



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

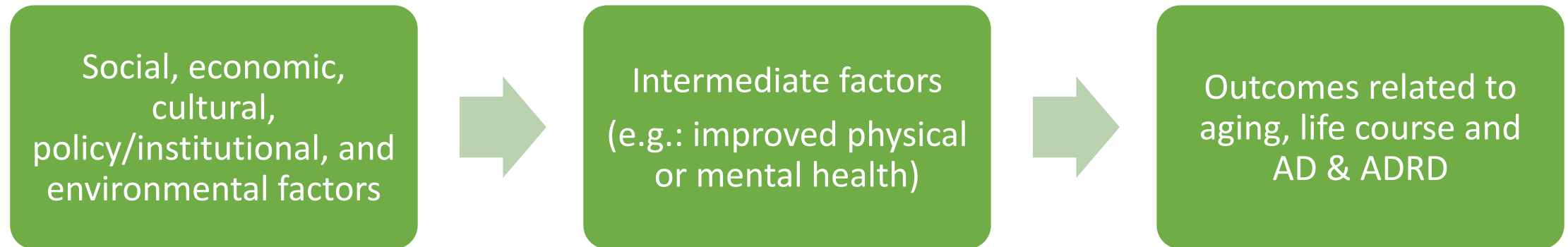
Causal drivers of health disparities

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)

HRS | HEALTH AND
RETIREMENT
STUDY

About ▾

Documentation ▾

Data Products ▾

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International Sister Studies

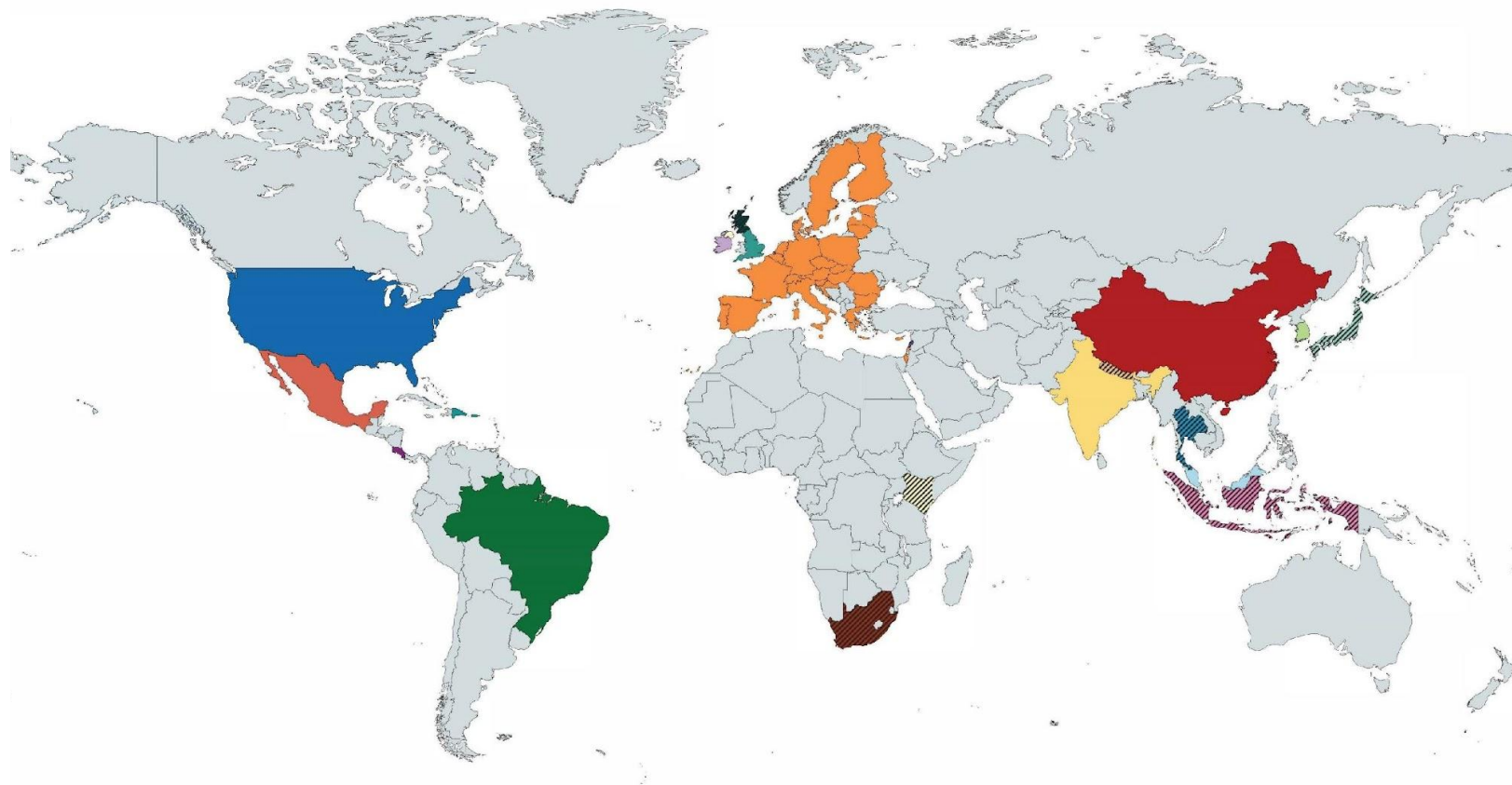
The HRS has become the model for a growing network of longitudinal aging studies around the world. These surveys not only provide data for individual countries but also offer the opportunity for cross-national comparisons.

- 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 ▾

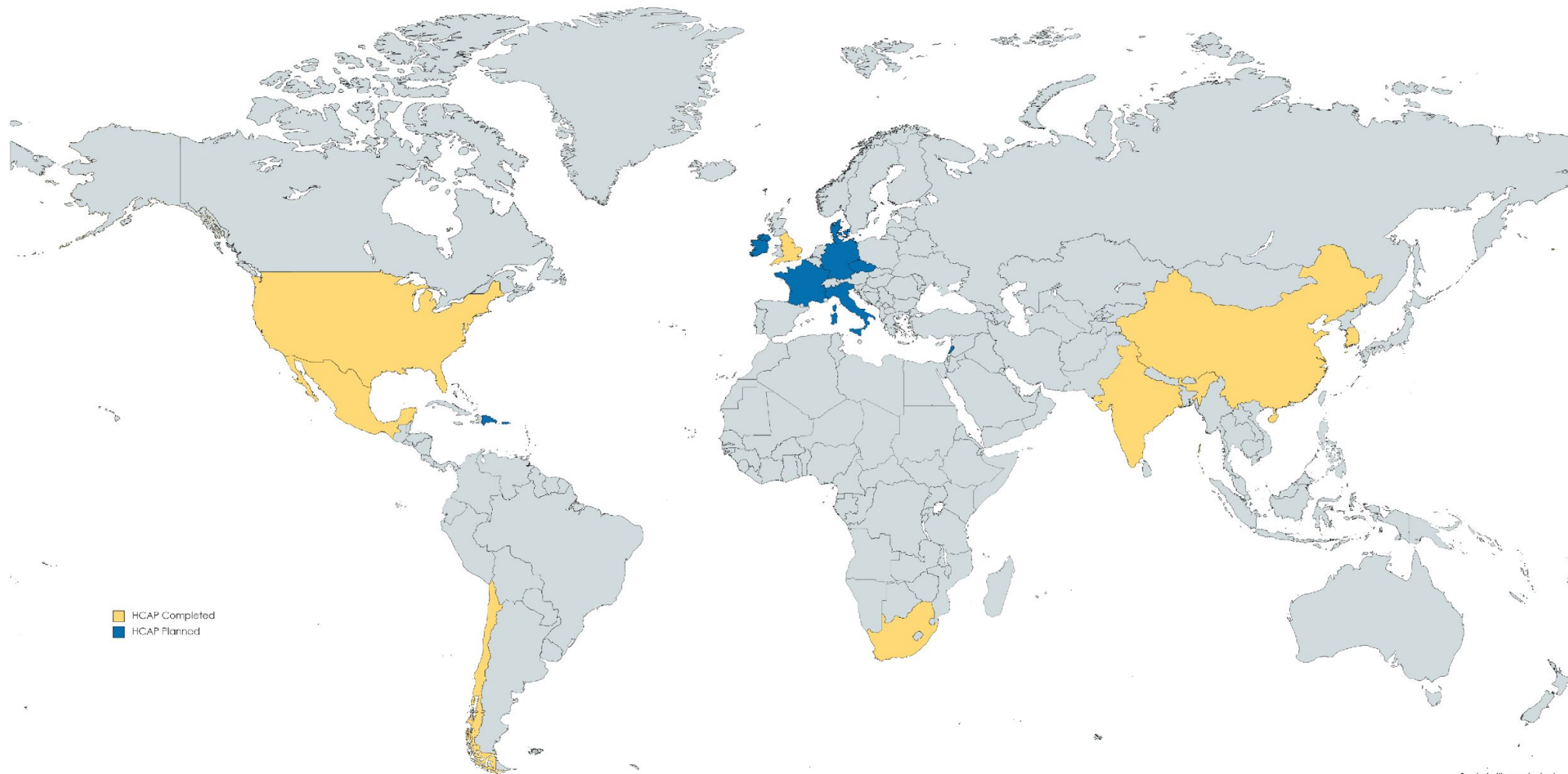
Data Products / Harmonized Cognitive Assessment Protocol (HCAP)

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



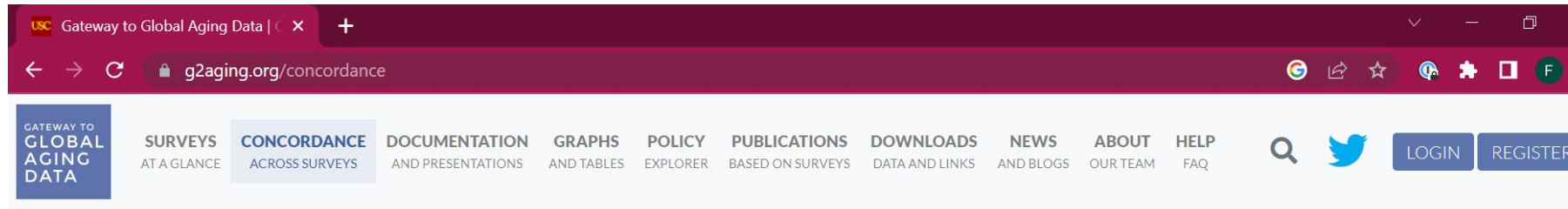
Created with mapchart.net

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



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/. 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. A table 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.

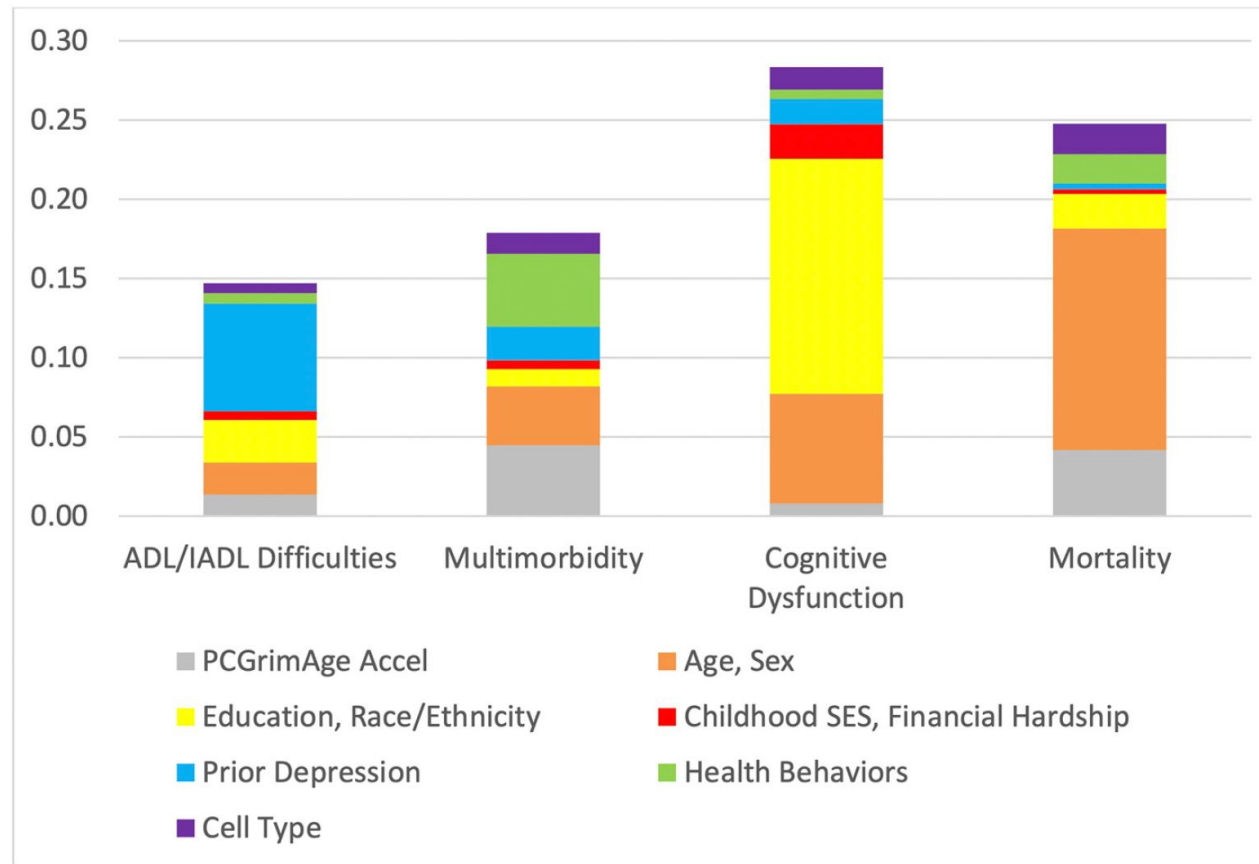


Temperature check – global aging research using biomarkers

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

- 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

@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



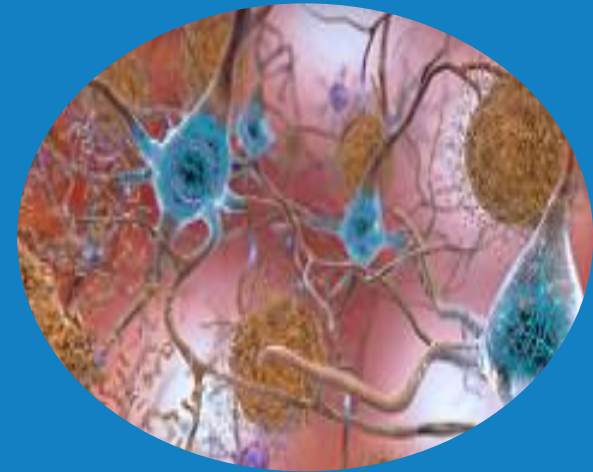
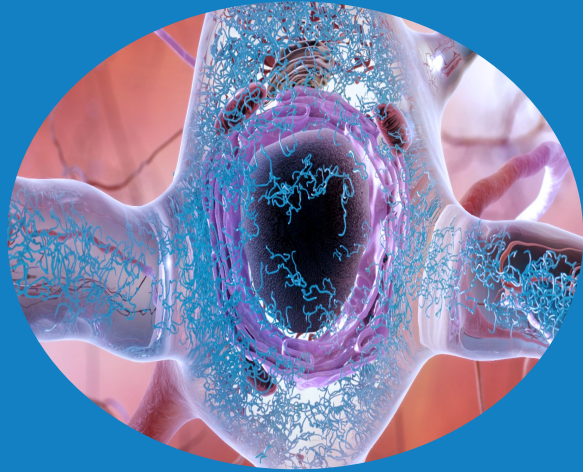
Frank Bandiera, PhD
Race & Ethnic Health &
Disparities; Immigration
Thurs. April 13: Session 65



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



NIA

The Leader in Aging Research

