

SNAP-Ed Toolkit

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R4: Dairy

Framework Component

Population Results – Trends and Reductions in Disparities

Indicator Description

This indicator represents change in dairy product consumption and/or adequacy of consumption over time, from year to year, of the low-income population of the state. Unlike [MT1](#) and [LT1](#) (Healthy Eating Behaviors), which measure increases in low-fat/fat-free dairy consumption attributed to SNAP-Ed series-based programs, R4 is intended to measure the proportion of the SNAP-Ed eligible population that is achieving the *Dietary Guidelines for Americans* recommendations. Thus, R4 measures dairy consumption status for low-income households surveyed within the state or area of focus. R4 is a population-level surveillance measure.

Background and Context

Under-consumption of calcium is a public health concern for the majority of Americans. Calcium plays a major role in bone health and also is essential for proper functioning of the cardiovascular system, nerve transmission, muscle contraction, cell signaling pathways, and vascular integrity. Although there are other sources of calcium, the calcium from plant foods is less bioavailable than that of animal foods, like dairy. Fifty-seven percent of women and 41 percent of men aged 19 and older in the United States have calcium intake below the estimated average requirement. Preadolescent and adolescent females, pregnant females, middle aged and older females, and elderly males are at particular risk.¹ This is an appropriate indicator to use when SNAP-Ed in the program being evaluated provided a sufficient dose of R4 low-fat dairy intervention to expect behavior change that will last over an extended time period. Examples include Rethink Your Drink interventions in which fat-free/low-fat milk is emphasized as a preferred alternative; provider/parent education in early child care settings that include a strong component about fat-free/low-fat dairy items and number of servings for preschool age children; and PSE interventions to increase access to fat-free/low-fat dairy items in corner stores.

Outcome Measures

- R4a. Number or percentage of SNAP-Ed eligible persons who drank low-fat (1%) or fat-free versions of milk or fortified soy beverages (or, average cups consumed daily)

- R4b. Number or percentage of SNAP-Ed eligible persons who ate low-fat (1%) or fat-free versions of yogurt or cheese (or, average cups consumed daily)
- R4c. Number or percentage of SNAP-Ed eligible persons who switched from whole or 2% milk to fat-free or low-fat (1%) white milk (with or without cereal)
- R4d. Number or percentage of SNAP-Ed eligible persons who consumed any dairy products three or more times per day

What to Measure

Adults

- a. Number or percentage of adults who report drinking low-fat (1%) or fat-free versions of milk or fortified soy beverages
- b. Number or percentage of adults who report eating low-fat (1%) or fat-free versions of yogurt or cheese
- c. Number or percentage of adults who report switching from whole or 2% milk to low-fat (1%) or fat-free milk
- d. Number or percentage of adults who report drinking/eating any dairy products, regardless of fat level, three or more times per day

Children/Adolescents

- a. Number or percentage of children/adolescents who report drinking low-fat (1%) or fat-free versions of milk or fortified soy beverages
- b. Number or percentage of children/adolescents who report eating low-fat (1%) or fat-free versions of yogurt or cheese
- c. Number or percentage of children/adolescents who report switching from whole or 2% milk to low-fat (1%) or fat-free milk
- d. Number or percentage of children/adolescents who report drinking/eating any dairy products, regardless of fat level, three or more times per day

Population

Youth (3rd grade and above) or Adults

Surveys and Data Collection Tools

At this time, no national surveillance systems routinely collecting data provides state-level statistics on dairy indicators. Consequently, evaluation data can only be collected by 1) adding a module of questions like those listed below to a statewide survey collecting population data that can identify the low-income segment of its sample, such as your state's BRFSS; 2) conducting a population-level 24-hour recall with your state SNAP-Ed population or another representative low-income population sample; or 3) conducting another type of annual regular data collection that includes these questions from either your total SNAP-Ed eligible population or a representative random sample of it. The same question module should be used year-to-year for consistency. Example: All Michigan Fitness Foundation (MFF) funded partners are required to administer the National Cancer Institute (NCI) Fruit and Vegetable Screener as a pre-post instrument based on a convenience sample of

program participants per funded partner. If a partner's direct SNAP-eligible reach is less than 500, it is required to administer 75 survey pairs. If it is greater than 500, a representative sample of 15 percent is required. Representative is a key word. If necessary, oversampling must be done in order to obtain a sample reflective of the characteristics of the partner's population. **ADULTS** [collapse title="University of California Cooperative Extension EFNEP Food Tracker: Group 5-step Multiple Pass 24-hour Dietary Recall"] [R4a,b,c,d] (Instrument is available in English, Spanish, Russian, Hmong, Chinese; also instructional video and other materials) <https://townsendlab.ucdavis.edu/> Note: Any multiple-pass method in which all data collectors have been trained to collect the information consistently using a standardized, documented protocol that includes probing is acceptable. It is recommended that, if at all possible, visual aids, such as portion size guides (paper or online), measuring cups, dishes/glasses, and/or food models be used. [/collapse] [collapse title="Virginia Polytechnic Institute and State University Beverage Intake Questionnaire (BEVQ-15)"] (15 items—3 are dairy)² [R4a,c] <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3379009/pdf/nihms379195.pdf> For each item:

- In the past month indicate how often you drank the following beverages.
 - *Response choices:* Never or less than 1 time per week; 1 time per week; 2–3 times per week; 4–6 times per week; 1 time per day; 2+ times per day; 3+ times per day
- Indicate approximately how much you drank each time.
 - *Response choices:* Less than 6 fl. oz. (¾ cup), 8 fl. oz. (1 cup), 12 fl. oz. (1½ cups), 16 fl. oz. (2 cups), more than 20 fl. oz. (2½ cups)

Beverage line items include whole milk, reduced-fat milk (2%), low-fat/fat-free milk (skim, 1%, buttermilk, soy milk) [/collapse] [collapse title="Share Our Strength Cooking Matters for Adults Survey"] (39 items; 2 questions apply to R4) [R4a,b], English and Spanish https://cookingmatters.org/sites/default/files/Survey.CMA_.English.2017.Esurvey.Updated.pdf

- When you have milk, how often do you choose low-fat milk (skim or 1%)? (R4a)
- When you eat dairy products like yogurt, cheese, cottage cheese, sour cream, etc., how often do you choose low-fat or fat-free options? (R4b)

[/collapse] **CHILDREN & YOUTH** [collapse title="Fred Hutchinson Cancer Research Center Beverage and Snack Questionnaire 2 (BSQ2)"] (13 beverages [4 dairy]; 23 total items including snacks and fruits and vegetables; developed for use with 10- to 18-year-olds)³ (R4a,c) <https://sharedresources.fhcrc.org/documents/beverage-and-snack-questionnaire>

- How often did you drink these beverages in the past week?
 - *Response choices:* Never or less than 1 time per week; 1 time per week; 2–3 times per week; 4–6 times per week; 1 time per day; 2–3 times per day; 4+ times per day

Beverage line items include four dairy drinks, among others. Instrument covers in-school and out-of-school time separately for each item.

- 1% or nonfat flavored milk (sometimes called skim, fat-free, or low-fat milk; includes chocolate and other flavors but not unflavored, white milk)
- Regular or 2% flavored milk (sometimes called whole, reduced-fat, or 4% milk fat; includes chocolate and other flavors but not unflavored, white milk)
- 1% or nonfat milk (sometimes called skim, fat-free, or low-fat milk; do not include chocolate or other flavored milks)
- Regular or 2% milk (sometimes called whole, reduced-fat, or 4% milk fat; do not include chocolate or other flavored milks)

[/collapse] [collapse title="California Youth Nutrition and Physical Activity Survey"] Condensed version of the School and Physical Activity Nutrition project (SPAN) survey, English and Spanish; 4th–8th graders⁵ (R4a,b,c) <https://www.cdph.ca.gov/programs/cpns/Pages/Chapter1RequiredSurveysforImpactOutcomeEvaluation.aspx>

- Yesterday, did you drink any kind of milk? Count chocolate or other flavored milk, milk on cereal, or drinks made with milk along with the second question below (R4d)
 - *Responses:* no, I didn't drink any milk yesterday; yes, I drank 1 milk time yesterday; yes, I drank milk 2 times yesterday; yes, I drank milk 3 or more times yesterday
- What type of milk do you drink most of the time? (R4a,c)
 - *Responses:* Regular (whole) milk; 2% milk; 1% (low-fat) or fat-free (skim/non-fat) milk; Soy milk, almond milk, rice milk, or other milk; I don't drink milk; I don't know
- Yesterday, did you eat cheese by itself or on your food? Count cheese on pizza or in dishes such as tacos, enchiladas, sandwiches, cheeseburgers, or macaroni and cheese. (R4d)
- Yesterday, did you eat yogurt or cottage cheese or drink a yogurt drink? *Do not count* frozen yogurt. (R4d)

[/collapse] [collapse title="EFNEP Youth Nutrition Education Surveys, 6th–8th, 9th–12th graders"]

<https://www2.ag.purdue.edu/programs/hhs/efnep/Pages/Resource-Evaluation.aspx>

- Yesterday, how many times did you drink nonfat or 1% low-fat milk? Include low-fat chocolate or flavored milk, and low-fat milk on cereal. (R4a)
 - *Responses:* none; 1 time; 2 times; 3 times; 4 or more times

[/collapse] [collapse title="Share Our Strength Cooking Matters for Teens Survey"] (20 items, 2 are dairy)

English https://cookingmatters.org/sites/default/files/Survey.CMA_English.2017.Esurvey.Updated.pdf

- When you have milk, how often do you choose low-fat milk (skim or 1%)? (R4a)
- When you eat dairy products like yogurt, cheese, cottage cheese, sour cream, etc., how often do you choose low fat or fat-free options? (R4b)

[/collapse] Additional evaluation tools to measure R4 can be found in the [SNAP-Ed Library](#).

Key Glossary Terms

[glossary]Population-based data collection[/glossary] [glossary]SNAP-Ed eligible persons[/glossary]
[glossary]Surveillance[/glossary]

Additional Resources or Supporting Citations

¹What We Eat in America, NHANES 2007–2010, individuals 1 year and over (excluding breast-fed children and pregnant or lactating females), dietary intake data. Prepared by the Food Surveys Research Group, Beltsville Human Nutrition Research Center, and Agricultural Research Service. U.S. Department of Agriculture as Part E. Section 2: Supplementary Documentation to the 2015 DGAC Report. ²Hedrick VE, Savla J, Comber DL, et al. Development of a brief questionnaire to assess habitual beverage intake (BEVQ-15): Sugar-sweetened beverages and total beverage energy intake. *J Acad Nutr Diet.* 2012;112;(6):840-9. ³BSQ - Neuhouser ML, Lilley S, Lund A, et al. Development and validation of a beverage and snack questionnaire for use in evaluation of school nutrition policies. *J Am Diet Assoc* 2009. 109;(9):1587-1592.