



# 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?

## The National Institute on Aging:

Strategic Directions for Research, 2020-2025



# 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”

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

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Causal drivers of health disparities

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Macro-social trends on aging

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Improve care for persons with dementia and caregivers

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<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)

**HRS** | HEALTH AND  
RETIREMENT  
STUDY

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## International Sister Studies

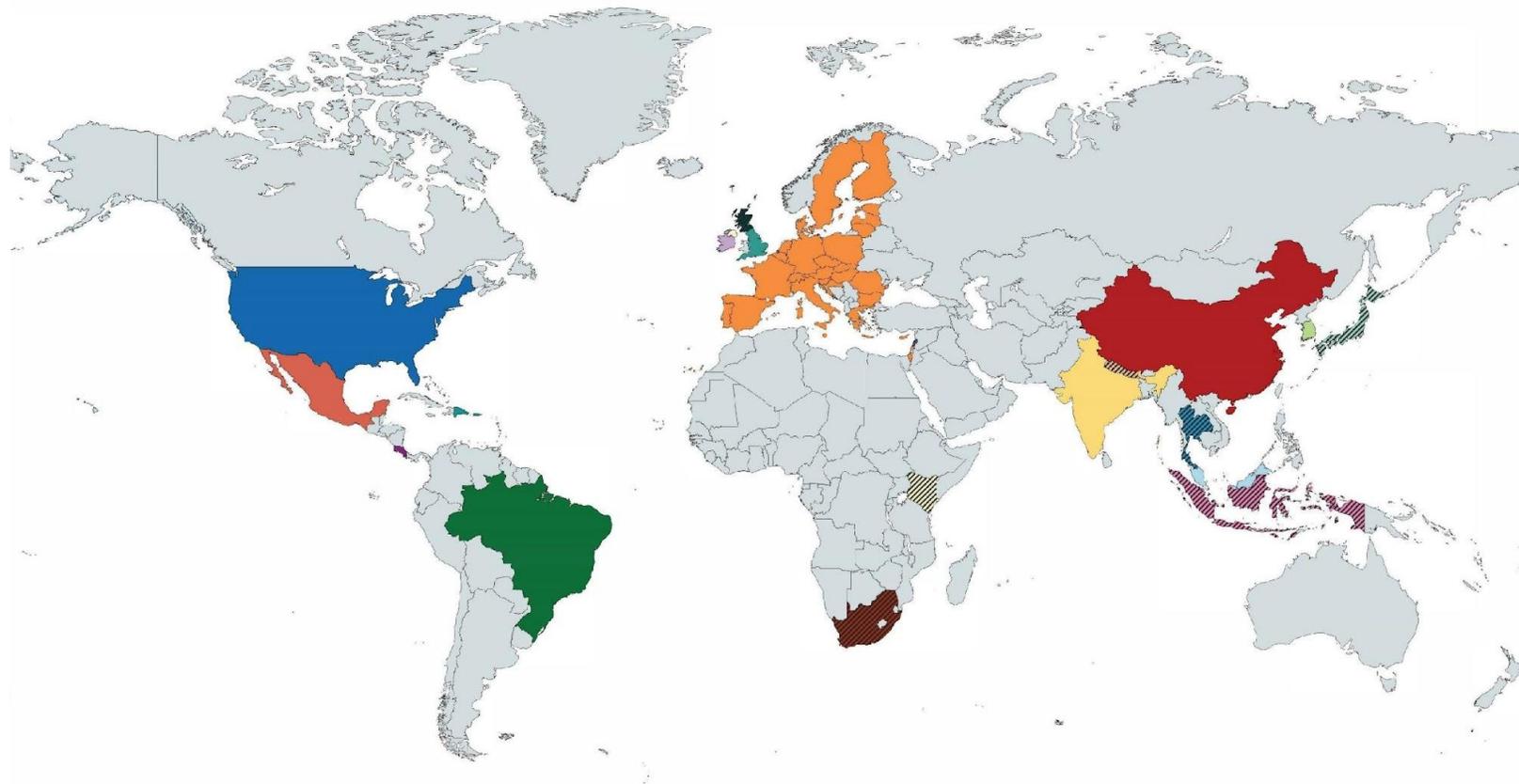
The HRS has become the model for a growing network of longitudinal aging studies around the world. These surveys not only provide data for individual countries but also offer the opportunity for cross-national comparisons.

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

# HRS studies have been conducted in over 40 countries

## Health & Retirement Studies Around the World

- Brazilian Longitudinal Study (ELSI-Brazil)
- The China Health Aging and Retirement Longitudinal Study (CHARLS)
- Costa Rican Longevity and Healthy Aging Study (CRELES)
- Caribbean American Dementia and Aging Study (CADAS)
- English Longitudinal Study (ELSA)
- Survey of Health, Ageing, and Retirement in Europe (SHARE)
- Longitudinal Aging Study in India (LASI)
- Indonesia Family Life Survey (IFLS)
- The Irish Longitudinal Study on Ageing (TILDA)
- Japanese Study of Aging and Retirement (JSTAR)
- Longitudinal Study of Health and Ageing in Kenya (LOSHAK)
- Dementia and Related Health and Social Challenges in Lebanon: A Population Study (SAWA-L)
- Malaysia Ageing and Retirement Survey (MARS)
- Mexican Health and Aging Study (MHAS)
- Chitwan Valley Family Study
- The Northern Ireland Longitudinal Study of Ageing (NICOLA)
- The Scottish Longitudinal Study of Ageing (HAGIS)
- Health and Aging in Africa (HAALSI)
- Korean Longitudinal Study on Ageing (KLOSA)
- Health, Aging, and Retirement in Thailand (HART)
- Health & Retirement Study (HRS)



# Harmonized Cognitive Assessment Protocol (HCAP)

**HRS** | HEALTH AND RETIREMENT STUDY

[About](#) ▾ [Documentation](#) ▾ [Data Products](#) ▾ [Media & Publications](#) ▾

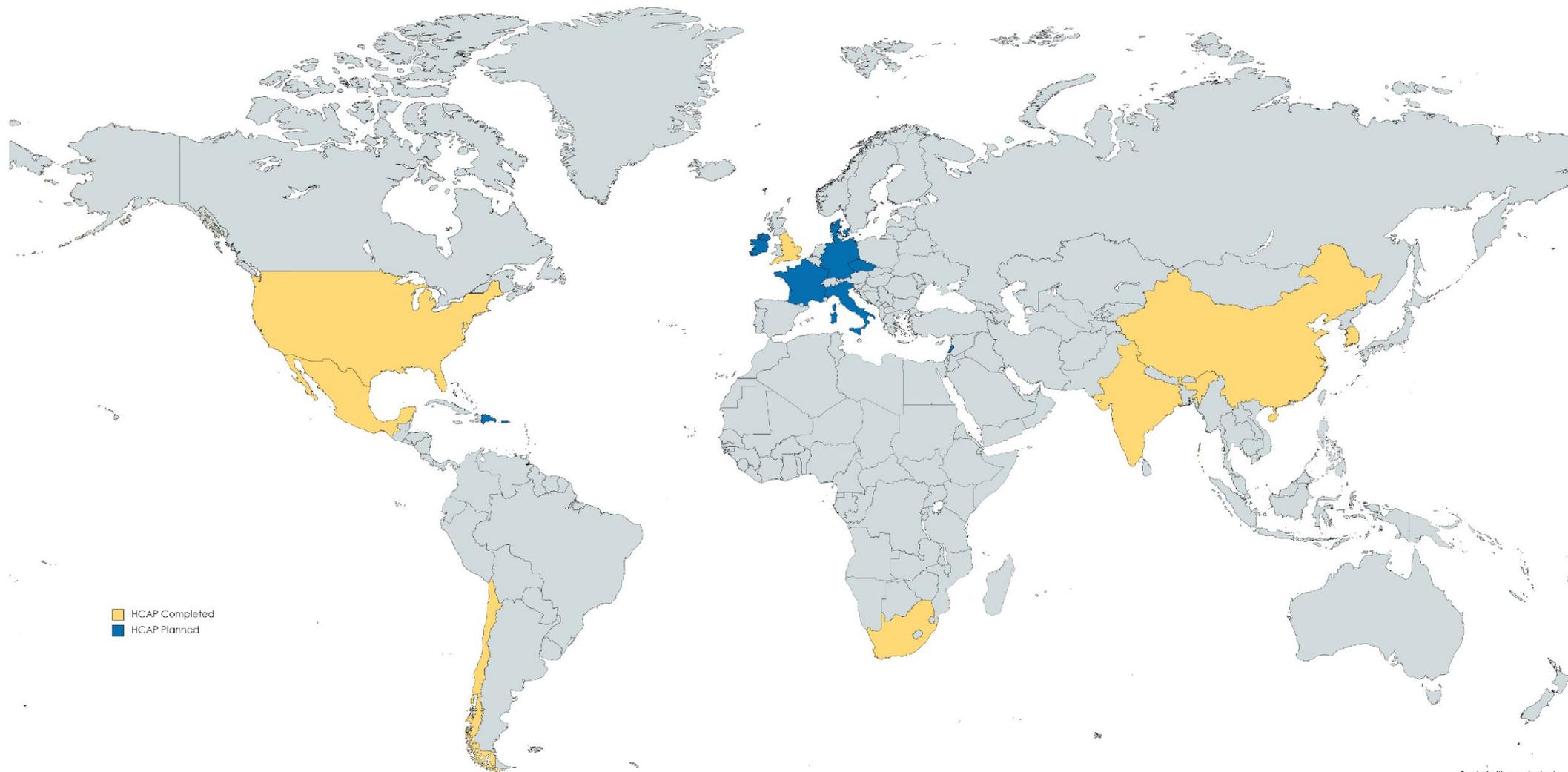
[Data Products](#) / [Harmonized Cognitive Assessment Protocol \(HCAP\)](#)

## Harmonized Cognitive Assessment Protocol (HCAP)

HRS-HCAP is part of the [HCAP Network](#), an ongoing international research collaboration funded by the National Institute on Aging to measure and understand dementia risk within ongoing longitudinal studies of aging around the world that have aimed to harmonize methods and content to facilitate cross-national comparisons.

- 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

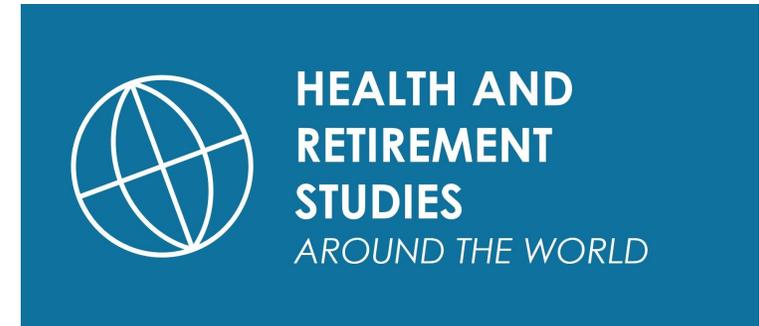


■ HCAP Completed  
■ HCAP Planned

Created with mapchart.net

# NIA investments in HRS/HCAP-related infrastructure

- U24 networks
  - HRS around the World
  - HCAP Network
- Gateway to Global Aging Data
  - Survey data
  - Harmonized data



# Resources on the Gateway to Global Aging related to biomarkers



The screenshot shows the top navigation bar of the Gateway to Global Aging Data website. The browser address bar displays 'g2aging.org/concordance'. The navigation menu includes the following items: SURVEYS AT A GLANCE, CONCORDANCE ACROSS SURVEYS (highlighted), DOCUMENTATION AND PRESENTATIONS, GRAPHS AND TABLES, POLICY EXPLORER, PUBLICATIONS BASED ON SURVEYS, DOWNLOADS DATA AND LINKS, NEWS AND BLOGS, ABOUT OUR TEAM, and HELP FAQ. There are also search, social media icons, and LOGIN and REGISTER buttons.

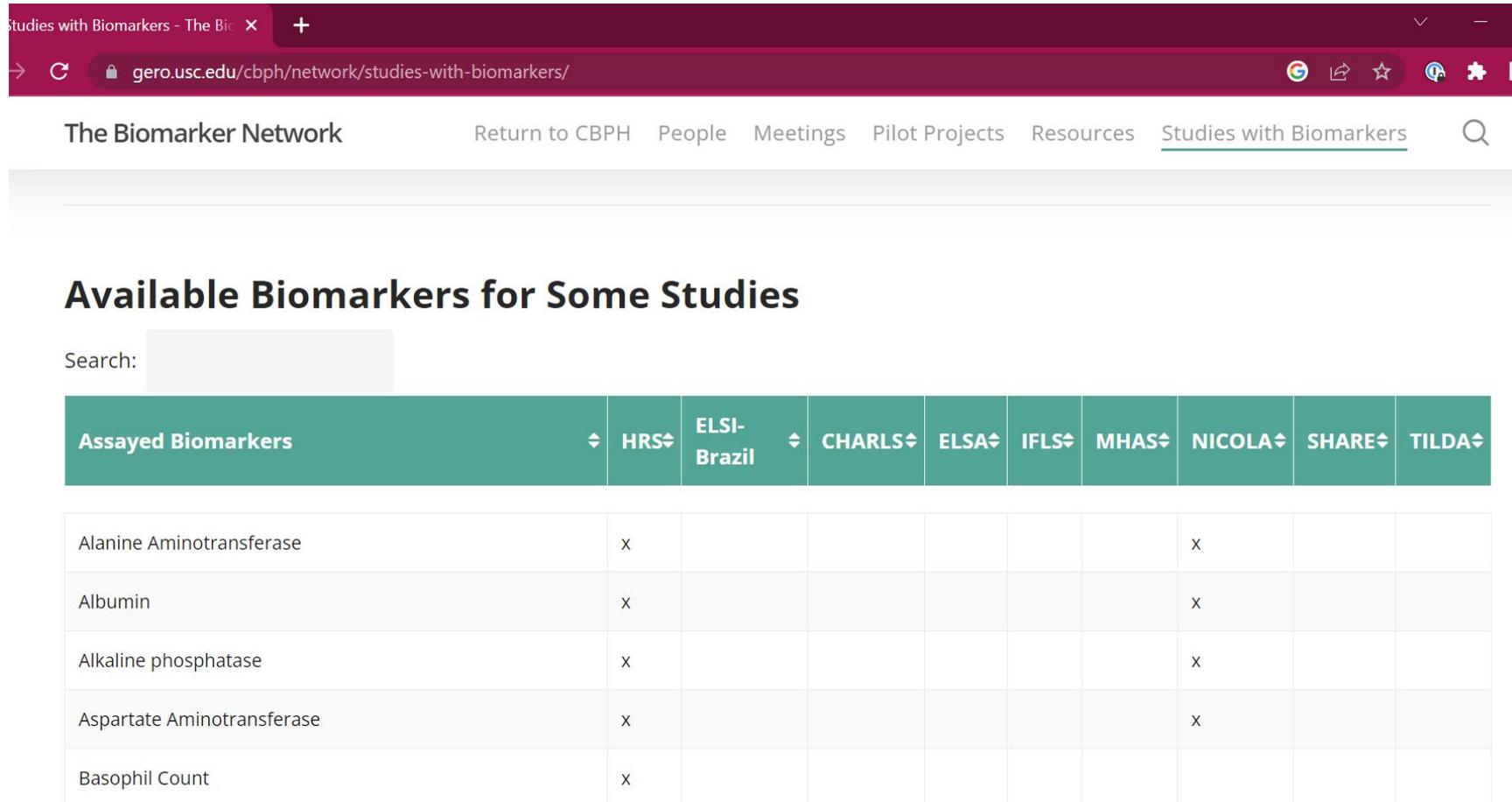
Home » Concordance across Surveys

## Concordance across Surveys

Please cite all information retrieved from the Gateway as follows: Gateway to Global Aging Data, Produced by the Program on Global Aging, Health & Policy, University of Southern California with funding from the National Institute on Aging (R01 AG030153)

|  |                            |                       |                                     |
|--|----------------------------|-----------------------|-------------------------------------|
| Sample/Interview                         | Demographics               | Health                | Insurance & Health Care Utilization |
| Cognition                                | Financial & Housing Wealth | Income & Consumption  | Family & Social Network             |
| Employment                               | Retirement                 | Pension               | Stress & Psychosocial Content       |
| Harmonized Cognitive Assessment Protocol | Life History Interview     | End of Life Interview | Physical Measures/Biomarkers        |

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



The screenshot shows a web browser window with the URL [gero.usc.edu/cbph/network/studies-with-biomarkers/](http://gero.usc.edu/cbph/network/studies-with-biomarkers/). The page title is "The Biomarker Network" and the current page is "Studies with Biomarkers". The main heading is "Available Biomarkers for Some Studies". Below the heading is a search bar. The table below lists biomarkers and their availability across several studies: HRS, ELSI-Brazil, CHARLS, ELSA, IFLS, MHAS, NICOLA, SHARE, and TILDA.

| 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.

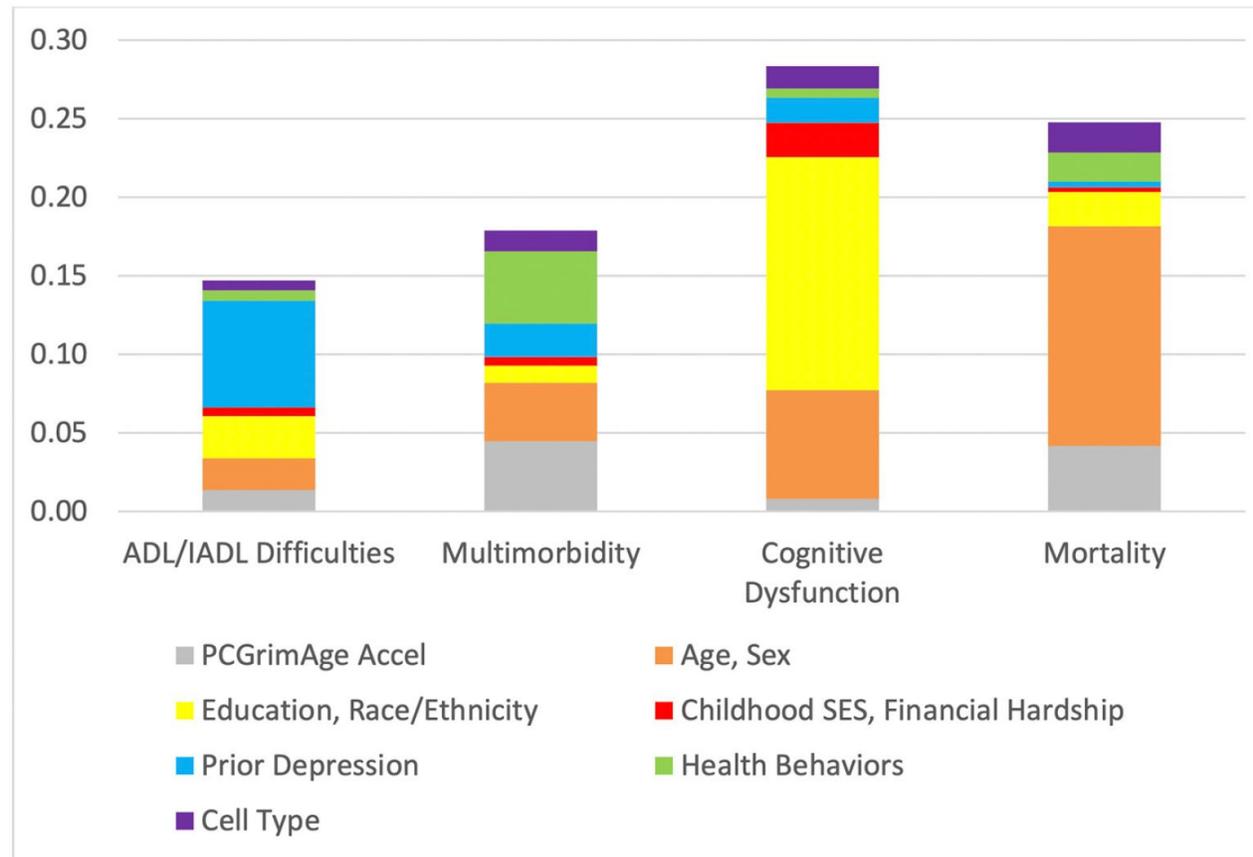


# Temperature check – global aging research using biomarkers

# 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

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- 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?

# Visit our PAA booth!

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

Follow us on *Twitter!*

Get information on:

- research resources
- funding opportunities
- research highlights
- upcoming webinars and meetings

**@NIA\_BSR**



## 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, Exosome  
Sat. April 15: Session 248  
discussant



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

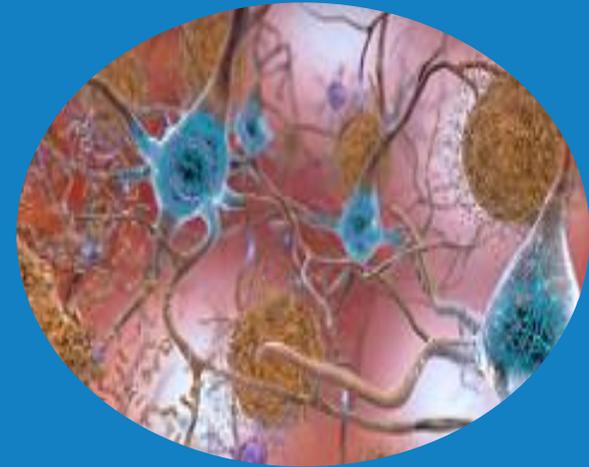
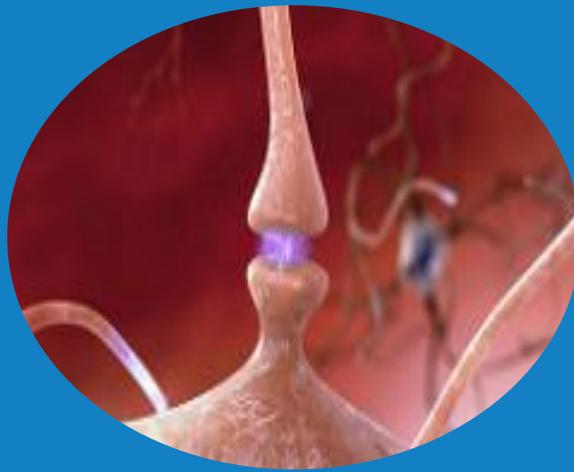
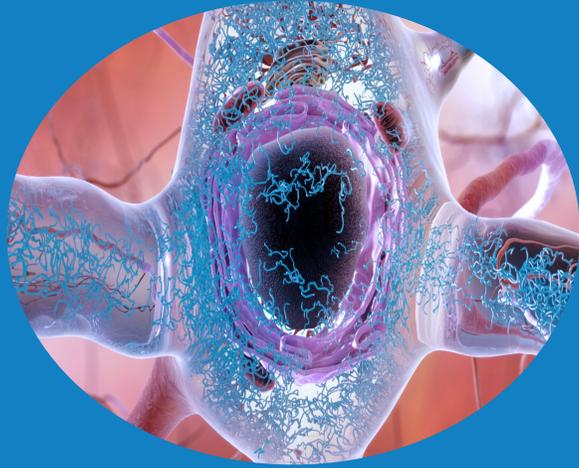


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Population & Social  
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# NIA

## The Leader in Aging Research

