



Early Hearing and Detection and Intervention Project

**University of Iowa Children's Hospital
Center for Disabilities and Development and Child Health Specialty Clinics**

Moderators and Functional Outcomes in Children with Mild to Severe Hearing Loss

**Lenore Holte, PhD
Director, LEND
Professor, Audiology**

Purpose of the Research

While previous studies have shown that children with mild-to-severe hearing loss are at risk for poorer language, academic, social and psychological outcomes, these studies were conducted prior to the implementation of universal newborn hearing screening and recent technological advances in amplification. Early identification of hearing loss, improved amplification technologies, and access to quality early intervention services potentially improves the performance of these children. The requisite clinical studies needed to provide optimal intervention to this subgroup of children with hearing loss have not been conducted. The proposed research will address this gap and examine outcomes in a large group of children who have benefited from these advances.

Study Procedures

The planned recruitment of a large, representative sample will support the use of multivariate procedures, including Structural Equation Modeling, to examine the ways in which child, home/community and intervention characteristics combine to affect outcomes. The overall the proposed studies will examine a range of longitudinal outcomes of this subgroup of children with hearing loss. Multi-center, multi-disciplinary evaluations will be conducted in order to gain a comprehensive understanding of the impact of mild to severe hearing loss on these children and their families. A comprehensive set of child outcomes (e.g., speech production and perception, language, academic, psychosocial, cognitive) and family outcomes (e.g., parenting, quality of life, and satisfaction with services) will be examined and compared to results from normal-hearing children with similar backgrounds. To determine the constellation of factors that support the early development of speech, language, cognitive and psychosocial skills as well as quality of life issues within the family. It is known that one

of the largest known contributors to outcomes in children with hearing loss is reduced auditory/linguistic experience. Therefore, the proposed work will also focus on variations in receipt and effectiveness of early interventions (e.g., hearing aid use, educational programs) that are intended to enhance auditory/linguistic experiences. In so doing the research will also identify barriers to service access and other factors that influence intervention compliance. Such as educational service provision for children with mild to severe hearing loss may vary in critical ways (e.g., accessibility, intensity and provider specialization) and it is likely that family (community of residence, parents income and child (temperament, communication skills, degree of hearing loss) factors may interact with intervention features to influence outcomes.