

Personnel Preparation for EHDI Service Providers

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Personnel Prep in EHDI: What are the needs?

- Evidence of Need
 - NCHAM surveys
 - EHDI program managers
 - HRSA and CDC
 - Anecdotal reports (parents, related service providers, pediatricians)

Important Considerations

- Pre-service vs In-service
- Quantity / Quality
- Need vs Employment Opportunities

Why is there a shortage?

- Lack of:
 - Qualified providers
 - Instrumentation / Facilities
 - Institutional support

Summit on Deafness

AG Bell Association 2004

- Panel on Personnel Preparation:
(Bess, Gravel, Harrison, Lenihan, Marvelli, Roush)
 - ✓ Faced with increasing number of infants & young children and their families needing special services
 - ✓ Concern about lack of corresponding increase in number of qualified service providers

Summit on Deafness AG Bell Association 2004

- Examined professional preparation across disciplines of:
 - ✓ Pediatric audiology
 - ✓ Early Intervention and Early Childhood Deaf Education
 - ✓ Speech-Language Pathology
 - ✓ School-age education of deaf and hard-of-hearing children

Summit on Deafness AG Bell Association 2004

These disciplines face challenges and opportunities related to:

- ✓ Newborn hearing screening & early identification
- ✓ Newer & better technologies for amplification and cochlear implantation
- ✓ Growth in the number of families who are culturally and linguistically diverse
- ✓ Increasing number of children with disabilities in addition to hearing loss

Summit on Deafness

AG Bell Association 2004

Panel conclusions (re: pediatric audiology)

- Critical need exists in U.S. (and elsewhere) for audiologists with specialized training & experience in delivery of comprehensive pediatric audiology services
- Also requires pediatric audiologists also competent in and able to advocate for:
 - ✓ Family support services
 - ✓ Educational options
 - ✓ Public health policy
 - ✓ EHDI programs that work at a systems-level

AG Bell Summit Panel Recommendations for Personnel Preparation in Pediatric Audiology

- Development of AuD programs that offer specific training in infant audiology
- Fourth year AuD practicum in “centers of expertise” in pediatric audiology
- Pediatric-specific audiology courses in the curricula of AuD programs
- Greater emphasis on pediatric audiology and educational audiology in graduate training programs

AG Bell Summit Panel

Recommendations for Personnel Preparation in Pediatric Audiology

- Expansion of opportunities for innovative continuing education programs for practicing audiologists wanting to acquire new skills related to infant hearing loss management & interdisciplinary collaboration
- Increased fiscal support for clinical training programs in personnel preparation related to infant audiology

AUCD/LEND Audiology Discipline Meeting, June 14-15, 2005

- Infuse more EHDI related activities into the LEND audiology experience
- Encourage greater interaction and communication among LEND audiology programs
- Explore role of LEND audiology programs for audiologic assessment or as follow-up screening sites
- Expand the role of LEND audiology programs for EHDI technical assistance

JCIH 2007



“There is a critical need for in-service and pre-service training of professionals related to EHDI programs, which is particularly acute for audiologists and early interventionists with expertise in hearing loss.”

Calls upon academic training programs to:

“assume responsibility for special track, interdisciplinary, professional education programs for early intervention for infants and children with hearing loss

Personnel Preparation for Pediatric Audiology: **Pre-Service Models**

- **MCHB/LEND**
 - Children's Hospital Philadelphia (CHOP)
 - LEND Audiology Model and MCHB Communication Disorders Grant – Vanderbilt
 - LEND Audiology Model - UNC
- **US DOE/OSEP**
 - OSEP Personnel Prep Grant in Pediatric Audiology - UNC
 - OSEP Personnel Prep Grant in Pediatric Audiology - Vanderbilt

Personnel Preparation for Pediatric Audiology: **In-Service Models**

- PPCI: Children's Hospital Philadelphia
- *First Years*: UNC
- An innovative model for personnel preparation in the future: Vanderbilt simulation project

LEND Programs

Leadership Education in Neurodevelopmental Disabilities

**Funded from the Block Grant portion of
Title V of the Social Security Act &
Administered by the Health Resources
and Service's Administration's (HRSA)
Maternal and Child Health Bureau (MCHB)**

LEND

- **L**eadership **E**ducation in **N**eurodevelopmental and **R**elated **D**isabilities (LEND) programs provide long-term, graduate level interdisciplinary training, as well as interdisciplinary services and care
- Purpose of LEND programs: improve the health of infants, children, and adolescents with disabilities
- Prepare trainees from diverse professional disciplines to assume leadership roles in their respective fields and insure high levels of interdisciplinary clinical competence

LEND

- LEND programs operate within a university system, usually as part of a University Center for Excellence (UCEDD) or other larger entity
- Collaborate with local university hospitals and/or health care centers.
- Provide expert faculty, facilities, and other resources necessary to provide exceptional interdisciplinary training and services.

LEND

- Currently, 34 LENDs in 27 states and the District of Columbia.
- Collectively, form a national network that shares information and resources and maximizes impact.
- Work together to address national issues of importance to children with special health care needs and their families, exchange best practices and develop shared products.
- Come together regionally to address specific issues and concerns.

LEND

- Each LEND unique with individual focus & expertise
- All provide interdisciplinary training, have faculty and trainees in a wide range of disciplines, and include parents or family members as paid program participants

Descriptions of LEND Audiology Programs at:

- The Children's Hospital of Philadelphia
 - ✓ Judy Gravel
- Vanderbilt University – The Bill Wilkerson Center
 - ✓ Anne Marie Tharpe
- The University of North Carolina - Chapel Hill
 - ✓ Jack Roush

Opportunities for Training in Pediatric Audiology at the CHOP-CCC

- 26 pediatric audiologists; 1 audiology assistant
- Provide full range of pediatric audiology services
- 20,000 patient visits annually
- Family-centered, interdisciplinary program for young children (0-5) with hearing loss and their families and children's cochlear implant program
- Mission Statement includes commitment to provide "*quality education in childhood communication and its disorders*"

The Children's Hospital *of* Philadelphia: Center for Childhood Communication (CHOP-CCC)

- One LEND Fellow in Audiology
- Amount of LEND funding dependant on whether Fellow is Post-Doctoral or Pre-Doctoral level
- Previously, Audiology LEND Fellow was supported during the CFY (pre-doctoral level funding)
- Currently, Audiology LEND Fellow is 4th-year AuD student (pre-doctoral level funding)

The Children's Hospital *of* Philadelphia: Center for Childhood Communication (CHOP-CCC)

- **LEND Activities**

- ✓ One day/week devoted to LEND lecture attendance: Monday and Tuesday mornings
- ✓ Community Project
- ✓ Research Project
 - LEND Research Day
 - Presentation or Poster

The Children's Hospital *of* Philadelphia: Center for Childhood Communication (CHOP-CCC)

- **LEND Activities**

- ✓ CORE Audiology LEND faculty provide lectures in:
 - Pediatric Audiology
 - Cochlear Implants
 - Family Wellness – Children with Hearing Loss
- ✓ Course Director for Audiology
- ✓ Audiology Supervisor provides Research Project support and feedback to Course Director

The Children's Hospital *of* Philadelphia: Center for Childhood Communication (CHOP-CCC)

- **Selection of LEND Audiology Fellow**
 - ✓ ~10 applicants annually for 4th Year training
 - ✓ LEND Fellowship in Audiology noted in position announcement
 - ✓ Pick top candidate
 - ✓ Training year: July 1 – June 30

Dilemma for LEND Audiology Fellowship at CHOP-CCC

- LEND funds insufficient for living within Philadelphia area for one-year
- Additional funds made available from Audiology Department Operating Budget to support 4th Year AuD Student (still termed “not enough” by training programs)
- PA does not grant provisional licensure (SLP Fellow is CFY, therefore licensed practitioner as was Audiology Fellow before the AuD)
- Services of the 4th Year student cannot be billed
- Impact of lost revenue (including audiology supervisor’s time) results in an ~\$250,000 loss in revenue (billable service units).

Dilemma for LEND Audiology Fellowship

- Decision over our desire to contribute to education of 4th year AuD students *versus*
- Employing AuD graduate as LEND Fellow which over the course of the 1st year of employment would generate ~\$141,000 in billable revenue
- LEND experience for either situation would remain constant

LEND/MCHB Vanderbilt

Mid-Tennessee Interdisciplinary Instruction in
Neurodevelopmental Disabilities (MIND/LEND)
Vanderbilt University

Audiology
Speech - Language Pathology
Social Work
Psychology
Occupational Therapy
Physical Therapy
Pediatrics
Health Administration
Special Education
Nutrition
Dentistry
Nursing

LEND: Vanderbilt University

4 Training Models

- Short-term trainees
- Intermediate trainees
- Long-term trainees (non-specific)
- Long-term trainees (EHDI-specific)

LEND Activities: Vanderbilt University

Short term trainees

- No required number of hours
- Maternal & Child Health Videoconferences
- MCH section of TN Dept of Health + MIND
 - **Who?** Multidisciplinary professionals responsible for maternal and child health and related services
 - **When?** Monthly

LEND Activities: Vanderbilt University *Intermediate Trainees*

- 150-300 hrs of training
- Weekly core seminars offered across 3 universities
 - 1 “live” site
 - 4 video teleconference sites
- Monthly Journal Club

LEND Activities: Vanderbilt University *Long-Term Trainees (non-specific)*

- 300+ hrs of leadership training
- Individual training plan
- Weekly core seminars
- Monthly Leadership Meetings
- Family Mentoring Experience
- Community advocacy activities

LEND Activities: Vanderbilt University *Long-Term Trainees (EHDI-specific)*

- All requirements of long-term trainees plus
 - 20% NBHS
 - 20% pediatric cochlear implant work
 - 20% pediatric diagnostics
 - 20% pediatric amplification
 - 10% educational audiology

U.S. Dept of Health & Human Services - MCHB
Vanderbilt University Communication Disorders
in Children

- One of several long-term training programs (along with LEND)
- Encourages a training focus on early detection and management of hearing impairment in infants and young children
- Trainees must be at least master's level

Communication Disorders in Children

- MCHB supports leadership preparation of an array of interdisciplinary hearing health care specialists including, but not restricted to, audiologists and speech/language pathologists for roles in education, service, research, administration and advocacy

LEND Audiology
UNC – Chapel Hill

UNC Center for Development and Learning (NC-LEND)

Audiology
Speech - Language Pathology
Social Work
Psychology
Occupational Therapy
Physical Therapy
Pediatrics
Special Education
Nutrition
Dentistry
Nursing

UNC LEND Trainees: Audiology

- Two-Year Placement (AuD students in second and third years)
 - Year 1: Clinical Assessments and Interdisciplinary Communication
 - Year 2: Core Course and Leadership Development

LEND Audiology at UNC

Year 1: Clinical Experiences

- Two Teams
 - Neurodevelopmental Function in Rare Disorders (e.g. MPS / Hunter & Hurler Syndrome)
 - Infant-Toddler Assessment Team
- Comprehensive pediatric assessment
 - Physiologic assessments
 - Behavioral assessments
- Interdisciplinary Staffings
 - Report audiologic findings
 - Participate in team review and parent interpretive

LEND Audiology at UNC

Year 2: Core Course & Leadership

- Core Course
- Interdisciplinary Grand Rounds
- Multicultural intensive
- Leadership education

UNC Maternal and Child Health Consortium

- Five MCHB/HRSA-funded training programs—Maternal and Child Health , Nutrition, Pediatric Dentistry, Social Work and Leadership in Neurodevelopmental and Related Disabilities (LEND) at the CDL.

MCH Consortium Activities Include:

- Sponsorship of a year long intensive MCH leadership training program for interdisciplinary fellows
- Monthly meetings of faculty to discuss MCH leadership teaching and research issues of mutual interest
- Opportunities for ongoing trainee, faculty, Title V interaction in joint initiatives
- Serve as a catalyst and coordinating body for increasing family participation and cultural competence within our UNC MCH training programs and our intensive leadership model
- Foster a shared understanding of maternal and child health, anchored in a public health, population-based perspective

LEND Leadership Competencies

- Discipline Specific Knowledge and Skills
- Interdisciplinary Knowledge and Skills
- Analysis of Economic/Political/Social Leadership Needs
- Situational Leadership
- Communication/Teaching
- Critical Thinking
- Internal Process/Self Reflection
- Ethics – Professionalism

LEND Leadership Competencies

- Cultural Competencies and Family Centered Care
- Evidence Based Practice
- Constituency Building
- Policy and Advocacy
- Management/Program Coordination
- Mentoring
- Research and Evaluation
- Advanced Knowledge of Neurodevelopmental Disabilities

-
- US Department of Education:
(Office of Special Education Programs)
 - Pre-Service Personnel Preparation
Grants

OSERS

Office of Special Education and Rehabilitative Services

OSEP Personnel Preparation Focus Areas FY 2008

- Infants, Toddlers, and Pre-school Age Children with Disabilities;
- School Age Children with Low Incidence Disabilities;
- Related Services, Speech/Language Services, and Adapted Physical Education to Infants, Toddlers, and Children with Disabilities; and
- Minority Institutions to Serve Infants, Toddlers, and Children with Disabilities.

Preparation of Pediatric Audiologists to Serve Infants, Toddlers, and School-Age Children with Hearing Loss

- OSEP 2005-2009
- Funding for 24 AuD students who desire specialization in pediatric audiology
- Students commit early on to specialize in pediatrics
- Two-years of funding = four years of service within seven years



- Partners

- UNC Hospitals
- UNC Carolina Children's Communicative Disorders Program
- UNC Center for Development & Learning



UNC Pediatric Audiology Training Grant

Focus on specialized areas within pediatric audiology:

- Diagnostic ABR
 - Natural, Sedated, O.R.
- Infant hearing aid fitting
 - RECD/DSL
- Behavioral Assessment
 - VRA
 - VROCA
 - Behavioral play

UNC Pediatric Audiology Training Grant

Focus on specialized areas
within pediatric audiology

- Variety of pediatric populations
- Participation in cochlear implant team / staffings

Knowledge and skill areas emphasized

- Newborn hearing screening (NICU and well-baby)
- Diagnostic Assessment
- Pediatric amplification
- Pediatric CI
- Educational Audiology Rotations
 - IFSP
 - IEP

Challenges

- The grants must compete with many other disciplines (reviewed with SLP and other “related service” personnel)
- Students need to commit early to a focus in pediatrics
- If they change their mind students must repay the support but funds are not returned to the grant
- Must make a seven year commitment
- Less diverse cohort overall (fewer students with adult interest)

Vanderbilt
DOE/OSEP

U.S. Department of Education –
Office of Special Education
Programs (OSEP)

- Preparation of Audiologists to Serve Infants and Toddlers with Hearing Loss
- Multidisciplinary Personnel Training for Work with Deaf Children with Cochlear Implants in Rural Settings (AuD, SLP, Deaf Ed)
- PhD Leadership Grant – Deaf Education (proposed)

Vanderbilt Specialty Tracks

- Speech-language pathology
- Audiology
- Deaf education

Core Courses:

- Teaching Children with Hearing Loss to Listen & Speak*
- Cochlear Implants for Infants and Children*
- Children with Hearing Loss & Multiple Disabilities
- Introduction to Amplification
- Language & Literacy for Children with HL
- Aural Habilitation for Infants & Children with HL*

*All 3 disciplines

| | Course 1 | Course 2 | Course 3 | Course 4 | Course 5 | Course 6 | Course 7 | |
|------------------------------|---|---|-----------------------------------|---|------------------------------------|---------------------------------------|--|--|
| YEAR ONE | | | | | | | | |
| Fall 1 (14 hrs) | Neurology SLP 3 hrs | Clinical Principles & Procedures, 2 hrs | Child Language Disorders, 3 hrs | Articulation Disorders & Phonetics, 3 hrs | Research Methods, 1 hr | Clinical Case Conf/Grand Rounds, 1 hr | Teaching Infants & Children with HL to Listen & Speak, 1 hr | |
| Spring 1 (16 hrs) | Aural Rehabilitation for Children, 3 hrs | Aphasia, 3 hrs | Stuttering, 3 hrs | Cochlear Implants in Infants & Children, 3 hrs | Motor Speech Disorders, 2 hrs | Clinical Case Conf/Grand Rounds, 1 hr | Teaching Infants & Children with HL to Listen & Speak, 1 hr | |
| Summer 1 (12 hrs) | Lang and Lit in Deaf Children, 3 hrs | Traumatic Brain Injury, 3 hrs | Voice Disorders, 3 hrs | Craniofacial Anomalies, 1 hr | | Clinical Case Conf/Grand Rounds, 1 hr | Teaching Infants & Children with HL to Listen & Speak, 1 hr | |
| YEAR TWO | | | | | | | | |
| Fall 2 (11 hrs) | Intro to Amp for Infants & Children, 2 hrs | Sem: Aug Com, 2 hrs | Dysphagia, 3 hrs | Acoustics & Perception, 3 hrs | | Clinical Case Conf/Grand Rounds, 1 hr | | |
| Spring 2 (13 hrs) | Family-Centered Counseling & Interview, 1 hr | Professional Issues, 1 hr | Feeding & Swallowing Dis., 2 hrs. | | 3-week EI Externship, 2 hrs | Clinical Case Conf/Grand Rounds, 1 hr | 7-week Externship 6 hrs | |

Maymester

3-week intensive,
mentored work
experience in setting
with deaf/HOH
infants and children

**Personnel Preparation:
In-Service / Continuing Education**

PPCI

Professional Preparation in Cochlear Implants

Mary Ellen Nevins, Ed.D.

PPCI National Director,

Independent Contractor to

The Children's Hospital of Philadelphia

PPCI

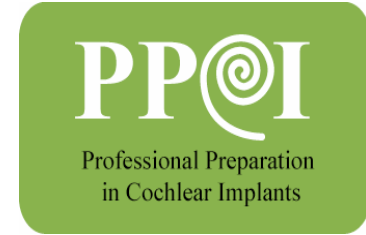
Professional Preparation
in Cochlear Implants

Professional Preparation in Cochlear Implants (PPCI)



- Intensive program for professionals providing early intervention for children (0-5) with cochlear implants (CI)
- Professional participants:
 - ✓ Teachers of deaf children
 - ✓ Speech-Language Pathologists,
 - ✓ Educational Audiologists
 - ✓ Early Interventionists and Administrators
- Professionals earn:
 - ✓ Graduate credits from Smith College
 - ✓ ASHA CEUs (when eligible)

PPCI Program: Four Components



1. Prerequisite Learning through an independent study curriculum
2. Intensive On-Site Learning
3. Individual program of Mentoring
4. Capstone Experience



1. Prerequisite Learning

- ✓ Completion of a series of eight comprehensive, self study modules between the time of acceptance into the program and arrival at the onsite location for direct learning

2. Onsite Learning

13 days of intensive activities to foster learning in:

- ✓ **process of implantation and CI technology**
- ✓ **speech-language and auditory development**
- ✓ **play, social and cognitive development**
- ✓ **parent interaction, involvement and expectations**
- ✓ **auditory and oral habilitation,**
- ✓ **IFSP/IEP development**
- ✓ **professional advocacy and program development**
- ✓ **establishing collaborative relationships**
- ✓ **becoming a change agent**



3. Mentoring

Guided mentoring upon return to the workplace

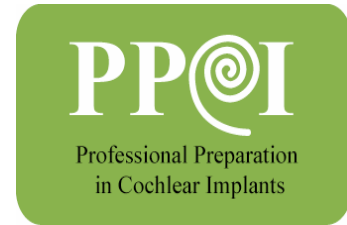
- ✓ 6 hours of mentoring to assist participant in completing follow-up project
 - ✓ discipline-specific mentor
 - ✓ unique projects intended to guide the participant in achieving professional growth and development

4. Capstone Experience

Attendance at 3-day weekend meeting to provide an opportunity for extending networking through:

- ✓ reporting on individual mentoring projects
- ✓ sharing results of the personal and professional strategic plans for change
- ✓ facilitated by nationally-regarded expert in pediatric CI and faculty from all three PPCI partner sites (PA, CA, GA)

At Conclusion of PPCI, participants will...



- Identify local, state, regional and national resources available to professionals working with children with CI
- Demonstrate knowledge of CI and current technology
- Work effectively in a collaborative team of professionals providing habilitation services to children with CI
- Apply discipline-specific auditory and oral habilitation strategies
- Implement a personal and professional strategic plan for change

Partners & Onsite Locations

- **Philadelphia/Bryn Mawr, Pennsylvania**
 - **Center for Childhood Communication at The Children's Hospital of Philadelphia**
 - **Clarke Auditory/Oral Center**
- **E. Palo Alto/ Redwood City, California**
 - **Let Them Hear Foundation**
 - **Jean Weingarten Peninsula Oral School**
- **Atlanta, Georgia**
 - **Atlanta Speech School**
 - **Children's Healthcare of Atlanta**

* N.B. Academic program costs generously covered by private support

PPCI Calendar

- Summer, 2008
 - ✓ PA & GA: July 6-July 19
 - ✓ CA: July 13-July 26
- Fall, 2008
 - ✓ PA & GA: October 16-25
- Winter, 2009
 - ✓ January 28-February 10

www.chop.edu/ppci

Professional Development through Distance Education



Laurie Cochenour, M.Ed.
FIRST YEARS Project Director
University of North Carolina
at Chapel Hill

Overview

- Asynchronous continuing education program for working professionals
- Content based on a survey of needs expressed by programs that employ EHDI service providers
- Now in fourth cohort

Purpose



- Accessible and affordable
- Academically sound course content
 - Developed by expert content providers
 - Web-based instruction + web-based discussion
- Focus on Auditory Learning and Spoken Language in children birth – eight years
- Immediately applicable



Participants

(most have master's degrees)

- Deaf educators
- Early interventionists
- Speech language pathologists
- Special educators
- Audiologists



Certificate Courses

- Survey of Topics in Speech and Hearing (3 credits)
- Audiology Interpretation and Hearing Technologies (4 (4 credits, Tharpe and Teagle)
- Basic Speech Acoustics (2 credits; Cole)
- Normal Aspects of Speech, Language and Auditory Development (3 credits, Rossi)
- Emerging Literacy (3 credits, Robertson)
- Mentorship Experience

Total credit hours = 15



Mentorship Experience

- Participants provide 3 videotapes of intervention sessions: the first, submitted following admission; the second, submitted after the first week of mentored experience; and the third during the last course.
 - obtaining a baseline record of intervention skills;
 - evaluating changes in intervention over time;
 - providing written feedback and suggestions; and
 - ensuring that skills reflect *FIRST YEARS* minimal competencies upon completion of the certificate.



Mentorship Experience

- Occurs in 2nd semester
- 10-day onsite requirement
 - 5 consecutive days onsite for the first week
 - Remaining 5 day requirement (not necessarily consecutive days)
 - At mentorship site
 - Mentor visit to student's site

Admissions Reqs and Tuition



- Baccalaureate degree in one of the following fields -- deaf education, audiology, speech-language pathology, early childhood special education or special education,
- License in the state of residence
- Minimum of two years of experience working with children with hearing loss birth - 8 years
- \$215/credit hour plus university fees (subject to change by the university)

Impact

- First *Years* graduates have found their learning experience to be directly applicable.
- Many have been change agents in their local communities

Future Directions

- Make individuals learning modules available for continuing education of practicing professionals
- Make individuals learning modules available for pre-service applications within existing curricula

FIRST YEARS Web Site

www.firstyears.org



Personnel Preparation in the Future: An Innovative Model

Center for Experiential Learning & Assessment
Vanderbilt University Medical Center

Simulation Technologies Program

Simulation Technologies Program

Program in Human Simulation

What is a standardized patient?

- An individual trained to portray a scripted patient, family member, health care team member, etc.
- They are employed for purposes of training and/or assessing health care or related professionals in interviewing, physical exam, communication, and interpersonal skills.

What is a standardized patient?

- Trained to record objectively and subjectively
- Provide feedback from patient's perspective

Why Human Simulation?

- Permits deliberate and repeated practice of a wide range of clinically-related scenarios by trainees
- Simulated scenarios are completely replicable and highly standardized so easy to review and evaluate performance

Why Human Simulation?

- Trainees can be exposed to rare or infrequently seen patients
- Trainees can become involved in scenarios often not allowable until “real world” exposure

Vanderbilt Facility

- 12 clinical exam rooms
- Equipped with digital audio and video capabilities
- Faculty can monitor from adjacent observation room or remotely

Learning further facilitated by:

- Review of videotaped simulation experiences
- Scheduled practices
- Team training

Specific Uses in EHDI Training:

- Audiological testing
- Family counseling
- IFSP and/or IEP meeting scenarios

Conclusions and Recommendations

- There are critical pre-service and in-service EHDI needs
- Public and private funding / partnerships are supporting personnel preparation
- Inter-institutional cooperation and collaboration are needed
- LEND programs can play an important role in EHDI-related personnel preparation