

MEMORANDUM

To: Dr. Christopher Lynch

From: Dr. Dariush Mozaffarian, Friedman School of Nutrition Science and Policy at Tufts University, and the Federal Nutrition Policy Advisory Group

Re: Response to RFI re: Research Opportunities to End Hunger, Food Insecurity, and Nutrition Insecurity

We are pleased to submit this letter in response to RFI NOT-OD-21-183, which invites input on the approaches National Institutes of Health (NIH) can initiate to address hunger, food insecurity, and nutrition insecurity through innovative and multidisciplinary research. These research opportunities have been adapted from a comprehensive review of several governmental and nongovernmental consensus recommendations on top priority areas for new nutrition research¹ along with an assessment of additional research literature.

We are delighted by the positive and much needed directions the NIH is taking to emphasize the critical role of nutrition science, including the 2020-2030 Strategic Plan for NIH Nutrition Research, the launching the Precision Nutrition Initiative, and the creation of the Office of Nutrition Research within the NIH Office of the Director. Each of these foundational steps must be strengthened by substantial focus and investments. The key priority areas listed below are a critical part of this work, as will ensuring that they each contain a strong focus on health equity.

Research Priority Areas to Address Hunger, Food Insecurity, and Nutrition Insecurity

1. Strengthening the Office of Nutrition Research with resources and staffing in 2022 and beyond at an amount comparable to other major NIH offices, such as the Office of Dietary Supplements and the Office of Data Science Strategy:
 - Provide appropriate funding to effectively guide and catalyze inter-NIH coordination on nutrition research
 - Enable the securing of permanent leadership for the office as well as expert staffing
 - Provide leadership for coordination of NIH priorities with other major federal research and translation efforts, such as at USDA, CMS, CMMI, DOD, VA, IHS, CDC, and FDA
 - Enable clear and effective communication of key findings to the public

¹ Sheila E Fleischhacker, Catherine E Woteki, Paul M Coates, Van S Hubbard, Grace E Flaherty, Daniel R Glickman, Thomas R Harkin, David Kessler, William W Li, Joseph Loscalzo, Anand Parekh, Sylvia Rowe, Patrick J Stover, Angie Tagtow, Anthony Joon Yun, Dariush Mozaffarian, Strengthening national nutrition research: rationale and options for a new coordinated federal research effort and authority, *The American Journal of Clinical Nutrition*, Volume 112, Issue 3, September 2020, Pages 721–769, <https://doi.org/10.1093/ajcn/nqaa179>.

2. Critical research on why hunger, food insecurity, and nutrition security exist and persist and how they can be overcome, including focuses on structural racism, economic mobility, and other social determinants of health:
 - Community-based participatory research to understand and address community perspectives and priorities to reduce hunger, food insecurity, and nutrition insecurity
 - Influence of the built food environment (e.g., density, locations, products, and prices of retail, restaurant, and food service outlets), including education, knowledge, and sociocultural factors
 - Causal interrelationships between food and nutrition insecurity and diet-related chronic diseases like obesity, diabetes, cardiovascular diseases, and certain cancers
 - Influence of education, knowledge, and sociocultural factors
 - Role of commercial determinants of nutrition security and health, including industry marketing through diverse approaches
 - Roles of past and current policies and practices that alter housing, employment, income, and community development opportunities, often inequitably
 - Understanding characteristics of effective communication channels and enhancing nutrition science literacy for diverse audiences

3. Understanding the intersections and role of production agriculture in exacerbating or reducing hunger, food insecurity, and nutrition insecurity:
 - Interplay of livestock and farming practices on the joint availability and nutritional quality of foods, health, and natural resource use
 - Intersections of local and regional food systems on these outcomes
 - Nutritional innovations and collaborations for healthier crops and manufactured food products including novel regenerative agriculture approaches, ingredients, and biofortification
 - Impacts of plant-based meat, dairy alternatives, and cellular agriculture on health and sustainability
 - Impacts of climate change on hunger, food insecurity, and nutrition insecurity
 - Effects of agricultural labor supply (e.g., wages, benefits, health care access, worker safety) on food and nutrition security among food chain workers and families

4. Translational research on the role and influence of diverse federal investments in food and nutrition, including opportunities to better leverage these programs, as well as successful intersections between federal, state, municipal, non-profit, and/or private sector organizations that have addressed hunger, food insecurity, and nutrition insecurity:
 - Health and health equity effects — and approaches to advance these — of federal nutrition assistance programs, in particular SNAP and school lunch but also school breakfast, summer meals, WIC, meals for the elderly, and farm-to-food box programs
 - Health and health equity effects — and approaches to advance these — of Food and Drug Administration (FDA) regulatory issues including Nutrition Facts labeling, front-of-pack labeling, restaurant menu labeling, date labeling, health claims, food category standards of identity, cellular agriculture, food additives, and dietary supplements
 - Impact of the Dietary Guidelines for Americans and Dietary Reference Intakes

- Policy research, including real-time evaluation of natural policy experiments as well as simulation, modeling, and cost-effectiveness studies
 - New research mechanisms for transparent cross-governmental and private-public partnerships that stimulate science-driven innovations to address hunger, food insecurity, and nutrition insecurity
5. Translational research on Food is Medicine and how to best integrate food and nutrition into health care systems, particularly in terms of traditionally marginalized, higher risk communities:
- Medically Tailored Meals
 - Produce Rx
 - Nutrition education for health care providers
 - Intersections between federal nutrition assistance programs and public and private healthcare coverage
6. Rigorous interventional studies to address major gaps in defining better nutrition and to reduce consumer confusion, as identified by ongoing scientific debates as well as Dietary Guidelines Advisory Committee reports:
- Comparative effects for weight loss and maintenance of different popular diet patterns, eating frequency, and diet quantity vs. quality; and the potential for personalized nutrition guidance taking into account genetics, microbiome, medical history, and other factors
 - Optimal dietary recommendations for major disease conditions, such as hypertension, type 2 diabetes, cardiovascular diseases, specific cancers, infections, and autoimmune disease
 - Rigorous studies on food groups with unclear or controversial evidence, such as different types of dairy foods, red meats, tropical oils, organic vs. nonorganic foods, among others
 - Comparative effects of consumer communication and education, including product labeling, to support healthier food choices, improve food safety, reduce food waste, and support positive climate impact
7. Fundamental research to accelerate progress to understand and address hunger, food insecurity, and nutrition insecurity:
- Molecular basis of nutritional needs across the lifespan, from the first 1,000 days to healthy aging
 - Comprehensive characterization and molecular and health effects of trace bioactives and phenolics, such as in extra-virgin olive oil, cocoa, green tea, coffee, red wine, and blueberries, among others
 - Assessing the molecular and health impacts of additives, gluten, FODMAPS (fermentable oligo-, di-, monosaccharides and polyols), low-calorie sweeteners, and other food components of public interest and confusion
 - Assessing the health effects, modifying factors, controversies, and confusion around food processing and processed foods
 - Interactions between hunger, food insecurity, nutrition insecurity, the gut microbiome, and health

8. Major new investments to ensure a diverse workforce of nutrition research professionals and practitioners:
- New nutrition science training grants focused on BIPOC researchers at all career stages
 - RD to PhD pathways, including a focus on candidates from underrepresented backgrounds
 - Evaluation and updating to intra- and extramural NIH grant review policies and procedures to ensure a history of general structural racism against funding of BIPOC investigators is overcome

Thank you for your leadership. Should you or any of your colleagues have any questions or wish to discuss any of the above recommendations, we are happy to serve as a resource.

Sincerely,

The Gerald J. and Dorothy R. Friedman School of Nutrition Science and Policy
American College of Lifestyle Medicine
American Society for Nutrition
The Angiogenesis Foundation
Association of State Public Health Nutritionists
Brightseed, Inc
Ceres Community Project
Community Servings
Defeat Malnutrition Today
Earthjustice
Fair Food Network
FARE [Food Allergy Research and Education]
Foodsmart
The Good Food Institute
National Association of Nutrition and Aging Services Programs (NANASP)
Society for Nutrition Education and Behavior
Teens for Food Justice
1,000 Days
Trust for America's Health
Urban School Food Alliance
Well Fed Community Development Corporation
Wholesome Wave
World Central Kitchen