Contents

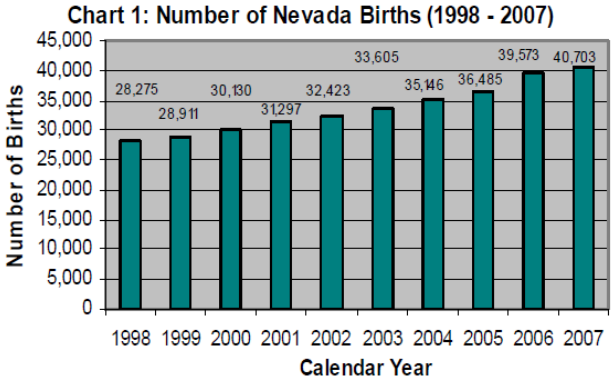
Introduction

The mission of the Nevada Early Hearing Detection and Intervention (EHDI) Program is to ensure infants are identified with hearing loss and have access to services within a timeframe that minimizes the negative consequences of hearing loss. The Nevada EHDI Program works in accordance with the Healthy People 2010 objective 28.11 and the Joint Committee on Infant Hearing 2007 Position Statement paper to ensure that all infants are screened for hearing loss before one month of age, those referred from the screen receive a diagnostic evaluation by three months of age, and those infants identified with hearing loss receive necessary services including amplification by six months of age. Finally, the Nevada EHDI Program works with community partners to develop and enhance services for infants with hearing loss and their families.

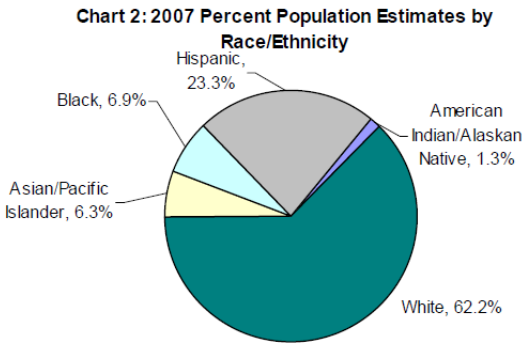
Needs Assessment

Economic Climate.

For nearly all of the last twenty years, Nevada has been the fastest growing state in the nation. Between 1990 and 2006 the population of Nevada increased by 87.1 percent, by far the largest increase in the country. During the ten year period from 1998 through 2007, the birth rate in Nevada grew from 28,275 to 40,703 (chart 1), a nearly 44% increase in only ten years. These births are currently spread among 24 birthing hospitals statewide, 3 in the Reno/Carson area, 17 in the Las Vegas area, and 4 in rural areas of the state. Nevada also has a homebirth rate of approximately 1.3 percent. The dramatic increase in population has affected the state in a number of ways, including a) strains on the service infrastructure including hospitals, medical



services, schools, and social services; b) increases in poverty and crime, and c) other infrastructure issues related to roads, recreation and culture to name a few. Like many states, a large portion of the population increase is due to immigration. During the 1990 to 2007 period, 17 percent of the population increase was through foreign immigration. Eighty percent of these immigrants were Spanish speaking, though other languages including Tagalog, German, and Chinese were present as well. Chart 2 shows population estimates by race and ethnicity in Nevada. The U.S. Census Bureau has projected that Nevada will remain the fastest growing state in the nation through at least 2030. In addition to explosive demand on services, Nevada has recently suffered from a shrinking tax base related to the nationwide economic downturn. In Las Vegas, mortgage foreclosures are the highest in the nation. For 2008 and 2009, this situation resulted in more than twenty percent cuts to state programs with additional cuts imminent for future years. To compound the problem, Nevada currently ranks last in the nation in the amount of funds received from the federal government. For every $1.00 Nevadan's pay in taxes they currently receive $0.63 in return, in stark contrast to the $1.06 national median.



By area, Nevada is the 7th largest state in the nation with 110,561 square miles. By population density, the state ranks 43rd with 18.2 residents per square mile. By population, Nevada ranked 35th in the nation with approximately 2.6 million residents (2007 data). Residents of Clark County, the urban area in the south, and Washoe County, the urban area in the north, comprise approximately 90 percent of the population. Clark County includes the cities of Las Vegas with a

2007 population of 552,539, Henderson with 240,614, and North Las Vegas with 197,567. Washoe County includes Reno, with a 2007 population of 210,255 and Sparks, with 83,959. The remaining 15 counties in the state are considered rural or frontier areas. The U.S. Census Bureau has projected that Nevada will remain the fastest growing state in the nation through 2030.

Demographics.

Overall, 73.08 percent of Nevada's population is Caucasian, 6.57 percent is African-American, 5.03 percent is Asian, 1.40 percent is Native American, 13.92 percent declare identity as other, and 22.68 percent of people in Nevada report Hispanic ethnicity. In the Las Vegas area 68.54 percent of the population is Caucasian, 9.94 percent is African-American, 5.04 percent is Asian, 0.83 percent is Native American, and 27.99 percent of the population claim Hispanic ethnicity. In the Reno area 76.22 percent of the population is Caucasian, 2.00 percent is African-American, 5.35 percent is Asian, 1.30 percent is Native American, and 22.60 percent of the population claim Hispanic ethnicity. Overall, Nevada's poverty rate was 11.1 percent, with 11.3 percent in the Reno and Las Vegas areas, and 10.4 percent in rural areas (2005 data).

Initial screening capacity.

The Nevada EHDI program was initiated on January 1, 2002 following the passage of a legislative mandate. This law states that all hospitals providing care for more than 500 newborns per year will administer hearing screens on all infants prior to discharge. This mandate currently affects 3 of the 4 rural hospitals, leaving the 4th to report voluntarily. The law also stipulates that infants in need of further audiological analysis be appropriately referred before discharge. Prior to the passage of legislation, it is estimated that less than 40 percent of infants born in the state

each year received a hearing screen. In 2002, this number increased to approximately 94.4 percent, and in 2008, the screening rate was over 99.0 percent. Since 2003, the Nevada EHDI program has been operating with grant funds from the Health Resources Services Administration (HRSA), and in 2008 Nevada was awarded a grant from the Centers for Disease Control and Prevention (CDC) to expand program operations.

Follow-up screening capacity.

In Nevada, it is not currently possible to track follow-up rates for diagnostic activity by 3 months of age or those identified with hearing loss receiving adequate services by 6 months of age. The Nevada EHDI Program has estimated that loss to follow-up at three months is approximately 40 percent in Northern Nevada and approximately 60 percent in Southern Nevada. To help alleviate the problem in Southern Nevada, Nevada Early Intervention Services (NEIS) currently flies a staff audiologist from Reno to Las Vegas twice a week. Access to a medical home, provider ratios, understanding the benefit of primary care services, health coverage, and the referral system contribute to the follow-up rates for follow-up screening and treatment. In Nevada, medical home rates and components of 'medical homeness' for CYSHCN in general are:

1. The percent of children with special health care needs age 0 to 18 years whose families partner in decision making at all levels and are satisfied with the services they receive. 54.6%
2. The percent of children with special health care needs age 0 to 18 who receive coordinated, ongoing, comprehensive care within a medical home. 49.1%
3. The percent of children with special health care needs age 0 to 18 whose families report the community-based service systems are organized so they can use them easily. 75.1% (2006 CSHCN Survey).

Medical and Audiological capacity.

Nevada currently deals with a shortage of medical professionals in every geographic region of the state. As of 2006, for the physician ratio, Nevada ranked 46th in the nation with 2.2 per thousand residents and ranked 49th in the nation for nurses with 5.7 per thousand residents. For audiology services there are currently 66 audiologists licensed in the state of Nevada. Of these, fewer than 10 audiologists work with infants and young children, and only one works with pediatric patients in any rural area.

Organizational capacity.

The Nevada EHDI program is one of the many programs that operates out of the Nevada State Health Division. Programs within the Division seek to improve the health of Nevada's families with emphasis on women, infants, and children, including children with special healthcare needs. The Health Division addresses issues in maternal and child health by providing programs, monitoring, evaluation, analysis, standards development, technical assistance, and quality assurance throughout the state. Activities are accomplished through professional staff including health program specialists, health resource analysts, medical consultants, as well as other professional and support staff.

Upon its creation in 2002, the Nevada EHDI program developed slowly due to hiring difficulties. The Program Coordinator position was unoccupied for two years and was then filled for a year with a Coordinator who worked ten hours per week. In October 2006, the EHDI Program hired a

fulltime coordinator. Since this time, in concert with a strongly committed core team of professionals and parents, the program has been evolving rapidly. In January of 2007 NEIS convened a Hearing Task Force to identify gaps in the EHDI and NEIS programs, address need, and develop collaborations to increase efficient use of time and resources. The Task Force consists of the Nevada EHDI Coordinator, the Nevada Part C Coordinator, Early Intervention Audiologists, Speech Pathologists, and professionals from the University of Nevada School of Medicine, County School Districts, parents, and non-profit groups around the state.

The EHDI Task Force has been successful in identifying problems and implementing procedural changes within the program, at hospitals, and at NEIS clinics. These changes resulted in a screen rate improvement from 96.7 percent in 2006 to over 99.0 percent in 2008. Additionally, the Task Force implemented the following: a) increased training of medical professionals in EHDI issues, b) enabled the purchase of diagnostic audiology equipment for the Reno and Las Vegas NEIS clinics, c) completed the 7 NICHQ educational collaborative with stakeholders statewide, d) purchased and began development of the statewide EHDI database and e) created a direct referral process from hospital screening to diagnosis at NEIS. Additionally, the Hearing Task Force has developed collaborations with non-profit agencies within the state including the March of Dimes, the Deaf and Hard of Hearing Advocacy Resource Center, and the AG Bell Association. They have also worked with parents and professionals to develop a Nevada chapter of Hands and Voices, which began operations in 2008.

Currently, the Nevada EHDI Program operates with a paper tracking and referral system. This system is inefficient and tracking infants through the referral process, collecting data, and

analyzing statistics is difficult. In the fall of 2008 the Nevada EHDI Program purchased a statewide database to track and follow-up with children that refer from the program. The database purchased by the Nevada EHDI Program is currently under development with an expected go-live date of August 2009. This system will enable the EHDI program to collect data, analyze statistics, report data to federal agencies, track infants at each step of the EHDI process, and streamline the process of referral between hospitals and NEIS. Ultimately, this will decrease lost to follow-up rates and improve outcomes for infants with hearing loss.

The Nevada EHDI database selected is a secure, web-based reporting system capable of collecting individual data and demographics, including criteria for late onset hearing loss. The database will be compatible with the Nevada Electronic Birth Registry (EBR), which is currently under development with an expected go-live date of July 1 2009. It is the expectation that other data systems in the state, including Immunizations, Vital Records, Birth Outcomes Monitoring System, and Newborn Screening Blood Spot program, will become compatible with the EBR and EHDI systems. Once active, the Nevada EHDI program will be able to cross-reference with other data systems.

Additional infrastructure/organizational changes contribute to the recent changes in the EHDI program. In spring of 2008 the Nevada State Health Division administration began redesigning the state health division. The purpose was to increase program integration, leverage resources, and streamline and cost-share program activities. This has resulted in fundamentally rethinking what the state health division does, who delivers it, and determining where efforts should focus. As a result of this, the Nevada EHDI Program has been integrated with the Nevada Newborn

Screening Program for the purpose of streamlining program activities thus eliminating redundancy among programs.

Summary.

In Nevada, loss-to-follow up is compounded by an exponentially growing population and lagging provider-to-patient ratios; less than one half of the CYSHCN have a medical home. The number of infants who receive diagnostics by 3 months of age and necessary services by 6 months falls below national standards. A little over half of families with CYSHCN partner in decision-making, and almost half of CYSHCN are underinsured or have no health coverage. The activities proposed in the work plan will focus on developing the EHDI Program infrastructure in Nevada with a focus on reducing loss to follow-up, increasing access to services for children with hearing loss, and increasing family-to-family support for families of children identified with hearing loss.

Methodology

The Nevada EHDI Program will use a methodology that focuses on collaborative partnerships, development of resources, use of available resources, as well as state and federal expertise to accomplish grant objectives. For Nevada this will include ongoing collaborations with non-profit organizations including Nevada Hands and Voices, development of future collaborations, knowledge, skills and abilities of professionals within the State Health Division, and Technical Assistance from federal agencies. The EHDI Program will also continue to work with the Early Intervention Task Force and work to integrate Task Force activities into an Advisory Council

that encompasses EHDI, Newborn Screening, genetics, as well as other congenital and inherited disorders.

Proposed program activities will be analyzed through the use of the plan-do-study-act (PDSA) cycle used by the National Initiative for Children's Healthcare Quality to implement goals, objectives and activities. Evaluation of improved follow-up will be demonstrated by improved timelines for screening by one month of age, diagnosis of hearing loss by three months of age, and intervention including amplification by six months of age. Upon completion of the Nevada EHDI database data will be analyzed to establish a baseline for each element and improvements will analyzed with the implementation of new initiatives.

Work plan

The primary goal of the grant is to reduce loss to follow-up. Reducing loss to follow-up will be accomplished by focusing efforts on six main objectives:

1) Enhance the infrastructure of the Nevada EHDI Program
2) Implement NICHQ recommendations
3) Assure follow-up for infants that do not pass the newborn hearing screen by one month of age
4) Assure follow-up for infants that do not receive a diagnostic test by three months of age
5) Assure services including amplification and ongoing care for infants that are identified with hearing loss
6) Expand the availability of culturally competent services and educational materials for parents

The proposed work plan includes the overarching goal of reducing loss to follow-up and the accompanying objectives that will work to fulfill this goal.

Objective 1.

Objective 1. Enhance infrastructure of the Nevada EHDI Program			
ACTIVITY	PEOPLE RESPONSIBLE	TIMELINE	EVALUATION
1.1. Recruit audiologists to Southern Nevada through visits to graduate programs nationwide and placing position notices on audiology program websites and bulletin boards	EHDI Coordinator EHDI Audiologist	09/01/09 – 8/31/12	Vacant audiology positions filled at Las Vegas Early Intervention Services
1.2. Continue development and implementation of EHDI database	EHDI Coordinator EHDI Database Project Manger	09/01/09 – 08/31/10	Database system completed and in place at all state hospitals Data system functional and user friendly for all customers
1.3. Identify issues and make necessary enhancements to EHDI database	EHDI Coordinator EHDI Database Project Manger Hospital screeners EHDI audiologist	09/01/10 – 8/31/11	Issues identified and resolved
1.4. Continue with necessary enhancements to EHDI database	EHDI Coordinator EHDI Database Project Manger Hospital screeners EHDI audiologist	09/01/11 – 8/31/12	Issues identified and resolved

1.5. Develop and distribute new print materials for parents and professionals	EHDI Coordinator NCCID Educational Coordinator	01/01/10 – 6/31/10	Print materials developed and distributed to hospitals and healthcare provider offices
1.6. Develop Nevada EHDI website	EHDI Coordinator NCCID Educational Coordinator	07/01/10 – 12/31/10	Website developed and search optimized
1.7. Develop online EHDI training including CME hours for healthcare providers	EHDI Coordinator EHDI Audiologist NCCID Educational Coordinator	01/01/11 – 6/30/12	Training available online CMEs available to healthcare providers
1.8. Develop and provide training in pediatric audiology to audiologists statewide	EHDI Audiologist	09/01/09 – 8/31/12	100% of audiologists interested in working with pediatric patients trained in pediatric techniques
1.9. Develop Standardized policies and procedures for hospital screeners, nursing staff, and physicians	EHDI Coordinator EHDI Audiologists Hospital Screeners	01/01/10 – 6/31/10 and ongoing	Policies and Procedures manual developed for all state hospitals, audiologists, and family-to-family support organizations

Objective 2.

Objective 2. Reduce loss to follow-up by Employing NICHQ recommendations			
ACTIVITY	PEOPLE RESPONSIBLE	TIMELINE	EVALUATION
2.1. Test NICHQ recommendations in one state hospital	EHDI Coordinator Hospital Screeners EHDI Audiologist Community Partners NCCID Educational Coordinator	01/01/10 – 2/28/10	NICHQ recommendations followed for all births at pilot hospital Outcomes for each phase of 1-3-6 timelines evaluated compared to baseline data

2.2. Test NICHQ recommendations in five additional state hospitals and revise policies where necessary	EHDI Coordinator Hospital Screeners EHDI Audiologist Community Partners NCCID Educational Coordinator	03/01/10 – 06/30/10	NICHQ recommendations followed from all test hospitals Outcomes for each phase of 1-3-6 timelines evaluated compared to baseline data
2.3. Test NICHQ recommendations in five additional state hospitals and revise policies where necessary	EHDI Coordinator Hospital Screeners EHDI Audiologist Community Partners NCCID Educational Coordinator	07/01/10 – 9/31/10	NICHQ recommendations followed from all test hospitals Outcomes for each phase of 1-3-6 evaluated compared to baseline data
2.4. Test NICHQ recommendations at all remaining state hospitals and revise policies where necessary	EHDI Coordinator Hospital Screeners EHDI Audiologist Community Partners NCCID Educational Coordinator	10/01/10 – 12/31/10	NICHQ recommendations followed from all test hospitals Outcomes for each phase of 1-3-6 evaluated compared to baseline data

Objective 3.

Objective 3. Assure follow-up for infants that do not pass a hospital screen before 1 month of age			
ACTIVITY	PEOPLE RESPONSIBLE	TIMELINE	EVALUATION
3.1. Ensure appropriate data transfer from state hospitals to EHDI database	EHDI Coordinator EHDI Audiologists Hospital Screeners EHDI Database staff	01/01/10 – 8/31/12	100% of hospital data entered into system Data system collecting weekly updates from all state hospitals

			Data analyzed and follow-up provided for all infants that refer from the hearing screen
3.2. Provide follow-up calls to families of infants who did not pass the hearing screen before 1 month of age	EHDI Coordinator EHDI Audiologists EHDI Administrative Assistant	01/01/10 – 8/31/12	Follow-up calls made to all families of infants that do not pass a hearing screen before 1 month of age At least 90% of families contacted
3.3. Distribute educational materials to parents of children who do not pass the hearing screen	EHDI Coordinator EHDI Audiologists Hospital Screeners	07/01/10 – 8/31/12	Educational materials developed and distributed to all state hospitals Number of pamphlets distributed to hospital compared to birth numbers to ensure information is distributed to parents Minimum of 75% of pamphlets distributed to parents
3.4. Provide educational opportunities to hospital staff on appropriate procedures for screening and referring infants from the newborn hearing screen	EHDI Coordinator EHDI Audiologists NCCID Educational Coordinator	01/01/11 – 08/31/12	Educational presentations provided at all state hospitals a minimum of once per year Educational manuals developed Educational videos developed Online CMEs offered for nursing staff

3.5. Work with state health districts to expand the availability of screening equipment to local health districts and Nevada Early Intervention Services	EHDI Coordinator EHDI Audiologists Health District staff NEIS staff	01/01/11 – 8/31/12	Collaboration between local health districts and the Nevada EHDI Program in place Screening equipment available in all state health districts Screening equipment available at all three main NEIS offices

Objective 4.

Objective 4. Assure follow-up for infants who require diagnostic services			
ACTIVITY	PEOPLE RESPONSIBLE	TIMELINE	EVALUATION
4.1 Provide education to hospital personnel on the importance of a diagnostic appointment for infants that do not pass a hearing screen	EHDI Coordinator EHDI Audiologists NCCID Training Coordinator	06/01/11 – 08/31/12	All hospital personnel involved in the screening of infants for hearing loss educated on the importance of providing appropriate follow-up Education provided to families of all infants that did not pass the hearing screening statewide
4.2. Distribute educational materials to parents of children who require diagnostic services	EHDI Coordinator EHDI Audiologists Hospital Screeners	07/01/10 – 8/31/12	Educational materials developed and distributed to all state hospitals Number of pamphlets distributed to hospital compared to birth numbers to ensure information is distributed to parents Minimum of 75% of pamphlets distributed to

Objective 4. Assure follow-up for infants who require diagnostic services			
ACTIVITY	PEOPLE RESPONSIBLE	TIMELINE	EVALUATION
			parents
4.2. Contact families of infants that do not pass the hospital screen to explain the importance of the diagnostic exam and ensure an appointment is made with an audiologist	EHDI Coordinator EHDI Audiologists	06/01/11 – 08/31/12	Parents contacted 95% of the time when their child did not pass the newborn hearing screen
4.3. Work with hospital screeners and audiologists to ensure data is entered into EHDI database in a timely fashion	EHDI Coordinator EHDI Audiologists EHDI Database staff EHDI Administrative Assistant	06/01/11 – 08/31/12	All hospital screeners educated on the use of the EHDI database and all EHDI data entered into system within 7 days of screen
4.4. Provide educational opportunities to community audiologists to ensure they understand the EHDI Program and the importance of providing information to the Nevada EHDI Program	EHDI Coordinator EHDI Audiologists	06/01/11 – 08/31/12	Education provided to community audiologists statewide
4.5. Ensure access to services for infants in need of a diagnostic exam who's family cannot afford services	EHDI Coordinator EHDI Audiologists EHDI Database staff EHDI Administrative Assistant	06/01/11 – 08/31/12	Diagnostic screens available through Nevada Early Intervention Services and other community resources

Objective 5.

Objective 5. Assure services including amplification and ongoing care for children identified with hearing loss

ACTIVITY	PEOPLE RESPONSIBLE	TIMELINE	EVALUATION
5.1. Provide educational materials to families of children identified with hearing loss including community resources	EHDI Program Coordinator EHDI Audiologist	01/01/10 – 08/31/12	Educational materials developed and distributed List of community resources developed
5.2. Ensure all families have access to family-to-family support services to ensure families have access to education related to hearing loss issues	EHDI Program Coordinator EHDI Audiologist Hands and Voices Volunteers	01/01/10 – 08/31/12	Family-to-family support resources developed statewide Hands and Voices Guide By Your Side Program developed statewide
5.3. Ensure children identified with hearing loss have access to appropriate amplification including working with non-profit agencies that supply hearing aides to children	EHDI Program Coordinator EHDI Audiologist Hands and Voices Volunteers	01/01/11 – 08/31/12	Collaborations developed with non-profit agencies statewide Outcomes documented for all children in Nevada with hearing loss
5.4. Work with audiologists and NEIS staff to ensure children receive necessary services and data is updated in the EHDI database in a timely manner	EHDI Program Coordinator EHDI Audiologist	06/01/11 – 08/31/12	Collaborations developed with all community audiologsits statewide All Necessary data entered into EHDI database

Objective 6.

Objective 6. Expand the availability of culturally and linguistically competent services and materials and provide statewide training for healthcare providers.			
ACTIVITY	PEOPLE RESPONSIBLE	TIMELINE	EVALUATION

6.1. Develop and provide all EHDI pamphlets in English, Spanish, and Tagalog	EHDI Program Coordinator EHDI Audiologist Hands and Voices Volunteers	01/01/10 – 8/31/12	Pamphlets translated and printed
6.2. Partner with community resources to enhance awareness of the Nevada EHDI Program in minority communities statewide	EHDI Program Coordinator EHDI Audiologist Hands and Voices Volunteers	06/01/10 – 8/31/12	Partnerships developed Educational materials provided
6.3. Provide cultural competence training to hospital screeners and other healthcare providers	EHDI Program Coordinator EHDI Audiologist NCCID Educational Coordinator	01/01/11 – 8/31/12	Training developed for Nevada Training opportunities identified Minimum of three trainings provided each year

Resolution of challenges

One of the greatest challenges faced by the Nevada EHDI Program is the lack of audiology services in Southern Nevada. The shortage of audiologists has been of issue for many years in Southern Nevada. To help resolve this issue Nevada Early Intervention Services has had staff audiologists to provide services to families. In 2005 the staff audiologist retired, and though the position was filled for a period of time, it has been impossible to find a replacement since her leaving the program in spring of 2008. NEIS has advertised for the position since it was vacated and salaries have been raised twice, all to no avail. Currently, a staff audiologist from NEIS Reno flies to Las Vegas twice a week to follow-up with referrals. To help eliminate this problem the Nevada EHDI Program plans to take a more proactive approach by actively recruiting at

audiology programs around the nation, increasing advertising programs, and attempting to increase incentives for private practice audiologists in Southern Nevada including the purchase of diagnostic equipment for audiologists willing to see infants that refer from the newborn hearing screen.

The state also deals with deaf/hard of hearing issues in the community. For years there have been fundamental disagreements between these groups that have left the state vulnerable to political attacks and have resulted in a lack of basic communication that is needed to change the infrastructure of the state. In 2006 through HRSA funding the Nevada EHDI Program began working with parents and professionals to start a chapter of Hands and Voices. The non-bias mission and forward thinking has the potential to bring all of the groups together to act as a strong, united political force in Nevada. Efforts to bring the various state groups together are ongoing.

Evaluation and technical support capacity

Progress on the proposed activities and the impact of these activities will be evaluated by the following methods. Continuous measurement and assessment occurs with the PDSA model (see Attachment 5 for sample PDSA). A yearly internal evaluation will be conducted by the EHDI Coordinator, Early Intervention Coordinators, NEIS Audiologists, and hospital screening staff. A yearly external evaluation will be completed by the Nevada University Center for Excellence in Developmental Disabilities. Results of the evaluations will be presented to the program partners and the Hearing Loss Task Force to review for feedback and to resolve issues. The PDSA method and data collection from family feedback and satisfaction surveys comprise the quality assurance methods.

Results of the Nevada EDHI activities and strategies outlined in the work plan will be evaluated using process and output measures to assess timeliness, completeness, impact, and cost effectiveness. Measurements include: 1) percentage of infants screened before one month, 2) percent that return to hospital for re-screen, 3) referral rate, 4) percent that receive follow-up at NEIS, 5) the percentage of infants with hearing loss enrolled in NEIS by six months of age.

Key Components of each evaluation method:

PDSA: In April of 2008, the Nevada EHDI program began working with the National Initiative for Children's Healthcare Quality (NICHQ) Learning Collaborative. The NICHQ recommended method for improvement is the PDSA model for change. This model allows testing activities on a small scale, evaluating their success, and incrementally expanding successful activities. Objectives for procedural changes listed in the Work Plan will receive continuous assessment via the PDSA tool.

Internal Process Evaluation: Meetings with EHDI program staff, NEIS staff, and hospital staff to analyze effectiveness of current procedures; analysis of program data; walkthroughs with families for feedback of the program; assessment of measures in comparison to the goals and objectives; measurement of health outcome indicators including the number of infants completing the EHDI program in the recommended timeline; onsite observation of the hospital screening and referral process.

External Outcome Evaluation: Monitor progress toward program goals and objectives; developing, piloting, administrating, and evaluating family and hospital surveys; evaluating data quality by cross-referencing program data to hospital charts.

Organizational information

The Nevada EHDI program operates under Nevada Revised Statute 442.500-590. The law mandates that all hospitals providing care for more than 500 newborns per year administer hearing screens on all infants and that infants in need of further audiological analysis be appropriately referred before discharge. The law covers 17 of Nevada's 24 birthing hospitals, however all state hospitals report to the program and refer infants, regardless of legal requirement. Nevada statute also grants authority to programs within the Health Division to share confidential information on clients in order to provide more efficient and affordable community based services statewide. Since its development, the Nevada EHDI program has operated under a grant provided by HRSA. This grant has provided the funding for personnel, travel within the state and to the national EHDI conference, and the development of program infrastructure including purchase of the EHDI database.

The Nevada EHDI Program operates within the Bureau of Child, Family and Community Wellness (BCFCW). Within BCFCW lies six sections: 1) the Early Childhood Wellness section contains Autism Training and Technical Center, Perinatal Substance Abuse Prevention, Immunization Program, Maternal and Child Health, and the Nevada Centers for Congenital and Inherited Disorders Program which includes the Nevada EDHI program, Newborn Screening and genetics. 2) the Chronic and Communicable Disease section, 3) the Women, Infant, and Children program, 4) Prevention and Wellness section 5) Service Assurance, and 6) Minority Health. Attachment 2 contains the organizational structure of the Nevada State Health Division and the BCFCW. As noted above, the bureau collaborates closely with other agencies within the state system.

The collaboration between the EHDI program and NEIS is vital to the success of the EHDI program. Nevada Early Intervention Services functions throughout the state and provides 85 percent of the early intervention services in Nevada. Services include facilities, evaluations, diagnostic testing, and early intervention treatment services for children 0-3 years of age. They have bi-lingual (English and Spanish) staff, and have capacity to teach sign language to enhance children's ability to communicate and learn. In Nevada, infants who do not pass their hospital hearing screen are directly referred to NEIS for diagnostic screens. Diagnostic equipment is available in the three main NEIS clinics around the state, and audiologists are on staff in each of these clinics. This system helps reduce the number of infants lost to follow-up by providing diagnostic testing without cost, while addressing the dramatic shortage of audiologists within the state. This structure decreases the timeline between screening and diagnosis and helps ensure that infants identified with hearing loss are entered into services as soon as possible. It also allows for data collection and sharing with the EHDI program. Nevada Early Intervention Services works closely with the Department of Education and Nevada's 17 local County School Districts to transition children into available special education programs. They regularly work on the development of Individualized Family Service Plans (IFSP) for children with special healthcare needs. An interdisciplinary team offering a full array of medical and developmental professionals and disciplines provides clinical services.

In January of 2007, NEIS convened a quarterly Hearing Loss Task Force meeting to identify gaps in services and help develop streamlined services for infants and young children with hearing loss. The Task Force consists of the EHDI Coordinator, NEIS staff from all areas of the state, Audiologists, School district personnel, non-profit groups around the state, parents, and the University Of Nevada School Of Medicine Speech Language Pathology Program. The Task

Force has already seen success implementing procedures to decrease the timeline for infants identified with hearing loss and streamlining policies and procedures for both the EHDI program and NEIS.

The EHDI Program is fortunate to have a group of committed parents working in non-profit groups in northern and southern Nevada. These individuals work closely with the EHDI program to help train medical professionals by disseminating packets with information about the need to identify hearing loss early. Individuals are also working to develop family-to-family resources around the state through a Nevada chapter of Hands and Voices and working to expand operations of A.G. Bell in Northern and Rural Nevada.