Nutrition Security Screener (NSS)
The Tufts University Food is Medicine Institute, Kaiser Permanente, and Los Angeles County Department of Public Health have developed and validated a **2-item Nutrition Security Screener (NSS)** in U.S. adult populations.

The NSS includes a brief preamble followed by two questions. The preamble helps characterize a common definition of healthy foods for respondents and should be included in the administration of the NSS.

This version of the NSS may be adapted for use in different clinical and public health settings, as described in respective footnotes.

Contents

Suggested citation:

Additional publications and materials related to the NSS are available at:
https://tuftsfoodismedicine.org/project/nss/.

v Dec 2025

Nutrition Security Screener (English language)

[Preamble] The next questions are about healthy foods - foods that support your health and well-being. These foods include, for example, fruits, vegetables, whole grains, beans, nuts, yogurt, and fish. These foods can be fresh, frozen, or canned; and don't have to be organic. Less healthy foods can include foods that are highly processed, packaged, and high in salt, starch, sugar, and unhealthy fats.

[Question 1] 1. Thinking about the last 12 months,[1] how hard was it for you or your household to regularly get and eat healthy foods that support your well-being?[2]

   a. Very hard
   b. Hard
   c. Somewhat hard
   d. Not very hard
   e. Not hard at all

---

[1]*The recall period may be adapted for the intended use of the screener; for example, shorter durations may be used following exposure to an intervention.*
[2]*Additional optional response options may include "Don't know" and/or "Prefer not to answer," as appropriate for the intended use of the screener.*

[Question 2] 2. People have different reasons for eating or not eating healthy foods. Please tell me which, if any, of the following reasons were true for you or your household in the last 12 months.[1, 2, 3]
   a. Healthy foods are too expensive
   b. There aren't a lot of healthy food choices at the stores where I usually shop
   c. Stores or food pantries with healthy foods are too far away or hard to reach
   d. I don't have a car or other transportation to reach stores or food pantries that have healthy foods
   e. I don't have enough time to shop for healthy foods
   f. I don't have enough time to cook healthy foods
   g. My cooking equipment or storage space is not enough to prepare healthy foods
   h. I don't know how to cook healthy foods
   i. I don't know which foods are considered healthy foods
   j. I or my family don't like the taste of healthy foods
   k. Some of the traditional foods in my family are not very healthy
   l. I'm not sure I qualify for food assistance programs like food stamps (also known as SNAP or EBT) or WIC that help me buy healthy foods
   m. I have mobility challenges or physical limitations that make it difficult for me to prepare and eat healthy foods.
   n. Other - please specify:_____

---

[1] *The recall period may be adapted for the intended use of the screener; for example, shorter durations may be used following exposure to an intervention.*
[2] *The standard response options to each sub-item are (i) Often true, (ii) Sometimes true, or (iii) Never true. Additional optional response options may include "Don't know" and/or "Prefer not to answer," as appropriate for the intended use of the screener. Alternative response options to each sub-item are (i) Yes or (ii) No, as appropriate for the intended use of the screener; for example, to reduce the time burden when the screener is administered verbally.*
[3] *Question 2 is intended to be asked of all respondents. However, to reduce participant burden, Question 2 may be administered only to those responding, "Very hard," "Hard," or "Somewhat hard" to Question 1.*
[4]*In an electronic survey format, the order of these sub-items may be randomly distributed for different respondents.*

v Dec 2025

Classification and Scoring

Responses to Question 1 and Question 2 of the NSS are scored separately to determine presence and severity of nutrition insecurity and its contributing barriers.

Question 1: Classification of Nutrition Insecurity

Responses to Question 1 are used to classify the presence and/or degree of nutrition security:
  i. Binary classification:
     - *Nutrition secure* is indicated by a response of "Not very hard," or "Not hard at all."
     - *Nutrition insecure* is indicated by a response of "Very hard," "Hard," or "Somewhat hard."
  ii. Categorical classification:
     - *Nutrition security* is indicated by a response of "Not very hard," or "Not hard at all."
     - *Low nutrition security* is indicated by a response of "Somewhat hard."
     - *Very low nutrition security* is indicated by a response of "Hard" or "Very hard."

Question 2: Scoring of Barriers to Nutrition Security

Responses to Question 2 may be scored in three ways to quantify the number and severity of barriers to nutrition security:
  i. Barrier Count Score:
     a. Each sub-item is considered affirmative if the response is "Often true" or "Sometimes true."
     b. The total number of affirmative responses is summed to generate a *barrier count score*, reflecting the number of barriers to nutrition security.[1]
  ii. Weighted Barrier Score:
     a. Each sub-item is assigned a numeric value based on severity:
        i. "Often true" = 2
        ii. "Sometimes true" = 1
        iii. "Never true" = 0
     b. These values are summed across the sub-items to generate a *weighted barrier score*, capturing both the number and intensity of barriers to nutrition security.
  iii. Severe Barrier Score:
     - Only responses of "Often true" are considered affirmative.
     - The total number of "Often true" responses is summed to generate a *severe barrier score*, indicating the extent of high-severity ("Often true") barriers to nutrition security.

Note: Research is ongoing to determine how best to combine responses from Question 1 and Question 2 into a single composite nutrition security score. Further validation is needed to establish optimal scoring approaches.

[1]*For alternative response formats (e.g. "Yes"/"No"), the total number of "Yes" responses can be used as a simple barrier count score.*

Development

The NSS was developed through a collaborative process between Tufts University, Kaiser Permanente, and Los Angeles County Department of Public Health. The items were originally designed for self-administered online surveys in California and adapted for interviewer-administered phone interviews in Massachusetts. Self-administered online surveys were pilot tested with 30-40 participants by Los Angeles County Department of Public Health. Respondents reported the items were well understood and easy to answer. In addition, prior to phone interviews, the questions were pilot tested with over 30 participants in the Community Servings Medically Tailored Meals Evaluation Consortium in Massachusetts. Both written (self-administered online) and verbal (phone-administered) formats were tested to evaluate readability and comprehension. Some response categories were revised to reduce administration time and improve clarity, particularly for Question 2, which

Nutrition Security Screener (NSS)
was shortened from three to two response options in some implementations. The language of the screener was reviewed by participating organizations to ensure it was appropriate for a range of literacy levels. The current version reflects an iterative, multi-site development process informed by expert input, user feedback, and real-world testing.

Validation

The NSS was validated across five diverse U.S. populations (N=20,523 adults) following pilot testing in Massachusetts and California. The validated instrument includes the two core items measuring the presence and severity of nutrition insecurity (NI) along with the 14 barrier sub-items, including open text for "Other, please specify". Validation analyses involved Spearman's correlation, multivariable logistic regression, and pooled analyses to assess associations between NI, sociodemographic characteristics, food insecurity (FI), and diet-related health conditions. NI prevalence ranged from 18-44%, with significant variation by age, race and ethnicity, and income. NI was moderately correlated with FI as measured by the Hunger Vital Sign ($r=0.55$-0.63) and the USDA 6-item Short Form of the Food Security Survey Module ($r=0.38$-0.46), with 10-28% of individuals classified discordantly by NI and FI status. After adjusting for sociodemographic characteristics and FI status, NI was independently associated with higher odds of diabetes (OR=1.46 (95% CI 1.19, 1.79)), obesity (OR=1.42 (1.19, 1.70)), hypertension (OR=1.34 (1.13, 1.59)), hypercholesterolemia (OR=1.34 (1.11, 1.61)), heart disease (OR=1.39 (1.05, 1.85)), and stroke (OR=2.03 (1.08, 3.83)), but not cancer (OR=0.98 (0.62, 1.54)). Commonly reported barriers included cost (75-81%), cultural or traditional foods being unhealthy (47-75%), and limited access to healthy choices (47-53%). A higher number of reported barriers (barrier count score) was associated with increased odds of all of the diet-related conditions assessed, except cancer. These results support the NSS as a valid tool to assess NI and identify barriers across diverse populations, with independent association to key diet-related health conditions.

Acknowledgements

v Dec 2025

Appendix

Nutrition Security Screener (Spanish language)

I would like to ask you more about potential challenges around eating healthy foods --- foods that support your health and well-being. Healthy foods include things like fruits, vegetables, whole grains, beans, nuts, yogurt, and fish. These foods can be fresh, frozen, or canned; and don't have to be organic. Less healthy foods are foods highly processed, pre-packaged, and can be high in salt, starch, sugar, and/or unhealthy fats.	**Me gustaría preguntarle más acerca de los posibles desafíos relacionados con el consumo de alimentos saludables ---** alimentos que apoyan su salud y bienestar. Los alimentos saludables incluyen cosas como frutas, vegetales, granos enteros, frijoles, nueces, yogur y pescado. Estos alimentos pueden ser frescos, congelados o enlatados; y no tienen que ser orgánicos. Alimentos menos saludables son alimentos altamente procesados, pre-empacados y pueden tener un alto contenido en sal, almidón, azúcar o grasas no saludables.

1. Thinking about the last 12 months, how hard was it for you (or your household) to regularly get and eat healthy foods that support your well-being?
  a. Very hard
  b. Hard
  c. Somewhat hard
  d. Not very hard
  e. Not hard at all
  f. Don't know/prefer not to answer
	1. Pensando en los últimos 12 meses, ¿qué tan difícil fue para usted (o su familia) obtener y comer regularmente alimentos saludables que favorezcan su bienestar?
	  a. Muy difícil
	  b. Difícil
	  c. Un poco difícil
	  d. No muy difícil
	  e. Para nada difícil
	  f. No lo sé/prefiero no contestar

2. People have different reasons for eating or not eating healthy foods. Please tell me which, if any, of the following reasons were true for you or your household in the last 12 months.
  a. Healthy foods are too expensive
  b. There aren't a lot of healthy food choices at the stores where I usually shop
  c. Stores or food pantries with healthy foods are too far away or hard to reach
  d. I don't have a car or other transportation to reach stores or food pantries that have healthy foods
  e. I don't have enough time to shop for healthy foods
  f. I don't have enough time to cook healthy foods
  g. My cooking equipment or storage space is not enough to prepare healthy foods
  h. I don't know how to cook healthy foods
  i. I don't know which foods are considered healthy foods
  j. I or my family don't like the taste of healthy foods
  k. Some of the traditional foods in my family are not very healthy
  l. I'm not sure I qualify for food assistance programs like food stamps (also known as SNAP or EBT) or WIC that help me buy healthy foods
  m. I have mobility challenges or physical limitations that make it difficult for me to prepare and eat healthy foods.
  n. Other - please specify:_____
	2. Las personas tienen diferentes razones para comer o no comer alimentos saludables. Dígame cuál de las siguientes razones fue cierta para usted o su hogar en los últimos 12 meses.
	  a. Los alimentos nutritivos son muy caros
	  b. No hay muchas opciones de alimentos saludables en las tiendas donde usualmente compro
	  c. Las tiendas o bodegas con alimentos saludables están demasiado lejos o son difíciles para llegar
	  d. No tengo coche u otro medio de transporte para llegar a las tiendas o bodegas que tienen comida saludable
	  e. No tengo suficiente tiempo para comprar comida saludable
	  f. No tengo suficiente tiempo para cocinar comida saludable
	  g. Mis utensilios de cocina o espacio de almacenamiento no son suficientes para preparar comida saludable
	  h. No sé cómo cocinar comida saludable
	  i. No sé qué tipo de alimentos se consideran saludables
	  j. A mí o a mi familia no nos gusta el sabor de los alimentos saludables
	  k. Algunas de las comidas tradicionales de mi familia no son muy saludables
	  l. No estoy seguro si califico para programas de asistencia alimentaria como cupones de alimentos (también conocidos como SNAP o EBT) o Mujeres, Bebés y Niños (WIC) que me ayudan a comprar comida saludable
	  m. Tengo limitaciones físicas o de movilidad que me dificultan preparar y comer alimentos saludables
	  n. Otro: especifique: _____

v Dec 2025