

Healthy People 2010 Operational Definition

19-6. Increase the proportion of persons aged 2 years and older who consume at least three daily servings of vegetables, with at least one-third of them being dark green or orange vegetables.

National Data Source	Baseline: Continuing Survey of Food Intakes by Individuals (CSFII), Department of Agriculture (USDA). All other data years: National Health and Nutrition Examination Survey (NHANES): CDC, NCHS; USDA, ARS.
State Data Source	Behavioral Risk Factor Surveillance System (BRFSS), CDC, NCCDPHP; Youth Risk Behavior Surveillance System (YRBSS), CDC, NCCDPHP (see Comments).
Healthy People 2000 Objective	Adapted from 2.6 (Nutrition) (also 16.8)
Changes since the 2000 Publication	Revised baseline.
Measure	Percent (age adjusted-see Comments).
Baseline (Year)	4 (1994-96)
Target	50
Target-Setting Method	Better than the best racial/ethnic subgroup. For a discussion of target-setting methods, see Part A, section 4.
Numerator	Number of persons aged 2 years and older who report consuming three or more servings of vegetables daily, of which at least one-third are dark green or orange vegetables (based on a 2-day average).
Denominator	Number of persons aged 2 years and older.
Population Targeted	U.S. civilian, noninstitutionalized population.
Questions Used to Obtain the National Baseline Data	From the 1994-96 Continuing Survey of Food Intakes by Individuals:

The 1994-96 CSFII included the collection of 2 nonconsecutive days of dietary data through in-person 24-hour recalls.¹ Each respondent was asked to recall the kinds and amounts of foods eaten at home and away from home during the previous day. Amounts of foods reported in household measures were then converted to gram amounts.

Expected Periodicity

Periodic.

Comments

For the original baseline, the definitions for dark green and orange vegetables and for serving sizes were derived from the 1995 and 2000 Dietary Guidelines² the Food Guide Pyramid, and related documentation. Estimates were calculated using the USDA Pyramid Servings Database.

The goal of one-third of servings from dark green or orange vegetables was based on an assessment of the variety of vegetable consumption needed to obtain nutrient adequacy in the development of the Food Guide Pyramid.

The original baseline of 3 percent was revised to 4 percent in 2008 because the USDA Pyramid Servings Database was replaced by the MyPyramid Equivalent Databases for USDA Survey Food Codes (<http://www.ars.usda.gov/ba/bhnrc/fsrg>). There was a need to use the latter database for both baseline and update estimates to permit comparisons over time. The 1994-96 MyPyramid Equivalent Database was used to estimate the number of servings of vegetables consumed according to the definition of a serving in the 1995/2000 Dietary Guidelines. This required certain adaptations in programming because of differences in these two databases. The target of 50 percent did not change.

The intakes of vegetable servings were modified for children aged 2 to 3 years. The modification was accomplished by multiplying their daily servings intake by 1.5, equivalent to estimating that their requirement is two-thirds that of persons over age 3 years.

Two component measures are also tracked: (1) age-adjusted percent of persons that report consuming

three or more servings of vegetables daily (based on a 2-day average), and (2) age-adjusted percent of persons that report consuming at least one-third of their vegetables as dark green or orange vegetables (based on a 2- day average).

Pregnant or lactating women and breast-fed children are excluded from the numerator and denominator.

Data are age adjusted to the 2000 standard population using the age groups 2-5, 6-11, 12-19, 20-29, 30-39, 40-49, 50-59, 60-69, 70-79, and 80 years and over. Age-adjusted rates are weighted sums of age-specific rates. For a discussion of age-adjustment, see Part A, section 7.

Although the CSFII was the baseline data source for this objective, that survey has been discontinued, and tracking data are now obtained from the National Health and Nutrition Examination Survey.

State-level data on fruit and vegetable consumption are collected biennially by BRFSS for persons aged 18 years and older and by YRBSS for adolescents in grades 9 through 12. No State-level data for younger children are available from these surveillance systems. These data enable States to track (1) the proportion of the population that consumes five or more servings of fruit and vegetables daily, (2) mean intakes and trends in consumption, and (3) consumption of selected fruit and vegetable items. However, the food items and dietary data collection methods used in these surveillance systems differ from those used by CSFII to track this objective 19-5.

This objective differs from Healthy People 2000 objective 2.6, which only tracked the proportion of the population that consumed five or more daily servings of fruit and vegetables and the mean number of servings consumed, with a few exclusions of fruit and vegetable products. Also, Healthy People 2000 estimates were not age adjusted.

For some measures, data do not meet the criteria for statistical reliability, data quality, or confidentiality and have been suppressed. Information on suppression of data for the major Healthy People

2010 data systems has been published in a *Healthy People Statistical Note*.³

See Part C for a description of NHANES and Appendix A for focus area contact information.

References

1. Agricultural Research Service (ARS). Design and Operation: The Continuing Survey of Food Intakes by Individuals and the Diet and Health Knowledge Survey, 1994–96. NFS Report No. 96-1. Washington, DC: USDA, 1998.
2. USDA/HHS. *Dietary Guidelines for Americans*. 4th ed and 5th ed. USDA Home and Garden Bulletin No. 232. 1995 and 2000.
3. Klein, R.J.; Proctor, S.E.; Boudreault, M.A.; Turczyn, K.M. Healthy People 2010 Criteria for Data Suppression. *Statistical Notes* No. 24. Hyattsville, MD: National Center for Health Statistics. 2002.