Food as Medicine Networks or Centers of Excellence

Background

ONR is tasked with coordinating NIH research efforts to reduce the rate of diet-related chronic diseases (DRCDs) such as obesity, diabetes, CVD, cancers, as well as hunger, food insecurity, nutrition disparities, and disease-related malnutrition. Most of these health conditions are increasing. This initiative includes a transformative vision for addressing them using health systems (networks) and/or academic health centers that presently may not be fully addressing them.

The U.S. is facing an epidemic of DRCDs exacerbated by the COVID-19 pandemic. Obesity and other DRCDs cost the U.S. trillions of dollars each year in direct health care spending and lost productivity.[1] Adding to this the rates of obesity are increasing. They have doubled in adults and quadrupled in children in the last 30 years in the U.S., and costs of taking care of obesity, other DRCDs and their comorbidities is rising.[2] As highlighted at the ONR coordinated workshop on Food Insecurity, Environment, and Nutrition Disparities, levels of hunger have been rising in the U.S., worsened by a weak supply chain and climate change that restricts access of nutritious food available to underserved populations. In 2020, 13.8 million U.S. households experienced food insecurity (USDA), which is inextricably linked to poverty and is far higher in households among minorities and those with children.[3] Food insecurity has social consequences and negatively impacts health behaviors. In those individuals with HIV and diabetes, it is an independent risk factor for other comorbidities and mortality. Finally, disease-related, and other causes of malnutrition affect more than 30% of hospitalized patients. This was highlighted by an Agency for Healthcare Research and Quality report that ONR contributed to, and will be discussed in an ONR-coordinated workshop on Malnutrition in Clinical Settings.[4] Malnutrition is associated with high mortality and morbidity, functional decline, prolonged hospital stays, and increased health care costs.[5] Post discharge, malnourished patients are more frequently re-admitted to hospitals.[4] A taskforce known as the Global Leadership Institute on Malnutrition has developed a universal framework for assessing malnutrition; however, such screenings are not routinely performed, but are needed for interventions to take place.[6]

There are numerous barriers in the community and within academic health systems that confound reversing course on obesity, other DRCDs, hunger, food insecurity, and malnutrition. The food environment is an obvious factor, but we are becoming increasingly aware that various community and other stressful environmental factors (e.g., food and housing insecurity, structural racism, violence, pollution, social and health disparities) confound treatment outcomes.[7] Risks of having obesity and related comorbidities are amplified by adverse social circumstances, part of a problem of systemic structural dynamics that curtail opportunities for advancement.[8] There is fragmentation and less than optimal coordination locally among those addressing these individual problems in the community.

Some physicians are not adequately trained to discuss obesity with their patients nor have the time to provide the necessary motivational interviewing or team-based behavioral interventions needed for DRCDs. There are insufficient numbers of board certified Obesity or Lifestyle medicine trained physicians along with those that specialize in clinical nutrition who have the training to tackle obesity, DRCDs and malnutrition.[9] Lack of adequate numbers of qualified social workers and dietitians is an additional factor. Reimbursement issues for lifestyle/behavioral treatments/interventions, [10,] and for FDA-approved therapeutics also confound treatment outcomes.[11] Consequently, owing to these and other factors (e.g., weight stereotypes, structural racism, relative value unit policies, etc.), research suggests that over 96% of the population with obesity has an unmet need for care.[12]

Program Goal

The goal of this program is to utilize health networks or centers to conduct interventional studies, implementation science, behavioral, health quality and medical economics, and pragmatic research, and improve training (e.g., clinical nutrition, obesity, lifestyle and culinary medicine) to better address and coordinate efforts and overcome barriers within

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1 https://www.cdc.gov/chronicdisease/about/costs/index.htm
2 https://www.bmj.com/content/369/bmj.m2482
3 https://www.ers.usda.gov/data-products/ag-and-food-statistics-charting-the-essentials/food-security-and-nutrition-assistance/
4 https://effectivehealthcare.ahrq.gov/sites/default/files/pdf/malnutrition-hospitalized-adults-protocol.pdf
5 Corkins MR, Guenter P, DiMaria-Ghalili RA, et al. Malnutrition diagnoses in hospitalized patients: United States, 2010. JPEN J Parenter Enteral Nutr. 2014 Feb;38(2):186-95.
6 Global Leadership Initiative on Malnutrition (GLIM): Guidance on Validation of the Operational Criteria for the Diagnosis of Protein-Energy Malnutrition in Adults.
7 Dietz WH. We Need a New Approach to Prevent Obesity in Low-Income Minority Populations. *Pediatrics*. 2019;143(6):e20190839
8 Braveman, P. A health disparities perspective on obesity research. Prev Chronic Dis. 2009;6(3):A91. Medline, Google Scholar
9 Prevalence and Determinants of Engagement with Obesity Care in the United States
10 Lifestyle Medicine Reimbursement: A Proposal for Policy Priorities Informed by a Cross-Sectional Survey of Lifestyle Medicine Practitioners
11 NYTIMES - The Doctor Prescribed an Obesity Drug. Her Insurer Called It 'Vanity.'
12 Prevalence and Determinants of Engagement with Obesity Care in the United States

and outside the health care system. These efforts should aim to improve nutrition, physical activity and reduce obesity, disease-related and other forms of malnutrition, food insecurity, and diet-related diseases in their catchment area using locally appropriate and culturally sensitive approaches. We intend to do this within the framework of "Food as Medicine", given as these programs are aimed at reducing DRCDs and improving health.[13] The Aspen Institute defined "Food as Medicine" as an umbrella term for programs that respond to the critical link between diet and health involving the provision of healthy food (e.g., medically tailored meals, grocery or produce prescriptions or vouchers), but importantly, one that has a nexus to the health care system.[14] That nexus aspect recognizes healthcare providers as a trusted source of information. Few people report receiving dietary guidance from their health care provider, but 78% of those that do initiate dietary change.[14]

If these Networks or Centers of Excellence become the nexus for "Food as Medicine" activities in their community, the aim of this initiative is that they should address the above-described systems and social barriers so that advances can also be made against obesity, DRCDs and disease-related malnutrition. They could conduct the transformative research that provides the quality and medical economics evidence for improvements in health care system practices, reimbursement policies, and community wellness. They could examine the efficacy of increasing dietetics, as well as provide connections with nutrition science departments in universities, which are not usually part of an academic health center.

Initiatives

Other Transaction (OT) for a phased competition. Planning Phase up to 10 "Food as Medicine" Pilot programs leading to a second competition that would support up to 5 Networks or Centers. Applications will outline internal commitments and external fund-raising plans to address the ambitious goals of this program including a letter from appropriate leadership.

Deliverables

Deliverables include: (1) Research leading to reductions in hunger, food insecurity, obesity and DRCDs in their catchment area; (2) Common evaluation metrics that can effectively measure the effects of "Food as Medicine" interventions on different health conditions; (3) Evidence-based diagnostic instruments and treatments for malnutrition in clinical settings to improve health care quality, treatment outcomes and wellness; (4) Profile of people who will benefit from specific types of interventions, in what ways, and under what circumstances; (5) Amassing a large evidence base on relevant statistics developed through the research of the awardees to motivate policy change and uptake of the studied interventions by the health care industry, insurers, and policymakers; and (6) Post-pilot, annual lessons learned meetings of investigators organized by ONR to showcase innovations along with regionally appropriate and culturally sensitive "Food as Medicine" best practices.

Budget

Phased competition of up to 10 pilot/planning programs for 3 years, and in the second phase of up to 5 Networks or Centers would be funded.

Initiatives	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	Total
Food as Medicine Networks or Centers of Excellence	$20M	$20M	$20M	$20M	$20M	$100M

M=millions

[13] https://mcgovern.house.gov/news/documentsingle.aspx?DocumentID=397179
[14] https://www.aspeninstitute.org/wp-content/uploads/2022/01/Food-is-Medicine-Action-Plan-Final_012722.pdf