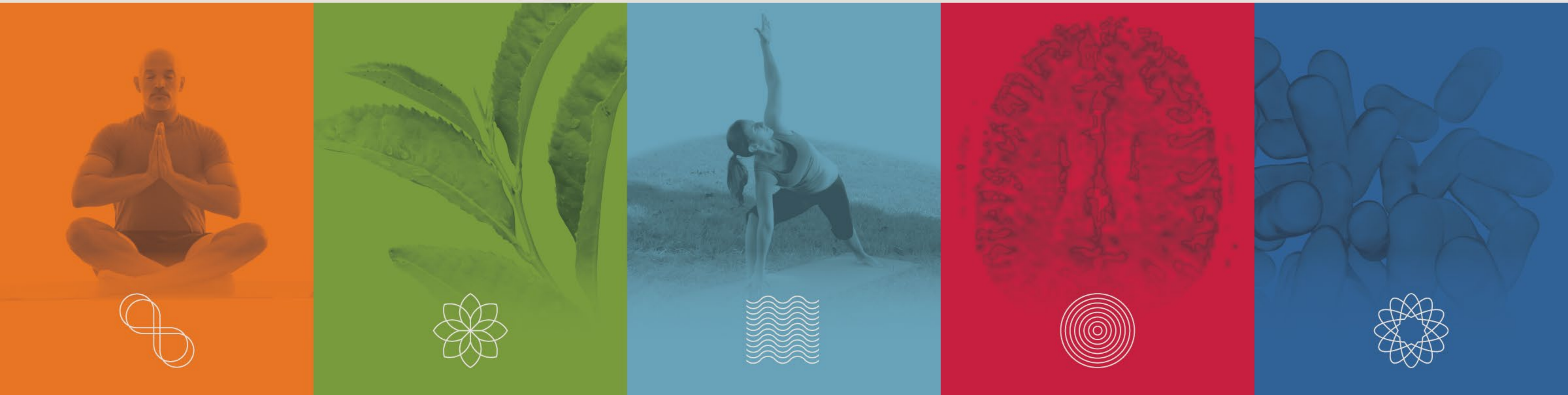




A Healthy Direction: Emerging Priorities for NCCIH in Nutrition Research

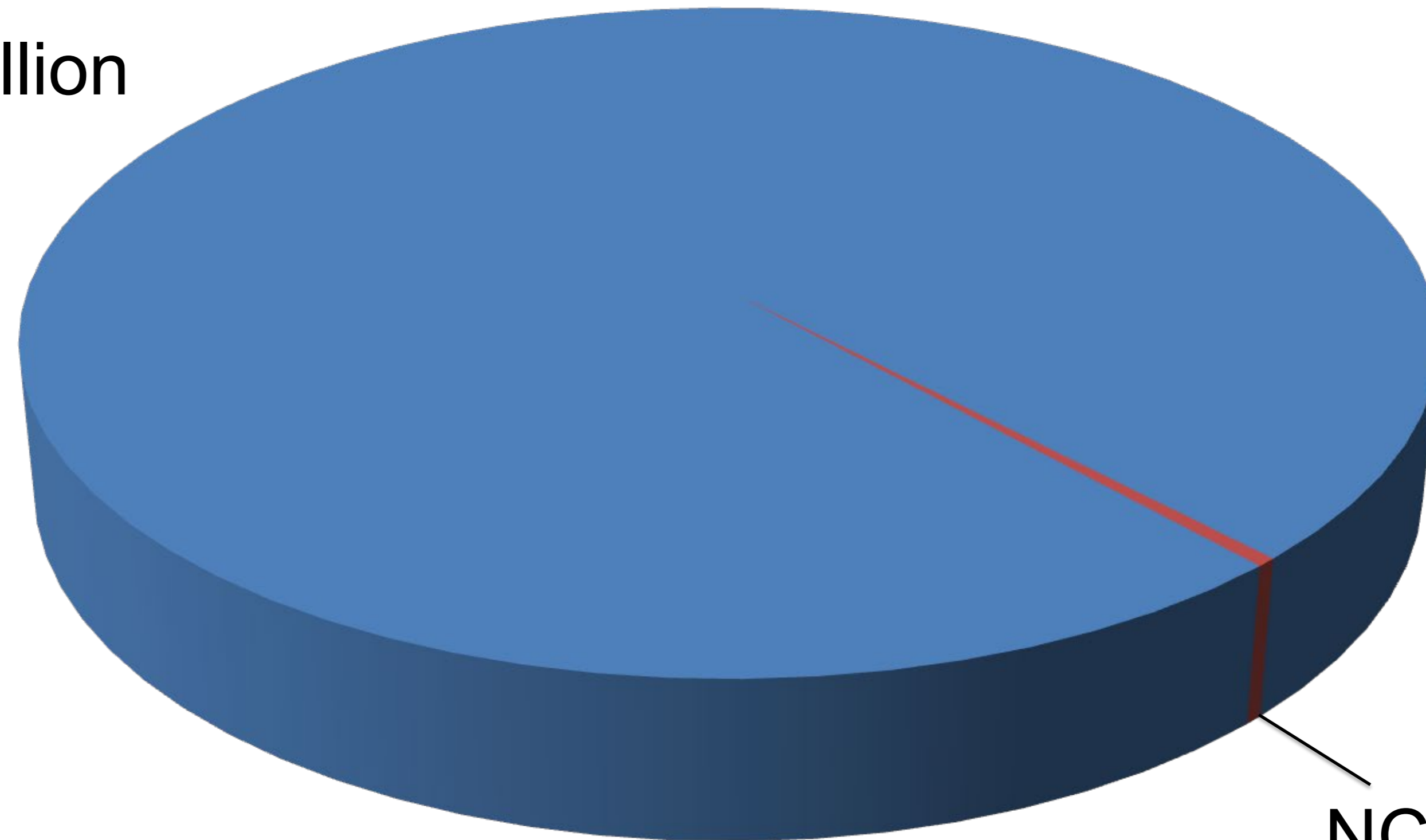
D. Craig Hopp, Ph.D.
CRN Health Care Practitioner Forum
May 10, 2022





FY22 Budget

NIH
\$45.2 Billion



NCCIH
\$159.4 Million





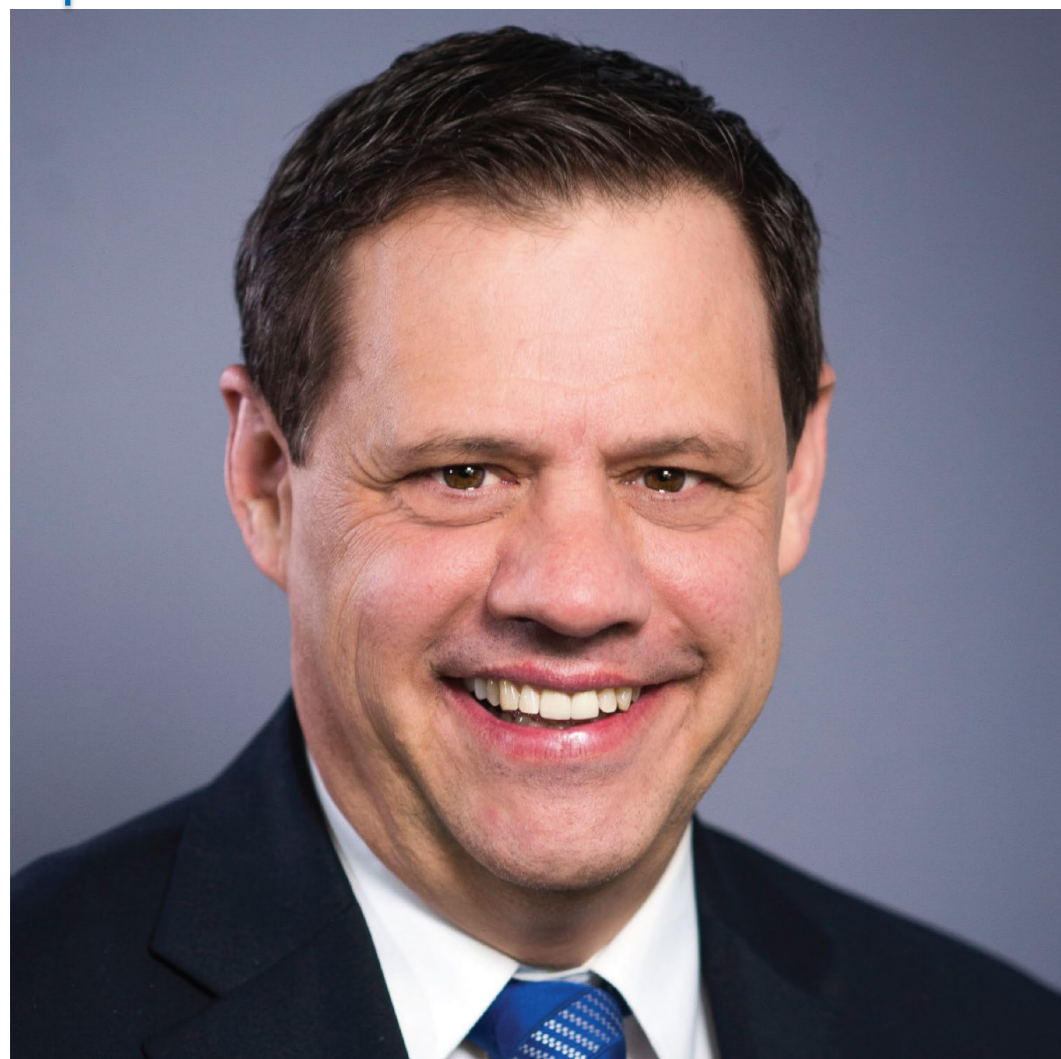
Helene Langevin
NCCIH Director



Emmeline Edwards
DER Director



D. Craig Hopp
DER Deputy Director



David Shurtleff
NCCIH Deputy Director



Wendy Weber
Chief CRB



Wen Chen
Chief BMRB

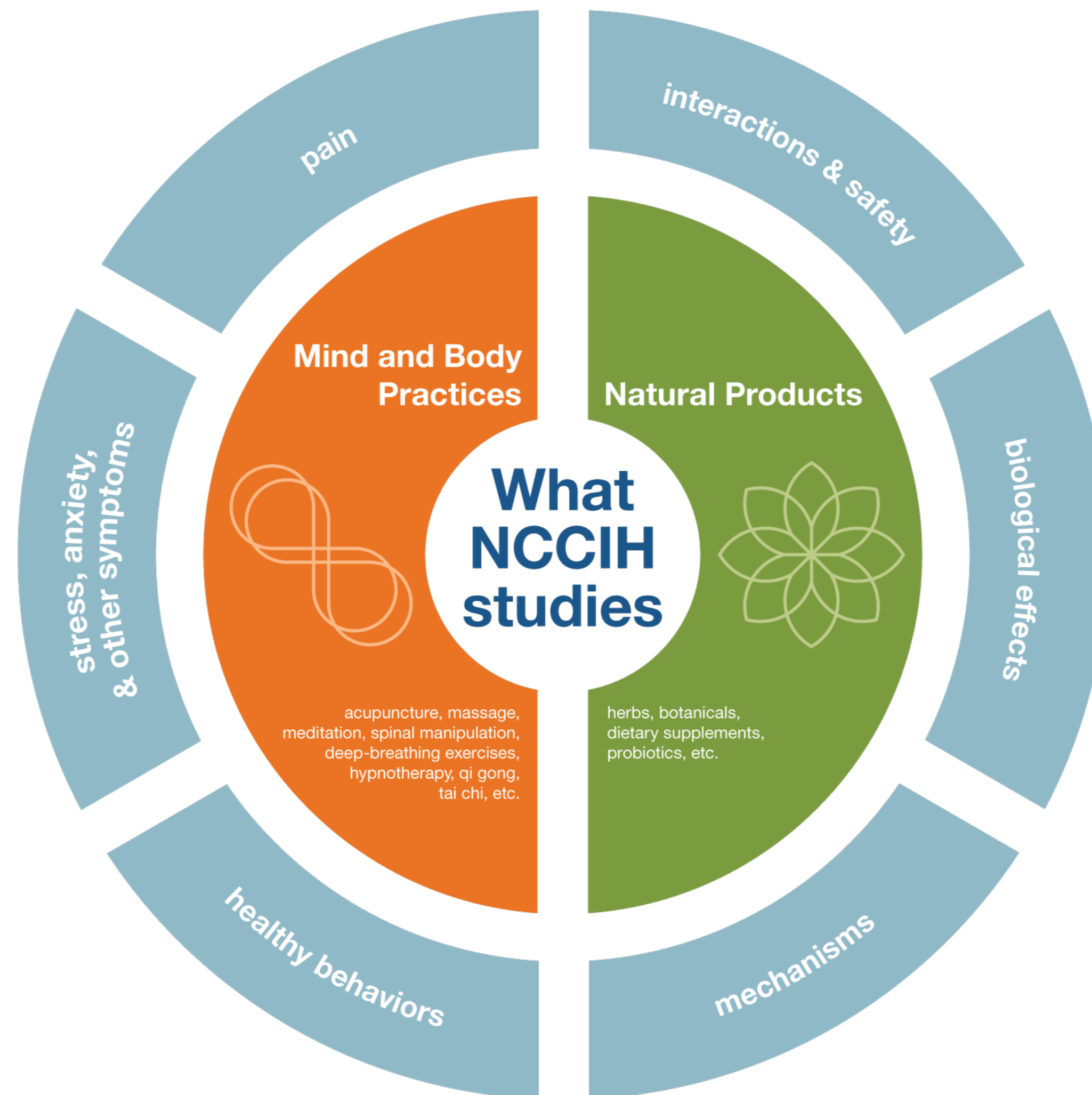


NCCIH Mission

The **mission** of **NCCIH** is to define, through rigorous scientific investigation, the usefulness and safety of complementary and integrative health interventions and their roles in improving health and health care.



NCCIH Research Funding



NCCIH Funded Clinical Trials



Ginkgo

Saw Palmetto



St. John's Wort

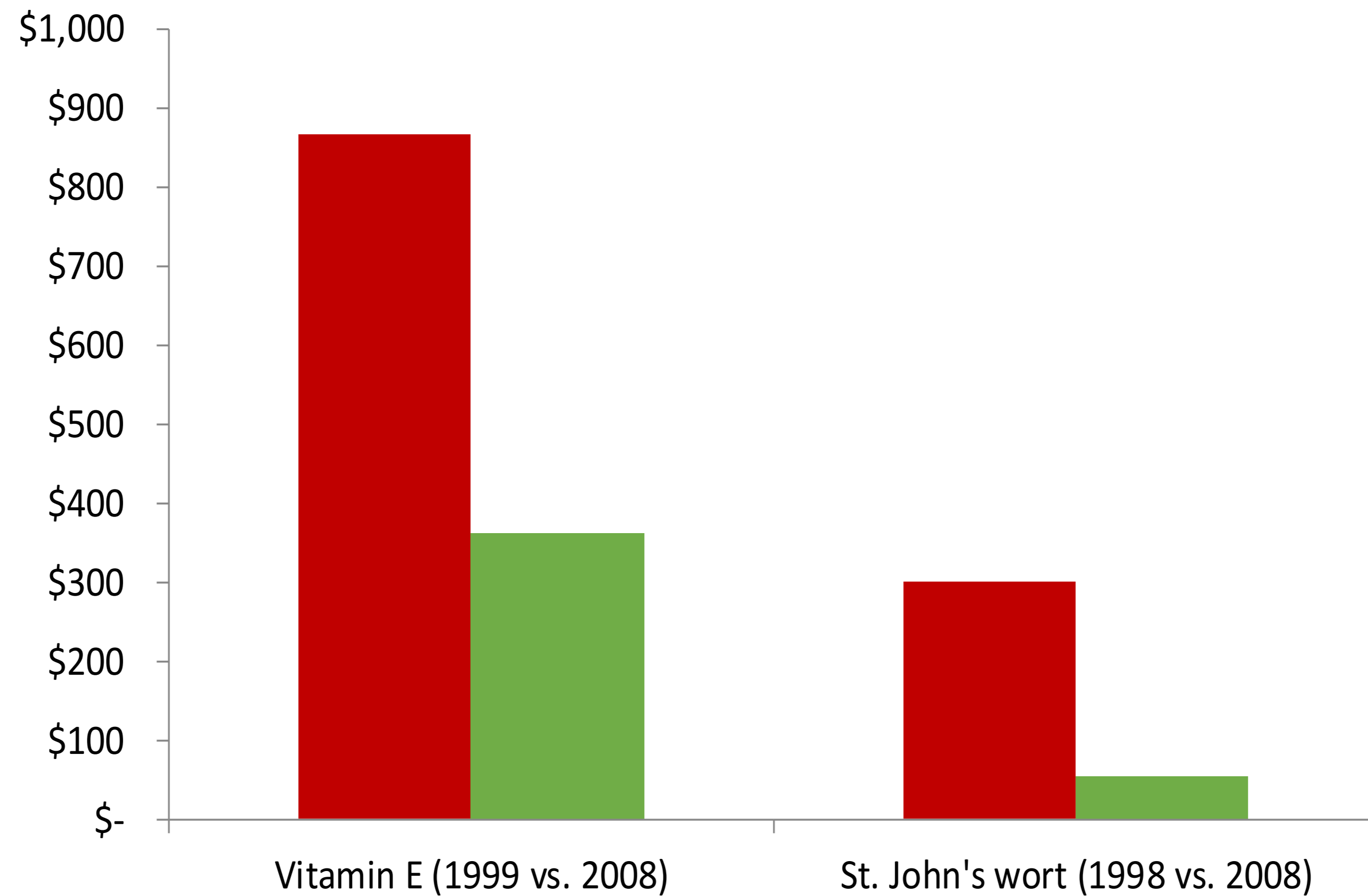


Milk Thistle

Echinacea

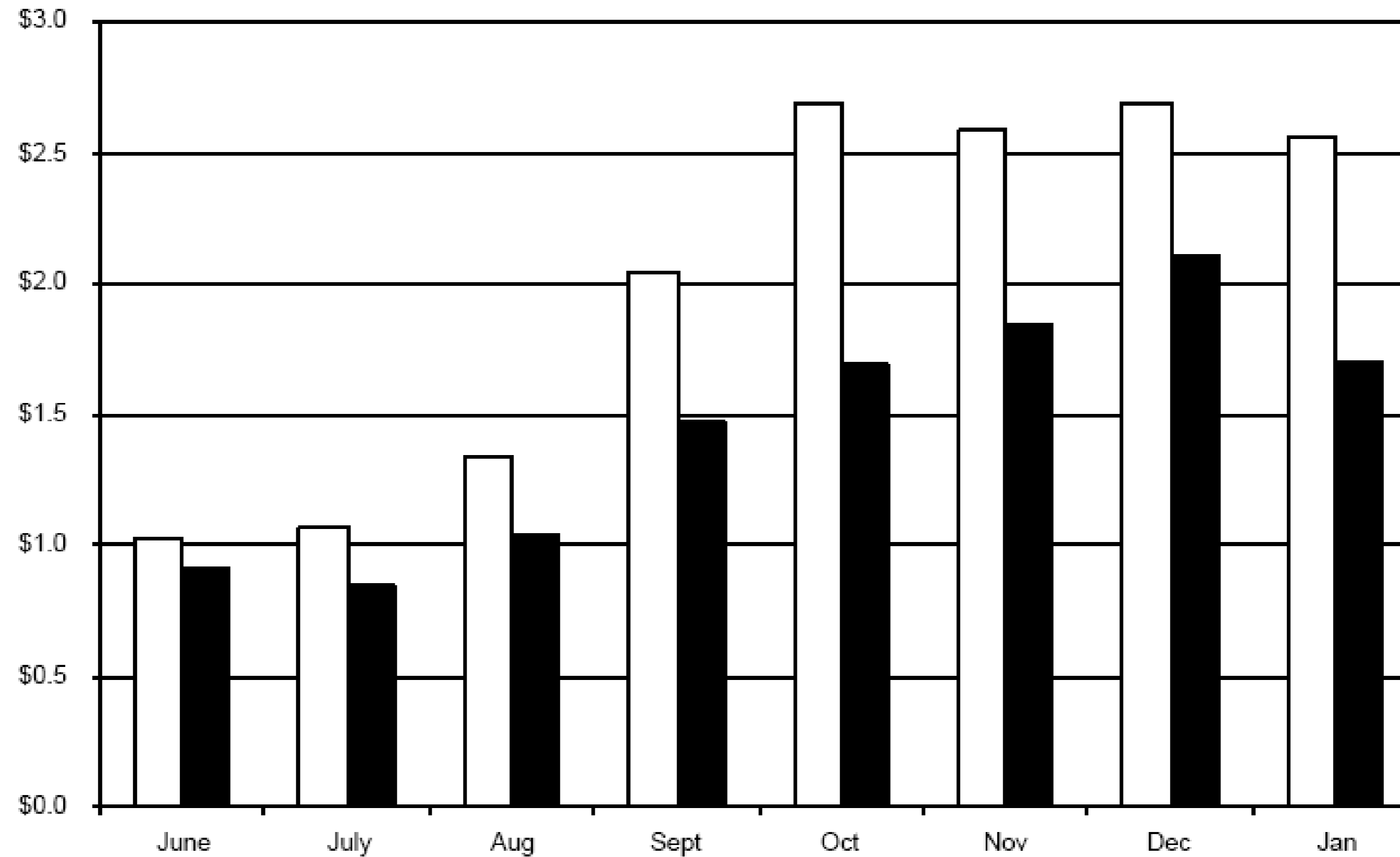


Influence of NCCIH funded trials on dietary supplement sales?



Echinacea Sales; 4-Week Periods: 2004 vs. 2005.

NEJM Echinacea study – published July 2005



Source: Nutrition Business Journal 2006





National Center for
Complementary and
Integrative Health

Strategic Plan

FY 2021-2025

Mapping a Pathway to Research
on Whole Person Health



U.S. Department of Health & Human Services — National Institutes of Health



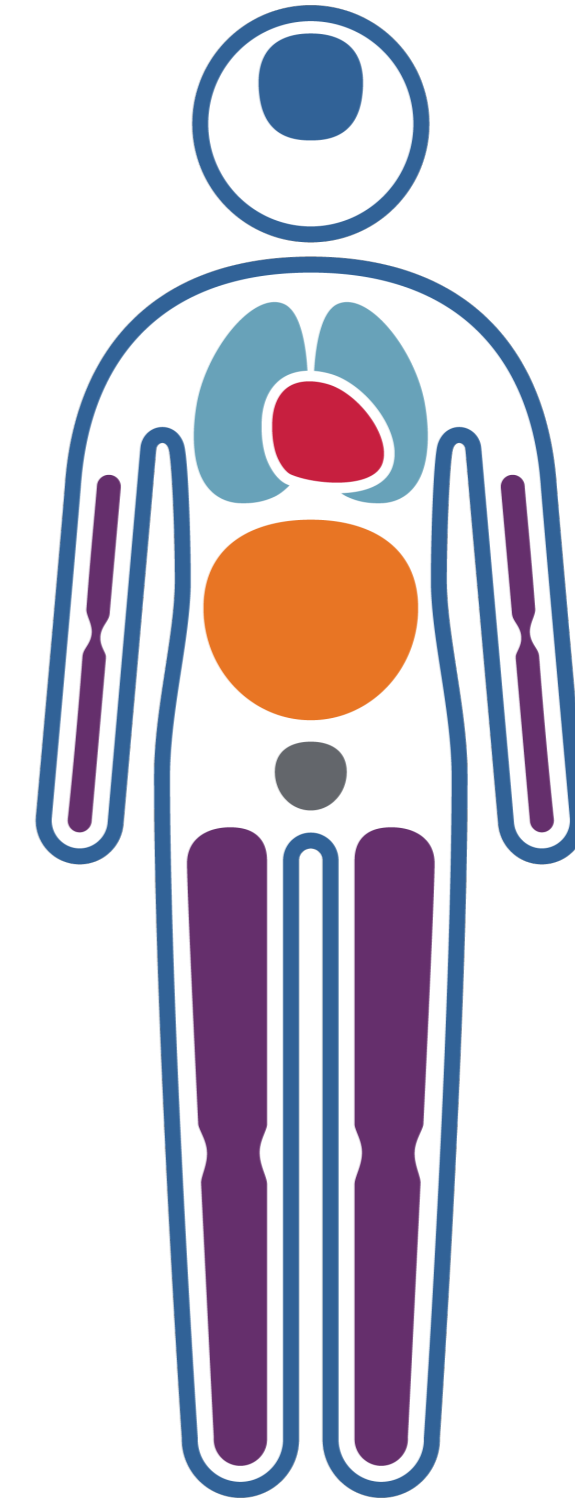
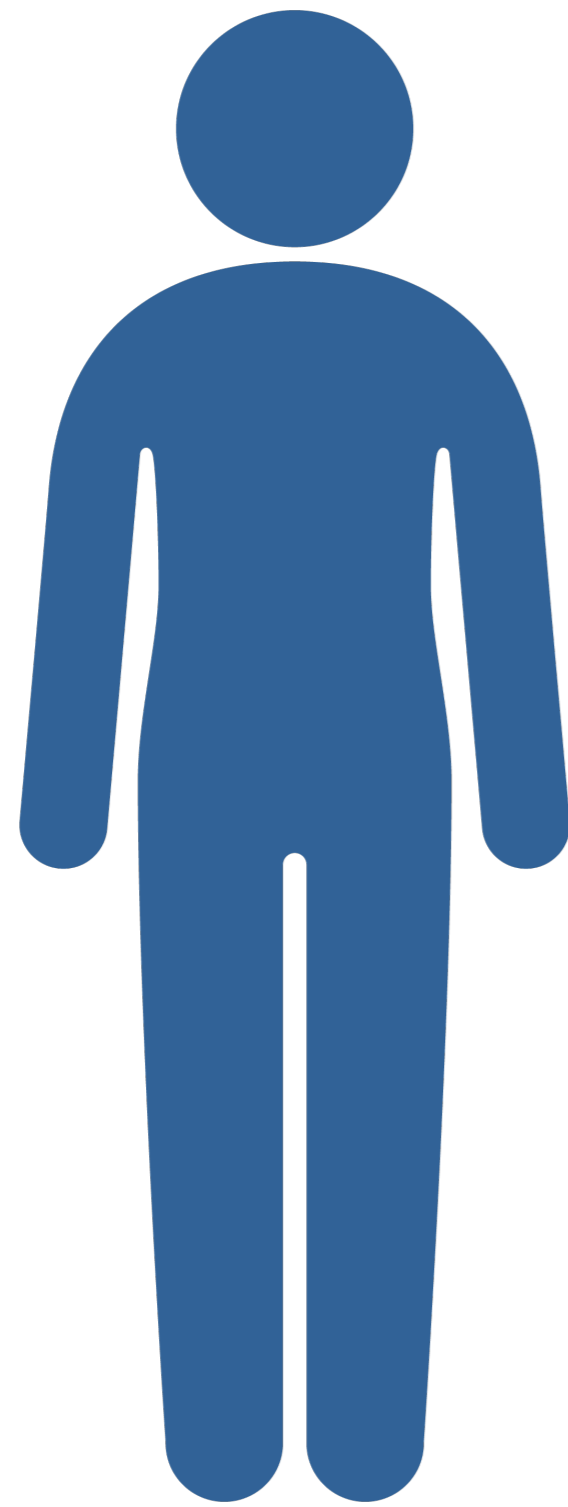
Healthy



Less Healthy



Disease

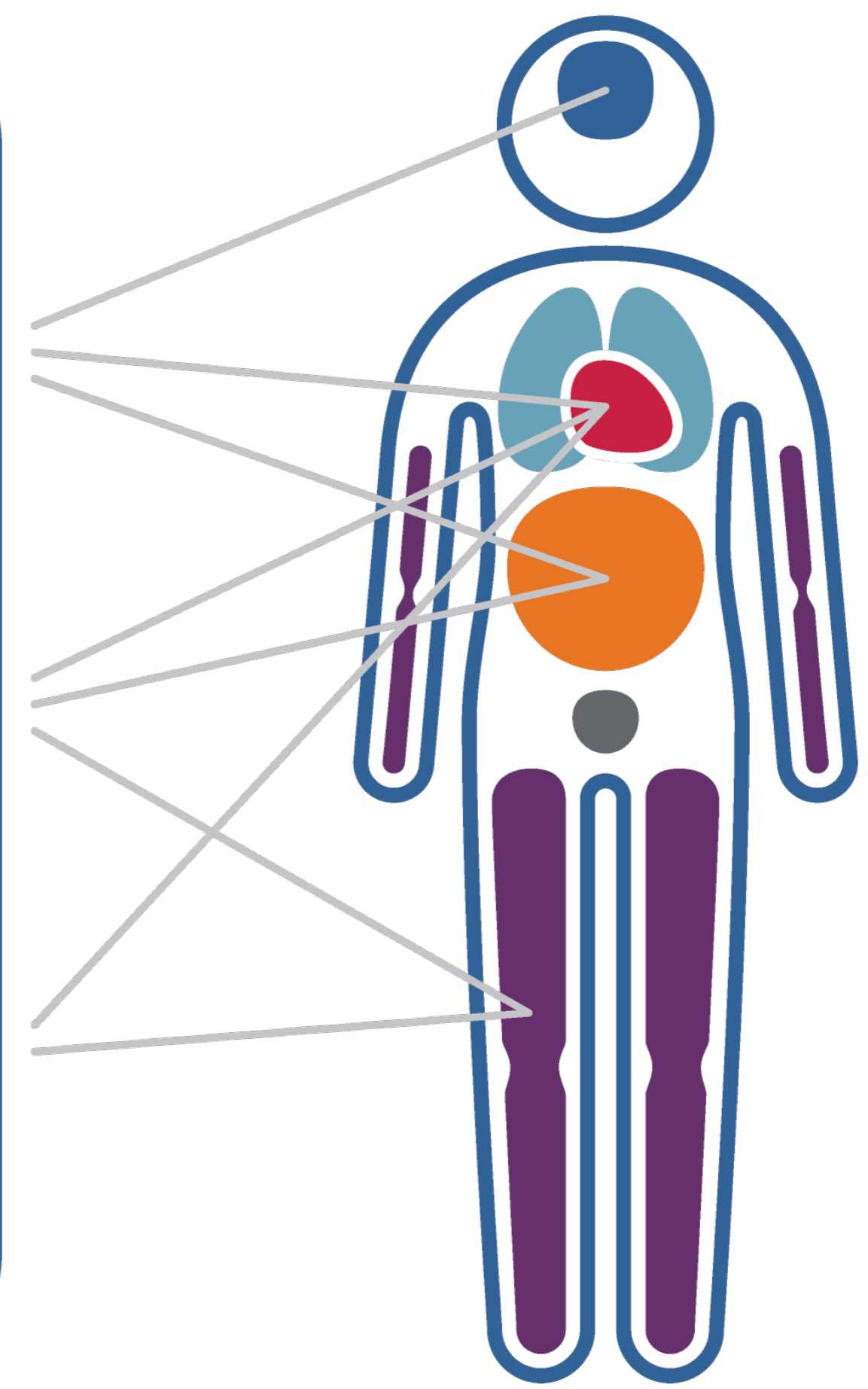




Psychological stress

Poor diet

Sedentary lifestyle



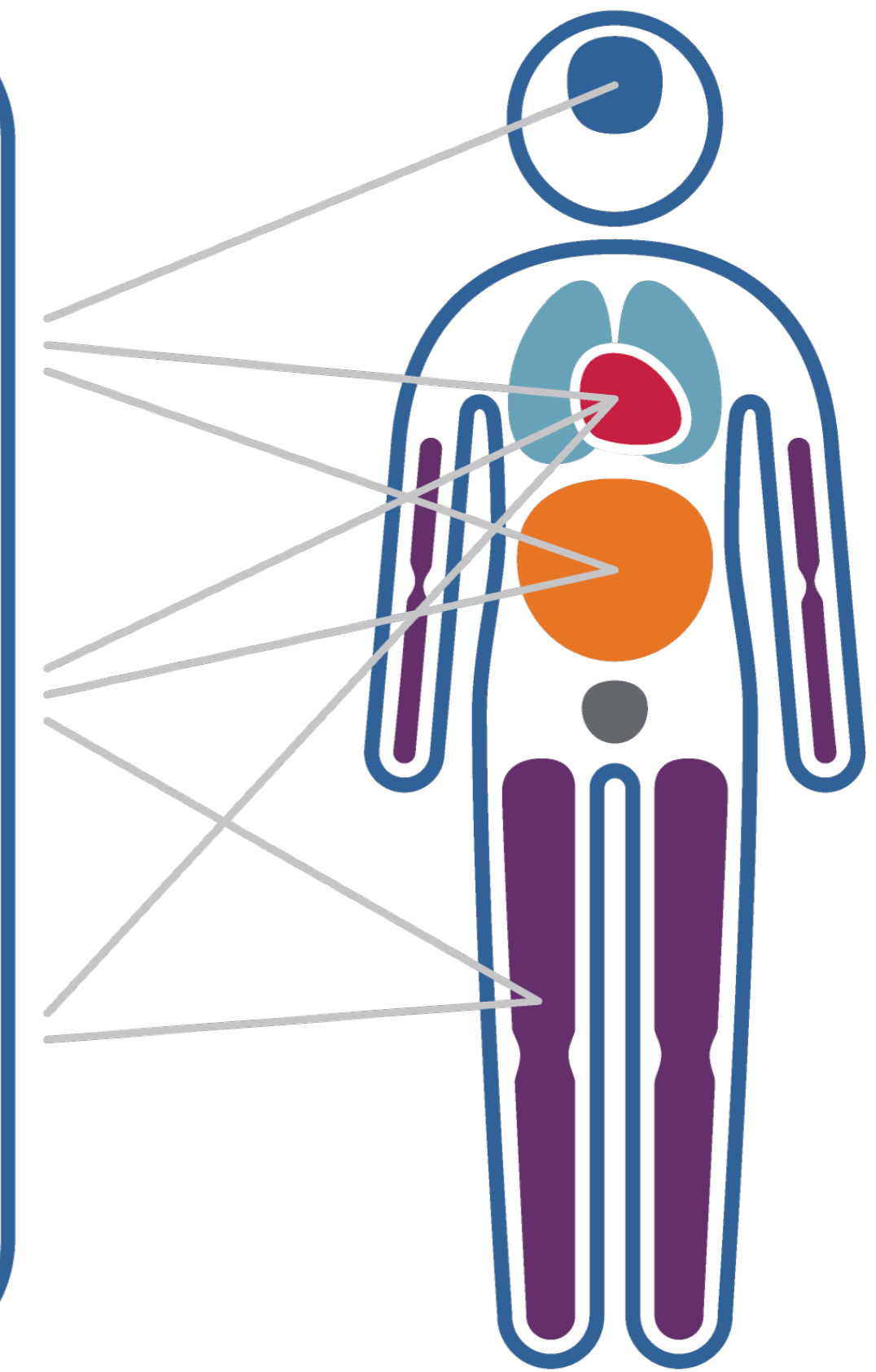
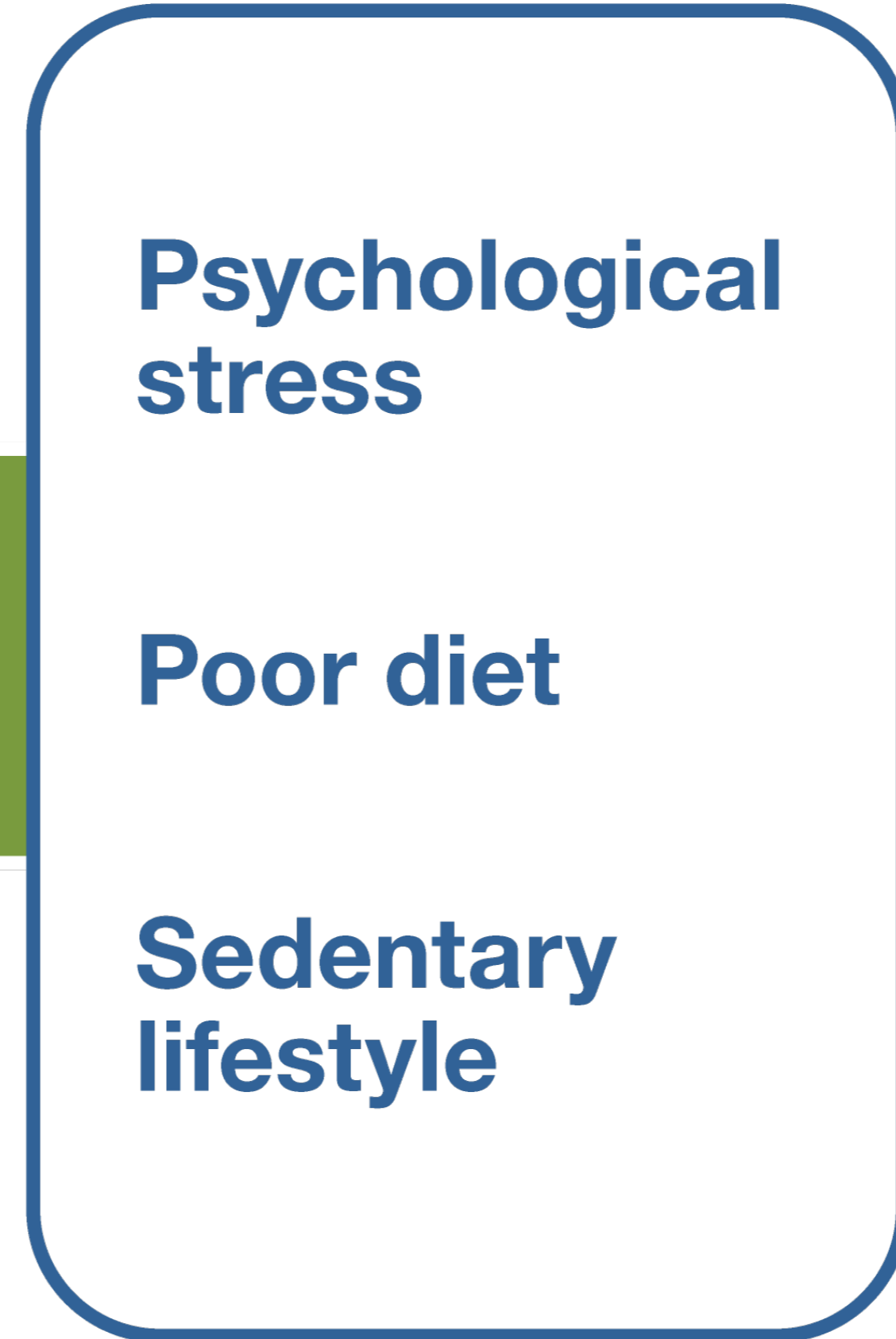
Healthy  Less Healthy  Disease



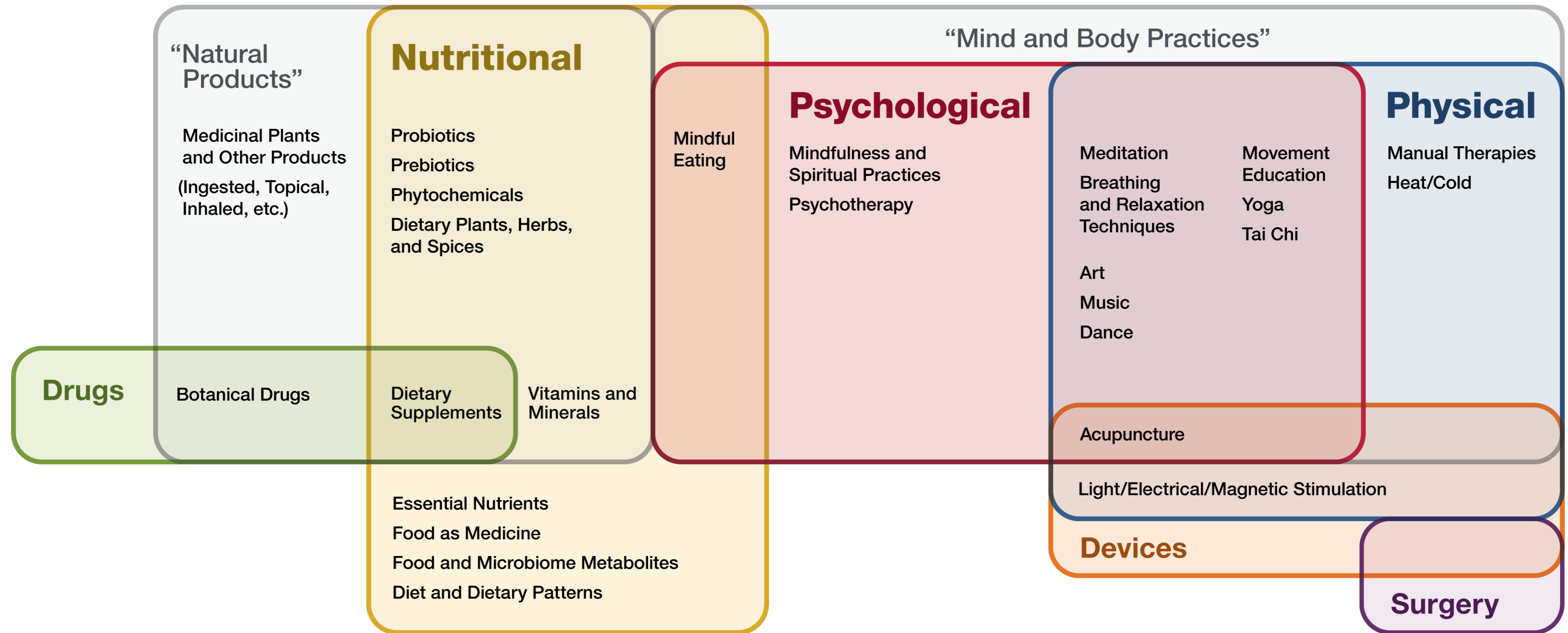
Self care

Psychological
Nutritional
Physical

Multicomponent
interventions



Illustrative Examples of Therapeutic Input Framework



NCCIH Top Scientific Priorities

- Research on Whole Person Health
- Interoception Research
- Health Restoration, Resilience, Disease Prevention, and Health Promotion Across the Lifespan
- Implementation Science for Complementary and Integrative Health
- Complementary and Integrative Management of Pain
- Complex Interactions Involving Nutritional Interventions
- Enhancing the Complementary and Integrative Health Research Workforce
- Mechanisms and Biomarkers of Mind and Body Approaches
- Supporting Impactful Clinical Trials of Complementary and Integrative Health Approaches
- Communications Strategies and Tools To Enhance Scientific Literacy and Understanding of Clinical Research



Natural Product-Drug Interaction Research

Mission

The Center of Excellence for Natural Product-Drug Interaction Research (NaPDI) provides leadership in the study of natural product-drug interactions, with the ultimate goal of developing a definitive approach to determine the clinical relevance of pharmacokinetic interactions between natural products (NPs) and conventional medications.

Objectives

- Work collaboratively with NCCIH to identify, prioritize, and source 4-6 NPs as potential precipitants of clinically meaningful interactions with commonly used medications.
- Develop a statement of work or administrative supplement for each of the selected NPs to address existing gaps in the scientific literature and provide a definitive assessment about the

Welcome!

Welcome to the Natural Product-Drug Interaction Research Center. This site facilitates the dissemination of research findings from the NaPDI projects available on the publicly accessible [data repository](#). The data repository allows users to access scientific results, raw data, and recommended approaches to optimally assess the clinical significance of pharmacokinetic natural product-drug interactions. This site is continually updated.

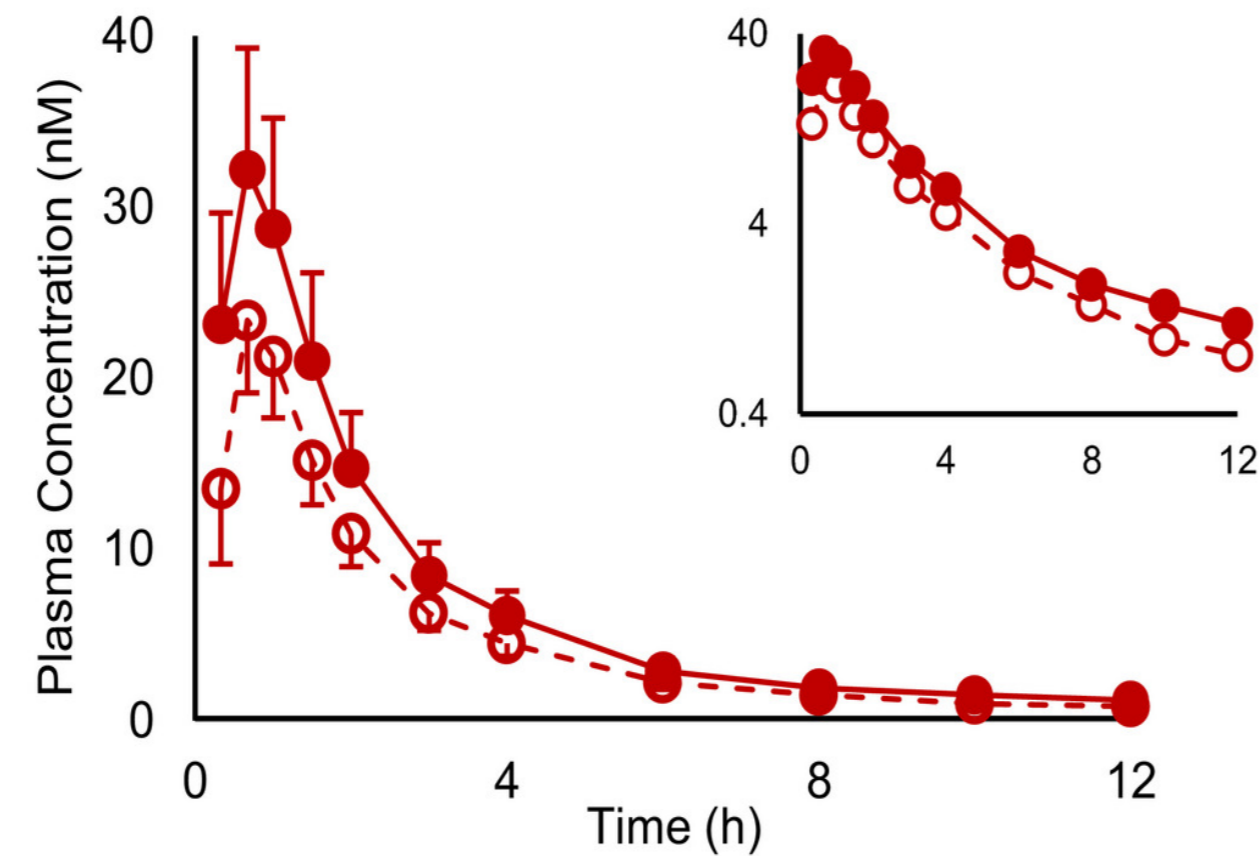
Related Links

- [NaPDI Data Repository](#)
- [National Institutes of Health \(NIH\)](#)

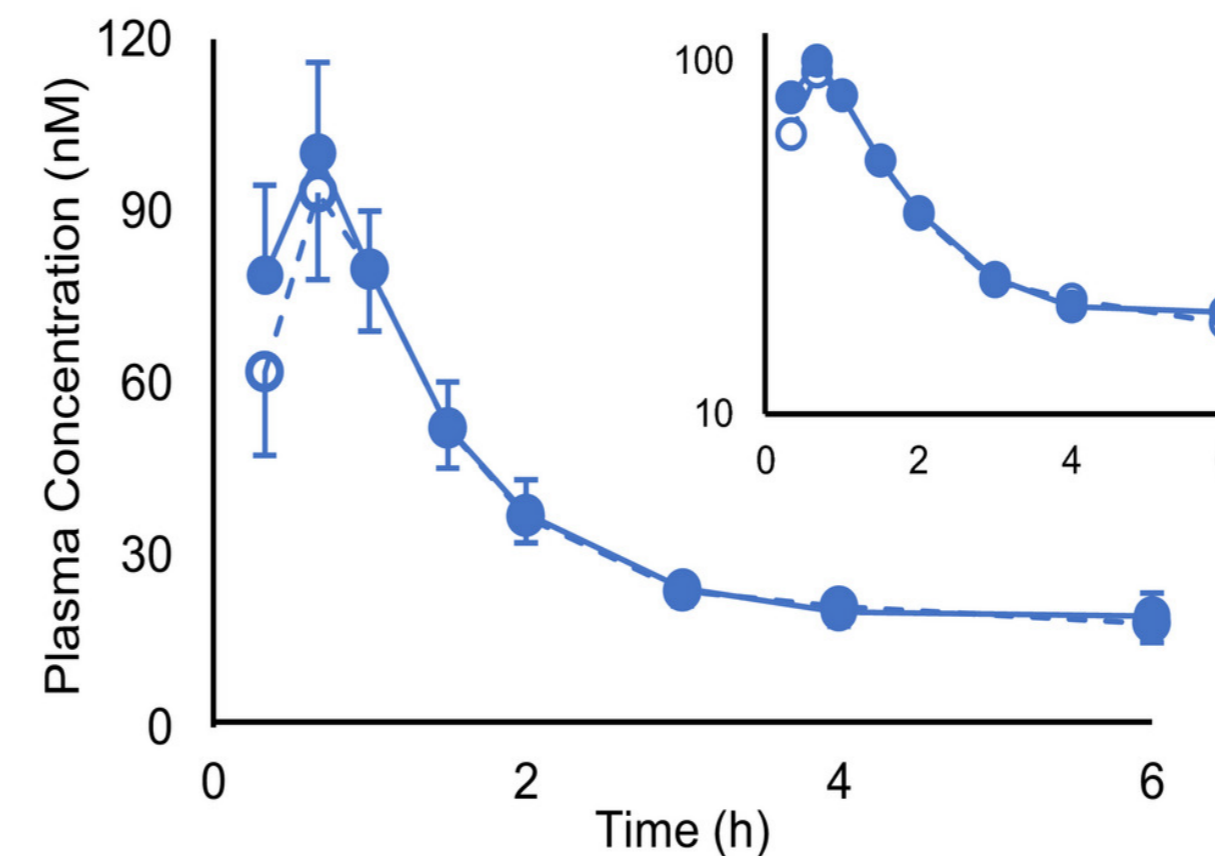


Drug Interactions with Goldenseal

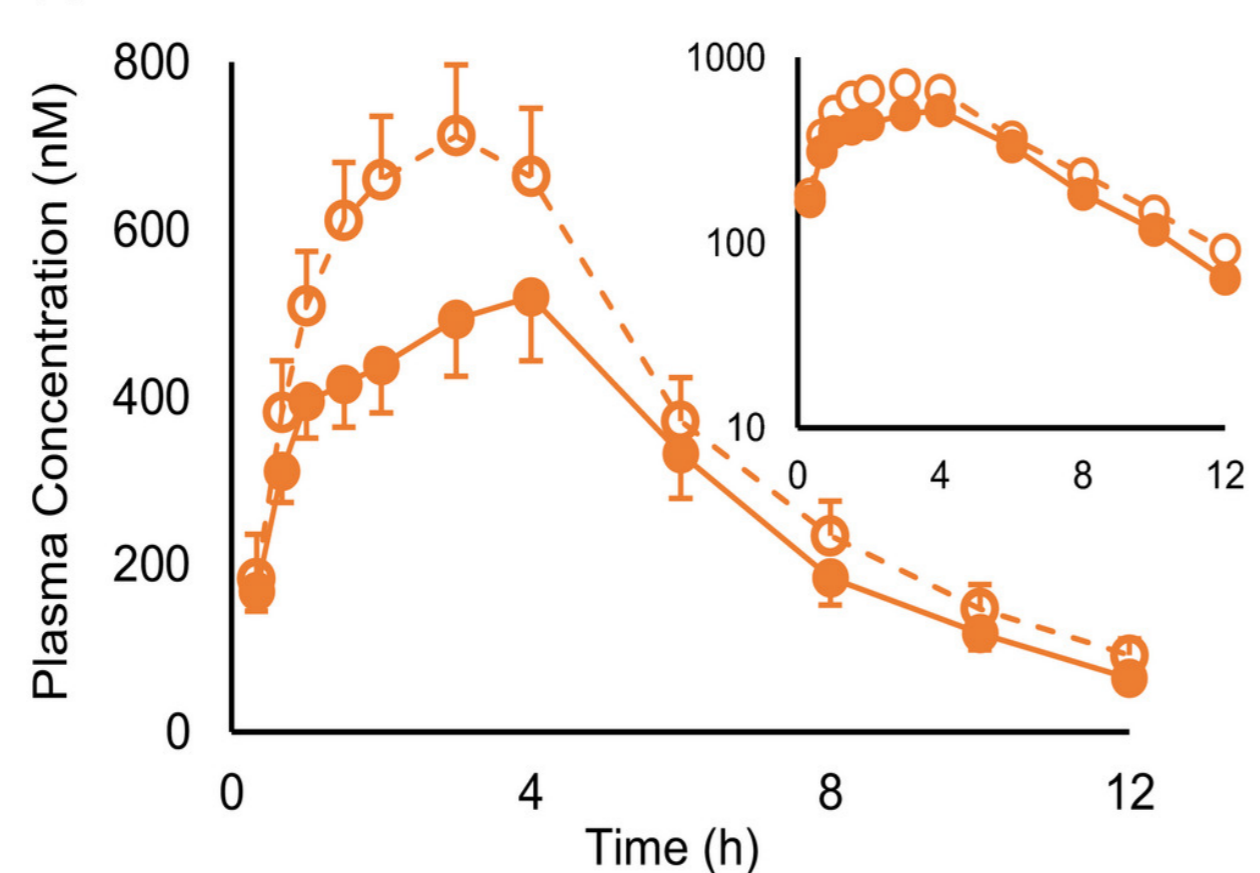
(a) Midazolam



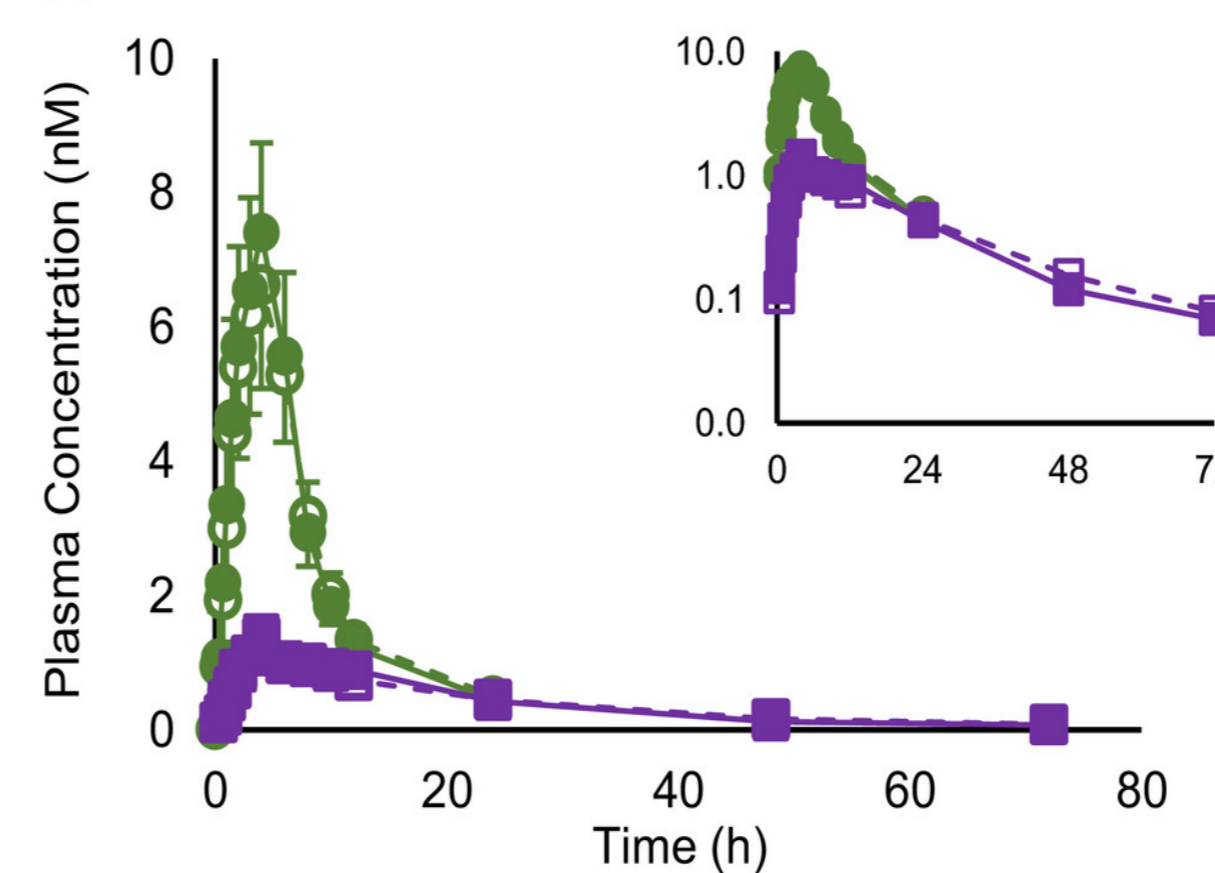
(b) Furosemide



(c) Metformin



(d) Rosuvastatin acid & lactone



Clin Pharma and Therapeutics, Volume: 109, Issue: 5, Pages: 1342-1352, First published: 11 November 2020, DOI: (10.1002/cpt.2107)





National Center for
Complementary and
Integrative Health

Cannabinoids/ Terpenes and Pain

October 23, 2020

PRECISION

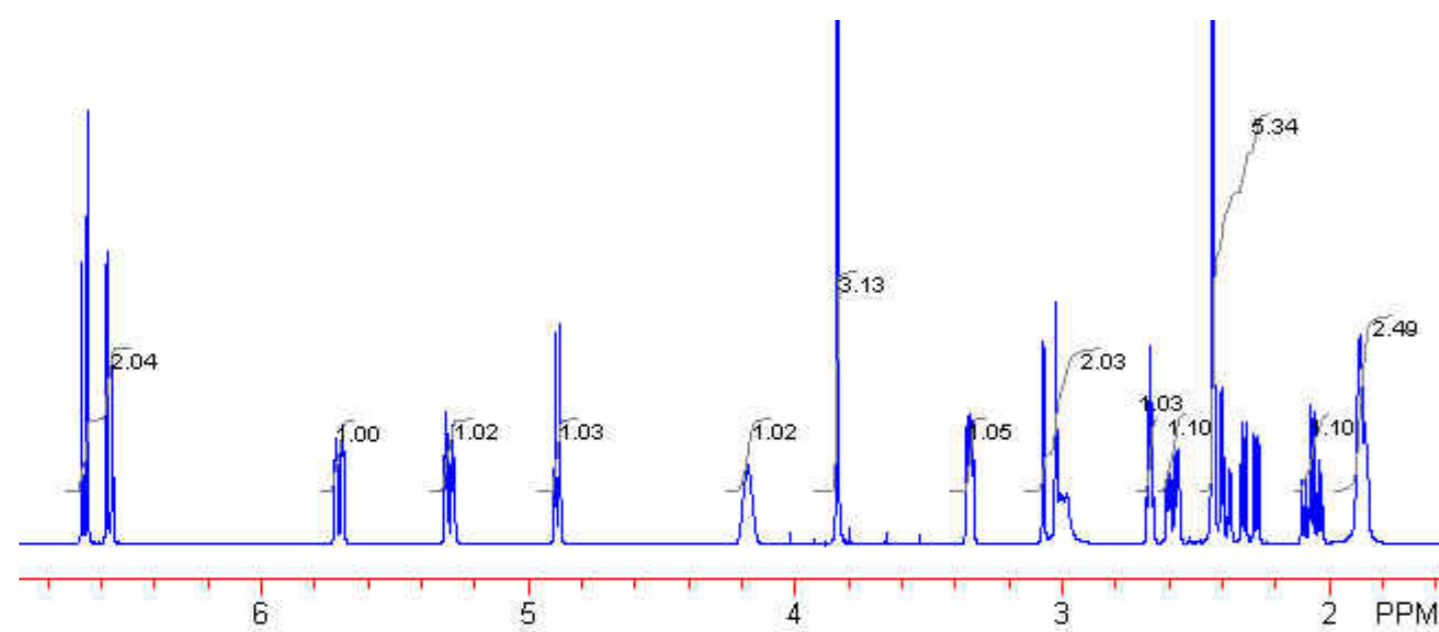
PROBIOTIC

THERAPIES

Challenges
and Opportunities

April 26-27, 2022

NCCIH/ODS CARBON Program



Natural Products NMR Open Data Exchange (U24 Clinical Trial Not Allowed)



Center for Natural Product Technology, Methodology, and Productivity Optimization (U41 Clinical Trial Not Allowed)

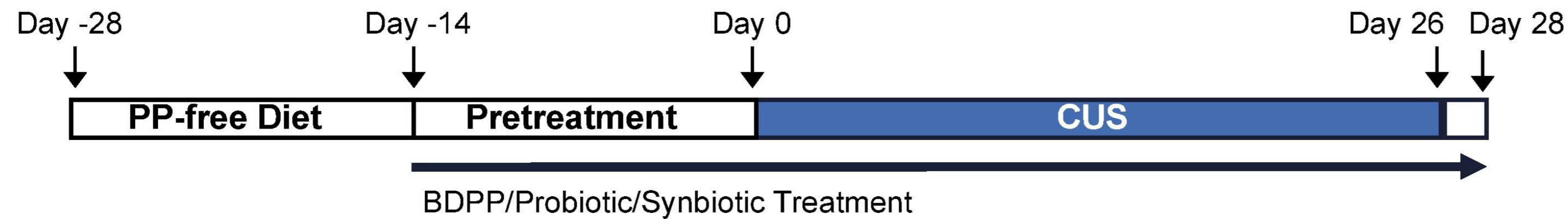


Botanical Dietary Supplements Research Centers (U19 Clinical Trial Optional)

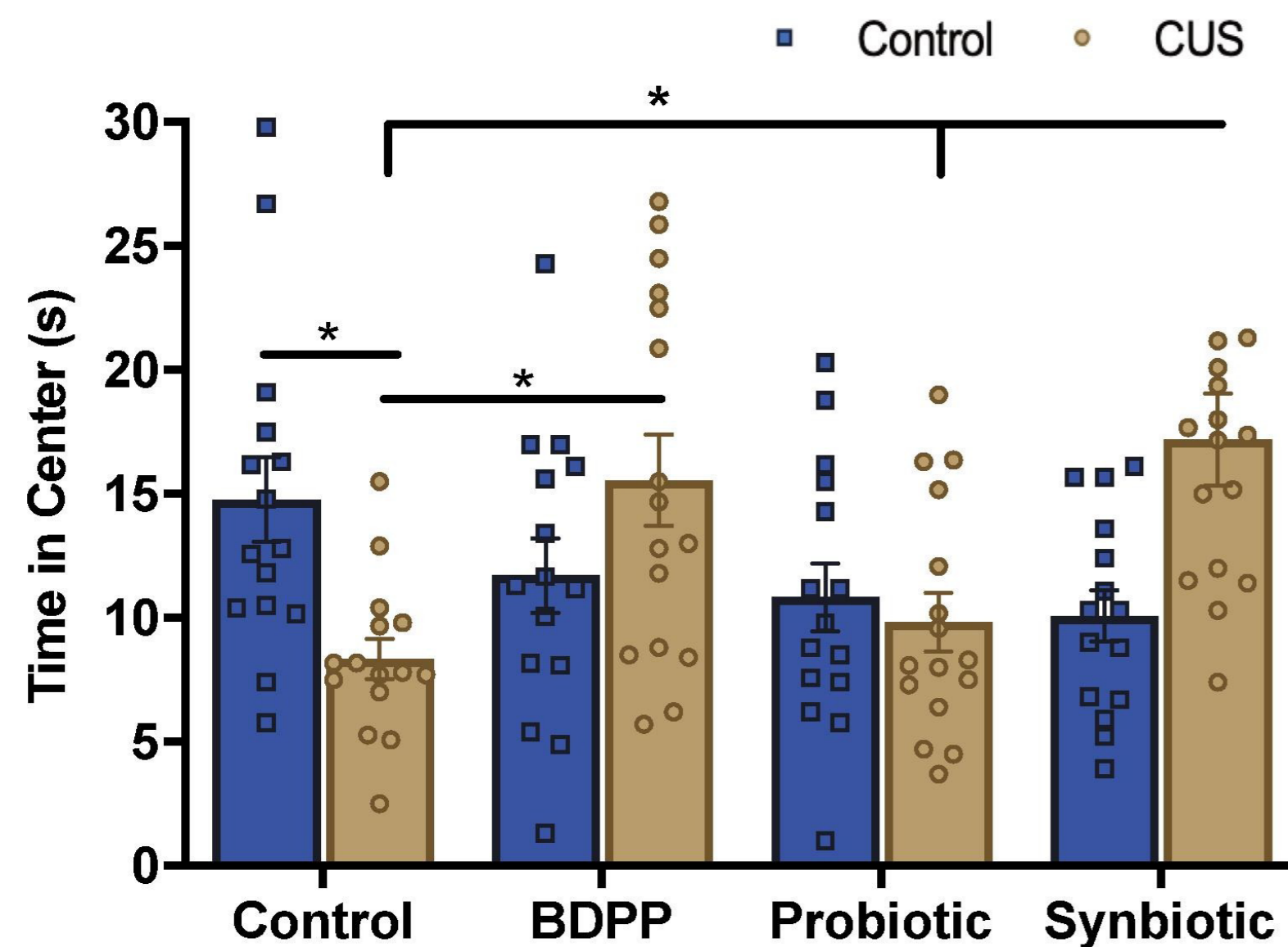


Microbiota metabolites modulate stress-induced anxiety- and depressive-like behaviors

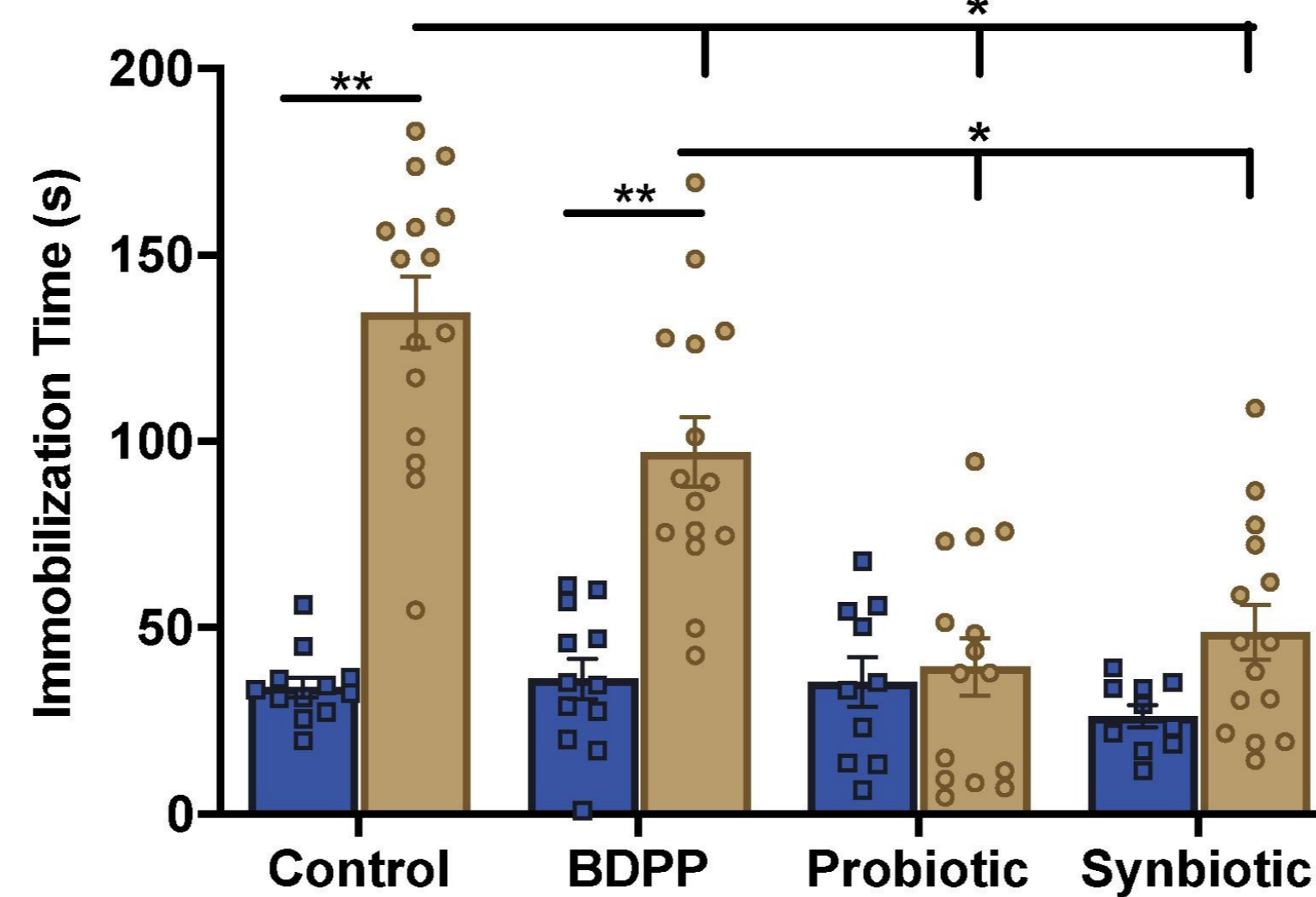
(a) CUS Protocol Outline



(b) Open Field Test

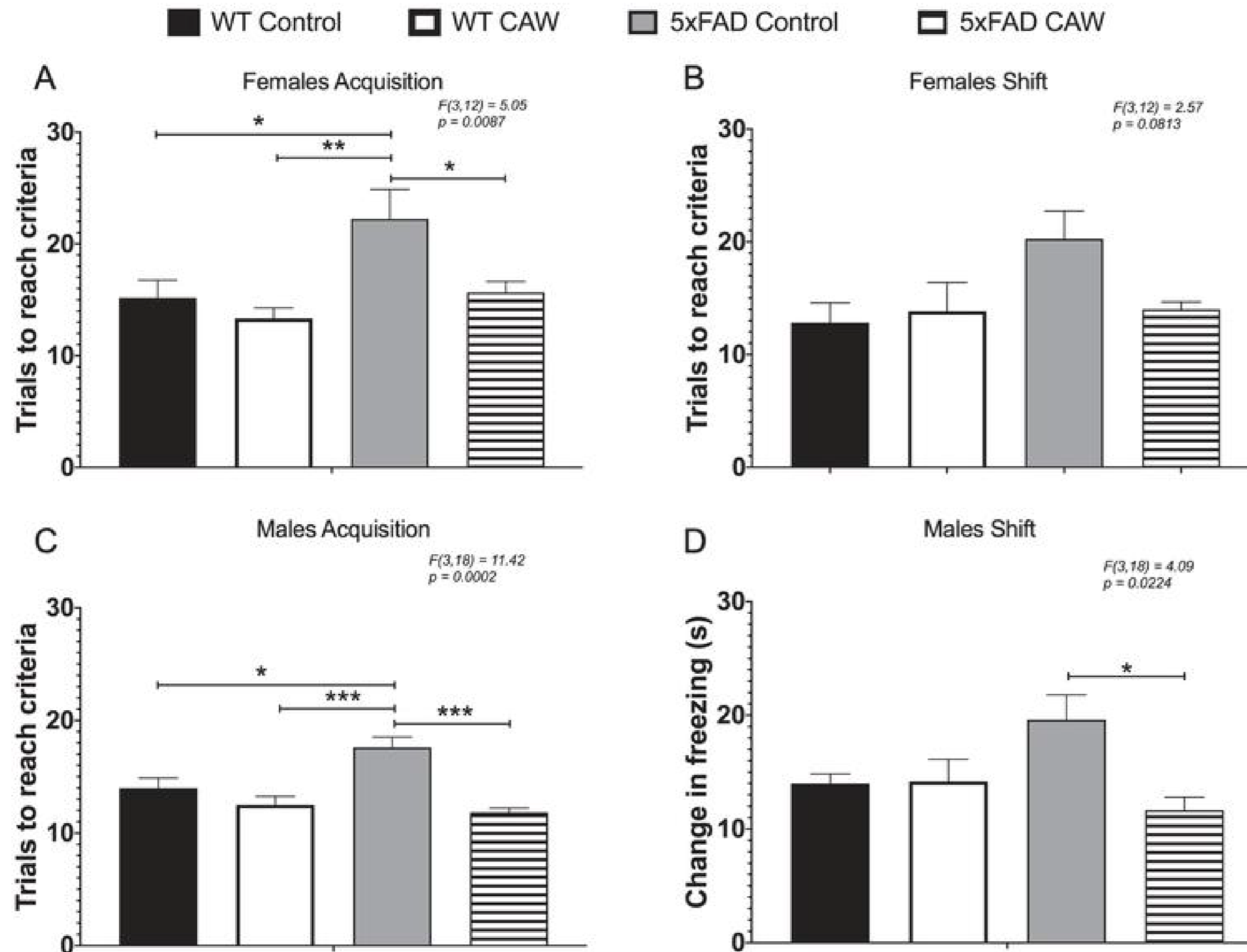


(c) Forced Swim Test



Westfall S, Caracci F, Zhao D, Wu QL, Frolinger T, Simon J, **Pasinetti GM**. *Brain Behav Immun*. 2021 Jan;91:350-368. Epub 2020 Oct 21.

Centella asiatica improves cognition



Zweig JA, Brandes MS, Brumbach BH, Caruso M, Wright KM, Quinn JF, Soumyanath A, Gray NE. *J Alzheimers Dis.* 2021;81(4):1453-1468.



Journal of Autism and Developmental Disorders

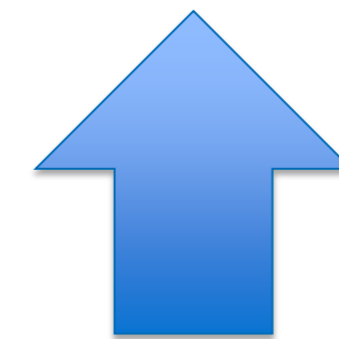
<https://doi.org/10.1007/s10803-021-05396-9>

ORIGINAL PAPER

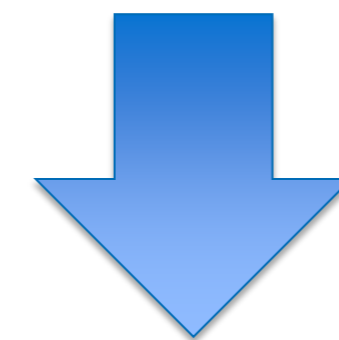
Randomized Controlled Trial of Omega-3 and -6 Fatty Acid Supplementation to Reduce Inflammatory Markers in Children with Autism Spectrum Disorder

Sarah A. Keim^{1,2,3} · Abigail Jude¹ · Katie Smith¹ · Aiman Q. Khan¹ · Daniel L. Coury^{1,2} · Joseph Rausch^{1,2} · Shivika Udaipuria¹ · Megan Norris^{1,2,4} · Lindsay R. Bartram^{1,2} · Anita R. Narayanan^{1,2} · Lynette K. Rogers^{1,2}

FA Plasma Levels



Inflammatory Cytokines



Information About NCCIH Funding

nccih.nih.gov

Gmail YouTube Maps

U.S. Department of Health and Human Services

National Institutes of Health

Información en Español



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Grants & Funding Home

Overview

Funding Opportunities

Clinical Trial Funding

Grant Policies & Guidance

Application Resources

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Types of Grants and Contracts

Diversity and Health Disparities

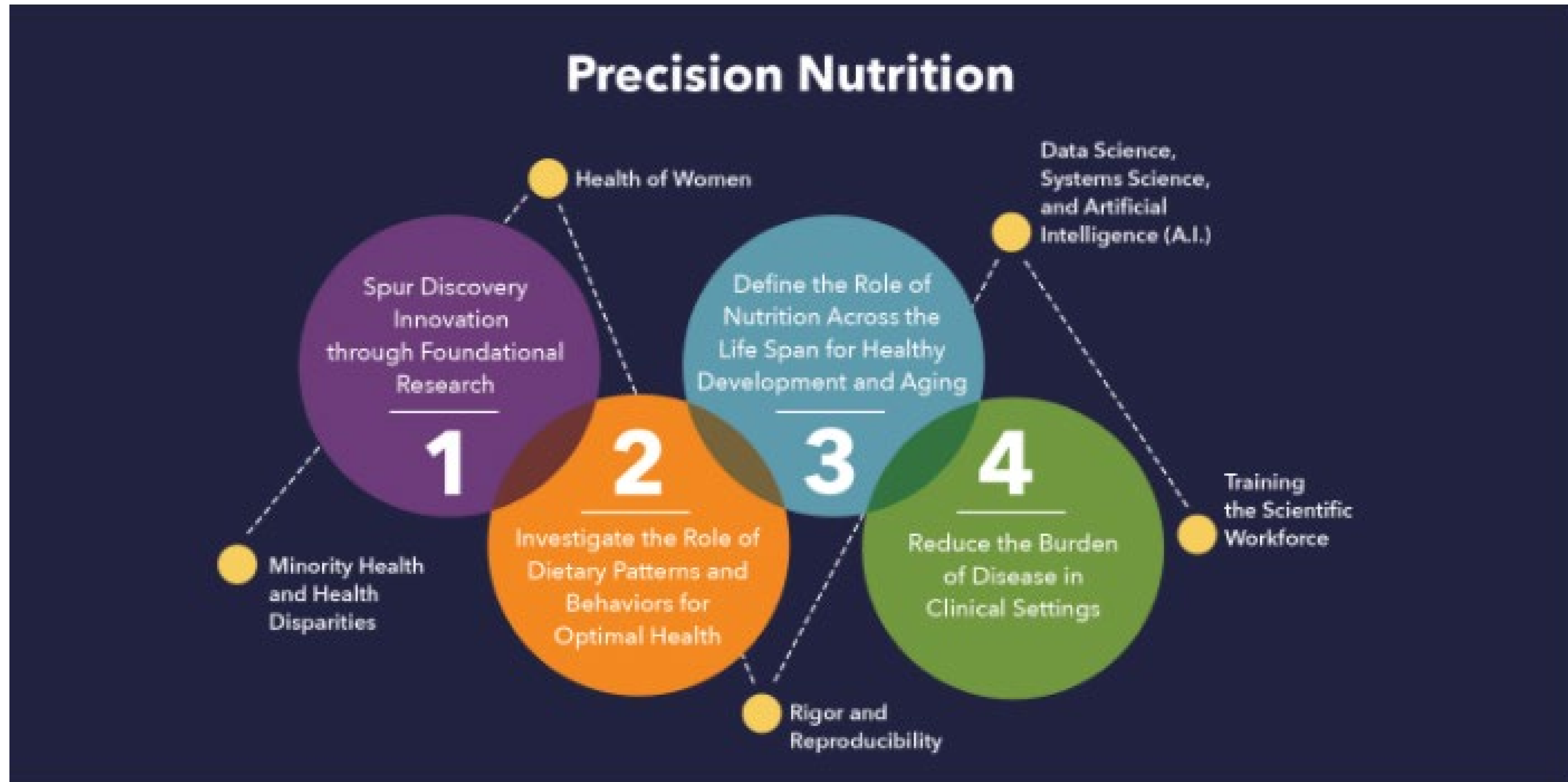
Small Business Research Grant Program (SBIR)

General Award Mechanisms

What does NCCIH do?

We conduct and support research and provide information about complementary health products and practices.

2020-2030 Trans-NIH Strategic Plan for Nutrition Research



COVID-19
• [Public health information from CDC](#) • [Research information from NIH](#) | [Español](#) • [NIH staff guidance on coronavirus \(NIH Only\)](#)

Nutrition for Precision Health, powered by the All of Us Research Program




[Common Fund](#) » [Common Fund Programs](#) » *Nutrition for Precision Health, powered by the All of Us Research Program*

Nutrition for Precision Health, powered by the All of Us Research Program



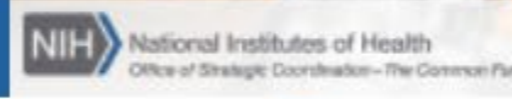
For Researchers
[Funding Opportunities](#)

NPH Issues New Awards
These awards will establish the NPH consortium

[Read More](#)



NIH Awards \$170 Million for Precision Nutrition Study



Stay Connected Sign Up for the NPH listserv

Join our [listserv](#) to receive updates and announcements about the program.

NIH Awards \$170 Millions for Precision Nutrition Study

The goal of the **NIH Common Fund's Nutrition for Precision Health, powered by the All of Us Research Program**, is to develop algorithms that predict individual responses to food and dietary patterns.



All of Us Research Program Mission and Objectives

Nurture relationships

with **one million or more participant partners**, from all walks of life, for decades

Catalyze a robust ecosystem

of researchers and funders hungry to use and support it



Deliver one of the largest, richest biomedical dataset

that is easy, safe, and free to access

Proposal



The Common Fund

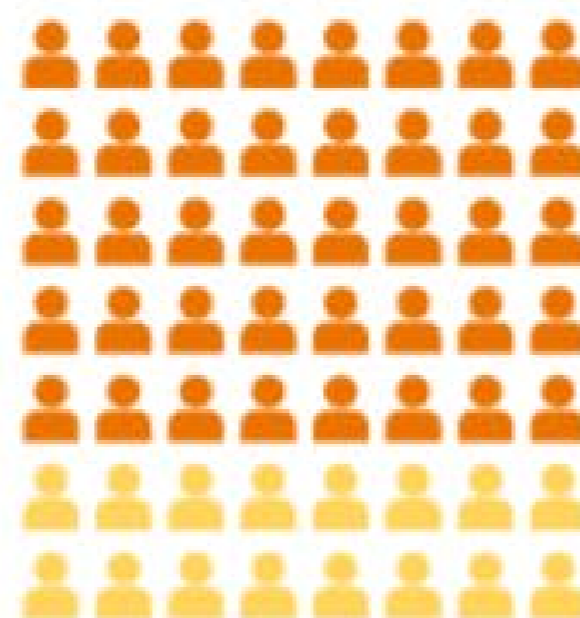
Leverage existing NIH investments - including the *All of Us* Study - and emerging technologies and tools to make the critical discoveries to steer nutrition research toward personalized approaches.

STUDY GROUP NESTED IN ALL OF US



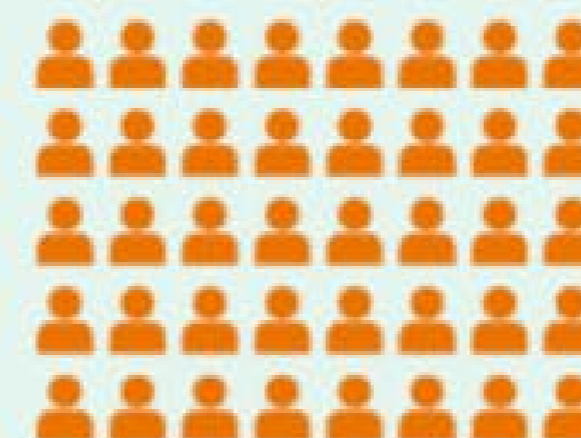
① **MODULE 1**
Examine usual diet with continuous glucose monitoring, followed by a mixed meal challenge, and microbiome/metabolic phenotyping

USUAL DIET PARTICIPANTS



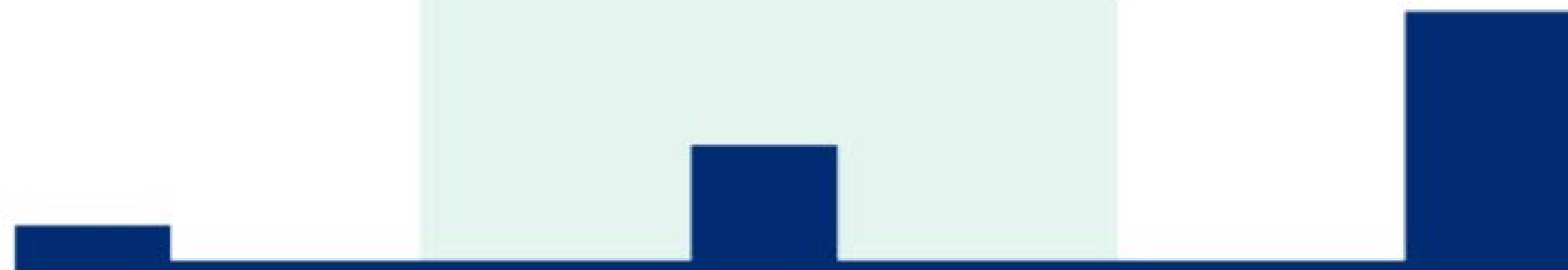
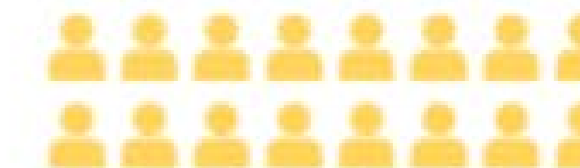
② **MODULE 2**
Randomized dietary interventions done at home as a subset of Module 1

LARGER FREE LIVING STUDY



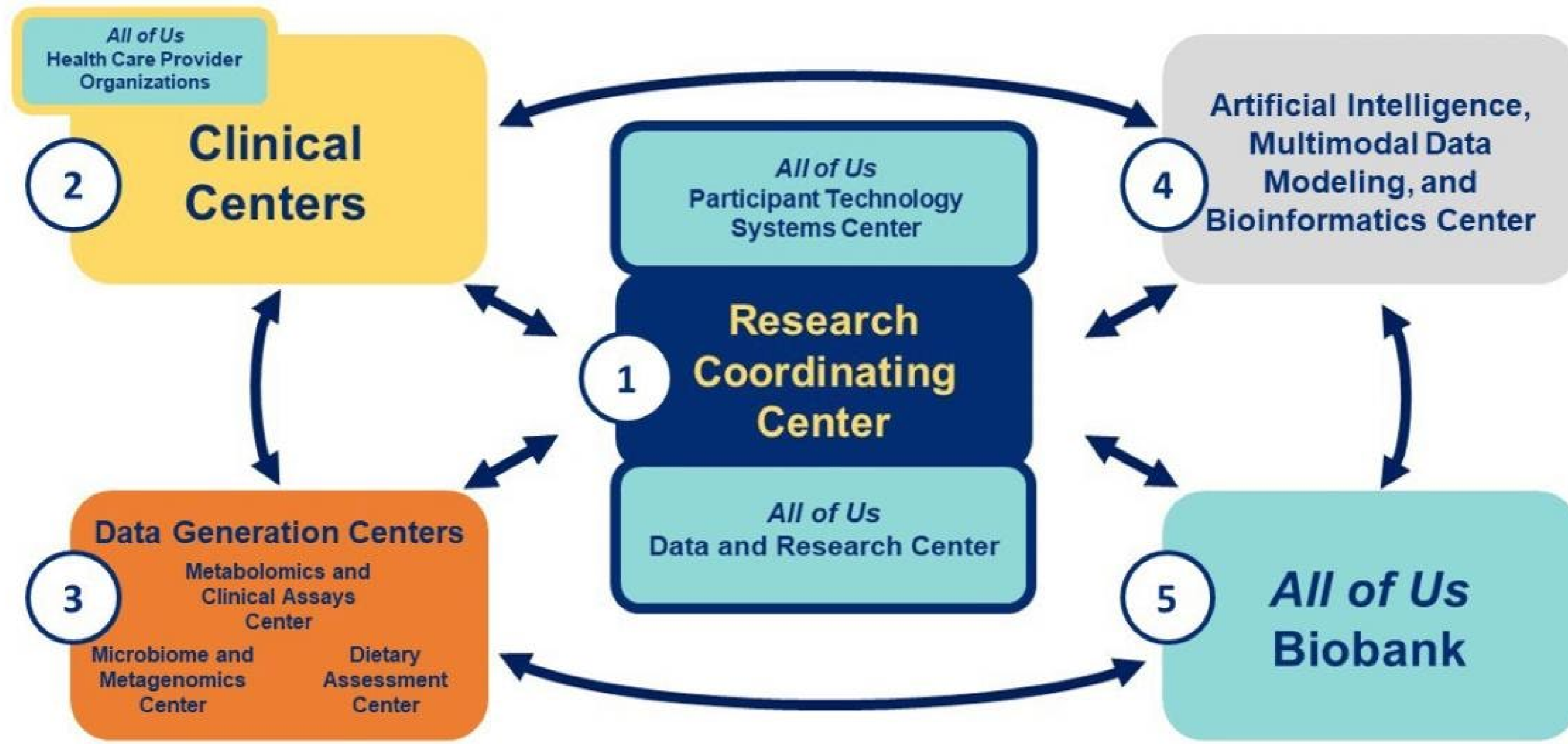
③ **MODULE 3**
Randomized dietary interventions conducted in inpatient controlled feeding centers where precise nutritional intakes, microbiome ecology, and physio-metabolic data can be rigorously obtained

SMALLER CONTROLLED FEEDING CENTER

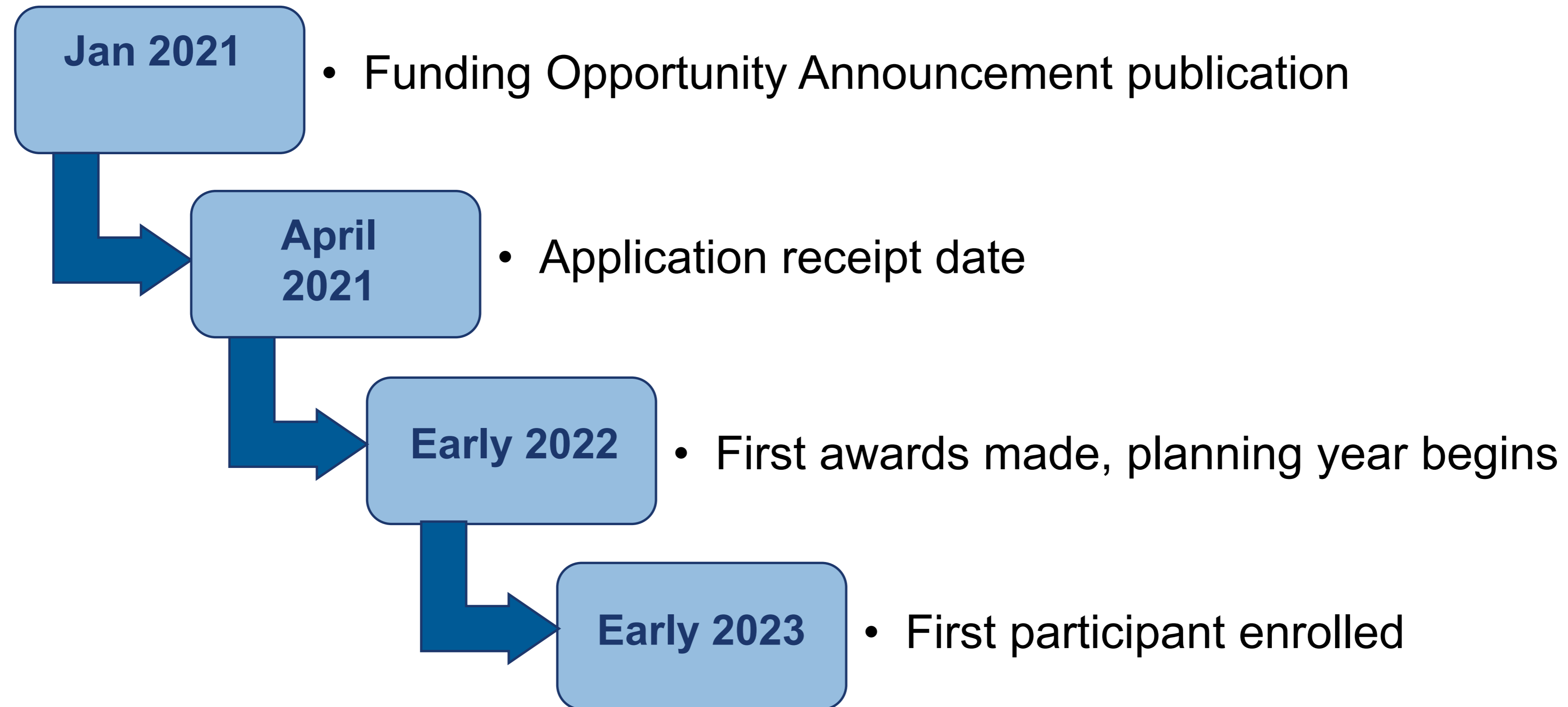


LEVEL OF MICROBIOME, PHYSIO-METABOLIC AND DIET RESPONSE DATA AVAILABLE FROM PROPOSED MODULES





Timeline





Thank You!!

