National Institutes of Health
Office of Nutrition Research

The ONR FY26-30 Strategic Plan and an update on The ODS FY25-29 Strategic Plan

Andrew A Bremer, MD, MAS, PhD
Director, Office of Nutrition Research (ONR)
Acting Director, Office of Dietary Supplements (ODS)

Acknowledgments

The ONR team
(past and present)

The ODS team
(past and present)

Our NIH colleagues
(past and present)

Our federal colleagues
(past and present)

Our extramural colleagues
(past and present)

Figure source: https://www.facebook.com/people/Team-Work-Makes-The-Dream-Work/100077603627062/

NIH National Institutes of Health
Office of Nutrition Research

CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

NCCOR
National Collaborative on Childhood Obesity Research

NCI | NEI | NHLBI
NHGRI | NIA | NIAAA
NIAID | NIAMS | NIBIB
NICHD | NIDCD | NIDCR
NIDDK | NIDA | NIEHS

NIH Office of the Director

NIGMS | NIMH | NIMHD
NINDS | NINR | NLM
CC | CIT | CSR
FIC | NCATS | NCCIH

Gf

FDA

NIH-FDA Joint Leadership Council

nhanes™

NIH National Institutes of Health
Office of Dietary Supplements

NIST NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY
U.S. DEPARTMENT OF COMMERCE

USDA

OASH Office of the Assistant Secretary for Health
LEADING AMERICA TO HEALTHIER LIVES

DEPARTMENT OF HEALTH & HUMAN SERVICES · USA

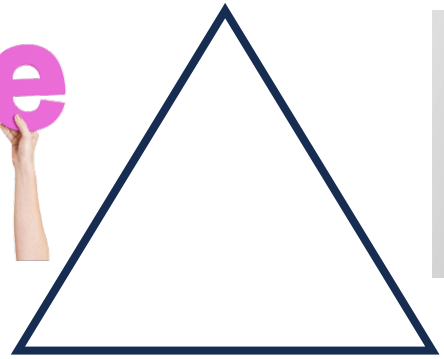
DEPARTMENT OF COMMERCE · UNITED STATES OF AMERICA

Interagency Committee on Human Nutrition Research (ICHNR)

National Institutes of Health
Office of Nutrition Research

Our Value-Added:

Technical Support



Service

Coordination

Our Guiding Principles:

- Food and nutrition are central to the human experience
- Nutrition ≠ Food
  - Nutrition connects the foods we eat to our overall health (physical and mental)
    - Soil/land/water → food → metabolites → biological function → health
- The biology of nutrition touches every cell and system in our bodies – at every age and stage across the lifespan – and is inextricably linked to all aspects of health and disease
- Nutritional status is a fundamental biological variable – like age and sex – reflecting its intimate and inextricable role in *all* biological systems and is both an *input* and an *outcome* of health and disease
- Nutrition is disease agnostic

Why Do We Care So Much? So What?

- The U.S. and the whole world are facing an urgent nutrition-related health crisis
- Malnutrition (in all its forms) is the leading cause of morbidity and mortality in the world today
- In the US specifically, suboptimal nutrition is threatening our public health, economy, and national security, and is estimated to lead to the death of ~15,000 Americans each week
- The combined health care spending and lost productivity from suboptimal diets costs the US economy >$1.1 trillion per year
- Suboptimal diets are responsible for more deaths globally than any other risk factor – including tobacco smoking, air pollution, and high blood pressure
- As many Americans die each year from diet-related illnesses as died during the entire American Civil War and World War II combined

Our Actions:

- Assessment
- Engagement
- Reflection
- Refinement
- Movement

National Institutes of Health
Office of Nutrition Research

ONR Responsibilities

- Reinforce the integral role of nutrition in all aspects of human biology, health, and disease
- Coordinate nutrition research across the NIH
- Advise NIH leadership and other key officials on matters related to nutrition research
- Lead interagency committees and working groups on matters related to nutrition research
- Produce the biennial NIH Nutrition Research Report

FY25 Operating Budget: $2,141,819

Current Staff: 6

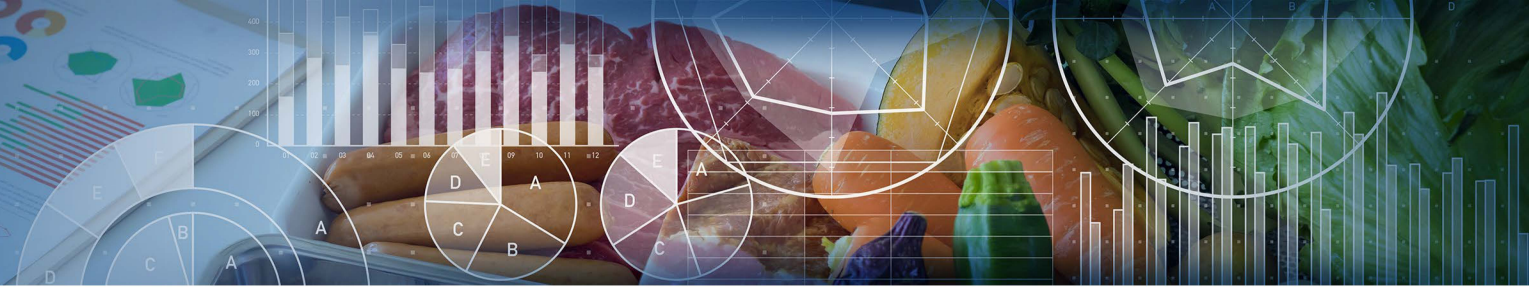
Interactions: 24 NIH ICs and the OD have a nutrition portfolio

Context: ~$2B/yr is spent at NIH on nutrition-related research (~$4% of total NIH obligations)

Reach: USG and beyond

Purpose: Elucidate the fundamental biology of nutrition and its role in optimizing whole person health across the lifespan

National Institutes of Health
Office of Nutrition Research



Vision:

Advance nutrition science for the health of this and future generations.

Values:

Integrity, Curiosity, Teamwork, Communication, Transparency, Growth

Mission:

Stimulate innovative research to address the complexities of nutrition, its ecology, and its critical role in health across the lifespan for all.

Goal:

Reinforce the integral role of nutrition in all aspects of human biology, health, and disease. Achieving this goal will:

- Improve the precision of assessment and attribution of one's nutritional status to support clinical and public health interventions.
- Provide the evidence base to develop context-specific, culturally appropriate, resilient, and sustainable solutions to address priority health outcomes across the lifespan.

Strategy:

Serve as a synergistic hub across NIH, the federal government, and nongovernment multisectoral partners to support the nutrition research agenda. This will be accomplished through:

- Service
- Technical support and assistance
- Coordination

National Institutes of Health
Office of Nutrition Research

Office of Nutrition Research
STRATEGIC PLAN FRAMEWORK

Advance Science

- Rigor and Reproducibility
- Precision Nutrition Science
- Sustainable Nutrition

Foster Stewardship

- Coordinate, Support, and Assist Research
- Government and Non-government Partnerships
- Knowledge and Interest
- Impact of ONR

Crosscutting Strategic Priorities

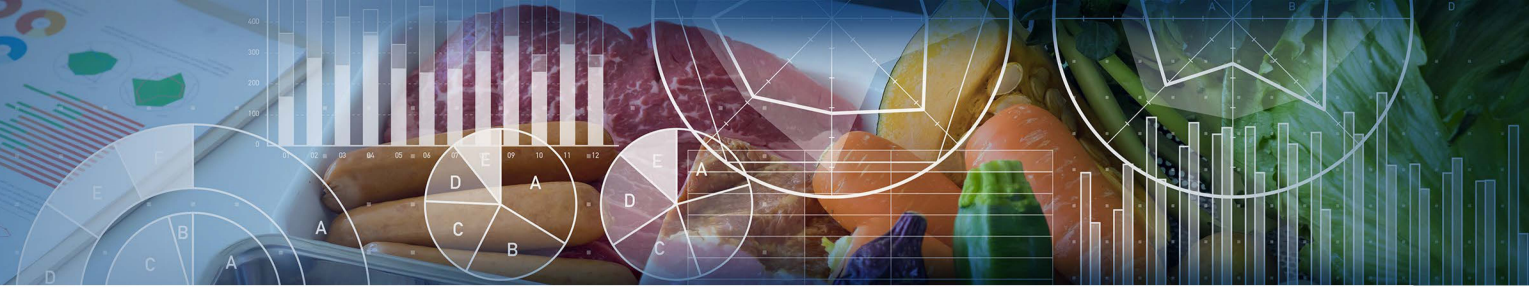
- Training and Development
- Optimizing Nutrition Across the Lifespan

Build Capacity

- Methodological Approaches in Research
- Workforce Development

Generate Evidence

- Determinants of Malnutrition
- Nutrition Regulatory Science



Goal 1: Advance Science

Research Objective 1	Improve the Rigor and Reproducibility of Biomedical Research to Advance the Fundamental Understanding of the Biology of Nutrition and Its Functional Role in Critical Systems Involved in Health and Disease
Research Objective 2	Enhance the Precision of Nutrition Science
Research Objective 3	Advance the Understanding of Sustainable Nutrition in a Changing Environment

Goal 2: Support the Generation of Evidence to Address Priority Diet, Nutrition, and Health Outcomes

Impact Objective 1	Improve the Approaches and the Precision of Methods to Assess the Determinants of Malnutrition
Impact Objective 2	Support the Generation of Evidence to Enhance Nutrition Regulatory Science

Goal 3: Build Capacity and Strengthen the Field of Nutrition Science

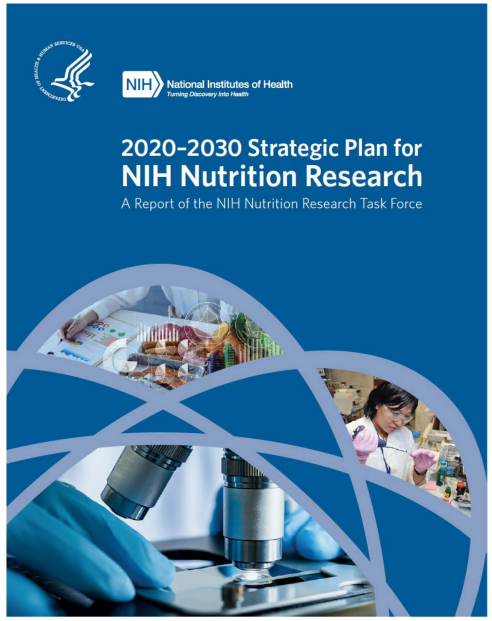
Capacity Objective 1	Optimize the Methodological Approaches in the Design, Conduct, and Interpretation of Nutrition Science Research
Capacity Objective 2	Build Capacity and Enhance Development Across the Nutrition Science Workforce

Goal 4: Foster Stewardship, Collaboration, Transparency, and Accountability in Nutrition Science Research

Stewardship Objective 1	Coordinate and Provide Service, Technical Support, and Assistance for Nutrition Science Research Across NIH and Other Government Entities
Stewardship Objective 2	Engage in Collaborative Relationships with Relevant Nongovernment Partners
Stewardship Objective 3	Increase Knowledge and Generate Interest in Nutrition Science
Stewardship Objective 4	Expand the Impact of ONR Activities, Programs, and Capabilities

National Institutes of Health
Office of Nutrition Research

2020–2030 Strategic Plan for NIH Nutrition Research Strategic Goals:



Spur Discovery and Innovation Through Foundational Research

The Office of Nutrition Research (ONR) crosscutting strategic priority of Training and Development aligns with this strategic goal.

Investigate the Role of Dietary Patterns and Behaviors for Optimal Health

ONR's research objective to Advance the Understanding of Sustainable Nutrition in a Changing Environment aligns with this strategic goal.

STRATEGIC GOALS **2020–2030**

Define the Role of Nutrition Across the Lifespan

ONR's crosscutting goal of Optimizing Nutrition Across the Lifespan aligns with this strategic goal.

Reduce the Burden of Disease in Clinical Settings

ONR's goal to Support the Generation of Evidence to Address Priority Diet, Nutrition, and Health Outcomes aligns with this strategic goal.

Unifying Theme:

Precision Nutrition

ONR's research objective to Enhance the Precision of Nutrition Science aligns with this theme.

National Institutes of Health
Office of Nutrition Research

Teaching Kitchen Programs at NIH

Note: these programs are being developed and conducted with intramural collaborators
Clinical Center: Nicole Farmer, MD (Translational Biobehavioral and Health Disparities Branch)

National Institutes of Health
Office of Dietary Supplements

NIH Office of Dietary Supplements

30 years

National Institutes of Health
Office of Dietary Supplements

Established in 1995, the legislated† purpose of ODS is:

1) To explore more fully the potential role of dietary supplements as a significant part of the efforts of the U.S. to improve health care, and
2) To promote scientific study of the benefits of dietary supplements in maintaining health and preventing chronic disease and other health-related conditions

Specific duties include:

- Conduct and coordinate dietary supplement research within NIH
- Collect and compile the results of dietary supplement research
- Serve as principal advisor to the HHS Secretary, NIH Director, CDC Director, and FDA Commissioner on issues related to dietary supplements

FY25 Operating Budget: $28,577,222

Current Staff: 22 (11 FTEs, 9 contractors, 2 fellows)

Interactions: ODS has supported DS-related research in 20 ICs over the past 10 years

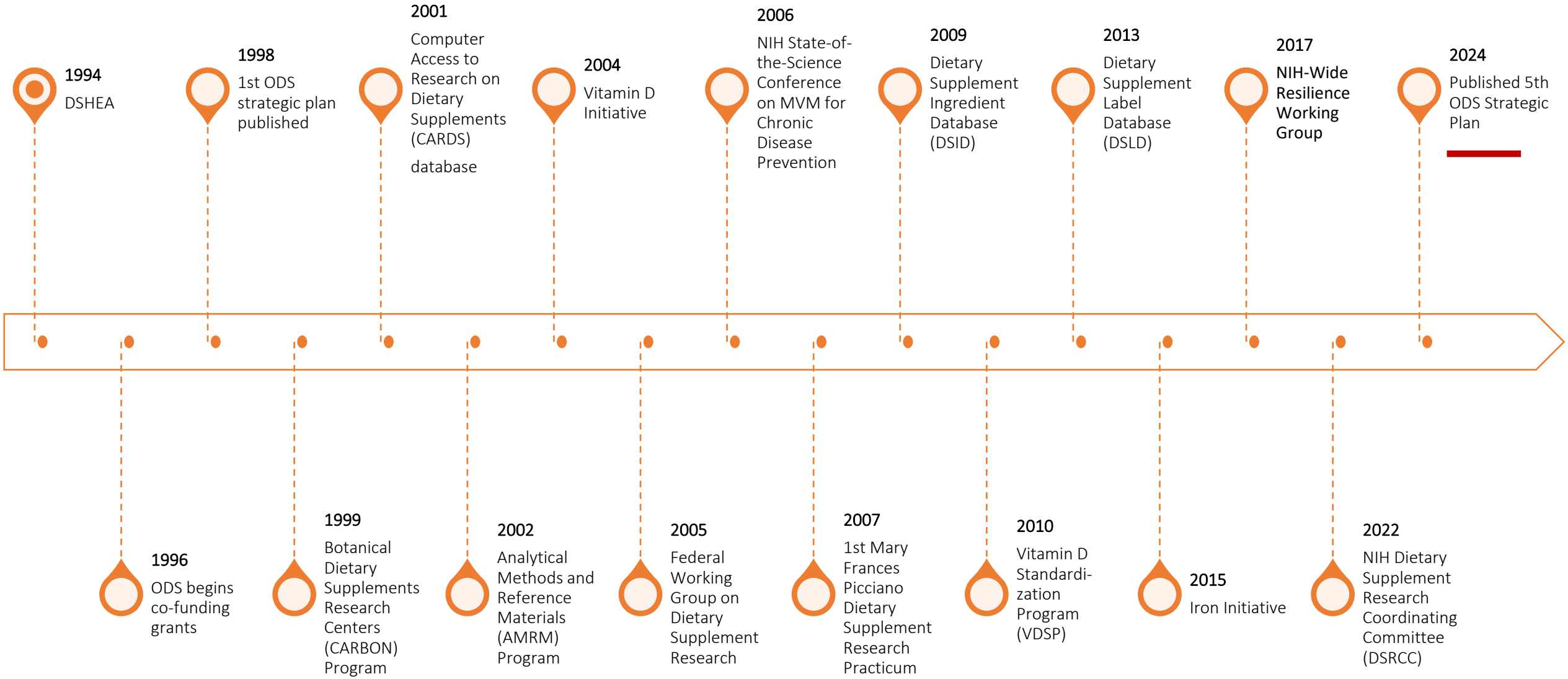
Context: ~$300M/yr is spent at NIH on DS-related research (~600 unique awards/yr); ODS co-funds ~50 extramural awards/yr (~$8.5M)

Reach: USG and beyond

Purpose: Elucidate the role of dietary supplements in optimizing health

†*Dietary Supplement Health and Education Act of 1994 (Public Law 103-417)*
**FDA oversees regulation of dietary supplement ingredients and finished products*

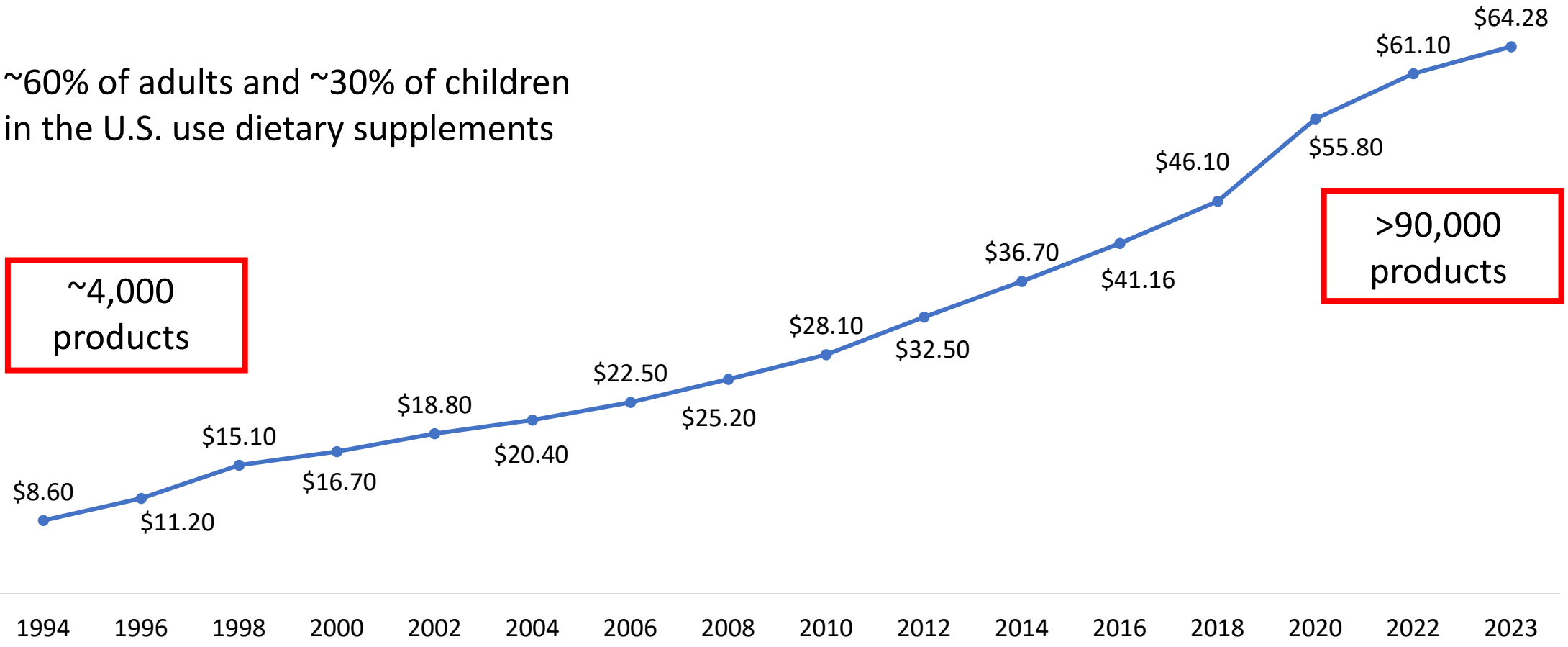
ODS: 30 Years and Counting



National Institutes of Health
Office of Dietary Supplements

U.S. Supplement Sales ($ Billions)

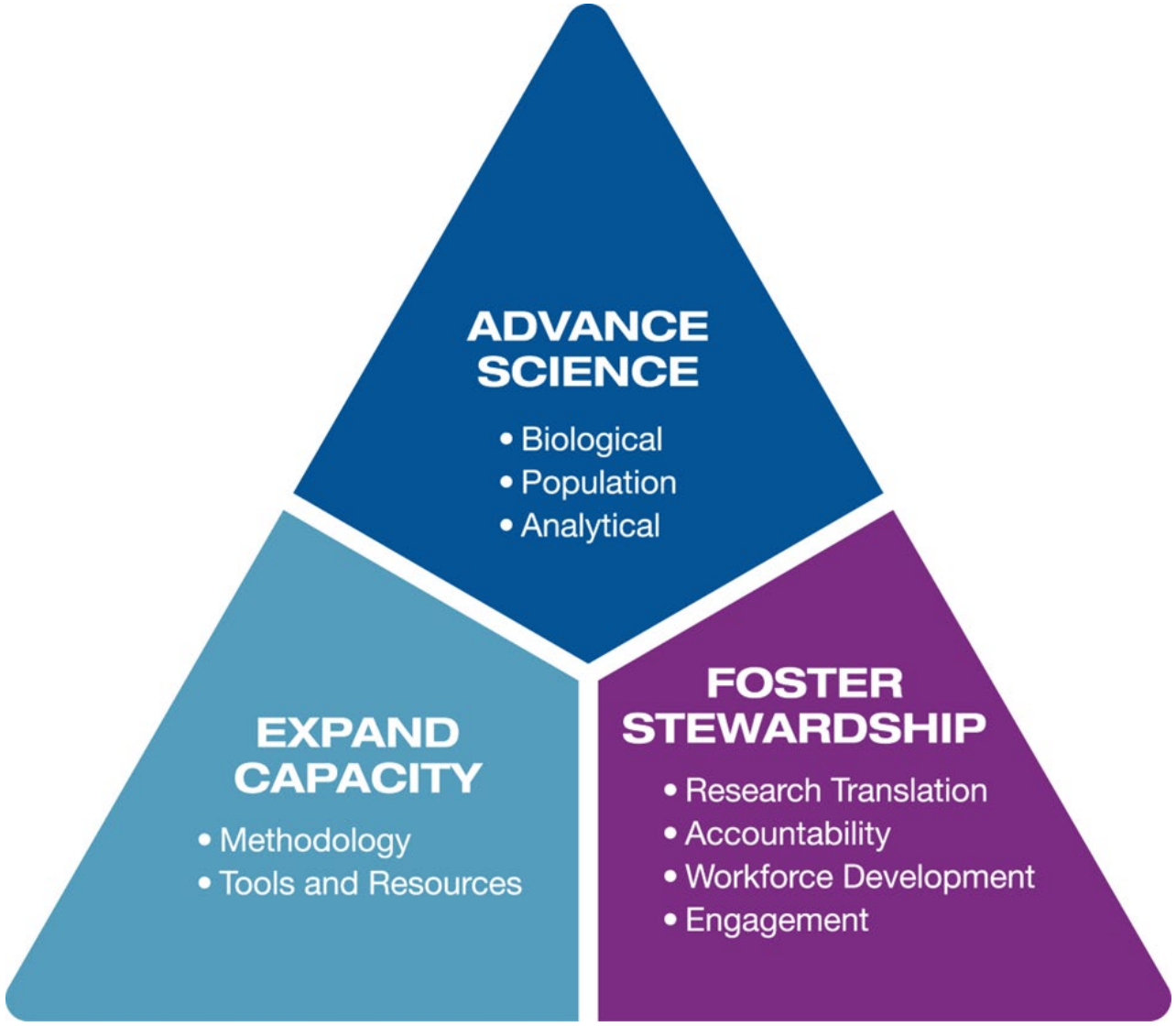
~60% of adults and ~30% of children in the U.S. use dietary supplements



Source: Nutrition Business Journal

Mission Driven Goals

- To advance dietary supplement science and catalyze innovative, collaborative research to close critical gaps of public health interest
- To expand the capacity to strengthen the field of dietary supplement science and address emerging public health concerns
- To foster stewardship, collaboration, and accountability



Strategic Plan:

- *Research*
  - Advance the study of the biological effects of DS on resilience and health across the lifespan
  - Advance the study of population-based DS use, related nutrient intake, and their effects on resilience and health across the lifespan
  - Advance the study of composition, quality, stability, safety, and efficacy of DS
- *Research Capacity*
  - Strengthen and harmonize methodological approaches and promote scientific best practices in the design, conduct, and reporting of DS research
  - Identify and support innovative use of publicly available DS databases to inform and strengthen new research
- *Stewardship*
  - Increase knowledge of and generate interest in DS research, ODS' accomplishment and activities, and its capabilities
  - Develop information resources that translate DS research findings for ODS audiences
  - Prioritize stewardship by conducting evaluations and other processes to ensure strategic alignment and measurable return on investment for all ODS activities
  - Coordinate and support workforce and professional development opportunities

Cross-Cutting Strategic Priorities:

Healthy Americans

- To understand biological and social factors that influence Americans' use of dietary supplements and the effects that dietary supplements have on health outcomes

Healthy Lifespan

- To understand associations between dietary supplement use, disease prevention, and health optimization at different ages and life stages and the biological mechanisms through which dietary supplements impact health

Resilience

- To understand how dietary supplements trigger biological mechanisms that result in resilient health outcomes and how these outcomes may vary across the lifespan

National Institutes of Health
Office of Dietary Supplements

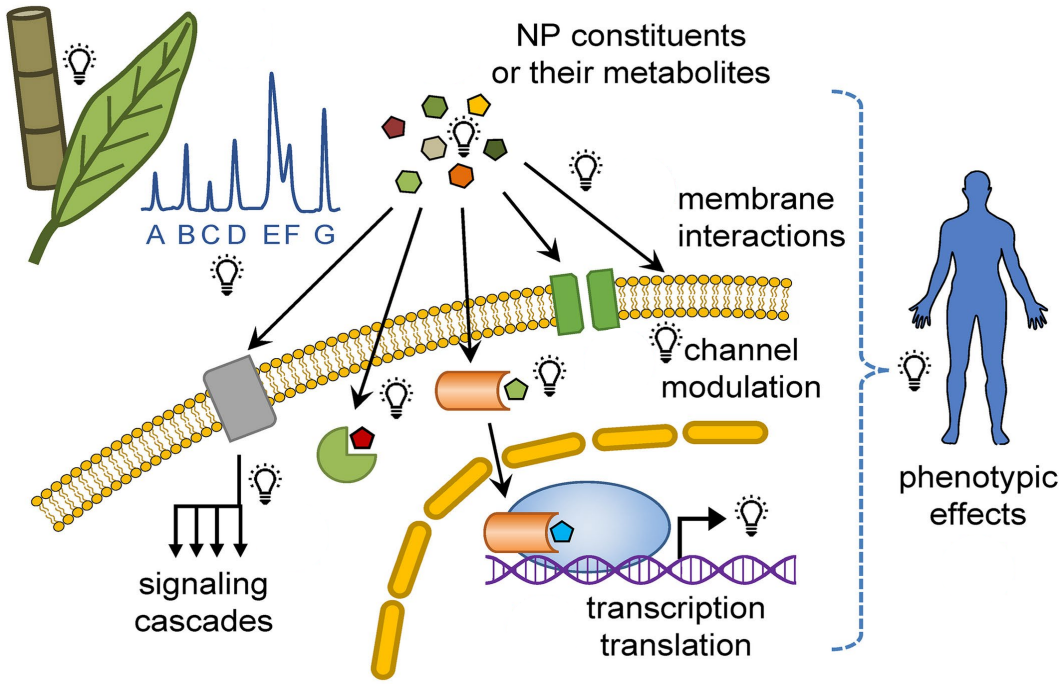
Longstanding ODS programs support:

- Rigor and Reproducibility
- Innovative and New Approach Methodologies (NAMs)

Analytical Methods and Reference Materials (AMRM) Program
AMRM Program Website (nih.gov)

NIH Consortium for Advancing Research on Botanical and Other Natural (CARBON) Products Program
NIH Consortium for Advancing Research on Botanical and Other Natural Products (CARBON) Program

Improving Natural Product Research Translation: from source to clinical trial
Sorkin et al. *FASEB J*. 2020. doi: 10.1096/fj.201902143R.



Guiding Principle for Dietary Supplement Research

The translation of data from studies examining the mechanistic and health effects of dietary supplements to inform healthcare practices and individuals' decisions to use or avoid dietary supplements requires a ***rigorous evidence base*** *that is* ***reproducible*** *and* ***accurately reported*** *in the peer-reviewed literature.*

Reproducibility and Integrity Guidance to Optimize Research (RIGOR) for Dietary Supplements

Questions? Thank you!

National Institutes of Health
Office of Nutrition Research

National Institutes of Health
Office of Dietary Supplements

andrew.bremer@nih.gov