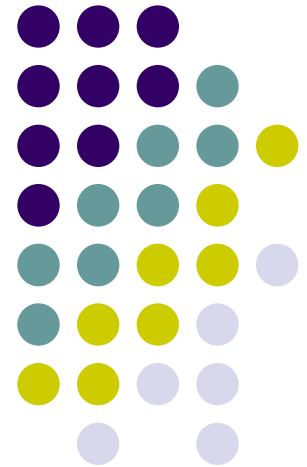


Tele-Intervention: A Model Program of Service Delivery

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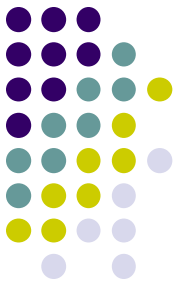
What is “Tele-Intervention”? (ASHA uses “telepractice”)



- Providing services via telecommunications technology
- Used to overcome access barriers due to:
 - Distance
 - Unavailability of specialists
 - Impaired mobility
 - Culture/linguistics



How are EHDI systems involved in Telehealth/Telepractice?



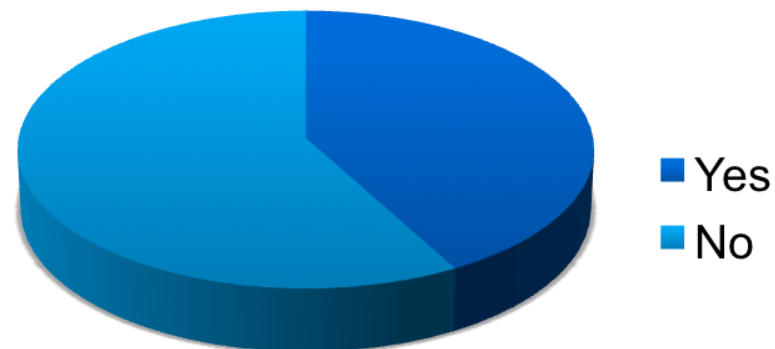
- NCHAM survey conducted in Aug./Sept. 2010
- Inquired re: telehealth/tele-intervention/therapies for hearing-related services
- Administered to EHDI coordinators, forwarded to partners
- Obtained responses from 49 states, 2 territories

NCHAM Survey Results

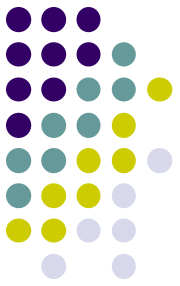


- 42% had some telehealth efforts underway or planned
 - ✓ Telehealth services were primarily Diagnostic ABR's
 - ✓ Telepractice services were primarily early intervention and communication-related therapies

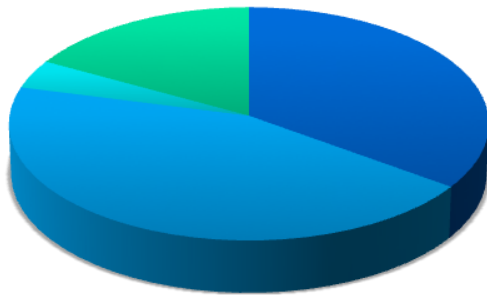
Efforts occurring?



How far along is your telehealth effort in its development?



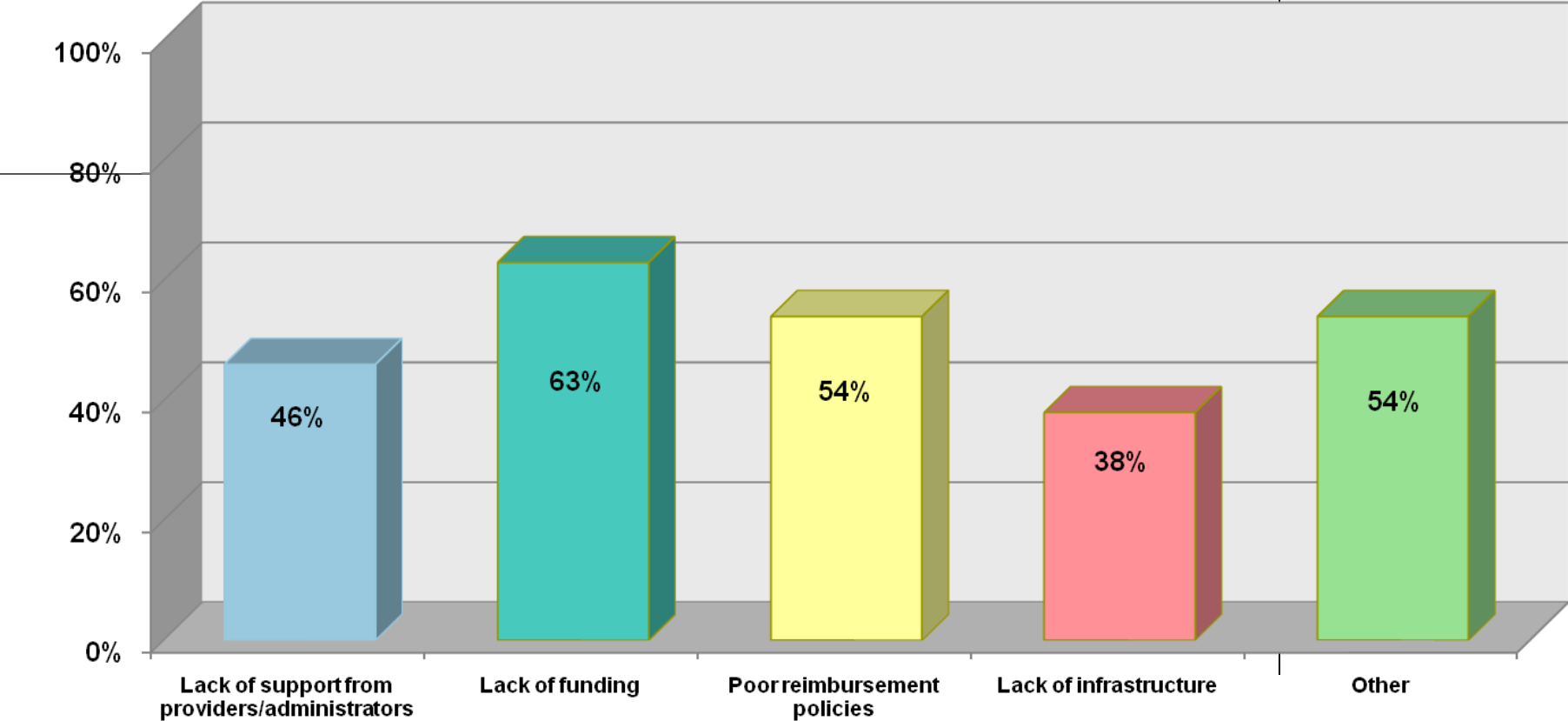
Dev. Stage



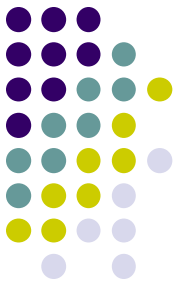
- pilot
- planning
- full impl.
- other

- Apx. 1/3 in pilot phase
- Most in planning phase
- “Other”: preplanning phase or multiple efforts underway but in different phases

What are the issues surrounding telehealth that respondents found challenging?



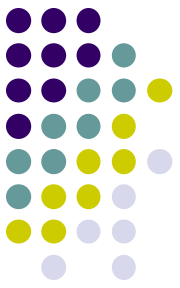
NCHAM formed Tele-Intervention Learning Community



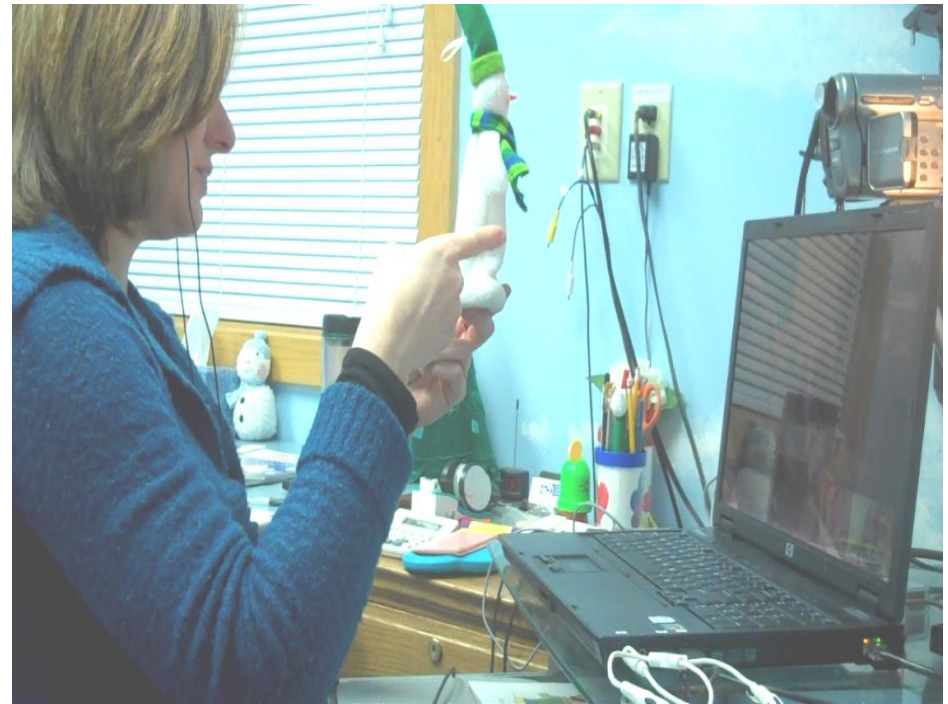
- Collaboration with programs in CO, OK, WA, WI, UT (2)
- Each serving 2-15 families
- Mix of technologies: Tandberg, Sony, Polycom, Skype, SiteSpeed, Videophones
- Develop resources to share with the field
- Gain new knowledge, resources, colleagues



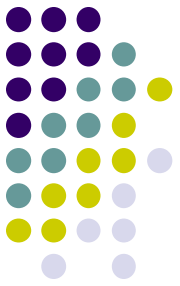
What are the Benefits of T-I over Traditional HV's?



- Bring specialized services to rural areas
- T-I lends itself to coaching model
- Fewer cancellations
- Facilitate “live” teaming
- Can use “ear bud” or texted prompts
- Record sessions for sharing with providers, other family members
- Self-evaluate with recorded sessions
- Preservice & inservice training

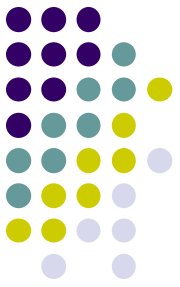


What is needed to do Tele-Intervention?

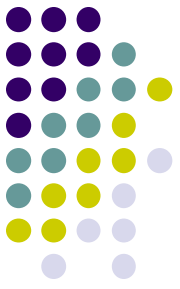


- Stronger skill set of therapist needed for T-I
- Requires understanding adult learning concepts
- “Remote management” skills
- Being prepared with options, faster timing
- “Cognitive demand” on therapists with addition to attending to technology
- Physical Environment must be “friendly” for T-I

What are the big “unknowns” to investigate?

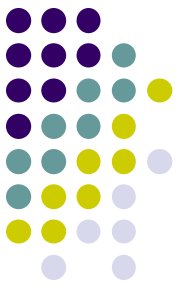


- Is TI cost –effective in terms of child progress, family knowledge/skill development?
- How much acoustic and visual clarity needed?
- Can you emotionally connect & provide support to families?
- Does TI work for various interventions?
- Are some parents/children a better fit?
- Are some “interveners” a better fit?



Technology Considerations

- Up-front costs
- Ongoing costs (e.g., monthly service fees)
- Technology maintenance & support
- Ease of use
- Quality (video quality, size, camera pan and zoom)
- Reliability \leftrightarrow Bandwidth (i.e., consistency)
- Security (firewalls, hacking, viruses)
- Sustainability (will technology be around in a year?)
- Recording (staff self-assessment, family sharing/review)
- Group calling (e.g., 3-way, 8-way)?

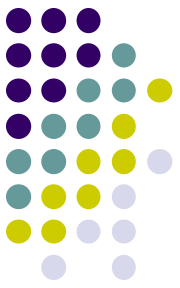


Range of Technologies

- Cisco Tandberg (similar to Polycom, Sony systems)
 - Includes MOVI
 - Cisco umi (you-me)
 - Microsoft XBox 360 Kinect
 - Videophones
-
- Skype (also Oovoo, Logitech SightSpeed)



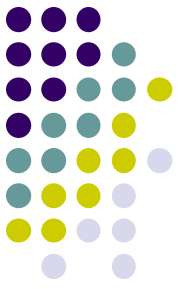
Bandwidth is the KEY Technological Issue



- All technology systems, regardless of cost, are effected by bandwidth
- Bandwidth is an issue in all geographical locations (urban and rural)
- Bandwidth is traffic dependent
- Traffic is dependent on time of day, weather, location
- Bandwidth is increasing dramatically nation-wide, but so is traffic (thanks, Netflix and youtube!)

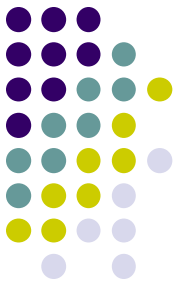


Learning Community Anticipated Outcomes



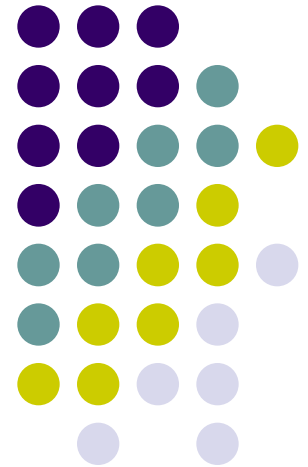
- Develop Issue briefs based on current knowledge
 - Technology considerations, costs
 - Preparing, guiding families
 - Skill “checklist” for providers
- Together research the “unknowns”
 - Strategies to measure outcomes
 - Outcomes with “Ford” versus “BMW” technology
 - Obtaining Medicaid, Part C reimbursement

Resources & Networking Opportunities

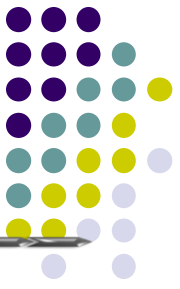


- Contact diane.behl@usu.edu if doing TI and/or interested in learning community
- Go to *infanthearing.org/telehealth*
 - *Exceptional Parent* article
 - Resources re: technologies
 - ASHA guidelines for telepractice, SLP skill set
 - American Telemedicine Association Blueprint for Telerehabilitation
 - National Telehealth Resource Centers

Family EI Tele-Intervention Sessions



Parent Role



Active parent participation is key *and required!*

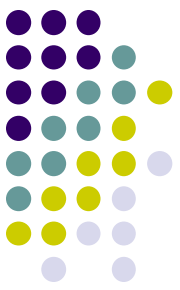
- Parents identify activities, strategies, learning opportunities, and practices that will enhance their child's learning and communication development
- Parents are able to demonstrate strategies modeled and/or discussed during the session
- Parents can decide which strategies and activities work best for their child/family
- Parent reflection on activities improves overall child participation

Practitioner Role (SLP/Teacher/EI)



- Primary person/coach – using current evidence-based practices to facilitate listening and spoken language
- Focus of Intervention
 - Identify activities, learning opportunities, and current practices with the parents
 - Demonstrate and model practices discussed
 - Discuss which strategies/activities work well and discuss what we might want to do differently

Sharing Knowledge and Skills with Families



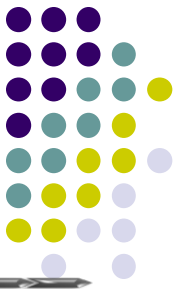
- Fluent implementation (based on knowledge and experience)
- Teach parents to do the intervention

“By focusing on their children’s needs and creating support for the children’s development, we place parents’ learning of new skills in the context of their goals for their children and families.”

- Manage the parent teaching process

(Adapted from Kaiser & Hancock, 2003)

Family EI Sessions



- Areas typically covered:
 - Audiological Management
 - Communication
 - Auditory Learning
 - Language Development
 - Speech Development
 - Development of Inner Discipline/Behavior Management
 - Cognition/Pre-Academic skills/Pre-Literacy



Sound Beginnings & USDB Pilot Project

Birth to 3 year olds and families



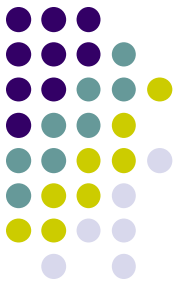
- Tandberg Video conferencing equipment w/dedicated internet connections in family's home and provider office
- Families of 2 children w/hearing loss
 - 1 w/ bilateral cochlear implants
 - 1 w/bilateral hearing aids
 - Middle-class, college-educated 2-parent families
 - Little tech experience beyond email/internet search
- Received language intervention for 1 hour/week via Tele-Intervention
- Received HV's for general developmental issues 1-2 hours/month via USDB

Family Interview Findings: *What's Different About T-I?*



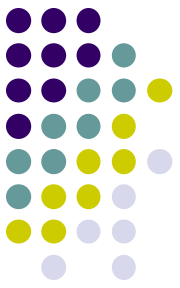
- It's hard to describe...but it's different!
- Parent is the main person interacting with child (vs the provider)
- Child is more responsive to parent
- Therapist provides specific direction to the parent (vs the child)
- Provider has high level of expertise otherwise not available in the community
- Provider is very specific in direction, reinforcing, encouraging

Would Families Choose T-I over Traditional HV's?



- Yes, definitely!
- Predictable format, schedule, materials
- More control of family routine: Gives us our lives back...
- Child “stranger anxiety” not a problem
- Can hold sessions when child/family member has minor illness
- Recordings allow other family members to be involved
- Can involve other providers (i.e., audiologists)

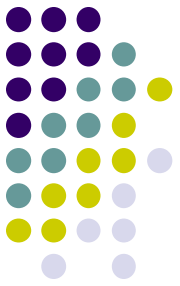
Family Perspective: What are the Benefits of T-I?



- Stronger parent knowledge of language development process
- Increased skills and confidence in promoting child's language, listening
- Increased child responsiveness to parent
- Enhanced child language development, listening skills
- Increased skills of family members as coaches themselves



Family Recommendations for Organizing Sessions



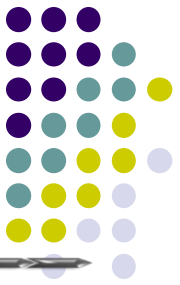
- Dedicated equipment and room w/door
- Tech support person for training in home
- Send materials, lesson plans ahead of time
- Involve children in preparing for session
- Let child interest direct activities
- Reinforce parents frequently, specifically
- Have recordings uploaded quickly for others to view

T-I Session Routine



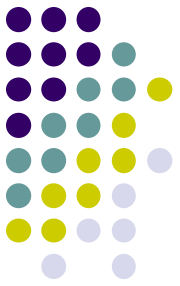
- Discussion of goals from the previous week
 - Update on new communication milestones, new behaviors, sounds, words that have emerged
- Review of goals for current session
- Demonstration of new or ongoing strategies, techniques with appropriate activities
- Coaching the parent as he/she performs the activity

T-I Session Routine

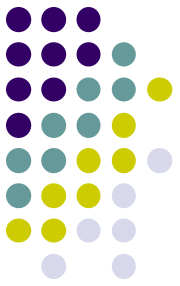


- Discussion of continuation of goals or selection of new goals based on present performance
- Discussion of integration of goals into the daily routines of the home
- Summarizing of the session and goals for the coming week
- Allowing questions from the parents about next steps, goals, short- and long-term outcomes

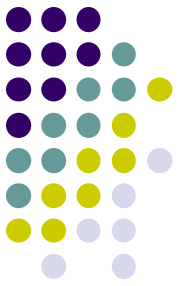
Nancy & Alex



Nancy & Alex



Alex & Nancy



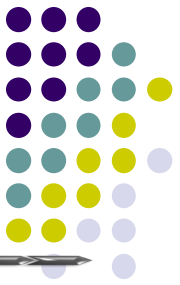
Provider Perspective: Logistics



- High-quality microphone – at both sites
- Use of a document camera – to show smaller toys, books
- Planning therapy sessions – requires more time, logistics due to a pure coaching model
 - Gathering of toys/activities and communicating in advance with the family
 - Bigger toys!
- Sending activities to the family to have

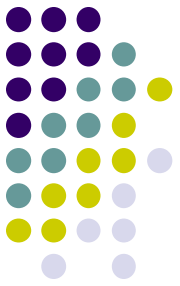


Provider Perspectives: Outcomes



- Children are acquiring communication milestones that approximate or are equal to their hearing peers
- Families/parents are more confident in their own ability to facilitate listening and spoken language goals
- Fewer cancelled sessions and more overall intervention being provided over time

Questions? Comments? Ideas?



Thank You for Listening!



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