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Benchmarking Inpatient Programs to Improve Audiology Care in the Neonatal Intensive Care Unit

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Learning Objectives

1. Introduction
2. Survey Process
3. Survey Results
4. Practice Changes
5. Future Considerations

Introduction - Inpatient Team Leads

Christina Rasmussen joined the Bill Daniels Center for Children's Hearing at Children's Hospital Colorado as an Audiologist in June 2016. She has 7 years of experience as an audiologist specializing in pediatric diagnostic evaluations/management and has her Pediatric Audiology Specialty Certification. Christina received her Doctor of Audiology degree from University of Washington in 2016. She enjoys hiking, running, reading, and going on adventures with her two-year-old son and husband.

Bailey Yeager joined the Bill Daniels Center for Children's Hearing at Children's Hospital Colorado as an Audiologist in January 2020. She has 6 years of experience as an audiologist specializing in pediatric diagnostic evaluations/management and has her Pediatric Audiology Specialty Certification. Bailey received her Doctor of Audiology degree from Purdue University in 2017. She enjoys traveling, hiking, reading, and playing with her pup Rosie.

Inpatient Considerations for 1-3-6 Guidelines

The Joint Committee on Infant Hearing 1-3-6 Guideline:

- Screen by 1 month of age, diagnostic hearing evaluation by 3 months of age, intervention implemented by 6 months of age
  - For the newborn hearing screen, it suggests this be done as close to discharge as possible while allowing time for a second screen if necessary.
- 2019 statement suggested striving for 1, 2, 3

For some infants in the NICU (e.g., infants on ventilators), it may not be feasible or practical to complete a hearing screening prior to one month of age due to the high likelihood of middle ear effusion, noise interference, and electrical interference from equipment. Alternative arrangements should be made for completing the hearing screening on these infants at a time when they are medically stable.

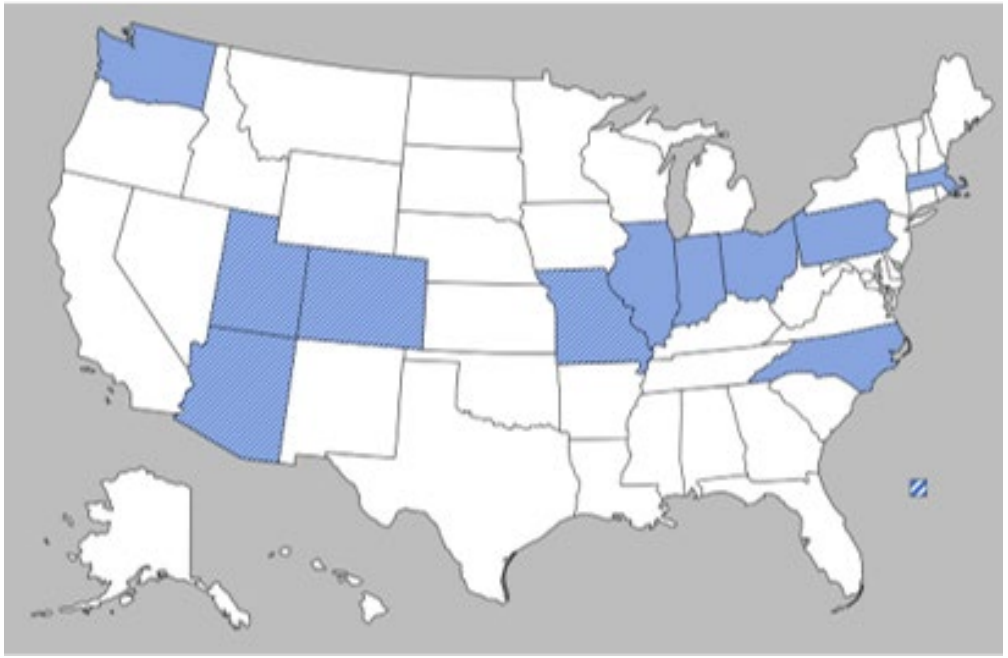
For our medically complex inpatient population, is 1-3-6 attainable?

Survey Goals

1. Compare the inpatient program processes at CHCO to other children's hospitals around the country
2. Determine other programs amplific ation processes
3. Process Improvements

Survey Participants

- Ann & Robert H. Lurie Children's Hospital of Chicago
- Boston Children's Hospital
- Children's Hospital Colorado
- Children's Hospital of Philadelphia
- Cincinnati Children's Hospital
- Nationwide Children's Hospital
- Phoenix Children's Hospital
- Primary Children's Hospital
- Riley Hospital for Children
- Saint Louis Children's Hospital
- Seattle Children's Hospital
- University of North Carolina



Team-Specific Questions

- Do all audiologists at your clinic/hospital work on your inpatient team?
- If you have a designated inpatient team, how many audiologists do you have on the team?
- How often are inpatient audiology services provided at your facility?
- Which of the following tests do you complete for inpatients?
- How many inpatients does your team see for newborn hearing screens (NBHS) in a typical week?
- How many inpatients does your team see for diagnostic ABR testing in a typical week?
- What other specialties does your team commonly work with?

Amplification Questions

- What devices do your team fit on inpatients?
  - Hearing aids and bone conduction hearing devices
- What factors impact your team's decision to fit amplification on inpatients?
  - Medical stability, family motivation, insurance coverage, length of admission, prognosis, whether patient care team could support the device
- Does the Audiology Department at your site get reimbursed for amplification if fit while an inpatient?
  - Mixed answers but most were unknown
- How do you coordinate follow-up appointments when patients need more testing as outpatient?
  - Discharge coordinators, EPIC reminder

How Survey Results Changed CHCO Inpatient Practices

- EPIC Practice Red Flags
  - Meningitis (Bacterial and Viral)
  - Increase in audiology consults
- Congenital Cytomegalovirus Testing
  - Multidisciplinary team created guidelines and processes for completing screenings at CHCO labs
  - Inpatient providers place orders for babies who do not pass NBHS
- Attending Roundings
  - Neonatal Intensive Care Unit
  - Cardiac Intensive Care Unit
- Inpatient Provider Education
  - Attending joint therapy sessions
  - Attending discharge planning and care conferences
  - Increase in combo sedated ABRs
- Clinical Practice Guideline
  - Billing, Patient Transport, Documentation
- Inpatient Amplification
  - Amplification guideline for team members
  - Fitting personal amplification
  - Bedside education signs for therapy providers/families
  - Enrolling in Early Intervention services

Hi Team!

I have hearing loss. Therefore, I rely on my other senses to help me navigate the world.

Please consider using the following strategies to help me.

- I rely on my sense of touch to know when you want to interact with me. Please approach my bed slowly and gently. Place your hands firmly on my mattress so I feel your presence. Then touch my legs gently and work your way up to my head and face where I am most sensitive. This will help me from being startled.
- Please help me by giving me lots of positive touch. This gives me good sensory input.
- When you hold me, please sit or stand near an overhead light so that your face is illuminated. This may help me see your face and get visual cues for our interactions.
- Please give me time to use my sense of touch to know what is coming next. Give me tactile cues to activities whenever you can.
- Please try to keep my daily routine as consistent as possible. This will help me learn and anticipate what is coming next.
- Please be close to me, speak clearly, and allow me to see your face when you are interacting with me.

Thanks for helping me,

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PLEASE CALL THE INPATIENT AUDIOLOGY COORDINATORS WITH ANY QUESTIONS OR CONCERNS

Bailey Yeager (720-777-3010) or Christina Rasmussen (720-777-2537)

INPATIENT AUDIOLOGY

Important Information about [Patient Name]'s Hearing Aid

ONLY TO BE WORN WITH DIRECT SUPERVISION OF AN ADULT

HOW DOES MY HEARING AID WORK?

- Sounds are picked up by the microphone and amplified within the hearing aid to match [Patient Name]'s hearing loss. The amplified sound is sent directly into [Patient Name]'s ear through the earhook, tube and earmold.

WHEN SHOULD I WEAR IT?

- When I am awake, alert and under active adult supervision. ***The battery is toxic, and all hearing aid components can pose a choking hazard if removed.***
- Please watch my cues when I am wearing my hearing aid. If I seem to be getting overstimulated, please take it off.
- Take my hearing aid off when I am tired, so I can sleep comfortably.
- My hearing aid is electronic, so it needs to be kept dry. Please remove before I take a bath and keep it away from the sink.

USING THE DEVICE

- First, you will want to check the battery.
  - Before placing the device on, close the battery door completely. Cup your hand over the device. You should be able to hear it "whistle" if the battery is good. If this does not occur, try changing the battery.
- Place the earmold in my ear, and then place the hearing aid around the outside of my pinna.
- Please ensure I am wearing my hearing aid during all therapies to ensure I'm getting good access to sound while learning.
- When I am done wearing my hearing aid, open the battery door to ensure the device is turned off. ***It is recommended this is done over the case/table, to ensure the battery is not dropped/lost on the floor.***

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Future Considerations

- Fourth year extern rotation on inpatient
- Collaboration with floors aside from NICU (Oncology, Rehabilitation)
- Updated risk factors project

Questions? ☺