Fruit & Vegetable Intake

Good nutrition is an important component of health and well-being. Assessment of the nutritional status of a population is challenging. While it has limitations, we use fruit and vegetable intake to represent the nutritional quality of the diets of Washingtonians, and to assess whether our interventions are having an impact.

We define low vegetable consumption as those individuals who report consuming vegetables less than one time daily. Similarly, we define low fruit consumption as those individuals who report consuming fruits less than one time daily. In 2015, 17% (±1%) of Washington adults reported low vegetable consumption, and 37% (±1%) reported low fruit consumption. Since 2011, the percentage of adults with low vegetable consumption has decreased, while the percentage of adults with low fruit consumption remained stable. The percentage of adults with both low vegetable and low fruit consumption among Washington adults was lower than adults in the U.S.

In 2016, 36% (±3%) of 10th graders reported low vegetable consumption, and 38% (±2%) reported low fruit consumption. For 10th graders, both low vegetable and low fruit intake remained stable since 2002. The percentage of 10th graders with low vegetable consumption was lower that the U.S. overall and low fruit consumption was similar to the U.S.

Among adults (2013 and 2015 combined), both low fruit and vegetable consumption were more prevalent in adults who were male or 18-24 years of age. Low vegetable consumption was highest among American Indian or Alaskan Native (AIAN), black and Hispanic adults. The percentage of adults with low vegetable or low fruit consumption decreased as levels of education and income increased.

Among youth (2014 and 2016 combined), the percentage with low fruit consumption increased as grade increased. Among 10th graders specifically, low fruit consumption was more prevalent in 10th grade females, while low vegetable consumption was more prevalent in 10th grade black and Hispanic students.

Partners throughout the state are working to support community and state-level changes to improve fruit and vegetable consumption, especially among populations experiencing health disparities.

1 in 6

Washington adults reported consuming vegetables less than once daily

1 in 3

Washington adults reported consuming fruit less than once daily

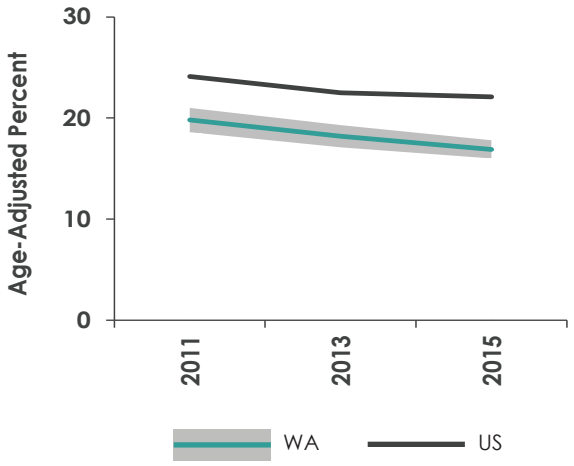
Adults

Time Trends

Vegetables

- In the 2015 Behavioral Risk Factor Surveillance System (BRFSS), the prevalence of low vegetable consumption among Washington State adults was 17% (±1%).
- Washington had a lower prevalence of low vegetable consumption compared to the U.S.
- Washington's prevalence in 2015 was lower than 2011.

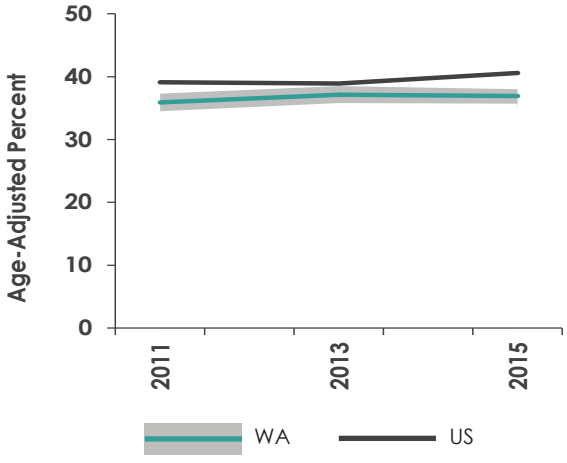
Low Vegetable Consumption (<1 x/day)
Washington State & US
BRFSS, 2011, 2013, 2015



Fruits

- In the 2015 BRFSS, the prevalence of low fruit consumption among Washington State adults was 37% (±1%).
- Washington had a lower prevalence of low fruit consumption compared to the U.S.
- Washington's prevalence in 2015 was similar to 2011.

Low Fruit Consumption (<1 x/day)
Washington State & US
BRFSS, 2011, 2013, 2015

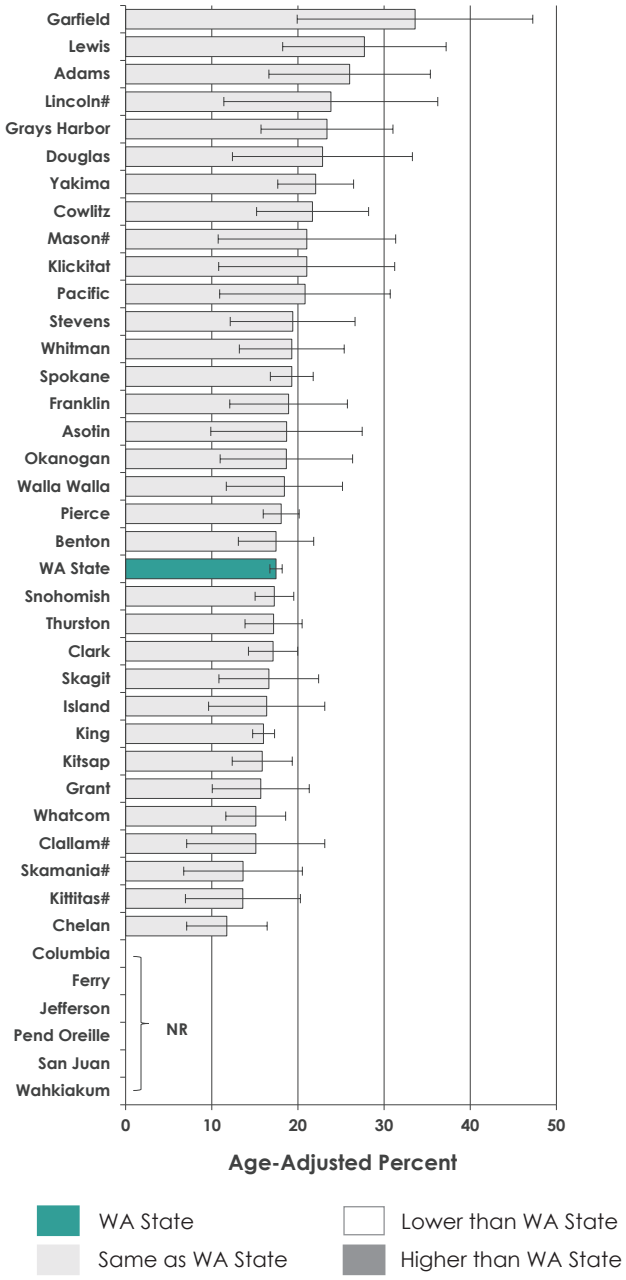


Geographic Variation

Vegetables

In the 2013 and 2015 combined BRFSS, all counties had a similar prevalence as the state overall.

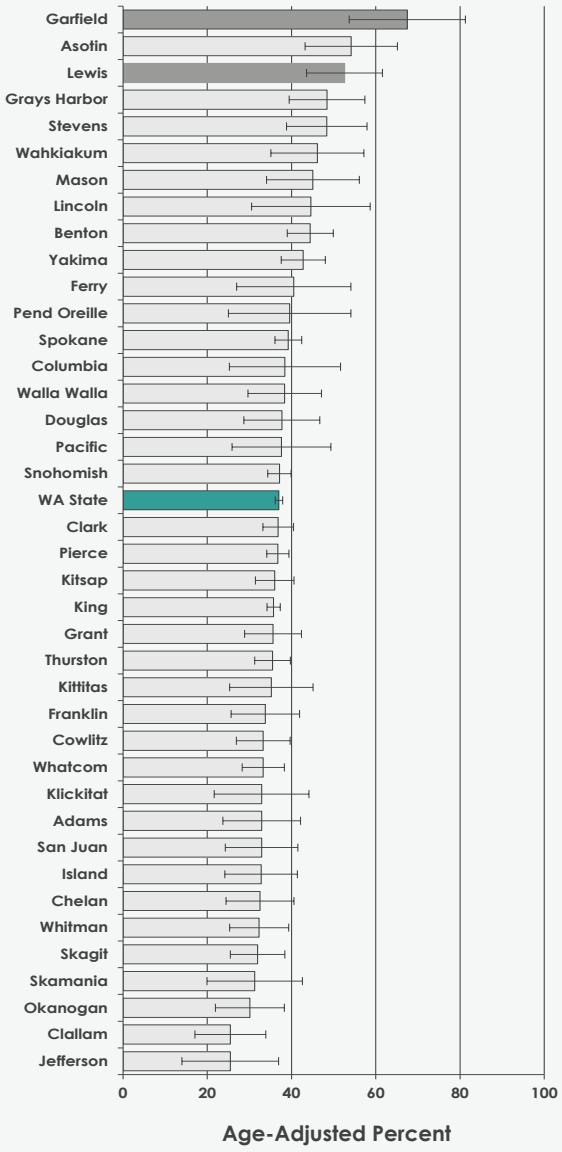
Low Vegetable Consumption (<1 x/day)
Washington Counties
BRFSS, 2013 & 2015



Fruits

- In the 2013 and 2015 combined BRFSS, Garfield and Lewis counties had a higher prevalence of low fruit consumption compared to the state.
- All other counties had a similar prevalence as the state overall.

Low Fruit Consumption (<1 x/day)
Washington Counties
BRFSS, 2013 & 2015



#Relative standard error (RSE) is between 25% and 29% | *NR:* Not reported if RSE ≥ 30% or to protect privacy

Disparities

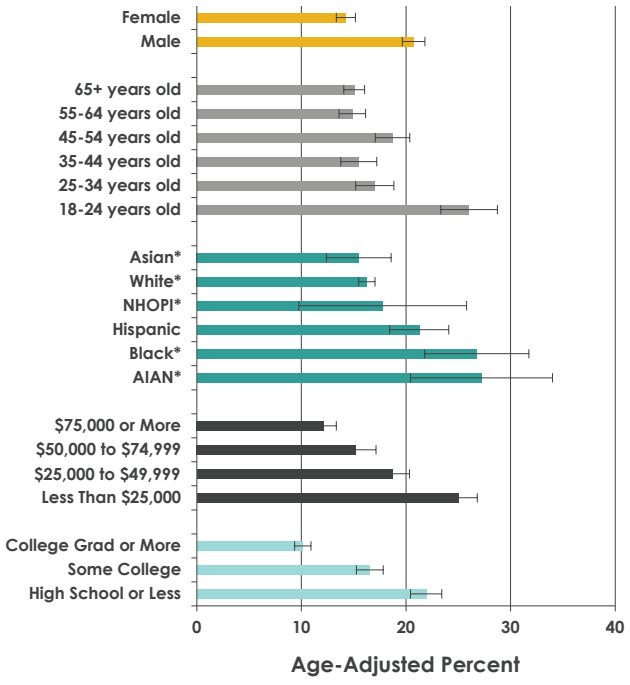
Vegetables

- In the 2013 and 2015 combined BRFSS, the prevalence of low vegetable consumption was higher among males compared to females.
- The prevalence of low vegetable consumption was highest among adults 18-24 years of age.
- Low vegetable consumption was highest among AIAN, black and Hispanic adults.
- The prevalence of low vegetable consumption decreased as levels of education and income increased.

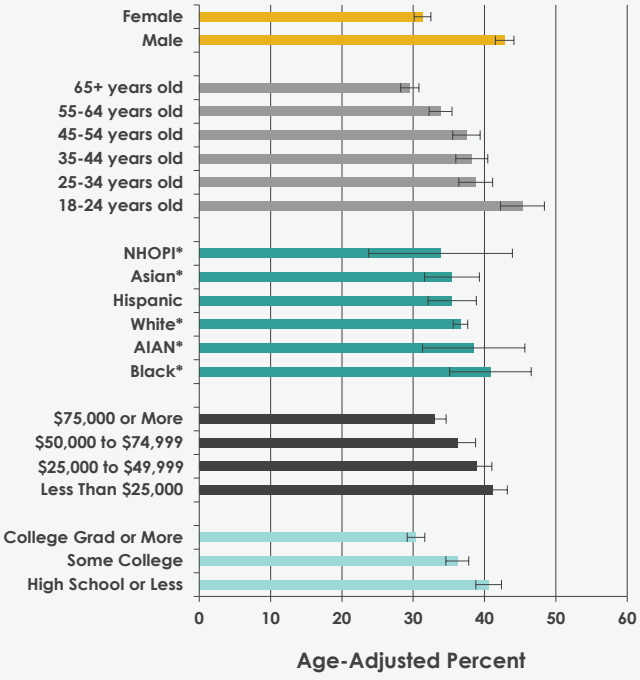
Fruits

- In the 2013 and 2015 combined BRFSS, the prevalence of low fruit consumption was higher among males compared to females.
- The prevalence of low fruit consumption was highest among adults 18-24 years of age.
- Low fruit consumption was similar for all racial/ethnic groups.
- The prevalence of low fruit consumption decreased as levels of education and income increased.

Low Vegetable Consumption (<1 x/day)
Washington State
BRFSS, 2013 & 2015



Low Fruit Consumption (<1 x/day)
Washington State
BRFSS, 2013 & 2015



Non-Hispanic (all races) | *AIAN:* American Indian/Alaska Native | *NHOPI:* Native Hawaiian/Other Pacific Islander

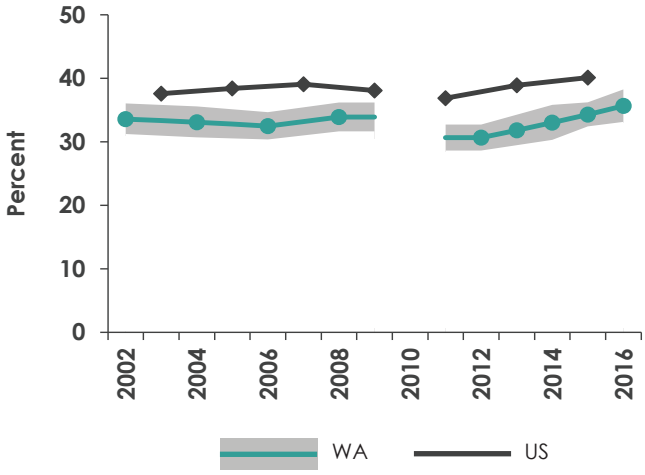
Youth

Time Trends

Vegetables

- In the 2016 Healthy Youth Survey (HYS), the prevalence of low vegetable consumption among Washington State 10th graders was 36% (±3%).
- Washington had a lower prevalence of low vegetable consumption compared to the U.S.
- The prevalence of low vegetable consumption has been stable since 2002.

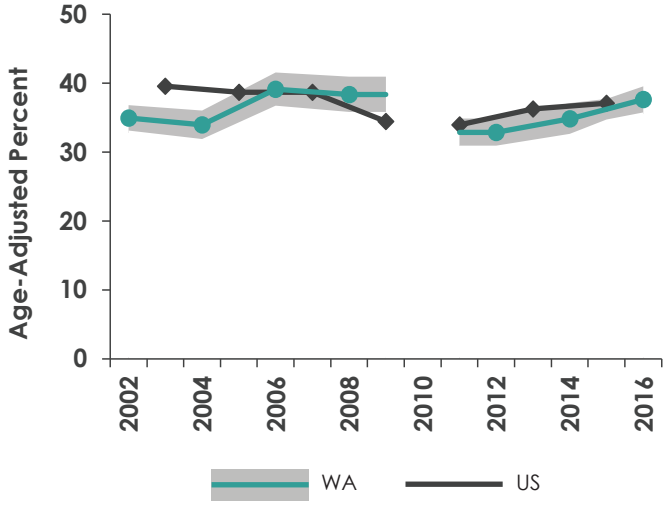
Low Vegetable Consumption (<1 x/day), 10th Graders Washington State & US HYS & YRBSS



Fruits

- In the 2016 HYS, the prevalence of low fruit consumption among Washington State 10th graders was 38% (±2%).
- Washington had a similar prevalence compared to the U.S.
- The prevalence of low fruit consumption among 10th graders has been stable since 2002.

Low Fruit Consumption (<1 x/day), 10th Graders Washington State & US HYS & YRBSS

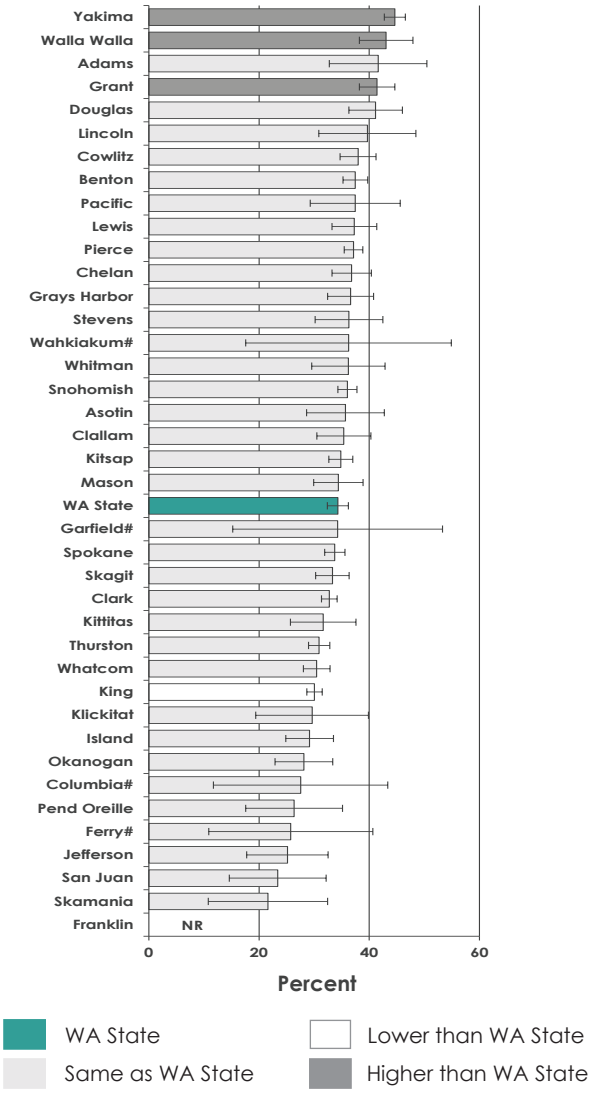


Geographic Variation

Vegetables

- In the 2014 and 2016 combined HYS, low vegetable consumption was higher among 10th graders in Grant, Walla Walla, and Yakima counties compared to the state.
- King County 10th graders had a lower prevalence compared to the state.
- All other counties had a similar prevalence to the state overall.

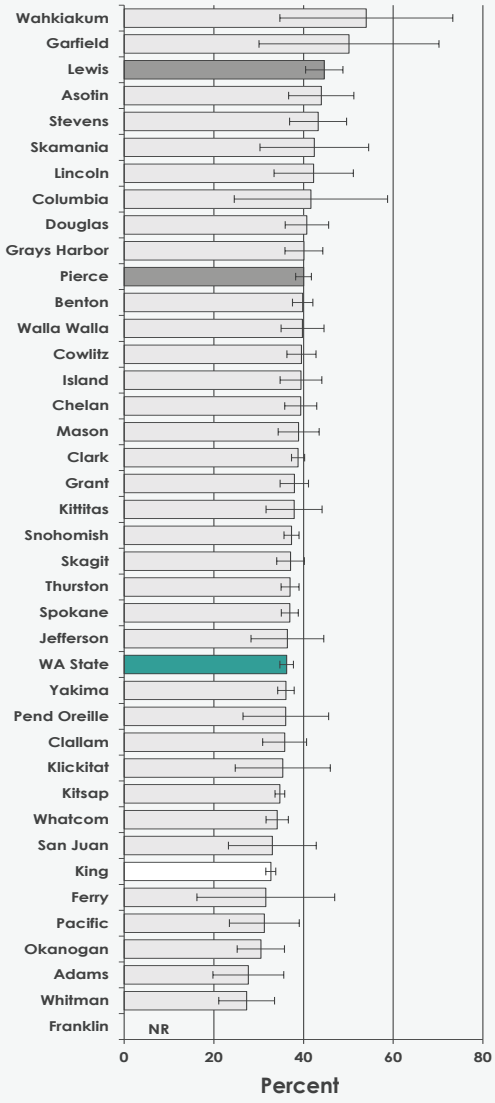
Low Vegetable Consumption (<1 x/day), 10th Graders Washington Counties HYS, 2014 & 2016



Fruits

- In the 2014 and 2016 combined HYS, low fruit consumption was higher in 10th graders in Lewis and Pierce counties compared to the state.
- King County 10th graders had a lower prevalence compared to the state.
- All other counties had a similar prevalence as the state overall.

Low Fruit Consumption (<1 x/day), 10th Graders Washington Counties HYS, 2014 & 2016



#Relative standard error (RSE) is between 25% and 29% | *NR:* Not reported if RSE ≥ 30% or to protect privacy

Disparities

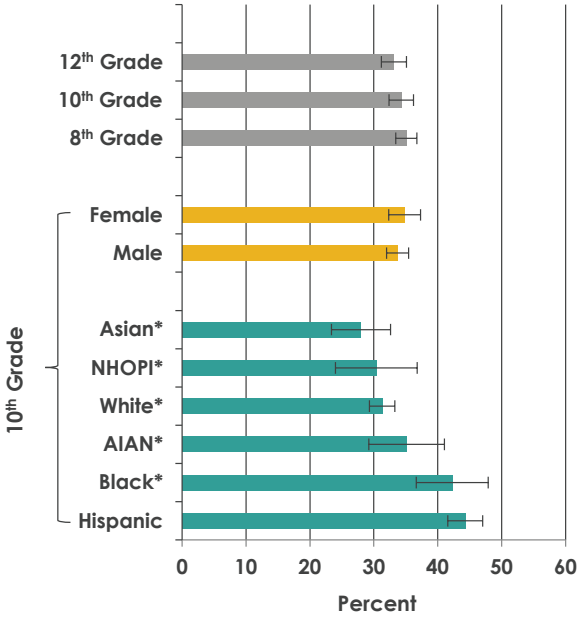
Vegetables

- In the 2014 and 2016 combined HYS, the prevalence of low vegetable consumption was similar between 10th grade females compared to males.
- The prevalence of low vegetable consumption was similar across 8TH, 10th and 12th grade.
- The prevalence of low vegetable consumption was highest among Hispanic and black 10th graders.

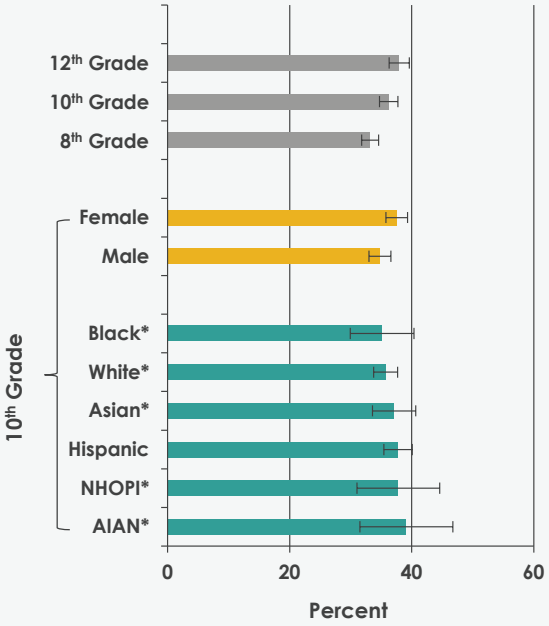
Fruits

- In the 2014 and 2016 combined HYS, the prevalence low fruit consumption was higher among 10th grade females compared to males.
- The prevalence of low fruit consumption was higher for 10th and 12th grade students compared to 8th grade students.
- The prevalence of low fruit consumption was similar across race/ethnicity among 10th graders.

Low Vegetable Consumption (<1 x/day)
Washington State
HYS, 2014 & 2016



Low Fruit Consumption (<1 x/day)
Washington State
HYS, 2014 & 2016



Access to Healthy Foods

- Several factors affect residents' access to healthy foods, including proximity to healthy food retailers, cost, convenience, and access to transportation.
- In Washington State, the majority of urban populations live within a 10-minute drive of a healthy food retailer (i.e., one that participates in the Special Supplemental Nutrition Program for Women, Infant, and Children [WIC]). Nearly all population centers in Washington State live within a 20-minute drive of a healthy food retailer. However, disparities exist in different neighborhoods, including for racial/ethnic minorities and low-income populations.

**Non-Hispanic* (all races) | *AIAN:* American Indian/Alaska Native | *NHOPI:* Native Hawaiian/Other Pacific Islander

How is Washington improving fruit & vegetable intake?

The Department of Health and organizations throughout the state work on strategies including education as well as policy, systems, and environmental approaches to increase fruit and vegetable consumption across the life span. Many of these strategies address increasing accessibility and affordability of fruits and vegetables.

- **Early Learning**
  Partners throughout the state work with early learning programs and systems to help implement best practices in nutrition and physical activity. DOH works with University of Washington's (UW) Center for Public Health Nutrition to develop and host free, accredited, on-line training for early learning providers.
- **Schools**
  Office of Superintendent of Public Instruction works with schools to implement wellness policies and the nutrition standards outlined in the federal Healthy, Hunger Free Kids Act. Recently the legislature funded $5 million for schools to improve physical activity infrastructure/equipment, water bottle filling stations, and equipment related to healthy food.
- **Worksites/Institutional**
  DOH supports executive state agencies to adopt Healthy Nutrition Guidelines related to Executive Order 13-06. UW Health Promotion Research Center continues to work with DOH to oversee a healthy worksite initiative that promotes access to fruits and vegetables. Department of Agriculture continues to work on farm-to-institution initiatives to increase access to local fruits and vegetables.
- **Community**
  With support from the Food Insecurity Nutrition Incentives Grant from USDA, DOH leads dozens of partners to incentivize fruit and vegetable purchases in grocery stores and farmers markets among Supplemental Nutrition Assistance Program (SNAP) customers (formerly called Food Stamps for customers with limited income). DOH's WIC program provides vouchers for fruits and vegetables for women and children five and under who qualify. Community organizations and Local Health Jurisdictions throughout the state are working to improve access to fruits and vegetables through a variety of community initiatives and funding sources, including nutrition guidelines in community centers and faith based organizations, farmers markets, grocery stores, food banks, institutional foodservice, restaurants and community gardens. Organizations such as DOH and Washington State University Extension teach consumers on limited budgets how to shop wisely and prepare healthy foods in programs such as Expanded Food and Nutrition Education Program (EFNEP) and Supplemental Nutrition Assistance Program Education Program (SNAP Ed). The Governor's Healthiest Next Generation initiative seeks to increase access to fruits and vegetables as well.
- **Healthcare**
  DOH works with several healthcare organizations to provide fruit and vegetable cash voucher prescriptions to low-income clients. Several major hospitals are working to improve cafeteria options, and some host or fund onsite or local farmers markets. Some insurance programs incentivize or reward fruit and vegetable consumption.
- This is a sampling of some of the activities around this issue. Because many initiatives take place throughout the state, only a small collection of projects are represented in this document.

See also Obesity

Evidence-based Interventions to promote healthy eating are listed in the CDC Community Guide.

Technical Notes

Confidence Intervals: Definition and examples are described in Appendix C

Race and Ethnicity: Classification described in Appendix C

Relative Standard Error: Definition and how it was used is described in Appendix C