

# Update from the Computerized Cognitive Testing Work Group

Munro Cullum, PhD

The University of Texas Southwestern Medical Center

April, 2016

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# Work Group Members

- Jessica Langbaum (chair)
- Laura Baker
- Cindy Carlsson
- Munro Cullum
- Hiroko Dodge
- Bud Kukull (ex officio)
- Michelle Mielke
- Dorene Rentz
- Michael Ropacki
- Nina Silverberg (ex officio)
- Sandra Weintraub

# Work Group: Potential titles

- **Computerized Cognitive Testing Work Group**
- Computerized Research Assessment Program

# Work Group Objectives

- Advise the NIA, the NACC Steering Committee and the Clinical Core Steering Committee regarding computerized / web-based assessment measures that could be considered for use by ADCs
- Make recommendations regarding which diagnostic groups might be the best targets for computerized assessment
- Develop action plan

# Work Group Process

- Reviewed computerized testing options
- Desirable features:
  - assess multiple cognitive domains
  - added value beyond current measures
  - feasibility / ease of implementation / brevity
  - multiple languages
  - non-proprietary

# Work Group Recommendation

- **Assessment recommendation:**
  - NIH Toolbox
    - Administered by examiners using iPads



# NIH Toolbox – Cognitive Battery\*

- Commissioned by 16 NIH institutes
- Provide lifespan assessment potential
- ✓ Brief, efficient, accessible measures
- ✓ English + Spanish availability
- ✓ Nonproprietary

# NIH Toolbox – Cognitive Battery Domains

- **Attention** (flanker task)
- **Executive Function** (dimensional card sort, flanker)
- **Episodic Memory** (picture sequence memory)
- **Working Memory** (list sorting)
- **Language** (pic. vocab, oral reading recognition)
- **Processing Speed** (pattern comparison)

Total time: ~ 25 minutes



# NIH Toolbox – Cognitive Battery

## Composite scores

- **Internal Consistency**                      **.77 to .84**
- **Test-retest**                                      **.86 to .92**
- **Convergent vs gold std.**                      **.93 to .95**

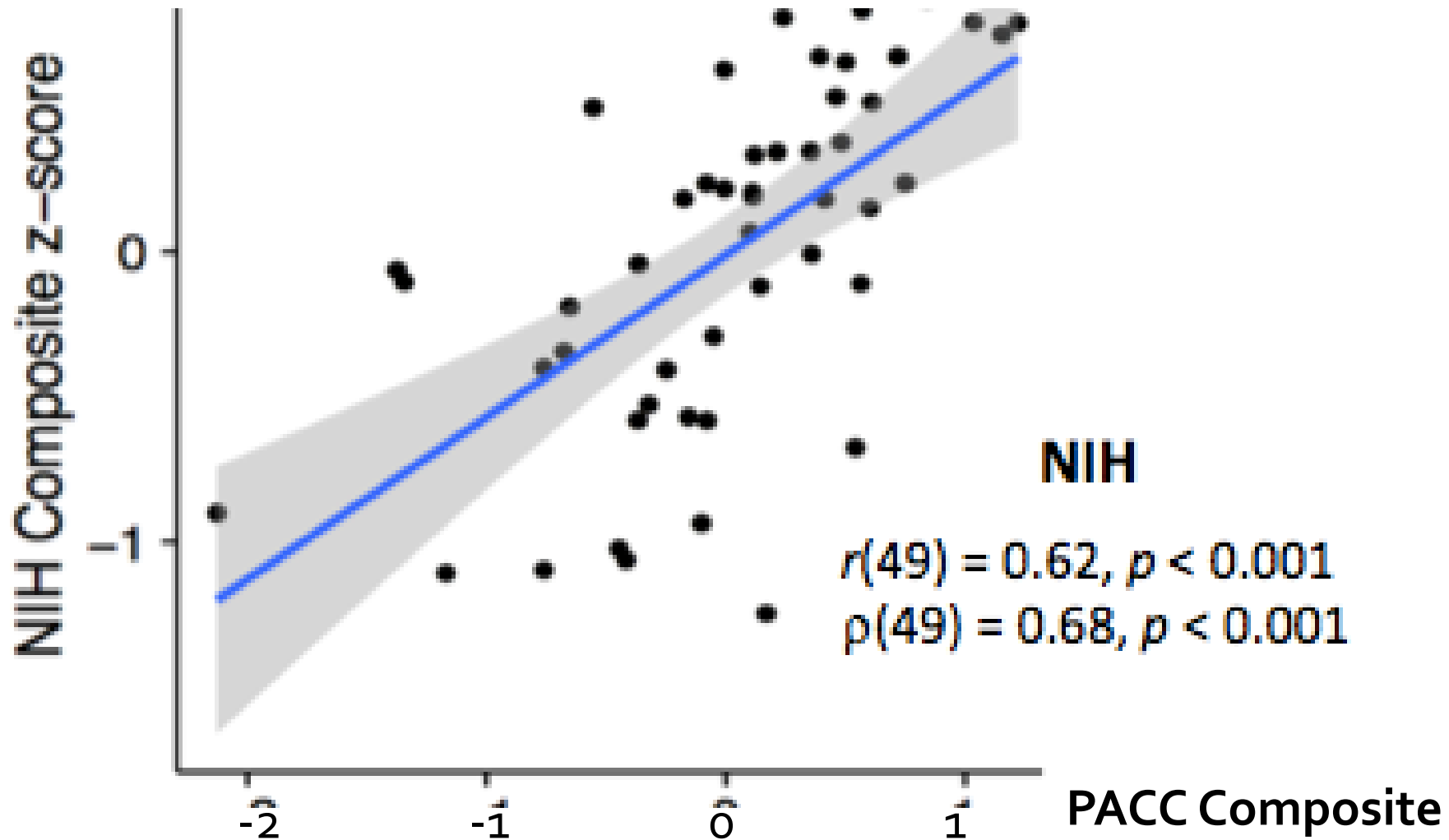
# Work Group: Next Steps

- Design and propose pilot study of NIH Toolbox (iPad version) at ADCs to assess:
  - feasibility
  - utility

# Work Group: Next Steps

- What does TB add beyond UDS?
- Assess whether TB has =/+ sensitivity vs. UDS measures
- Sensitivity to change (NC, early MCI)
- Some ADCs are already doing TB, so can examine correlations with UDS & biomarkers

# Pilot data (Rentz et al.)



# Work Group: Next Steps

- Draft protocol for NIH TB ADC proposal
  - Identify target groups (NC, MCI)
  - sample sizes & protocol
  - interested ADCs
  - Timeline

# Work Group: Next Steps

- Pilot-test in several centers
- Review experience & examine data
- Present at future meeting for review
- Tweak protocol & make recommendations

# Questions?

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