

by Jackson Roush, Anne Marie Tharpe & Karl White

As an AuD student at the University of North Carolina at Chapel Hill (UNC), Nicole Duncan's interest in working with children was always evident. But she never imagined that in her first year of professional employment she would play a lead role in developing and expanding pediatric audiology services in an underserved region.

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Duncan, a Florida native, graduated from UNC in May 2011, and is now an audiologist at the Penobscot Community Health Center in Bangor, Maine. Although the center had treated children in the past, Duncan secured the institutional support needed to implement diagnostic auditory brainstem response services, expand hearing aid verification protocols for children, and provide pediatric cochlear implant services.

"Families in Maine who once had to travel long distances for specialized audiology services can now be seen sooner and closer to home," Duncan said. "This has resulted in earlier identification and treatment as well as cost savings to families." The center serves families throughout the region, including those whose children qualify for Medicaid.

"The LEND experience—in combination with my educational preparation in audiology at UNC—gave me the confidence I needed to pursue a leadership role in program development early in my career," she said.



Elizabeth Graves works with a preschool child at the Mama Lere Hearing School in Nashville, Tennessee.

LEND—Leadership Education in Neurodevelopmental and Related Disabilities—is a program that provides graduate-level education concurrent with clinical training in a variety of disciplines, funded by the federal Maternal and Child Health Bureau. For audiology students, it's an educational experience designed to prepare them for clinical practice and leadership roles in pediatric audiology. Most LEND programs operate within a university system as part of a university Center for Excellence in Developmental Disabilities, working in collaboration with university medical centers and programs for people with developmental disabilities.

A native of Prattsburgh, in western New York State, Elizabeth "Liz" Graves came to Vanderbilt University after working for a brief time in the speech and language department of a rural school district. Fascinated by the obvious advantages provided to children who are deaf through advances in cochlear implant technology, Graves was anxious to learn more about how she could combine her love of education and audiology to improve infant and child outcomes. She eagerly embraced the interdisciplinary approach to the provision of family services emphasized in LEND training.

"I wanted the opportunity to work with students who were deaf and hard of hearing in rural areas, where services can be sparse. My background as a deaf educator and now as an audiologist allows me to combine both roles effectively—especially in rural areas where knowledge of cochlear implants is still in its infancy," she said. Graves works as a pediatric audiologist for the Mama Lere Hearing School at Vanderbilt, and travels to several school districts as part of an outreach program to provide audiologic services for children in rural middle Tennessee.

Elizabeth Preston, who graduated from Texas Tech University Health Sciences Center in 2005, began working as a pediatric audiologist at Utah State University's Sound Beginnings program in February 2010. Although she had already completed her AuD, she enrolled as a trainee in the LEND program to learn more about providing interdisciplinary services to children who are deaf or hard of hearing.

Because about 40% of all children who are deaf or hard of hearing have additional disabilities, the experience was invaluable in helping Preston acquire the additional skills needed to excel as a pediatric audiologist. "The LEND program expanded my vision of how to best help infants who are deaf or hard of hearing and their families," Preston said. "It helped me become a more well-rounded clinician and made me more sensitive to the needs and capabilities of families. I particularly enjoyed being able to attend the EHDI [early hearing detection and intervention] annual meeting in St. Louis, where I attended presentations by people in many other disciplines and learned from their experiences and perspectives."

LEND programs originated in the 1950s through the Children's Bureau—now the Maternal and Child Health Bureau (MCHB)—with the goal of promoting the needs of children with disabilities within **Title V programs**. LEND's mission is to improve the health of infants, children, and adolescents with disabilities through graduate education across a diverse range of professional disciplines, and to provide the training needed to prepare students for leadership roles in their respective disciplines.

Because of their placement within university systems, LEND programs draw on faculty expertise from a broad range of interdisciplinary resources. There are 43 LENDs in 37 states, and together they form a national network of shared information and resources. Through coordination provided by the Association for University Centers of Disabilities (AUCD), LEND programs work collaboratively to address issues of importance to children with special health care needs and their families, and to facilitate sharing of ideas and products (Roush, 2010).

In 2008, the **Health Resources and Services Administration**, with leadership from Irene Forsman, director of the Newborn Hearing Screening Program in its Division of Services for Children With Special Needs, partnered with AUCD to expand the number of pediatric audiology trainees funded through the LEND network. "There is a well-documented shortage of highly qualified pediatric audiologists," Forman said. "Partnering with LEND programs to address this need has resulted in a rewarding and productive collaboration." LEND programs across the country submitted applications; nine programs were funded in 2009, with two more added in 2011.

In 2009 the authors, along with their faculty colleagues and with support from the MCHB, embarked on an effort to expand the participation of LEND-supported audiology students and faculty at the **EHDI annual meeting**, held through a partnership of MCHB, the American Academy of Pediatrics, the Centers for Disease Control and Prevention, and the National Center for Hearing Assessment and Management (NCHAM). In 2009, the meeting was attended by approximately 30 students, who gave the experience highly favorable reviews. Student attendance nearly doubled to 55 in 2010, and in 2012 a record-high 117 students attended.

The EHDI annual meeting provides an important educational experience for students interested in pediatric audiology because it brings them together with a variety of EHDI organizations, agencies, and professional disciplines. The meeting also provides valuable networking opportunities for future colleagues. Meaghan McHugh, AUCD project manager, said, "AUCD has been pleased to play a role in facilitating the participation of students and faculty at the EHDI meeting, and we look forward to continuing the collaboration."

Indeed, student participation has grown to the point where it is now part of the general planning for the annual meeting; students from many professional disciplines are encouraged to participate. According to NCHAM Director Karl White, "All participants at the EHDI annual meeting have benefitted from the energy and new ideas students bring to the meeting. We hope all students who are interested in helping infants and young children with hearing loss will consider attending the 2013 EHDI annual meeting in Phoenix."

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Reference

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