JUNE 2026

CARDI·OH
Ohio Cardiovascular and Diabetes Health Collaborative

Nutrition Insecurity and Cardiovascular Health

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The terms "food security" and "nutrition security" are related but distinct concepts. Whereas food security focuses on the availability and access to enough food calorically, nutrition security focuses on the quality of the available food.

These mechanisms can often be competing. The cost of meeting one's daily caloric needs can conflict with the expense of obtaining nutritious foods and the expense of managing chronic diseases, such as cardiovascular disease and diabetes.

In 2023, approximately 13.5% of U.S. households, or about 18 million people, were classified as food insecure, representing a significant increase from 2022.[1] Food insecurity is defined as uncertainty about, or limited ability to obtain, enough food to meet household caloric needs.[1]

Populations disproportionately affected by food insecurity include racial and ethnic minorities, women who are single heads of households, people living in geographical areas with limited access to affordable food, children and older adults, and sexual and gender minorities.

Nutrition Insecurity and Chronic Disease

Nutrition insecurity has significant implications for cardiovascular health. When individuals experience food or nutrition insecurity, they may be more likely to consume diets high in sodium, added sugars, and unhealthy fats, increasing the risk of hypertension, diabetes, dyslipidemia, obesity, and ultimately cardiovascular disease and mortality. Individuals with diabetes experiencing food insecurity face higher rates of hypoglycemia, particularly later in the month when financial resources are strained and meals are skipped. The American Heart Association's 2026 Scientific Statement on Dietary Guidance emphasizes the importance of equitable access to heart-healthy dietary patterns, particularly for vulnerable populations.[2]

Food and Nutrition Insecurity and the Primary Care Visit

Screening

Screening for food and nutrition insecurity, followed by documentation in the EHR, is an important first step in identifying patients at risk.[3] A common screening instrument used in clinical settings is the two-item Hunger Vital Sign survey.[4] If patients agree with either of the following two items, they are at risk for food insecurity:

- Within the past 12 months we worried whether our food would run out before we got money to buy more.
- Within the past 12 months the food we bought just didn't last and we didn't have money to get more.

In addition, nutrition security can be assessed using the following item:[5]

- In the last 12 months, we worried that the food we were able to eat would hurt our health and well-being.

Clinical Interventions

If a patient screens positive for food and nutrition insecurity, clinicians can use the following strategies for follow-up care and appropriate support.

- Specific classifications in electronic health records (EHRs), such as the ICD-10 code Z59.41 for food insecurity, require a plan of action, just like any other classification on a patient's problem list.
- Dietary education tailored to budget, time, and geographic constraints can help patients make healthier food choices despite limited resources.
- Health care teams can further support food-insecure patients by connecting them to nutrition assistance programs such as SNAP and community food banks, which provide access to foods that support blood glucose control and overall health.

Individual Barriers to Change

Patients may be unable to follow through on referrals to services, not due to resistance or lack of engagement, but due to barriers, such as lack of reliable transportation, limited access to culturally appropriate services, and stigma associated with seeking food assistance. Despite the barriers, prioritizing both food and nutrition security can create sustainable solutions to improve health outcomes and advance health equity.

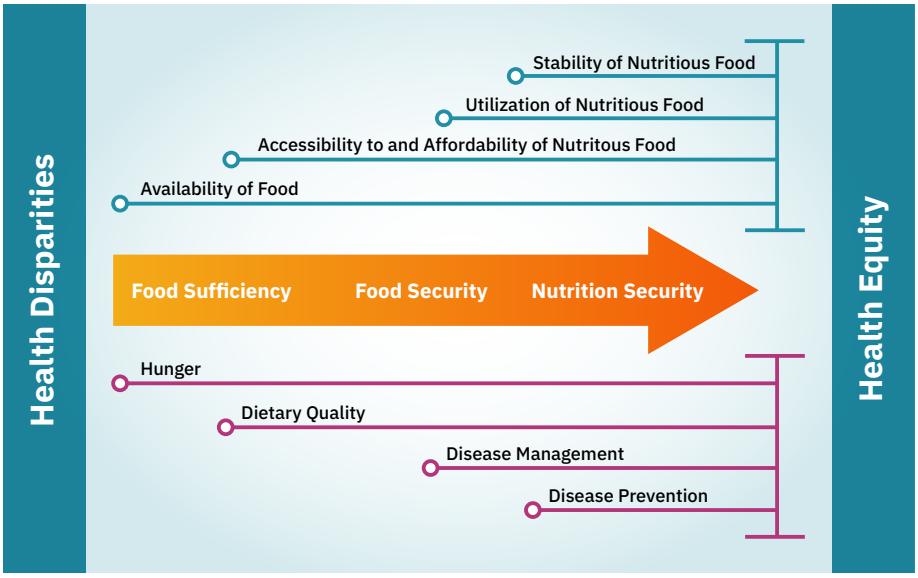
Addressing Affordability

Clinicians can leverage collaborations with community organizations (e.g., Agencies on Aging, food banks, community coalitions, federally qualified health centers, Pathways Community HUBs) for patients experiencing food or nutrition insecurity. These partnerships may help provide additional support for nutrition services at a reduced or no cost. One example of a successful collaboration is food pantries or farmers markets based at clinic locations; pairing food prescription programs with available food resources to support patient needs.

Universal free school meals, fruit and vegetable incentive programs for low-income households, and home-delivered or congregate meal services for older adults have demonstrated benefits in reducing cardiovascular symptom burden.

Ultimately, moving beyond food security to focus on nutrition security, and using food as medicine to both prevent and treat chronic health conditions, will lead to greater health equity (Figure 1).[3,6]

Figure 1. Moving From Food Sufficiency to Nutrition Security in the United States



Adapted from *Strengthening US food policies and programs to promote equity in nutrition security: a policy statement from the American Heart Association*[6]

Combatting Food Marketing

Populations facing nutrition insecurity are often targeted by marketing campaigns promoting processed foods that are high in fat, sugar, and calories, which contribute to increased cardiovascular risk. Health care providers can encourage their patients to be aware and informed about manipulative marketing practices, the intent of these advertisements, and how their food choices align with their health goals, values, and cultural preferences.

Access Cardi-OH's expanded resource on food marketing.

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The Ohio Cardiovascular & Diabetes Health Collaborative is funded by the Ohio Department of Medicaid and administered by the Ohio Colleges of Medicine Government Resource Center. The views expressed in this document are solely those of the authors and do not represent the views of the state of Ohio or federal Medicaid programs.