

**Input for PCAST on Nutrition Research Opportunities and Gaps**  
from the Society for Nutrition Education and Behavior

**Submitted:** November 10, 2023

**Prompt:** What are the crucial evidence gaps in nutrition research and what steps could PCAST recommend that would substantially fill those gaps?

- **Gap:** Lack of federal ethical guidelines for nutrition research
  - **Recommendation:** Create consensus recommendations for rigor, reproducibility, transparency, and accurate reporting of results from research in nutrition science. Utilize the expertise and reporting capabilities of the National Academy of Sciences/Medicine for this purpose.
- **Gap:** Lack of current research on validity of current diet assessment methods or development of new diet assessment methods, particularly for children
  - **Recommendation:** Fund validation studies which examine accuracy of diet assessment methods, especially focusing on biomarkers to create causal links for food and nutrition's impact on health outcomes and to better assess the effectiveness of dietary interventions.
  - **Recommendation:** Improve the reporting of diet assessment results by creating recommendations for standardized use of government nutrient databases.
- **Gap:** Study samples in nutrition research are often not representative of US populations.
  - **Recommendation:** Create federal guidelines that help researchers create study samples that reflect the diversity of the US population.
  - **Recommendation:** Increase the number of research studies that focus on rural populations.
- **Gap:** Limited research on identification of effective strategies for population-based food behavior change
  - **Recommendation:** Increase the amount of nutrition research focused on multilevel community interventions to identify which factors in community settings have the most impact on improving food behavior for health promotion and disease prevention at the population level.
  - **Recommendation:** Incorporate and further study evidence-based factors for food behavior change within food and nutrition programs in broader community systems to increase their reach and sustainability while adapting them to diverse populations.

- **Gap:** There are limited studies of long-term effects of diet on health promotion and disease prevention and management.
  - **Recommendation:** Fund and support longitudinal cohort studies that allow identification of diet and behavioral factors that contribute to disease prevention and incidence (i.e. Framingham Heart Study for cardiovascular disease, Nurses' Health Study for chronic disease in women, etc.).
  - **Recommendation:** Fund and support multi-center clinical trials that develop evidence for best practices for food and nutrition interventions in disease management (i.e. Dietary Approaches to Stop Hypertension (DASH) Trial, Diabetes Control and Complications Trial (DCCT), etc.).
- **Gap:** Understudied populations are often excluded from nutrition research, which limits development of evidence-based guidelines for optimal nutrition during lifecycle stages.
  - **Recommendation:** Add additional understudied populations to the National Health and Nutrition Examination Study (NHANES), in addition to oversampling for groups of 60 and older, African Americans, and Hispanics. Suggested populations to also emphasize in national health surveys include, but are not limited to, older adults, infants and children, and pregnant women.
- **GAP:** Scientists, researchers, and clinicians in the academic field of nutrition are often excluded in government nutrition research plans and funding.
  - **Recommendation:** Examine nutrition programs at land-grant universities in all states, which house many of the long-standing US academic programs in nutrition, for faculty experts who may serve on committees that plan research needs (i.e. see the Dietary Guidelines for Americans committee as an example).
  - **Recommendation:** Ensure that funding is provided to a full and diverse range of academically trained nutrition scientists and researchers at **all** R1 & R2 universities, land-grant universities, HCBUs, non-land grant H.S.I. institutions and research organizations.

**Prompt:** What tools, methods, or other resources (in addition to funding) are needed to conduct that research?

- Development of more validated nutrition assessment tools appropriate for population studies
- Validated tools for the assessment of food and nutrition security
- Research methods that promote participatory research strategies for improved understanding of cultural food practices

- A clearinghouse that lists consulting biostatisticians available for research studies outside of academia (i.e. healthcare, non-profit organizations, businesses, etc.)
- More staff on journal editorial teams so nutrition research results can be published more quickly in the scientific literature
- Development of policies (with enforcement) within NIH, funders, and journals regarding compliance with reporting and data sharing practices
- Improved methods for dietary assessment including those in current use (24-hour recall, FFQs, etc.), development of new methods and a clearinghouse for greater access to available methods by researchers in varied settings
- Funding and resources to enhance interdisciplinary connections and collaborations among basic researchers whose work directly impacts nutrient metabolism (for example, omics, neurobiology, energy expenditure, etc.)
- A regulatory framework for use of nutrition technology in nutrition education-focused research studies
- Improved methods for blinding diet in RCTs

**Prompt:** Are there other barriers to research (other than inadequate funding)?

- Upholding of the status quo in nutrition research so that the same research topics often have the most funding.
- Need for an examination of how nutrition research funding is allocated and who it is allocated to in order to better explore novel research ideas.
- The nutrition scientist population does not reflect the diversity of the US, which limits development of research questions focused on nutrition, health promotion, and disease management in diverse communities.
- Partnering with communities is complicated, takes longer and often requires more resources. This makes longer research projects focused on communities less attractive to scientists/researchers/faculty, who often need completed projects for career advancement.
- Researchers must ensure that barriers to change are addressed within nutrition study designs (for example, being able to access healthy foods).
- Minimal translation from research into policy development hinders development of evidence—based interventions.

**Prompt:** Are there models from other fields of science that could be employed to fill nutrition research evidence gaps?

- Institute of Education Sciences (IES) model for broadening participation
- National Human Genome Research Institute (NHGRI) model for investment in increasing diversity among trainees, tracking trainee outcomes, and increasing diversity among researchers
- American Society for Nutrition (ASN) model for increasing diversity in clinical trials
- Use of randomized studies to determine effectiveness of community-scale interventions (see book 'Randomistas')

**Prompt:** How could/should research-based interventions for primary and secondary prevention of diet-related chronic diseases be introduced into federal programs?

- Use rigorous assessment methods to assess the effectiveness of federal programs. Many programs just rely on assessing changes in knowledge. Expand assessment to collect anthropometric data, dietary data, etc.
- Prioritize measurement of outcomes-based implementation programs including use of participant-informed feedback throughout implementation.
- Evaluate expanded eligibility for nutrition supplementation programs for primary prevention of diet-related conditions.
- Develop guidelines for what constitutes evidence that supports legislation to reimburse for Food is Medicine programs (e.g. produce prescriptions, tailored meals, etc.).
- Connect federal nutrition education programs with Medicare, Medicaid, and FQHCs in a way that patients are prescribed nutrition education **in addition to** a Food is Medicine program (while also addressing food insecurity as the social determinant of these conditions).
- Create a firewall that prevents pharmaceutical or food corporations from having input into nutrition recommendations for federal programs (i.e. development of Dietary Guidelines for Americans, etc.).
- Policies and regulations for federal programs should focus on prevention and achieving a reduction in diet-related chronic illnesses in addition to food insecurity.

**Prompt:** What can be done to assure equitable access to the benefits of the federal nutrition research investment?

- Place a strong focus on implementation outside of major metros and provide funding on a census level to the states for equitable implementation.
- Make (virtually) all federally funded data, accompanying statistical code, and study results publicly available.
- Fund and conduct community-participatory research focused on translation and implementation of research findings within federal programs. Support scientists, researchers, and faculty working in communities heavily affected by diet-related chronic diseases in conducting that research so that federal programs can be tailored to local needs.