Research Opportunities to Address Nutrition Insecurity and Disparities

Imagine a country in which all individuals, families, and communities have ready access to enough affordable, nutritious food to sustain healthy lives. However, this was still an illusionary notion for at least 13.8 million food insecure US households in 2020. Household food insecurity is defined by having difficulty at some time during the year providing enough food for all members because of lack of resources. Moreover, in 2020, the prevalence of food insecurity among African American/Black households was estimated at 21.7%, and among Latino/Hispanic households was estimated at 17.2%, both substantially higher than the overall estimated prevalence of 13.5%.

For many of these individuals and families, circumstances largely out of their control, such as where they were born and live, their income and assets, and food prices, directly limit access to healthy food choices. Children who experience hunger and food insecurity are less likely to perform well in school and to attain higher education. Unemployment and underemployment also contribute to food insecurity, and adults who lack access to quality food are less likely to achieve and maintain employment, particularly in well-paying jobs. Even in one of the wealthiest countries in the world, levels of hunger in the US are high, and increasing, with serious health consequences and multigenerational effects.

Although many US residents do not maintain a healthy diet, nutrition disparities are profound among underresourced communities due to lack of access to fresh fruits and vegetables combined with the wide availability and consumption of inexpensive and unhealthy ultraprocessed foods. Food insecurity and the lack of access to affordable nutritious food are strongly associated with multiple chronic health conditions, including diabetes, heart disease, fatty liver disease, mental health disorders, lower HIV medication adherence, drug and alcohol use, and other chronic health conditions. The rising incidence of US food insecurity, worsened significantly by COVID-19, is a national crisis that limits economic opportunity and mobility and further entrenches inequity in the nation.

In 2021, the National Institutes of Health (NIH) convened an interagency workshop and published a Request for Information (NOT-OD-21-183) to identify research gaps and opportunities related to food insecurity, hunger, and the neighborhood food environment (eTable in the Supplement). This Viewpoint reinforces the urgency for research to identify evidence-based solutions and intersectoral actions to eliminate nutrition disparities. The NIH has released funding opportunity announcements (PAR-22-113, PAS-21-031, and RFA-NR-22-001) to support research in this area.

Furthermore, “Reducing Nutrition Health Disparities through Food Insecurity and Neighborhood Food Environment Research” was included as a major NIH initiative in the fiscal year 2023 budget for the US Department of Health and Human Services.

Beyond Food Assistance

More than half of food-insecure households participate in 1 or more federal nutrition programs, such as the Supplemental Nutrition Assistance Program and Special Supplemental Nutrition Program for Women, Infants, and Children. However, some of these programs may have unintended consequences by enabling consumption of inexpensive, ultraprocessed foods that dominate food and beverage supplies available to low-income neighborhoods. Moreover, there is insufficient information about the influence and reach of federal nutrition programs on specific groups of underserved children and families because current data collection approaches do not capture individual-level information about participants.

Although access to sufficient food plays a vital role throughout life in promoting health and preventing disease, food insecurity is influenced by a multitude of factors. These include social determinants of health affected by race, ethnicity, sex, age, social class, nativity status, disability, and geography. Moreover, strong sociocultural forces such as stigma remain a barrier to both implementation of and participation in existing programs such as those that provide food assistance.

A half century of national policies to address hunger and food insecurity have focused primarily on providing adequate quantities of food without an explicit focus on food quality, suggesting that it is time to shift instead toward nutrition security: “having consistent access, availability, and affordability of foods and beverages that promote well-being and prevent (and if needed, treat) disease.”

The Role of Research in Achieving Nutrition Security

Fully addressing nutrition insecurity will likely require participation of multiple federal agencies. The NIH can support research (1) characterizing the interconnected complex systems that create and sustain diet-related health disparities and (2) identifying evidence-based solutions for preventing illness and death from diet-related conditions. Many biomedical and behavioral questions present opportunities for exploration, including (1) systems and data science; (2) methodological research; (3) effects of providing assistance to families through the Child Tax Credit and other programs that reduced the rate of children living...
in poverty to 12.1% in 2021 from 16.1% in 2020; (4) influence of fiscal policies on hunger, nutrition security, and health; (5) outcomes-based interventional research; (6) implementation science; (7) research on policies implemented to promote healthier nutrition; and (8) fundamental studies of nutrition and related physiological systems (Table in the Supplement). Central to this nascent research effort is the understanding that nutrition is an essential component of health, and that solutions will be informed by evidence-based whole government approaches. Other essential partners in the nutrition ecosystem include the agricultural and environmental sectors, hospitals, and the food, beverage, and restaurant industries. Meaningful engagement with people with lived experience will ensure that research methods are useful and that outcomes are translatable.

Nutrition insecurity aligns with lack of access to life-enhancing resources, yet few connections have been made to understand how providing opportunities for economic mobility and adequate resources for healthy living (including but not limited to food assistance) might prevent hunger, and more broadly, food and nutrition insecurity. This research will be foundational in connecting the role of food insecurity and healthy food assistance in health outcomes, analogous to findings that illuminated biological mechanisms and drove policy changes for heart disease, HIV/AIDS, and type 2 diabetes. Interventions with the greatest potential public health benefits on nutrition insecurity will be those that directly address economic stability, affordable housing, and quality education and health care within a safe and nurturing community.

Conclusions
Multifaceted problems like ending hunger are exceedingly difficult to solve. However, there is an actionable opportunity to prevent illness and improve well-being for millions of children and adults. Through rigorous research, the diverse organizations that make up the US nutrition ecosystem have the opportunity and responsibility to work together to identify, build, and finance approaches to create healthy communities with access to affordable, healthy food.

The public health adage that zip code matters more than genetic code characterizes the problem of hunger and nutrition insecurity and of poverty and structural racism more broadly. This national crisis of nutrition insecurity will not fix itself. The first federal actions to address hunger on a wide scale a half century ago are due for an update, guided by evidence to shift away from relying on feeding people toward embracing the central role nutrition plays in health and happiness. Nutrition security for everyone is within reach if only society’s leaders exert the will and coordinate public and private sectors to achieve it.

ARTICLE INFORMATION
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Additional Information: Dr Zenk is director of the National Institute of Nursing Research, Dr Tabak is acting director, and Dr Pérez-Stable is director of the National Institute on Minority Health and Health Disparities, all at the National Institutes of Health.
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