

SNAP-Ed Toolkit

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R1: Overall Diet Quality

Framework Component

Population Results – Trends and Reductions in Disparities

Indicator Description

This indicator represents overall diet quality of individuals at the population level that reflects secular trends and disparities in diet quality at the national level; and potentially trends in overall diet quality of SNAP-eligible populations at the state or regional level as a measure of cumulative effects (beneficial or adverse) of SNAP-Ed targeting particular components of diet quality. Individual indicators for diet components will be the most useful as a measure of SNAP-Ed impact in the short term, medium term, and long term.

Background and Context

This indicator is to be used for surveillance and benchmarking, addressing the question: How is diet quality changing nationally and are disparities increasing or decreasing? The indicator could also be used by states to monitor other changes in the diet of the SNAP-eligible population, total diet quality occurring along with diet components targeted by SNAP-Ed, and potential positive and adverse changes. It would not be advised for evaluation of local SNAP-Ed programs. Overall diet quality of individuals is most often measured via the Healthy Eating Index (HEI), which assesses conformance to the Dietary Guidelines for Americans. The USDA uses the HEI to monitor the diet quality of the U.S. population and the low-income subpopulation. To calculate the HEI, the Center for Nutrition Policy and Promotion uses the data collected via 24-hour dietary recalls in national surveys, such as the National Health and Nutrition Examination Survey (NHANES; <https://www.cdc.gov/nchs/nhanes/index.htm>). Information is needed on respondents on all of the following dietary components in order to score diet quality using the HEI: total fruit, whole fruit, total vegetables, greens and beans, whole grains, dairy, total protein foods, fatty acids, refined grains, sodium, and empty calories. The overall diet quality data reported in NHANES provide a national benchmark for comparing the low-income population to the general population, and comparing state and regional data with national estimates. Representative and detailed dietary intake data would be needed at the state level for this indicator to be useful as a surveillance tool at state level.

Outcome Measures

R1a. Mean score on the HEI—2010 and change over time R1b. Proportion of people who are in the lowest category of scores Notes:

- Update to 2015 when available.
- The National Cancer Institute is investigating the quantity of change needed for meaningful change in diet.
- Investigate the cut point for low scores in association with researchers and developers of the HEI.
- If other validated indices of diet quality are available, consider them for use as the basis for indicators.

What to Measure

Diet quality is a summary indicator on how individuals are doing on all of the key current dietary guidelines. The HEI assigns a score from 0 to 100, based on 12 measures of diet. The higher the score, the better the diet quality overall, which has been shown to link to health status and mortality. In the context of the SNAP-Ed program, HEI would measure several aspects of diet quality that are not often targeted by SNAP-Ed (e.g., fatty acids, seafood and plant proteins, sodium). Therefore it would not be considered a high priority indicator for SNAP-Ed. The value of measuring it in states with the dietary assessment and analysis capacity is that it could provide a benchmark of how overall diets are changing in the SNAP-eligible population, given that SNAP-Ed is focusing only on a select few aspects of diet. It could reveal a beneficial effect on overall diet quality of SNAP-Ed or it could identify an adverse effect, from a focus on a select few dietary behaviors. At the national level, the value of this measure is to track secular trends and disparities in diet quality of the population to alert SNAP-Ed to dietary behaviors that may need further attention in the low-income population. All foods and nutrients included in the HEI—2010 index must be measured using an appropriate dietary assessment method. Data to determine overall diet quality are obtained through 24-hour dietary recalls, food records, or selected comprehensive food frequency questionnaires. Data from 24-hour recalls are used most often, and the reported foods and quantities are coded using the USDA's Food and Nutrient Database for Dietary Studies (FNDDS) or the Nutrition Coordinating Center's Food and Nutrient Database. Overall diet quality is defined most often through scores on the HEI, which is calculated based on coded dietary intake data collected via survey. The FNDDS is used as the database to analyze the foods and nutrients for each respondent's dietary intake data. These data further link to the MyPyramid Equivalents Database (MPED) to quantify the amounts of various food groups in cup equivalents—information that is used to calculate the HEI scores. A food frequency questionnaire can be used to measure HEI—2010 if it has the following characteristics: 1) it is intended to measure the total diet, not only components of it; 2) it measures quantities of food as well as frequency; and 3) it is analyzed using FNDDS and MPED and supplies data on all of the nutrients and food groups required for the HEI scores. HEI scores are based on total diet; therefore, data from brief instruments that focus on specific parts of the diet are not appropriate. <https://epi.grants.cancer.gov/hei/uses.html#intake>

Population

Children aged 10 years and older, adults Potentially younger children through parent proxy

Surveys and Data Collection Tools

ADULTS [collapse title="24-hour recall"] **Automated Self-Administered 24-hour Recall (ASA24)**

<https://epi.grants.cancer.gov/asa24/> <https://asa24.nci.nih.gov/researcherSite/ASA242013.aspx?>The ASA24

system is a web-based tool that enables multiple automated self-administered 24-hour recalls **AMPM—**

Automated multiple-pass method for 24-hour recalls developed by USDA for use in NHANES—can be used

by researchers, but it is expensive and labor intensive and requires considerable training. **University of California Cooperative Extension EFNEP Food Tracker: 5-step Multiple Pass 24-hour Dietary Recall** <https://townsendlab.ucdavis.edu/> [collapse] [collapse title="Examples of comprehensive Food Frequency Questionnaires"] **NIH Diet History Questionnaire?** <https://epi.grants.cancer.gov/dhq2/about/> **Harvard Willett Food Frequency Questionnaire?** <https://regepi.bwh.harvard.edu/health/nutrition.html> **Block Food Frequency Questionnaire?** <https://www.nutritionquest.com/> **EFNEP/WebNEERS** WebNEERS is a data collection tool used by land grant universities conducting EFNEP to collect 24-hour recall data. It exports summary data for state/territory and national assessment. [collapse] **CHILDREN & YOUTH** [collapse title="24-hour recall"] **Automated Self-Administered 24-hour Recall (ASA24 – Kids)** <https://epi.grants.cancer.gov/asa24/respondent/childrens.html> The ASA24-Kids-2014 is recommended for children 10 years of age and older. Children aged 12 and older can respond themselves, Children aged 10 or 11 would need a proxy reporter, such as a parent or guardian. NHANES uses a proxy respondent for children 5 years of age and younger and has a parent or guardian assist with recalls for children 6 to 11 years of age. [collapse] Additional evaluation tools to measure R1 can be found in the [SNAP-Ed Library](#).

Key Glossary Terms

N/A

Additional Resources or Supporting Citations

500 Cities Project data and map books <https://www.cdc.gov/500Cities/> Data analysis of 27 chronic disease measures, including one on nutrition, physical activity, and weight status, for the 500 largest American cities and the census tracts within them.