Remarks from NIA

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National Institute on Aging (NIA)/NIH
Division of Behavioral and Social Research (BSR)
The NIA Biomarker Network International Meeting
Tuesday, April 11, 2023

National Institute on Aging

Outline

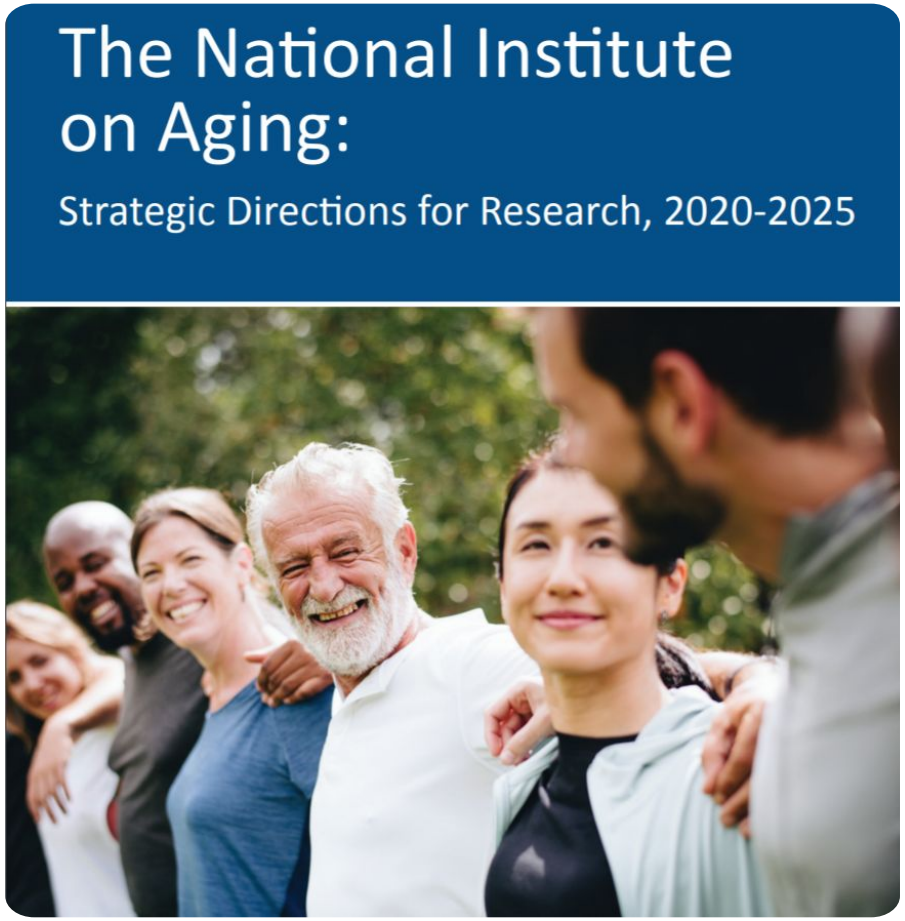
Why is NIA BSR interested in cross-national global aging research?

What investments has NIA BSR made to encourage this research?

Temperature check – global aging research using biomarkers

- Where are we?
- Where are we going?
- Challenges?

Why is NIA/BSR interested in cross-national global aging research?



NIA Strategic Directions include international focus

- "NIA will continue to support research on the social, economic, and demographic consequences of the aging population in the U.S. and other countries"
- "Support the development of internationally harmonized biological, social, and behavioral longitudinal data on aging to foster cross-national research"
- "Support international comparative research on risk factors, incidence, and prevalence of cognitive impairment and dementia"

https://www.nia.nih.gov/about/aging-strategic-directions-research

NIA Division of Behavioral and Social Research's (BSR) work is also guided by the recommendations from the NACA 2019 BSR Review Committee Report

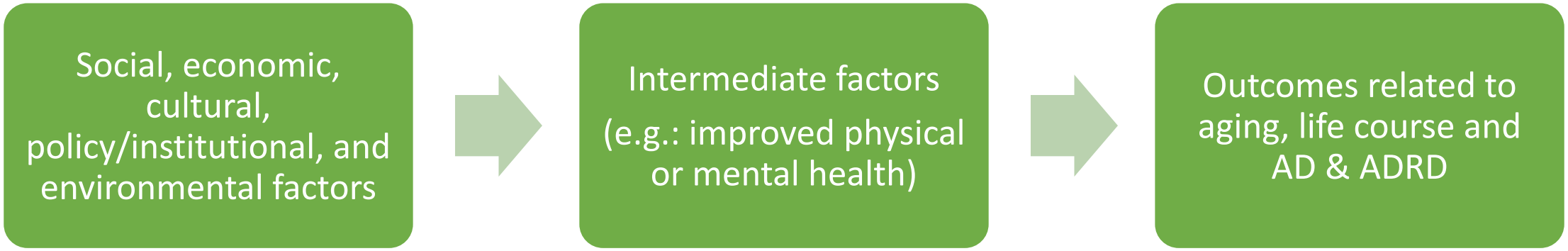
Causal drivers of health disparities

Macro-social trends on aging

Improve care for persons with dementia and caregivers

https://www.nia.nih.gov/sites/default/files/2020-02/2019-BSR-Review-Committee-Report-508.pdf

NIA's Division of Behavioral and Social Research (BSR) priorities can be addressed by examining how behavioral and social factors influence outcomes in varying contexts

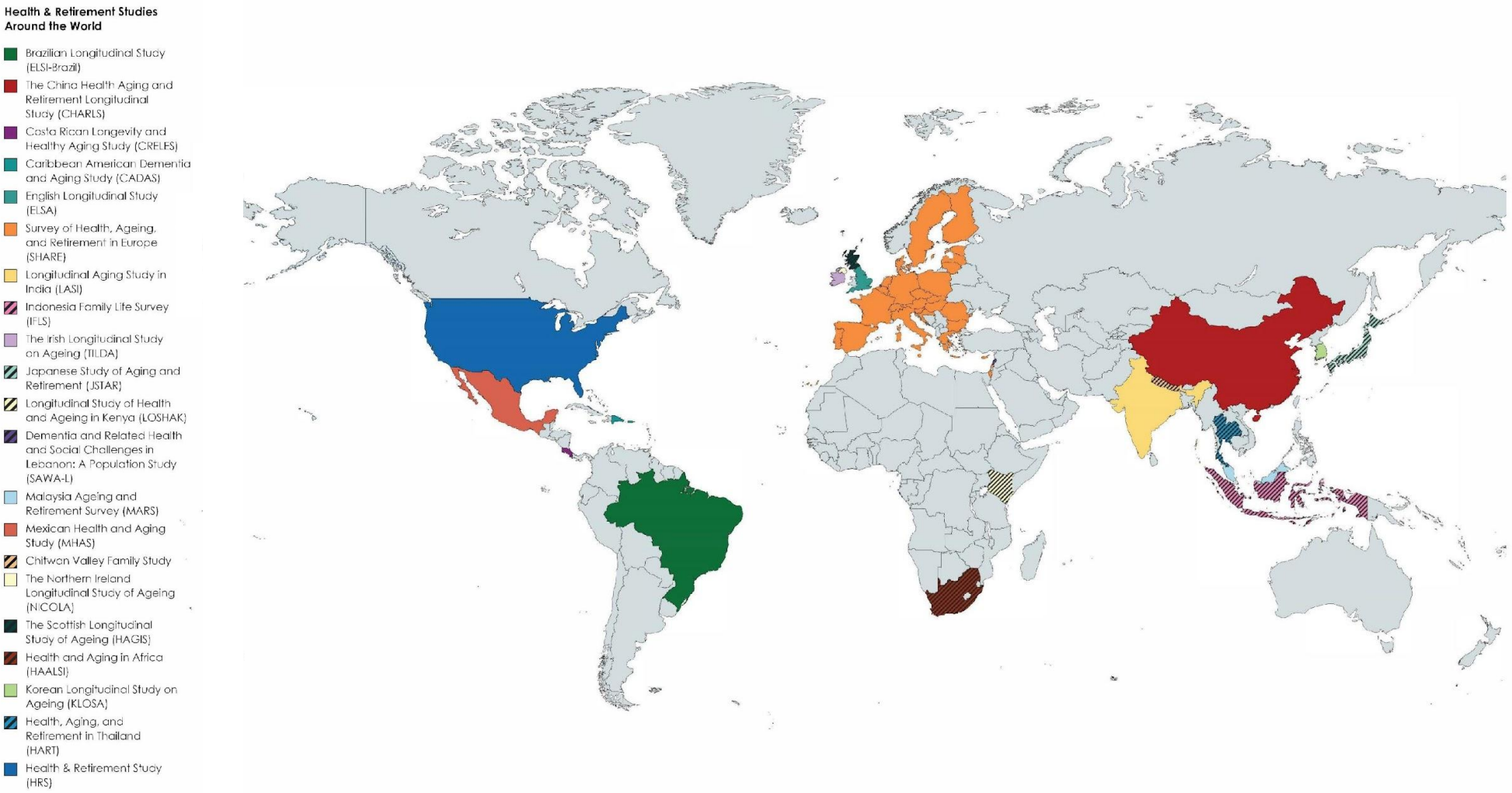


What investments has NIA BSR made to encourage this research?

Health and Retirement Study (HRS)

- Nationally-representative
- Longitudinal
- Multi-disciplinary
- Innovative
- Internationally comparable (harmonized)
- Publicly available

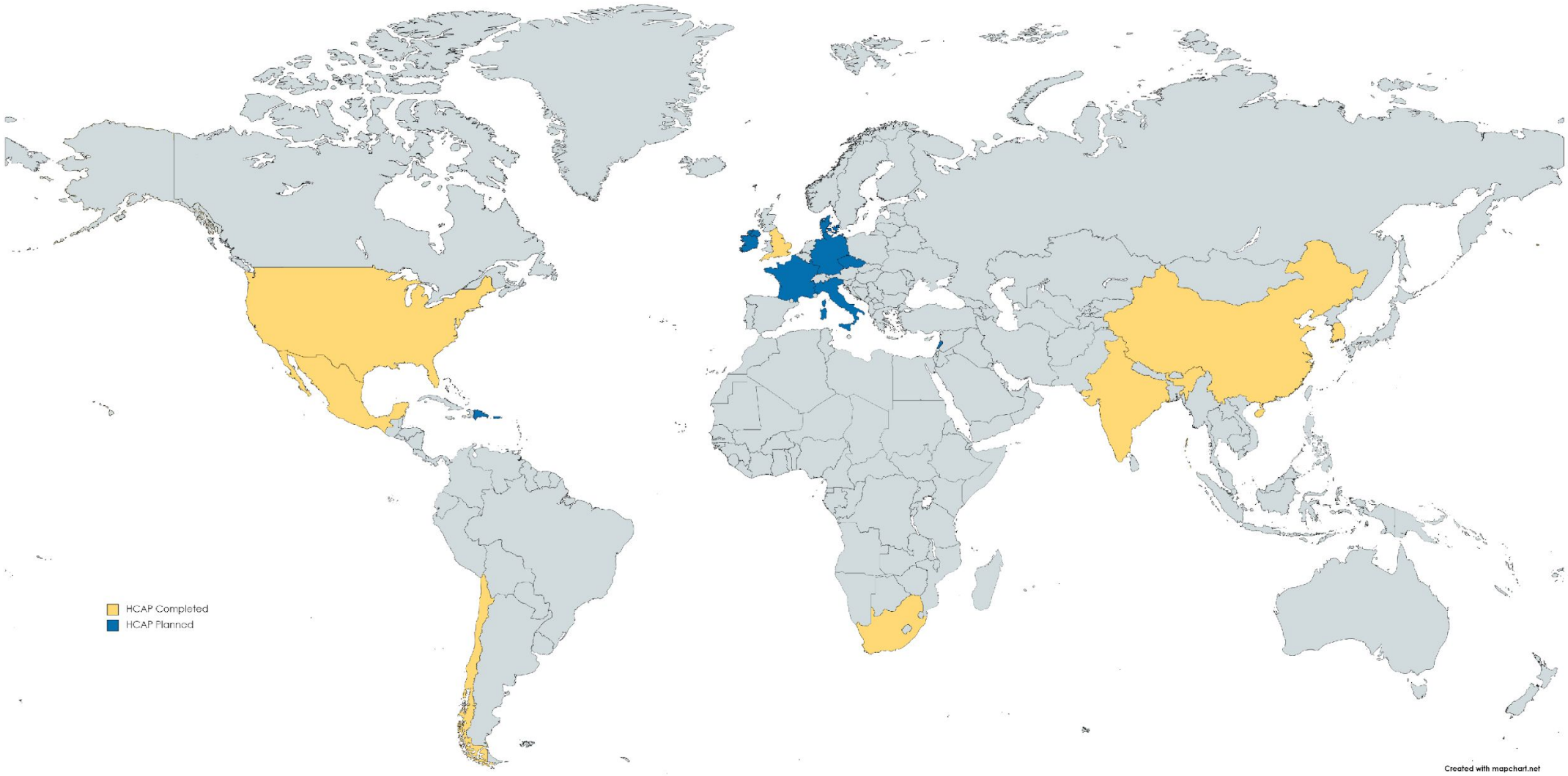
HRS studies have been conducted in over 40 countries



Harmonized Cognitive Assessment Protocol (HCAP)

- HRS subsample
- Nationally representative sample, age 65+ (US)
- Comparable diagnostic classifications of mild cognitive impairment and dementia
- Captures set of key cognitive domains
- Projection of diagnostic classification to full sample
- Harmonized international data – incidence/prevalence

HCAP Studies have been conducted in a few countries



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NIA investments in HRS/HCAP-related infrastructure

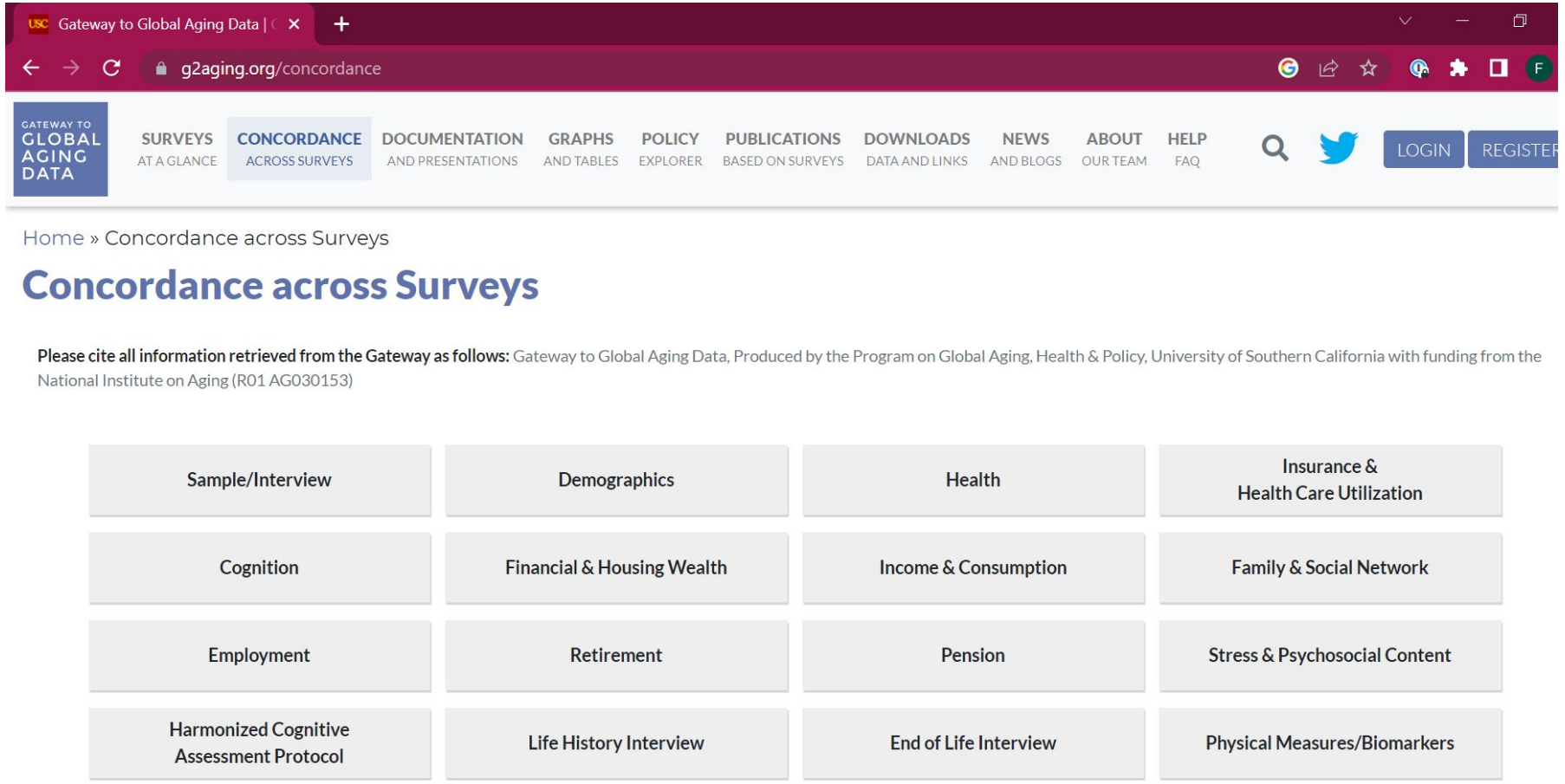
- U24 networks
  - HRS around the World
  - HCAP Network

- Gateway to Global Aging Data
  - Survey data
  - Harmonized data

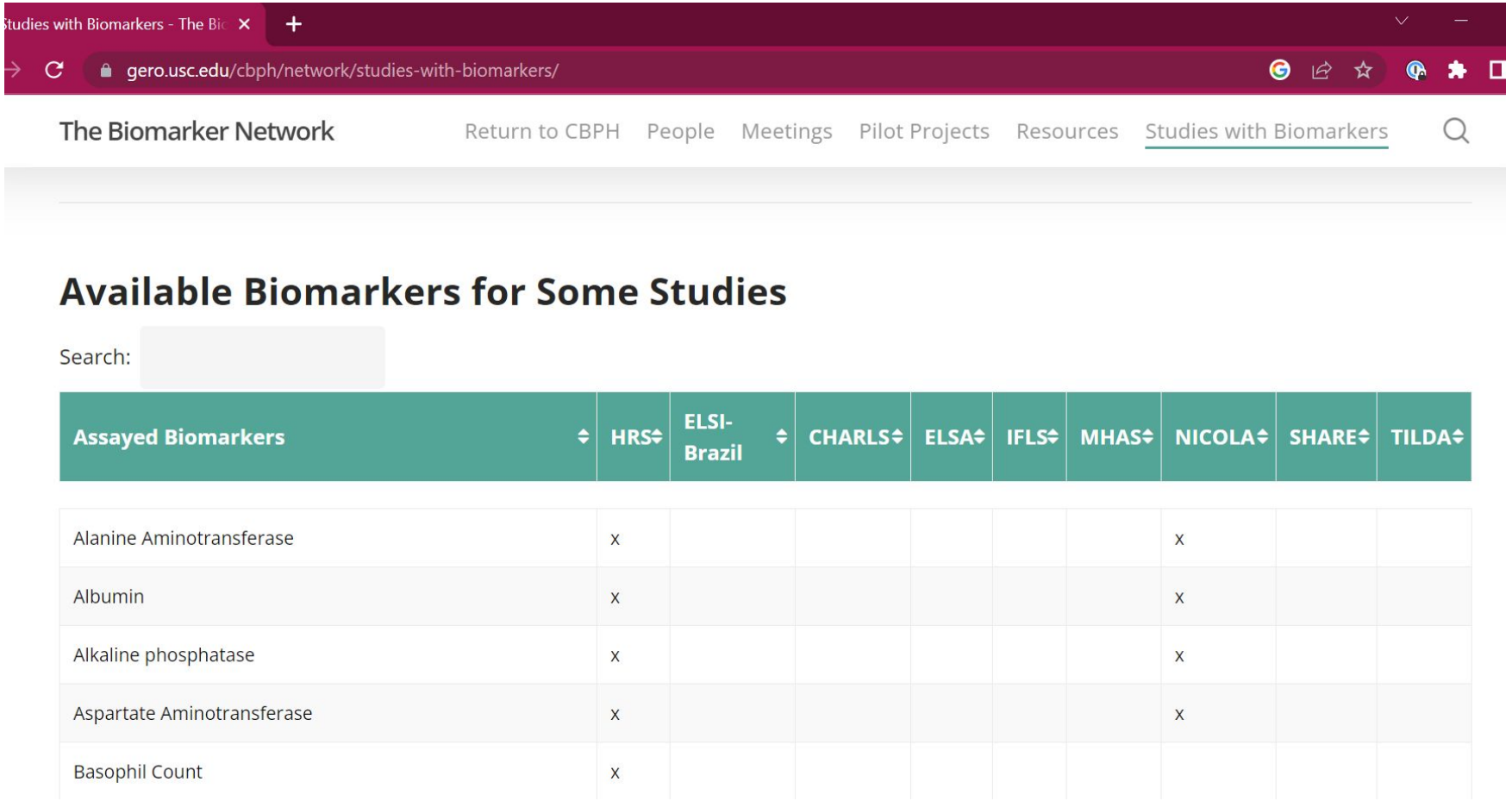
HEALTH AND RETIREMENT STUDIES
AROUND THE WORLD

HCAP NETWORK

Resources on the Gateway to Global Aging related to biomarkers



Resources on the Biomarker Network site to inform cross-national comparisons using biomarkers



Assayed Biomarkers	HRS	ELSI-Brazil	CHARLS	ELSA	IFLS	MHAS	NICOLA	SHARE	TILDA
Alanine Aminotransferase	x						x		
Albumin	x						x		
Alkaline phosphatase	x						x		
Aspartate Aminotransferase	x						x		
Basophil Count	x								

Recently approved NIA concepts to encourage AD/ADRD research

- **Enhancing Use of Harmonized Cognitive Assessment Protocol (HCAP) Data** This concept seeks to incentivize the use of HCAP and related resources to contribute to scientific advances and expand international or cross-national analyses of HCAP data.

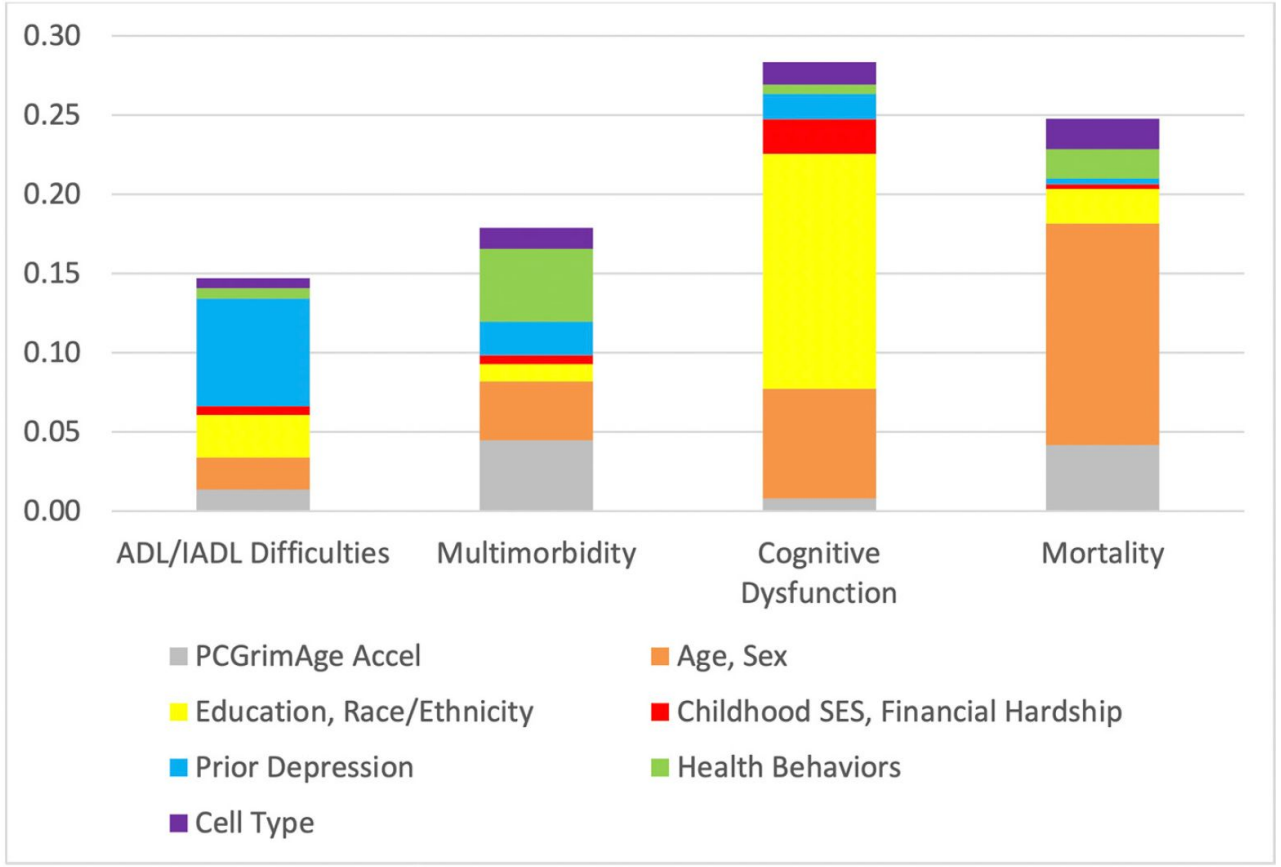
- **Building Neuroscience Research Infrastructure for AD/ADRD in Africa** This concept will serve as a catalytic opportunity to develop or enhance AD/ADRD research infrastructure across Africa, while supporting collaborations between US and African scientists via pilot or exploratory studies that will inform the scale up of future research.

Temperature check – global aging research using biomarkers

Where are we?

- Conducting full sequencing of the genome and examining methylation/epigenetic clocks and transcriptional proteomics
- Collecting bio samples with existing approaches in new settings, such as Malawi, a low-income setting
- Creating biomarkers directly relevant to behavioral and social processes of interest

PC-trained age acceleration measure contributes explanatory power to the models predicting multimorbidity and mortality



Source: Faul et al. (2023)

Where are we going?

- As we build biorespositories, future developments will allow us to use new biomarkers on stored samples

- Newly available longitudinal data with biomarkers will allow us to conduct analyses to answer important questions such as, “do changes in AD biomarkers predict cognitive change?”

- Mass spectrometry-based proteomic analysis is a powerful approach for discovering new disease biomarkers we haven’t considered

Challenges/issues to consider

- Data sharing in the international context/particularly genetic data
  - NIH Data Management and Sharing Policy

- Doing more with available biosamples (e.g., dried blood spots) in contexts where it is difficult to collect venous blood

- Remembering that we are social scientists first and foremost; how can the biomarker data truly inform our theories?

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https://www.nia.nih.gov/research/dbsr

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- funding opportunities
- research highlights
- upcoming webinars and meetings

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WHO'S AT PAA?

THE NATIONAL INSTITUTE ON AGING

DIVISION OF BEHAVIORAL AND SOCIAL RESEARCH (BSR)

Lis Nielsen, PhD
BSR Division Director

John Phillips, PhD
PSP Branch Chief
Economic Vulnerability, Work/Occupation; U.S.-Based Nationally Representative Surveys

Jonathan King, PhD
Senior Scientific Advisor to the Division Director

Kriti Jain, PhD
Social Policy; Field Experiments & Quasi-Experimental Studies

Elena Fazio, PhD
Aging in Place; Palliative Care; Dementia Care

Emerald Nguyen, PhD
Extreme Weather & Natural Disasters, Extended Family, Social Networks, Exposome
Sat. April 15: Session 248 discusssant

Amelia Karraker, PhD
Health & Place; Education & Health; Nuclear Family; Education Cohort Studies

Theresa Kim, PhD
Health Systems; Pragmatic Trials in Health Care Settings

Minki Chatterji, PhD
International HRS/HCAP Studies; Macro Social Factors in Global Contexts
Thurs. April 13: Session 47
Sat. April 15: Session 211

Frank Bandiera, PhD
Race & Ethnic Health & Disparities; Immigration
Thurs. April 13: Session 65

Charlie Le, MPH
Program Analyst, Population & Social Processes Branch

Kaitlyn Lee, MPH
Program Analyst, Population & Social Processes Branch

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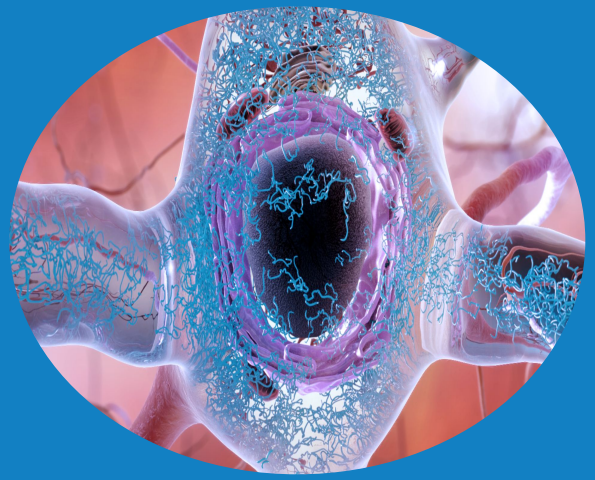
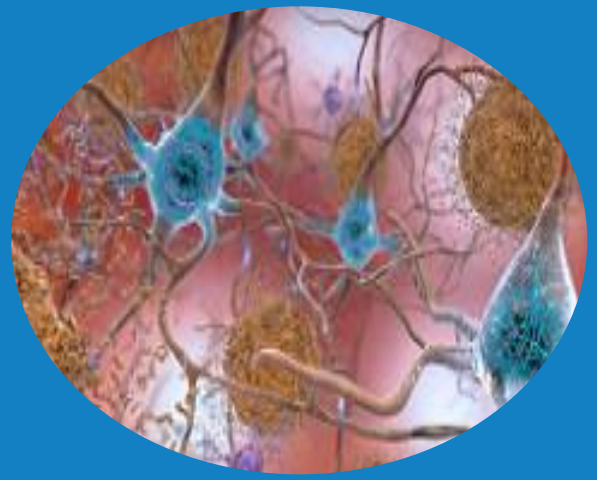
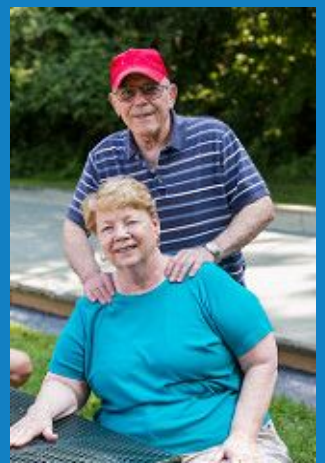




NIA

The Leader in Aging Research