Using Data to Improve Results in Early Childhood Education

Presenter: Sheila O’Neil- Executive Director Community Children’s Centers & Family Partnerships
Contributor: Ashley Metelus - Research and Evaluation Assistant
Outline

- What is the issue?
- Getting started
- Our Challenge
DATA-DRIVEN DECISIONS:

Making sense of the data we have-

In early childhood settings, funders, licensing and accreditation require data gathering. The information is intended to bring awareness to the children’s needs as well as drive improvements in quality. Significant time is invested in this process and often the data is not used beyond compliance.

Let’s explore how to make data-driven decisions.
Some questions to get started…

What are you doing well?
What do you need to strengthen?
What data do you need to collect?
What will you need to communicate?
Who collects the data? Who inputs the data?
Do staff who enter data receive adequate training and oversight?
Do you regularly check for data accuracy and completeness and correct problems in a timely manner?
Do you use a variety of methods to help gather data?
Are the ongoing assessment tools aligned with your goals?
Do you understand the difference between screening and ongoing assessment?
Our Challenge!
HOW TOXIC STRESS IN CHILDHOOD ALTERS THE BRAIN

Exposure to major adversity in early childhood can weaken brain development. This can permanently set the body’s stress response system on high alert. A stable, nurturing environment can prevent these responses and outcomes for learning, behavior and health.

NORMAL
A typical neuron with many connections looks like this.

TOXIC STRESS
A neuron damaged by toxic stress has fewer connections.

SOURCES: J.J. Radley Neuroscience 2004

MARtha THIERRY/DETROIT FREE PRESS
What data do we have?

- Quarterly demographic report
- CLASS
- Iters/Ecers
- NAEYC Self Study
- QRIS Tools
- State Licensing Studies
- HS/ EHS Monitoring Reviews
- TSGold Observations and checkpoints
- Screenings
- Attendance records
What can we do to improve the outcomes?

- We looked at our screening tool
- We reviewed our process for handling the children who screened in as referral.
- We studied the validity of our assessment tool.
- We studied the validity of TS GOLD assessments.
- We studied our outcomes.
Reflection

We were checking the boxes….

✓ We were screening our children
✓ The results were being sent to the teachers
✓ The teachers were inputting observations into TS Gold
✓ The teachers were doing their checkpoints
✓ Our outcomes were all over the place!
Evaluating the process

- Are we confident that the assessment tool can effectively measure growth and development?
- Can the data from the assessment system be easily aggregated into groups of children (e.g., by age, language, program option, etc.)?
- Are staff adequately trained in how to assess children?
TS Gold

- TS Gold is an observation-based assessment system that allows teachers to rate children from birth – 5 years in 10 developmental domains (social-emotional, language, physical, cognitive, literacy, science and technology, mathematics, social studies, the arts, English language acquisition)

- Results are entered into TS Gold, in which we are able to learn research based information about our children
Teachers enter in checkpoints 4 times a year

Horizons conducted a study in order to understand children’s growth from when they first entered, at 6 months, and at 12 months.

Results determined that our children were showing significant growth across 6 domains across a year.

Children were more likely to perform below typical upon starting at Horizons when compared to 6 months or a year later.

Indicated that child are more likely to become typical in domains after being at Horizons for 6 months or more.
Mean Composite Scores over Time by Domain
What did we learn?

- Data may be unreliable
  - Teachers need to complete a reliable rater training

- Extremely time consuming process
Brigance

- Norm-referenced screening tool to screen children aged 0-5 in 6 developmental domains (academic/cognitive, adaptive behavior, language development, physical development, self-help skills, and social-emotional skills)

- Results are entered into the online management system (OMS), in which we are able to learn research based information about our children
### B. Core Assessments

**Directions**: Assessments may be administered in any order. For each assessment, start with the item indicated by the *** or for the child's age.

Give credit for a skill by circling the item number. For a skill not demonstrated (an incorrect response), slash through the item number.

Once the child reaches a credit for 3 skills in a row, give credit for any (average skills).

<table>
<thead>
<tr>
<th>Page</th>
<th>Domain</th>
<th>Item</th>
<th>Item Text</th>
<th>Discontinue</th>
<th>Number Correct x Point Value for Each</th>
<th>Child's Score</th>
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<td>21</td>
<td>Language Development</td>
<td>18</td>
<td>Receptive Language Skills—General</td>
<td>Responds to simple commands</td>
<td>Stop after 3 incorrect responses in a row.</td>
<td>___ x ___ / ___</td>
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<td>~</td>
<td>___ x ___ / ___</td>
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<tr>
<td></td>
<td></td>
<td>18</td>
<td></td>
<td>~</td>
<td>___ x ___ / ___</td>
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<td>Receptive Language Skills—Identifies Parts of the Body</td>
<td>Points to: eyes, nose, feet, 4. hair, 5. mouth, 6. ears</td>
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<td>Points to: cat, dog, key, car, apple, airplane</td>
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<td>Gross Motor Skills</td>
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<td>Says multiple syllables</td>
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<td>Expressive Language Skills—Names Objects</td>
<td>Points to objects for attention</td>
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<td>Expressive Language Skills—Uses Phrases</td>
<td>Prefers to repeat two or three words in combination</td>
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<td>Self-Help Skills</td>
<td>Repeats phrases</td>
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<td>28</td>
<td>Social and Emotional Skills</td>
<td>Initiates interactions with other children</td>
<td>Stop after 3 incorrect responses in a row.</td>
<td>___ x ___ / ___</td>
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<tr>
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<td></td>
<td>29</td>
<td>Social and Emotional Skills</td>
<td>Shows pride in new accomplishments</td>
<td>Stop after 3 incorrect responses in a row.</td>
<td>___ x ___ / ___</td>
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</table>

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**Total Score = ___ / 100**
Individual Growth Report

Screening Summary Report

Screening Information
- Student Name [redacted]
- Screen: Toddler Data Sheet
- Date of Screening: 8/4/2017
- Chronological Age: 1-4
- Examiner: Jennifer Raymond

Total Score Compared to Cutoffs
- Total Score: 88.0
- Below Delays Cutoff: 28.0
- Potential Strength Cutoff: >62

Suggested Next Steps
- Refer for evaluation
- Follow up on Data Sheet recommendations
- Communicate results to parents
- Administer the Self-help & Social-Emotional Scales
- Provide ongoing assessment and appropriate instruction. See below for recommendations.

Results by Domain
- Adaptive Behavior: Above Average
- Language Development: Below Average
- Physical Development: Below Average

Recommendations for Ongoing Assessment and Instruction
- For more in-depth information about this child's skills and for ongoing assessment, focus assessment in the following domains:
  - Language Development
  - Physical Development

Assessments for these domains can be found in the BRUISECE Inventory of Early Development III.

View the Screens III/ED III correlation chart.
Brigance Results

Name: [Masked] Site: Dorchester Current Class: Infant/Toddler

Current Teacher: Lisa Mays Family Advocate: Michelle Sham

DOB: 4/15/2016 Weeks Premature: 0 Receiving Services? No

Most Recent Brigance

Type: Infant Toddlers DOE: [Masked]

Chronological Age:

Results by Domain
Adaptive Behavior: Typical
Language Development: Referral
Physical Development: Referral

Suggested Readiness Activities
Language Development: Body parts
Physical Development
## Weekly Report - Monitoring and Referral Results

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<th>Needs EI Referral</th>
<th>Full Name</th>
<th>Class Name</th>
<th>Age - Months</th>
<th>CCC Start Date</th>
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<th>Screen Date</th>
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Group Screening Summary Report

- Allows us to learn how all of our children are performing overall

- Identifies who is: above average, within normal limits, below delay cutoffs
Group Screening Report

- 39% Above Average Cutoff
- 53% Within Normal Limits
- 8% Below Delays Cutoff
Able to learn how children are performing by classroom

Infant/Toddler Classroom
10 Children
Physical Development

- 60% Below Average
- 30% Average
- 10% Above Average
Adaptive Behavior

- Above Average: 60%
- Average: 40%
Language Development

- Average: 90%
- Below Average: 10%
Normative Scores

- Allows us to compare our children to the normative scores
- Our children are performing on **average** in 5 developmental domains (academic/cognitive, adaptive behavior, physical, self-help, social-emotional)
- Our children are **approaching average** in 1 developmental domain (language)

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<th>Range</th>
<th>Description</th>
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<td>&lt;70</td>
<td>Very Weak</td>
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<tr>
<td>70 – 79</td>
<td>Weak</td>
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<td>80 – 89</td>
<td>Below Average</td>
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<td>90 – 110</td>
<td>Average</td>
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<td>121 – 130</td>
<td>Strong</td>
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<td>&gt;130</td>
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*N = 1,929 (children)*

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<td>Physical Development</td>
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<td>Language Development</td>
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<td>Self-Help Skills</td>
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<td>Social Emotional Skills</td>
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*N = 205 (children)*

*43% of our children are from families whose primary language is not English*
6 Month Growth Report

- Able to learn how many months our children are growing on average between their first and second

<table>
<thead>
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<th>Developmental Domain</th>
<th>Average Growth in 6 months</th>
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<td>Academic/Cognitive</td>
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<tr>
<td>Social-Emotional Skills</td>
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The Four Data Activities: Guiding Questions

Prepare
- What goals, objectives, and expected outcomes do you want to achieve?
- What questions will you ask to know you’ve succeeded?
  - About individual children?
  - About families?
  - About program efforts?
- What information will help you answer these questions?
- How do these questions connect to school readiness, school success, and healthy children and families?

Collect
- How will you collect the information?
  - Who will collect it?
  - What tools will you use?
  - Is the tool appropriate for the cultural and linguistic background of our families?
- Who will you collect it from? When and where? How often?
- How will you store and retrieve it?
  - Do you have a data system?
  - What data systems could you use that store and retrieve data in useful ways?

Use and Share
- Where do you want to go next? What are your questions?
- How will you share the information?
- How will you know what it means?
- How will you use it to support continuous improvement and change?
- How will you use it to track progress toward goals, objectives, and expected outcomes?

Aggregate and Analyze
- How will you analyze the information? Will you aggregate (summarize) the information?
  - Will you use counts, tally a score, summarize themes?
  - How will you tell a family’s story?
  - How will you examine your data to understand family or program progress?
Questions?
Thoughts to share?