions**

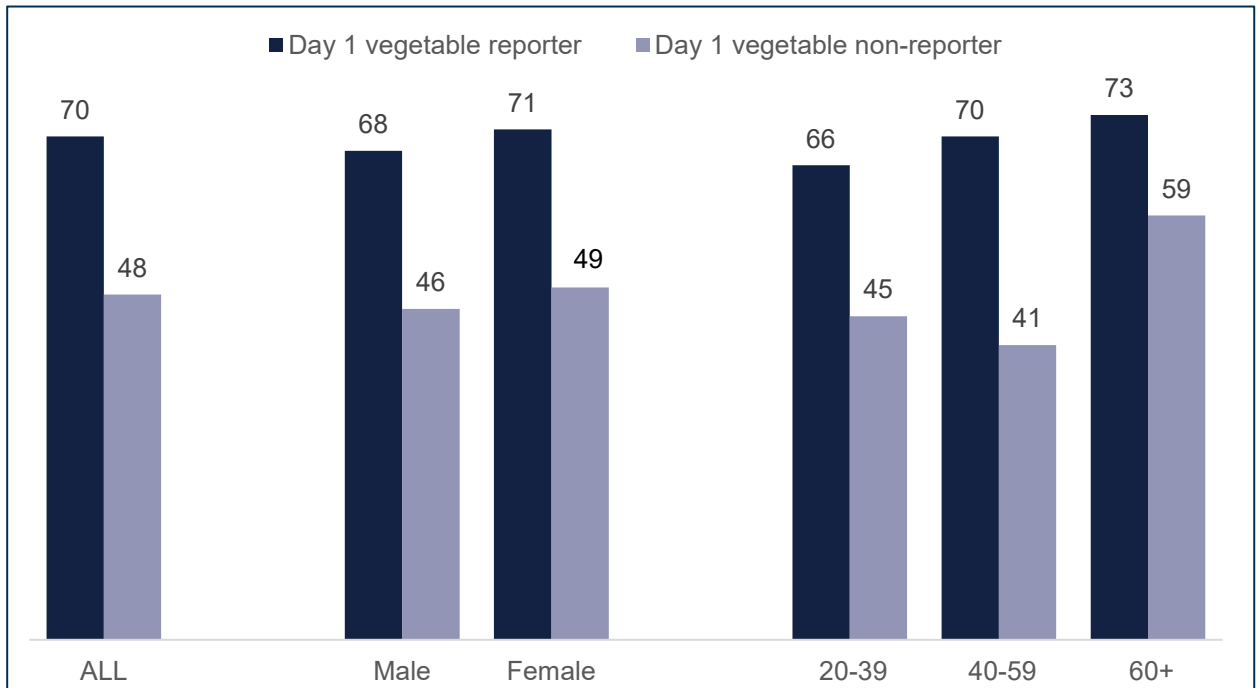


SOURCE: What We Eat in America, NHANES 2017-2018, day 1, individuals 20+ years

## What proportions of day 1 vegetable reporters and non-reporters report vegetables on day 2?

Of those who reported vegetables on day 1, over two-thirds also had them on day 2. Of those who did not have vegetables on day 1, almost half reported them on day 2. Percentages of day 1 vegetable non-reporters who had vegetables on day 2 tended to be higher among those 60+ years of age, and among Non-Hispanic blacks and whites and those at higher income levels (*data not shown*).

**Figure 7. Percentage of day 1 vegetable reporters and non-reporters who consumed vegetables on day 2**



SOURCE: What We Eat in America, NHANES 2017-2018, day 1 and day 2, individuals 20+ years

## Definitions

**Vegetables:** Includes all fresh, frozen, canned and dried forms of vegetables as defined by the What We Eat in America food categories 6402-6806<sup>3</sup> and consumed as discrete items such as a side dish or salad; does not include vegetables in mixed dishes such as soups, stews, and casseroles.

**Salad:** Includes all vegetables reported as part of a salad.

**Greens:** Includes spinach, kale, chard, collard, turnip, mustard, dandelion.

**Mixed vegetables:** Includes any combination of two or more vegetables served as one dish, such as peas and carrots, cauliflower and broccoli.

**Day 1:** Intake reported by participant on the Day 1 of dietary intake data collection, which was conducted by an in-person interview.

**Day 2:** Intake reported by participants on the Day 2 of dietary intake data collections, was conducted by phone interview.

**Eating occasion:** A distinct eating/drinking occurrence reported during the 24-hour dietary interview that consists of one or more food/beverage items (excluding plain water). The name of the eating occasion was selected from a fixed list provided during the interview. English and Spanish eating occasion names were grouped as follows:

**Breakfast:** breakfast, desayuno, and almuerzo

**Lunch:** brunch, lunch, and comida

**Dinner:** dinner, supper, and cena

**Snack:** snack, drink, extended consumption (items consumed over a long period of time), merienda, entre comidas, botana, bocadillo, tentempie, and bebida (excluding plain 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 2017-2018. Using the 5-step USDA Automated Multiple-Pass Method (AMPM) for the 24-hour recall, day 1 dietary data were collected in-person and day 2 data were collected by phone. A total of 4,742 individuals age 20+ years (2,307 males and 2,435 females) provided complete and reliable dietary intake data in 2017-2018. Sample weights were applied in all analyses to produce nationally representative estimates. USDA's What We Eat in America food categories were used to describe vegetable intake.

## References

1. USDA My Plate. Available at <https://www.choosemyplate.gov/eathealthy/start-simple-myplate>
2. Hoy MK, Clemens JC, Martin CL, Moshfegh AJ. Fruit and Vegetable Consumption of US Adults by Level of Variety, What We Eat in America, NHANES 2013-2016. *Curr Dev Nutr.* 2020 Feb 4;4(3):nzaa014. doi: 10.1093/cdn/nzaa014. eCollection 2020 Mar
3. What We Eat in America Food Categories 2017-2018. Available at [https://www.ars.usda.gov/ARSUserFiles/80400530/pdf/1718/Food\\_categories\\_2017-2018.pdf](https://www.ars.usda.gov/ARSUserFiles/80400530/pdf/1718/Food_categories_2017-2018.pdf)



## About the authors

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## Suggested citation

Hoy MK, Clemens JC, Moshfegh AJ. Intake of vegetables by adults in the U.S.: *What We Eat in America*, NHANES 2017-2018. Food Surveys Research Group Dietary Data Brief No. 39. June 2021.

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