

# Family-Centered Early Intervention: Realizing Our Potential

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# FCEI Consensus Statement (2013)

- Early, timely, equitable access
- Provide balanced provider-family partnerships
- Support informed choice and decision making
- Provide family support (social & emotional)
- Support infant-family interactions

- Providers skilled in technology and communication
- Qualified providers
- Collaborative teamwork
- Progress monitoring and assessment
- Program monitoring

Moeller, Carr, Seaver, Stredler-Brown, Holzinger (2013).

# Realizing our potential...how?

- Strengthen evidence that informs practice
- Reconsider what and how we measure
- Establish balanced partnerships with families

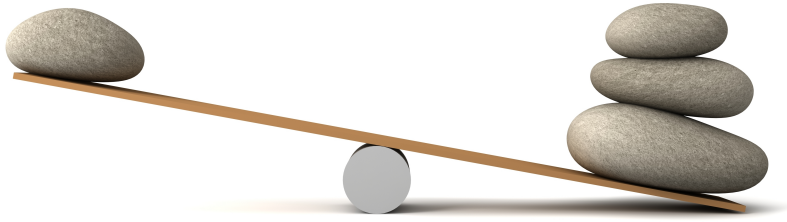


Recent evidence & gaps

Measures relevant to EI

Coaching Strategies

# Many Reasons for Optimism...



Allowing for a new generation of **collaborative** research

Opportunities to examine

- Early stages of development
- Impact of early service delivery





# Collaborative Longitudinal Studies

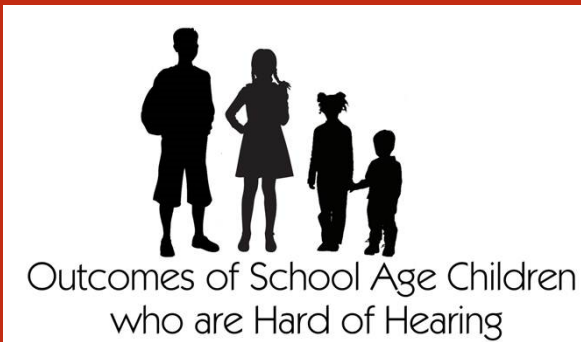


<https://outcomes.nal.gov.au/index.html>



**CDaCI**

<https://www.cdacistudy.org/>



<https://ochlstudy.org/>

**OCHL/OSACHH**

**NECAP**

NECAP: NATIONAL EARLY  
CHILDHOOD ASSESSMENT  
PROJECT: DEAF AND HARD OF  
HEARING

ASSOCIATION OF UNIVERSITY  
CENTERS ON DISABILITY:  
CENTERS FOR DISEASE CONTROL

<https://mariondowns.com/necap-national-early-childhood-assessment-project>

# Consensus on factors influencing child outcomes...

✓ Age at Access

Early

✓ Cognition

Strong

✓ Severity

Lesser degrees

✓ Family Factors, Maternal Ed

More educated, involved

✓ Disabilities

DHH only

? Hard of Hearing

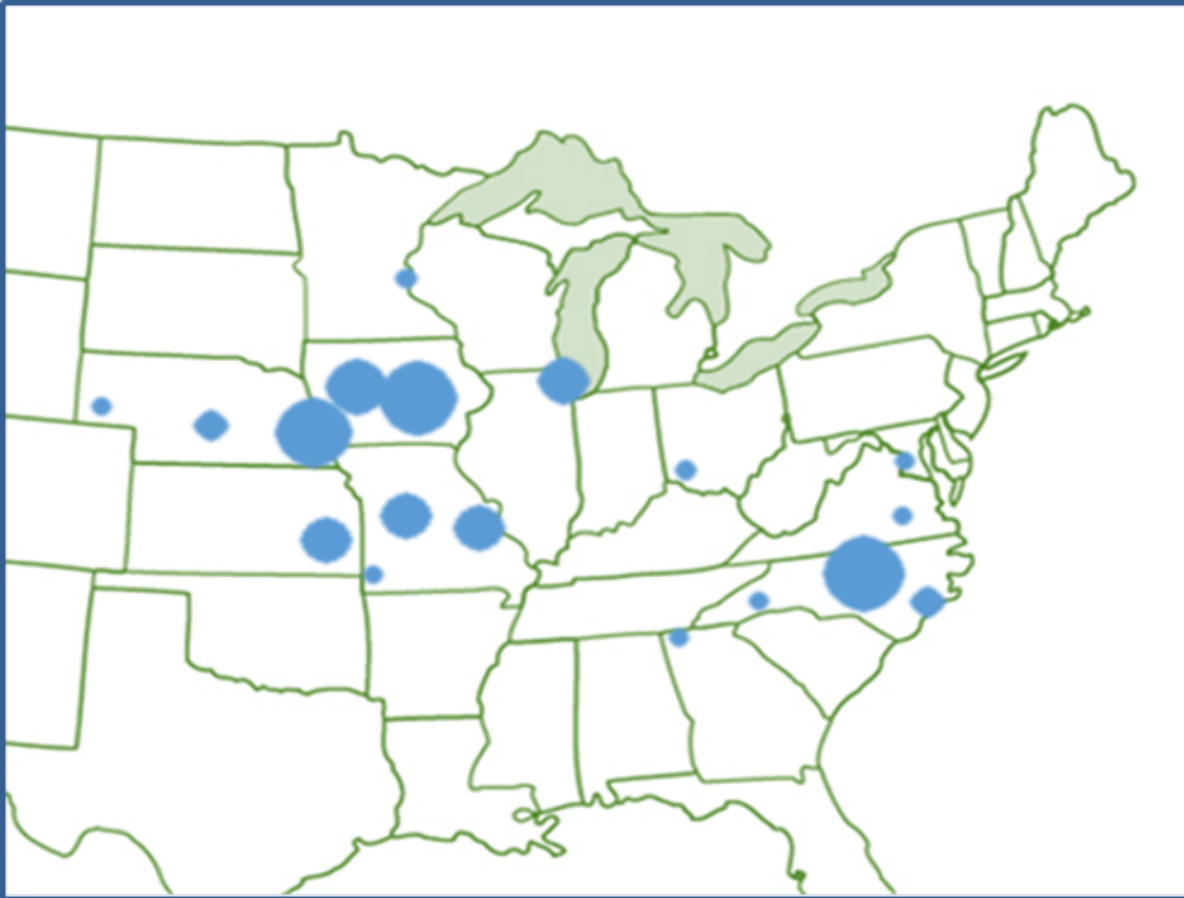
? Intervention



Principal Investigators: J. Bruce Tomblin and Mary Pat Moeller

Supported by NIDCD R01DC009560  
Longitudinal Outcomes Study (OCHL/OSACHH)

# Longitudinal Study of children who are hard of hearing



317 CHH

117 CH

Matched on  
Socioeconomic Status

76% Early ID; only 7 without HAs; No CIs - learning spoken language

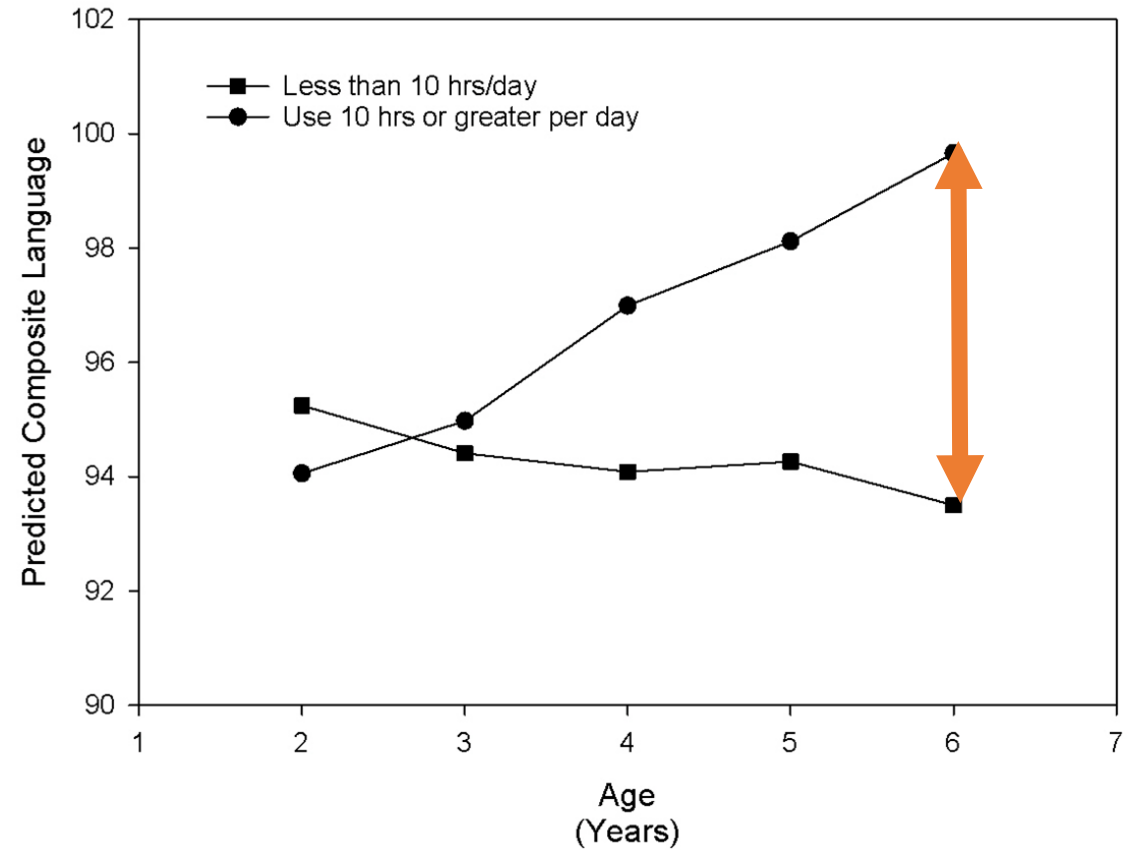
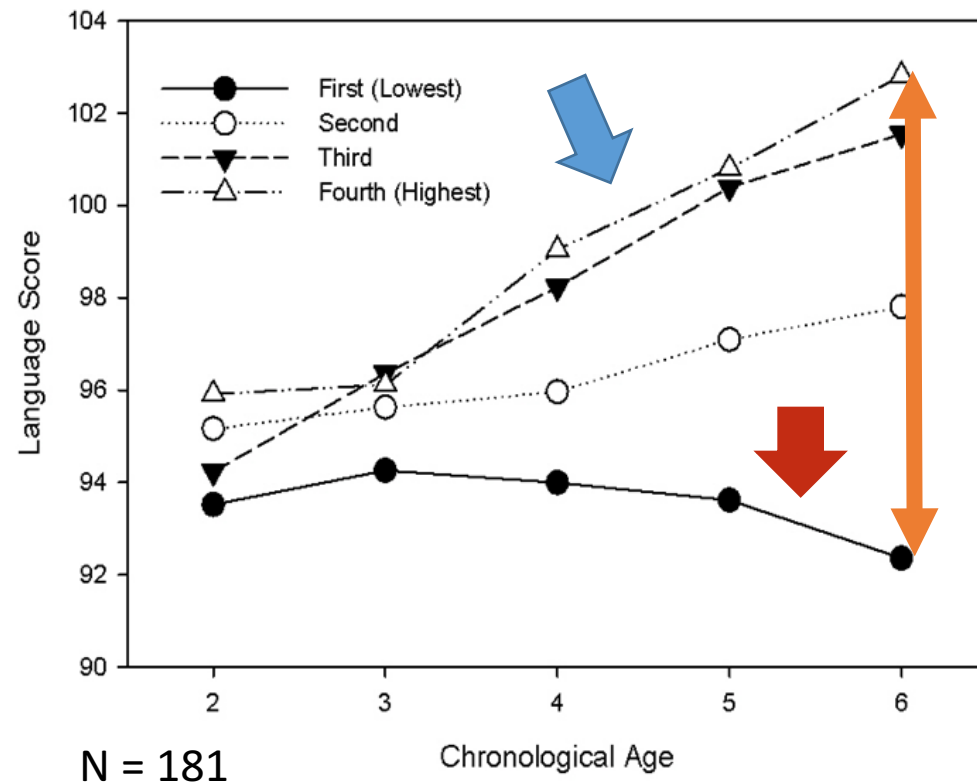
# What **else** matters for CHH?

- **Early intervention matters**
  - Children identified and served earlier had better outcomes
  - But, later-identified CHH showed resilience (catch up)
- **Quality of hearing aid fitting matters**
  - Many children's hearing aids were "under fit"
  - Good audibility with hearing aids – stronger language learning rates
  - Longer term impact of audibility on academic outcomes

# What else matters for CHH?

- **Impact of hearing levels**
  - Children at most severe end of range were most challenged
    - May need other/additional supports?
  - Children with mild HL are at risk, especially if no amplification
- **Consistent device use matters**
  - Children with >10 hours daily use outperformed those with < 10 hours
  - Infants and children with mild losses at greatest risk for low use
  - Lower use seen when maternal education was lower
- **Quality of parent talk matters**
  - Use of “higher level” talk positively linked to outcomes
  - Directive talk negatively associated with outcomes

# Evidence from learning rates





# Quality of

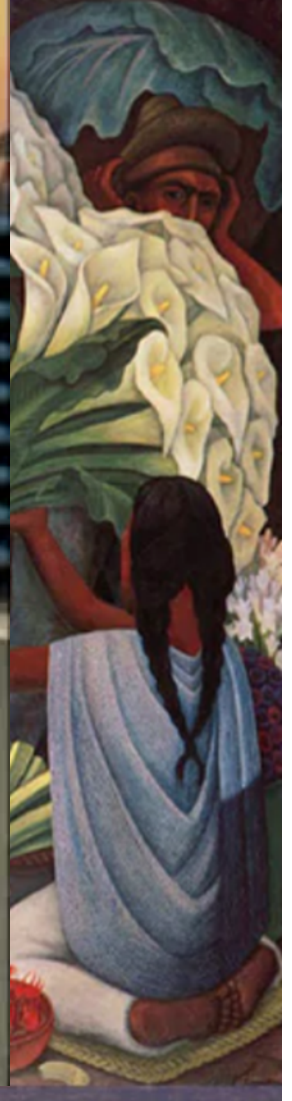
- Caregiver-child
- Art Gallery pr  
- Coded for fe

Directive:  
Sit down  
Come here  
Say “flowers”

Ambrose et al. (2015)

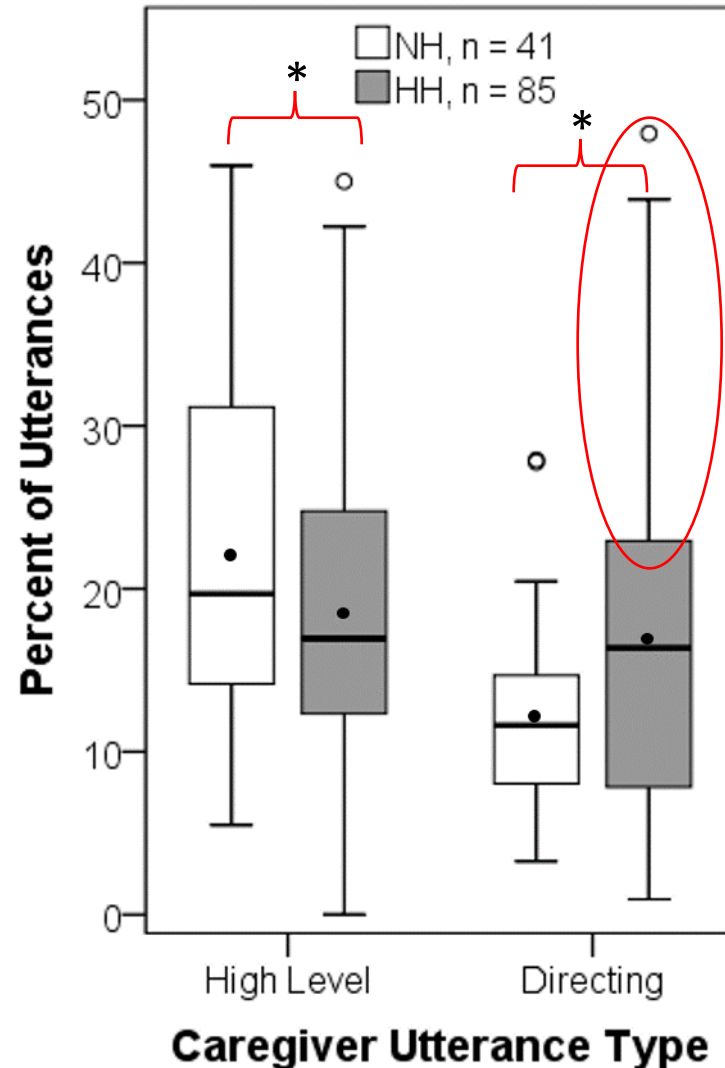


# ths?





# Between Group Comparisons of Input



- CHH exposed to significantly:
  - fewer high-level utterances
  - more directive utterances
  - less complex sentences
  - fewer different words
  - less mental talk (Walker et al, 2017)
- Language scores related to:
  - high-level utterances ( $r = 0.57$ )
  - directives ( $r = -0.38$ )

# Take Home Messages



- Audiologists...Continue your efforts to verify & optimize hearing aid fittings!
  - Audibility matters for language growth
- Support parents in achieving consistent device use (> 10 hrs)
  - Impact on language learning even for children with mild HL
- Consider range of communication supports needed for CHH
- Support parents in providing rich and varied language input
- It's ABOUT ACCESS!!

Longitudinal study  
findings



## Ongoing Needs:

Address major gaps in INTERVENTION research

# Example: “Ears On” Project

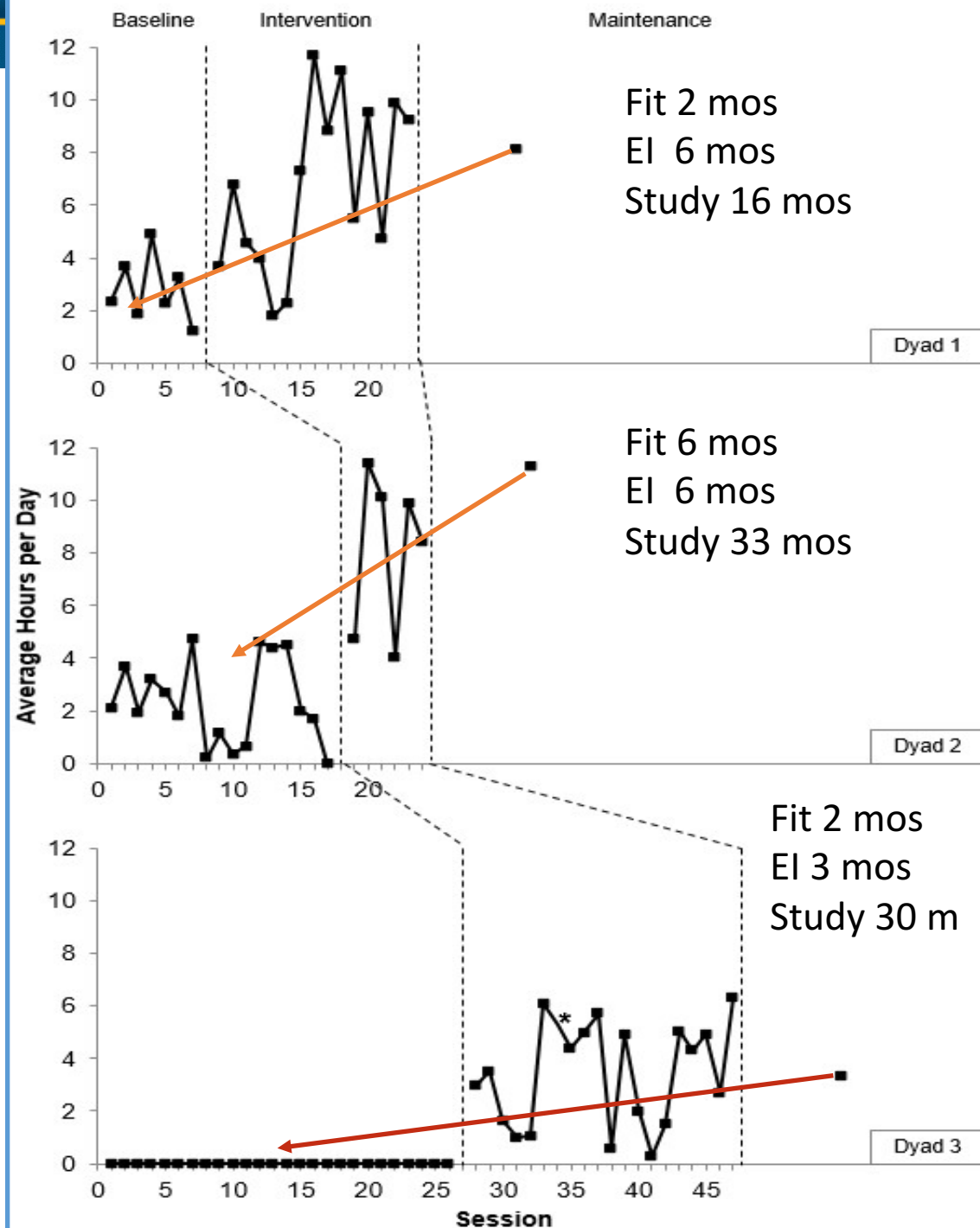
Ambrose, Appenzellar, Al-Salim, & Kaiser, in press, JDSDE

Individualized educational workshop + home-based intervention +  
feedback (datalogging)

**For families who have not established consistent device use**

**Targeted consistency of use; parental device management,  
beliefs, knowledge, confidence, & actions**





# Ears On Project

## Family 2

HAs and EI	6 months of age
Study Enrollment	32 months
Hearing levels	Mild
Family	Low SES, Rural
Family Barriers	<ul style="list-style-type: none"> <li>• Fear of device loss</li> <li>• Fear of injury to child</li> <li>• Childcare not comfortable</li> <li>• No device routine</li> <li>• Child removes often</li> </ul>

Ambrose, Appenzellar, Al-Salim, & Kaiser, in press, JDSDE

# Efficacy of Tele-Interventions



- Behl, et al. (2017) – *Infants and Young Children*
  - Teleintervention resulted in **higher provider responsiveness and parent engagement** than traditional
  - Some language outcomes Telepractice > F2F
- Cole, B., et al. (2019). *Part C Colorado*
  - Many benefits (flexibility, increased visits, supports coaching model)
  - Some professionals lack coaching skills
- TACIT study –(Stredler-Brown et al)
  - “acceptable” alternative; satisfaction and preliminary data suggest efficacy
  - F2F = telehealth outcomes (Falcone et al., 2018)

[www.infanthearing.org](http://www.infanthearing.org) - **Resources/Educational and Training Videos** –Excellent examples of coaching in a telehealth context, including Dr. Todd Houston  
Also training guides for Telehealth and relevant evidence



# Family-to-Family Support



Guide by Your  
Side Program



*There are two lasting gifts we can give our children.  
One is roots, the other is wings.  
- Hodding Carter*

**Roots and Wings**

Promoting Strong Foundations For  
Children Who Are Deaf Or Hard Of Hearing

# Unanswered questions?

- **Roles of Dosage and Specialization?**

- Are monthly visits adequate to establish partnerships that result in confidence, competence, and action? (Ambrose et al., in press)
- Low levels of specialization - low levels of confidence in implementing routine strategies (Harrison, et al., 2015)
  - What is the influence of specialization and dosage on Tele-intervention?
  - How do we best integrate specialists in PSP models?





Widening the lens



Sharpening our measures

# Measuring what matters

- What proximal measures (close to the intervention) will inform practice?
- What measures will guide intervention practices?



Widening the lens

“Regardless of our approach, experiences that increase parents’ confidence and feelings of competence in communication with their child have positive effects on interaction and child language development.” Marschark & Spencer, 2010

# Many studies of **child** outcomes – limited focus on **family** outcomes

Yet family outcomes are a CENTRAL goal of FCEI!!

What are some alternatives?

# Family Outcomes Survey-R (Bailey, et al., 2011)

Outcomes that reflect parents' perceptions of competence, confidence, & ability to care for their children with special needs and achieve a satisfactory level of family adaptation.

1. Understanding your child's strengths, needs, and abilities.
2. Knowing your rights and advocating for your child.
3. Helping your child develop and learn.
4. Having support systems.
5. Accessing the community.

Scale developed using systematic reviews and national stakeholder input, then psychometric validation.

# FAMILY OUTCOMES SURVEY

Revised Version

Section A: Family Outcomes



Google this

Subject ID \_\_\_\_\_

Date \_\_\_\_\_

Examiner \_\_\_\_\_

Completed by: Mother / Father / Other (circle one)

**Instructions:** Section A of the Family Outcomes Survey focuses on the ways in which you support the needs of your child with a hearing loss. For each statement below, please select which option best describes your family around your child's 3<sup>rd</sup> birthday: not at all, a little, somewhat, almost, or completely.

Not at all	A little	Somewhat	Almost	Completely
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## Outcome 1: Understanding your child's strengths, needs, and abilities

1. I know the next steps for my child's growth and learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I understand my child's strengths and abilities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I understand my child's delays and/or needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I am able to tell when my child is making progress.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Outcome 2: Knowing your rights and advocating for your child

5. I am able to find and use the services and programs available to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. I know my rights related to my child's hearing loss.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. I know who to contact and what to do when I have questions or concerns.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. I know what options are available when my child leaves early services.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. I am comfortable asking for services & supports that my child and family need.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



# Scale of Parental Involvement and Maternal Self-efficacy (SPISE)

**SPISE Scale was designed to measure parents' perspectives about:**  
Specific skills necessary to work with young children who are D/HH  
Their involvement in skills related to devices and promotion of speech-language development

# Caregiver Self-Efficacy

- Concept comes from social learning theory
- Refers to the belief in one's ability to perform a task (Bandura, 1989)
- Parent self-efficacy
  - Perceived **competence** in parenting role
  - **Confidence** in own ability to do each task

Desjardin, J.L. (2005)



# Scale of Parental Involvement and Maternal Self-Efficacy

How much do you feel you can positively affect your child's language development?	<b>Maternal Self-Efficacy (10 questions)</b>	<b>Parental Involvement (11 questions)</b>	How hard is it for you to check your child's listening using the Ling sounds each day?
How much do you feel you know how to help your child learn new words?	<ul style="list-style-type: none"><li>• Competence in care of child's sensory devices</li></ul>	<ul style="list-style-type: none"><li>• Perception of involvement in child's sensory device use</li></ul>	How comfortable are you using strategies when the teacher is not there?
	Belief she can make a difference in child's speech-language development	<ul style="list-style-type: none"><li>• Perception of involvement in early intervention</li></ul>	
	Knowledge and competence to develop her child's speech-language skills		
	1 2 3	4 5 6 7	
	Not at all	Very much	



# Self-Efficacy and Language Facilitation

- Des Jardin & Eisenberg, *Ear & Hearing*, 2007



- Stika et al (2015) – Greater maternal self-efficacy associated with better child language, adaptive behavior, behavior & social-emotional skills
- Lam Cassettari et al. (2015) – Video feedback impacted parent outcomes including self-esteem (pre-post)

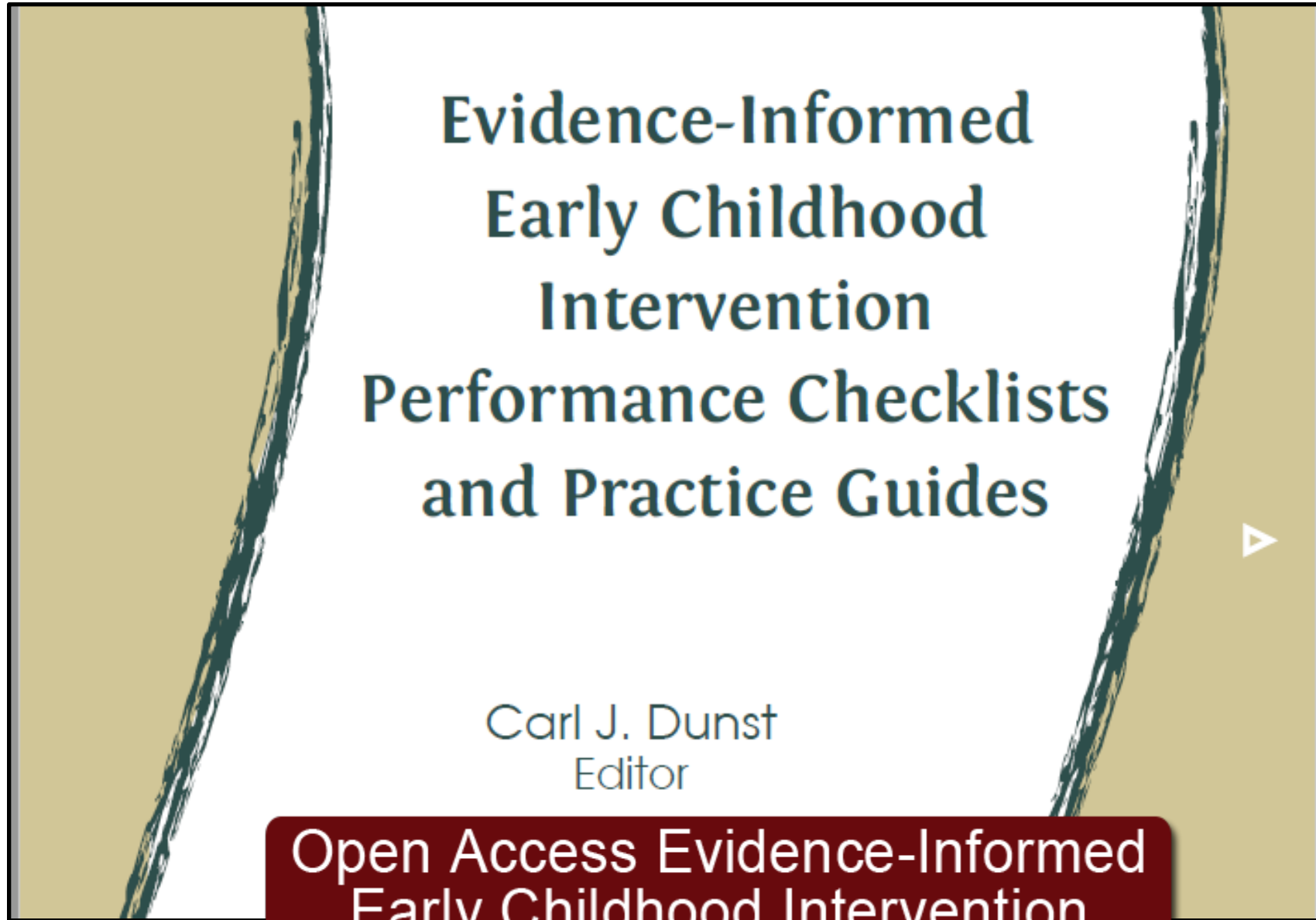
Note: New version of SPISE is in progress – Ambrose and DesJardin



# Fidelity

# Program Evaluation

<https://www.wbpress.com/>



Open Access Evidence-Informed  
Early Childhood Intervention  
Practices Monograph

# Take Home Messages



- It is of value for us to take a step back and consider WHAT we need to measure in regard to FCEI
  - What are we missing?
  - What are proximal behaviors we expect to be impacted by FCEI?
  - How will we measure them?
- There are promising ideas about measuring broader outcomes
  - This will help us understand individual differences
  - How families may or may not benefit from FCEI
- Measuring what matters may help us optimize interventions in FCEI!

# It's about relationship...and balanced partnerships



Photo by Elias Mabuza

Family - infant

Provider-Family

Team-Family

Provider-Infant



# Timeless Lessons:

- “If families do well, children do well.” (Luterman, 2001)
- Multiple factors influence development: No single formula for success
- Parenting is a developmental process
- Our job...support family  
Confidence and Competence



# Establishing & supporting partnerships

- Recognize the vulnerability
- Recognize differing expectations
- Sensitively negotiate about our work together
- “Walk the walk” ...
  - Early interactions are about learning from and supporting
  - Shared expertise

# Coaching Strategies for Building Partnership...

## 1. Active listening

- ✓ Seek understanding before teaching
- ✓ Provide affective support

## 2. News Commentator role (objective feedback)

## 3. Collaborative experiments – joint discovery

## 4. Negotiating about interpretations & joining perspectives

## 5. Parent in driver's seat

## 6. Summarizing (I hear....)

# Four E's (Robin McWilliam, 2010)

- Ears &/or Eyes (listen)
- Elicit (ask)
- Empathize
- Encourage

My mother says  
that my  
husband did not  
talk until age 3.

I feel terrible that I  
did not get much of  
anything done for  
him this week!

## 1. Active Listening



# Confidence-building feedback

## Parent says

- Expresses feelings out loud
- Says, “I’m scared.”

M. Brandwein, 2010

## We respond...

- You could have kept that inside; it takes a strong person to say important things out loud.
- That makes sense, doesn’t it? This is important to you...you don’t know what will happen and you care about it a lot.

# Relationship Building



# Confidence building feedback

## Parent says

- Decides to “give it a rest” following a tug of war.
- Changes his mind and decides to try again.

## We respond...

- You are trusting your judgment. You know your child.
- You’re willing to look at this another way. That’s being flexible.

# Coaching Skills

## 2. News commentator strategy

- provision of objective, descriptive feedback
  - identifies what both parties are seeing
  - clarifies what is working
  - models how observation guides us
  - helps to pinpoint areas of strength & need



M: Don't it's the  
man... farthest.

# Coaching Skills

## 3. Collaborative experiments (balanced roles)

- A process of using discovery to figure out what works...what strategies are a “good fit”
  - partners “try it out” and evaluate – both partners contribute expertise
  - jointly discover what is typical (can you show me?...how does that work for you?...You don’t typically...)
  - Any question can be addressed as an experiment
  - “I wonder what would happen if we....”



H: 55% H.L.



# Coaching Skills

## 4. Joining perspectives

- Watch for the ways the partners share expertise and eventually join in their interpretations









M: Oh, baby.

## Clip # 4.7

# Observing Responses: Partners Share Expertise

## Clip # 4.3

# Coaching about Language Stimulation



# Coaching Skills

## 5. “Driver’s seat”

- How does this get re-established naturally in the clip?
- Why might this be important?
- What is being learned?



# Coaching Skills

## 6. Summarizing

- Identifies what is important
- Validates...Am I in the ballpark?
- Clarifies what we want to focus on together





C: baby.

# Summary - Strategies for Building Partnership...

## 1. Active listening

- ✓ Seek understanding before teaching
- ✓ Provide affective support

## 2. News Commentator role (objective feedback)

## 3. Collaborative experiments – joint discovery

## 4. Negotiating about interpretations & joining perspectives

## 5. Parent in driver's seat

## 6. Summarizing (I hear....)

# Summary: Realizing our potential

- Our collaborative efforts can lead to...
  - Research that better informs practice
    - Longitudinal research
    - Intervention research
  - Measure what matters with families
    - Widen our lens (proximal vs. distal) and sharpen our measurement tools
  - Establish and mature our partnerships with families
  - Expect resilience!!



For more information: [marypat.moeller@boystown.org](mailto:marypat.moeller@boystown.org)

Extra Slides follow – for reference during discussion

# Supporting family goals



# Father in Driver's Seat

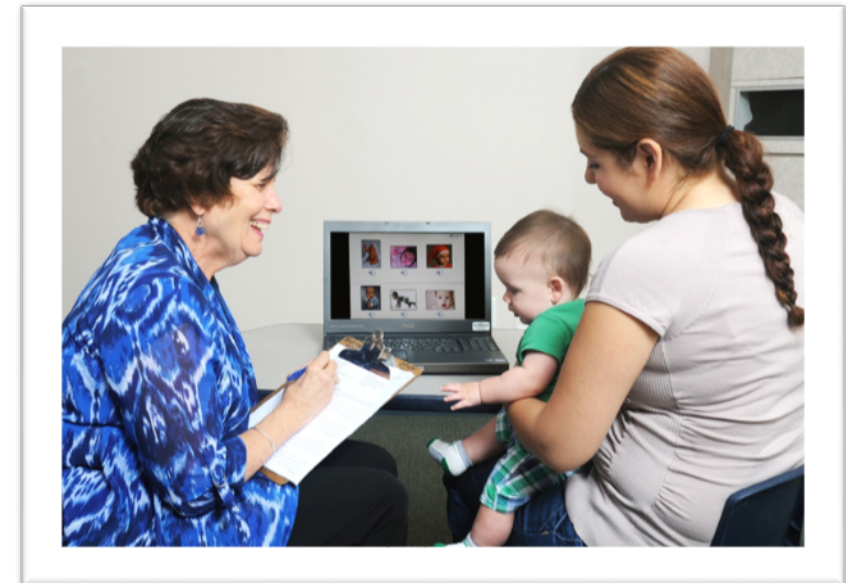
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# Sharpening measurement tools



- Example: Vocal Development Landmarks Interview (Moeller, Thomas, Ambrose, *JSLHR*, 2019)
  - Monitor early vocal development
  - Quantify changes resulting from intervention
  - Identify infants at risk for delay
  - Gain insights about auditory development
  - Build on two earlier parent-report scales



# Why Monitor Vocal Development?

Vowels  
and pitch  
variation



Babbling  
sequences with  
[d] and [b]



- \*Identify infants at risk
- \*Gain insights regarding auditory development

# Vocal Development Landmarks Interview

- 18-item interactive interview
- Developmental range: 6 – 21 months
- Uses authentic infant vocalizations & paired comparisons
  - Reduces need for models and technical terms
  - Ensures that providers and parents are on the same page
  - Calibrates EI providers
- Uses standard interview format and Power Point slides with audio files



Three stages measured: PRECANONICAL – CANONICAL - WORD

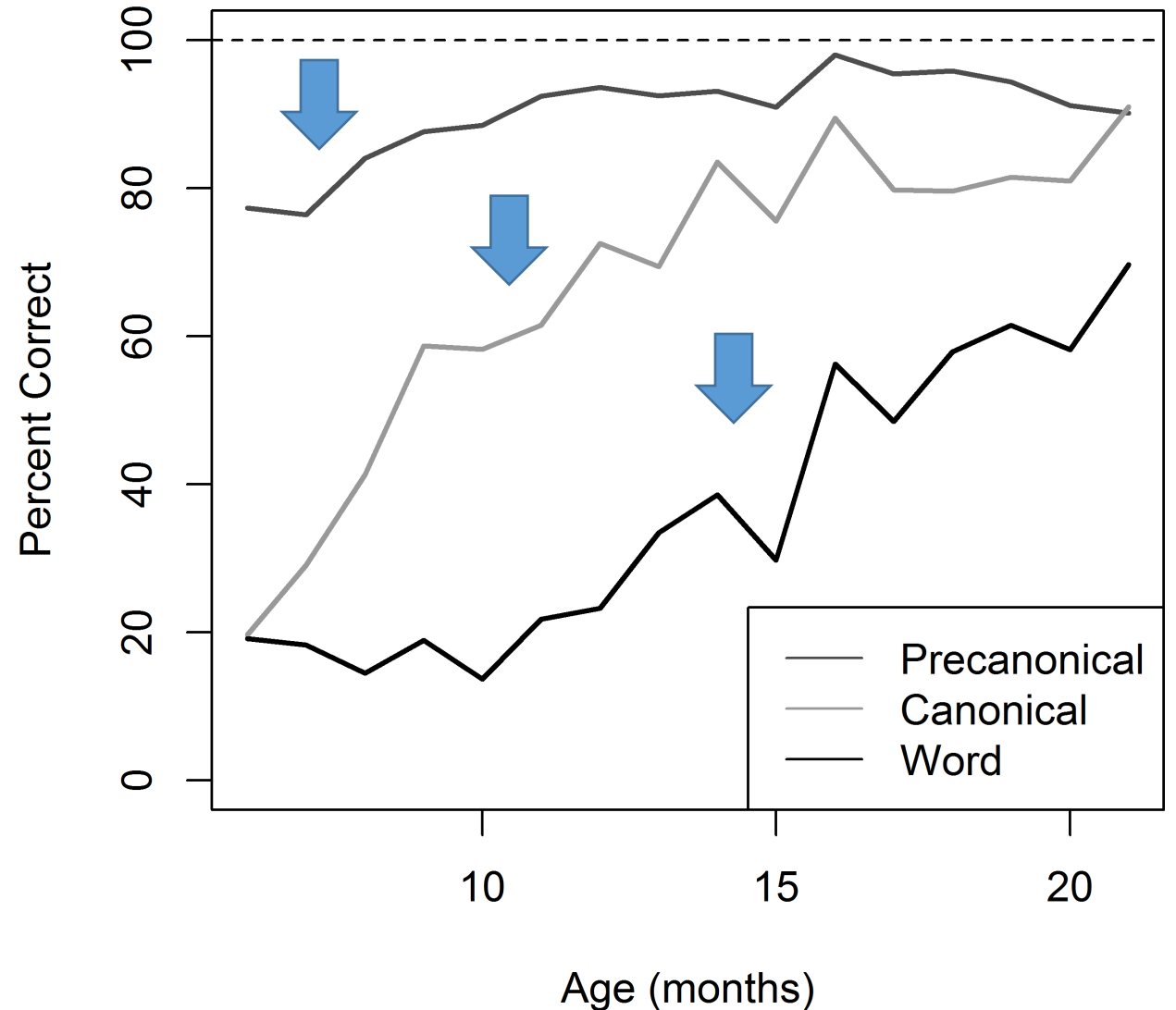
mmmbweɹ



ba



- Reflects expected sequence
- Age is a significant predictor of scores
- Subscales sensitive at different ages
- High agreement with another early speech measure

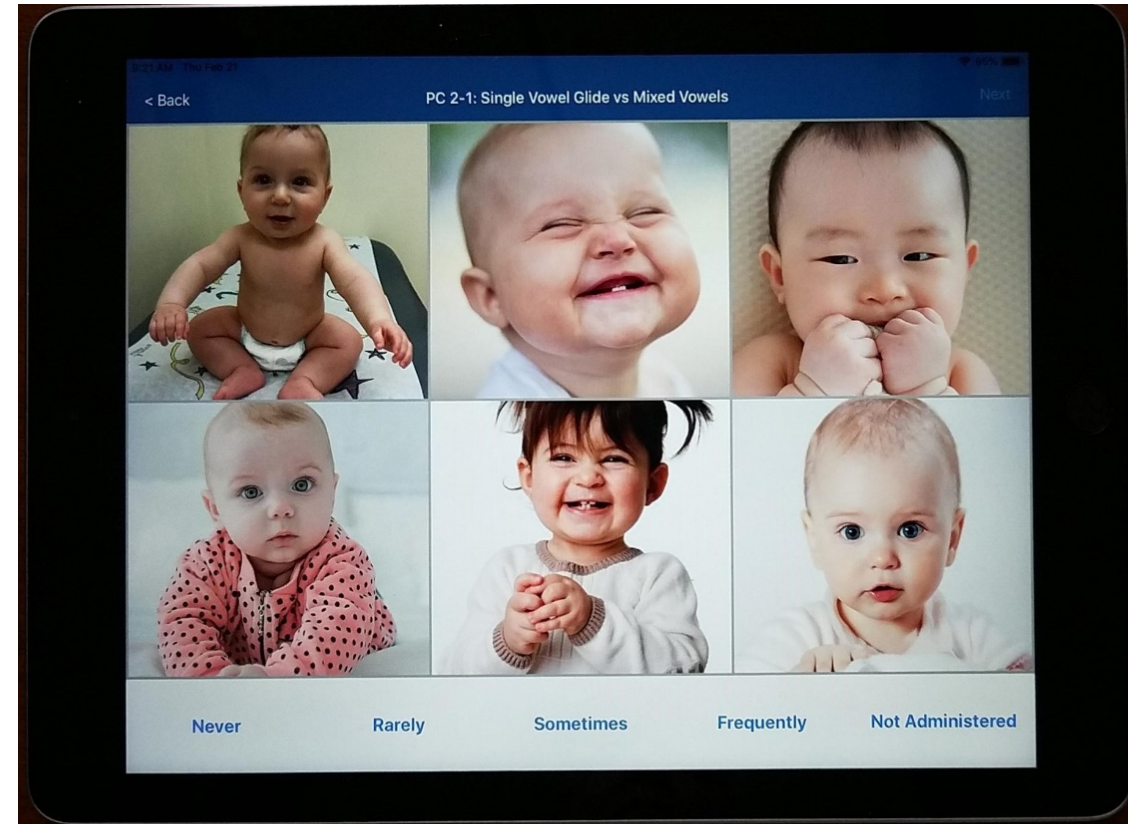


N = 160 hearing infants



# New Progress...

- New iOS APP
- Ongoing validation studies
- Could the idea be adapted to Early ASL landmarks?



For iOS App and manual contact Dr.  
Sophie Ambrose:  
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