



**Preparing Interpreters for Tomorrow:
Report on a Study of Emerging Trends in Interpreting and
Implications for Interpreter Education**

Prepared for the Rehabilitation Services Administration by:

**Cathy Cogen, M.Ed., Center Director
Dennis Cokely, Ph.D., Principal Investigator
National Interpreter Education Center at
Northeastern University**

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CATIE Center at St. Catherine University
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Western Region Interpreter Education Center at Western Oregon University and El Camino
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Foreword

Through grants awarded by the U.S. Department of Education Rehabilitation Services Administration (RSA), the National Interpreter Education Center (NIEC) and five Regional Interpreter Education Centers (RIEC) work collaboratively to increase the number and availability of qualified interpreters nationwide. The collaborative is widely known in the field as the National Consortium of Interpreter Education Centers (NCIEC).

RSA charged the NIEC with conducting a study to assess the major legislative, demographic, and technological changes that have taken place in recent years, and the extent to which those changes impact the population of deaf individuals and the interpreters who work with them. Goals of the study included an assessment of the current state of the fields of interpreting and interpreter education to identify areas for improvement and opportunities for aligning current practices with future needs.

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Executive Summary

The National Interpreter Education Center (NIEC) at Northeastern University is funded through the **Training of Interpreters for Individuals who are Deaf or Hard of Hearing and Individuals who are Deafblind** grant program of the U.S. Department of Education, Rehabilitation Services Administration (RSA). The National Center collaborates with five Regional Interpreter Education Centers to maximize expertise, leadership, and fiscal resources toward the shared goal of enhancing interpreter education and improving communication access for individuals who are deaf¹. In the fall of 2013, RSA charged the NIEC with conducting a study to assess the major legislative, demographic, and technological changes that have taken place in recent years, and the extent to which those changes impact the population of d/Deaf individuals and the interpreters who provide services to them. Goals of the study included an assessment of the current state of the fields of interpreting and interpreter education to identify areas for improvement and opportunities for aligning current practices with future needs.

The project was carried out at a critical point in time - the last twenty years have been a period of unprecedented change. Cochlear implant use, early intervention programs, mainstreamed education policy, and advances in technology have all converged to create extraordinary opportunities and challenges. During the same time period, the U.S. has grown as a multicultural society. Minority and immigrant populations have increased at rapid rates, and consequently, so have the number of households with English as a second language. d/Deaf individuals within these populations have complex and diverse communication needs that reflect their culture, language, education, and socio-economic background. Recent years have also seen a significant increase in the number of newborns and children that are deaf and have co-occurring conditions, and, increasingly, the older d/Deaf population is experiencing changed abilities and communication needs as a natural consequence of aging. Adding to the complex mosaic of community needs are d/Deaf individuals pursuing advanced study and professional positions involving highly technical and nuanced discourse. The confluence of this diverse array of linguistic, cultural, and situational needs will challenge the interpreting workforce – and interpreter education – for many years to come.

While the charge for this project was to carry out a study focused on trends impacting the field of interpreting and interpreting education in the U.S., it would be an egregious omission to assess those trends without addressing the changes impacting the current generation of d/Deaf children. Early detection and intervention programs, use of cochlear implants, and education in the mainstream have presented the current population of d/Deaf children with extraordinary opportunities, as well as many obstacles and challenges. This segment of the population also has the fastest growing incidence of secondary disabilities. Understanding the trends impacting

¹ The lower case word 'deaf' generally refers to the condition of deafness. The term 'deaf' is generally used here to refer to 'deaf, hard of hearing, and DeafBlind' unless more specific terms are required. The upper case 'Deaf' refers to individuals who are ASL users and are culturally Deaf. The word 'd/Deaf' includes both 'deaf' and 'Deaf' people.

d/Deaf children is a crucial component in predicting the communication needs of d/Deaf individuals in the future. Transition programs are already experiencing an influx of deaf children with cochlear implants, many of whom were educated in mainstream settings. Many of these youths bring with them idiosyncratic language use and a myriad of complex and unfamiliar communication needs.

The field of interpreting is, in many ways, at a crossroads. Diminished program involvement with the Deaf community has impacted student language learning and cultural understanding. In addition, two-year degree programs are increasingly challenged to justify their existence in light of national certification requirements for a bachelors degree, and in general, programs are not producing ASL-fluent graduates. Many times the new interpreters' ability to practice is sorely limited, and the gap between interpreter graduation and readiness to work has continued to grow. Interpreter education programs (IEP) provide little guidance for new graduates and there are few formal, structured post-graduation pathways for graduates to gain experience with minimal risk to themselves and their customers.

The ongoing shortage of interpreting personnel will, for the foreseeable future, be compounded by the need for increasingly complex and specialized skills and knowledge. Interpreting situations may call not only for spoken and signed languages other than English and ASL, but increasingly, for alternative communication strategies and sensitivity to special needs. Increasingly, the talents of trained Deaf interpreters, who bring their own life experiences and natural fluency in ASL and visual communication, will be tapped to meet these needs and to model effective interpreting practices. The availability of interpreters is further impacted by decisions within the field (e.g. to establish specialization credentials), forces outside the field (e.g. state efforts to establish licensure), and personal and professional aspirations (e.g. retirement and pursuit of further education and other careers). More and better recruitment strategies, effective practices in targeted areas of interpreting, and specialized training and education will be needed. There are some promising developments on the horizon. RSA grant-funded educational products and services developed between 2005-2015 provide both an immediate response to some of the needs and models for replication and adaptation to meet others. In addition, new graduate degree programs in interpreting and interpreting pedagogy will offer opportunities for rigorous study and practice, teacher education, and research.

Project Methodology

The perspectives and concerns expressed in this report are based upon the interviews, focus groups, and surveys conducted during 2014. The project was designed to gather input from a wide range of stakeholders. As a first step, structured qualitative interviews were conducted with 28 individuals, including national leaders of professional and consumer organizations, d/Deaf professionals and educators, K-12 and postsecondary educators, interpreting educators, practitioners, researchers, vocational rehabilitation (VR) service providers, industry specialists, and other key stakeholders. The interviews served as the basis for understanding the current

environment and identifying the primary changes and trends occurring in the community and in the field that both influence and impact communication access, language use, and ultimately, the demands on the sign language interpreter.

The information gathered through the interviews served as the foundation for planning focus group sessions and selecting the type of expertise needed for participation in those sessions. The purpose of the focus group sessions was to receive feedback on and validate the preliminary findings identified in the interviews, and to generate an additional level of specificity related to the current environment and state of the field, as well as emerging trends and future needs. Sessions were conducted with seven discrete groups, involving more than 50 individuals. Participants included a diverse mix of d/Deaf, DeafBlind, and hearing individuals who serve in a range of professional capacities, including: national leaders and advocates; school administrators; State Coordinators for the Deaf (SCDs); service providers; d/Deaf and DeafBlind advocates, interpreter educators; interpreter education program administrators, and a range of working interpreters including VR interpreters, educational interpreters, healthcare interpreters, legal interpreters, video interpreters, and community interpreters, both Deaf and hearing. The sessions were carried out through a videoconferencing platform or interpreted conference call and lasted 90 minutes in duration.

Findings of the interviews and outcomes of the focus group sessions were used to develop an on-line survey instrument, and in final decisions related to the various audiences to be targeted to participate in the survey process. The NIEC Trends Survey was intentionally designed to be broad-based in nature, facilitating participation by diverse audiences, including: members of the national organization of professionals serving d/Deaf individuals (ADARA), SCDs, the Conference of Educational Administrators of Schools and Programs for the Deaf (CEASD), and the National Association of State Agencies Serving Deaf and Hard of Hearing (NASADHH). In addition to the Trends Survey, the NIEC recently carried out two surveys as part of its overarching needs assessment process: the 2014 NIEC Interpreter Practitioner Needs Assessment and the 2014 NIEC Interpreter Education Program Needs Assessment. Findings from the NIEC Trends Survey and both needs assessments are referenced throughout this report as further evidence of a changing environment and changing consumer needs.

Finally, throughout the course of the project, an ongoing high level review of relevant literature, statistics, and data was carried out as new sources of information and input were identified by interviewees and focus group participants.

Organization of the Report

The findings of the project have been organized into three primary sections. The first section of findings, **Trends Impacting Current and Future Interpreting Services**, assesses external trend areas that are broad in nature and have many long-term implications for the field of professionals providing services to individuals who are d/Deaf. These include: Demographic

Shifts, Deaf Plus, Mainstream Education, Opportunities for Advanced Study and Professional Positions, Cochlear Implants, Interpreting Technology, Specialization Credentials and Licensure, and Deaf Interpreters. Major challenges and needs for the future of interpreters and interpreter education are addressed within each of these broad trend areas.

The second section, **Current Issues in Interpreter Education**, describes several key dynamics at play within the field that may facilitate or impede efforts to address future interpreter education and professional development needs. Topics include: ASL Fluency, diminished involvement in the Deaf community, program outcomes, a shifting landscape of interpreting degree offerings, recruitment and attrition, program accreditation, and in-service training needs.

The final section of the report, **Recommendations: Shifting Paradigms**, presents recommendations for aligning interpreter education to meet the challenges of tomorrow. In many areas, the recommendations presented mark a significant departure from old ways of doing business.

Trends Impacting Current and Future Interpreting Services

Demographic Shifts

Over the past two decades, there has been an unprecedented growth in racial and ethnic diversity across the United States, including among the d/Deaf population.

According to esri, in 1990 non-Hispanic whites comprised approximately 75% of the general population in this country. By 2012, this segment had dropped to 64%. Today, the fastest growing minority population in the U.S. continues to be the Hispanic/Latino segment. The U.S. Census data for 2010 found that one in six Americans was Hispanic/Latino, which marked a dramatic increase from the one in sixteen reported for 1980. The African-American/Black population has also increased, but at a slower pace. Between 1990 and 2000, this population increased by 17%, and by 12% between 2000 and 2010. The multi-cultural aspect of the nation's population continues to grow and evolve. Recent Asian immigration to the U.S. has surpassed Hispanic immigration (Yen, 2012) and presented additional cultural and linguistic challenges. Asian-American immigrants and their U.S.-born children can come from China, the Philippines, India, Vietnam, Korea, and Japan, each carrying with them unique and diverse communication needs. Overall, if minority birth rates and immigration trends continue to increase at the same rate as over the past twenty years, it is predicted non-Hispanic whites will be outnumbered by minority populations by 2035 (esri). This has already occurred in some states. Nationally, among children under the age of 18, non-Hispanic whites are projected to be in the minority in fewer than five years.

For the foreseeable future, interpreters will encounter increasing numbers of individuals from linguistic and cultural minority and immigrant populations. Given the current demographics of the general population and the interpreting workforce (86% white), interpreters will increasingly not share the background or language preferences of their customers or their families.

The number of d/Deaf individuals who are from minority and immigrant communities has increased at a rate consistent with the trends observed in the general population. In the 2014 NIEC Trends Survey, 66% of respondents reported that in their provision of services during the last five years, the number of d/Deaf individuals from a household that uses a foreign spoken language had increased or substantially increased, and 35% of respondents reported an increase in the number of d/Deaf individuals that use a foreign signed language. d/Deaf individuals from minority communities have complex and diverse communication needs and carry with them unique characteristics related to culture, language, family structure, income and socio-economic background, and refugee experiences. Many times, d/Deaf individuals and their families do not have access to timely, accessible information and resources, nor do they possess the advocacy skills that would facilitate participation in early identification and intervention services, appropriate educational and school-to-work transition programming, or access to quality

interpreting services. As a result, many of these individuals are at increased risk for language and educational deprivation, low literacy levels, and difficulty in achieving employment.

The communication needs of d/Deaf individuals from diverse populations present numerous challenges to sign language interpreters. To meet the needs of linguistic and cultural minorities means having more interpreting practitioners who are not just knowledgeable and sensitive, but who are *of* the communities they serve. However, the demographics of the current pool of sign language interpreters does not reflect the diversity of the d/Deaf population, and few interpreters share the same cultural or linguistic background of the individuals they serve. Despite multi-

cultural growth in the general population, the demographics of the interpreting workforce in this country have changed very little over the past several decades. In 1981, 98% of interpreters were identified as Caucasian (Cokely, 1981), compared to 88% today (NCIEC, forthcoming). Finding qualified hearing and Deaf interpreters from linguistically and culturally diverse backgrounds that are fluent in the diverse native languages of the individuals they serve is difficult, and demand far outweighs supply. In addition, often the most effective approach for working with this population includes an individual interpreter with trilingual competence (e.g. ASL, Spanish, English), or a team of interpreters that might include a spoken language interpreter and a Deaf interpreter who can provide a foreign signed language, gestural communication, or other strategies and interventions to achieve successful communication.

Large-scale recruitment efforts within diverse communities and funding for scholarships or stipends to attract and support interpreting students from those communities are urgently needed. In addition, interpreting programs must expand exposure to diverse communities; some may need to offer specialization in interpreting with certain language groups, particularly in geographic pockets of the country where minority populations are already becoming the majority. In-service training for currently practicing interpreters is also essential. For most interpreters, being effective in the future may mean having the ability to quickly assess situational needs, discern what capabilities and

Needs

- **Interpreter cultural awareness and knowledge, as well as assessment skills, discernment, and ability to refer customers to interpreting personnel better suited to the job, if necessary**
- **Recruitment and student scholarships and stipends to attract and support development of interpreters whose backgrounds and language skills match those of prevalent minority and immigrant populations**
- **Effective practices in interpreting with immigrant and refugee populations**
- **Specialized training of individual interpreters with trilingual competence and teams of Deaf, hearing, and spoken language interpreters**
- **Resources and self-advocacy training for d/Deaf individuals and their families in accessible formats and languages**
- **Increased engagement of interpreting students with diverse communities**

knowledge are needed, and, if they are not well-suited to the demands, being equipped to redirect customers to an interpreter or interpreting team that can provide effective communication.

Deaf Plus

The number of d/Deaf children, youth, and adults who have one or more medical, physical, emotional, cognitive, or developmental conditions that impact communication is on the rise.

The term "Deaf Plus" is used to describe an individual who is d/Deaf or hard of hearing in addition to having significant medical, physical, emotional, cognitive, educational, or social challenges. In a national profile of students in the Special Education Elementary Longitudinal Study (also known as SEELS), about half of parents of students with hearing loss indicated that their child had an additional disability (Blackorby & Knokey, 2006). In the 2014 NIEC Trends Survey, 69% of respondents reported an increase or substantial increase in the number of individuals served over the past five years who were considered Deaf Plus. In that same survey, mental health, cognitive disorders, and Autism Spectrum Disorders (ASD) were the most frequently reported conditions, although vision loss, mobility related issues, and substance abuse disorders were also common. Additionally, 86% of respondents indicated that it is somewhat to very difficult to find interpreters whose capabilities match the needs of these individuals.

Today, increasing numbers of d/Deaf and hard of hearing individuals have one or more conditions that affect them medically, physically, emotionally, cognitively, developmentally, educationally, or socially. Whether temporary or chronic, such conditions can impact the ability to communicate, expressively and receptively. Idiosyncratic and dysfluent language use and alternative modes of expression and reception pose challenges for interpreters who do not have superior proficiency in ASL and a ready arsenal of communication strategies.

Communication for Deaf Plus individuals of all ages depends upon each individual's sensory, developmental, cognitive, and physical abilities, and the exposure they have had to various modes of communication. Whether they use sign language, speech, gestures, picture-based communication systems, computer-based communication, drawing, acting out concepts, or a combination of modes, their communication is often unique. Trained interpreters who are themselves Deaf have proven to be very adept at reaching and getting at meaning with individuals who are Deaf Plus through a wide variety of targeted communication strategies and interventions. However, there is shortage of these personnel in the current interpreting workforce.

There are several factors contributing to the growing incidence of co-occurring conditions in children. Medical advances that save the lives of premature infants, and the growing number of parents who opt to have children at a later age may increase the risk of disabilities. There are also programs and technologies available today that more accurately assess d/Deaf newborns and infants to identify the presence of co-occurring conditions. Likewise, in the past, educational programs may have recorded only a child's dominant disability. Today schools are required to identify all disabilities present.

Among d/Deaf children, the incidence of ASD has become the most prevalent and concerning co-occurring disability. Today, d/Deaf children with ASD comprise a growing segment of the population that used to be dominated by children with learning disabilities. During the 2009-2010 school year, the national occurrence of ASD in the population of children who were d/Deaf was 1 in 59 (GRI 2011), nearly twice the rate observed in hearing children.

These types of conditions are complex and make it difficult to discern which traits or behaviors are attributable to deafness and which relate to the other condition. Often children with ASD are not responsive to sound, so while the child might actually also be deaf or hard of hearing, they may be solely identified as having ASD. Despite the increased prevalence of individuals with

ASD, there are few services or programs available for the child with ASD who is also deaf. Most schools are not equipped to work with these students and many leave high school without a diploma. Unfortunately there are even fewer supports available to these individuals once they leave K-12 settings.

Dual-sensory loss sets the DeafBlind community apart for its impact on communication and mobility, and for many DeafBlind individuals, it means residing in the language and culture of touch. Currently, two new concepts are quickly making their way into communication and interpreting with DeafBlind people: Pro-Tactile and Haptics. Both emphasize the centrality of touch, using tactile feedback cues and linguistic modifications to enhance access to non-verbal social and environmental information. Without delving into the philosophies and politics surrounding the two approaches, it is safe to say that their cultural, linguistic, and technical features will become key components of any curriculum on interpreting with DeafBlind individuals.

Needs

- **Increased availability of qualified Deaf interpreters**
- **Increased availability of hearing interpreters skilled in teaming with Deaf interpreters**
- **Effective practices for interpreting with children, adults, and elders who are Deaf Plus**
- **Increased exposure for interpreting students to children, adults, and elders who are Deaf Plus**
- **IEP infusion modules on interpreting with individuals who are Deaf Plus; Pro-Tactile and Haptics**

As in the general population, d/Deaf adults may develop additional conditions including vision loss, cognitive disorders, mental health issues, loss of dexterity and mobility, or other physical and medical conditions as natural consequences of aging. In the general population, approximately one person in three has a vision-reducing condition by the age of 65 (Quillen, 1999). Moreover, according to the Hearing Health Foundation, seniors with even mild hearing loss are twice as likely to develop dementia, the risk increasing with the severity of the hearing loss (Lin, et al., 2011). These types of conditions may seriously compromise the ability to communicate and be understood by others. Hence, interpreters will require alternative strategies for working with the aging population of d/Deaf individuals.

Mainstream Education

The majority of d/Deaf children are being educated in mainstream settings, often without sufficient language or academic supports.

Under IDEA, mainstreaming, or inclusion in the public school classroom, has become the standard placement for all children, including children who are d/Deaf. According to the U.S. Department of Education (2006), approximately 87% of d/Deaf children are enrolled in mainstream education. These numbers include d/Deaf children with cochlear implants, who may or may not use sign language, a growing number of d/Deaf children from diverse cultural or linguistic backgrounds, and an ever increasing number of Deaf Plus children. The communication needs of all these children are complex and vary widely, and their success in the mainstream is often tied to the quality of the support services they receive. Regrettably, cost and availability of resources are key factors that drive state and local decisions about service options and the quality of supports offered.

Mainstreamed K-12 education is inherently a high-risk area of interpreting and should be undertaken only by the most fluent and experienced practitioners. But, unfortunately, poor pay and low hiring requirements attract under-qualified interpreters. Under-qualified interpreters inadvertently undermine development of language competence and contribute to idiosyncratic use of sign language, low literacy rates, and poor academic and social outcomes for many deaf students. These students may, in turn, need specialized interpreting services in the future.

For the d/Deaf student that relies on sign language, the capabilities of the educational interpreter can have a major impact on the student's linguistic competence, academic achievement, and social outcomes. Currently, there are inadequate federal and state guidelines governing the quality of interpreting services that should be provided in the mainstream setting, and it is often left to individual school districts, which generally know little about what is needed for effective communication with d/Deaf students, to define support service options. Perceiving educational interpreters as paraprofessionals, school districts tend not to follow the recommendations of professional interpreter certifying bodies concerning credentials,

training, and experiential requirements. As a result, many interpreters working in K-12 mainstream education today are recent interpreter education program graduates with little or no experience interpreting and limited fluency in ASL. Yet they often serve as the sole language model and bridge to instruction for the deaf student. Many professionals attribute an increase in idiosyncratic sign language use among transition age and young adult d/Deaf individuals to poor language modeling by interpreters in K-12 settings.

Today, many deaf students in mainstream settings use a cochlear implant. The misconception that cochlear implants produce normal hearing can often leave the child with little or no support. In reality, children with cochlear implants can have a range of communication needs that are

Needs

- **Federal, state, and local policies and funding to support appropriate standards for hiring classroom interpreters**
- **Timely, accessible information and self-advocacy training for parents about their child's rights and available resources**
- **More judicious guidance by interpreting education programs for their graduates seeking employment**

directly related to age at implant, the extent of hearing prior to being implanted, the presence of special needs, and services they received prior to entering the mainstream setting. When an interpreter is provided, the target language form can range from ASL to English-based signing or, in small pockets, oral transliteration or cued speech. Preferences may also vary depending on the nature of the event: academic, extra-curricular, or social.

Another emerging and growing segment of the population of d/Deaf children in the mainstream is the Deaf Plus child. While some of these children are able to learn sign language, there are many others that depend on basic hand gestures or other forms of communication. These children may benefit by services

of a Deaf interpreter, who is often in the best position to offer and respond to a variety of communication strategies. Yet, use of Deaf interpreters is rare in mainstream settings. There are also many d/Deaf children from culturally diverse backgrounds in mainstream education. In the mainstream setting, many children from minority populations must rely on the services of an interpreter who does not share the same cultural background and is not fluent in the native language of the home.

Parents of a d/Deaf child who is mainstreamed are able to influence the provision of support services through the Individual Education Plan process. However, mainstreamed students and their parents often lack access to critical information about their rights to qualified interpreting, auxiliary classroom supports, and school-to-work transition programming. Parents need access to full information about their child's rights to interpreters, the limitations of interpreted education, the qualifications of interpreters, and the range of other possible support services, such as school-to-work transition programs. This information must be available in formats and languages accessible to non-English speakers. Helping families to ask the right questions and to advocate

for their child's appropriate educational experience is critical, but currently, training and resources are sorely lacking.

Opportunities for Advanced Study and Professional Positions

A growing number of d/Deaf individuals are pursuing advanced study and working in specialized professions such as law, medicine, engineering, and high tech industry.

Federal legislation mandating communication access has paved the way for more d/Deaf individuals to pursue postsecondary and graduate level education and specialized training, and to attain jobs in such areas as law, medicine, engineering, higher education, and high tech industries. Among respondents to the NIEC Trends Survey, 47% indicated that they observed that the number of d/Deaf individuals pursuing education or employment in specialized fields had increased or substantially increased.

Interpreter performance has a direct impact on the D/Deaf individual's access to information, as well as on the individual's ability to demonstrate their knowledge and achieve their communicative goals. Research has demonstrated that interpreters can either contribute to or detract from the hearing participant's perception of the D/Deaf participant, and vice versa (Cokely, 1983; Feyne, 2013). For example, both hearing and d/Deaf participants rely on the interpreter's language in forming their assessment of one another's credibility and authenticity.

d/Deaf individuals' achievement in advanced study and professional positions is often determined not only by the assets he or she brings, but also by the ability of the interpreter to accurately represent the d/Deaf individual. Interpretation of technical terms and specialized discourse requires a high level of sophistication in ASL and English that few interpreters possess currently. In addition, specialized academic and professional settings often call for use of technology with which the interpreter must interface, adding further complexity to assignments.

Needs

- **Effective practices for interpreting for advanced study and professional positions**
- **Recruitment and training of interpreters who have native proficiency in ASL and English**
- **Explore roles for teams of Deaf and hearing interpreters**

Therefore, it is critical for the interpreter to be proficient in academic and professional ASL and English, and to have facility with the highly specialized terminology and discourse associated with, for example, a d/Deaf Ph.D. candidate's oral exam, a d/Deaf professional's job interview, or a d/Deaf attorney's interactions with a client. Currently, it is very difficult to find interpreters who have the linguistic range to serve effectively in such situations. Even among native users of ASL and English, the language sophistication

and experience in post-baccalaureate and professional settings is often lacking. Further, interpreters working in these settings must often interface with teaching technology and CART services. The field currently lacks effective practices and training for integrating these technologies with interpretation to the maximum benefit of the d/Deaf individual.

Cochlear Implant Use

The number of deaf individuals using cochlear implants continues to increase annually, particularly among the population of deaf children.

In 1985, the federal Food and Drug Administration (FDA) first approved use of the implants in adults, and in 1990, their use was approved for children two years and older. In 2000, the same year that Congress passed the Early Hearing Detection and Intervention Act (EHDI), the FDA approved cochlear implants for children twelve months old. The current population of infants and children who are deaf is the youngest ever to be implanted, and today many families are opting to have their child implanted as early as nine months.

For the present, cochlear implant technology does not produce normal hearing, and success rates with the device vary widely. Although some studies claim the value of cochlear implants in increasing speech intelligibility and perception, others point to deficits in pragmatic language use and social development. And while some d/Deaf children may have success with the device, some will not, and they may not be offered sign language until they enter school, when it will be too late to develop native abilities in any language. The process of developing linguistic competence is tied directly to the development of critical thinking skills and literacy, key to educational achievement and successful employment. (See T. Humphries, et al. (2012) for fuller discussion of related harms.)

While cochlear implants can enhance sound perception, they do not make a deaf individual hearing. For many, spoken language will continue to be elusive, even with the implant.

For deaf and DeafBlind adults who elect to get a cochlear implant, interpreting needs may change as individuals try to integrate auditory cues with signed interpretation.

Cochlear implant technology is still relatively new, and the field lacks research regarding outcomes and long-term implications of cochlear implant use from which to establish effective practices or base future education.

Today, the majority of school-aged d/Deaf children, whether attending a school or program for d/Deaf students or mainstreamed in a public school setting, have a cochlear implant. Often, assumptions are made that the cochlear implant is sufficient to provide full communication access and no additional support services are offered. However, for many implanted children, there is a continuing high demand for qualified interpreters in mainstreamed K-12 settings. Even among deaf children who are not provided sign language support, anecdotal evidence suggests that many deaf adolescents find their identity with signing peers and may stop using the cochlear

implants, or use them situationally to their best advantage. Increasingly, deaf children whose implants have not produced the desired results and who do not succeed in mainstreamed settings are sent to schools and programs for deaf students as pre-teens. By then, it is already too late to expect full acquisition of a first language.

In addition, most transition-age youth with implants today did not benefit from early detection and intervention programs and were implanted after the crucial window for language acquisition. Many of these youths were educated in mainstream settings, and are now entering adulthood with idiosyncratic sign language and a range of other complex communication needs for which the interpreting field is not currently prepared.

Some d/Deaf and DeafBlind adults are electing to be implanted, often to gain awareness of environmental sounds, but not to acquire spoken English. However, research demonstrates that the later the individual is implanted, the less benefit they tend to derive from the device. As a result, d/Deaf and DeafBlind individuals that relied on sign language, visual or tactile, prior to being implanted usually continue to use interpreting services. For d/Deaf adults who elect to get a cochlear implant, interpreting needs may shift to allow incorporation of both auditory cues and sign language. Their needs will require sensitivity, negotiation skills, and versatility on the part of interpreters.

Needs

- **Needs assessments to determine the nature and extent of changed interpreting needs among d/Deaf adult cochlear implant users**
- **Effective practices and training for interpreters working with d/Deaf children using cochlear implants in mainstream**
- **Longitudinal research related to long-term cochlear implant use and outcomes**

The late-deafened population is also growing. There is also a growing population of returning veterans with hearing loss. According to the Hearing Health Foundation, 60% of veterans returning from Iraq and Afghanistan have a hearing loss, and the Department of Defense identified hearing loss as the most prevalent war wound. It is unlikely that late-deafened individuals will turn to sign language or increase demand for interpreter services. However, some might be candidates for a cochlear implant. These individuals learn to associate the signal provided by the cochlear implant with sounds they remember from when they could hear. When successful, this provides the individual with the ability to understand speech, eliminating the need to learn sign language or use interpreting services.

Shift from Sign Language to Oral Approach for Early Identified/Early Implanted Children

The majority of families of early-identified deaf children are electing cochlear implant surgery and oral-only communication approaches that offer no access to visual language or exposure to Deaf role models or peers.

Research and experience have demonstrated that missing early exposure to a natural language can have a lifelong impact on the deaf individual, negatively affecting social, emotional, cognitive, literacy, and academic development, as well as the potential for independence and economic success as an adult. The earlier deafness is identified and intervention services initiated, the more likely it is that these problems can be minimized. To that end, in 2000, Congress passed the Early Hearing Detection and Intervention Act (EHDI). Under the Act, universal newborn screening programs and early intervention services were implemented nationwide. The legislation calls for all newborns to be screened for hearing loss at birth, identified by three months, and enrolled in early intervention programs by six months. Today more than 95% of newborns are screened, usually within several hours of birth.

Early hearing detection and intervention programs can play a crucial role in promoting language competence and ensuring that every deaf infant has meaningful exposure to signed *and* spoken language. Unfortunately, there is continuing disagreement among medical, audiology, and speech professionals and Deaf early intervention specialists and educators as to the role of sign language in early intervention. In fact, many families are steered away from using sign language. The vast majority (96%) of deaf and hard of hearing children are born to hearing parents (Mitchell & Karchmer, 2002), and most early parental counseling is carried on without the benefit of a Deaf professional's perspective. Few parents are informed and provided supports for employing a bimodal approach that uses ASL as the first language and simultaneously promotes English and speech development. The bimodal, bilingual perspective is crowded out by the marketing power of cochlear implant manufacturers and those promoting oral only approaches. As a result, there has been a major shift away from sign language in recent years. According to the American Speech-Language-Hearing Association, in 1995 approximately 40% of families chose spoken language options, compared

For early-identified children with profound or severe hearing loss, cochlear implant surgery coupled with the exclusive use of the listening and speaking approach has become standard practice.

Today, more than ever, parents are steered away from ASL and not offered the benefit of guidance and support of Deaf early intervention specialists. Many times early identified/early implanted children are not exposed to ASL unless oral only approaches fail, when it is often too late to acquire a full first language. Language deprivation is a core characteristic of deaf individuals who have been labeled "low functioning."

to 60% who chose sign-language options. In 2005, just ten years later, 85% chose spoken language options compared to 15% who chose sign-language options (Brown, 2006).

Beginning in 2007, the Joint Committee on Infant Hearing (JCIH) guidelines called for the meaningful involvement of Deaf and hard of hearing adults at all levels of the EHDI system (JCIH 2007). Increasingly, Deaf early intervention specialists and educators are being included in early decision making and ongoing support through the efforts of state, federal, and non-profit programs. Such programs refer trained Deaf and hard of hearing EHDI professionals to provide

Needs

- **State and federal policies and practices aimed at preventing language deprivation including:**
 - **Full information for parents regarding bimodal/bilingual approach;**
 - **Full information on the risks of failure of cochlear implants and oral only methods, and associated language deprivation;**
 - **Involvement of Deaf early intervention specialists and family supports**
- **Informational materials, in accessible formats and languages for parents**
- **For those affected by language deprivation, expanded training and utilization of Deaf interpreters**
- **Longitudinal studies comparing bimodal/bilingual approaches to oral only approaches**

hearing parents and families much-needed support to learn and use sign language with their deaf child. Based in a bimodal, bilingual approach, they also tend to have a literacy component in which parents learn to teach early reading skills through ASL. And they expose hearing parents to successful Deaf role models, helping them to envision and facilitate a positive future for their children. Gallaudet University has established an undergraduate degree and a graduate certificate program in Family and Child Services to prepare Deaf and hard of hearing EHDI professionals to meet a growing need.

The evidence suggests that longitudinal studies will demonstrate the value of the bimodal, bilingual approach in preventing language deprivation and promoting better outcomes for deaf and hard of hearing children and less need for complex support services later in life. Deaf children and their families, whether cochlear implants are used or not, should be provided exposure to ASL at the earliest possible time through the use of Deaf mentors, tutors, and sign language teachers, along with spoken language input in a bilingual, bimodal approach. In this way, early language deprivation, too common in deaf children, might be averted. Given bilingual, bimodal opportunities, it is likely that children will grow to use signed or spoken language as best suited to a given situation, or naturally come to favor one over the other.

Interpreting Technology

Advances in technology have increased communication access for d/Deaf individuals and are changing the way interpreting services are delivered.

New technologies have improved communication access for individuals who are d/Deaf, and, at the same time, challenged existing service delivery models and the traditional role and responsibilities of the sign language interpreter. **Video Relay Services (VRS)**, in particular, have been instrumental in improving telecommunications access for d/Deaf people. In the NIEC's Trends survey, 57% of respondents reported that VRS interpreting services were effective or very effective.

Although the impact of VRS has been largely positive, there are many challenges associated with its use.

Working in VRS presents interpreters with a wider range of linguistically and culturally diverse customers, topics, and prolonged periods of work than is found in any other interpreting setting. Interpreters are assigned to calls as requests come in, and most calls are handled with little or no advance preparation to minimize wait time. Work in VRS settings is physically and mentally stressful, and interpreters often work with intimate register (e.g. calls to family members), unfamiliar vocabulary, and subject matter outside their level of education, experience, or comfort. Interpreters often encounter unfamiliar regional or cultural variations of ASL used by d/Deaf callers, and unfamiliar regional and cultural variations of English used by hearing callers. The number of d/Deaf individuals from ethnic and racial minority and immigrant populations using VRS has also increased, as has the number of d/Deaf callers who may use sub-culture or idiosyncratic sign language. Some call centers employ interpreters with trilingual competence that field international calls. For example, ASL/Spanish/English interpreters often serve callers from Spanish-speaking countries with widely varying regionalisms, high risk of misunderstanding, and many different cultures and signed languages. Meanwhile, VRS interpreter skills vary widely. Anecdotal information indicates that D/Deaf callers may call in several times before they are matched with an interpreter they can understand, and who can understand them. For DeafBlind individuals who use tactile sign language, a communication facilitator is often needed to copy what the VRS interpreter signs on the screen.

Delivery of interpreting services via video technology has outpaced establishment of appropriate guidelines for its usage and the qualifications of interpreters. Vendors are making these determinations without involvement of the Deaf community and interpreting professionals. And the technology is being used without awareness of its demands on interpreters and its limitations for effective communication.

The FCC has responsibility for regulating VRS companies. However, VRS company implementation of FCC regulations often impose counter-productive restrictions that prevent interpreters from pre-conferencing with callers to gain context information that is critical to

successfully interpreting the interaction or to discern if they are not qualified to interpret the call. In addition, implementation of FCC regulations contradicts years of best practices in interpretation and research on interpretation, especially that on interpreter fatigue and miscues. Repetitive movement injuries, eye and muscle strain, weight gain, and vicarious trauma have all been cited as workplace concerns (RID 2007). As a result, it is unlikely many interpreters will spend an entire career in VRS, which over the long term could drive VRS providers to hire newer and less qualified interpreters.

In its early years, VRS caused a serious drain on the community interpreting workforce because VRS companies often offered more competitive pay and benefits than were available in other staff or contract interpreting settings. However, the corporate milieu did not agree with many interpreters and a number have returned to the community, only working part-time in VRS or not at all. According to data collected in the 2014 NIEC Interpreter Practitioner Needs Assessment survey, the average interpreter works in person approximately 83% of the time. The majority of respondents reported they continue to work exclusively in the community providing face-to-face interpreting services.

Video Remote Interpreting (VRI), which entails delivering interpreting services from an off-site location via a video screen, has become the default option for providing ADA-required interpreting services in public settings, particularly in hospitals, police stations, and prisons. However, VRI effectiveness is often hindered by technical and logistical problems that compromise the intelligibility of the interpretation and the comfort of the d/Deaf individual. The technology is fraught with problems attributable to poor quality transmission, equipment malfunction, and issues related to bandwidth, firewalls, and lost connections. Unseen and unheard participants, procedures, and interactions within the room in which the d/Deaf person is situated can all influence the effectiveness of the interpretation because the interpreter is in a remote location. The d/Deaf individual cannot see who else, if anyone, is in the room with the interpreter, which can create discomfort and raises concerns about confidentiality, especially in medical and legal settings. If the d/Deaf participant is in crisis - frightened, ill, medicated, or experiencing vision difficulties - a two-dimensional screen and the lack of full-spectrum view of the room further hinders access to immediate and accurate information. The two-dimensional video screen is often not a viable option for individuals who are DeafBlind.

There are no standards governing the qualifications of interpreters working in VRI today. The VRI vendors and the entities that contract with them are defining the level and quality of services that are provided, with little or no input from the Deaf community or the field of sign language professionals. Interpreters providing VRI services must have excellent signing skills to compensate for the two-dimensional screen and strong interactional management skills to help them gather information that is not readily visible or audible from their vantage point. The VRI interpreter also needs to have the discernment to know when the process is not working, the assertiveness to say so, and the resources to recommend timely and appropriate alternatives.

Unfortunately, many interpreters currently working in VRI are not up to the task, particularly in complex medical and legal situations of high consequence involving specialized terminology.

Use of **Computer Aided Real-time Transcription, or CART**, has also continued to grow, particularly in post-secondary academic settings and on the part of individuals with cochlear implants. The technology is now available through iPads and Tablets, and other web-based devices that can handle captioning, which is a convenience for d/Deaf and hard of hearing

Needs

- **Standards governing VRS and VRI use and the qualifications of interpreters working with these technologies**
- **Studies of d/Deaf consumer satisfaction with VRI technology**
- **Materials and instruction on interactional management for use in IEP programs and interpreter continuing education**
- **FCC policies and expectations of VRS companies that are aligned with interpreter research and best practices in interpreting**
- **Studies of interpreters who have left VRS and VRI**

individuals and those with low vision who prefer to read presentations in English. Developments are underway to make the technology accessible through cell phones. Situations are increasingly arising in which ASL interpreting is conducted simultaneously with CART and other teaching technology, particularly in highly specialized training or education settings. These situations have paired interpreters with CART providers, which can either compliment or complicate the interpreting task.

Personal technologies such as cell phones, tablets, and laptops have also created new pathways to independence and provided communication access in settings and circumstances that in the past required the services of an interpreter. For example, students may use email and texting to communicate with their instructors rather than a face-to-face appointment using an interpreter.

Specialization Credentials & Licensure

National and state level efforts are underway to establish specialization credentials, qualification standards, and licensure requirements for interpreters.

There is a movement underway toward the professionalization of the interpreting field and new standards and credentials are actively under consideration by the Registry of Interpreters for the Deaf (RID) and state monitoring agencies. These include a new specialization credential for healthcare interpreters, implementation of facility-by-facility criminal background checks, and establishment of state licensure requirements. While these efforts are urgently needed and ultimately will raise standards and assure interpreting services are provided by qualified personnel, they can also create administrative roadblocks that, at least for the short-term, have the potential to reduce the availability of interpreting services.

Let the current movement toward health care certification serve as an example. There is a RID task force working now to develop a medical settings certificate, along with required testing that would be a prerequisite for obtaining certification. While independent verification of competency in a specialized area is appropriate and a sign of the development of the field of interpreting, specialty certification is not without its consequences.

Assuming the RID establishes a medical setting certificate, and certification becomes a requirement to work in medical facilities, there may be a period of time during which experienced, qualified, but not yet certified interpreters are precluded from work in medical settings. In recent surveys of consumers, respondents indicated that “medical settings” are the settings in which there is the greatest need for interpreting services. Respondents also reported that medical settings are the settings in which it is most difficult to secure interpreting services. In short, although certifications and standards will serve to introduce new levels of quality over the long-term, over the short-term they may actually serve to exacerbate the current shortage of qualified interpreters working in medical settings.

While monitoring and credentialing processes are intended to ensure high standards and elevate the profession of interpreting, they can also create short- and long-term shortages of available interpreting personnel and present employment challenges for novice interpreters.

Needs

- **Assessment of job types by risk level**
- **Pathways for interpreter education program graduates**
- **Raised awareness of state legislatures of relevant issues**

There is also another looming reality that further constrains people’s ability to secure interpreting services in medical settings. Increasingly, states have required that individual medical (and educational) facilities conduct their own criminal background checks. In metropolitan areas with multiple medical and educational facilities, this means that freelance interpreters must take time away from interpreting, sometimes a full day, to complete the necessary criminal background check procedure and testing required by **each** facility. This is a clear disincentive to freelance, community-based interpreters. There are anecdotal reports of freelance interpreters, previously on approved medical interpreting lists and regularly providing services to medical facilities, not willing to take the unpaid time necessary to comply with each individual facility’s process. The individuation of background check processes presents another barrier to people being able to secure interpreting services in medical settings. However, it is clear that statewide databases, regularly renewable and reviewed, would remove this barrier.

An increasing number of states are currently discussing enacting licensure for interpreters. This makes sense: doctors, dog groomers, manicurists, etc. have to be licensed; it follows that interpreters should also be subject to licensure. However, there is a growing concern among interpreters and people that entities that know little about interpretation and/or people will

create licensure requirements that may ultimately prove to be restrictive or prohibitive and create new hurdles for interpreters entering the workforce.

Deaf Interpreters

Interpreters who are Deaf themselves are increasingly recognized as the best solution for at risk populations. A growing awareness of the benefits will support their more general usage.

Deaf interpreters bring their own lived experience as Deaf people, as well as ASL and Deaf cultural fluency, gestural communication, and interactional strategies useful with a wide range of d/Deaf, hard of hearing and DeafBlind individuals. It is anticipated that many of the challenges brought about by current and projected demographic shifts, increased numbers of individuals who are Deaf Plus, and increased idiosyncratic use of ASL will call for more and better trained Deaf interpreters who will generally work in teams with interpreters who are not Deaf.

Deaf interpreters are often underutilized due to a lack of awareness of this resource, perceived additional costs of hiring a team of interpreters, and, for hearing interpreters and interpreting students, insufficient exposure and training on effective teamwork.

There is increasing recognition of the value of Deaf interpreters: 61% of service providers responding to the NIEC's Trends survey indicated that the need for Deaf interpreters has increased or substantially increased. However, 87% indicated that it is somewhat difficult to very difficult to find qualified Deaf interpreters. Most prevalent in the major cities of the Northeast, Eastern Seaboard, Northwest, and the California coast, the use of Deaf interpreters is still not commonplace.

Hindrances to wider use of Deaf interpreters include general lack of awareness of the value of the resource, perceived additional costs of hiring a team of interpreters, lack of understanding among members of the Deaf community as to the benefits of using Deaf interpreters, and, for hearing interpreters and interpreting students, insufficient exposure and lack of appreciation of the value of teamwork with Deaf interpreters. The cost factor needs further study and explication. Anecdotal evidence suggests that because of the overall efficacy and efficiency of Deaf/Hearing interpreting teams, the costs of hiring such a team are lower in the long term than the costs resulting from miscommunications and misunderstandings. Courts are increasingly developing policy that requires the use of Deaf interpreters under prescribed conditions including any instance involving a minor child. ASLized.org, an Internet platform aimed at enhancing understanding of ASL literature, linguistics, and research, recently disseminated a video giving myriad examples of the benefits for any d/Deaf individual of using a Deaf interpreter whenever

Needs

- **Increased utilization of Deaf interpreters through education of service providers, the Deaf community, public agencies (e.g. schools, hospitals, law enforcement, VR, and social services), and hearing interpreters and interpreting students**

- **Full funding for wide implementation of the NCIEC Deaf interpreter curriculum**

- **Recruitment efforts to identify Deaf interpreter candidates for training**

- **Expanded participation of Deaf interpreters as interpreting educators**

- **Implementation of NCIEC infusion modules for the IEP classroom on Deaf/Hearing interpreter teams**

clear and efficient communication is essential. With enhanced public awareness, Deaf interpreters will be better utilized in the future.

Training is critical, however, both for Deaf and hearing interpreters who work as teams. RSA-funded teaching and curricular infusion resources are now available for wide dissemination and replication.

Moreover, trained and experienced Deaf interpreters, particularly those who have or are working toward graduate degrees, have much to contribute to interpreter education programs. Their involvement in training and supervising interpreters should be encouraged and supported.

Current State of Interpreter Education

Interpreter Education Programs (Pre-Service Preparation)

Interpreter education faces a number of critical challenges that must be addressed if we are to successfully confront the trends discussed in this report: Lack of standard outcomes for ASL prior to studying interpreting and at graduation, diminished program involvement with the Deaf community, lack of standard outcomes for interpreter education, lack of formal, supervised pathways for new graduates, and the absence of a robust nationwide promotional effort to recruit new prospective interpreters to the field all impede the flow of new practitioners into the workforce to replace those who retire or move on to other pursuits. National interpreter education program accreditation efforts would be strengthened by recognition by the Department of Education and funding to promote wider participation.

ASL Fluency

RSA defines 'novice interpreter' as follows:

'Novice interpreter' means an interpreter who has graduated from an interpreter training program and demonstrates language fluency in American Sign Language and in English, but lacks experience working as an interpreter (RSA NIA, 2005, 2010).

The reality is that interpreter education programs generally do not produce graduates who demonstrate fluency in ASL. As a result, novice interpreters are sorely limited in the range of populations and settings in which they can begin to gain work experience. Two or three years of academic study of a language is generally insufficient to acquire fluency in any language, much less a modality-different language. Unlike spoken language majors that often include a semester or year-long study abroad experience, interpreting majors offer no extended immersion opportunities. Classroom instruction alone is inadequate, and meaningful program interaction with diverse communities of d/Deaf people is missing from most programs. Diagnostic assessments of interpreter performance documented by the MARIE Center and Northeastern University since 2005 reveal a number of continuing impediments to effective interpreting. For novice interpreters, these are largely attributable to lack of fluency in ASL.

To be versatile and able to meet a range of d/Deaf individuals' language needs and preferences, ASL fluency is foundational.

An important initiative to improve traditional undergraduate interpreter education programs would be to establish a national standard level of ASL fluency agreed to as prerequisite to studying interpreting and a standard level of ASL fluency expected at graduation. This initiative should include a national study of the language and interpreting competencies attained by graduates of two-year and four-year interpreter education programs in order to understand what level of ASL proficiency is realistically attainable and under what conditions.

According to the 2014 NIEC Interpreter Education Program Needs Assessment survey, 62% of interpreter education programs report that they rarely or never have native users of ASL in the entering class. A deep reservoir of existing talent has remained largely untapped: hearing children of signing Deaf adults and others with connections to the Community are often ASL fluent and have provided services long before the advent of their collegiate education. Yet, new research (Williamson, 2014) found that only 39% of today's Interpreters with Deaf Parents (IDP) had attended an interpreter training program. For those IDPs who had entered programs, many found traditional interpreter education program coursework not well suited to their needs. Many of these individuals already had a strong foundation in the language and would benefit most from a focus on the interpreting process, ethical decision making, interactional management skills, and enhancing heritage languages and cultural literacy. Effective practices in training children of signing Deaf adults should be developed, and application to traditional and non-traditional program options should be explored. Meanwhile, national efforts should be made to identify and recruit already-fluent signers and provide them training as interpreters.

Diminished Involvement in the Deaf Community

Contributing to the lack of ASL fluency and cultural astuteness among interpreter education program graduates is diminished involvement of programs and their students in the Deaf community. The Deaf community has lost its central place in the preparation and validation of interpreters. Programs are increasingly challenged to provide meaningful opportunities for students to gain exposure to a variety of d/Deaf people, forms of ASL discourse, language usage, terms, and registers, and to absorb the cultural and social justice understandings and competencies essential to effective interpreting.

The typical interpreting student today has had little or no exposure to d/Deaf people prior to entering an interpreter education program, and, in many cases, students complete their program having had only superficial interactions with d/Deaf people, mostly in the classroom.

Although it is commonplace for programs to encourage students to participate in Deaf community events, observe interpreters at work through practicum, or provide pro bono interpreting services, for most students, such short-term activities are not sufficient. Building relationships for students and programs with the Deaf community is essential. Interpreter education programs need to create structured, ongoing opportunities for students to become engaged with the Deaf community.

Effective practices in program-community engagement are needed, including avenues for greater exposure and interaction with the growing segments of the population described in this report. Absent rich and sustained community involvement opportunities, graduates of interpreter education programs will not develop the linguistic skills or cultural knowledge necessary to be effective practitioners.

Program Outcomes

The field of interpreting has lamented the "readiness to work gap" for more than two decades (see Anderson & Stauffer 1990; Patrie, 1994). Yet, the gap persists, requiring the investment of much time and resources into such activities as mentoring and ASL immersion programs.

Entry-to-practice competencies articulated in a publication of the National Distance Learning Center for Interpreter Education grant (Witter-Merithew & Johnson, 2005) provide a clear vision of the requirements of competent interpreting practice. The authors state:

When translated into an appropriate scope and sequence of instruction, it is envisioned that these competencies can be mastered within a bachelor's program or equivalent and that graduates who have successfully mastered these competencies will be ready to pass a national interpreting exam.

If the readiness-to-work gap is defined as time from graduation to national credentials, it is a wide gap, indeed. On average, it takes BA/BS degree students 19 to 24 months post-graduation to achieve national certification. For AA/AAS program graduates, the average time to national certification is 25 to 36 months. If the gap is defined as time from graduation to work, program success is variable depending on state eligibility requirements. Some states require at least a local screening or state licensure; many state licenses require national certification. Some states have no such requirements. On average, graduates of AA/AAS and BA/BS degree programs are earning local credentials and finding work within one year, over half within six months. But many first work placements are not appropriate due to inherent risks to d/ people with whom they might work and lack of support and growth opportunities for new graduates.

New thinking supports formal, structured pathways for entry to work with supervision in situations where risk levels have been assessed as appropriate for new practitioners to undertake. This will enable new practitioners to develop the necessary skill sets to move into more high risk situations.

Although only a few programs aim to prepare interpreters for K-12 educational settings, as much as 74% of interpreting programs participating in the 2014 NIEC Interpreter Education Program Needs Assessment survey indicated that the first or second most frequent setting in which new graduates find employment within one year of graduation is K-12 education. The impact on students of placing underqualified interpreters in K-12 educational settings has been discussed above. But there are risks for the fledgling interpreter as well: K-12 settings tend not to support the professional development of new interpreters. For those who need continuing exposure to ASL in order to improve their skills, K-12 may be one of the most isolating settings as there are often no Deaf adults or fluent language models on site and no oversight by a knowledgeable supervisor.

However the gap is defined, the field has done little to date to provide formal pathways for new graduates entering the field. Formal or informal mentoring programs exist in some states but they are optional and largely unstructured. Minnesota offers an exception: it requires participation in a two-year mentorship program to attain state educational interpreting certification. But for the most part, new graduates have to find a mentor on their own.

Interpreter education can address the gap by:

- Improving ASL fluency outcomes for program graduates
- Enhancing program involvement with the d/Deaf and DeafBlind communities
- Hiring Deaf interpreters as interpreter educators
- Conducting a study of job types and associated risks
- Aligning program goals with lower-risk job types
- Provide structured post-graduation pathways into low-to-increasingly-higher risk jobs

Degrees in Interpreting: Shifting Landscape

New and emerging forces are likely to create a changed landscape for interpreter education over the next few years. By July 2012, candidates for RID National Interpreter Certification were required to have a minimum bachelors degree (in any major) or demonstrate educational equivalency; Certified Deaf Interpreter (CDI) candidates will face the same requirement in 2016. The new requirement both elevates interpreting as a profession but, ironically, may also contribute to attrition in the field by increasing the number of interpreters who leave the field to attend graduate school to pursue other career options, often working with d/Deaf people.

The majority of interpreter education programs have long been at the community college level. Now, changes in the field may cause AA/AAS programs to partner with four-year institutions, reshape curricular goals, or close.

Currently, about 65% of interpreter education programs across the U.S. are AA/AAS degree programs. The 2014 NIEC Interpreter Education Program Needs Assessment found that AA/AAS program graduates now need as much as 25-36 months post-graduation on average to attain the four-year degree and achieve national certification. It is worth noting that two-year program graduates average approximately 13-18 months to earn local credentials (e.g. a state-issued certificate) and 12-18 months to gain employment as an interpreter, compared to four-year program graduates who average 7-12 months to achieve local credentials and a little more than 6 months to gain employment as an interpreter.

In response to the RID requirement, approximately 54% of AA/AAS programs have established articulation agreements with four-year institutions, according to the 2013 NIEC Interpreter Education Program Needs Assessment. In the majority of these cases, programs pursued a BA/BS Completion Model (<http://www.interpretereducation.org/teaching/aa-ba-partnership/common-definitions/>) in which the student begins and completes all interpreting

studies at the AA/AAS degree level and then transfers to a four-year institution to complete a related major, but with no additional interpreter education at the upper division level. This approach is not ideal, however, as the resulting disruption in training and practice can have deleterious effects on prospective interpreters' skill development, professional growth, and their ultimate path to local or national credentialing.

In addition, a small but growing number of community college interpreting programs have closed or reconfigured their two-year curriculum to focus on ASL and Deaf Studies. Graduates of these programs may feed into upper division coursework in interpreting within the same institution, or a partnering institution.

Recognizing that ASL study is prerequisite to the study of interpreting, many community college interpreter education programs have bulked up the curriculum by adding prerequisite ASL coursework, extending the AA/AAS degree program to three, even four, years. A random review of 30 AA/AAS degree programs shows a range of 62 to 108 required credits for graduation. However, community college programs with high numbers of required credits are increasingly under scrutiny. Urged on by Complete College America, a nonprofit advocacy group, many states and community colleges are increasingly reducing the number of associate degree programs that require more than 60 credits. Sixty credit programs are more likely to produce graduates within two years, the upper limit on federal financial aid. Furthermore, four-year institutions typically accept up to 60 transfer credits. This is a critical issue for AA/AAS graduates wishing to articulate with Bachelors degree programs.

Meanwhile, three graduate level programs in interpreting and interpreting pedagogy have opened since 2010, and two more are currently under consideration for opening in 2016. The programs address the increasing prevalence of Masters and Ph.D. requirements for faculty hiring especially in four-year institutions. Graduate level programs may also promote a deeper understanding of interpreting as a linguistic, cultural, and socio-political activity. They may prepare more academically sophisticated interpreters to address the need for high-level interpreting with individuals engaged in graduate study, technical training, and specialized professions. They may allow specialization in such areas as healthcare interpreting, Deaf interpreter practice, and leadership and conflict resolution. And they may foster much-needed research in interpreting and interpreting pedagogy. However, at the present time, graduate degrees are not yet required nor rewarded in hiring interpreters. What is most commonly rewarded is an interpreter's level of credential (i.e. local or national) and years of experience. Nevertheless, graduate programs both reflect and have the capacity to promote the current trend toward professionalism of interpreting.

Recruitment and Attrition

During the last two grant cycles, the NCIEC has undertaken initiatives to increase recruitment into the field of interpretation (e.g. see <http://www.discoverinterpreting.com>) and while it is extremely difficult to quantify the impact of these efforts, anecdotal evidence suggests that these efforts have increased the visibility of interpreting as a career option for many. Yet, extrapolating from NIEC needs assessment survey data suggests that the annual number of students graduating from interpreter education programs, relative to the number of interpreters retiring or leaving the field, is currently insufficient to significantly increase the supply of interpreters. Thus, future recruitment efforts must be redoubled if the supply-demand gap is to be decreased.

Future recruitment efforts must be redoubled if the interpreter supply-demand gap is to decrease.

A related challenge is to identify interpreters who have left or plan to leave the field of interpreting to pursue other career opportunities or interests. As most interpreting programs do not have formal mechanisms for long-term tracking of graduates, we cannot currently quantify the attrition rate. However, some anecdotal evidence might be illuminating. Of the 2005 graduating class at Northeastern, only one graduate interprets as their full-time occupation. One graduate has completed a Deaf Education masters degree and the other graduates have left interpreting to pursue other career paths working with d/Deaf people. Thus, while some of these graduates will continue to have careers working with d/Deaf people, they will not have a full-time career commitment to providing interpreting services for d/Deaf people. While this sample may not be typical, it does place heightened concern about the question of interpreter attrition, which must receive appropriate attention to help us better understand this issue.

Program Accreditation

The Commission on Collegiate Interpreter Education (CCIE) was founded in 2006 after decades of collaborative work to establish standards and procedures for program accreditation. The standards point to the essential structural requirements of sound programs (facilities, policies, faculty requirements, etc.) as well as the basic knowledge, skills, and perspectives graduates need to enter the field of professional interpreting. To date, only ten bachelor degree programs and four associate degree programs have been accredited (<http://ccie-accreditation.org/09/Accredited.html>).

Recognition of the CCIE by state and federal departments of education would strengthen the accrediting body's impact on the field.

CCIE has the potential to contribute to improving interpreter education, but currently its influence is constrained by limited resources and lack of incentives for program participation. The organization needs additional funding for staff and promotional activities. Key to its success, as well, is acknowledgement from state and federal agencies, employers, and others whose

recognition would put teeth into the process by requiring accreditation or, at a minimum, favoring those programs that attain accreditation.

Interpreter Professional Development (In-Service)

The Training of Interpreters program has produced a number of valuable educational products and services for interpreter professional development, particularly over the past two grant cycles when effective practices and inter-center collaboration were emphasized. New curricula and training opportunities have been made available in specialized areas of interpreting including legal, healthcare, vocational rehabilitation, Spanish-influenced settings, and Deaf interpreter practice. These settings continue to be important moving forward and new NCIEC resources should be implemented and replicated widely.

Interpreter professional development must be responsive to the complex linguistic needs of diverse populations within the contexts of specialized settings.

Based on recent the 2014 NIEC Interpreter Practitioner Needs Assessment, interpreters' priority specialty training needs are in K-12 education, legal, healthcare, mental health, high tech, postsecondary, and video interpreting. They seek training in context-specific content knowledge, specialized vocabulary, discourse, ethics, and interactional management, e.g. logistics to improve communication.

The future of interpreter professional development will require an overlay of these critical areas on training and resources responsive to newly identified trends: interpreting with immigrants and refugees, interpreting with individuals who are Deaf Plus, interpreting with individuals who use cochlear implants, interpreting with individuals whose language is dysfluent or idiosyncratic, interpreting in Deaf/Hearing interpreting teams.

Conclusion

The findings presented in this report provide a valuable framework for understanding changing interpreting needs, informing predictions about the populations interpreters will work with in the future, and establishing goals to align the field of interpreter education with that future direction. Traditional service delivery roles and responsibilities are being tested in light of changing needs and new technologies that have only recently been put into practice. Many of the changes taking place today are relatively new, and there is insufficient research or statistics on which to base assumptions and predict needs for the long term. Hopefully, the report will inform the direction of future RSA funding cycles and promote enhancements in interpreter education and professional development over the next 5-10 years.

Recommendations: Shifting Paradigms

Recommendations: Shifting Paradigms

We have established the need for interpreters to possess a higher level of linguistic sophistication in ASL and English, proficiency in diverse languages and cultures beyond ASL and English, alternative communication strategies and interventions, knowledge and sensitivity regarding immigrant and refugee experiences, cochlear implant users, and Deaf Plus populations of all ages, as well as specialized knowledge and skill for high demand areas of healthcare, legal, postsecondary and graduate education, and professional employment.

The trends described in this report seem daunting for their growing complexity and urgency. But we believe that there are viable solutions if we rethink current paradigms for interpreting services delivery, interpreter education and professional development, and policy-making and related practices.

Interpreting Services Delivery

While some interpreters might have the skills, knowledge and sensibilities to address myriad and varied demands, we cannot, in general, expect all interpreters to be everything to everybody. Individual interpreters can and should be trained in specialty areas of interpreting. Yet, we should also employ teams of interpreters that collectively possess the requisite capabilities to meet complex needs. Such teams might include a combination of Deaf and hearing interpreters, interpreters with trilingual competence, and spoken language interpreters who are bilingual in English and another spoken language.

*Old paradigm:
Hire a single interpreter*

*New paradigm:
Specialization and Collaboration*

In addition, we must adopt policies and guidelines that ensure the highest quality interpreting services delivered via video.

The Training of Interpreters Program should undertake partnerships and activities to develop and disseminate or implement:

- Effective practices in the use of multi-faceted interpreting teams and the conditions that call for these types of teams. There is basis for this work in NCIEC publications and resources on interpreting in the courts and on interpreting in Spanish-influenced settings.
- Strategies for identifying and recruiting fluent users of the signed and spoken languages of key minority and immigrant communities, and provide them training opportunities.
- Outreach, education, and informational materials about interpreting services for use by service providers, interpreter referral agencies, and public entities including hospitals, prisons, and the courts. Material should explain legal rights to interpreting services, guidance

for effective use of VRI, and guidance on when to employ teams of interpreters. The material should link searchable databases of interpreters who specialize in high demand areas of interpreting, Deaf interpreters, and interpreters with trilingual competence.

- Information and education on self-advocacy for d/Deaf individuals, including transition-aged youths, and their families regarding rights to communication access and interpreter resources. The NCIEC Deaf and DeafBlind Self-Advocacy Training are adaptable for this purpose. Materials should be available in accessible formats for individuals from minority and immigrant populations and their families.
- Needs assessment study of VRI effectiveness across a range of venues and users.
- Needs assessments including an attrition study of individuals who left the field for other pursuits, i.e. what can we learn from them that will support better retention of interpreters in the future?

RSA should partner with appropriate offices within Department of Education and other appropriate executive agencies to adopt policies that will ensure practices aligned with interpreter research and best practices in interpreting are applied to Video Relay Services and Video Remote Interpreting.

Interpreter Education Programs (Pre-Service)

Interpreter education programs must continue to bring new interpreters into the field. However, just as individual interpreting practitioners cannot be everything to everybody, "one size fits all" will not support the paradigm shift needed in interpreter education to address the emerging trends we see today.

The primary goals of undergraduate interpreter education programs should be to improve current levels of ASL fluency and prepare discerning graduates who can assess risk and determine whether to accept assignments, identify alternative interpreting resources, prepare for assignments, and begin to collaborate with other interpreters as a member of an interpreting team.

At the same time, however, the field needs non-traditional programs designed to fast-track preparation of already-fluent ASL speakers and Deaf individuals who have at least a bachelors degree.

***Old paradigm:
One Size Fits All***

***New paradigm:
Traditional Undergraduate,
Graduate, & Non-Traditional
Program Options + Safe
Pathways Into the Field***

The Training of Interpreters Program should support partnerships and activities to develop and foster:

- Effective practices in providing structured and sustained opportunities for student engagement in D/Deaf and DeafBlind communities.
- Exposure of interpreting students to d/Deaf individuals of diverse ages, ethnic backgrounds, language use, and abilities; the National Center created a number of curricular infusion modules that can serve as models for new modules on these topics.
- Effective practices in interactional management applicable to various interpreting situations.
- Implementation of new modules for IEP infusion:
 - Interpreting with immigrants and refugees
 - Interpreting with Individuals who are Deaf Plus
 - Interpreting with individuals who use cochlear implants
 - Interpreter interface with educational technology including but not limited to CART
 - Interpreting via video
- Expanded implementation of National Center Teaching Modules for the Classroom (for curricular infusion):
 - DeafBlind Interpreting
 - Deaf Interpreter/Hearing Interpreter Teams
 - Face of the Deaf Consumer
 - Interpreting in VR Settings
 - Social Justice Issues in Interpreting
 - To Your Future Health: Contemplating Healthcare Interpreting
 - Vocational Rehabilitation Engagement Manual
- Increased involvement of Deaf interpreters as interpreting educators and supervisors.
- A national study of the language and interpreting competencies attained by graduates of two-year and four-year interpreter education programs in order to understand what level of ASL proficiency is realistically attainable and under what conditions.
- Standard outcomes for ASL fluency and interpreting competencies.
- Large scale recruitment efforts to draw fluent language users from minority and immigrant communities and availability of scholarships or stipends to support participation and retention.
- National agreement of levels of risk inherent in a range of interpreting situations to inform appropriate pathways for novice interpreters to enter the field.
- Formal low-risk pathways for novice interpreters to enter the field with support and supervision.
- Implementation of the NCIEC Deaf Interpreter Curriculum through non-traditional interpreter education avenues.
- Effective practices in preparing ASL-fluent children of Deaf adults through non-traditional interpreter education avenues.

Recognition of the Commission on Collegiate Interpreter Education by the Department of Education and other agencies would strengthen the reach and efficacy of interpreter education program accreditation efforts.

Interpreter Professional Development (In-Service)

Interpreter professional development activities must increase interest among working Deaf and hearing interpreters in addressing emerging trends, disseminate effective-practice-based resources and training in specialty areas of interpreting, and build and strengthen ability to work as a member of a team.

The Training of Interpreters Program should support partnerships and activities to develop and disseminate or implement:

- NCIEC effective-practice-based curricula, resources, training, and formal pathways to specialization:
 - Interpreting in Vocational Rehabilitation Settings
 - Interpreting in Legal Settings
 - Interpreting in Healthcare Settings
 - Interpreting in Spanish-Influenced Settings
 - Deaf Interpreter Practice
 - Deaf and DeafBlind Self-Advocacy Training

NCIEC pathway programs for healthcare and legal interpreting offered 2014-2015 provide useful models for future continuation and replication in other areas.

- New effective practices, curricula, and training on:
 - Interpreting with immigrants and refugees (build upon NCIEC Interpreting in Spanish-Influenced Settings)
 - Interpreting with Individuals who are Deaf Plus
 - Interpreting with individuals who use cochlear implants
 - Interpreter interface with educational technology including but not limited to CART
 - Interpreting via video
 - Interpreting in academic and professional settings
 - Interactional management as applied to various settings
- Support for dissemination of information and training on Pro-Tactile and Haptics approaches to communication and interpreting with individuals who are DeafBlind.

OSERS and OSEP should partner on in-service training for educational interpreters.

Creating a Better Future

Current healthcare and education policy and practice create barriers for d/Deaf individuals in developing language competence. A first barrier occurs when families of deaf infants are steered away from using sign language, the most accessible language for the child. A second barrier occurs when under-qualified interpreters fail to model fluent language for children in K-12 mainstreamed settings.

Create healthcare and education policy and practices that support development of language competence in d/Deaf infants and children.

We believe that RSA, working collaboratively with other offices within the Department of Education and with other relevant agencies, has the power to influence policy and practices for future generations of d/Deaf people.

We recommend that policies and practices be adopted to ensure d/Deaf children have access to both signed and spoken language using a bimodal, bilingual approach from the point of early hearing detection and intervention. Policies and practices should support:

- Comprehensive information and resources on the benefits of the bimodal, bilingual approach, made available through multiple channels to better inform and support healthcare and early intervention providers.
- Comprehensive information and resources for families faced with early decisions about the communication opportunities for their deaf child. Include information on the full range of early intervention service options, including benefits of early exposure to sign language and bimodal communication approaches. Identify sign language supports for parents and family members.
- Training of Deaf early intervention specialists, language mentors and tutors, educators, and role models to work with families that have an early-identified deaf child.

With regard to mainstreamed education, policies and practices should be adopted to ensure qualified interpreters who can provide viable language modeling for d/Deaf students.

Policies and practices should support:

- Appropriate qualifications and commensurate compensation for interpreters who work with d/Deaf students in mainstream educational settings. Interpreters that work in these settings should satisfy high-level requirements including: language fluency, continuing professional development, supervised experience, and comprehensive qualifying examination. The practical aspects of the training should assure each interpreting professional demonstrates requisite knowledge, skills, and abilities to facilitate development of a child's language and literacy.

- Resources developed for parents of d/Deaf children that clearly explain and define the right to have a qualified interpreter in educational settings and the selection and hiring criteria by which interpreters are deemed qualified.
- A study of language competence outcomes of implanted children and long-term implications of cochlear implant use.

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