SCHEDULE AT A GLANCE

NOTE: All times are EDT

Thursday, October 1
10am – 12pm . . . . . . Data Core Leaders
12 – 12:20 . . . . . . . Break
12:20 – 1:20 . . . . . . NACC Data Update
1:20 – 1:30 . . . . . . . Break
1:30 – 3:30 . . . . . . ORE Core Leaders

Friday, October 2
10am – 12:30pm . . Directors
12:30 – 12:45 . . . . . Break
12:45 – 2:45 . . . . . NP Core Leaders
FINAL AGENDA
Data Core Leaders Meeting
Thursday, October 1
10am – 12pm Eastern

10:00am Business meeting and mini-updates from membership
• Thank you, Mark Espeland, for years of service to the Data Cores Steering Committee!
• Welcome Yorghos Tripodis as incoming Chair and Sudeshna Das as Chair-Elect!
• Check-in from the ADRC Data Cores
• Recommendations of the NIH Alzheimer’s Disease Centers Panel Recommendations that the Data Core Steering Committee has been addressing in the past year:
  a. Leveraging of existing data and computer systems to address the challenge of facilitating access to the rich ADC and related resources for samples and data.
  b. Webinars and the Analytic Workshop:
     i. ensured adaptability to employ new statistical techniques
     ii. provide methods to study various combinations of biomarkers using advanced statistical and analytical techniques
     iii. encourage the adoption of existing systems such as REDCap or LAVA for data capture and database structure
• Future directions – Continue webinar series? Initiatives, especially those from the NIH Alzheimer’s Disease Centers Panel recommendations?

10:20 PRESENTATION 1
Alzheimer’s Discovery Portal: An informatics tool for addressing the translation gap
Robert A. McDougal, PhD YALE ADRC DATA MANAGEMENT & STATISTICS CORE
Caroline Zeiss, PhD NP CORE CO-LEADER, YALE ADRC

10:35 PRESENTATION 2
Regression techniques for right-skewed data in preclinical Alzheimer’s disease
Mike Malek-Ahmadi, PhD ARIZONA ADC

10:50 Panel discussion
Peter Nelson, MD, PhD NP CORE LEADER, UNIVERSITY OF KENTUCKY
Sudeshna Das, PhD DATA CORE LEADER, MASSACHUSETTS ADRC

11:10 PRESENTATION 3
Inverse probability of autopsy weighting — Moving toward best practices
Erin Abner CO-LEADER, DATA MANAGEMENT & STATISTICS CORE, UNIVERSITY OF KENTUCKY

11:25 PRESENTATION 4
MCI classification in the Longitudinal Aging Study in India Diagnostic Assessment of Dementia (LASI-DAD)
Alden L. Gross, PhD JOHNS HOPKINS UNIVERSITY

11:40 Panel discussion
Yorghos Tripodis, PhD DATA CORE LEADER, BOSTON UNIVERSITY
Mark Bondi, PhD RESEARCH EDUCATION COMPONENT LEADER, UNIVERSITY OF CALIFORNIA, SAN DIEGO

12pm Adjourn
ABSTRACTS

Presentation 1: Alzheimer's Discovery Portal: An informatics tool for addressing the translation gap
Because individual animal models do not fully recapitulate complex human diseases, conclusions from these studies often fail to generalize to humans. This translation gap has proven especially challenging for the development of Alzheimer’s treatments. Building on Menagerie (Zeiss et al., 2019), a literature mining program originally developed for the Parkinson’s literature, we are building an Alzheimer’s Discovery Portal to identify high-level patterns in the field as a pathway for overcoming the translation gap. From the Parkinson’s work, we know that interventions whose constituent studies utilize functional outcomes as indicators of efficacy across a greater diversity of animal model systems are significantly more likely to receive FDA approval. Alzheimer’s specific expansions include the capacity to identify immunologic, fluid biomarker, imaging biomarker, and neuropathology data as outcomes that supplement cognitive outcomes as the primary functional outcome measure. Text-mining strategies incorporating the context of terms distinguishes between e.g. species mentioned for context and species that are the subject of the investigation. Species, outcome, and other measures across the literature are displayed in an integrated search and visualization web platform.

Robert A. McDougal, Yale ADRC Data Core; Caroline Zeiss, NP Core Co-leader, Yale ADRC; Halil Kilicoglu, University of Illinois

Presentation 2: Regression techniques for right-skewed data in preclinical Alzheimer's disease
Some outcomes of interest in preclinical Alzheimer’s disease (pAD) studies do not meet the assumption of normality. Neuropathological data are often right-skewed since the frequencies of lower values tend to be higher among pAD populations. This skewness precludes the use of the common linear regression so it is necessary to find approaches that are compatible with right-skewed data. Although log transformation and dichotomization are often employed in order to use more familiar regression methods (e.g., linear and logistic), these approaches have their own significant issues. Log transformed data must be back-transformed to the original scale of measurement in order for regression coefficients to be interpreted properly. Dichotomizing an outcome that is a continuous variable in order to use logistic regression results in a significant loss of statistical power and quite often the cut-point used for dichotomization is arbitrary and may not reflect clinical or scientifically meaningful groupings. Using neuropathology data from the Rush Religious Orders Study (RROS) and FLAIR data from the Alzheimer’s Disease Neuroimaging Initiative (ADNI), analyses using negative binomial and GLM-gamma regression techniques demonstrated good model fit and estimate stability in pAD samples. Moving forward, pAD studies can utilize these regression techniques in order to generate valid association estimates without the need for data transformations.

Mike Malek-Ahmadi, Banner Alzheimer’s Institute / Arizona ADC

Presentation 3: Inverse probability of autopsy weighting — Moving toward best practices
Data derived from brain autopsy remain critically important in our field, despite advances in neuroimaging and fluid biomarkers. Using data from autopsy studies, however, inherently introduces selection bias at multiple stages in the study design. When considering the analysis of autopsy data, it may be advantageous to employ inverse probability of autopsy weights to the autopsied sample. Under strong assumptions of identifiability, the autopsy sample can be re-weighted to represent either the entire group of deceased participants, including those with no autopsy, or the living cohort. In this presentation, I will provide an introduction to inverse probability weighting, examine several applications in the literature, and provide recommendations for best practices.

Erin Abner, Data Management & Statistics Core Co-leader, University of Kentucky ADRC
Presentation 4: MCI classification in the Longitudinal Aging Study in India Diagnostic Assessment of Dementia (LASI-DAD)

An important goal of the Longitudinal Aging Study in India Diagnostic Assessment of Dementia (LASI-DAD) is to estimate the prevalence of mild cognitive impairment (MCI) in India. To do so, we operationalized diagnostic criteria for MCI using comprehensive neuropsychological criteria based on robust norms. We first selected a robust normative group free of stroke, depression, and informant-reported functional decline or impairment (N=403 [10%] of 4096 participants). In this subgroup, we regressed domain-specific cognitive scores representing memory, language, visuospatial ability, executive functioning, and orientation on age, sex, and years of education. Domain-specific subtypes of MCI were defined as 1.5 standard deviations below the mean of any domain-specific residual. Critically, we defined domain-specific cognitive scores using (1) confirmatory factor analyses of tests within a domain, as well as (2) factor scores from the same domains based on a hierarchical confirmatory factor analysis model conforming to Cattel-Horn-Carroll theory. Although the prevalence of subtypes of MCI were similar regardless of which set of factor scores were used, the prevalence of MCI using factor scores from separate models vs factor scores from one hierarchical model differed dramatically from 22.6% to 12.9%. Further investigation revealed factor scores from the hierarchical model are more highly intercorrelated with each other (0.80<r<0.98) than are factor scores from individual models (0.37<r<0.71). Thus, the latter set of scores necessarily identifies more cases of MCI in a given domain that other domain scores would not detect. In conclusion, although CHC theory is a useful approach for organizing and representing human cognitive abilities, for purposes requiring discriminant measures of cognitive domains — such as defining MCI — we recommend separate models of each domain.

Alden L. Gross, Johns Hopkins Bloomberg School of Public Health; Jinkook Lee, University of Southern California
FINAL AGENDA
NACC Data Update
Thursday, October 1
12:20 – 1:20pm Eastern

12:20pm  Welcome and overview
Walter A. Kukull, PhD  DIRECTOR, NATIONAL ALZHEIMER'S COORDINATING CENTER
Sean D. Mooney, PhD  ASSOCIATE DIRECTOR, NACC
Kari A. Stephens, PhD  ASSOCIATE DIRECTOR, NACC

12:30  NACC’s data inventory (what can people get)
Merilee Teylan, MPH  RESEARCH AND CONSULTING MANAGER, NACC
Overall data availability
- Update on available image data
- Other key data domain areas we offer
- How to access

12:40  Data capture (streamlining data collection)
Brian Stahly  TECHNOLOGY MANAGER, NACC
Sean D. Mooney, PhD  ASSOCIATE DIRECTOR, NACC

12:50  Data access (how people get the data)
Brian Stahly  TECHNOLOGY MANAGER, NACC

1:00  Leaf introduction and demonstration
Nicholas Dobbins  SENIOR COMPUTER SPECIALIST, UW MEDICINE

1:10  Q&A

1:20  Adjourn
FINAL AGENDA
ORE Core Leaders Meeting
Thursday, October 1
1:30 – 3:30pm Eastern

1:30pm  Greetings and ORE Core updates
Allison Lindauer, PhD  ORE CORE STEERING COMMITTEE CHAIR; ORE CORE LEADER, OHSU

1:38     NIA updates
Cerise Elliott, PhD  NATIONAL INSTITUTE ON AGING/NIH

1:58     Association updates: A recorded presentation
Alzheimer’s Association — Carl V. Hill, PhD, MPH
Association for Frontotemporal Degeneration — Sharon Denny
Lewy Body Dementia Association — Angela Taylor

2:15     Outreach, recruitment, and retention efforts with Latino communities in the age of Covid-19
Crystal Glover, PhD  ORE CORE LEADER, RUSH UNIVERSITY
Yakeel Quiroz, PhD  ORE CORE LEADER, MASSACHUSETTS ADRC

3:25     Closing thoughts
Allison Lindauer, PhD  ORE CORE STEERING COMMITTEE CHAIR; ORE CORE LEADER, OHSU

3:30pm     Adjourn

UPCOMING ORE EVENT:
Webinar with Allison Lindauer and Jennifer Lingler: “ORE Basics,” Friday, October 23, 1pm Eastern
FINAL AGENDA
Directors Meeting
Friday, October 2
10am – 12:30pm Eastern

10am   Welcome
       Andrew Saykin, PsyD  CHAIR, NACC STEERING COMMITTEE; DIRECTOR, INDIANA UNIVERSITY

10:05   NIA updates, Q&A
       Richard Hodes, MD  DIRECTOR, NATIONAL INSTITUTE ON AGING/NIH
       Eliezer Masliah, MD  DIRECTOR, DIVISION OF NEUROSCIENCE, NIA/NIH
       Nina Silverberg, PhD  DIRECTOR, ALZHEIMER'S DISEASE PROGRAM, NIA/NIH

11:00   COVID update including Q&A: Initial experience with remote assessment
       Lisa Barnes, PhD  CLINICAL CORE LEADER, RUSH ADRC
       Suzanne Craft, PhD  DIRECTOR, WAKE FOREST ADRC
       Mary Sano, PhD  DIRECTOR, MOUNT SINAI

11:30   Mini-symposium: Network Science of AD
       Biological networks in ADRD
       Chris Gaiteri, PhD  RUSH UNIVERSITY

       Brain networks — The Connectome
       Olaf Sporns, PhD  INDIANA UNIVERSITY

       Social networks in AD
       Brea Perry, PhD  INDIANA UNIVERSITY

12:30   Adjourn for 10-minute break
2020 Fall ADRC Meeting VIRTUAL

FINAL AGENDA
NP Core Leaders Meeting
Friday, October 2
12:45 – 2:45pm Eastern

12:45pm  Introduction
Peter Nelson, MD, PhD  CHAIR, NP CORE STEERING COMMITTEE; NP CORE LEADER, UNIVERSITY OF KENTUCKY

12:50  A panel of experts on how they work up and diagnose specific diseases
Clinical aspects
Liana Apostolova, MD  CLINICAL CORE LEADER, INDIANA UNIVERSITY

CTE
Ann McKee, MD  NP CORE LEADER, BOSTON UNIVERSITY

ARTAG
Gabor Kovacs, MD, PhD  UNIVERSITY OF TORONTO

AD+DLB
Dennis Dickson, MD  NP CORE LEADER, MAYO CLINIC

LATE
Peter Nelson, MD, PhD  CHAIR, NP CORE STEERING COMMITTEE; NP CORE LEADER, UNIVERSITY OF KENTUCKY

FTLD-TDP
William Seeley, MD  NP CORE LEADER, UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

1:50  General discussion

2:05  Keynote presentation: ARTAG
Gabor Kovacs, MD, PhD  UNIVERSITY OF TORONTO

2:35  Introduction of new ARTAG data entry elements for NACC
Ann McKee, MD  NP CORE LEADER, BOSTON UNIVERSITY

2:45  Adjourn