High Hanging Fruit: Integrating Nutritional Health, Policy, and Education in Patient-Centered Care

National Health Council Research Series
Issue 3 | September 2023

Lillian L. Q. Witting, MPH
Jennifer Schleman, MPS, APR

PUTTING PATIENTS FIRST®
NATIONAL HEALTH COUNCIL

EXECUTIVE SUMMARY

Dietary behavior and food security – or the ability of a household to access healthy, nutritious food – are rising public health issues that have strong associations with chronic diseases like cancer, diabetes, chronic kidney disease, and other cardiometabolic conditions. This association raises the importance of nutrition care in health care settings. Providers are on the front lines of shifting toward nutrition care. Nutrition training and education, increased interaction with other nutrition health specialists, and access to quality evidence-based nutrition research are essential to increasing nutrition knowledge to providers not experienced in this area. Additionally, it is crucial to recognize the barriers and disparities that patients face when prescribed nutritional advice. By contextualizing the patient within social, economic, and environmental factors, health professionals can better provide robust programs while policy makers implement policies to assist in food accessibility. As the importance of nutritional care increases, patient groups have an opportunity to help shape programs and policies that will impact the long-term health of patients. The goals of this research brief are to address the current gaps and disparities in nutrition care, provide recommendations for a variety of stakeholders to expand patient care and improve a system of care that better integrates, and supports nutritional health.

ABOUT THE AUTHORS:
Lillian L. Q. Witting, MPH, is the NHC Coordinator, Research, Education, and Programs.
Jennifer Schleman, MPS, APR, is the NHC Senior Vice President, Communications & Governance.

RESEARCH BRIEF DESIGN:
Breshay Moore is the NHC Manager, Digital Media.

FOR MORE INFORMATION:
Visit our website
www.nationalhealthcouncil.org/staff

1 BACKGROUND

Nutritional health and food security are vital levers for positive health outcomes. Outside of the clinical space, 80% of health outcomes are driven by financial, environmental, physical, and behavioral factors.[1] Where people live, work, learn, and play is intertwined with dietary behavior such as food choice, nutritional intake, and eating behavior. Food and hunger are deeply connected to physical and mental well-being. Food security is a measurement of both economic and nutritional status used to determine the impact of food on health. The United States Department of Agriculture (USDA) reports a range of food security status: high, marginal, low, and very low (Figure 1). The link between nutrition and chronic disease has shown that households with very low food security have a 65% higher risk of being diagnosed with one or more chronic conditions, including diabetes, cardiovascular disease, cancer, chronic kidney disease, and other cardiometabolic conditions.[2] Additionally, very low food security is associated with higher health care cost up to 22% compared to those with high food security.[3] For patients with chronic conditions, their relationship with food may involve more interactions with the health care system to ensure that their nutritional needs are met for a better quality of life.

2 CLINICAL CARE LACKS SUBSTANTIAL NUTRITION EDUCATION AND RESEARCH

Despite nutrition being an important lifestyle factor, dietary habits and food security status are often overlooked in primary care. The rise of chronic diseases has emphasized nutritional guidance, which patients may seek their providers to administer.

> "households with very low food security have a **65% higher risk** of being diagnosed with **one or more chronic conditions**"

Yet, in clinical settings, primary care providers (PCP) tend to have limited time with patients, challenging screening measures for food security and the implementation of nutrition education.[4] Competing demands also make it challenging for practitioners to fit a screening into their workflow.[4,5] A 2022 survey revealed that many PCPs felt a lack of confidence in nutrition-related care and poor nutritional health knowledge, often stemming from inadequate nutritional training during medical school.[4] To increase practitioner nutrition knowledge, there has been a rise in interprofessional education through the collaborative/integrative care model with other nutritional health experts such as registered dietitian nutritionists (RDN).[6] The emphasis on nutrition education across care teams aids in alleviating PCP workload and further drives the shift towards addressing patient nutritional needs.

Within care coordination, nutrition specialists are sometimes consulted on patient treatment, but the professional partnership with PCPs could be strengthened to increase workforce capacity and the effectiveness of patient engagement.[7] For example, a 2022 systematic review on patients with type 2 diabetes showed that increased care with RDNs was associated with decreased blood pressure, lower medication use, and lowered cost of care.[8] In addition to health outcomes, dietitians and nutritional health professionals can influence system changes and progress the shift towards greener health care practices through promotion of sustainable food processes like limiting food waste in hospitals.[9] Interdisciplinary teamwork may help facilitate open communication between dietitians, clinicians, and other health care providers, better preparing them to administer adequate nutritional care.

In addition to provider knowledge, the quality of nutrition care can be bolstered by nutrition-related, patient-driven data. Under current time constraints, nutritional screening is not always well integrated into clinical routine. In a 2023 study of more than 1,500 cancer patients, switching from practitioner-based nutrition screening to patient-reported nutrition screening improved nutrition consultation by 19% and screening rates by 30%, allowing providers and care centers to better prioritize patient needs.[10] Increased screening and patient reported nutrition measurements are valuable asset to databases that link patient needs and quality of care. Through enhanced screening, patients and providers can work together to make informed decisions about nutrition interventions and disease management. As nutritional care becomes integrated into primary care, reporting patient perspective and priorities regarding nutrition is crucial in providing evidence-based care.

3 PATIENTS FACE BARRIERS AND INEQUITIES IN FOOD ACCESS

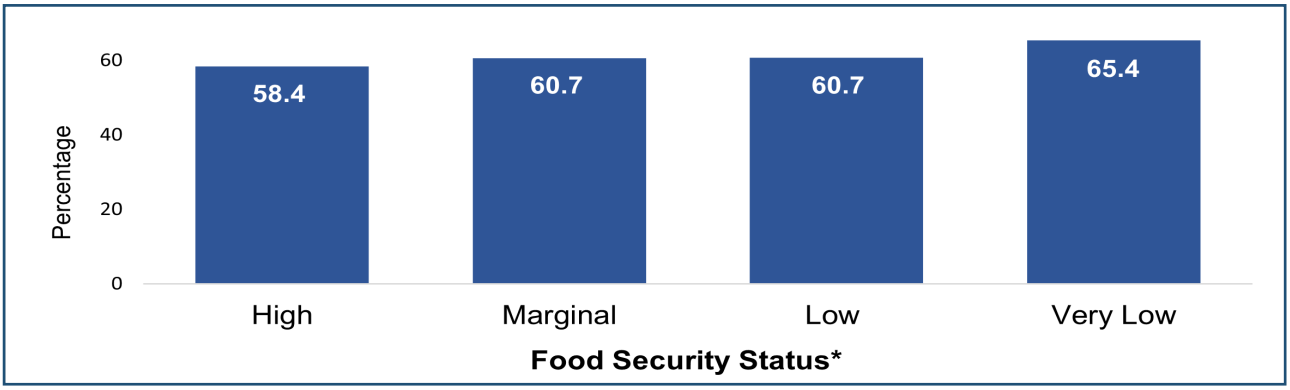
There are several barriers that make it challenging for patients to access proper nutrition. Food literacy, transportation to grocery stores, and food retail environment are impediments to nutritional interventions. Food literacy is the ability to navigate the food system and understand relevant nutrition information.[11] The inability to make appropriate and informed choices about diet within environmental and social contexts hinders patients from meeting their nutritional needs, raising the risk of adverse health outcomes and lowering quality of life.[11] Transportation to the grocery can be a challenge for patients who do not have the access to personal vehicles, public transportation, or who are unable to physically shop for nutritious food.[4] Within the food retail environment, patients may reside in areas where there are less grocery stores and a higher density of stores or restaurants that sell highly processed foods.[12] These challenges can also be influenced by financial situations and exacerbated for certain populations.

Historically underrepresented and marginalized (HURM), groups, those experiencing low socioeconomic status (SES), and rural populations are particularly susceptible to food insecurity and have higher burdens of chronic diseases.[13–15] Black and Hispanic households experience higher rates of low food security (Figure 2). In a 2023 study, Black and Hispanic individuals ages 18-35 faced higher rates of food insecurity, at 22% and 15%, respectively, than non-Hispanic White counterparts at 11%.[16] In an analysis of the National Health and Nutrition Examination Survey, those in rural areas and with lower SES tended to consume a higher amount of ultra-processed foods that lack healthy nutrients and contribute to negative cardiometabolic outcomes.[14]

> "Through enhanced screening, patients and providers can work together to **make informed decisions** about **nutrition interventions and disease management**."

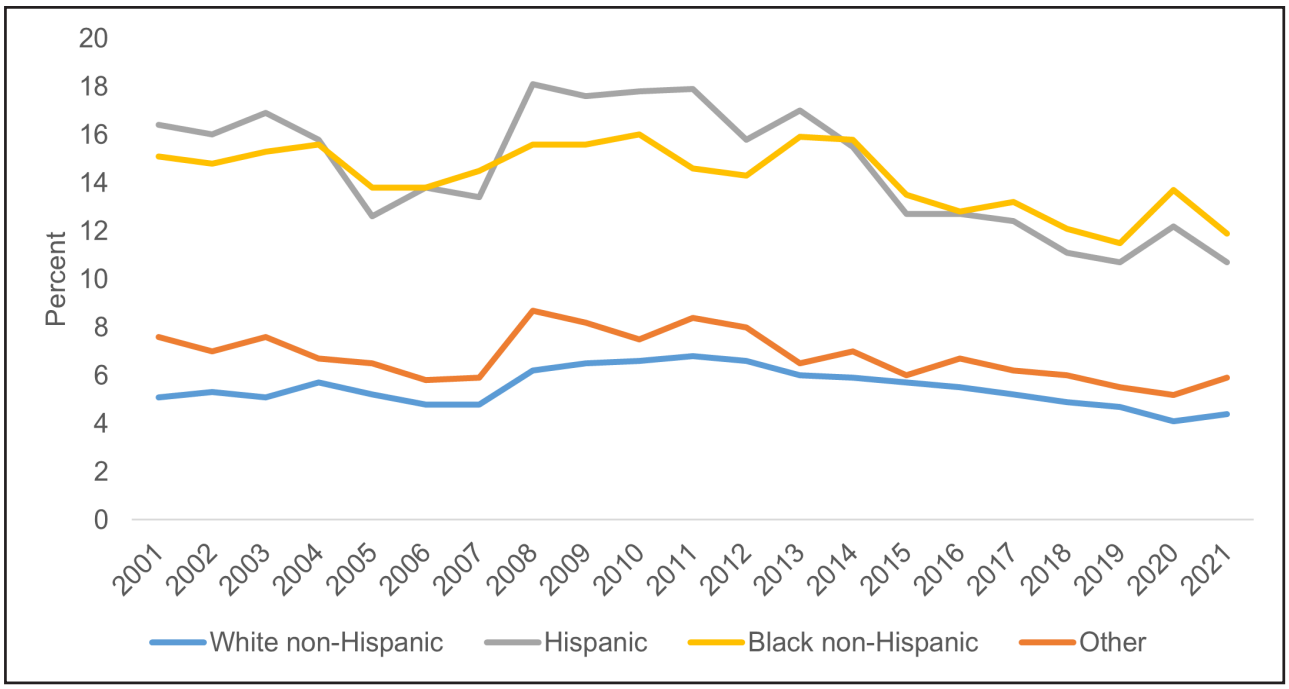
The nutritional status and health of an individual is inherently impacted by social, economic, and environmental factors. A 2023 analysis of the food retail environment in the past 30 years shows that fast food stores are more likely to be located in HURM and low SES neighborhoods compared to grocery or supermarkets with fresh produce.[12] Immigrant populations face challenges such as language barriers and lack of access to cultural or traditional foods.[17] Therefore, these challenges result in dramatic shifts in their dietary habits. Specific groups like American Indians and Alaska Natives (AIAN) often live on reservations as a result of historical trauma where there has been slow erasure of their traditional food systems.[18] This has led to stores selling low nutritional food at extremely high prices that contribute to financial insecurity and adverse health outcomes like high rates of type 2 diabetes.[19] In order to address these disparities, it is important for health professionals to advocate for and/or implement adequate programs and policies that provide nutritional care and support.

Figure 1: Prevalence of one or more chronic disease by food security status in the U.S. from 2021-2022



Source: Data and calculations were derived from the 2021 & 2022 National Health Interview Survey. CDC https://www.cdc.gov/nchs/nhis/data-questionnaires-documentation.htm.
***High food security:** Households have no problems and consistent access to healthy and nutritious food.
Marginal food security: Households have some problems and anxiety about access to food.
Low food security: Households have reduced nutritional diets, but quantity of food does not change.
Very low food security: Households have disrupted and reduced eating habits due to low access to food.

Figure 2: Percentage of Households Experiencing Low Food Security in America by Race/Ethnicity from 2001-2021



Source: Household data and calculations were derived from the Economic Research Service Current Population Survey Food Security Supplement Data. USDA. https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/interactive-charts-and-highlights/#trends

4 PATIENTS BENEFIT FROM NUTRITION PROGRAMS AND POLICIES

Providing information about nutrition programs could benefit patients experiencing food insecurity. The largest national program focused on nutrition security is the Supplemental Nutrition Assistance Program (SNAP). This program is hosted across all U.S. states and provides financial assistance to access nutritious food for eligible individuals who are mainly lower income, older adults, and/or disabled with fixed incomes. Participation in SNAP has been shown to lower health expenditure up to 25%, lower food insecurity among low SES households by 30%, and improve outcomes for many chronic conditions including asthma, depression, diabetes, hypertension, coronary heart disease, and kidney disease.[20,21] In addition, a 2023 study showed that among SNAP participants, multiracial and Black households had similar or even lower rates of food security than White households which suggests that the program could be revised to increase SNAP access and help address the disparities.[21] Other federal programs that address nutrition security for specific populations is the supplemental nutrition program for women, infants, and children (WIC) that aims to reduce chronic disease risk by encouraging healthy dietary habits early in life.[22] These large scale federal programs help improve food access and affordability while preventing chronic disease, establishing their importance as tools in nutrition care.

"Participation in SNAP has been shown to **lower health expenditure up to 25%**, lower food insecurity among low SES households by 30%, and **improve outcomes for many chronic conditions** including asthma, depression, diabetes, hypertension, coronary heart disease, and kidney disease."

At the intersection of programs and policy, policy makers at high levels of government are calling for development and improvement of nutritional interventions. In 2022, the White House launched the Conference on Hunger, Nutrition and Health with an emphasis on prevention of diet-related disease.[23] The summit was a call-to-action with several main goals: improve food access, integrate nutrition and health, empower consumers to make and have access to healthier choices, support physical activity for all, and enhance nutrition and food security research.[24] These goals aim to mobilize communities and health care professionals to support assistance programs, strengthen local food procurement, and increase food insecurity screening.

There has also been interest in broadening insurance coverage to include nutritional services. As Medicaid expanded through the implementation of the Patient Protection and Affordable Care Act, a 2021 report showed that patients with cancer, chronic disease, and disability have benefited from better insurance coverage, increased health access, improved disease management, and an overall 3.6% decrease in the all-cause mortality rate.[25] However, nutrition care can expand with the inclusion of interventions like medically tailored meal delivery that have been shown to reduce hospital admissions and lower overall medical spending.[26,27] In order to improve and progress these programs, it is important to understand the policies that dictate them.

Advocating for nutrition-related policies can be beneficial for the overall patient community. The SNAP program is implemented due to the Farm Bill, a package

of legislation that is reauthorized roughly every five years. Although the policy covers a broad range of topics such as commodities, conservation, forestry, and crop insurance, it is not just the farming industry that is affected. The main bulk of the funding goes toward nutrition, which covers important programs including SNAP, Food Distribution Program on Indian Reservations, and the Emergency Food Assistance Program. To put this in perspective, the 2018 Farm Bill had a total cost over five years of $428 billion with about 76% (or roughly $325.8 billion) going toward nutrition.[28] This bill is vital to the continual support of nutrition care and providing patients with access to healthful food. In addition to the Farm Bill, there are other options for influencing ongoing nutrition policy.

The Federal Register is a place where federal organizations list proposed rules and changes to rules that affect federal processes. Anyone from the public can comment in support or opposition with a written letter known as a "public comment." The NHC actively writes public comments regarding proposed rules and changes to patient-centered care. Though some patient groups may be familiar with the process, as it is open to the public, it is crucial that policy makers are aware of nutrition issues of constituents and patient communities to lead to the improvement of programs and support of other nutrition-related bills.

5 ROLE OF PATIENT GROUPS IN ADDRESSING FOOD SECURITY

The increased awareness on the importance of food programs and policy within patient communities presents an opportunity for patient groups to address the shift towards integrating nutritious food into the clinical space as a form of medicine. The intersection between nutrition and health care can be leveraged as an intervention point, directed by a PCP, for prevention, treatment, and management of chronic conditions and diet-related disease. A variety of services can fall under this umbrella including medically tailored meals, healthy food prescription programs, and referrals to nutrition experts such as RDNs. Research on produce prescription programs is still relatively new; however, medically tailored meals have been shown to improve health outcomes for patients with food insecurity and chronic disease conditions, such as type 2 diabetes.[26] Increasing the role of food and food security in the primary care setting is critical in helping patients and patient groups understand and address food access and its impact on health. Payors and partners of patient groups like Elevance Health have launched a food as medicine campaign that includes initiatives to collaborate with local partnerships and community-based organizations to provide education and resources to fight hunger. The American Heart Association has also started a food is medicine initiative to support patients in accessing healthy food.

Patient organizations can advocate to reinforce nutrition education and policy as an opportunity to ensure that patients have the tools and resources to address food insecurity. Dietary habits are affected by the policies and infrastructure of the overall food system. Disease-specific organizations like Crohn's and Colitis Foundation have resources for diet management and community support for patients that encourage them to build healthy dietary behaviors. The National Organization for Rare Disorders regularly participates in nutrition advocacy such as supporting the Medical Nutrition Equity Act of 2021 that would have expanded health care programs to include medically necessary products like foods and vitamins for certain digestive and metabolic disorders and conditions.

RECOMMENDATIONS

The NHC values evidence-based information and patient-centered perspectives. In the past, the NHC has produced webinars focused on nutrition-related quality measures and meeting nutrition needs during COVID-19. As food security becomes a larger issue for patients, the NHC looks forward to collaborating with leaders in nutritional health to provide education, resources, and the following recommendations to its members:

1. Providers can improve care coordination and strengthen their nutrition knowledge by working with dietitians and other nutrition experts to identify and prioritize patient needs through patient reported nutrition screening processes that fit clinical workflows.
2. Patient communities can maintain and improve nutrition quality and care by generating patient driven data to highlight the relationship between nutrition and improved health outcomes.
3. Research institutions and Think Tanks should prioritize examining the correlation between nutrition status and chronic conditions to advance health policies aimed at improving nutritional health.
4. Patient advocacy organizations play a unique role in improving patient outcomes by advancing public health efforts to promote evaluation of nutrition status and care within the health system, utilizing public comments to support nutrition measures that are already under review, help endorsement process, and have representatives sitting in on standing committees.
5. Policy makers can improve the health of patient populations and their constituents by supporting health policies and initiatives that measure nutrition status and increase food and nutrition security.

RESOURCES

1. Deng IX, Shih P. Social Determinants of Health: The Variable for 80% of Health Outcomes. CareJourney. Published September 18, 2020. Accessed July 11, 2023. https://carejourney.com/social-determinants-of-health/
2. Te Vazquez J, Feng SN, Orr CJ, Berkowitz SA. Food Insecurity and Cardiometabolic Conditions: a Review of Recent Research. Curr Nutr Rep. 2021;10(4):243-254. doi:10.1007/s13668-021-00364-2
3. Dean EB, French MT, Mortensen K. Food insecurity, health care utilization, and health care expenditures. Health Serv Res. 2020;55(Suppl 2):883-893. doi:10.1111/1475-6773.13283
4. DePuccio MJ, Garner JA, Hefner JL, Coovert N, Clark A, Walker DM. Multi-stakeholder perspectives on the implementation of a clinic-based food referral program for patients with chronic conditions: a qualitative examination. Transl Behav Med. 2022;12(9):927-934. doi:10.1093/tbm/ibac027
5. Taher S, Persell SD, Kandula NR. Six Recommendations for Accelerating Uptake of National Food Security Screening in Primary Care Settings. J Gen Intern Med. 2022;37(6):1531-1533. doi:10.1007/s11606-021-07137-1
6. Jortberg BT, Fleming MO. Registered Dietitian Nutritionists Bring Value to Emerging Health Care Delivery Models. J Acad Nutr Diet. 2014;114(12):2017-2022. doi:10.1016/j.jand.2014.08.025
7. Williamson EJ, McDonald HI, Bhaskaran K, et al. Risks of covid-19 hospital admission and death for people with learning disability: population based cohort study using the OpenSAFELY platform. BMJ. 2021;374:n1592. doi:10.1136/bmj.n1592
8. Dobrow L, Estrada I, Burkholder-Cooley N, Miklavcic J. Potential Effectiveness of Registered Dietitian Nutritionists in Healthy Behavior Interventions for Managing Type 2 Diabetes in Older Adults: A Systematic Review. Front Nutr. 2022;8. Accessed July 28, 2023. https://www.frontiersin.org/articles/10.3389/fnut.2021.737410
9. Pettinger C, Smita T, Benji S, Gary H. Collaborative leadership to support sustainability in practice for dietitians as allied health professionals. J Hum Nutr Diet. n/a(n/a). doi:10.1111/jhn.13211
10. Jost N, Erickson N, Bratu E, et al. Closing the cancer care gap with a patient-reported nutrition screening: A retrospective analysis of a quality improvement project on an oncology ward (CCC study). Clin Nutr ESPEN. 2023;57:246-252. doi:10.1016/j.clnesp.2023.06.029
11. Fiorindi C, Coppolino G, Leone S, et al. Inadequate food literacy is related to the worst health status and limitations in daily life in subjects with inflammatory bowel disease. Clin Nutr ESPEN. 2022;52:151-157. doi:10.1016/j.clnesp.2022.10.016
12. Hirsch JA, Zhao Y, Melly S, et al. National trends and disparities in retail food environments in the USA between 1990 and 2014. Public Health Nutr. 2023;26(5):1052-1062. doi:10.1017/S1368980023000058
13. Nagata JM, Seligman HK, Weiser SD. Perspective: The Convergence of Coronavirus Disease 2019 (COVID-19) and Food Insecurity in the United States. Adv Nutr. 2021;12(2):287-290. doi:10.1093/advances/nmaa126
14. Leung CW, Fulay AP, Parnarouskis L, Martinez-Steele E, Gearhardt AN, Wolfson JA. Food insecurity and ultra-processed food consumption: the modifying role of participation in the Supplemental Nutrition Assistance Program (SNAP). Am J Clin Nutr. 2022;116(1):197-205. doi:10.1093/ajcn/nqac049
15. Grosicki GJ, Bunsawat K, Jeong S, Robinson AT. Racial and ethnic disparities in cardiometabolic disease and COVID-19 outcomes in White, Black/African American, and Latinx populations: Social determinants of health. Prog Cardiovasc Dis. 2022;71:4-10. doi:10.1016/j.pcad.2022.04.004
16. Daniels GE, Morton MH. COVID-19 Recession: Young Adult Food Insecurity, Racial Disparities, and Correlates. J Adolesc Health. 2023;72(2):237-245. doi:10.1016/j.jadohealth.2022.09.008

17. Park JK, Yi SS. Transportation and language access as crucial pillars for an immigrant-inclusive 21st-century food security program. Public Health Nutr. Published online April 5, 2023:1-5. doi:10.1017/S1368980023000575

18. Batal M, Deaconu A, Steinhouse L. The Nutrition Transition and the Double Burden of Malnutrition. In: Temple NJ, Wilson T, Jacobs Jr David R, Bray GA, eds. Nutritional Health: Strategies for Disease Prevention. Nutrition and Health. Springer International Publishing; 2023:33-44. doi:10.1007/978-3-031-24663-0_3

19. Nikolaus CJ, Johnson S, Benally T, et al. Food Insecurity among American Indian and Alaska Native People: A Scoping Review to Inform Future Research and Policy Needs. Adv Nutr. 2022;13(5):1566-1583. doi:10.1093/advances/nmac008

20. Carlson S, Llobrera J. SNAP Is Linked With Improved Health Outcomes and Lower Health Care Costs. Center on Budget and Policy Priorities. Accessed August 10, 2023. https://www.cbpp.org/research/food-assistance/snap-is-linked-with-improved-health-outcomes-and-lower-health-care-costs

21. Samuel LJ, Crews DC, Swenor BK, et al. Supplemental Nutrition Assistance Program Access and Racial Disparities in Food Insecurity. JAMA Netw Open. 2023;6(6):e2320196. doi:10.1001/jamanetworkopen.2023.20196

22. Chock LR, Hayes DK, Tomiyasu DW. Insights in Public Health. Hawaii J Med Public Health. 2014;73(9):295-300.

23. Ending Hunger and Reducing Diet-Related Diseases and Disparities | health.gov. Office of Disease Prevention and Health Promotion. Accessed July 12, 2023. https://health.gov/our-work/nutrition-physical-activity/white-house-conference-hunger-nutrition-and-health

24. FACT SHEET: Biden-Harris Administration Launches the White House Challenge to End Hunger and Build Healthy Communities, Announces New Public & Private Sector Actions to Continue Momentum from Historic Hunger, Nutrition, and Health Conference. The White House. Published March 24, 2023. Accessed August 4, 2023. https://www.whitehouse.gov/briefing-room/statements-releases/2023/03/24/fact-sheet-biden-harris-administration-launches-the-white-house-challenge-to-end-hunger-and-build-healthy-communities-announces-new-public-private-sector-actions-to-continue-momentum-from-hist/

25. Guth M, Ammula M. Building on the Evidence Base: Studies on the Effects of Medicaid Expansion, February 2020 to March 2021 - Report. Keiser Family Foundation; 2021. Accessed August 3, 2023. https://www.kff.org/report-section/building-on-the-evidence-base-studies-on-the-effects-of-medicaid-expansion-february-2020-to-march-2021-report/

26. Berkowitz SA, Terranova J, Randall L, Cranston K, Waters DB, Hsu J. Association Between Receipt of a Medically Tailored Meal Program and Health Care Use. JAMA Intern Med. 2019;179(6):786-793. doi:10.1001/jamainternmed.2019.0198

27. Berkowitz SA, Terranova J, Hill C, et al. Meal Delivery Programs Reduce The Use Of Costly Health Care In Dually Eligible Medicare And Medicaid Beneficiaries. Health Aff (Millwood). 2018;37(4):535-542. doi:10.1377/hlthaff.2017.0999

28. What is the Farm Bill? National Sustainable Agriculture Coalition. Accessed July 12, 2023. https://sustainableagriculture.net/our-work/campaigns/fbcampaign/what-is-the-farm-bill/

NATIONAL HEALTH COUNCIL

ABOUT THE NHC: Created by and for patient organizations more than 100 years ago, the National Health Council brings diverse organizations together to forge consensus and drive patient-centered health policy. We promote increased access to affordable, high-value, sustainable health care.

For more information, visit **nationalhealthcouncil.org.**

1730 M Street NW, Suite 650 ● Washington, DC 20036-4561 ● info@nhcouncil.org ● 202-785-3910