Nevada
Early Hearing Detection and Intervention
Annual Report
2015

(2013 statistics)

BUREAU OF CHILD, FAMILY AND COMMUNITY WELLNESS
NEVADA DIVISION OF PUBLIC AND BEHAVIORAL HEALTH
DEPARTMENT OF HEALTH AND HUMAN SERVICES

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Background

The purpose of the Nevada Early Hearing Detection and Intervention (NV EHDI) Program is to ensure all children born in Nevada are screened for hearing loss at birth and those identified with hearing loss receive timely and appropriate audiological, educational and medical intervention. NV EHDI promotes the national EHDI goals and timelines developed by the Joint Committee on Infant Hearing and the Centers for Disease Control and Prevention (CDC):

1. All newborns will be screened for hearing loss before 1 month of age, preferably before hospital discharge.
2. All infants who screen positive will have a diagnostic audiologic evaluation before 3 months of age.
3. All infants identified with hearing loss will receive appropriate early intervention services before 6 months of age (medical, audiologic, and early intervention).
4. All infants and children with late onset, progressive or acquired hearing loss will be identified at the earliest possible time.
5. All infants with hearing loss will have a medical home as defined by the American Academy of Pediatrics.
6. Every state will have a complete EHDI tracking and surveillance system that will minimize loss to follow-up.
7. Every state will have a comprehensive system that monitors and evaluates the progress towards the EHDI goals and objectives.[1]

The Nevada Early Hearing Detection and Intervention (NV EHDI) Program is located within the Bureau of Child, Family and Community Wellness, Nevada Division of Public and Behavioral Health in the Nevada Department of Health and Human Services.

Prevalence of Hearing Loss

Hearing loss is the most common birth defect, affecting approximately 1.5 out of every thousand infants[2]. That number is estimated to increase to 9-10 per thousand in the school-age population[3]. For the years 2010 through 2013, Nevada observed a rate of 1.0 infants per thousand with documented confirmed hearing loss. Nevada averages approximately 34,500 births per year. Historically, more than 97% of all infants born in Nevada hospitals receive required hearing screening prior to discharge. The remaining infants who do not receive newborn hearing screening generally fall into two categories of births not covered by state statute: 1) home births; 2) births to parents who formally choose not to have their infant receive newborn hearing screening for personal reasons.

Nevada Statutes

Nevada Revised Statutes 442.500 through 442.590 defines the requirements and guidelines related to infant hearing screenings. Birthing facilities with greater than 500 births per year are required to screen all newborn infants' hearing prior to discharge. However, all birthing facilities in the state, even those with less than 500 births per year, currently provide hearing screenings as a "best practice" procedure.

Program Funding

NV EHDI does not receive funding from state general funds but operates from two federal grants: One from the Centers for Disease Control and Prevention (CDC) and the other from the

Health Resources and Services Administration (HRSA). The purpose and scope of these federal grants are defined by the grantor and the state complies with the stated purpose and accountabilities. The purpose of the HRSA grant is to improve the loss to follow-up/loss to documentation (LTF/LTD) by utilizing specific interventions such as quality improvement methodology to achieve measurable improvements in the number of infants who receive appropriate and timely follow-up. The CDC cooperative agreement is to assist EHDI programs in developing and maintaining a sustainable, centralized newborn hearing screening tracking and surveillance system capable of accurately identifying, matching, collecting, and reporting data on all births through the three components of the EHDI process (screening, diagnosis, and intervention).

Partners and Stakeholders

Meeting the goals and purposes of federal funding requires a coordinated effort of multiple partners within the national, state, public and private sectors.

The National Center for Hearing Assessment and Management (NCHAM) acts as the technical resource center for all state-based EHDI programs. NCHAM works closely with both federal funding sources and with each state to provide a multidisciplinary array of trainings and resources. [4]

The American Academy of Pediatrics (AAP) also works with both federal funding sources to provide assistance to physicians, hospitals, state EHDI programs, and parents to meet the same national EHDI goals. The AAP promotes the medical home concept and has established physician practice guideline for infant hearing screening and follow-up. Each state AAP chapter designates an EHDI chapter champion to work with state EHDI programs. [5]

Nevada audiologists assist NV EHDI by providing screenings and diagnostic testing of all infants suspected of a hearing loss and report those findings to the state.

All birthing facilities/hospitals in Nevada provide hearing screenings to infants prior to discharge and report this data to the state. The only exception is the Federal Hospital at Nellis Air Force Base which reports birth data to the state however is not currently consistently reporting hearing screening data.

NV EHDI works closely with Nevada Hands & Voices (H&V), a state-wide non-profit, to assist with reducing the number of infants lost to documentation and/or follow-up. Nevada H&V also provides parent mentors to assist families who have a newly diagnosed infant with a confirmed hearing deficit. [6]

As a result of NV EHDI being within the Nevada Division of Public and Behavioral Health, it has the opportunity to work closely and collaboratively with a variety of programs and agencies that provide support services to a similar population of infants and children less than three years of age. These programs include, but are not limited to, the following:

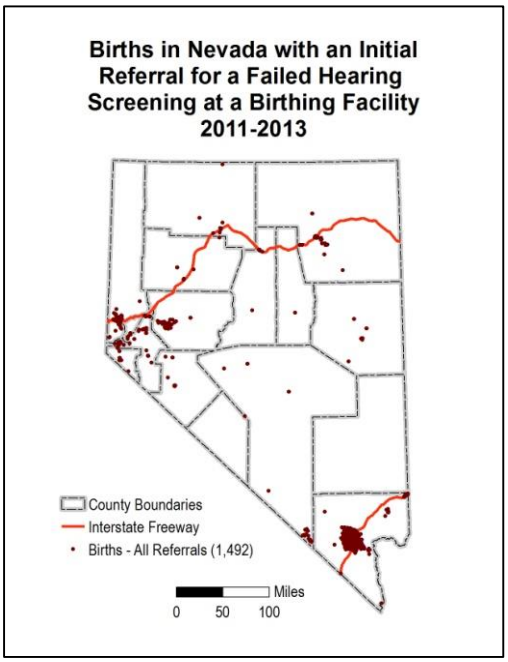
- Maternal and Child Health Program, including the Children and Youth with Special Health Care Needs and the Nevada Home Visiting Program;
- Nevada IDEA Part C Office;
- Nevada Early Intervention Services;
- Nevada Office of Vital Records;
- Nevada Office of Public Health Informatics and Epidemiology.

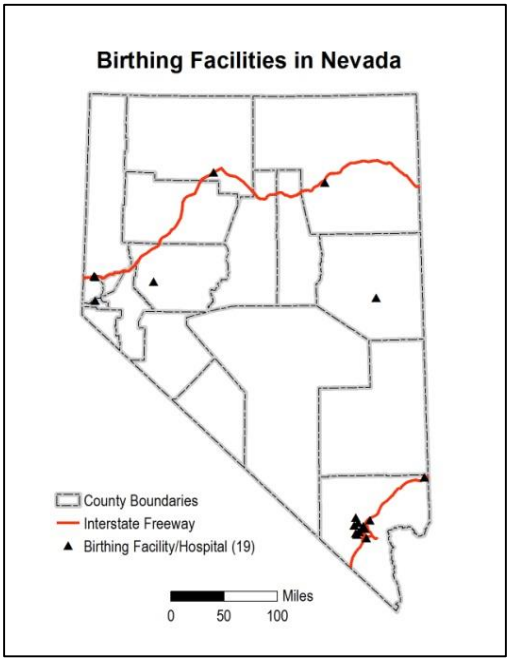
Improvement Strategies

Whereas Nevada has a very high newborn hearing screen rate, other components of the hearing screening continuum require ongoing strategies to improve.

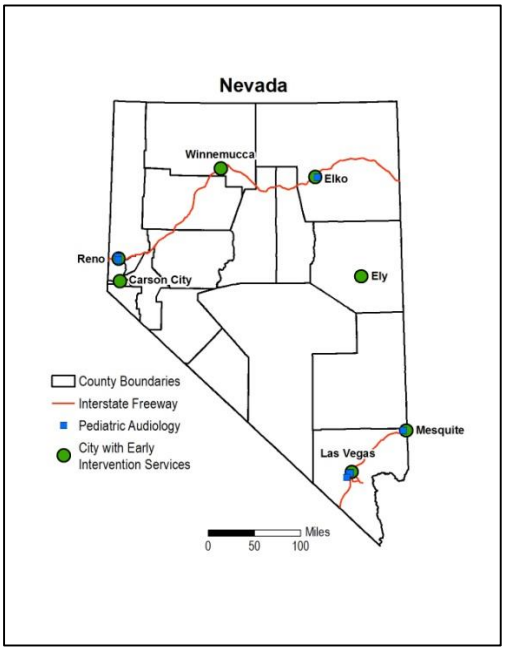
Following a "did-not-pass" hearing screen prior to hospital discharge, the infant should receive a second outpatient hearing screen to confirm results. If the second screen is also "did-not-pass," the infant should be referred to a pediatric audiologist for a diagnostic test to confirm or rule out a hearing deficit. If a hearing deficit is ruled out, no further testing is needed. If the infant is diagnosed as being deaf or hard of hearing (D/HH), the infant is referred to early intervention services. NV EHDI tracks these infants throughout this process to confirm they receive timely and necessary services.

The following graphics illustrate some of the challenges faced by parents, physicians, hospitals, audiologists, and early intervention staff to the EHDI process running smoothly.





The graphic above details the location and distribution of all birthing facilities in Nevada. If the location and distribution of failed newborn hearing screens are overlaid with the birthing facilities graphic, it becomes clear that many parents are required to travel multiple hours if their infant requires a hearing rescreen.



The parental travel distance and time burden is accentuated further when overlaid with the location

and distribution of pediatric audiologists and early intervention service facilities. It is not uncommon for an infant to need more than one visit to an audiologist and multiple ongoing visits to early intervention services. Nevada currently has four pediatric audiology facilities with the equipment and trained audiologist to work with infants.

These unique barriers pose a challenge to parents, physicians, audiologists, early intervention staff, and the NV EHDI program to ensure all infants are screened and rescreened, receive timely diagnostic audiology services, and are enrolled in early intervention before six months of age.

Nevada EHDI has met these challenges by forming strong collaborative relationships with each of the afore mentioned entities. This collaborative bond is strengthened through regular in-person communication, training opportunities, formal data-sharing agreements, and the NV EHDI Strategic Planning Committee.

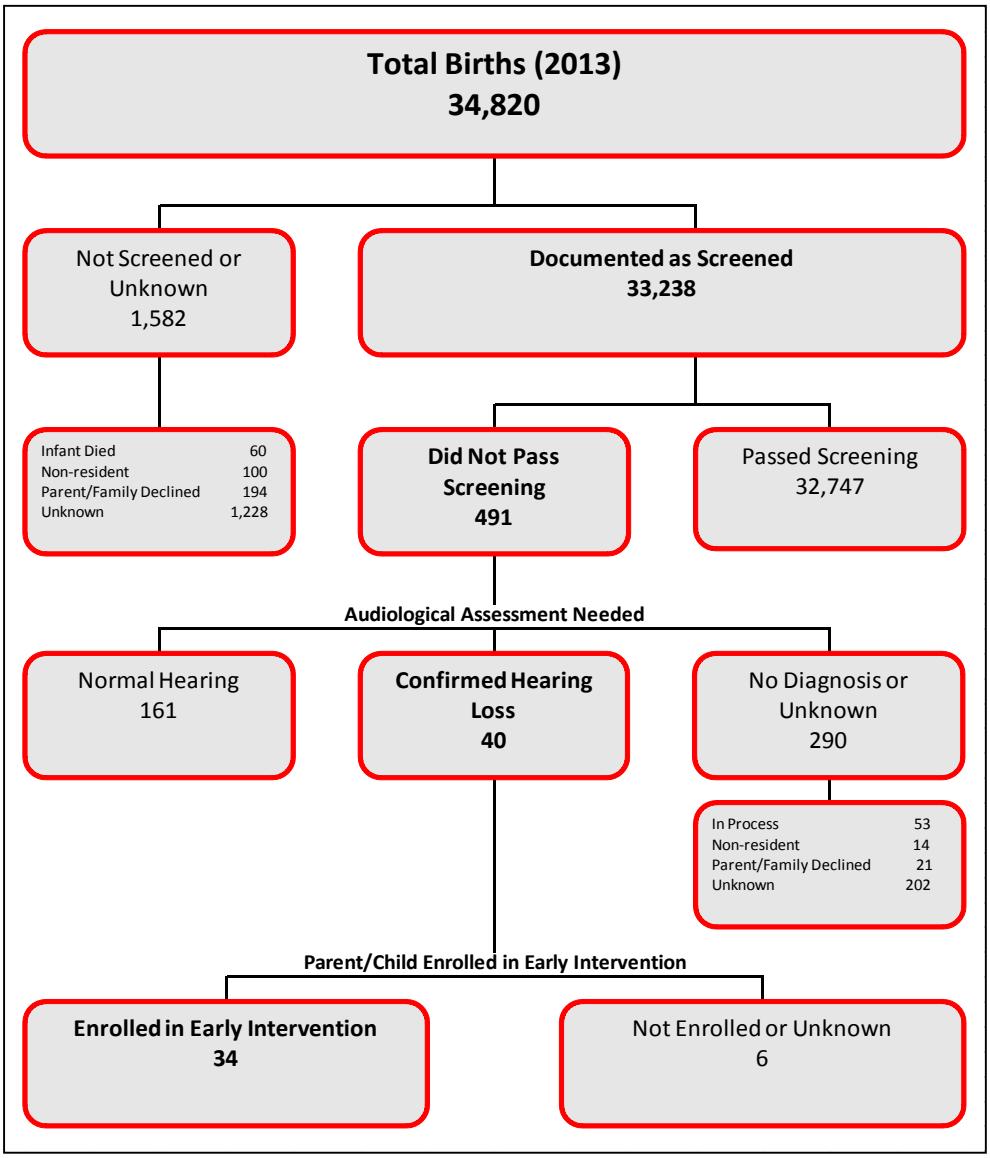
Strategic Planning

A strategic planning committee of NV EHDI partners was formed to collectively assist in setting Nevada specific goals, objectives, and strategies which closely match the national EHDI goals. Specific strategies involve working with birthing facilities, physicians, audiologists, early intervention services, parents, and local non-profits to accomplish the following:

- Facilitate timely and accurate reporting of data to NV EHDI by hospitals, audiologists and early intervention facilities;
- Facilitate appropriate training to all providers (hospital screeners, audiologists, developmental specialists within early intervention facilities;)
- Ensure all professionals incorporate the latest best practice guidelines in their practices;
- Facilitate open communication among all partners;
- Work with the Office of Vital Records to improve the functionality of the NV EHDI information system;
- Provide accurate and consistent education to parents and families throughout all stages of the hearing detection and intervention process.

Statistical Overview

In 2013, Nevada had a total of 34,820 births of which 33,238 (95.5%) were documented as receiving a hearing screening. Of those infants without documentation of a hearing screen, 60 died, 100 were non-residents, 194 the parents or family members declined services, and 1,228 are classified as unknown. The majority of the 1,228 unknown are from births taking place at home and from Nevada's single federal hospital, which does not currently consistently report screening results to the state.



Of all infants screened, 491 (1.48%) did not pass the screening. Further audiologic testing of those infants identified 161 with normal hearing, 40 with confirmed hearing loss, and 290 without documentation of a diagnosis.

Of the 40 infants with confirmed hearing loss, 34 (85%) are enrolled in Early Intervention Services. Of the six infants not enrolled in Early Intervention, two declined services, one moved out of jurisdiction, and three are unknown.

2013 Statistics

Data presented in this annual report are for the years 2010 through 2013 unless otherwise specified. National 2013 data is currently unavailable and is expected to be released during the second quarter of 2015. Data prior to 2010 was collected and reported using different criterion and in many cases is not comparable to current data using existing reporting requirements. EHDI data is considered preliminary until one year following the last day of the reporting year. Thus 2014 data is not reported in this report. This delay in reporting allows sufficient time for infants to move through the EHDI continuum (screening, diagnosis, and intervention).

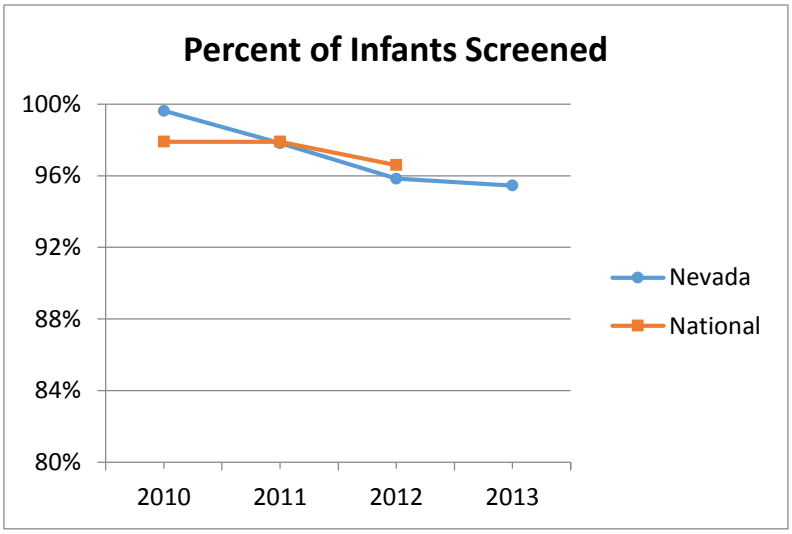


Figure 1

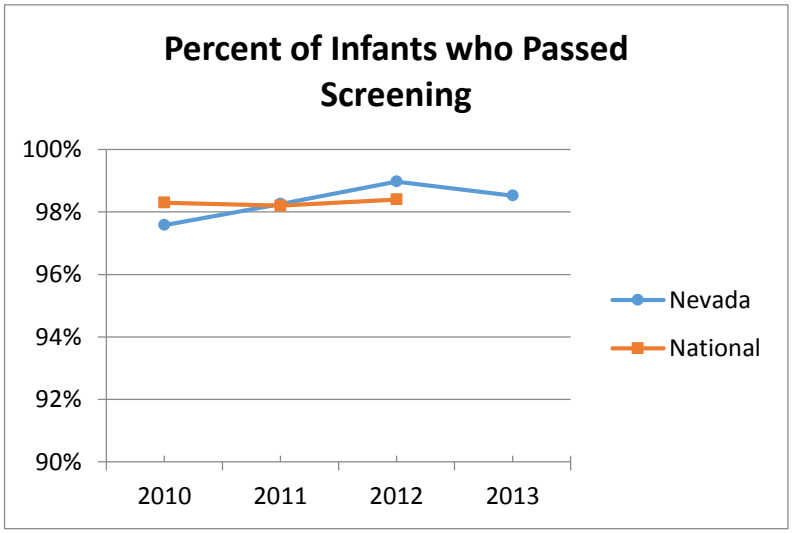


Figure 2

Figure 1 – Percent of Infants Screened

Nevada's percent screened dropped from 2010 – 2013 due to decreased reporting of infants screened at the federal hospital. When including estimated federal data, the percent increases to 97.5% for 2013.

Figure 2 – Percent of Infants who Passed Screening

Acceptable pass percentages are estimated to be between 96% and 98.5%. Less than 96% may indicate a higher number of false positives (infants screened as not passing when in reality they have normal hearing). Percentages above 98.5% may indicate a higher number of false negatives (infants screened as passing when in reality they have a hearing deficit).

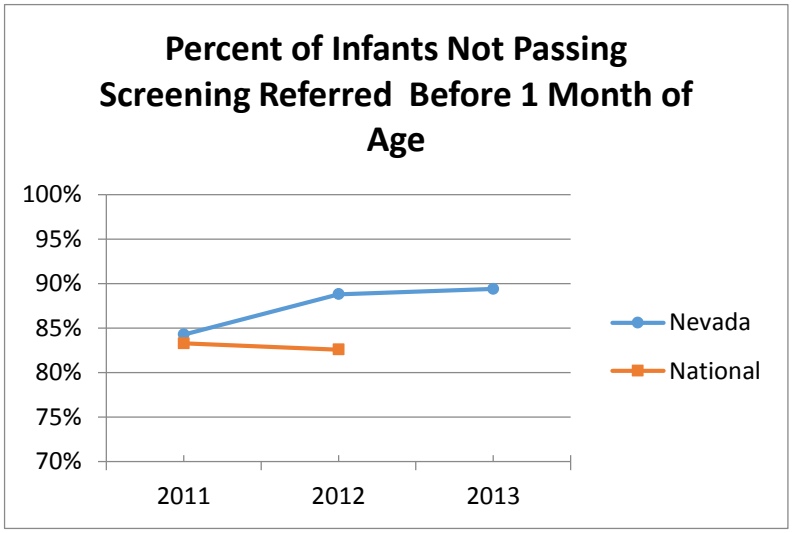


Figure 3

Figure 3 – Percent of Infants Not Passing Screening, Referred Before One Month of Age

The national goal is to screen infants prior to one month of age and those who do not pass the screen, refer them for audiologic testing. This figure reflects how well Nevada screens and refers within the one month benchmark.

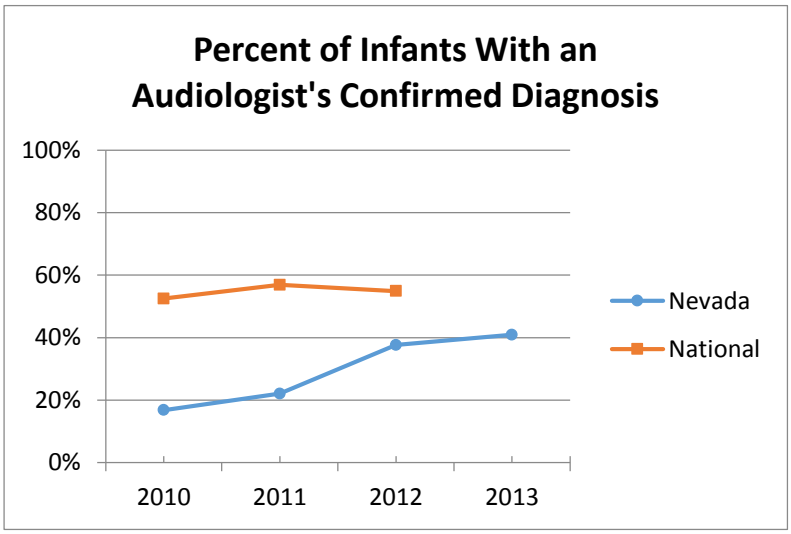


Figure 4

Figure 4 – Percent of Infants With an Audiologist's Confirmed Diagnosis

This figure represents only those infants whose audiological diagnosis has been reported to Nevada EHDI. Infants whose diagnostic results have not been reported are included in the Lost to Follow-up/Lost to Documentation (LTF/LTD) figure.

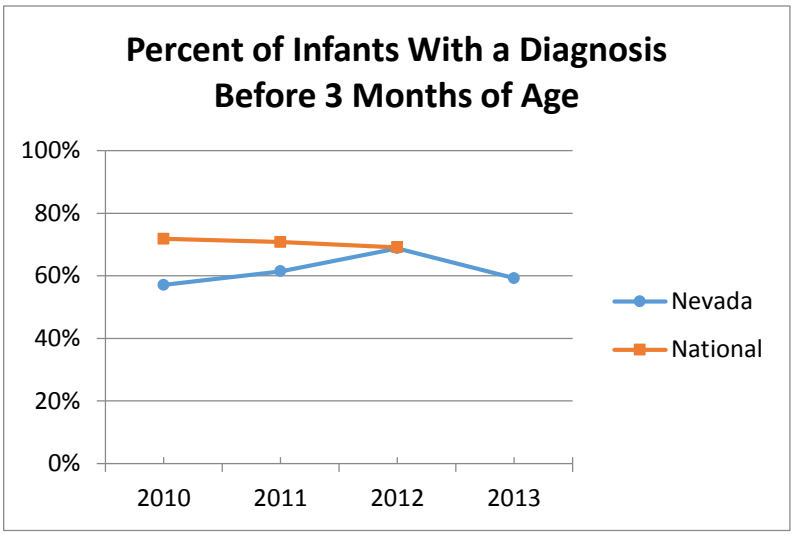


Figure 5

Figure 5 – Percent of Infants With a Diagnosis Before Three Months of Age

The national benchmark for infants to receive an audiologic diagnosis is within three months. Nevada infants who did not pass their screen are able to receive an audiologic diagnosis within three months, 60% of the time.

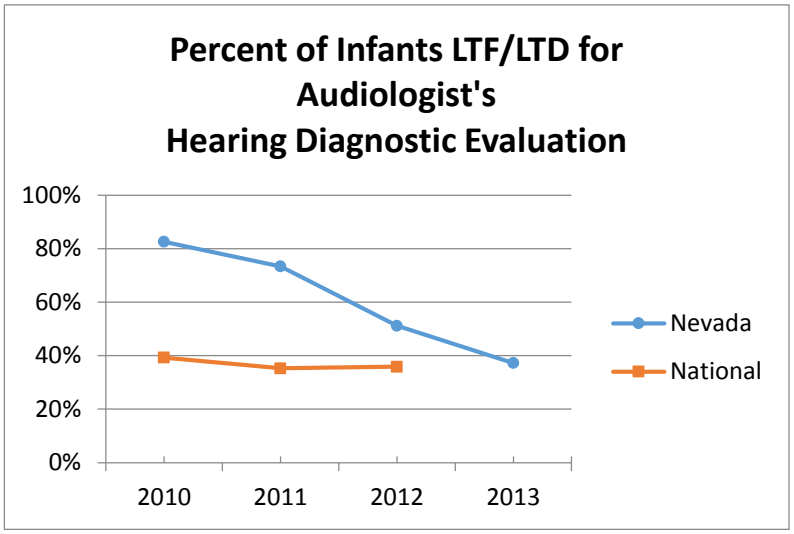


Figure 6

Figure 6 – Percent of Infants LTF/LTD for Audiologist's Hearing Diagnostic Evaluation

Nevada EHDI has made huge strides in reducing the number of infants lost to follow-up (LTF) or lost to documentation (LTD). This improvement is the result of working closely with hospitals, parents, audiologists, and infant's primary care physicians.

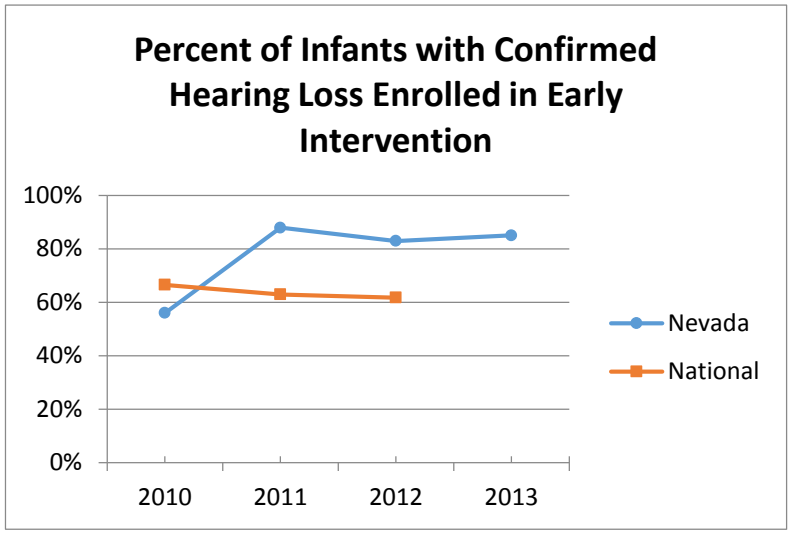


Figure 7

Figure 7 – Percent of Infants With Confirmed Hearing Loss Enrolled in Early Intervention

Nevada surpasses national levels on enrolling deaf or hard of hearing infants into early intervention services (EI).

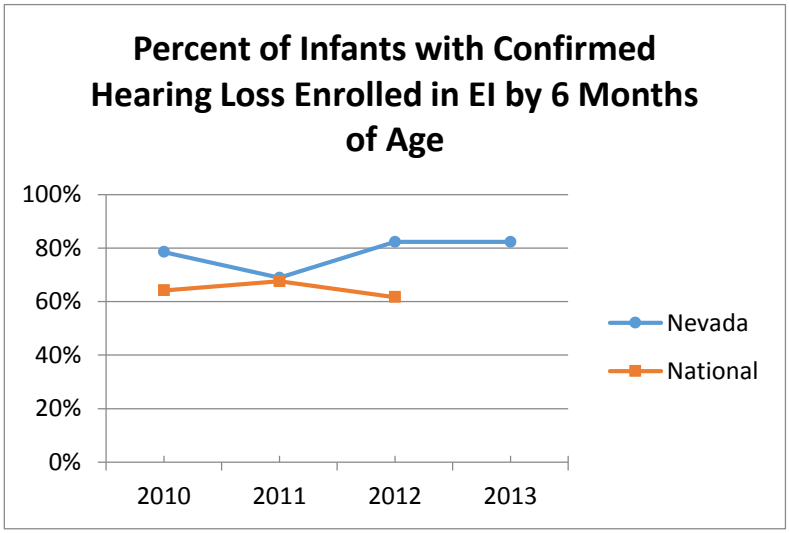


Figure 8

Figure 8 – Percent of Infants With Confirmed Hearing Loss Enrolled in EI by six Months of Age

Nevada surpasses national levels by enrolling deaf and hard of hearing infants into early intervention services within the six month benchmark.

Policy Recommendations

As a Nevada Revised Statute (NRS) required component of the Early Hearing Detection and Intervention annual report, legislative recommendations are provided.

Current "Screening of Hearing of Newborn Children" statutes were initially adopted in 2001 and have not been amended since that time. Over the last 14 years, the face of infant hearing screening and early hearing detection and intervention (EHDI) concepts have evolved to encompass much more than the intent of the original legislation. Nationally and individual states have demonstrated a great public health success in the provision of hearing screens at the hospital/ birthing facility level. Consistently states are screening 96% to 97% of their infants.

Funding sources (CDC & HRSA) are directing state programs to track infants to ensure they are receiving appropriate and timely services. As was expressed by an EHDI professional, "We could tell you how many infants passed or did not pass the screening. But we couldn't tell you what happened to them after they left the hospital".

Current CDC funding is to be directed in the development, maintenance and enhancement of early hearing detection and intervention information system surveillance programs. Yearly, the CDC has all states submit an extensive data report regarding screening, diagnosis, and intervention.

HRSA EHDI grants for the last few years have focused on reducing the infants lost to follow-up or documentation. This is to be accomplished through collaboration with all partners in the follow-up process.

The 2001 (NRS) regarding hearing screening were drafted for an era which the industry has moved beyond. In light of these current national directions, modification recommendations to Nevada's hearing screening statutes should address the following:

- Timely and accurate reporting to the state by hospitals, audiologists, and early intervention services
- Universal newborn hearing screening reporting (not just on those infants who did not pass)
- Pediatric audiology guidelines
- Midwife/birth companion responsibilities related to hearing screening
- Referral responsibilities of partners involved in the EHDI process

Nevada Revised Statutes

SCREENING OF HEARING OF NEWBORN CHILDREN

NRS 442.500 Definitions. As used in NRS 442.500 to 442.590, inclusive, unless the context otherwise requires, the words and terms defined in NRS 442.510, 442.520 and 442.530 have the meanings ascribed to them in those sections.

(Added to NRS by 2001, 2460)

NRS 442.510 "Hearing screening" defined. "Hearing screening" means a test or battery of tests administered to determine the need for an in-depth hearing diagnostic evaluation.

(Added to NRS by 2001, 2460)

NRS 442.520 "Hospital" defined. "Hospital" has the meaning ascribed to it in NRS 449.012.

(Added to NRS by 2001, 2460)

NRS 442.530 "Provider of hearing screenings" defined. "Provider of hearing screenings" means a health care provider who, within the scope of his or her license or certificate, provides for hearing screenings of newborn children in accordance with NRS 442.500 to 442.590, inclusive. The term includes a licensed audiologist, a licensed physician or an appropriately supervised person who has documentation that demonstrates to the State Board of Health that he or she has completed training specifically for conducting hearing screenings of newborn children.

(Added to NRS by 2001, 2460)

NRS 442.540 Certain medical facilities prohibited from discharging newborn child born in facility until child has undergone or been referred for hearing screening; exception; regulations.

1. Except as otherwise provided in this section and NRS 442.560, a licensed hospital in this state that provides services for maternity care and the care of newborn children and a licensed obstetric center in this state shall not discharge a newborn child who was born in the facility until the newborn child has undergone a hearing screening for the detection of hearing loss to prevent the consequences of unidentified disorders, or has been referred for such a hearing screening.
2. The requirements of subsection 1 do not apply to a hospital in which fewer than 500 childbirths occur annually.
3. The State Board of Health shall adopt such regulations as are necessary to carry out the provisions of NRS 442.500 to 442.590, inclusive.

(Added to NRS by 2001, 2461)

NRS 442.550 Hearing screenings: Persons authorized to conduct; certain medical facilities to hire or enter into written agreement with provider of hearing screenings; documentation to be placed in medical file of newborn child; written reports.

1. A hearing screening required by NRS 442.540 must be conducted by a provider of hearing screenings.
2. A licensed hospital and a licensed obstetric center shall hire, contract with or enter into a written memorandum of understanding with a provider of hearing screenings to:
   (a) Conduct a program for hearing screenings on newborn children in accordance with NRS 442.500 to 442.590, inclusive;
   (b) Provide appropriate training for the staff of the hospital or obstetric center;
   (c) Render appropriate recommendations concerning the program for hearing screenings; and
   (d) Coordinate appropriate follow-up services.
3. Not later than 24 hours after a hearing screening is conducted on a newborn child, appropriate documentation concerning the hearing screening, including, without limitation, results, interpretations and recommendations, must be placed in the medical file of the newborn child.

4. A licensed hospital and a licensed obstetric center shall annually prepare and submit to the Division a written report concerning hearing screenings of newborn children in accordance with regulations adopted by the State Board of Health. The report must include, without limitation, the number of newborn children screened and the results of the screenings.

5. The Division shall annually prepare and submit to the Governor a written report relating to hearing tests for newborn children. The written report must include, without limitation:

(a) A summary of the results of hearing screenings administered to newborn children and any other related information submitted in accordance with the regulations of the State Board of Health;

(b) An analysis of the effectiveness of the provisions of NRS 442.500 to 442.590, inclusive, in identifying loss of hearing in newborn children; and

(c) Any related recommendations for legislation.

(Added to NRS by 2001, 2461)

NRS 442.560 Hearing screening not required if parent or legal guardian of newborn child objects in writing; written objection to be placed in medical file of newborn child. A newborn child may be discharged from the licensed hospital or obstetric center in which he or she was born without having undergone a required hearing screening or having been referred for a hearing screening if a parent or legal guardian of the newborn child objects in writing to the hearing screening. The hospital or obstetric center shall place the written objection of the parent or legal guardian to the hearing screening in the medical file of the newborn child.

(Added to NRS by 2001, 2461)

NRS 442.570 Physician to recommend diagnostic evaluation if hearing screening indicates possibility of hearing loss. If a hearing screening conducted pursuant to NRS 442.540 indicates that a newborn child may have a hearing loss, the physician attending to the newborn child shall recommend to the parent or legal guardian of the newborn child that the newborn child receive an in-depth hearing diagnostic evaluation.

(Added to NRS by 2001, 2462)

NRS 442.580 Lead physician or audiologist: Designation; responsibilities. A licensed hospital and a licensed obstetric center shall formally designate a lead physician or audiologist to be responsible for:

1. The administration of the Program for conducting hearing screenings of newborn children; and
2. Monitoring the scoring and interpretation of the test results of the hearing screenings.

(Added to NRS by 2001, 2462)

NRS 442.590 Written brochures: Creation by Division; required contents; distribution.

1. The Division shall create written brochures that use terms which are easily understandable to a parent or legal guardian of a newborn child and include, without limitation:

(a) Information concerning the importance of screening the hearing of a newborn child; and

(b) A description of the normal development of auditory processes, speech and language in children.

2. The Division shall provide the brochures created pursuant to subsection 1 to each licensed hospital and each licensed obstetric center in this state. These facilities shall provide the brochures to the parents or legal guardians of a newborn child.

(Added to NRS by 2001, 2462)

Nevada Administrative Code

SCREENING OF HEARING OF NEWBORN CHILDREN

NAC 442.850 Annual reports to Division of Public and Behavioral Health: Contents. (NRS 442.540**,** 442.550**)** The annual written report required to be submitted to the Division of Public and Behavioral Health of the Department of Health and Human Services pursuant to NRS 442.550 by licensed hospitals and licensed obstetric centers must include the following information concerning hearing screenings of newborn children conducted at the licensed hospital or licensed obstetric center during the period covered by the report:

1. The name of the licensed hospital or licensed obstetric center.
2. The number of newborn children screened.
3. The number of newborn children who required follow-up services and for each of those newborn children:

(a) The age of the newborn child at the time the hearing screening was conducted;
(b) The gestational age of the newborn child at birth;
(c) The type of hearing screening that was conducted on the newborn child;
(d) The results of the hearing screening;
(e) Any recommendations made for the newborn child as a result of the hearing screening;
(f) Any referrals made for the newborn child as a result of the hearing screening;
(g) The county of residence of the newborn child;
(h) The name and date of birth of the mother of the newborn child; and
(i) The name of the attending physician of the newborn child.

(Added to NAC by Bd. of Health by R191-01, eff. 5-23-2002)

NAC 442.860 Referral of child for certain services: Notification of Division of Public and Behavioral Health. (NRS 442.540**)** If a licensed hospital or licensed obstetric center makes a referral for a newborn child because the newborn child needs assistance with accessing diagnostic and treatment services, the licensed hospital or licensed obstetric center shall notify the Division of Public and Behavioral Health of the Department of Health and Human Services of the referral at the time the referral is made.

(Added to NAC by Bd. of Health by R191-01, eff. 5-23-2002)

References

[1] http://www.jcih.org

[2] http://www.cdc.gov/ncbddd/hearingloss/data.html

[3] White, K. (October, 2010). Twenty years of early hearing detection and intervention (EHDI): Where we've been and what we've learned. ASHA Audiology Virtual Conference.

[4] http://www.infanthearing.org

[5] http://www.aap.org

[6] http://nvhandsandvoices.org