

# NIH Nutrition Research Report 2020–2021

## Executive Summary

The National Institutes of Health (NIH) supports and conducts a broad array of transformative and effective research studies to better understand nutrition and how it relates to human health and the risk for disease. This research focuses on understanding how nutrients and food components are ingested, digested, absorbed, transported, metabolized, stored, and excreted and their overall impact on the body. It also includes research studies to better understand the effects of behavior, including eating habits and food choice, and environmental exposures on nutritional status.

Recognizing the importance of nutrition research to human health and disease, NIH announced in January 2021 that the Office of Nutrition Research (ONR) would be transferred from the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) to the Division of Program Coordination, Planning, and Strategic Initiatives (DPCPSI) within the NIH Office of the Director (OD). Nutrition research fits within the scope of the mandate of DPCPSI to identify (1) emerging scientific opportunities, (2) rising public health challenges, and (3) existing knowledge gaps that deserve special emphasis and would benefit from strategic coordination and planning. ONR's mission has evolved to advance nutrition science in order to promote health and reduce the burden of diet-related diseases and nutrition health disparities.

In recent years, NIH has strengthened nutrition research because of the role that nutrition plays in human health. In May 2020, [NIH announced](#) its first agencywide [2020–2030 Strategic Plan for NIH Nutrition Research](#), with the goal of further advancing this area of science and addressing diet-related diseases across the life span. As part of its mission, ONR is coordinating implementation of the strategic plan through seven topic-based [Implementation Working Groups \(IWGs\)](#) that comprise NIH scientific staff from across the agency. Additionally, NIH is committed to modernizing nutrition research through precision nutrition initiatives. The *NIH Nutrition Research Report* summarizes nutrition research activities supported and conducted by NIH Institutes, Centers, and Offices (ICOs) in Fiscal Years 2020 (FY20) and 2021 (FY21). This report was compiled and produced by the NIH ONR, and the detailed document can be accessed on the ONR website.



### ANNUAL NUTRITION RESEARCH AND TRAINING EXPENDITURES

As a percentage of total NIH spending, nutrition research funding has been stable at approximately 5 percent [since Fiscal Year 2015](#). The table below shows total NIH nutrition research and training support in current and constant dollars.

#### Actual Obligations for NIH Nutrition Research and Training in Current and Constant Dollars and as a Percentage of Total NIH Obligations, Fiscal Year 2019–Fiscal Year 2021 (in thousands of dollars)

Fiscal Year	Nutrition Research and Training, Current Dollars <sup>a</sup>	Nutrition Research and Training, Constant Dollars <sup>b</sup>	Actual Total NIH Obligations <sup>c</sup>	Constant Nutrition Dollars as a Percentage of Actual Total NIH Obligations
2019	\$1,931,268	\$1,931,268	\$39,380,856	4.9
2020	\$2,047,194	\$1,898,985	\$41,524,839	4.6
2021	\$2,065,040	\$1,858,775	\$42,738,079	4.3

<sup>a</sup> Source: NIH RePORTER. Total excludes intramural research conducted at the NIH Clinical Center.

<sup>b</sup> Based on the Biomedical Research and Development Price Index, Fiscal Year 2019 equals 100 percent.

<sup>c</sup> Source: [NIH Budget Office Actual Total Obligations by Institute and Center FY00–FY21](#).

## HIGHLIGHTS IN NUTRITION RESEARCH: 2020–2021

NIH-supported nutrition research has led to several important discoveries. Many of these findings are announced in [NIH News Releases](#) or published in [NIH Research Matters](#), a biweekly update of NIH research highlights from the NIH Office of Communications and Public Liaison. Selected accomplishments, gaps and opportunities, and future directions for nutrition from FY20 to FY21 include the following:

### Selected Accomplishments

- ▶ Launched an NIH Common Fund program dedicated to precision nutrition—[Nutrition for Precision Health, powered by the All of Us Research Program](#)—and the first NIH-wide nutrition-related research project.
- ▶ Prioritized nutrition research to address the COVID-19 public health crisis and supported clinical trial designs to identify the mechanisms underlying chemosensory loss in patients with COVID19.
- ▶ Leveraged successful nutrition interventions (e.g., Good Bowls: Empowering Communities to Achieve Good Food Access and Health Equity) to better understand the COVID-19 disease severity association to preexisting health conditions, such as obesity, diabetes, and heart disease.
- ▶ Led a [governmentwide workshop](#) and request for information to identify research gaps and opportunities to address food insecurity, hunger, and diet-related health disparities. Discussions from this workshop are informing future funding opportunities.

### Selected Gaps and Opportunities

- ▶ Food insecurity in the United States has increased dramatically since 2015, with disparities (e.g., low income, race, housing) presenting across the life span. There is a need for more longitudinal research on food insecurity and a better understanding of intergenerational impacts, particularly in relation to other life events.
- ▶ Precision nutrition knowledge and interventions that will be effective, actionable, and equitable are limited.

### Future Directions

- ▶ Expand knowledge about the role of nutrition in disease treatment to address how the use of “Food is Medicine” can be improved in clinical settings.
- ▶ Elucidate the role of dietary patterns in chronic diseases (e.g., cancer, diabetes, heart disease, obesity) and health disparities, and foster the development of effective interventions for disease prevention.
- ▶ Develop and test practical, cost-effective, sustainable lifestyle interventions to prevent obesity and excessive weight gain across the life span.

