What was the purpose of this study?
The purpose of this study was to update a 2013 report that estimated how many people in each state are meeting fruit and vegetable intake recommendations with the latest data from 2015. These estimates looked at the percent of adults meeting the intake recommendations by age, sex, race/ethnicity, and income-to-poverty ratio for the 50 states and District of Columbia (DC).

Why is this study important?
Eating a diet rich in fruits and vegetables can help reduce the risk of many leading causes of illness and death, such as cardiovascular disease, type 2 diabetes, some cancers, and obesity. Despite these positive health benefits, few adults meet the recommendations.

How did the CDC perform this study?
We applied a previously-developed formula to data from the 2015 Behavioral Risk Factor Surveillance System (BRFSS). This approach allows us to predict how many people in each state consumed the recommended amount of fruits and vegetables. The data is based on how often BRFSS survey participants reported eating them daily, weekly, or monthly.

What did this study find?
The study found few adults are eating enough fruits or vegetables. In 2015, 9.3% of adults met vegetable recommendations and 12.2% met fruit recommendations, but results varied by state.

Fewer men, young adults, and adults living in poverty met recommendations than women, older adults, or adults not living in poverty.

The number of adults eating enough fruits and vegetables remained very low in 2015.

What are the recommendations?
Fruit and Vegetable recommendations vary by age, sex, and activity level.

Adult women need at least 1 ½ cups of fruit and 2 ½ cups of vegetables.

Adult men need at least 2 cups of fruit and 3 ½ cups of vegetables.

Learn more: https://www.choosemyplate.gov/Adults Meeting Recommendations, 2015

<table>
<thead>
<tr>
<th>Fruits</th>
<th>Vegetables</th>
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<tr>
<td>12.2%</td>
<td>9.3%</td>
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Findings and Implications

More people met the recommendations for fruit intake than vegetable intake. Among all survey participants, 12.2% met the fruit intake recommendations (ranging from 7.3% in West Virginia to 15.5% in DC) and 9.3% met the vegetable intake recommendations (ranging from 5.8% in West Virginia to 12.0% in Alaska).

**Fewer men** met both the fruit and the vegetable recommendations (9.2% and 7.6%, respectively) **than did women** (15.1% and 10.9%, respectively).

**Fewer young adults** (aged 18-30) met both the fruit and vegetable recommendations (9.2% and 6.7%, respectively) than did **adults over 51** (12.4% and 10.9%), respectively.

<table>
<thead>
<tr>
<th>Men Meeting Recommendations</th>
<th>Fruits</th>
<th>Vegetables</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.2%</td>
<td>7.6%</td>
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</table>

<table>
<thead>
<tr>
<th>Women Meeting Recommendations</th>
<th>Fruits</th>
<th>Vegetables</th>
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<tbody>
<tr>
<td>15.1%</td>
<td>10.9%</td>
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</table>

A **significantly higher percentage** of people **not living in poverty** met the vegetable recommendations.

Overall there were **no significant differences between different race/ethnicity groups** for meeting the vegetable recommendations. However, in ten states a significantly higher percentage of Hispanics and non-Hispanic blacks met recommendations for fruit intake than did non-Hispanic whites.

**What does this mean for public health?**

Continued efforts are needed to identify and address barriers to fruit and vegetable consumption. Previous studies have found that **high cost**, limited **availability** and **access**, and perceived lack of **cooking/preparation time** can be barriers to fruit and vegetable consumption. The CDC has resources to help communities address these barriers. Check out the **CDC Guide to Strategies to Increase the Consumption of Fruits and Vegetables** for strategies and ideas.

Lee Kwan SH, Moore, LV, Blanck HM, Harris D, Galuska D. Disparities in State Specific Adult Fruit and Vegetable Intake United States, 2015. MMWR. 2017; 66(44), 1241–1247. DOI: [http://dx.doi.org/10.15585/mmwr.mm6645a1](http://dx.doi.org/10.15585/mmwr.mm6645a1)