

Implementing the Strategic Plan for NIH Nutrition Research

Griffin Rodgers, MD, MACP

Director, NIDDK

Co-Chair, Nutrition Research Task Force

Council of Councils Meeting

December 30, 2020



National Institutes of Health

The Nutrition Research Task Force Co-Chairs

NIH Director
Francis Collins, MD, PhD

NRTF Co-Chairs

NIDDK Director – Griffin P Rodgers, MD, MACP

NHLBI Director – Gary H Gibbons, MD

NCI Director Ned Sharpless, MD

NICHD Director – Diana W Bianchi, MD

Exec. Sec. – Christopher Lynch

Senior Leadership Group

NIDDK – Christopher Lynch, PhD

NHLBI – Charlotte Pratt, PhD, MS, RD

NCI – Jill Reedy, PhD, MPH, RD

NICHD – Andrew Bremer, MD, PhD



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What's Inside

The 2020-30 Strategic Plan for NIH Nutrition Research?

Unifying Vision: Precision Nutrition

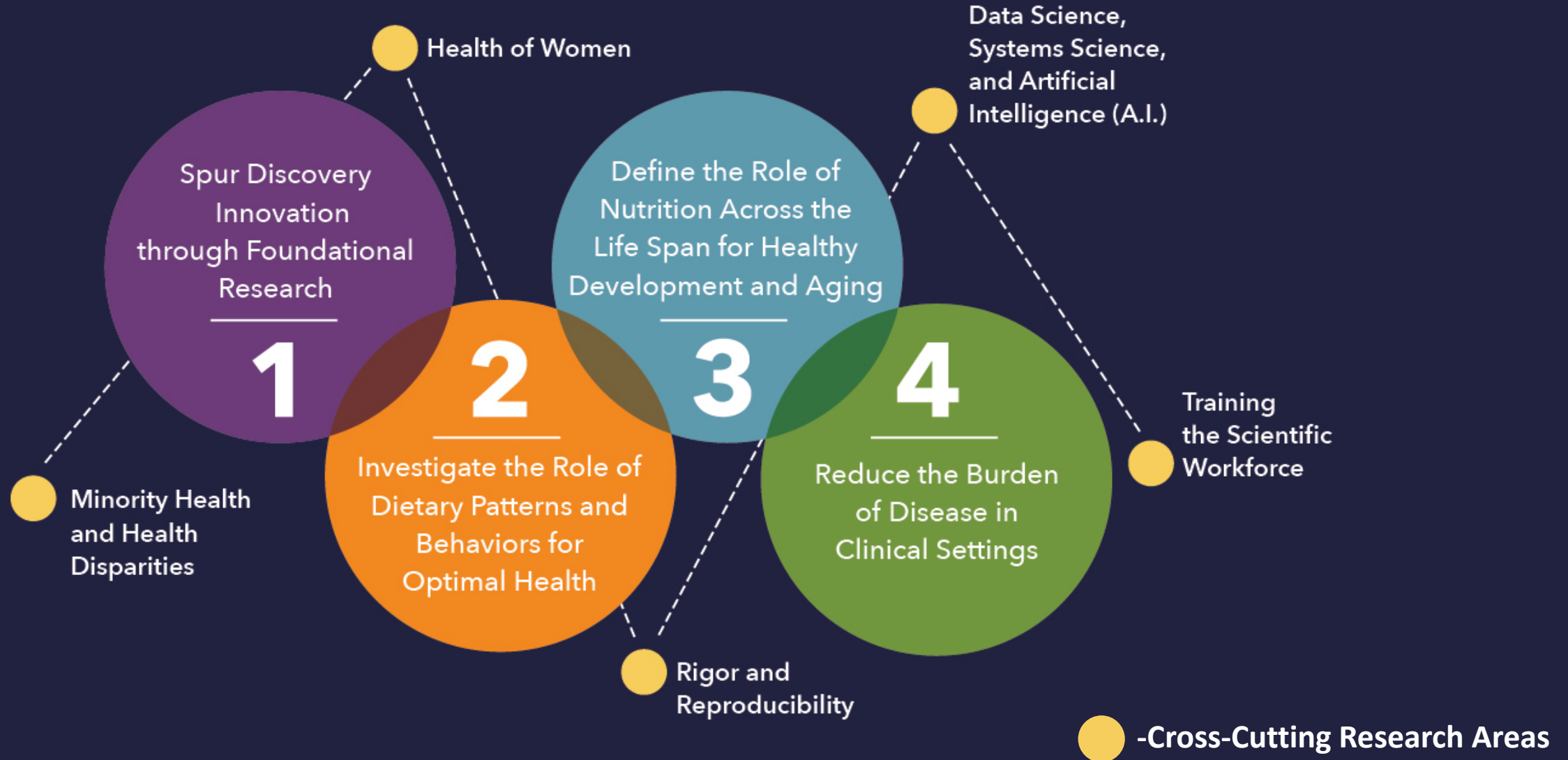


2020-2030 Strategic Plan for NIH Nutrition Research

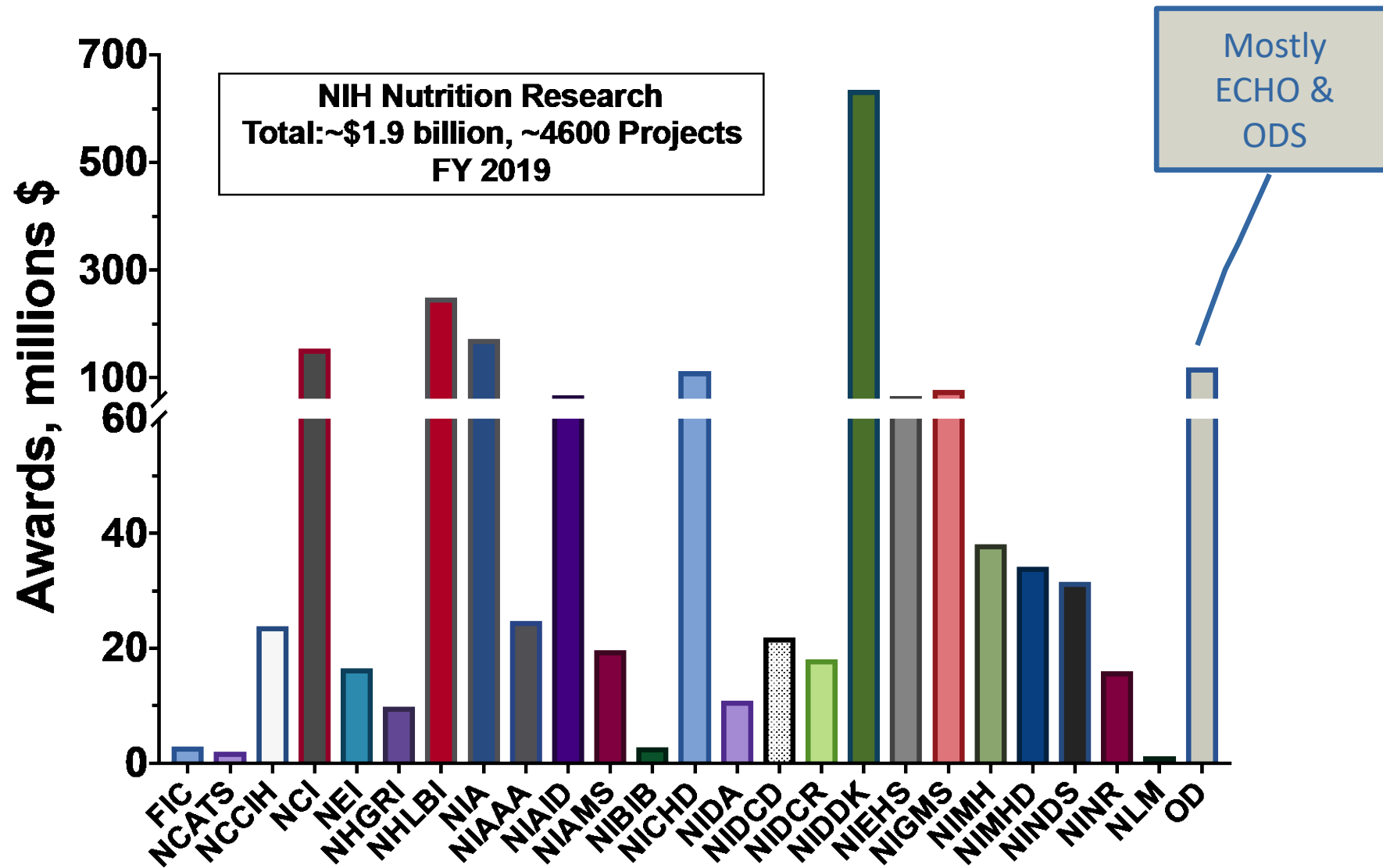
A Report of the NIH Nutrition Research Task Force



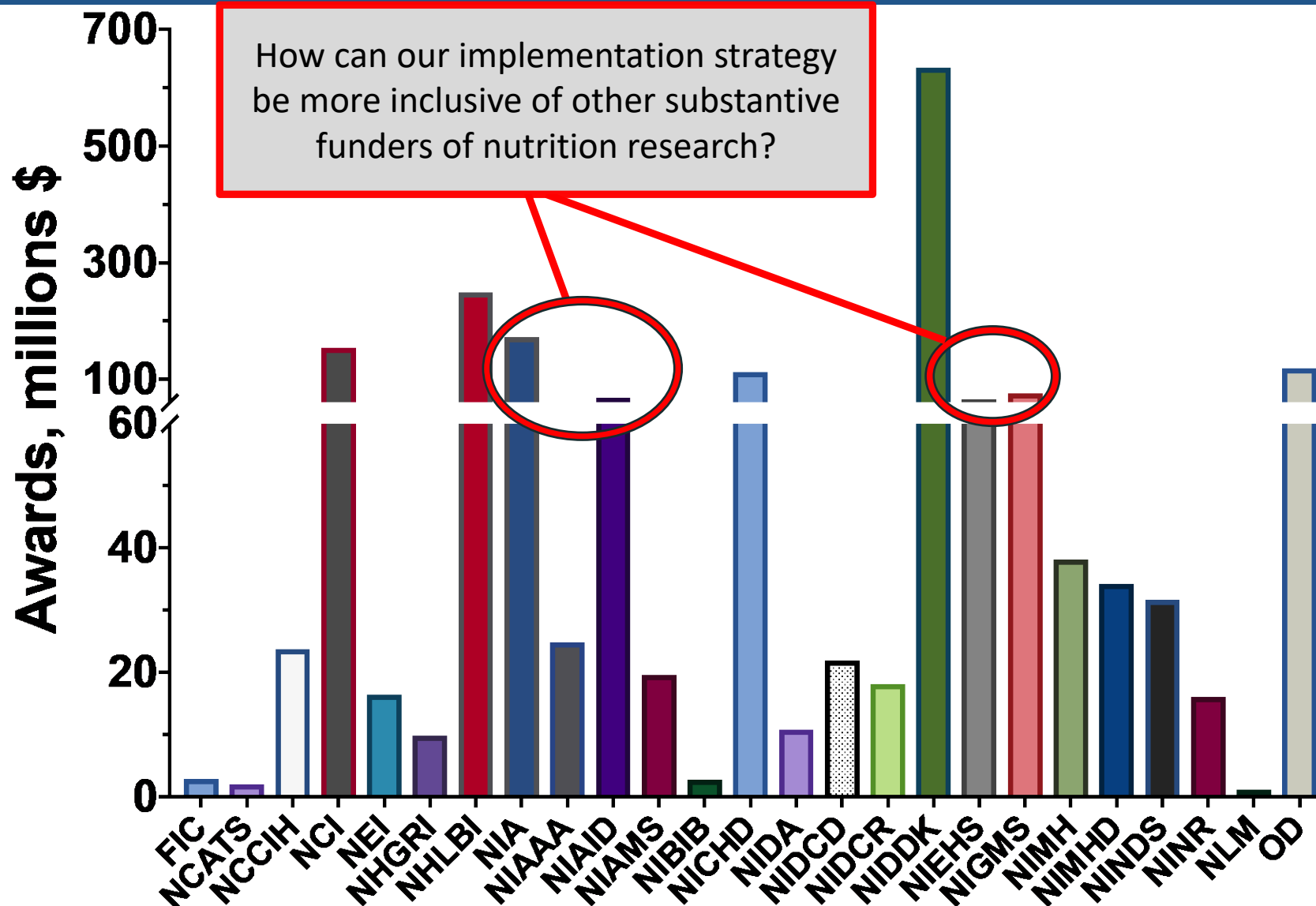
Precision Nutrition *is the overarching theme with multiple Strategic Goals and Cross-cutting Research Areas*



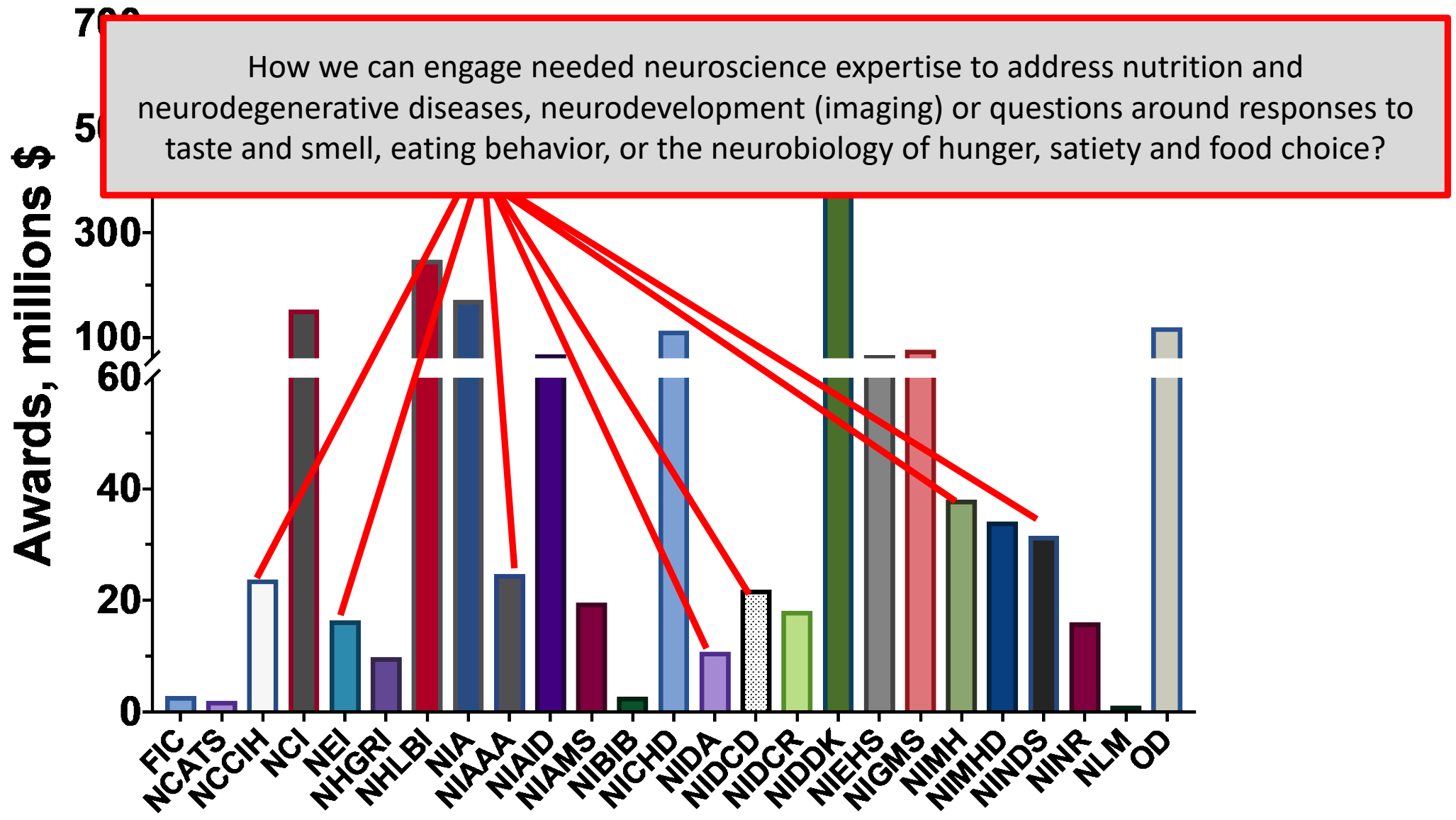
Nutrition Research, a Cross-Cutting Topic at NIH



Challenge: How to engage others in this effort

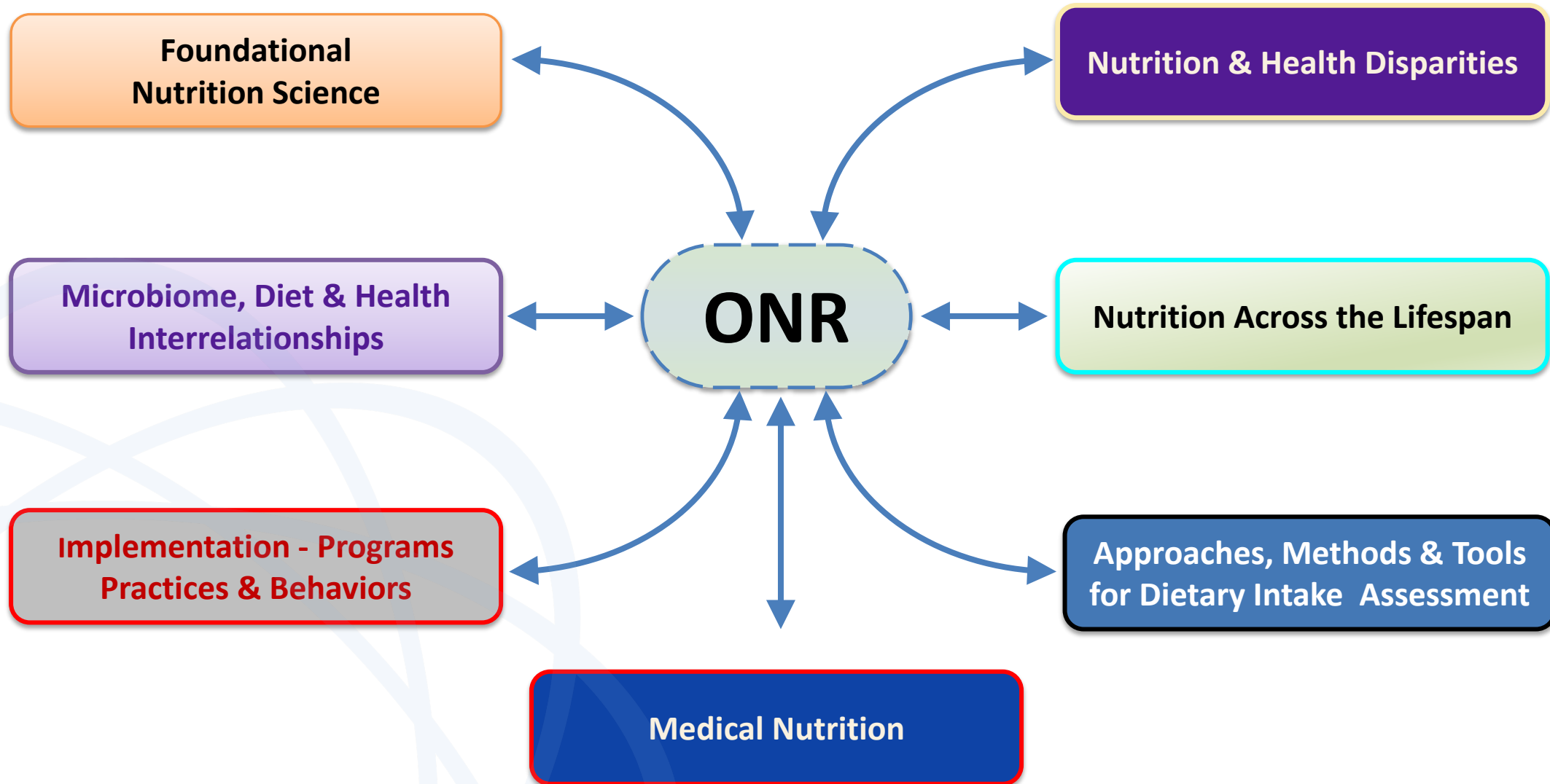


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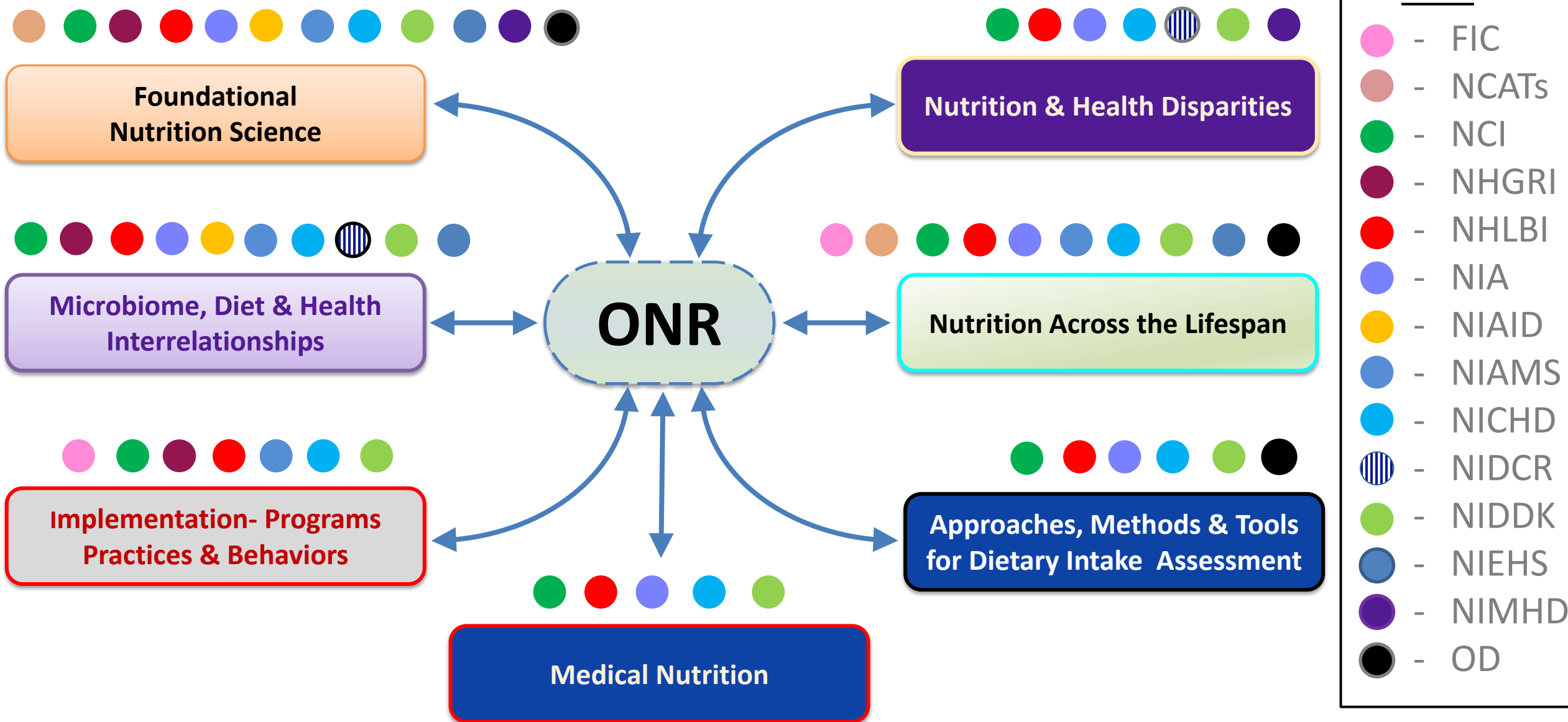
NIH Strategic Plan for NIH Nutrition Research

Implementation Workgroups



NIH Strategic Plan for NIH Nutrition Research

Implementation Workgroups



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

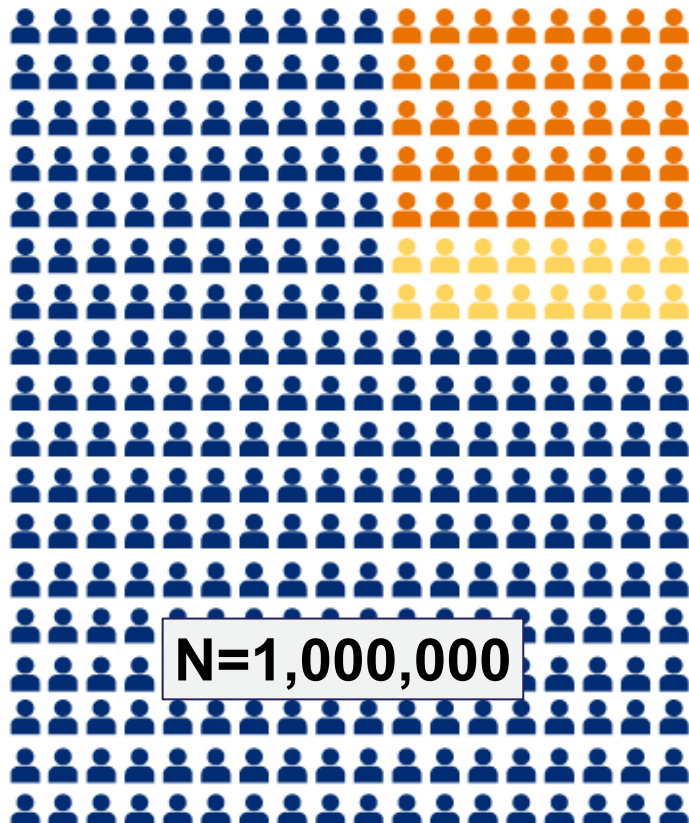
- In Sept, NIH cleared a concept at the Sept. Council of Councils meeting: **Nutrition for Precision Health (NPH)**
- Its an NIH Common Fund program dedicated to precision nutrition
- First ancillary study nested in the [All of Us](#) Cohort
- The videocast presentation of the project and write up is available on the [Common Fund website](#)



Proposal Overview

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

n=10,000

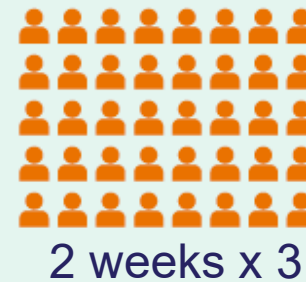
USUAL DIET PARTICIPANTS



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

n=1000-1,500

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



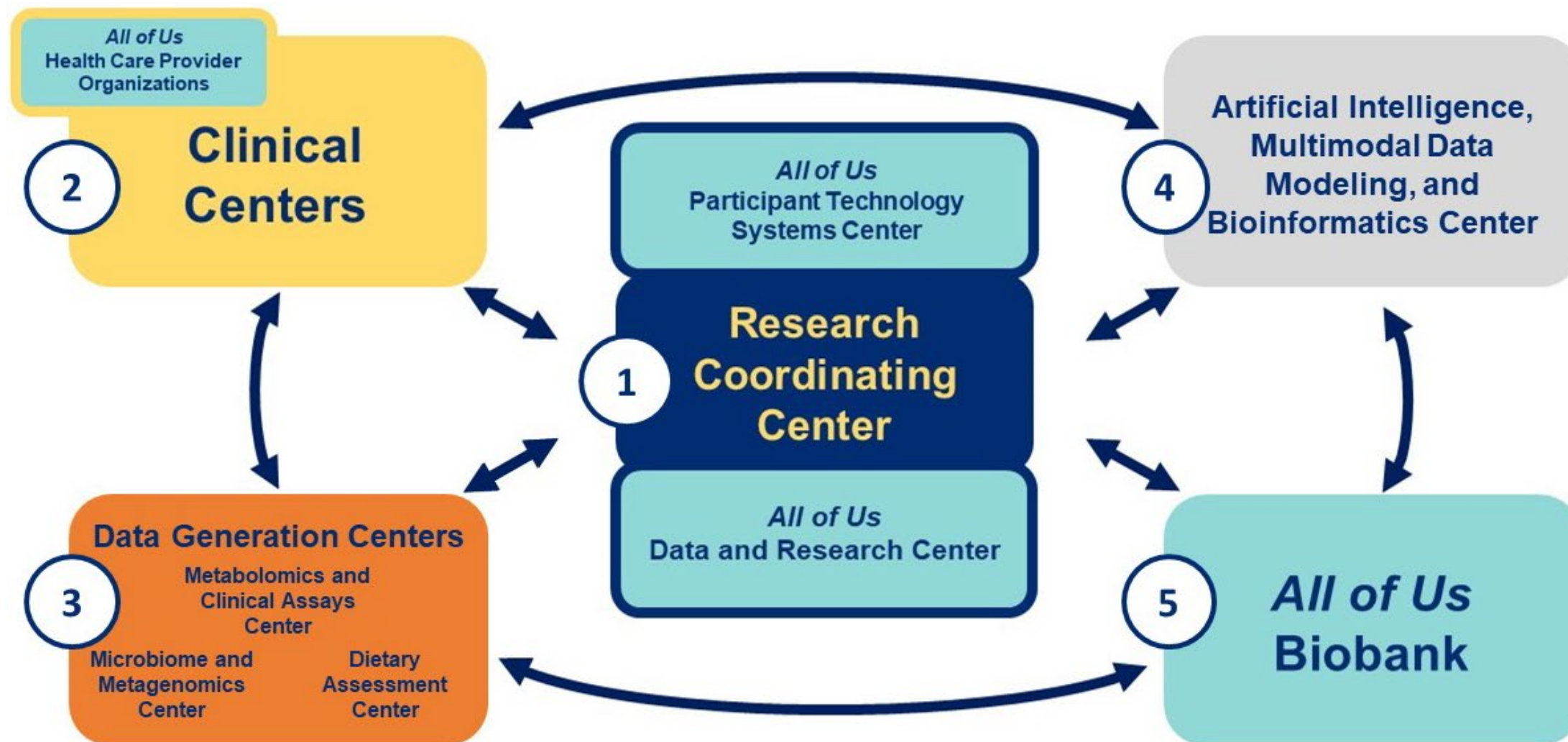
n=500-1000

2 weeks x 3

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

**Deliverable: ALGORITHMS
THAT PREDICT INDIVIDUAL
RESPONSES TO DIETS**

Program Structure Overview



EXTRA SLIDES



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Why *All of Us*?

- Large, well-phenotyped cohort
- Commitment to diversity and inclusion
- Existing infrastructure, including Data and Research Center, Biobank, and Participant Technology Systems Center
- Availability of data, including genomics, electronic health records, mHealth data, and participant-provided information
- Data access and sharing policy, Researcher Workbench



Planning Process

Precision Nutrition: Research Gaps and Opportunities Workshop



National Institutes of Health

Jan 11-12, 2021, Virtual Meeting

- [Register for the workshop URL](#)
- **Meeting Co-chairs:** José Ordovás, Ph.D., Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University; Elizabeth Parks, Ph.D., University of Missouri, and Bruce Y. Lee, M.D., MBA, City University of New York School of Public Health
- Poster sessions and awards available



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Notices of Intent to Publish, NPH program

Notice of Intent to Publish a Funding Opportunity Announcements for the Nutrition for Precision Health, powered by the *All of Us* Research Program:

- Artificial Intelligence for Multimodal Data Modeling and Bioinformatics Center (U54 Clinical Trial Not Allowed) (NOT-RM-21-001)
- Metabolomics and Clinical Assays Center (U24) (NOT-RM-21-002)
- Microbiome and Metagenomics Center (U24 Clin. Trial Not Allowed) (NOT-RM-21-003)
- Dietary Assessment Center (U24 Clinical Trial Optional) (NOT-RM-21-006)
- Clinical Centers (UG1 Clinical Trial Required) (NOT-RM-21-007)
- Research Coordinating Center (U24 Clin. Trial Not Allowed) (NOT-RM-21-008)



Nutrition for Precision Health
Powered by the *All of Us* Research Program

Proposed Transfer of the Office of Nutrition Research from NIDDK to DPCPSI

JAMES M. ANDERSON, M.D., Ph.D.

DIRECTOR, DPCPSI

COUNCIL OF COUNCILS MEETING – 12/30/2020

Challenge and Opportunity

How to enhance engagement of all of NIH in implementing the Strategic Plan for NIH Nutrition Research

Transfer the Office of Nutrition Research from NIDDK to DPCPSI to coordinate and lead NIH-wide Nutrition Research

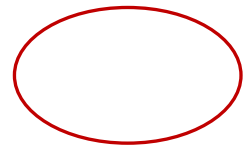
DPCPSI Trans-NIH Research Program Coordination

- Statutory requirement for NIH-wide Coordinating, Planning and Strategic Initiatives
- Currently has 10 program offices: OAR, OBSSR, ODP, ODS, ODSS, ORIP, ORWH, OSC, SGMRO, and THRO
- While the research foci of each of these offices differs, they share a common mission to identify, coordinate, manage, and lead trans-NIH research activities with the ICs
- Some DPCPSI offices prepare office-specific strategic plans: OBSSR, ODP, ODS, ORIP
- Other offices prepare trans-NIH strategic plans: OAR, ODSS, ORWH, OSC/Common Fund, SGMRO, THRO
- Many DPCPSI program offices share methods to engage the ICs

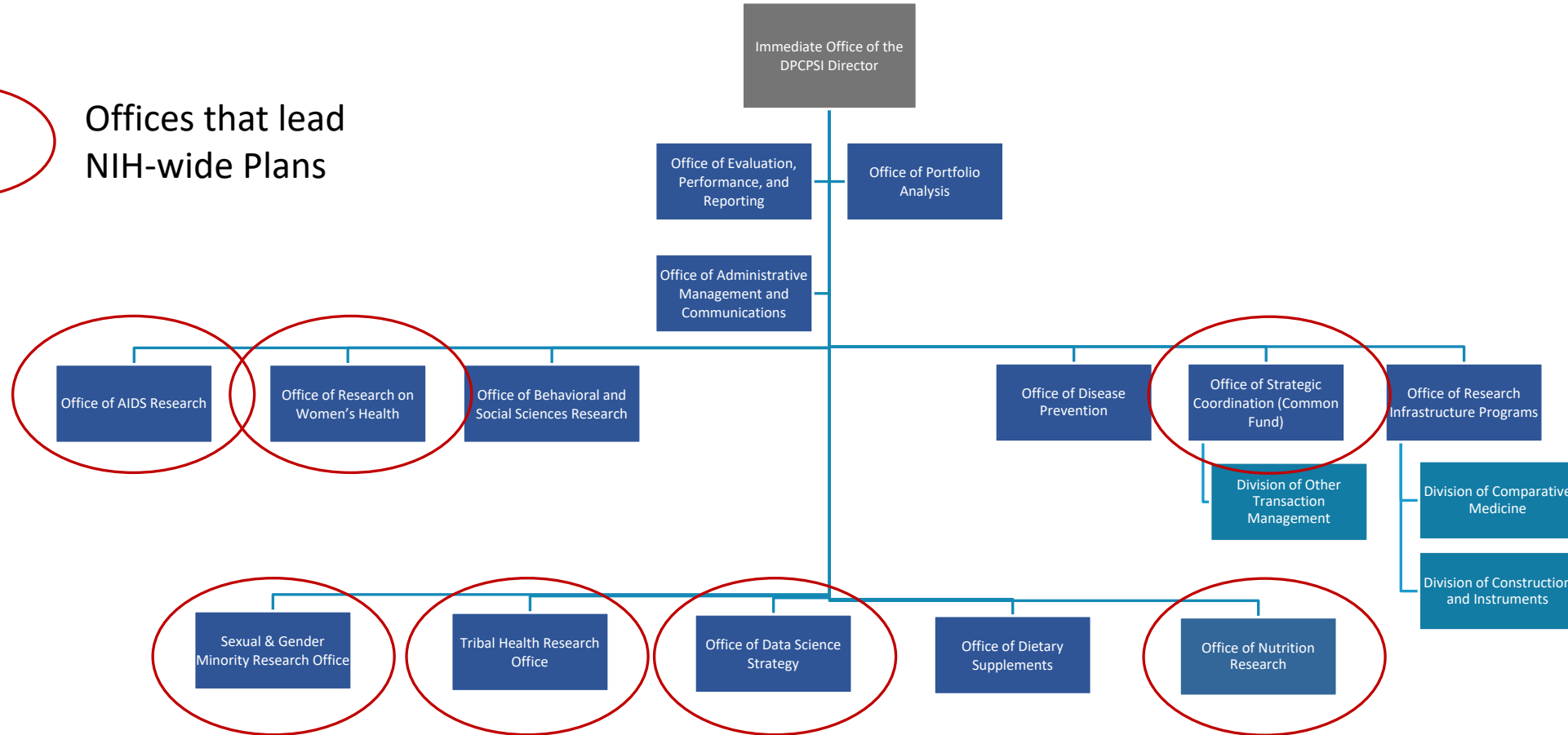
NIH Office of the Director

Division of Program Coordination, Planning, and Strategic Initiatives (DPCPSI)

(Proposed)



Offices that lead
NIH-wide Plans



- All Program Offices coordinate and co-fund trans-NIH research areas
- ORIP directly funds infrastructure resources and non-categorical research

External Support

- There is support in the extramural community for raising attention to and investment in nutrition research at NIH (See Strengthening national nutrition research: rationale and options for a new coordinated federal research effort and authority¹)
- This whitepaper was released at a Bipartisan Policy Center event
(<https://bipartisanpolicy.org/event/advancing-federal-nutrition-research-to-improve-americas-health/>)

¹Sheila E Fleischhacker, Catherine E Woteki, Paul M Coates, Van S Hubbard, Grace E Flaherty, Daniel R Glickman, Thomas R Harkin, David Kessler, William W Li, Joseph Loscalzo, Anand Parekh, Sylvia Rowe, Patrick J Stover, Angie Tagtow, Anthony Joon Yun, Dariush Mozaffarian, Strengthening national nutrition research: rationale and options for a new coordinated federal research effort and authority, *The American Journal of Clinical Nutrition*, Volume 112, Issue 3, September 2020, Pages 721–769, <https://doi.org/10.1093/ajcn/nqaa179>

FY2021 Actions

Transfer ONR and staff to DPCPSI

- Oversee implementation of the Strategic Plan
- NIH-wide voice for Nutrition Research
- Key role in the Nutrition for Precision Health- Powered by *All of Us*

Task Force fulfilled its charge of 10/11/2016

- Develop 10-year Strategic Plan
- Appoint a senior leadership group to guide implementation of the plan

Expand Senior Leadership Group

Co-chairs to regularly advise the ONR Director



QUESTIONS



DISCUSSION