



Praises and Pitfalls: Teletherapy & Teletraining for Children With Hearing Loss

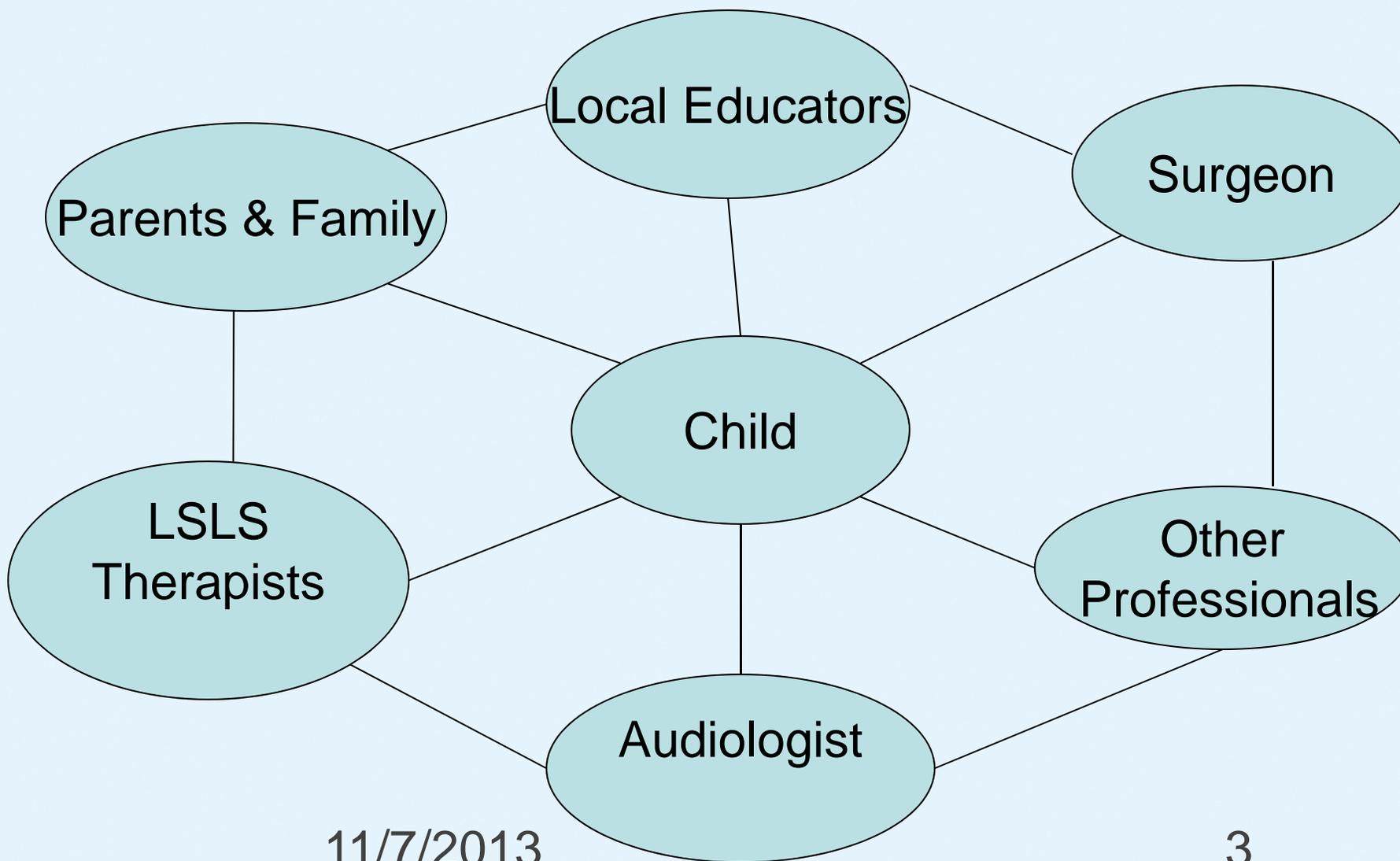
Hannah R. Eskridge
University of North Carolina Ear and Hearing Center
CASTLE Program







UNC Ear & Hearing Center Approach to Cochlear Implantation







CCCDP: HISTORY & PURPOSE

- **Initiated by W.P. Biggers, M.D. - 1992**
- **Purpose: to provide funding for communication devices for children with hearing loss whose families do not qualify for other public programs, but do not have adequate income to obtain communication devices that are not covered by insurance.**



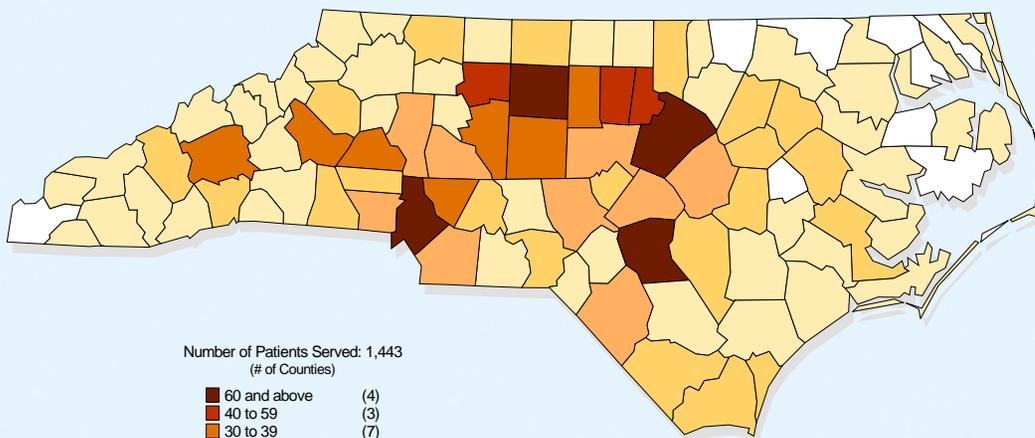
CCCDP Financial Assistance Program

Provides hearing technologies to children in North Carolina

Since 1993 have supported over 1500 children in 91 of NC's 100 counties

The W. Paul Biggers, MD
Carolina Children's Communicative Disorders Program

Total patients enrolled for financial assistance to June 1, 2010



Number of Patients Served: 1,443
(# of Counties)

- 60 and above (4)
- 40 to 59 (3)
- 30 to 39 (7)
- 20 to 29 (9)
- 10 to 19 (21)
- 1 to 9 (47)
- No patients served (9)



11/7/2013

Source: CCCDP, 2010
Produced By: North Carolina Central Health Research Program, Cecil G. Sheps
Center for Health Services Research, University of North Carolina at Chapel Hill.



CCCDP Financial Assistance Program

- North Carolina residents less than 21 years of age are eligible for application to the program. Acceptance is based upon financial need, as determined by:
 - Gross income
 - Number of dependents
 - Number of children with communication disorders
 - Extenuating circumstances, such as additional medical expenses
- The financial criteria are designed to be flexible so that we may include as many children as funding allows.
- The CCCDP, after insurance has paid, will pay for:
 - UNC-CH Hospitals' bills for Hearing Related Charges
 - Hearing Aids - Up to Mid End Digitals, replaced every 5 to 7 years.
 - Repairs to Hearing Aids not covered by insurance.
 - Implant devices, accessories, service, and hospital charges for Implant Candidates.
- The CCCDP is the payer of last resort



CCCDP MISSION

- **To provide the best hearing possible to medically indigent children in NC with hearing loss**
- **To provide on-going services**
- **To increase community awareness**



UNC Pediatric Cochlear Implant Program

- Since 1993
 - 880 children
 - 1299 ears
- 1993 - 5 surgeries
- 2012 - 129 surgeries





CCCDP MISSION (CONTINUED)

- **To provide educational opportunities to professionals in the children's home communities, especially in the rural areas, where little or no services are available to help children with hearing loss learn speech and listening skills.**



Center for the Acquisition of Spoken language Through Listening Enrichment (CASTLE)

- **Mission:**
 - **Provide a quality listening and spoken language program**
 - **Empower parents as primary teachers and advocates**
 - **Professional Learning by training and coaching specialists in listening and spoken language**



CASTLE Mission

- Provide a quality listening and spoken language program
 - Speech-language evaluations
 - Listening and spoken language parent sessions
 - Toddler classes & Preschool language groups





CASTLE Mission

- Empower parents as primary teachers and advocates
 - Parent Sessions





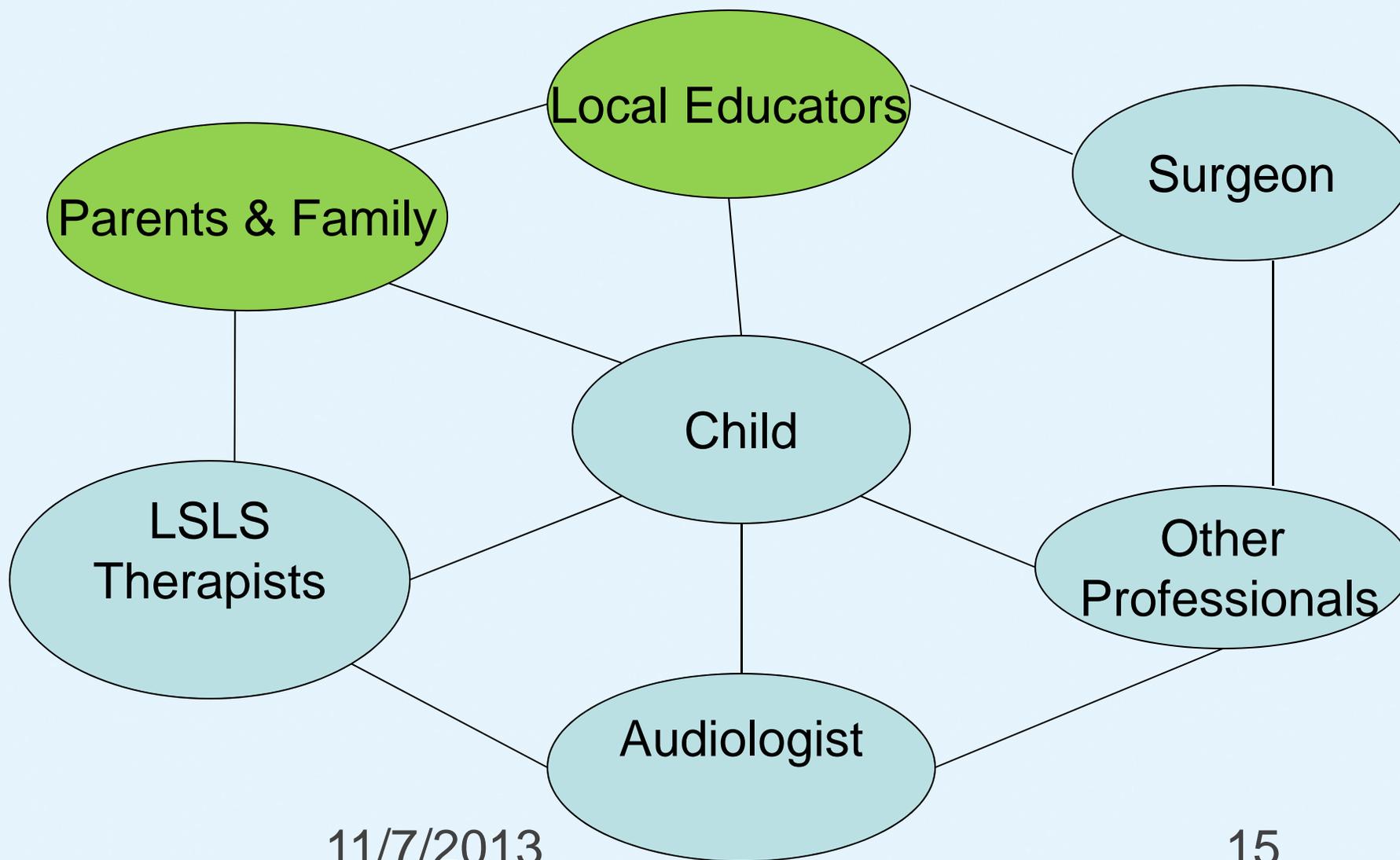
CASTLE Mission

- **Professional Learning by training and coaching specialists in listening and spoken language**
 - Carolina Summer Institute
 - Workshops
 - Mentoring/ Coaching with Early Intervention and NC Public Schools





UNC Ear & Hearing Center Approach to Cochlear Implantation





CONFERENCE ON EXCEPTIONAL CHILDREN

Believing In Achieving

The logo for the University of North Carolina Tele-Participation Program, featuring the word "reacih" in a stylized blue font. The letters "r" and "i" are connected by a thick blue arch. The letters "e", "a", "c", and "h" are in a bold, lowercase sans-serif font. The letter "i" is in a lighter blue color. A small "SM" trademark symbol is located to the right of the "h".

reacihSM

UNIVERSITY OF NORTH CAROLINA
TELE-PARTICIPATION PROGRAM



Telemedicine

- Telemedicine is the use of telecommunication and information technologies in order to provide clinical health care at a distance





Pitfalls of Tele-intervention

- Literature:
 - Access to technology and computer literacy (Saab, P et al, 2004)
 - Staff frustration with troubleshooting equipment & technical difficulties (Peddle K, 2007)
- CASTLE Staff:
 - Troubleshooting equipment
 - Staff Buy-in
 - Parent & therapist learning style
 - Incorporating goals in a naturalistic way
 - Behavior Management



Praises of Tele-intervention

- Literature:
 - “By it’s very nature, distance implementation lends itself to the provision of family-centered intervention services because the clinician is not physically present during the session and cannot directly interact with the child.” McDuffie et al, 2013
- CASTLE Staff:
 - Increased access to more families and professionals
 - Less travel
 - Less planning/ set-up/ clean-up
 - Challenge of learning something new
 - Coaching Parent in it’s purest form



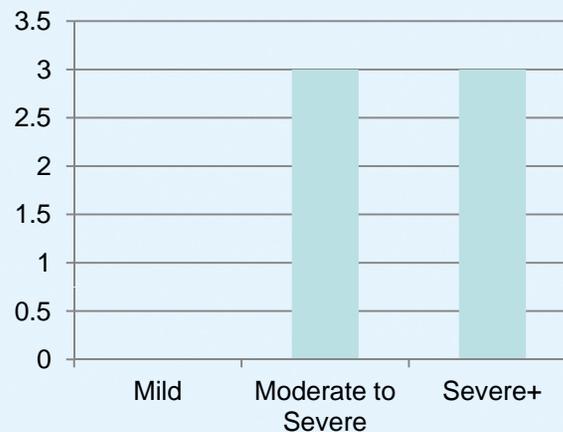
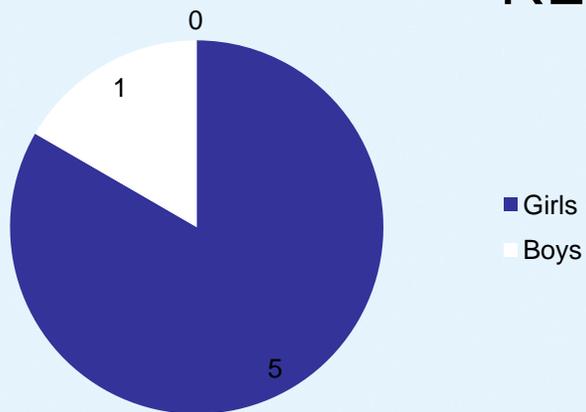


REACH Early Intervention Pilot Data

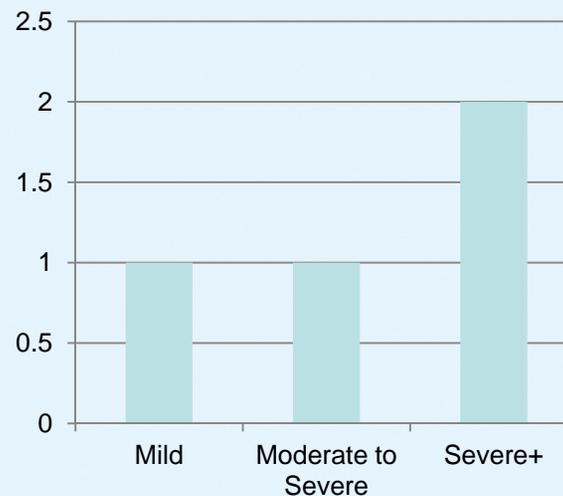
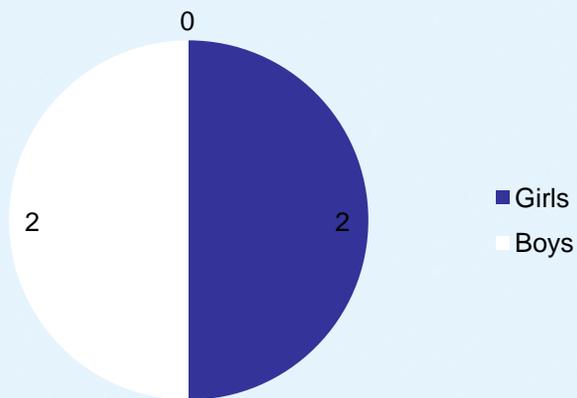
- August 2012: Pilot project to study outcomes for children and parents using a tele-intervention approach
- Children enrolled between ages of birth to 3
- Original enrollment of 8 children receiving intervention through UNC REACH
 - Current data on six children
 - Average distance from center 2.8 hours
 - 1 family discontinued due to internet connection
 - 1 family discontinued due to the need for local therapy to address needs not related to hearing loss
- Enrollment of 4 children also birth to three receiving intervention through direct services at the CASTLE center



REACH Demographics



Control Demographics



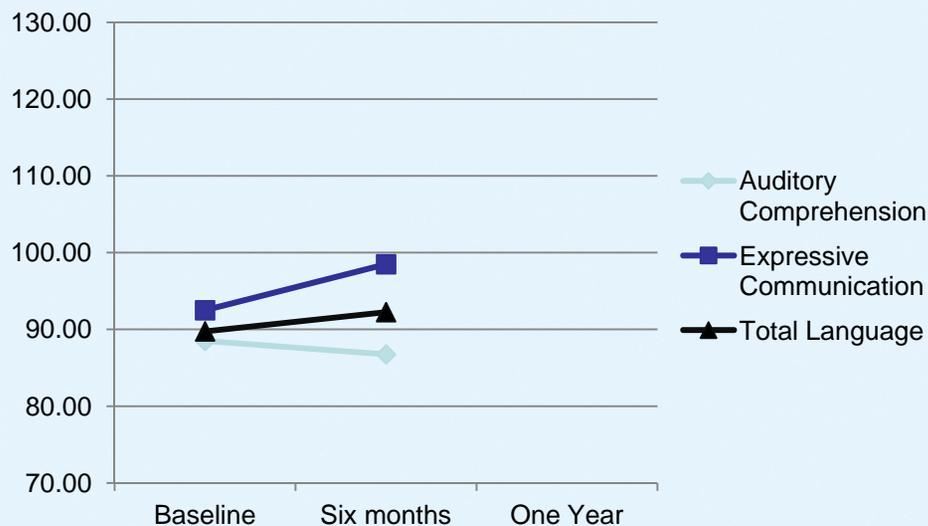


Pilot Data

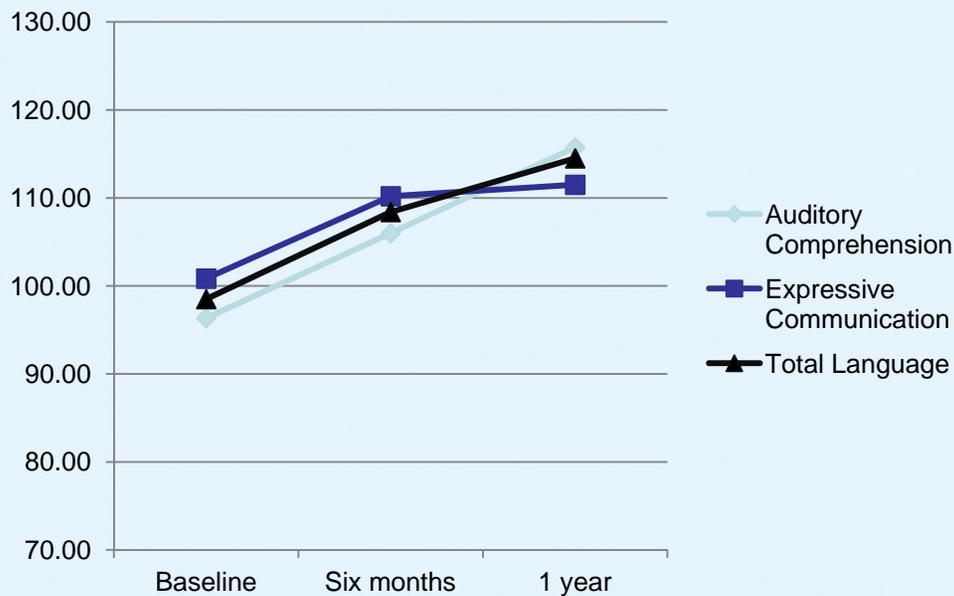
- Data Collected in Six Month Intervals
 - Formal Speech-Language Testing
 - PLS-5
 - IEPN or Goldman Fristoe II if age/ language appropriate



- Controls



- REACH



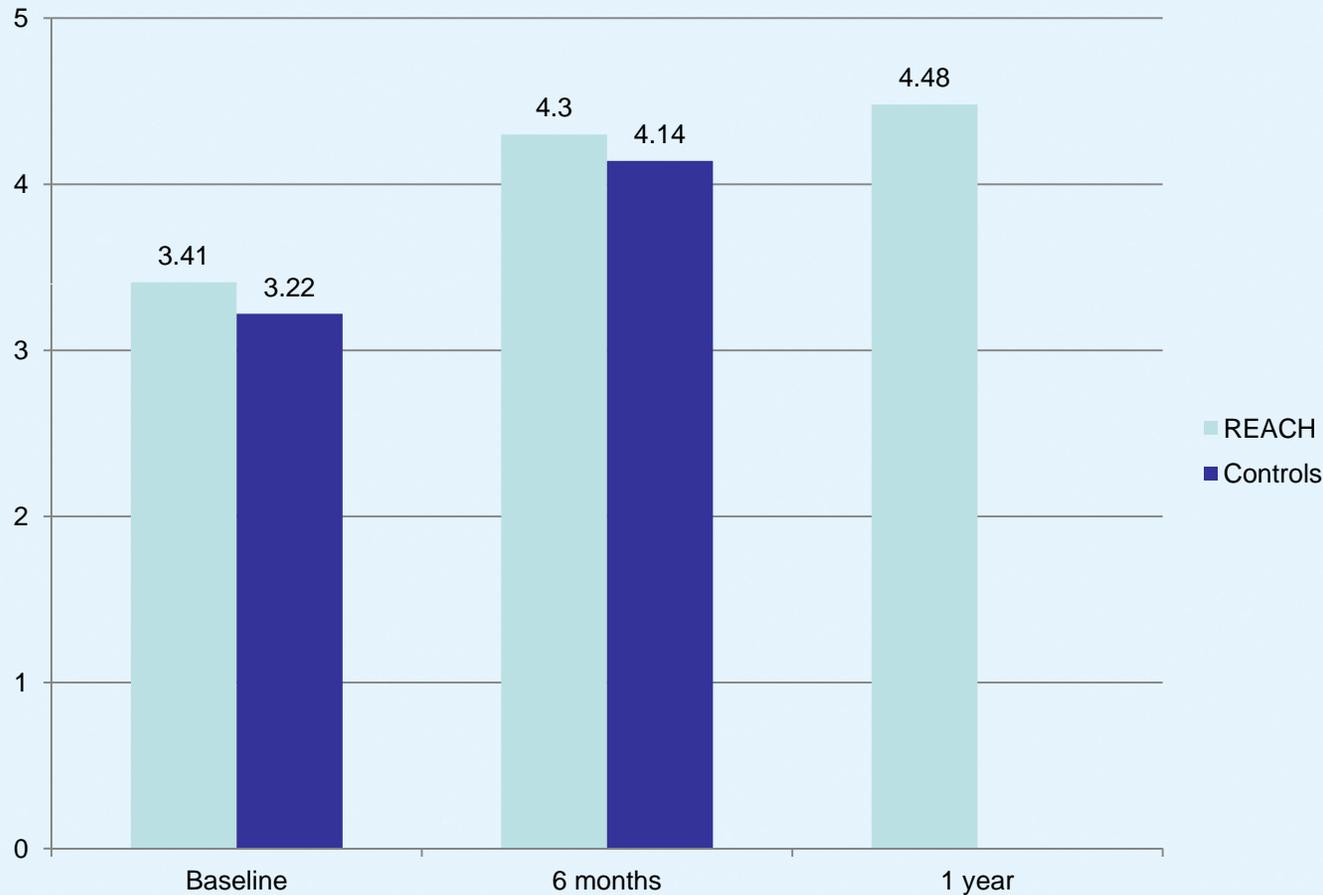


Pilot Data

- Data Collected in Six Month Intervals
 - Parent Self- Assessment
 - 16 questions asking parents about their confidence on certain skills and the amount of time they spend addressing goals and reading with their child
 - Sample: Rate your level of agreement with: I know the sequence of normal language development for children 0-3 years of age.



Parent Self Assessment: Confidence



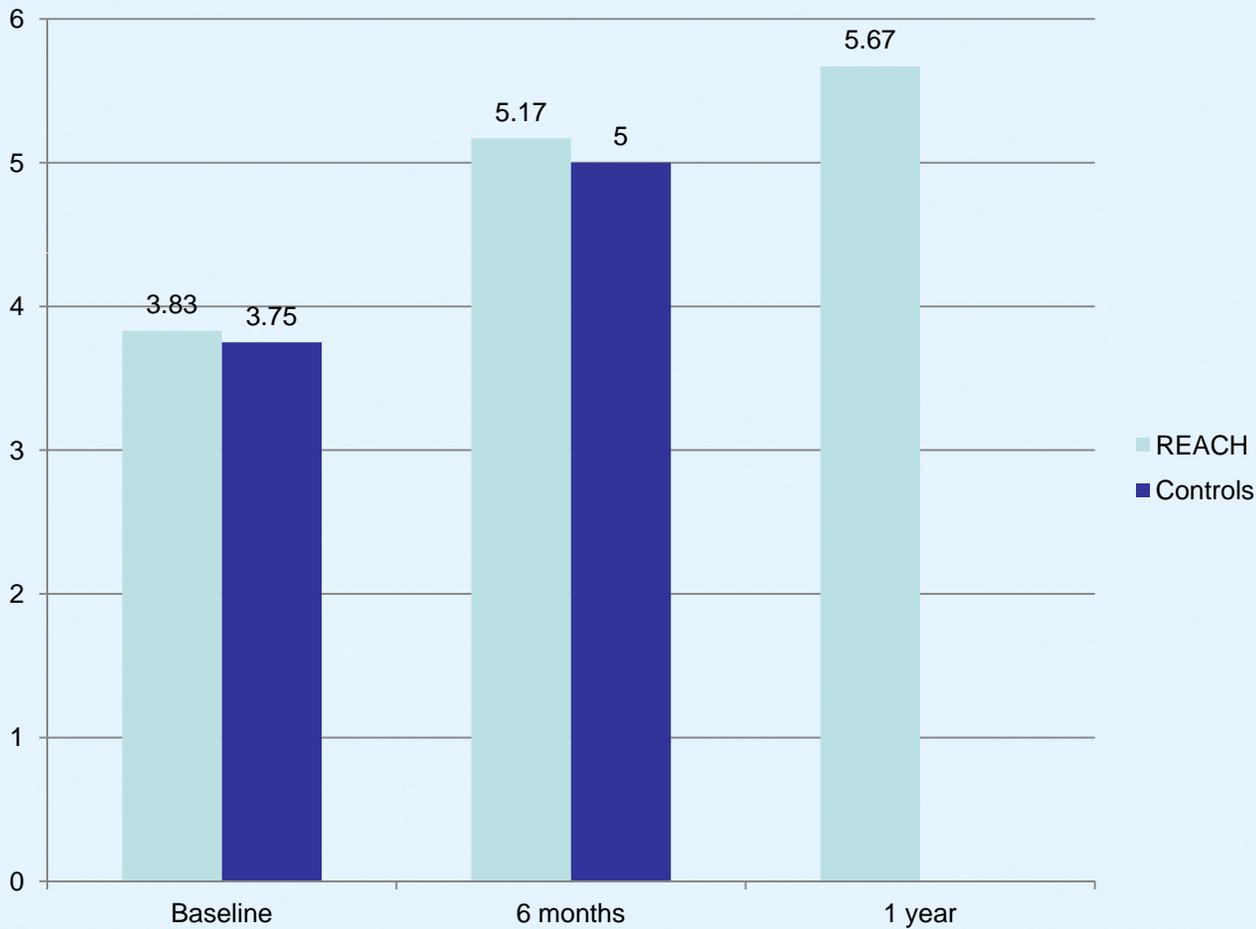


Parent Self Assessment: Read Aloud

- How often do you read to your child?
 - 1: Seldom
 - 2: Less than once a week
 - 3: 1 to 2 times per week
 - 4: 3 to 4 times per week
 - 5: everyday
 - 6: Several times per day



Parent Self Assessment: Read Aloud





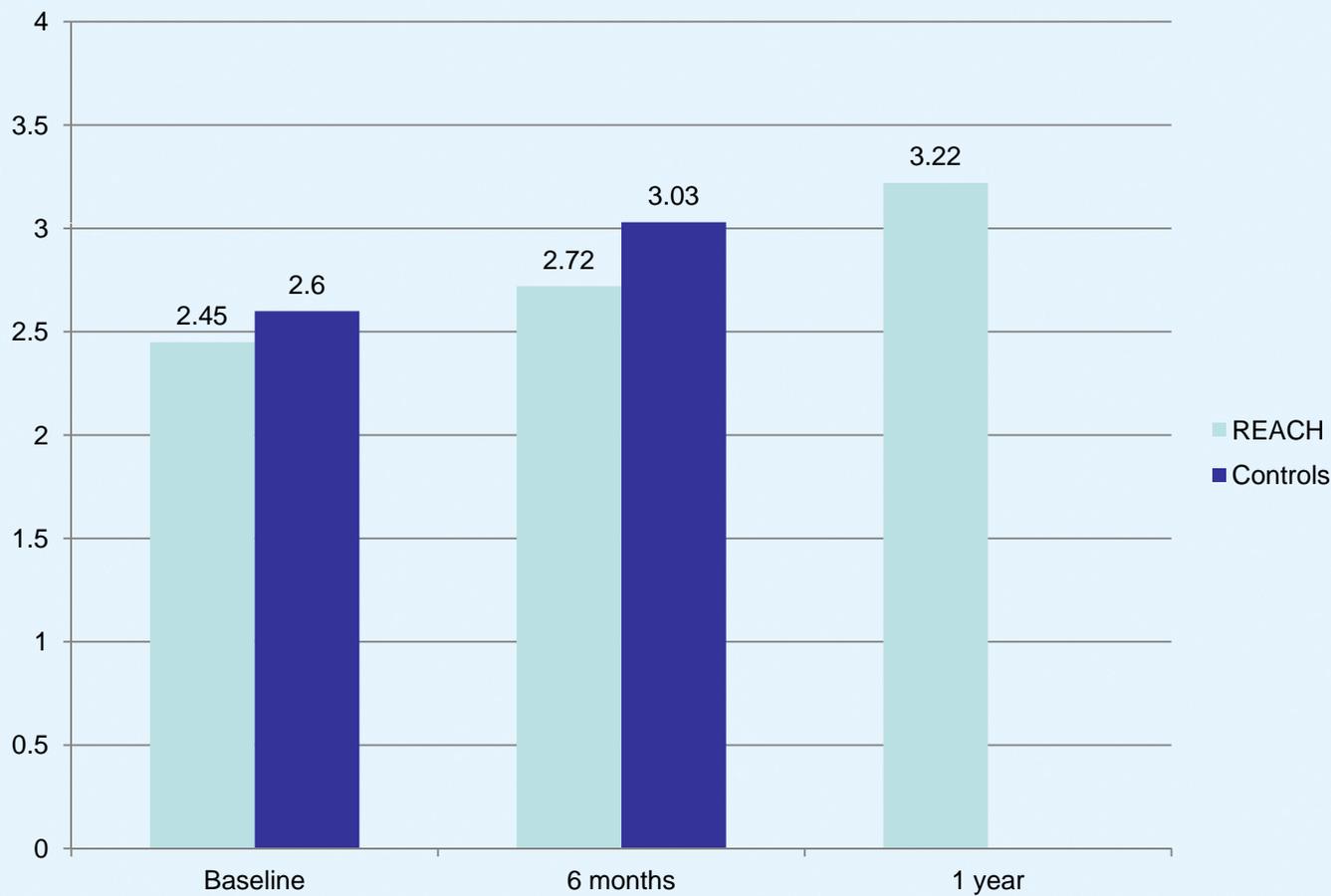
Pilot Data

– Parent Video Analysis

- Skills and strategies identified needed to teach their child to listen and use spoken language are rated on a 4 point scale
 - All rated by the same LSLS Cert. AVT professional
 - Sample: Provides wait time for child's processing of input
-
- 1- not observed
 - 2- rarely observed (less than 50%)
 - 3- emerging (50 to 80%)
 - 4- frequently demonstrated (80+)



Parent Video Analysis





REACH: A Case Study



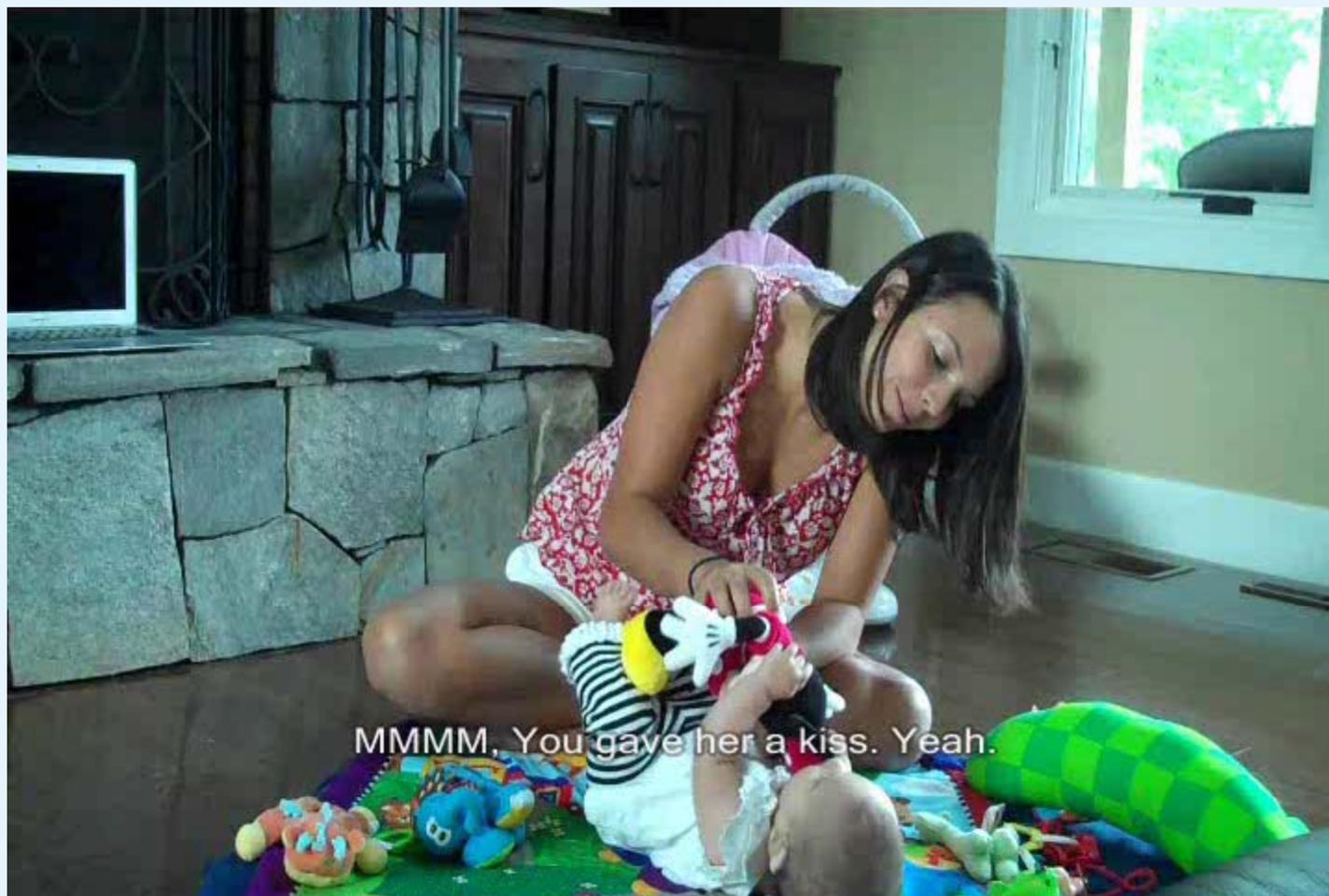


	PLS-5	Parent Self Assessment	Parent Video Analysis
<u>Baseline</u> CA: 2 Months HA: 0 Months	AC: 91 EC: 101 Total Language: 96	Average Confidence Rating: 2.33 Average Knowledge Rating: 3.6	Average Competency Score: 2.67
<u>6 Months</u> CA: 9 Months HA: 6 Months	AC: 106 EC: 108 Total Language: 107	Average Confidence Rating: 4.44 Average Knowledge Rating: 5	Average Competency Score: 3.06
<u>1 Year</u> CA: 16 Months HA: 13 Months	AC: 128 EC: 129 Total Language: 130	Average Confidence Rating: 4.6 Average Knowledge Rating: 5	Average Competency Score: 3.5



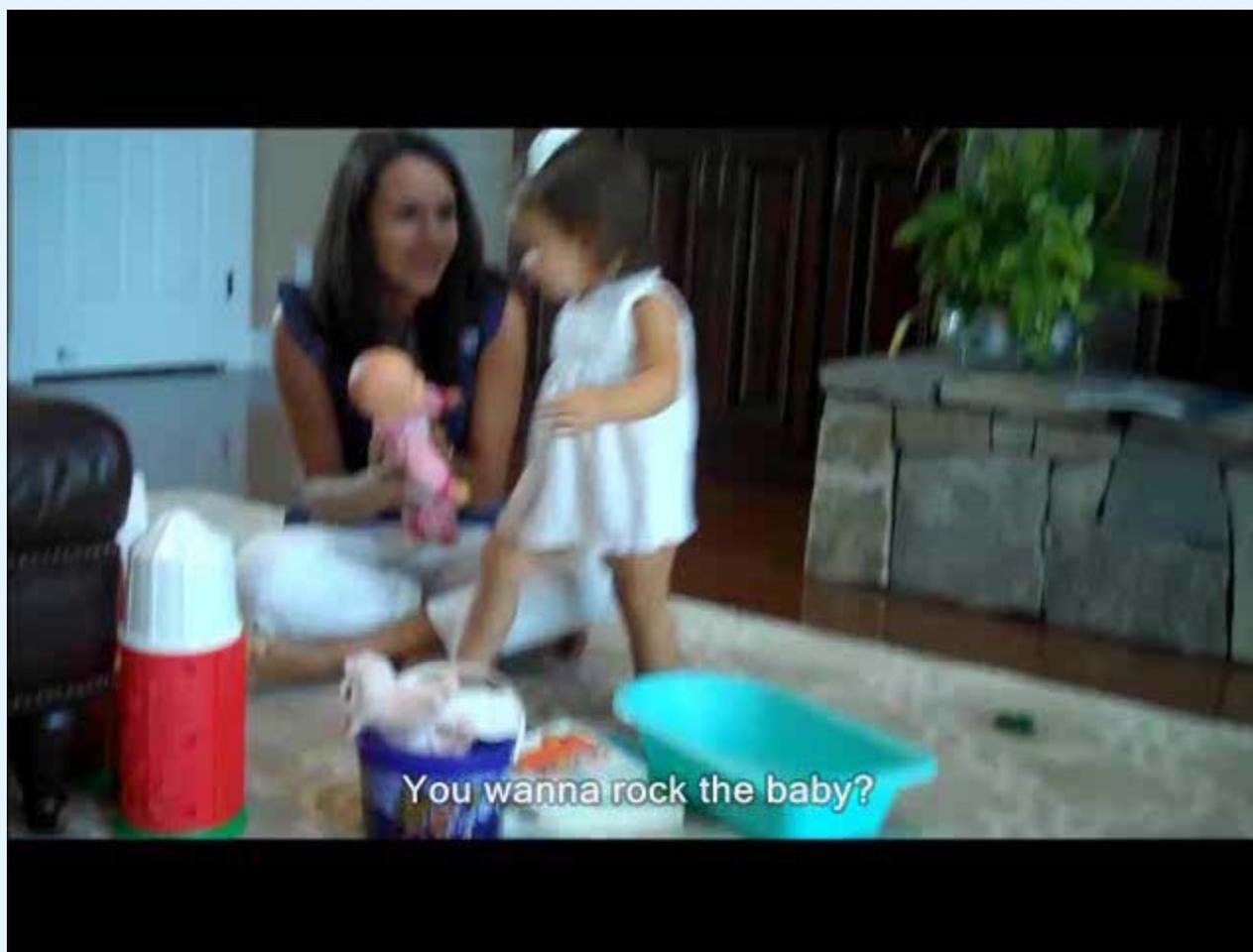


REACH: A Case Study



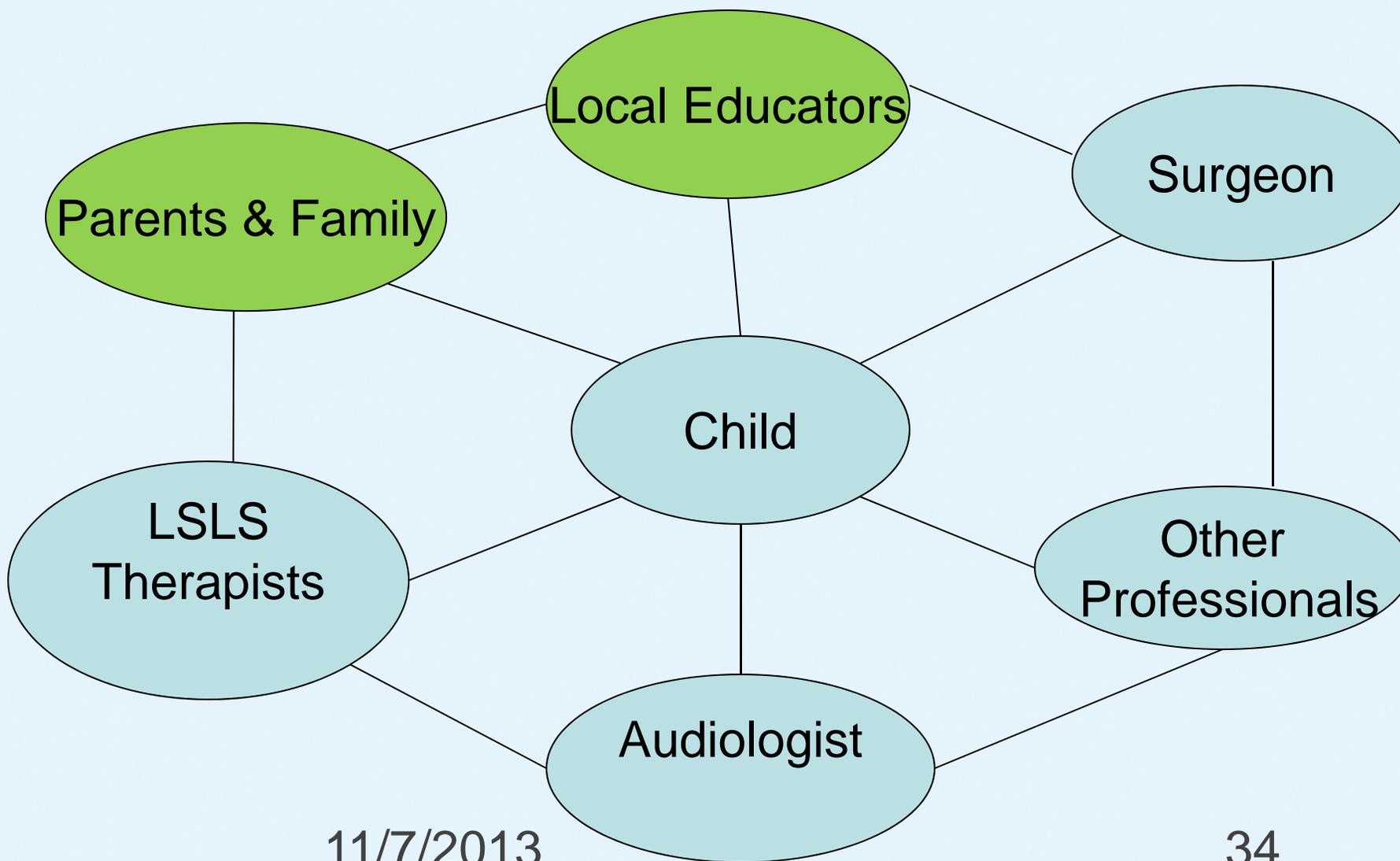


REACH: A Case Study





UNC Ear & Hearing Center Approach to Cochlear Implantation





Professional Training From a Distance: Building a professional learning community through video conferencing technology





Purpose

1. Build Capacity of local public schools and early intervention educators to support children who are deaf or hard of hearing who are learning to listen and talk
2. Expand Effectiveness and Accessibility of our current training program by way of video-conferencing technology
3. Provide Appropriate Education Regardless of Location by increasing skills of professionals throughout the state



Why Professional Training?

- Parents are choosing spoken language options for their children with hearing loss
 - In NC, families choosing spoken language increased from 40% in 1995 to 85% in 2005 (Brown, 2006)
 - In 2010, 89.1% of NC families chose a spoken language approach (J. Alberg, 2011)



Why Professional Training?

- Training and Education has not changed to address family choice
 - Only 8% of the 74 US university training programs for teachers of the deaf focused on spoken language development in 2006(K. White)
 - Only 11 university programs for teachers of the deaf, 5 SLP programs, and 4 AuD programs focused on Listening & Spoken Language Development in 2009 (S. Lenihan)



Why Professional Training?

- In 2010 2,156 children with hearing loss attended public schools in NC and an estimated 2500 will attend by 2018 (R. Ragin, 2011)
- We see an increase in the number of children learning using listening and spoken language approaches without enough professionals to serve them



Tackling Obstacles

- Going the Distance: Re-defining Avenues for Delivery of Services and Training/Mentoring
 - Pitfalls:
 - Quality of Services
 - HIPAA Compliance
 - Validation
 - Praises:
 - Access for all
 - Cost Savings
 - Increased Capacity





Participation

- Participant Goals for First Year:
 - 1. Complete 3-5 live or recorded training modules
 - 2. Complete 1-2 live coaching sessions
 - 3. Complete a minimum of 15 distance coaching sessions
 - 4. Turn in lesson plans 24 hours prior to each teaching session
 - 5. Complete quarterly questionnaires on the process



If you are someone that you know may be interested in participating in training through UNC REACH, please let us know.

heskridg@unch.unc.edu



Telemedicine/Practice Proponent

"We are not moving from one type of medicine to another, but just to a different form of transportation". Howard Balzberg



- **QUESTIONS????**



Thank You!

Hannah Eskridge, MSP, CCC-SLP, LSLS Cert AVT

Director of CASTLE

UNC Ear & Hearing Center

Department of Otolaryngology

University of North Carolina

School of Medicine

Office: (919) 419-1428

email: heskridge@unch.unc.edu

