

Advancing the Tennessee Early Hearing Detection and Intervention System Infrastructure for Language Outcomes in Children Who Are Deaf or Hard of Hearing



Department of Health

Holli Allen, B.A., Early Hearing Detection and Intervention Coordinator, Tennessee Department of Health
Katie Overby, Ed.D., Deaf Educator, Tennessee Department of Health

INTRODUCTION

The Tennessee Early Hearing Detection and Intervention (TN EHD) program works with providers to ensure timely identification and referrals to intervention services for children who are deaf or hard of hearing (DHH). While TN EHD's primary focus is early screening, diagnosis, and intervention, there is growing recognition that EHD programs should also focus on improving language acquisition outcomes. This poster highlights TN EHD's initial approach to identifying current measures of language acquisition outcomes for children who are DHH. Two (2) key projects are described: the development of a statewide language assessment survey and the collection of language outcomes at age three (3) for DHH children who were enrolled in Part C early intervention.

APPROACH

- TN EHD conducted a statewide survey to examine language assessment practices for children who are DHH. Through a collaborative workgroup of speech-language pathologists (SLPs), audiologists, and early intervention providers, the survey captured data on assessment types, frequencies, scoring methods, resource availability, and service gaps. (Scenario 1)
- TN EHD partnered with Tennessee Early Intervention System (TEIS) to collect language outcome data for DHH children who were enrolled in TEIS at age three (3). A formal data request was submitted in April 2025 for DHH children born in 2021 who had been enrolled in TEIS for at least six months, ensuring that both entry and exit assessments were available for analysis. (Scenario 2)

CONCLUSIONS

- Speech and language providers in Tennessee use a variety of formal assessments to evaluate language development in children who are DHH. Recognizing this variability is essential for identifying gaps, promoting consistency, and improving outcomes statewide. While assessment tools differ, follow-up procedures, informal assessments, and reassessment frequency are generally consistent among providers.
- Analysis of the TEIS data indicates that less than half of DHH children assessed were functioning within age expectations by age three (3) in the domain of Acquisition and Use of Knowledge and Skills, which includes early language and literacy.

1. Statewide Language Assessment Survey

METHODS

TN EHD initiated a process to develop a comprehensive survey aimed at collecting current language assessment practices across the state by utilizing the following steps:

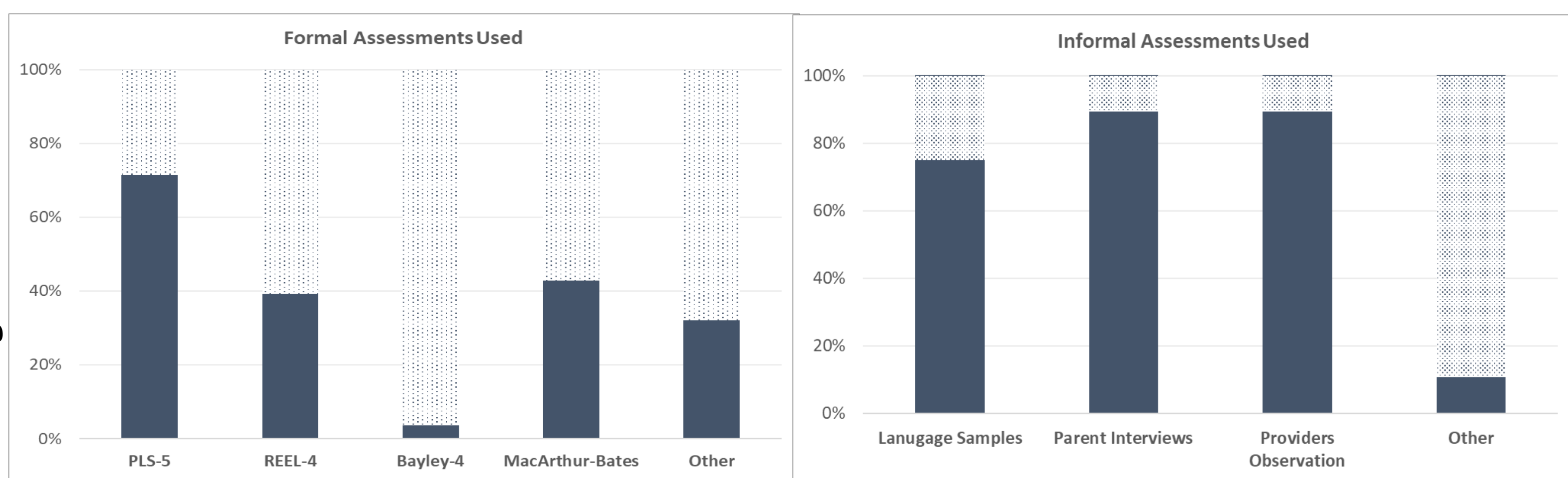
Partner Identification and Workgroup Formation: Key partners, including SLPs, audiologists, early intervention providers, and program administrators, were identified and invited to participate in a dedicated workgroup. Workgroup members represented each region of the state and included professionals with varied backgrounds in language assessment practices and communication modalities.

Workgroup Engagement: The workgroup met three (3) times to review regional trends in speech and language therapy services, share professional experience with language assessments, discuss common challenges in assessing language development specific to children who are DHH, and identify the target population for survey completion.

Survey Development: The workgroup developed a list of potential survey questions. Topics included:

- Types of language assessments used and reassessment frequency
- Scoring methods and use of assessment results
- Availability and types of recommended early intervention resources and services
- Amplification use and verification

Survey Distribution: The survey was distributed through multiple channels to maximize reach. These included professional affiliations and email lists, as well as direct outreach to partner agencies. Partners were encouraged to share the survey within their networks to broaden participation.



Figures 1 & 2. These graphs display formal and informal assessment methods. The first displays usage of formal tools (PLS-5, REEL-4, Bayley-4, MacArthur-Bates, Other), while the second highlights the most common informal approaches (Language Samples, Parent Interviews, Provider Observation, Other). Together, they provide a snapshot of preferred strategies and areas for standardization.

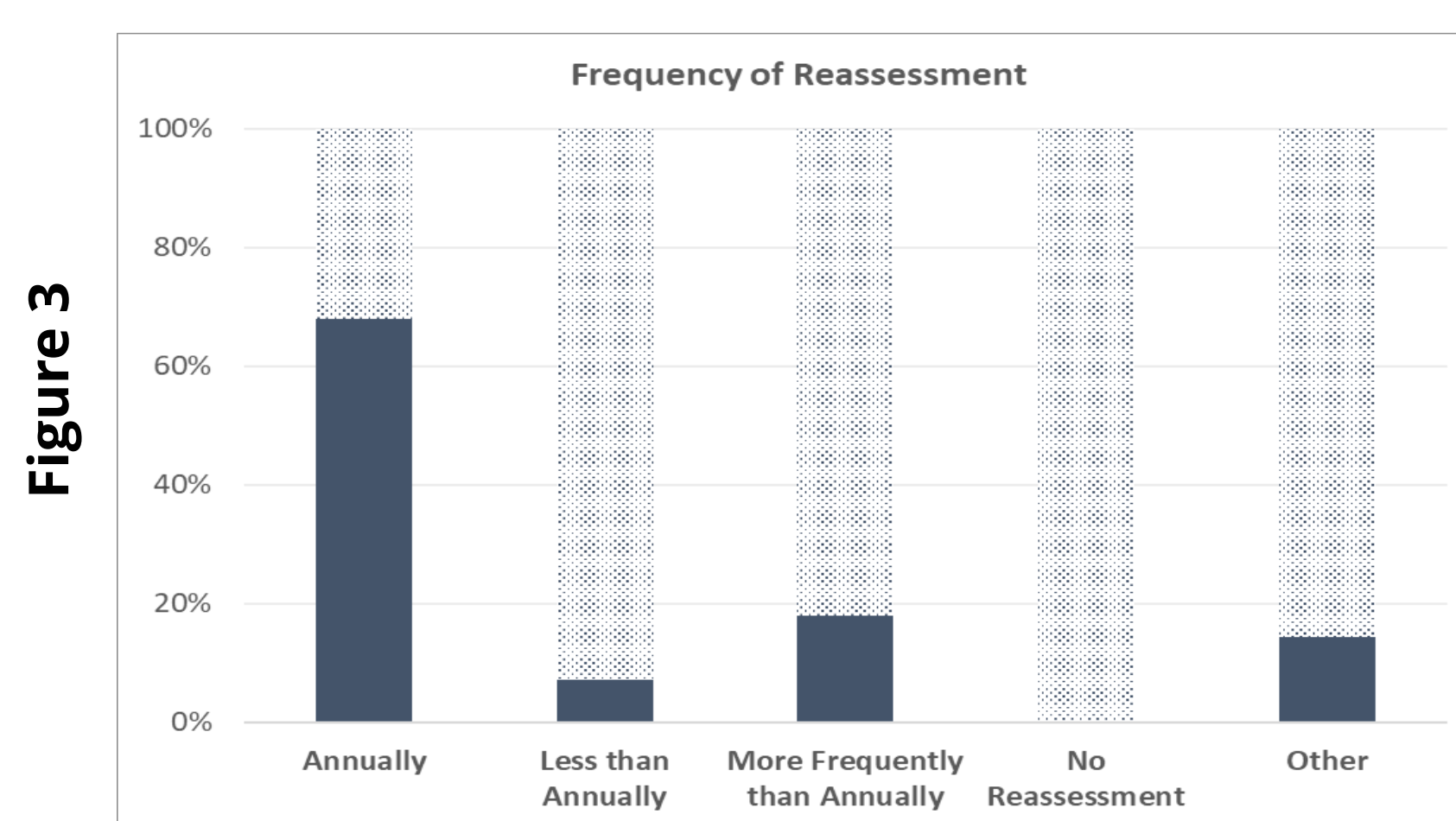


Figure 3. This distribution shows reassessment frequency (Annually, Less than Annually, More Frequently than Annually, None, Other) to support scheduling, compliance tracking, and data-driven adjustments to monitoring intervals.

2. Language Outcome Data Collection

METHODS

TN EHD collaborated with TEIS to collect language outcome data for DHH children enrolled in TEIS at age three (3).

Collaboration with TEIS: To determine appropriate methods for collecting language outcome data, TN EHD held two (2) meetings with the TEIS Part C Data Coordinator. These meetings focused on reviewing the TEIS language assessment process and clarification on how language development is measured within this specific statewide early intervention program.

Federally Required Indicators: TEIS reports early childhood outcomes in an Annual Performance Report (APR), using three (3) federally identified indicators. These indicators include the percentage of children with an Individualized Family Service Plan (IFSP) who demonstrate improvement in language development. Two key summary statements are included in the TEIS APR:

- Summary Statement 1: Made improvements, but not at peer level
- Summary Statement 2: At peer level

Language Outcome Measurement Tool: Language outcomes are measured using the Battelle Developmental Inventory, Third Edition (BDI-3). This tool assesses children across three (3) developmental domains at both entry and exit from TEIS. The timing of the exit assessment varies depending on the child's age at program completion.

Data Request Submission: In April 2025, TN EHD submitted a formal data request to TEIS for language outcome data on DHH children, born in 2021, referred by TN EHD to TEIS, and enrolled in early intervention services at age three (3). To ensure data reliability, only children who had been enrolled in TEIS for at least six (6) months were included. This criterion ensured that both entry and exit assessments were available for analysis.

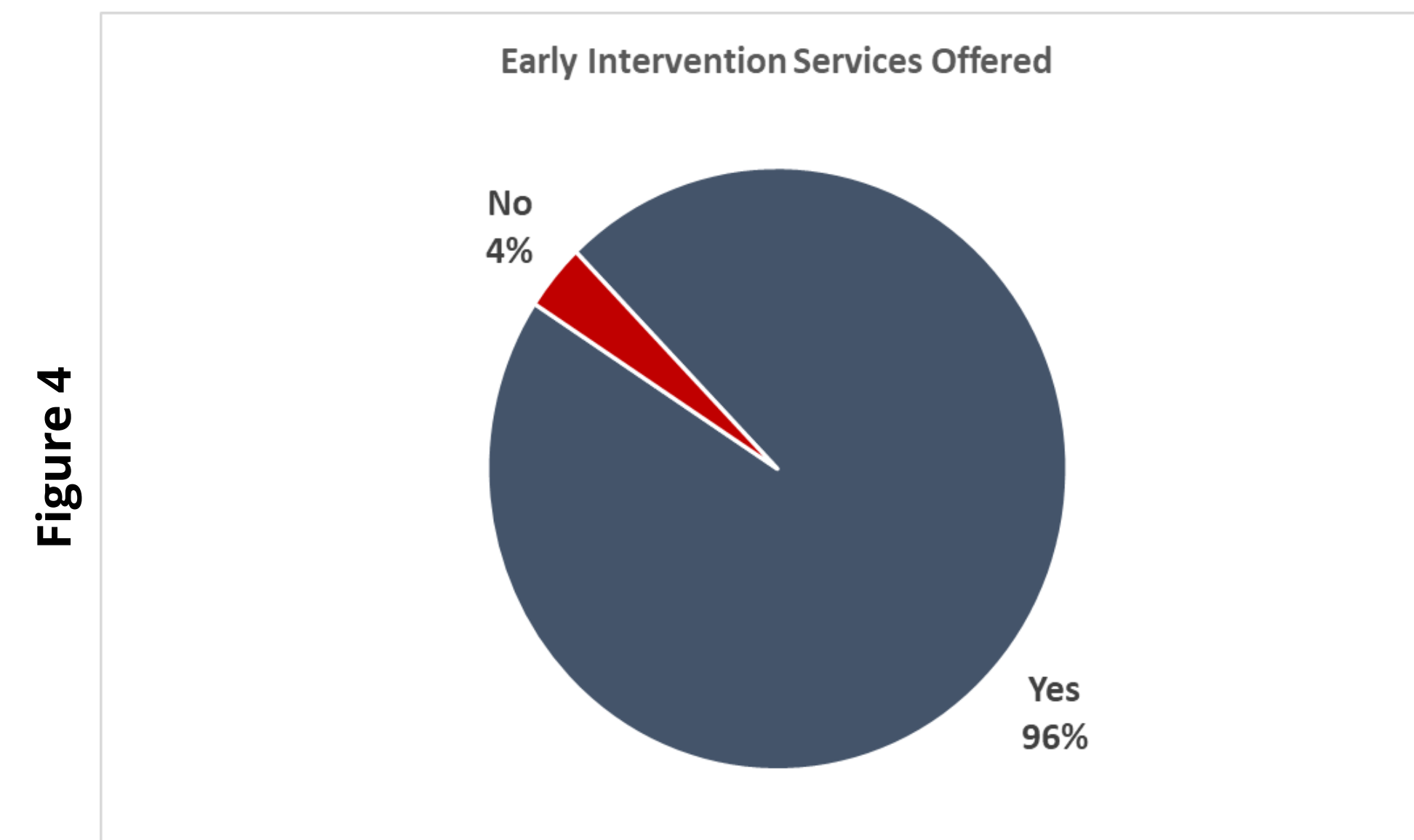


Figure 4. This pie chart represents early intervention services offered after evaluation: 96% of children were provided services, while only 4% were not. This indicates strong adherence to early intervention referral and service practices.

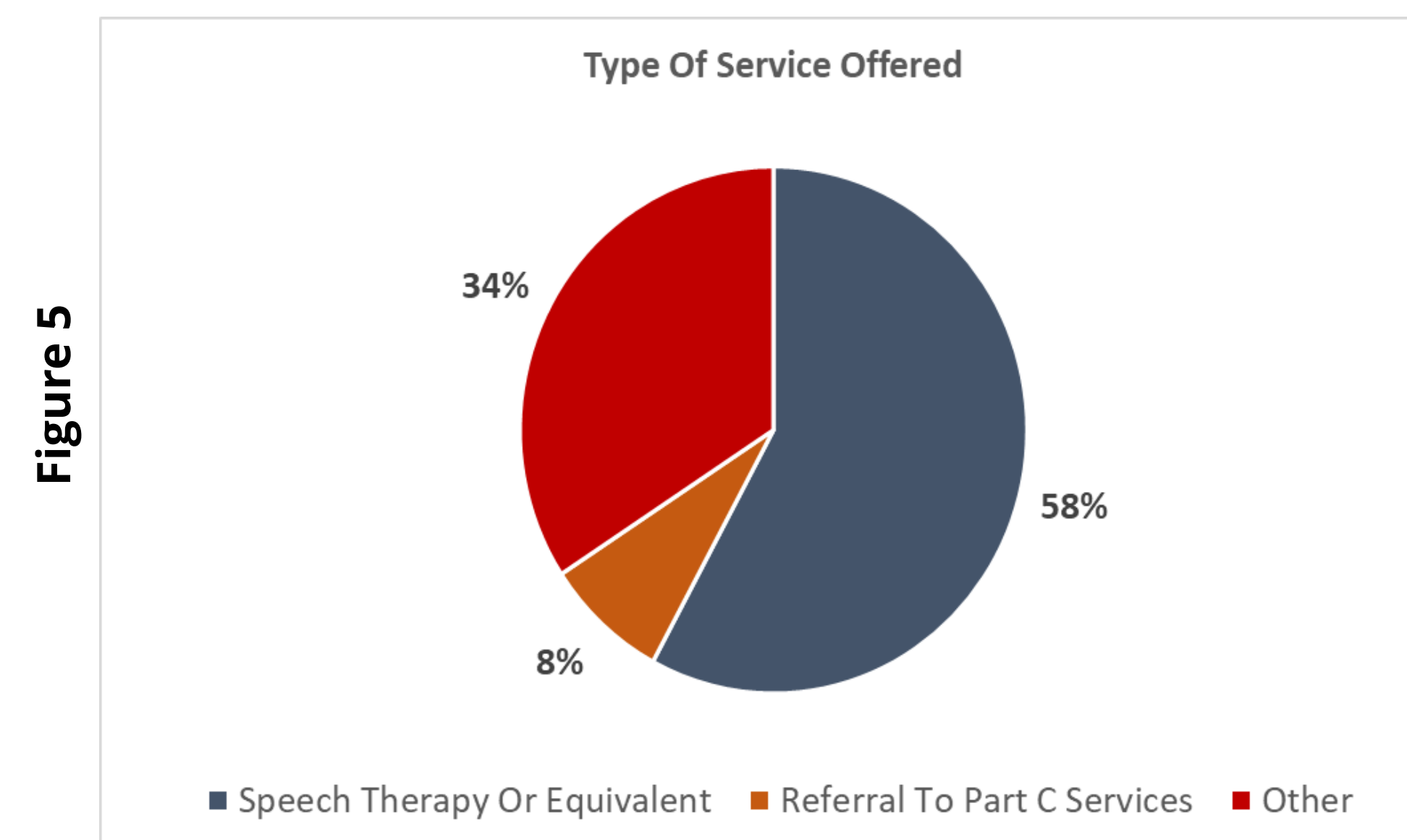


Figure 5. This pie chart represents the distribution of services recommended after evaluation: 58% of children were recommended for speech therapy or an equivalent service, 34% received other supports, and 8% were referred to Part C services.

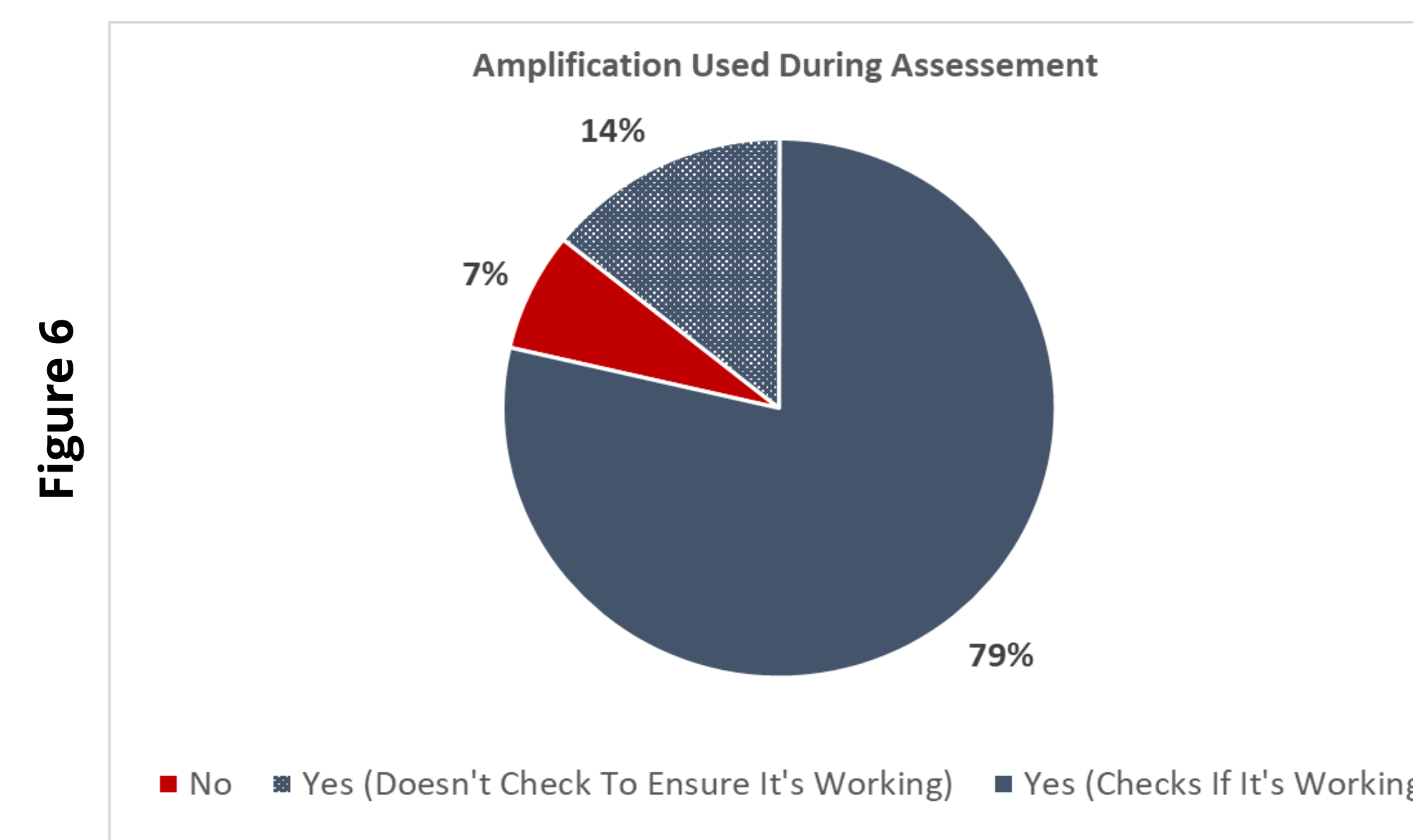


Figure 6. This pie chart shows that most assessments (79%) used amplification and verified that it worked. However, 14% used amplification without checking functionality, and 7% did not use amplification at all. In total, 21% either skipped verification or did not use amplification, which may affect assessment accuracy and accessibility.

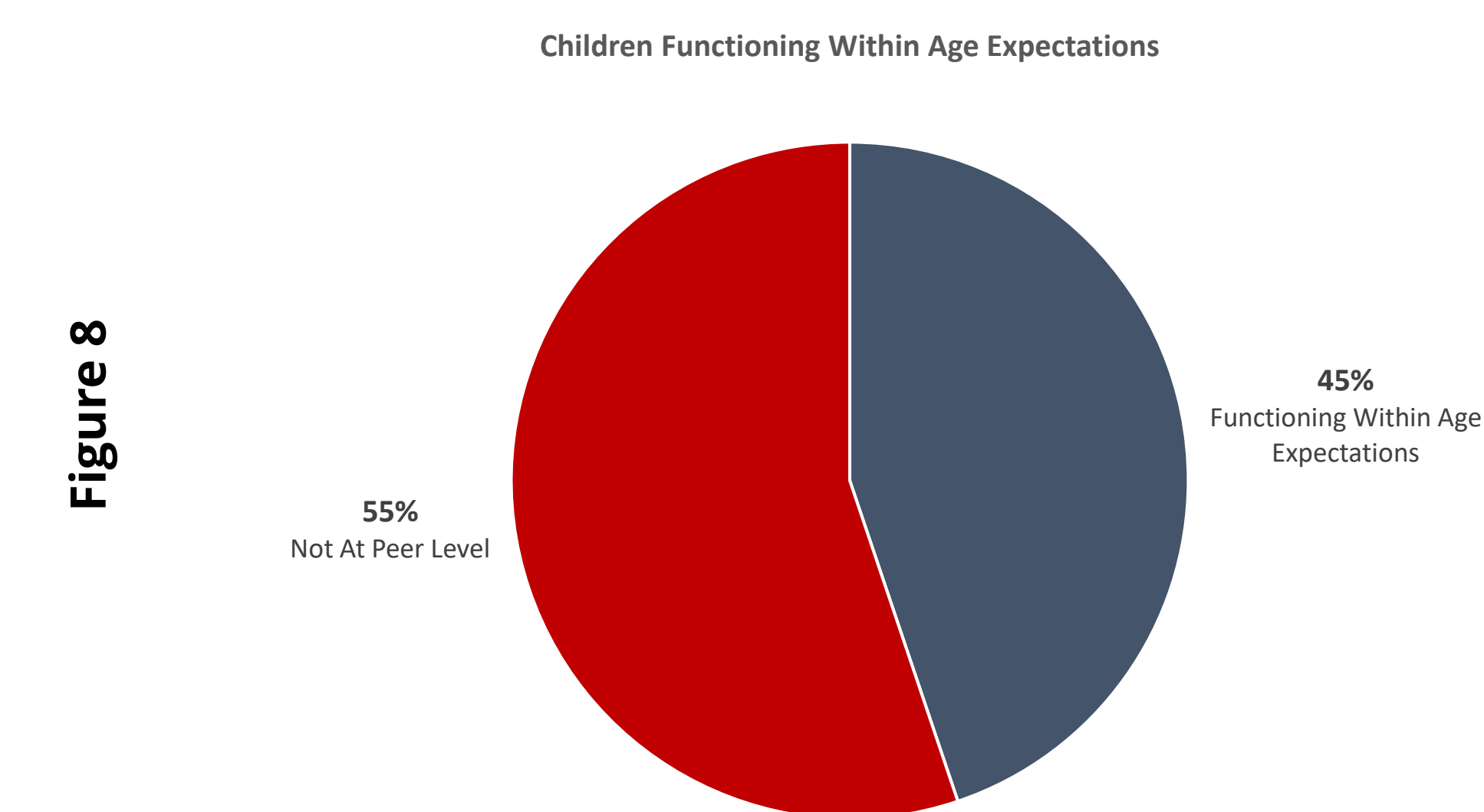


Figure 8. This pie chart displays TEIS language outcome data. The data request included 173 children who are DHH; outcome data were available for 58 children with IFSPs. Among these, 44.83% were functioning within age expectations in "Acquisition and Use of Knowledge and Skills," which includes early language and literacy, by age three (3).



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Acknowledgments

We thank the TN EHD team, the Centers for Disease Control and Prevention Early Hearing Detection and Intervention Information System (CDC EHD-IS) Principal Investigator, the CDC EHD-IS epidemiologist, TEIS, workgroup members, including representatives from the Tennessee School for the Deaf, Feltz Therapy, and the University of Tennessee Health Science Center. Special appreciation to early intervention providers and speech-language professionals across Tennessee for sharing their expertise and practices. This work was supported in part by the Health Resources and Services Administration (HRSA) EHD grant (93.251) and the CDC EHD-IS grant (93.314).