

# Meeting the Hearing Care Needs of Children with Complex Disabilities: Perspectives from Educational Audiologists and School-Based Professionals

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## Learning Objectives

- Attendees will be able to identify challenges reported by educational audiologists in delivering audiologic care to children with complex disabilities.
- Attendees will explore potential solutions reported by educational audiologists to overcome common challenges in providing audiologic care to children with complex disabilities.
- Attendees will understand the importance of multidisciplinary collaboration between audiologists, educators, and consultants in addressing hearing care for children with complex disabilities.

## Background

Children with complex disabilities comprise approximately 1% of students served in U.S. public schools, and they present with complex profiles including a combination of cognitive, motor, speech, and sensory profiles (Erickson & Quick, 2016). Diagnosing hearing loss in school-age children with multiple disabilities is challenging due to overlapping symptoms and difficulties with standard tests. Approximately 30-40% of children with hearing loss have additional disabilities (Wiley & Meinzen-Derr, 2012), leading to delays in diagnosis and intervention, which impact speech and language development (Wiley & Meinzen-Derr, 2012). Behavioral audiometry can be ineffective for children with intellectual and motor delays, resulting in multiple failed assessments before diagnosis (Dale, 2023). Further barriers include resource limitations, challenges with collaboration across professionals, and competing parental priorities (Whicker et al., 2021). Educational audiologists play a crucial role in addressing these challenges by assessing hearing, providing amplification, and collaborating with educators and families. However, they face obstacles in screening, diagnosis, and follow-up, necessitating innovative solutions and interdisciplinary efforts (Kingsbury et al., 2022).

## Methods

The primary aim of this study is to examine qualitative data collected from a group of educational audiologists and related providers and use content analysis to identify themes related to meeting the educational needs of school-age children with complex disabilities who are DHH. We reviewed transcripts from two focus group interviews (34 participants total) from the southeastern US. Participants included educational audiologists, autism consultants, and educators. Participants were asked about challenges in meeting the hearing needs of children with complex disabilities and proposed solutions. The interview transcripts underwent qualitative content analysis by pairs of LEND trainees and faculty to identify themes and sub-themes. The coding was cross-checked for accuracy with discrepancies being resolved through group discussion. The resulting data was organized into categories and meaning units to allow for analysis and discussion. Analysis of the full data set is still ongoing. For the purposes of this poster, we are presenting data on one of the key themes: follow-up. This project will provide key information regarding challenges to audiologic care in the educational setting and suggestions for improved service provision.



## References

- Dale, Brittany A. and Neild, Raschelle (2023) "Assessment of Co-Occurring Disabilities in Young Children Who are Deaf and Hard of Hearing," Perspectives on Early Childhood Psychology and Education: Vol. 5: Iss. 2, Article 9.
- Erickson, K. & Quick, N. (2016) The profiles of students with significant cognitive disabilities and known hearing loss. *Journal of Deaf Studies and Deaf Education*, 22(1), 1–14. <https://doi.org/10.1093/deafed/enw052>
- Kingsbury, S., Khvalabov, N., Stirn, J., Held, C., Fleckenstein, S. M., Hendrickson, K., & Walker, E. A. (2022). Barriers to Equity in Pediatric Hearing Health Care: A Review of the Evidence. Perspectives of the ASHA special interest groups, 7(4), 1060–1071. [https://doi.org/10.1044/2021\\_persp-21-00188](https://doi.org/10.1044/2021_persp-21-00188)
- Whicker, J. J., Muñoz, K., Pearson, N. J., Landon, T. J., Nelson, L. H., White, K. R., & Twohig, M. P. (2020). Hearing care and management priority among parents of children with Down syndrome: a grounded theory. *International Journal of Audiology*, 60(8), 629–640. <https://doi.org/10.1080/14992027.2020.1836407>
- Wiley, S., & Meinzen-Derr, J. (2012, November 12). Use of the ages and stages questionnaire in young children who are deaf/hard of hearing as a screening for additional disabilities. ScienceDirect.

## Challenges to Follow-up Care

Themes	Sub-themes
Caregiver Factors	<b>Priorities:</b> Parents of children with complex disabilities balance more medical needs than can practically be prioritized ( $n=6$ ). <b>Support/Resources:</b> Parents lack resources/support to navigate the educational and medical systems with their child ( $n=3$ ). <b>Transportation:</b> Barriers to transportation affect accessibility to follow-up ( $n=2$ ). <b>Language:</b> The impact of hearing loss is often lost between providers and non-native English-speaking families ( $n=2$ ).
IEP Factors	<b>Timelines:</b> Referral wait times and limited staff prolong the process of getting an IEP as well as obtaining the appropriate accommodations on their IEP ( $n=4$ ). <b>Policies:</b> IEP policies limit the number of referrals, resulting in delays of access to audiologic care ( $n=1$ ).
Collaboration: Educational and Clinical Audiologists	<b>Technology:</b> Clinical recommendations are not always compatible with educational settings, inhibiting implementation and benefit for the child ( $n=2$ ). <b>Medical releases:</b> Forms are not signed in a timely manner ( $n=2$ ). <b>Perspectives on Child-centered care:</b> Clinical recommendations do not always account for other factors in the educational setting ( $n=3$ ). <b>Awareness of educational setting:</b> Lack of awareness regarding classroom acoustics and dynamics negatively impacts clinical recommendations ( $n=2$ ).
Access to Providers	<b>Insurance:</b> Lack of access creates barriers for accessing audiological care ( $n=2$ ). <b>Medicaid:</b> Limited numbers of Medicaid providers leads to extended wait times for hearing devices, repairs, and follow-up audiological care ( $n=2$ ).
Complex Profiles	<b>Self-advocacy:</b> Children with complex support needs frequently face challenges in self-advocating for hearing care needs due to communication challenges ( $n=11$ ). <b>Nature of disability:</b> Hearing loss is an invisible disability, often masked by co-occurring conditions, and the treating it is not always assumed to be beneficial ( $n=11$ ).
Technology	<b>Compatibility:</b> Device recommendations are not always compatible with existing assistive technologies used by the child or classroom technology ( $n=4$ ). <b>Tolerance:</b> Limited tolerance associated with complex support needs often restricts the duration for which devices can be worn effectively ( $n=7$ ). <b>Usability:</b> Hearing aid/device manufacturers often fail to consider the usability of device settings and accessories ( $n=1$ ). <b>Wait times:</b> Extended wait times or lack of access to frequency modulation (FM) systems results in social isolation, delayed language and academic skills, and prolonged device downtime ( $n=3$ ).

"I find that sometimes hearing loss, when the other things going on with the student seem more severe than the hearing loss might, the hearing it's forgotten about or put [to] the side and everything else takes precedence."



"I feel that if I had known a little bit more about educational audiology when I was a clinical audiologist, my fitting approach, my technology choices, would have just looked a lot different."



"I think sometimes for people to understand the role of the hearing loss or the importance of amplification, if that's how they receive information, because again it is invisible, unless there's a hearing aid or an implant or BAHA, it's kind of an invisible limitation."

## Proposed Solutions

- Staff Training:** Mandatory training for educators on supporting children with complex needs and hearing technology
- Funding & Grants:** Advocate for resources to support educational settings and hearing technology.
- Mass Screenings:** Specifically for children in EC who could not be conditioned to test at a younger age
- Consent Efficiency:** Obtain parental consent in advance to reduce service delays.
- Social Events:** Create inclusive events for children with complex disabilities and hearing loss and their families.
- Parent Resources:** Provide brochures on hearing loss, technology options, and communication strategies.
- Manufacturer Education:** Educate hearing aid manufacturers on how to better support children with complex disabilities with device settings and accessories.

- Advocacy Training** for caregivers of children with complex disabilities
- Direct collaboration between clinical and educational audiologists** leads to better patient outcomes and a decrease in wait times.
- Consultation between clinical and educational audiologists** prior to making technology recommendations for child
- Expanding educational placements** for audiology students enhances their understanding of classroom dynamics.
- Mobile units** eliminate transportation barriers, ensuring access to vital follow-up care for patients with limited mobility.
- Educating parents and school staff** on the severe impacts of untreated hearing loss, especially in children with complex disabilities, to ensure timely intervention and support.

## About The Authors

The authors are full-time graduate students in the Doctor of Audiology (AuD) program at UNC-Chapel Hill and audiology trainees in the North Carolina Leadership Education in Neurodevelopmental and Related Disabilities (LEND) Program. This project is being completed with mentorship by faculty in the Department of Health Sciences at UNC.