Updating the New York State Clinical Practice Guidelines for ASD, Birth-to-Three: A State-LEND Partnership.*
Part 1: Screening Instruments

Patricia O. Towle, PhD
LEND Faculty, Senior Psychologist, Westchester Institute for Human Development/UCEDD

Colleen O’Sullivan, PhD
Former LEND Trainee

Eva Hecht, MA
Current LEND Trainee

Brittany Blumenthal, BA
Current LEND Trainee

Donna Noyes, PhD
Co-Director,
Bureau of Early Intervention
New York State Dept of Health

Kirsten Siegenthaler, MSPH
Program Evaluation and Evidence-based Practice
Bureau of Early Intervention
New York State Dept of Health

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Introduction

- Part C of the IDEA provides for an early intervention program throughout the states and territories.

- Activities of the Part C Early Intervention Program should be evidence-based.

- In 1999, the New York State Department of Health (NYS DOH) Early Intervention (EI) program published the Clinical Practice Guideline, Autism/Pervasive Developmental Disorders, Assessment and Intervention for Young Children (Age 0-3 Years).
Introduction

• Since tremendous progress has been made in this area over the years, the NYS DOH EI program is collaborating with experts throughout New York State and nationally to update the guidelines through evidence-based literature reviews.
• Supported by the Far Fund, a private grant-making fund established in 2001 and located in New York City. The Fund awards grants to a diverse range of non-profit organizations that are working toward far-reaching goals in their efforts to support the social and emotional well-being of the people they serve.
Experts Engaged for First-Phase Literature Review

**Susan Hyman, M.D.**  
Associate Professor, Department of Pediatrics  
Chief, Neurodevelopmental & Behavioral Pediatrics  
Golisano Children's Hospital  
University of Rochester Medical Ctr  
Area: Medical/Nutritional Interventions

**Raymond Romancyzk, Ph.D.**  
Dept of Psychology  
Executive Director, the Institute for Child Development  
University of Binghamton  
Area: Behaviorally-based Interventions

**Kristin Christodulu, BCBA, Ph.D.**  
Director, Center for Autism and Related Disabilities  
Statewide Coordinator, New York State Regional Centers for Autism Spectrum Disorders  
University of Albany  
Area: Assessment Instruments

**Patty Towle, Ph.D.**  
LEND Faculty, Senior Psychologist  
Director, Psychology Training  
Westchester Inst Hum Dev  
Depts Psychiatry & Pediatrics  
New York Medical College  
Area: Screening Instruments

**Michael Siller, Ph.D.**  
Dept of Psychology  
Co-Director, Autism Center  
Hunter College, CUNY  
Area: Developmentally-based Interventions
Introduction

- This poster describes current findings for early ASD screening measures - not completed yet.

- Work done by faculty and trainees of the Leadership Education in Neurodevelopmental Disabilities (LEND) program at Westchester Institute for Human Development/UC EDD.
Method

Literature Search

• Searched major data bases using key words and MESH terms

• Also read literature reviews, searched reference lists, and conducted literature searches for specific instruments

Inclusion Criteria For Each Article

• Published in English, peer-reviewed scientific journal
• Provide original data about efficacy of the assessment method
• Instrument currently available and practical to obtain and administer
• Provide adequate description or reference to full description
• Evaluate subjects of targeted age
Method

AHRQ* Strength of Evidence
*Agency for Healthcare Research and Quality, Institute of Medicine
[Adapted by NYS DOH as applied to research with young children with disabilities]

STEP 1 – For Each Article- Definition of ADEQUATE EFFICACY

• Uses appropriate reference standard – Clinical judgment vis-a-vis DSM IV-TR or DSM-5 and/or ADOS

• Gives sensitivity and specificity or enough data to calculate, ideally also Positive Predictive Value (PPV)
Method

Abstract Articles

• Created a standardized report of each article to describe:

  • Sample characteristics (age, demographics, developmental levels)
  
  • Administration and scoring procedure of the measure
  
  • The “gold standard” measure for ASD outcome dx
  
  • Sensitivity, specificity (and positive predictive value)
Results

**EXPANSION OF LITERATURE:**

<table>
<thead>
<tr>
<th>Number of Measures</th>
<th>1999</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>22</td>
</tr>
</tbody>
</table>
## Results

### TARGETING CHILDREN EARLIER AND EARLIER:

<table>
<thead>
<tr>
<th>Measure</th>
<th>Child Age In Months</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year Inventory (FYI)</td>
<td>12</td>
<td>Parent-rated, 14 questions, yes/no, cut off score</td>
</tr>
<tr>
<td>Early Screen for Autistic Traits (ESAT)</td>
<td>14-15</td>
<td>Parent-rated, 14 questions, yes/no, cut off score</td>
</tr>
<tr>
<td>Infant-Toddler Checklist (ITC)</td>
<td>8 – 24</td>
<td>Parent-rated, 24 questions, scored 0-2, choice of cut-off or standard score from manual</td>
</tr>
<tr>
<td>Autism Observation Scale for Infants (AOSI)</td>
<td>6-18</td>
<td>Clinician interaction, 19 items, scored 0 - 2/3 20 min</td>
</tr>
</tbody>
</table>
## Results

### THE CHAT AND M-CHAT EVOLVE:

<table>
<thead>
<tr>
<th>Year</th>
<th>Measure</th>
<th>Authors</th>
<th>Description</th>
<th>PPV</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992</td>
<td>CHAT (Checklist for Autism in Toddlers)</td>
<td>Baron-Cohen, Allen &amp; Gillberg</td>
<td>Parent checklist and some clinician interactions items</td>
<td>low</td>
</tr>
<tr>
<td>2001</td>
<td>M-CHAT (Modified CHAT)</td>
<td>Robins, Fein, Barton</td>
<td>Parent Checklist with Follow-up Interview</td>
<td>.68</td>
</tr>
<tr>
<td>2000</td>
<td>Q-CHAT (Quantitative CHAT)</td>
<td>Allison &amp; Baron-Cohen</td>
<td>Parent Checklist</td>
<td>-- .58</td>
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<tr>
<td>2012</td>
<td>Q-CHAT-10 (shortened)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>M-CHAT-R/F (M-CHAT/Revised w/ Follow-up Interview)</td>
<td>Robins, Fein, Barton</td>
<td>Parent Checklist with Follow-up Interview</td>
<td>.49</td>
</tr>
</tbody>
</table>
# Results

**CURRENT LEADING MEASURES for the 18 - 36 MONTH age range:**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Authors</th>
<th>Administration</th>
<th>Description</th>
<th>Rel &amp; Val</th>
<th>Sens &amp; Spec</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screening Test for Autism in Toddlers (STAT)</td>
<td>Stone et al.</td>
<td>Clinician semi-</td>
<td>8 tasks, each rated pass or fail (2 or more subtasks tasks and several trials for each).</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>structured direct</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>observation 24 - 36 mos</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baby and Infant Screen for Children with autistic Traits (BISCUIT)</td>
<td>Matson et al.</td>
<td>Parent-interview</td>
<td>Three Parts 1- ASD symptoms (62 items); 2 - Other neurodvgntl symptoms (84 items); 3 - Challenging Behaviors (20 items)</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>checklist 17 - 37 mos</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M-CHAT Revised, with Follow-up Interview (M-CHAT-R/F)</td>
<td>Robins, Fein, Barton</td>
<td>Parent-rated checklist 18 - 30 mos</td>
<td>23 items w/ 6 Critical Items, Follow-Up Interview w/ positive screen</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
## Results

### Other Measures Found:

<table>
<thead>
<tr>
<th>Measure</th>
<th>Authors</th>
<th>Ages</th>
<th>Description</th>
<th>Rel &amp; Val</th>
<th>Sens &amp; Spec</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autism Detection in Early Childhood (ADEC)</td>
<td>Young 2007</td>
<td>15 - 70</td>
<td>Parent checklist</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Childhood Evaluation of Symptoms of Development Disabilities (CESDD)</td>
<td>Dereu et al. 2008</td>
<td>5 - 48</td>
<td>Daycare worker checklist</td>
<td></td>
<td>1</td>
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<tr>
<td>Developmental Behaviour Checklist (DBC-P and Y)</td>
<td>Gray &amp; Tonge 2008</td>
<td>18 - 48</td>
<td>Parent checklist</td>
<td></td>
<td>1</td>
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<tr>
<td>Infant Behavior Summarized Evaluation scale (IBSE)</td>
<td>DeSombre et al. 2006</td>
<td>&lt;24</td>
<td>Clinician structured interaction</td>
<td>2</td>
<td>1</td>
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<tr>
<td>Joint Attention Observation (Ja-Obs)</td>
<td>Nygren et al. 2007</td>
<td></td>
<td>Clinical interaction</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Pervasive Developmental Disorder Screening Test (PDDST)</td>
<td>Siegel 2004</td>
<td>12 - 48</td>
<td>Parent checklist</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>
## Results

### Other Measures Found:

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<thead>
<tr>
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<th>Description</th>
<th>Rel &amp; Val</th>
<th>Sens &amp; Spec</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent Observation of Early Markers (POEMS)</td>
<td>Feldman et al. 2012</td>
<td>1 - 24</td>
<td>Parent checklist</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Parent Observation of Social Interaction (POSI)</td>
<td>Smith et al. 2013</td>
<td>18 - 48</td>
<td>Parent Checklist (7 items)</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Social Communication Questionnaire (SCQ) applied to younger children</td>
<td>Allen et al. 2007</td>
<td>2 - 6 years</td>
<td>Parent checklist</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Three-item Direct Observation Screen (TIDOS)</td>
<td>Oner et al. 2014</td>
<td>18 - 60</td>
<td>Clinician observation</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Visual Impairment and Social Communication Schedule (VISS)</td>
<td>Absoud et 2011 al.</td>
<td>21 mo - 7 yrs</td>
<td>Clinician observation</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>
Next Steps

**Panel Review**

• Panel of experts will be assembled over two meetings in Albany (state capital, at the Department of Health)
• Panelists will receive standardized abstractions of all articles in a given area
• They will apply (the adapted) Association for Health Research Quality (AHRQ) standards for evaluating the strength of evidence for these practice areas
AHRQ Strength of Evidence
[Adapted by NYS DOH as applied to research with young children with disabilities]

STEP 2 – Body of Evidence for Each Measure

[A] = Strong Evidence: *Two or more peer-reviewed journal studies meeting adequate criteria for efficacy* *At least moderate applicability to topic* *Evidence consistently strong in support of using measure*

[B] = Moderate Evidence: *At least one study (in peer-reviewed journal) meeting adequate criteria* *At least moderate applicability to topic* *Evidence supports use of measure*

[C] = Limited Evidence: *At least one study (in peer-reviewed journal) meeting adequate criteria for efficacy* *At least minimal applicability to topic* *Evidence supports use of measure*

[D] = Panel consensus
Conclusions

• A significant amount of literature is now available (in the area of early childhood ASD) upon which to conduct evidence-based reviews (*although firm conclusions may not be abundant*).
• The evidence for practice in publicly-funded programs should be available to practitioners and should guide practice in funded programs.

➡️Thank You⬅️