Overview: WFU OAIC Biostatistics and Information Systems Core (BIC)
The Team

- Faculty: Michael Miller, PhD
  Eddie Ip, PhD
  Iris Leng, PhD
  Daniel Beavers, PhD
- Statistician: Rebecca Neiberg, MS
- Systems Programmer: Wes Roberson
- SAS Programmers
  - Julie Hu
  - June Pierce
  - Christopher Webb, MS
- Project Manager: Cindy Stowe, MPM
The Specific Aims of BIC in the Current Cycle:

- **Aim 1:** To participate as co-investigators in multiple aspects of WFU OAIC pilot studies, developmental projects and externally funded projects related to OAIC’s aims and themes.
- **Aim 2:** Mentoring/Collaboration with OAIC-supported scholars and junior faculty members
- **Aim 3:** Developing novel biostatistical applications or methods for analytical issues associated with aging research
- **Aim 4:** Developing unique research information collection systems for implementation in studies of older participants and translate them into community- and clinic-based settings
Standardized Data Entry/Variables for a Common Battery

• Anthropometry (Height, Body Mass, Abdominal Circumference)
• Grip strength (Jamar hand grip dynamometer)
• Lower extremity muscle power (Keiser knee extension and leg press)
• The Short Physical Performance Battery (SPPB: three tests of physical function - standing balance, usual pace gait speed over 4 meters, time to rise from a chair and sit down five times)
• 400 meter walk test (400MWT: study specific protocols for either usual or fast pace gait speed)
• Pepper Assessment Tool for Disability (PAT-D: self-report instrument)
• Mobility Assessment Tool – short form (MAT-sf: 10 or 12-item computer based self-report assessment of mobility using animated video clips)
• Digit Symbol Substitution Test (DSST: validated cognitive assessment that is strongly correlated with walking speed)
• Montreal Cognitive Assessment© (MoCA: global cognitive assessment that aids in interpreting DSST performance)
WFU OAIC Integrated Aging Studies Databank and Registry (IASDR)

• Includes phenotypic data availability (including imaging), in addition to biospecimen information.
• Is dynamic by utilizing an intake form to update study information in real time.
• Is linked to common battery summary statistics (limited to the WFU OAIC secure web site).
• Represents a harmonization of the systems used for the ADRC and OAIC
WFU OAIC Integrated Aging Studies Databank and Registry (IASDR)

• Incorporates standardized procedures provides a means to collect the highest quality data (including a common set of data quality checks)
• Facilitates ability of OAIC investigators to efficiently capture data from multiple projects to address OAIC-wide research hypotheses
• Readily allows compilation of statistics across multiple studies
  ➢ Kim S Innov Aging (2017)
  ➢ Handing EP Innov Aging (2020)
• Serves as a wealth of preliminary data for use in grant applications
• Contributes to all Aims of BIC
A successful story starting with common battery analysis

• Publication:

• K01:
  K01 AG-033652-01A2 (Brinkley) 07/01/2010 – 06/30/2015
  Cardiac Imaging of Thoracic Fat and Aortic Stiffness in Older High Risk Patients

• R01:
  R01AG064014 (Brinkley) NIH/NIA
  Dietary Effects on Imaging and Fluid-based Biomarkers of the Adipose-Brain Axis in Alzheimer’s Disease
WFU OAIC Data Center

OAIC National Web Site
https://www.peppercenter.org/

WFU OAIC Secure Data Manage Website
https://pepperwfu.phs.wakehealth.edu/
Contacts

• Have an idea for a pilot? Need information on data management capabilities for the common battery? Contact Cindy Stowe (cstowe@wakehealth.edu)

• Requests are discussed by the Biostat Core leadership and priorities set through discussion with the WFU OAIC leadership.