

Completed Research Projects With CDC-EHDI Funding

Examination of Service History and Developmental Status of Children With Congenital Hearing Loss in Hawai'i - State of Hawai'i Department of Health, Family Health Services Division and Center for Disability Studies, University of Hawai'i.

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Background: Approximately 1-3 infants per 1,000 infants are born with a congenital hearing loss. The Joint Committee on Infant Hearing and the U.S. Department of Health and Human Services' Healthy People 2010 Objectives recommend that all newborns be screened for hearing loss by 1 month of age, have diagnostic follow-up by 3 months for those with positive screens, and receive appropriate intervention before 6 months of age if diagnosed with hearing loss. While universal newborn hearing screening (UNHS) has resulted in early identification of congenital hearing loss, the efficacy of population-based UNHS to improve long-term child outcomes remains unknown. With considerable federal and state resources committed to Early Hearing Detection and Intervention (EHDI), evidence of the effect of newborn hearing screening on later developmental status is critically needed.

Appropriate research designs that demonstrate effective methods for data collection and analysis, and that deliver useful information on the effectiveness of early intervention for children with hearing loss, have not yet been developed or implemented. In 1990, legislation was passed in the State of Hawai'i that mandated UNHS for all infants, making it one of the first states to have such legislation. Implementation of statewide UNHS and intervention services began soon thereafter. Thus Hawai'i, with its early implementation of both early intervention services and newborn hearing screening, provided an opportunity to develop and demonstrate promising research designs, data collection, and statistical analysis procedures for future studies that would address the efficacy of EHDI programs.

Purpose: The purpose of this project was to study the effectiveness of early identification and intervention for children with hearing loss. In addition to serving as a pilot study for a more comprehensive long-term outcome project, the study obtained a description of the service history and developmental status of children with congenital hearing loss in Hawai'i in terms of their long-term communication, cognitive, and social outcomes.

Methods: Children with hearing loss were identified through the EHDI program, audiologists, and Ear, Nose and Throat practices. Consent forms, service history forms, checklists, and questionnaires were developed. Data also were collected from educational and health provider records. Data were analyzed by early/late identification and by newborn hearing screening history.

Summary of Results: Fifty-two eligible children were enrolled for the study. Hearing loss was diagnosed in approximately half of the children prior to their first birthday; the remaining children were diagnosed at a later age. This data was collected from educational and health providers records, as well as from parental interviews. Preliminary results of the study have been presented at a national EHDI conference. A final report to CDC is being prepared, and results are expected to be published in a peer-reviewed journal. (*Updated 10/2006*)