Food Insecurity and Health

A Tool Kit for Physicians and Health Care Organizations
Introduction

Food insecurity is an important but often overlooked factor affecting the health of a significant segment of the American population. In the United States, 1 in 8 people struggles with hunger and no one can thrive on an empty stomach. To raise awareness and to offer suggestions for how health care professionals might treat food insecurity in their patients, Humana partnered with Feeding America, the largest domestic hunger-relief charity in the United States, to develop this toolkit. We hope you find it informative and useful in your effort to provide the best possible care to your patients.

If you have feedback concerning this toolkit, we would love to hear it. Please send your ideas or questions to us at BoldGoal@humana.com.
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SECTION 1: Food insecurity and health
What is food insecurity?

Food insecurity is defined by the U.S. Department of Agriculture (USDA) as “limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways.” Food insecurity is a situation in which households lack access to enough nutritious food for a healthy, active life.

As the health care sector seeks to better understand and address social determinants of health, food insecurity is emerging as a key factor for chronic disease – and one that health care providers can help address in order to improve health outcomes.

What should I know about food insecurity in my community?

Food insecurity isn’t just an individual problem; it’s an issue that affects whole households. While food insecurity and poverty go hand in hand, many factors lead to a family being food insecure, including unemployment, scarcity of household assets and certain demographic factors.

Nationally, 1 in 8 (12.3 percent) of households is food insecure, although prevalence varies by community. Food insecurity exists in every county, parish and congressional district in the United States. (See figure 1.) While there is no single face of food insecurity, it is more prevalent when households:

• Include children
• Are headed by a single woman
• Are African American or Hispanic
• Have income lower than or equal to 185 percent of the Federal Poverty Line (FPL) threshold

There also is an emerging trend of food insecurity in households headed by grandparents1.

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Food programs, such as the Supplemental Nutrition Assistance Program (SNAP, formerly known as food stamps); the Women, Infant, and Children’s Program (WIC); and the National School Lunch and School Breakfast programs, help feed many low-income families across the country. That means that many households under the Federal Poverty Line are food secure, while those with slightly higher incomes, but without access to other support, may be food insecure.

Food insecurity can be both episodic and cyclical. For families with limited household assets, an emergency expense, such as medical bills or car repair, can cause food insecurity. Food insecurity also can occur during times of the year when income is typically lower, or seasonally, when expenses are higher. For example, food insecurity can increase during the summer, when children are out of school and lose access to school breakfast and lunch programs. In colder climates, it can be more of a challenge in the winter, when heating expenses increase.

Fig. 1. Distribution of food insecurity in the U.S.
Source: Feeding America, “Map the Meal Gap (2015),” Map.feedingamerica.org © Feeding America 2017
How does food insecurity impact health?

Unhealthy diets amplify the negative outcomes experienced by food insecure individuals. The combination of an unhealthy diet and food insecurity leads to:

- Higher levels of chronic disease, such as diabetes, hypertension, coronary heart disease (CHD), hepatitis, stroke, cancer, asthma, arthritis, chronic obstructive pulmonary disease (COPD) and chronic kidney disease (CKD)\(^3,4\)
- Poor diabetes self-management\(^6\)
- Higher probability of mental health issues, such as depression\(^7\)
- Higher rates of iron-deficient anemia\(^8\)
- More hospitalizations and longer in-patient stays\(^9\)

Consequently, many studies of mixed populations (including children, adults and older adults) have shown a correlation between food insecurity and poor health outcomes. Food insecurity is linked specifically to these health problems:

- Impaired growth in children
- More chronic disease for adults
- Higher healthcare costs
- Missed work days and lower income

### HEALTH IMPLICATIONS

### FINANCIAL IMPLICATIONS

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For instance, seniors who are food insecure have:

- Higher rates of chronic conditions. They are 50 percent more likely to be diabetic, 14 percent more likely to have high blood pressure, nearly 60 percent more likely to have congestive heart failure or experience a heart attack and twice as likely to have asthma.

- Poorer general health. They are 30 percent more likely to report at least one activities-of-daily living (ADL) limitation and twice as likely to report fair or poor general health.

- Three times higher prevalence of depression

- A diminished capacity to maintain independence while aging\textsuperscript{10}

Given these correlations, it is not surprising that patients who are food insecure have higher health costs. A 2017 study showed that the average cost difference between food insecure and food secure individuals was $1,863, and it was much greater for individuals with diabetes ($4,413) and heart disease ($5,144).\textsuperscript{11}

Using the Centers for Disease Control and Prevention’s (CDC) Healthy Days survey,\textsuperscript{12} a 2016 study by Humana found that patients who are food insecure have nearly twice as many unhealthy days (27) each month as food secure patients (14.2).\textsuperscript{13}

\textit{Simply put: Food insecurity is prevalent, widespread and detrimental to health in certain at-risk populations. Physicians/clinicians can help address the issue by screening for food insecurity and connecting patients to available resources and interventions.}

\textsuperscript{10} Zaliak, J. P., Gundersen, C. 2014. The health consequences of senior hunger in the United States: Evidence from the 1999-2010 NHANES.


\textsuperscript{12} Healthy Days is a self-reported, health-related quality-of-life measure with strong correlations to clinical health, health care utilization and costs. It can be leveraged in two- or four-question formats. More information on Healthy Days can be found in Section II. How to Address Food Insecurity, Page 19.

SECTION 2:
How to address food insecurity
How can physicians/clinicians help address food insecurity?

Physicians and clinicians can play a critical role in identifying and addressing patient food insecurity. By screening for social determinants of health, they can easily add food insecurity to the clinical dialogue and make referrals to community resources if needed.

The food insecurity screening and referral process consists of five steps:

1. Identifying patients living in food insecure households
2. Connecting patients with proper resources
3. Considering clinical needs that result from food insecurity
4. Following up with patients at their next office visit
5. Measuring the impact of food insecurity intervention(s) on patients’ food insecurity status and health

Source: Feeding America, “Tackling food insecurity,” feedingamerica.org. © Feeding America 2017
How can you screen for food insecurity?

Annual data on food insecurity is collected by the USDA through its 18-question Household Food Security Survey. Two of the survey questions have proven to be effective (97 percent sensitivity and 83 percent specificity)\(^1\) when screening for food insecurity in a clinical setting. Known collectively as the Hunger Vital Sign™, the two questions enable clinicians to assess the food needs of a patient and their household quickly. The questions are:

**Hunger Vital Sign™ Two-Question Screening for Food Insecurity**

- “Within the past 12 months we worried whether our food would run out before we got money to buy more.” Was that **often** true, **sometimes** true, or **never** true for you/your household?
- “Within the past 12 months the food we bought just didn’t last and we didn’t have money to get more.” Was that **often**, **sometimes**, or **never** true for you/your household?

A response of “sometimes true” or “often true” to either or both questions should trigger a referral for food security support.

Screening for food insecurity generally takes one minute or less. It should not be done more frequently than once every 30 days.

Section 2: How to address food insecurity

What do you need to know about screening for food insecurity?

To avoid the stigma and embarrassment that can be associated with food insecurity, screening should be conducted in a private setting and by a trusted source within the clinic. You should also avoid making the patient feel like you are singling them out — one good practice is to preface screening with a statement like this:

“I ask all of my patients about access to food because it’s such an important part of managing your health”

Screenings can be conducted by the medical assistant (typically, during the social history screening), the physician or clinician or even an on-site social worker.

For measurement and follow-up purposes, screening information should be documented in the patient’s electronic medical record (EMR). Some EMRs (e.g., Epic) have a built-in food insecurity screener, usually in the social-history section. Other EMRs allow for customization of sections. See Section 6, Case Study: South Florida, on Page 27, for an example of how a screener was built into eClinicalWorks (eCW).

Photo courtesy of Feeding America.
What happens if a patient screens positive for food insecurity?

If a patient screens positive for food insecurity, the physician/clinician can address the food situation with the patient to ensure they have access to the food and resources needed for good health and that any medical issues arising from food insecurity are considered.

As the trusted source of referrals to support good health, the physician/clinician can refer the patient to available community resources for food access. Depending on the intervention selected, the medical assistant, nurse or social worker can help by identifying the best community resources to meet the patient’s needs.

When talking to a patient about food insecurity, the physician/clinician might consider these three steps:

- Acknowledge the problem
- Discuss the importance of food to the patient’s health
- Refer patient to available resources

Here’s how the three-step approach might look in dialogue with a patient:

That must be very difficult. I’m glad you shared your situation with me because the kinds of foods you eat – and don’t eat – are really important for your health.

Food can be as important to managing your health as exercise and even, in some cases, as important as the medications that you take. If you are interested, I can let you know about resources in your area, such as <insert recommended action>.

<Describe referral or available community resources, including resources to assist in applying for SNAP, a senior meals program, the National School Lunch Program, WIC, a local food bank, etc.>
How can you connect patients to resources?

Patients who otherwise would hesitate to accept a referral to a food pantry or meal program are more likely to comply if the referral is presented to them as a health intervention by a trusted clinical source. Continuing the dialogue with patients during subsequent visits may destigmatize the food insecurity issue, allowing those who initially decline referrals to reconsider and perhaps accept a recommendation.

Depending on the community, existing local resources, access to transportation and the level of patient need in practices, health care providers may be able to offer patients a variety of resources. These resources are covered in depth in Section 3: Connecting Patients to Community Food Resources, Page 20.

How might a patient screening affect a patient’s course of treatment?

Once a clinician is aware of a patient’s food insecurity status, they might consider if there are other aspects of care that should be addressed. Those might include:

- **Medications.** Due to food-medication tradeoffs, poor medication adherence is a common problem for food insecure individuals. Additional education may be needed to ensure patients know what to do if they cannot afford their medications, or if they are instructed to take prescription medications with meals but cannot afford to eat three meals a day. Diabetic patients taking insulin can benefit by knowing how to adjust their dosage if they are eating less than normal or skipping meals. Referrals to agencies that can help patients apply for prescription assistance programs or discount pharmacy programs may also be useful.

- **Health and nutrition education.** Helping patients understand how to make better health and nutrition choices based on the options available to them from sales, bulk purchases and food pantries can make a healthy lifestyle seem possible. Health care providers might consider asking registered dietitians to assist during discussions about nutrition.
Section 2: How to address food insecurity

• **Mental health.** Food insecurity is linked to depression and other mental health concerns, which can be exacerbated if patients are worrying about running out of food. Talking to patients about the stress and anxiety that food insecurity may cause, and considering if there are options to support and improve mental health, can lead to improved care.

The Nutrition and Obesity Policy Research and Evaluation Network (NOPREN) has developed algorithms for pediatric and adult screenings. These algorithms may be valuable as you consider how to implement screenings and referrals into your clinical workflow. The algorithms can be found at [https://nopren.org/working_groups/hunger-safety-net/](https://nopren.org/working_groups/hunger-safety-net/).

Following up with patients at subsequent office visits is essential to ensuring they take advantage of recommended resources. To add food insecurity to the patient’s problem list, use **ICD-10 diagnosis code Z59.4: Lack of adequate food and safe drinking water.**

**How can you measure outcomes?**

Clinics can determine the success of food insecurity interventions by considering patient outcomes and clinical investment (e.g., time spent by clinical staff, clinic space required). Measurable outcomes fall into four categories:

1. What were the screening results?
2. Are referrals successful at connecting patients with food resources?
3. Did those resources improve the food security status of the patient?
4. Did the patient’s health outcomes improve?
What were the screenings results?

Health care providers can track food insecurity screening results by including patient screening dates, outcomes and responses in the patient’s electronic health record.

In addition to tracking a patient’s food security status, clinics can track the prevalence of food insecurity in the overall clinic population. Is food insecurity more common among clinic patients than in the community at large? Are patients from certain demographic sectors, such as age, ethnicity, insured status and ZIP code, more likely to be food insecure? Understanding these characteristics can help clinics create referrals, relationships and programs that best meet the needs of patients and their families.
Was the referral successful?

It is important to know if patients succeed in connecting with local food resources or applying for benefit programs. During return visits to the clinic, health care providers might ask patients about the referrals they got and whether they followed up, if they received food and if the referral improved their access to a more nutritious diet.

Clinics working with food banks or other community organizations may choose to create a facilitated referral process to help connect patients to needed resources. By having patients sign release forms, staff can get permission from them to share their name and contact information with food banks, local food pantries and other community organizations. Those resources can then contact patients to determine what kind of support they need (e.g., emergency food, senior meals, support for children) and refer them to the appropriate locations in their community.

When making patient referrals to community-based organizations, such as food pantries, food banks or Meals on Wheels, it is important to comply with the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and safeguard patient privacy. Research shows that facilitated referrals are much more successful than simply providing a patient with a phone number or a website. In many cases, that will require clinics to get the patient’s consent to share their name, phone number and other protected health information.

To address concerns about HIPAA, Feeding America and the Harvard Law School Center for Health Law & Policy Innovation created a resource guide with sample patient release forms and information about ensuring patient privacy when working with community-based organizations, such as food banks. Visit Food Banks as Partners in Health Promotion: How HIPAA and Concerns about Patient Privacy Affect Your Partnership to access this resource.

Keeping a list of referrals made and which patients were contacted or went to an agency accepting those referrals can help clinics determine if referrals are successful. For more information about food resources, see Section 3: Connecting Patients to Community Food Resources, on Page 20.
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Did the patient’s food security improve?
Screening for food insecurity during every office visit can enable clinicians to know if patient food security improves. If a patient remains food insecure, clinicians can involve a social worker or other staff support to help the patient access additional help.

Did the patient’s health outcomes improve?
The ultimate goal of addressing food insecurity in a health care setting is to improve patient health outcomes. Improvement can be measured by looking at these indicators:

- Health status of individual patients
  - Disease stabilization
  - Biometric improvements (blood pressure, body mass index, cholesterol)
  - Greater medication adherence
  - More healthy days reported
- Health status of aggregate clinic patients
- Health care resource utilization
  - Reduced emergency department visits
  - Reduced hospital admissions, readmissions, and length of stay

Health outcomes can be measured through laboratory and biometric results, pharmacy data and self-reported measures, such as the prevalence of food and medicine trade-offs.

Photo courtesy of Feeding America.
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Additional tools are available to measure patient health improvement, among them the Centers for Disease Control and Prevention’s (CDC) Healthy Days survey. This questionnaire is a self-reported, health-related, quality-of-life measure that can be leveraged in either a two- or four-question format. (See Table 1.) Healthy Days is a validated instrument and is both a leading and lagging indicator of health that is strongly associated with health care utilization and costs. More information on the Healthy Days measure can be found in the reference section.

### TABLE 1

**Two-question version**

1. Thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good? [Options: 0 – 30 days]

2. Thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good? [Options: 0 – 30 days]

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**Four-question (core) version**

1. In general, would you say your health is: [Options: excellent, very good, good, fair, poor]

2. Thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?

3. Thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?

4. During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?

Healthy Days questions should be asked no more frequently than once every 30 days. Responses can trigger other screenings and assessments in the clinical workflow; for instance, any reported mentally unhealthy days could trigger a PHQ-2 or PHQ-9 assessment.
Numerous programs exist at both the national and local levels to provide food assistance to individuals and families.
**What national programs are available?**

There are several national programs, with locations in almost every community in the United States, to support access to healthy food for those who need it. Those programs include the following:

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Benefits</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Supplemental Nutrition Assistance Program (SNAP)</strong> <em>(Formerly known as food stamps)</em></td>
<td>Money to purchase food. The average benefit is about $127 per month per person.</td>
<td><a href="http://www.fns.usda.gov/snap">www.fns.usda.gov/snap</a></td>
</tr>
<tr>
<td><strong>Women, Infants, and Children (WIC) Program</strong></td>
<td>Money to purchase pre-specified foods for pregnant/post-partum women, infants, and children under the age of 5. Nutrition education and breastfeeding support also provided.</td>
<td><a href="http://www.fns.usda.gov/wic">www.fns.usda.gov/wic</a></td>
</tr>
<tr>
<td><strong>School breakfast and lunch programs for children</strong></td>
<td>Free or reduced-price healthy meals for income-eligible students of all ages.</td>
<td><a href="http://www.fns.usda.gov/school-meals/school-meals-contacts">www.fns.usda.gov/school-meals/school-meals-contacts</a></td>
</tr>
<tr>
<td><strong>Summer Meals Programs for Children</strong></td>
<td>Free healthy meals during the summer for students 18 and under.</td>
<td><a href="http://www.fns.usda.gov/sfsp">www.fns.usda.gov/sfsp</a></td>
</tr>
<tr>
<td><strong>Meals on Wheels</strong></td>
<td>Free or low-cost home-delivered meals for seniors.</td>
<td><a href="http://www.mealsonwheelsamerica.org">www.mealsonwheelsamerica.org</a></td>
</tr>
</tbody>
</table>

For more information about these programs, contact your local agency or the USDA National Hunger Hotline at 1-866-348-6479. If the patient is ineligible for federal nutrition programs and/or if emergency food is needed, call 211 to connect with the local United Way resource line.
What local programs are available?

Local responses to food insecurity depend on the organizations in the community. Food banks, food pantries, mobile produce distributions, congregate meal programs, senior box programs and home-delivered meals are examples of programs that may be available in your community.

If you aren’t familiar with any of these programs, the local Feeding America member food bank gives you a good resource with which to start the conversation. Visit Feeding America’s website to Find Your Local Food Bank.

For more information about working with the food bank, see Section 4. Working with Food Banks and Other Community Organizations, Page 25.

How can you determine the best approach to connecting patients to resources?

The time patients have with a physician/clinician is limited, so it is important to connect them to knowledgeable, trusted sources who can assist them. An intervention also should take into account not just one possible remedy, but a combination of food resources and assistance programs.

When deciding how to address patients’ food insecurity, physicians/clinicians can consider the following factors:

- Clinical assets, including budget, physical space and supplemental staff members, such as social workers and registered dietitians
- Patient needs, cultural considerations and privacy
- Community resources, including public transportation, food bank services and resources, community health workers and others who can assist

As mentioned earlier, it is important to be aware that patients might be ashamed to talk about food insecurity and reluctant to consider referrals for assistance. Engaging patients in dialogue and framing the discussion in health care terms – and doing so on every visit – may help overcome their reluctance to use referrals.
What programs can be implemented in a clinic?

Clinic staff should work with local partners to assess if existing community programs, such as food pantries, mobile pantries, and meal programs have sufficient capacity and are geographically convenient for patients. If they are, referrals can be made to those programs.

With more detail, here are the options clinics might consider:

**Refer patients to existing local food access programs**

Create a resource guide, similar to the national program guide on page 21 of this toolkit, that lists local food pantries, mobile produce distributions, meal programs and other local organizations and activities that provide emergency and ongoing access to food. The clinic can also work with the local food bank to identify a food hotline or create a direct link to a food bank representative, someone who can help patients find food and connect with community and governmental programs to address long-term need.

*Photos courtesy of Feeding America.*
Connect patients with long term benefits

Food boxes and food pantries serve an important role in addressing short-term needs, but connecting patients with federal nutrition programs can support them in the longer term. SNAP, WIC, Temporary Assistance for Needy Families (TANF) and other programs can be vital links to income and nutrition security. Patients can be referred to local organizations that can help them apply assistance.

Dedicate on-site staff

The clinic may decide to dedicate a staff member to helping patients navigate referrals to emergency and ongoing resources and applying for federal and state programs. This responsibility might be shared with volunteers from a local food bank or another community partner.

What’s the bottom line?

Having information about available resources at the point of care can give patients an immediate channel to assistance and may reduce the number of appointments needed with outside agencies.
The Feeding America network is the nation’s largest domestic hunger-relief organization working to connect people with food and end hunger. With food banks serving every community, this organization is the place to go to begin creating local partnerships that can support your patients.
Who should you contact and how do you start the dialogue?

Health care providers can visit Feeding America’s website to Find Your Local Food Bank and learn more about food insecurity in the community and programs that address it. If the food bank’s website includes a staff list, physicians can contact staff in the community relations, community engagement or nutrition departments, or they can simply call the food bank’s main phone number or send an email and tell the food bank that the clinic is interested in addressing food insecurity.

What should you expect?

Food banks in the U.S. are very diverse – from small operations serving people spread out across large rural areas to very large facilities that store and distribute many millions of pounds of food each year. A variety of factors affect how a food bank works, from the size of its facility to the number of staff it employs.

Feeding America and its member food banks are focused on improving access to the healthiest foods possible, with programs to increase the availability of fruits and vegetables, low-fat dairy products, whole grains and lean proteins. Some food banks have nutrition educators and community outreach staff who focus on enrollment in SNAP and other programs.

As experts in food insecurity, food bank staff can help a clinic identify appropriate local resources to refer patients to, such as food pantries and food bank programs, as well as the best ways to support enrollment in benefit programs. In addition, food bank staff can work with clinics to determine where to create new distribution sites for patients.

Photos courtesy of Feeding America.
In 2016, Humana partnered with Feeding South Florida and three Continucare Medical Center clinics in Broward County to study the effects of screening for and addressing food insecurity. Clinics were chosen based on three criteria: an average household income of less than or equal to $50,000 of ZIP codes in the clinic area; the high-incidence-priority status of ZIP codes served, as identified by the Florida Department of Health; and perceived need.
The study model consisted of three components:

1. **Screening**: All patients with office visits (regardless of insurance carrier or product) were screened for food insecurity and Healthy Days status.

2. **Referral**: Patients who screened positive for food insecurity were referred by the physician or clinician to a Feeding South Florida staff person, who was located on-site.

3. **Resources**: Patients who met with Feeding South Florida received an emergency box of food; information about local food resources and pantry availability; and information about SNAP, WIC and other programs.

Continucare added the Hunger Vital Sign™ food insecurity screener and the Healthy Days survey to its EMR, eClinicalWorks (eCW), in the social history section. (Note: The build of the screener matched that of Epic EMR.) The screener and survey results were documented in eCW.

During the study, 530 patients were screened for food insecurity, with 246 diagnosed as food insecure. Of those 246, 211, or 86 percent, accepted a physician/clinician referral and met with a food bank representative. This finding confirmed that patients were receptive to talking about food insecurity with a physician/clinician and to following up on referrals to resources.

This study also established a correlation between food insecurity and the number of Healthy Days. Patients who screened positive for food insecurity averaged 27.0 Unhealthy Days a month, whereas patients who screened negative averaged 14.2.

**Sources:**

15 These ZIP codes were identified by the Florida Department of Health, based on the prevalence of high-priority conditions and performance on specific health-related metrics.
SECTION 6:
Resources and other considerations
Resources
2. Feeding America – Find Your Food Bank: http://www.feedingamerica.org/find-your-local-foodbank/
3. Feeding America’s Hunger + Health: https://hungerandhealth.feedingamerica.org/
5. Food Research & Action Center (FRAC) – Addressing Food Insecurity: A Tool Kit for Pediatricians: http://www.frac.org/aaptoolkit

Other considerations
When working with various stakeholders (e.g., payers, other physician practices, health systems) on initiatives to address food insecurity, there may be legal and compliance considerations to consider. These could include compliance with anti-kickback and beneficiary anti-inducement laws, privacy laws, and mandatory state reporting requirements. Health care providers should consult their own legal counsel and compliance teams for guidance when initiating new programs to address patient food insecurity.