

USDB Statewide Audiological Services

We live in a sound-oriented society. Extensive amounts of information are conveyed through the medium of sound. It serves as a communication link and provides humans with the ability to develop language and acquire knowledge. Individuals who are deaf or hard of hearing are often cut off from direct and incidental communication experiences. This not only affects their ability to develop communication and language skills but also negatively affects their experiential knowledge as well as their academic development. Making sure that students who are deaf or hard of hearing have access to all the formal as well as informal interactions that occur throughout the school day is of utmost importance.

A hearing loss of any type or degree has the potential to negatively impact academic, social, or emotional development. Research indicates that students with unilateral hearing losses (hearing loss in only one ear) as well as students with mild to moderate hearing losses fail at school and repeat grades at a much higher rate than their normally hearing peers (Bess, 1986; Oyler, Oyler, & Matkin, 1988). **USDB believes strongly that all children with hearing loss deserve access to sound as a critical element of their educational program. This access is facilitated through effective audiological services, which USDB proposes to offer to all students with hearing loss throughout the state.** Incidence of hearing loss in children is approximately 1 in 300, indicating that nearly 1800 children in Utah have a hearing loss that requires audiological intervention.

These are exciting times in the field of education of students who are deaf or hard of hearing. As a result of universal newborn hearing screening (UNHS) many infants born in the United States are having their hearing tested before being discharged from the hospital and many infants with a hearing loss are being identified within the first few months of their lives. Early identification of hearing loss sets the stage for infants and families to participate in early intervention programs that are designed to encourage and facilitate the child's development in the areas of language, speech, audition, and cognition. Research suggests that children who are identified early (prior to 6 months of age) and receive appropriate intervention have significantly better receptive language, expressive language, social skills, and speech production than do children who are later identified and do not receive services during these critical early years (Moeller, 2000; Yoshinaga-Itano, Sedey, Coulter, & Mehl, 1998). USDB is capitalizing on the positive effects of early intervention, and will strengthen the impact of these early programs through intensive audiological services.

Utah has implemented universal newborn hearing screening very effectively, and hospitals are conducting and reporting the screening. The next step is up to the family, to find an audiologist for further evaluation. Many children are being "lost" during this follow up phase. USDB Audiology is also a referral source for children who have failed either the Newborn Hearing Screening or school screenings. We recognize that many children throughout Utah live in rural areas where there may be little access to audiological services. We welcome referrals to evaluate children from local educational, community audiological, or medical agencies if there is concern regarding a child's hearing. USDB is collaborating with the Utah Department of Health to create a partnership for follow up evaluation and diagnosis of hearing loss for infants and toddlers.

Without accurate audiological information, optimally fit hearing devices (e.g. hearing aids, cochlear implant processors, personal and soundfield FM systems), intervention with these children will not be as effective. As stated in the Joint Committee on Infant Hearing Position Statement (2007): "All children with hearing loss should have access to resources necessary to reach their maximum potential."

SERVICE PLAN

Currently, USDB provides audiological services to students in USDB site classrooms, and to students in rural districts where access to an audiologist is limited. Only those districts with the largest population are required to either provide their own service or to purchase services from USDB through contract.

Services include:

- formal and informal hearing assessments
- loaner hearing aid fittings
- loaner personal and soundfield and FM system fittings
- technical assistance
- consultation
- professional development

While this level of service has been the standard at USDB for several years, advances in technology and educational methods have led to a need for additional services in order for the child to access sound to the maximum extent possible. Beginning in 2009-10, USDB has expanded the service delivery plan. As this program grows over the next several years, USDB audiology services will include:

- increased role in follow of children after screening, in partnership with the Department of Health
- diagnosis of hearing loss for program eligibility
- evaluation of the sound environment of the educational setting
- programming of digital hearing aids
- prompt response to any interruption in access to sound (repair, advanced troubleshooting, programming adjustments, etc)
- orientation and training for teachers, families, and students on the care and maintenance of amplification equipment
- monitor use and effectiveness
- recommendation of personal or soundfield systems
- cochlear implant management, including mapping

COST

USDB currently employs 7.5 audiologists, who provide services in various regions of the state. To effectively provide service at no charge to all Utah districts and charter schools, we estimate an increase of 5 FTE. USDB maintains a bank of hearing aids available by loan to families who are evaluating the appropriateness of a specific device or who are struggling with affordability. USDB provides personal and classroom FM systems by loan for students to use on a trial basis. Equipment and training are essential ongoing expenses in order to provide the most effective and evidence-based audiological interventions for children.

In the expanded service plan USDB audiologists will spend approximately 7% of their time on cochlear implant management, for an annual cost of approximately \$40,000. The majority of the equipment required for cochlear implant management, including mapping, has been donated to USDB from the manufacturers. Additional equipment or upgrades of current USDB equipment in order to effectively utilize the donated equipment will require one-time cost of approximately \$10,000.

	Current Service	Expanded Service
Personnel	\$ 575,000.00	\$ 862,500.00
Equipment	\$ 35,500.00	\$ 42,600.00
Training	\$ 1,750.00	\$ 2,450.00
Total Cost	\$ 612,250.00	\$ 907,550.00
Total Students Served	935	1729.75
Cost per Student	\$ 654.81	\$ 524.67

Support of this proposal could save the Utah taxpayer over \$400,000 per year by providing a consolidated service. USDB has been designated by the Utah State Legislature as the statewide resource for education of children and youth with sensory disabilities. As part of our statewide service, USDB feels a responsibility to the children of this state with hearing loss. We are advocating on their behalf for a comprehensive audiology program, so that all students will have access to the sounds of education.

REFERENCES

- Bess F. H., & Tharpe, A.M. (1986). Case history data on unilaterally hearing- impaired children. *Ear and Hearing, 7*, 14-19.
- Joint Committee on Infant Hearing. (2007) Year 2007 Position Statement: Principles and Guidelines for Early Hearing Detection and Intervention Programs. *Pediatrics, 120*(4), 898-921.
- Oyler, R.F., Oyler, A.L., & Matkin, N.D. (1988). Unilateral hearing loss: Demographics and educational impact. *Language Speech Hearing Services in the Schools, 19*, 201-209.
- Moeller, M.P. (2000). Early intervention and language development in children who are deaf or hard of hearing. *Pediatrics, 106* (3), p.e43.
- Yoshinaga-Itano, C., Sedey, A.L., Coulter, D.K., & Mehl, A.L. (1998). The language of early-and later-identified children with hearing loss. *Pediatrics, 102*, 1161-1171.