NIA ADC Clinical Task Force
UDS Neuropsychology Work Group
April 2014

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John Morris (Wash U)
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Ex Officio
Bud Kukull (NACC)
Nina Silverberg (NIA)
Tony Phelps (NIA)
Milestones in the NIA ADC data collection program


First ADCs funded

1984

1999

2002

2005

2012 2013

MDS- Minimum Data Set

UDS- Uniform Data Set

NACC

MDS

Clinical Task Force

UDS

FTLD Module

UDS 3.0

Individualized Progress

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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

<table>
<thead>
<tr>
<th>Drop:</th>
<th>Digit Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Keep:</strong></td>
<td>Trail Making A and B</td>
</tr>
<tr>
<td></td>
<td>Fluency, Animals and Vegetables</td>
</tr>
<tr>
<td><strong>Replace:</strong></td>
<td>MMSE, with . . .</td>
</tr>
<tr>
<td></td>
<td>Digit Span, with . . .</td>
</tr>
<tr>
<td></td>
<td>BNT, with . . .</td>
</tr>
<tr>
<td></td>
<td>Logical Memory, with . . .</td>
</tr>
<tr>
<td><strong>Add from FTLD Module:</strong></td>
<td>Benson Complex Figure Test (Copy and Recall)</td>
</tr>
<tr>
<td></td>
<td>Fluency, Letters F and L</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CROSSWALK TESTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>➔ MoCA</td>
</tr>
<tr>
<td>➔ Number Span</td>
</tr>
<tr>
<td>➔ MINT</td>
</tr>
<tr>
<td>➔ Craft Story 21</td>
</tr>
</tbody>
</table>
PROGRESS

• **Work Group Final Decisions: NACC DATA FORMS:** completed September 2013

• **Training Webinar:** completed December 2013

• **Letters of agreement from test designers**

  Zaid Nasreddine\(^1\) – MoCA,

  Joel Kramer\(^2\) - Number Span

  Benson Complex Figure Test (Copy, Delayed Recall)

  Suzanne Craft\(^3\) - Craft Story 21 (Immediate and Delayed Recall)

  Tamar Gollan\(^4\) – 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
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

SELECTED MINT ITEMS

“candle”

“parachute”

“wig”

“axle”


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

<table>
<thead>
<tr>
<th>Test</th>
<th>Normal cognition</th>
<th>Probable bvFTD</th>
<th>Possible bvFTD</th>
<th>PPA Sv, NfAv</th>
<th>IvPPA</th>
<th>Probable AD dementia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benson copy</td>
<td>15.8 (1.8)</td>
<td>13.5 (4.1)</td>
<td>13.6 (3.8)</td>
<td>14.7 (4.2)</td>
<td>13.3 (5.2)</td>
<td>10.7 (6.1)</td>
</tr>
<tr>
<td>Total score</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benson delayed</td>
<td>12.5 (3.1)</td>
<td>6.9 (5.0)</td>
<td>7.4 (4.4)</td>
<td>8.2 (5.5)</td>
<td>7.5 (4.7)</td>
<td>3.2 (3.1)</td>
</tr>
<tr>
<td>Total score</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N F Words</td>
<td>14.1 (5.2)</td>
<td>7.4 (4.5)</td>
<td>8.4 (4.9)</td>
<td>5.7 (4.1)</td>
<td>6.4 (5.1)</td>
<td>7.3 (5.3)</td>
</tr>
<tr>
<td>N L Words</td>
<td>14.0 (4.4)</td>
<td>6.7 (4.7)</td>
<td>7.9 (5.0)</td>
<td>5.1 (3.8)</td>
<td>5.8 (4.1)</td>
<td>7.5 (5.0)</td>
</tr>
<tr>
<td>Total correct F and L words</td>
<td>28.1 (8.9)</td>
<td>14.1 (8.9)</td>
<td>16.3 (9.6)</td>
<td>10.8 (7.6)</td>
<td>12.7 (8.9)</td>
<td>14.8 (9.5)</td>
</tr>
</tbody>
</table>
## FTLD Module: Benson CFT, Letters F, L NC by Age

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