



NIA ADC Clinical Task Force
UDS Neuropsychology Work Group
April 2014

Sandra Weintraub, PhD



Members:

Hiroko Dodge (OHSU)

Steven Ferris (NYU)

Bruno Giordani (UM)

Felicia Goldstein (Emory)

Joel Kramer (UCSF)

David Loewenstein (Miami)

Dan Marson (UAB)

John Morris (Wash U)

Dan Mungas (UC-Davis)

David Salmon (UCSD)

Sandy Weintraub (Northwestern, chair)

Kathleen Welsh-Bohmer (Duke)

Ex Officio

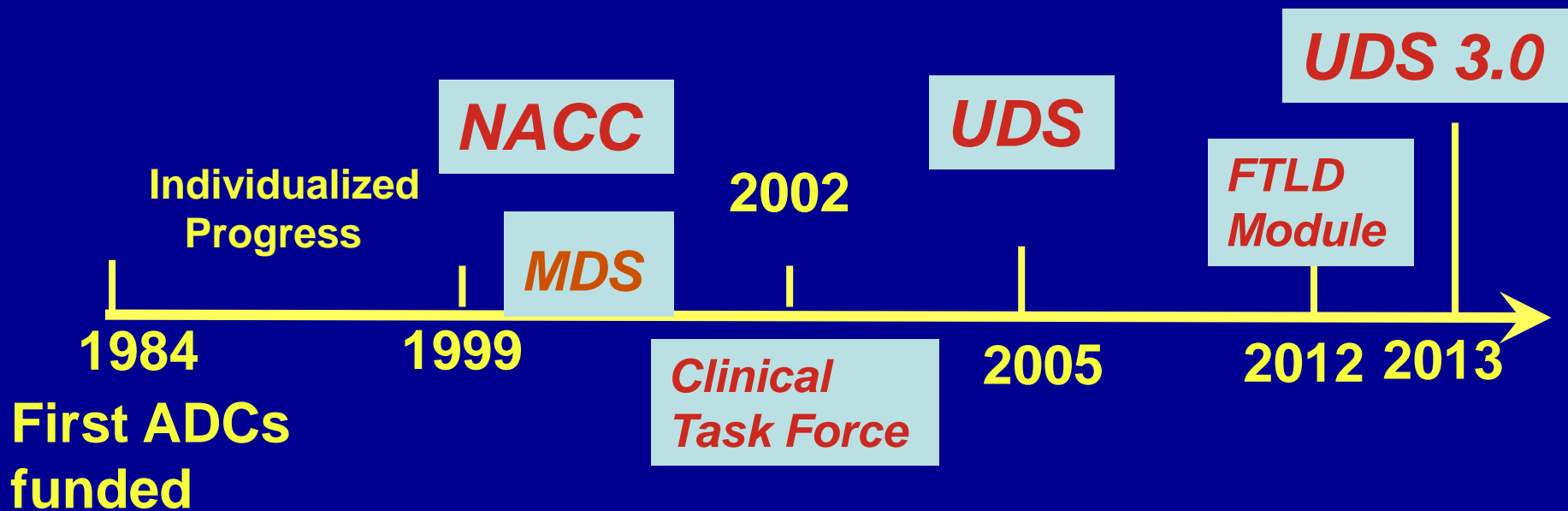
Bud Kukull (NACC)

Nina Silverberg (NIA)

Tony Phelps (NIA)



Milestones in the NIA ADC data collection program



MDS- Minimum Data Set
UDS- Uniform Data Set



NEUROPSYCHOLOGICAL BATTERY ISSUES

- **CONTROL OF USAGE:** Collaborators must now obtain independent licensing agreements
- **COSTS:** Costs keep escalating on current tests, despite the fact that tests are no longer in print

SWAP OR REPLACE?

- **LEGACY DATA?**
- **COMPUTERIZED TESTS?**



UDS WORKGROUP PROCESS

- Review copyright and IP issues as they affect our decision-making
- Smaller Work Grouplets by Domain
 - Review alternatives
 - Criteria for decision-making
 - Consider pros and cons of alternatives
 - Work Group consensus on recommendations
 - Recommendations to the CTF



UDS WORKGROUP OPERATING PRINCIPLES

- Reduce/contain costs
- Eliminate restrictions on dissemination
- Create the best possible battery for advances in the field-
 - Relevant domains, ability to track normal cognitive aging to MCI to AD
 - Maintain continuity of data
 - Non-interference with measures used by ADCs and clinical trials
 - Move the field forward-new technologies, domains, constructs not being measured
 - Unique to the ADCs



Work Group recommendations

		CROSSWALK TESTS
Drop:	Digit Symbol	
Keep:	Trail Making A and B Fluency, Animals and Vegetables	
Replace:	MMSE, with . . . Digit Span, with . . . BNT, with . . . Logical Memory, with . . .	<ul style="list-style-type: none"> ➔ MoCA ➔ Number Span ➔ MINT ➔ Craft Story 21
Add from FTLD Module:	Benson Complex Figure Test (Copy and Recall) Fluency, Letters F and L	



PROGRESS

- **Work Group Final Decisions: NACC DATA FORMS:** completed September 2013
- **Training Webinar:** completed December 2013
- **Letters of agreement from test designers**

Zaid Nasreddine¹ –MoCA,

Joel Kramer² -Number Span

Benson Complex Figure Test (Copy, Delayed Recall)

Suzanne Craft³ -Craft Story 21 (Immediate and Delayed Recall)

Tamar Gollan⁴ – Multilingual Naming Test (MINT)

- **Cross-Walk Study:** completed April 2014

1. Center for Diagnosis and Research on Alzheimer's Disease, Greenfield Park; Jewish General Hospital and McGill University, Montreal, Quebec; 2. University of California San Francisco; 3. Wake Forest School of Medicine; 3. University of California San Diego



CRAFT STORY 21

Maria's / child / Ricky / played / soccer / every Monday / at 3:30. /
He / liked / going / to the field / behind / their / house / and joining /
the game. / One / day, / he / kicked / the ball / so / hard / that it /
went / over / the neighbor's / fence / where three / large / dogs /
lived. / The dogs' / owner / heard / loud / barking, / came / out, /
and helped / them / retrieve / the ball

Total story units recalled (VERBATIM SCORING): / 44

Total story units recalled (PARAPHRASE SCORING): / 25

Craft S, Newcomer J, Kanne S, Dagogo-Jack S, Cryer P, Sheline Y, Luby J, Dagogo-Jack A, Alderson A. Memory improvement following induced hyperinsulinemia in Alzheimer's disease. *Neurobiol Aging*. 1996 Jan-Feb;17(1):123-30.



SELECTED MINT ITEMS



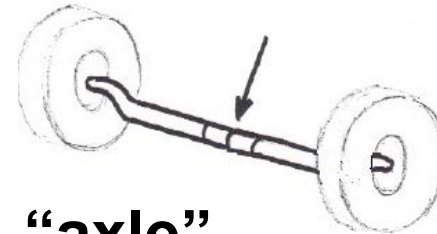
“candle”



“parachute”



“wig”



“axle”

Ivanova I, Salmon DP, Gollan TH. The Multilingual Naming Test in Alzheimer's Disease: Clues to the Origin of Naming Impairments. J Int Neuropsychol Soc. 2013 Jan 8:1-12.

Gollan TH, Weissburger G, Runnqvist E, Montoya RI, Cera CM. Self-ratings of spoken language dominance: A Multilingual Naming Test (MINT) and preliminary norms for young and aging Spanish–English bilinguals. Bilingualism: Language and Cognition. 2011;13:215-8.



FTLD Module: Benson CFT, Letters F, L Diagnostic Groups

Test	Normal cognition	Probable bvFTD	Possible bvFTD	PPA Sv, NfAv	lvPPA	Probable AD dementia
Benson copy total score	15.8 (1.8)	13.5 (4.1)	13.6 (3.8)	14.7 (4.2)	13.3 (5.2)	10.7 (6.1)
Benson delayed total score	12.5 (3.1)	6.9 (5.0)	7.4 (4.4)	8.2 (5.5)	7.5 (4.7)	3.2 (3.1)
N F Words	14.1 (5.2)	7.4 (4.5)	8.4 (4.9)	5.7 (4.1)	6.4 (5.1)	7.3 (5.3)
N L Words	14.0 (4.4)	6.7 (4.7)	7.9 (5.0)	5.1 (3.8)	5.8 (4.1)	7.5 (5.0)
Total correct F and L words	28.1 (8.9)	14.1 (8.9)	16.3 (9.6)	10.8 (7.6)	12.7 (8.9)	14.8 (9.5)



FTLD Module: Benson CFT, Letters F, L NC by Age

	Age <50 N=24	Age 50-59 N=23	Age 60-69 N=32	Age 70+ N=39
Test				
Benson copy total score	15.7 (3.5)	16.4 (1.1)	16.0 (0.9)	15.4 (1.2)
Benson total score delayed	14.3 (2.6)	13.6 (2.3)	12.5 (2.7)	10.8 (3.2)
Total F words	15.2 (4.6)	12.5 (3.9)	14.9 (5.6)	13.8 (5.8)
Total L Words	15.0 (3.7)	12.6 (3.6)	13.9 (4.6)	14.2 (4.9)
Total correct F and L words	30.2 (7.6)	25.1 (6.4)	28.8 (9.9)	27.9 (9.9)



NEXT

- **UDS 3.0**
- Consider computerized options
- Validate Tests against biomarkers, other dementia diagnoses



Special Thanks To:

NACC

Sarah Monsell

Elizabeth Robichaud

Maggie Dean

Duane Beekly

NIA

Cerise Elliot

ALL CONTRIBUTING ADC's!