The Behavioral Risk Factor Surveillance System (BRFSS) is an annual statewide telephone survey of adults developed by the Centers for Disease Control and Prevention and administered by the New York State Department of Health. The BRFSS is designed to provide information on behaviors, risk factors, and utilization of preventive services related to the leading causes of chronic and infectious diseases, disability, injury, and death among the noninstitutionalized, civilian population aged 18 years and older.

## Fruit and Vegetable Consumption <br> New York State Adults 2005

## Introduction

A growing body of research shows that fruits and vegetables are critical to promoting good health. To get the amount that's recommended, most people need to increase the amount of fruits and vegetables they eat every day. Most fruits and vegetables are naturally low in calories and provide essential nutrients and dietary fiber. They may also play a role in preventing certain chronic diseases. When compared to people who eat only small amounts of fruits and vegetables, those who eat more generous amounts, as part of healthy diets, tend to have reduced risk of chronic diseases. These diseases include stroke, type 2 diabetes, some types of cancer, and cardiovascular disease and hypertension. ${ }^{1}$ Moreover, substituting fruits and vegetables for higher-calorie foods can be part of weight loss strategies.

Since 1991, the National Cancer Institute (NCI) and the Produce for Better Health Foundation have promoted eating five or more daily servings of fruits and vegetables for improved health. More recently, the 2005 US Dietary Guidelines for Americans recommends increased levels of fruit and vegetable consumption based on energy intake, activity level, serving size, and other considerations. The BRFSS questions were developed as a valid assessment of fruit and vegetable consumption according to the earlier NCI guidelines, and will be used as the basis for reporting the prevalence of the population consuming five servings a day or more, and other categories of consumption.

## BRFSS Questions

These next questions are about the foods you usually eat or drink. Please tell me how often you eat or drink each one, for example, twice a week, three times a month, and so forth. Remember, I am only interested in the foods you eat. Include all foods you eat, both at home and away from home.

1. How often do you drink fruit juices such as orange, grapefruit, or tomato?
2. Not counting juice, how often do you eat fruit?
3. How often do you eat green salad?
4. How often do you eat potatoes not including French fries, fried potatoes, or potato chips?
5. How often do you eat carrots?
6. Not counting carrots, potatoes, or salad, how many servings of vegetables do you usually eat?

Responses to the six questions were combined to create a composite measure of average daily fruit and vegetable consumption.

Consumption of 5 or more servings of fruit and vegetables per day among New York State adults, by BRFSS survey year


Fruit and vegetable consumption (average number of servings per day) among New York State adults: 2005 BRFSS

|  | Servings per day |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | <1, or none |  | 1 to <3 |  | 3 to $<5$ |  | 5 or more |  |
|  | \% ${ }^{\text {a }}$ | 95\% Cl ${ }^{\text {a }}$ | \% | 95\% Cl | \% | 95\% Cl | \% | 95\% Cl |
| New York State (NYS) [ $\mathrm{n}=7,548$ ] | 5.2 | 4.5-5.9 | 33.4 | 32.0-34.9 | 35.4 | 34.0-36.7 | 26.0 | 24.8-27.3 |
| Sex |  |  |  |  |  |  |  |  |
| Male | 6.3 | 5.1-7.5 | 38.1 | 35.8-40.5 | 35.9 | 33.7-38.2 | 19.7 | 17.7-21.6 |
| Female | 4.2 | 3.3-5.1 | 29.2 | 27.5-30.9 | 34.8 | 33.1-36.5 | 31.8 | 30.1-33.4 |
| Age (years) |  |  |  |  |  |  |  |  |
| 18-24 | 8.1 | 4.6-11.6 | 39.2 | 32.8-45.6 | 30.4 | 24.8-36.0 | 22.2 | 16.6-27.9 |
| 25-34 | 7.5 | 5.3-9.7 | 38.0 | 34.3-41.8 | 30.6 | 27.2-34.0 | 23.8 | 20.8-26.8 |
| 35-44 | 5.8 | 4.4-7.2 | 39.2 | 36.2-42.2 | 35.3 | 32.3-38.2 | 19.8 | 17.5-22.0 |
| 45-54 | 4.0 | 2.8-5.3 | 32.0 | 29.2-34.8 | 37.9 | 34.9-40.8 | 26.1 | 23.5-28.7 |
| 55-64 | 3.6 | 2.3-4.8 | 30.0 | 27.1-33.0 | 36.8 | 33.5-40.0 | 29.7 | 26.6-32.7 |
| $\geq 65$ | 2.5 | 1.7-3.4 | 22.2 | 19.8-24.5 | 40.5 | 37.7-43.3 | 34.8 | 32.0-37.6 |
| Race/ethnicity |  |  |  |  |  |  |  |  |
| White non-Hispanic | 3.8 | 3.2-4.5 | 32.8 | 31.2-34.3 | 36.6 | 35.0-38.1 | 26.8 | 25.5-28.2 |
| Black non-Hispanic | 9.0 | 6.0-12.1 | 31.1 | 26.8-38.5 | 34.2 | 29.8-38.5 | 25.7 | 21.8-29.6 |
| Hispanic | 7.5 | 5.0-10.1 | 41.0 | 36.3-45.8 | 29.6 | 25.4-33.8 | 21.8 | 17.7-25.9 |
| Other non-Hispanic | 5.2 | 2.8-7.6 | 27.6 | 22.4-32.8 | 39.3 | 33.6-45.1 | 27.9 | 22.5-33.3 |
| Annual household income |  |  |  |  |  |  |  |  |
| < \$15,000 | 9.3 | 6.3-12.3 | 37.6 | 32.7-42.6 | 30.5 | 25.9-35.0 | 22.6 | 18.3-26.9 |
| \$15,000-\$24,999 | 5.9 | 3.8-8.1 | 35.9 | 31.8-40.0 | 32.5 | 28.8-36.2 | 25.7 | 22.0-29.3 |
| \$25,000-\$34,999 | 4.6 | 2.8-6.4 | 32.4 | 27.9-36.9 | 34.7 | 30.2-39.1 | 28.4 | 23.8-32.9 |
| \$35,000-\$49,999 | 4.8 | 3.1-6.5 | 36.0 | 32.1-39.9 | 34.8 | 31.2-38.4 | 24.4 | 21.0-27.8 |
| \$50,000-\$74,999 | 3.9 | 2.5-5.4 | 31.0 | 27.7-34.3 | 39.8 | 36.4-43.3 | 25.3 | 22.3-28.2 |
| $\geq$ \$75,000 | 3.3 | 2.0-4.5 | 30.0 | 27.4-32.6 | 37.9 | 35.2-40.7 | 28.8 | 26.4-31.2 |
| Missing ${ }^{\text {b }}$ | 7.0 | 4.5-9.5 | 34.8 | 30.6-39.1 | 33.5 | 29.6-37.5 | 24.6 | 21.3-27.9 |
| Educational attainment |  |  |  |  |  |  |  |  |
| Less than high school | 8.1 | 5.2-11.1 | 40.3 | 34.8-45.8 | 28.2 | 23.6-32.7 | 23.4 | 18.2-28.5 |
| High school or GED | 6.6 | 5.2-8.1 | 36.9 | 34.2-39.6 | 34.7 | 32.1-37.3 | 21.8 | 19.6-24.0 |
| Some post-high school | 5.0 | 3.5-6.4 | 36.8 | 33.7-39.8 | 34.2 | 31.4-37.1 | 24.0 | 21.6-26.5 |
| College graduate | 3.2 | 2.3-4.2 | 26.4 | 24.5-28.4 | 38.7 | 36.6-40.9 | 31.6 | 29.6-33.6 |
| Disability ${ }^{\text {c }}$ |  |  |  |  |  |  |  |  |
| Yes | 7.9 | 5.9-9.9 | 34.0 | 31.0-36.9 | 33.4 | 30.6-36.2 | 24.7 | 22.2-27.2 |
| No | 4.6 | 3.8-5.3 | 33.2 | 31.6-34.8 | 35.8 | 34.2-37.4 | 26.4 | 25.0-27.9 |
| Region |  |  |  |  |  |  |  |  |
| New York City (NYC) | 6.5 | 5.0-7.9 | 33.2 | 30.6-35.8 | 35.4 | 32.9-38.0 | 24.8 | 22.5-27.2 |
| NYS exclusive of NYC | 4.4 | 3.7-5.2 | 33.5 | 31.9-35.2 | 35.3 | 33.6-36.9 | 26.7 | 25.2-28.2 |

a $\%=$ weighted percentage; $\mathrm{Cl}=$ confidence interval.
b "Missing" category included because more than $10 \%$ of the sample did not report income.
${ }^{\text {c }}$ All respondents who report activity limitations due to physical, mental, or emotional problems OR have health problems that require the use of special equipment.

## References

1. U.S. Department of Health and Human Services and U.S. Department of Agriculture. Dietary Guidelines for Americans, 2005. 6th ed. Washington, DC: U.S. Government Printing Office, January 2005.

## Copies may be obtained by contacting:

BRFSS Coordinator
New York State Department of Health
Bureau of Chronic Disease, Epidemiology and Surveillance
Empire State Plaza, Rm. 565, Corning Tower
Albany, NY 12237-0679
or by phone or electronic mail:
(518) 473-0673 or

BRFSS@health.state.ny.us or
www.health.state.ny.us

## State of New York

Eliot Spitzer, Governor
Department of Health
Richard F. Daines, M.D., Commissioner

