



Nevada

Newborn Hearing Screening

Annual Report

2009

Bureau of Child, Family, and Community Wellness

Nevada State Health Division

Department of Health and Human Services

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Hearing loss is the most common birth defect, affecting approximately three out of every thousand infants. Prior to the development of Early Hearing Detection and Intervention (EHDI) programs, the average age at which these children were identified in the United States was two and a half years, with milder hearing losses commonly remaining undetected until a child had entered elementary school. The implications of this delay in detection are dramatic. Most developmental milestones for language occur within the first two years of life, and if they pass without intervention they will almost certainly result in life-long deficits in speech and language. In addition, infants who are not identified with hearing loss early will likely experience delays in other facets of life; these include social and emotional development as well as cognitive and academic growth.

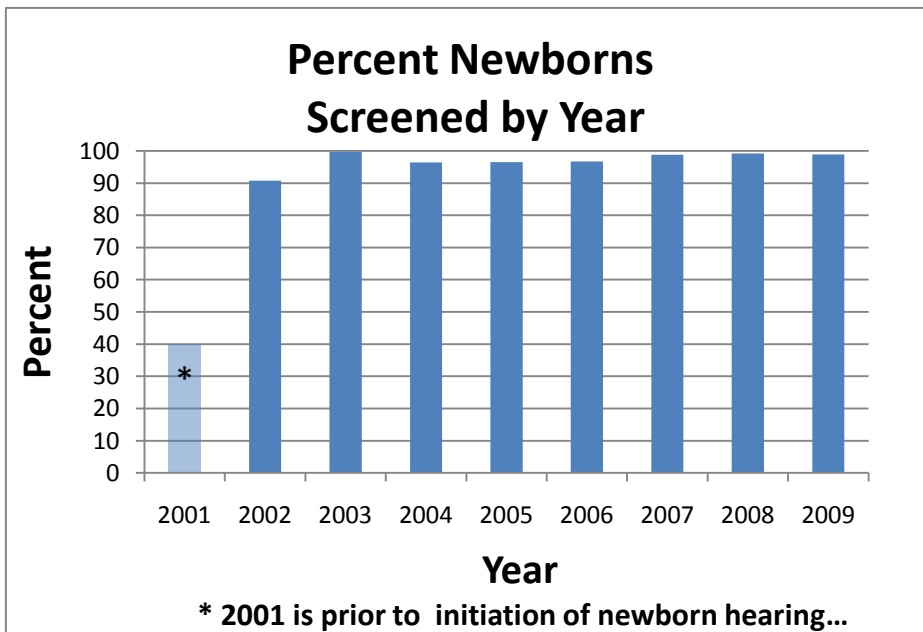
In addition to developmental implications, the financial impact of hearing loss can also be considerable. In 2004, the Centers for Disease Control and Prevention estimated that the lifetime economic cost of hearing loss was at least \$417,000 per person above costs incurred by unaffected people. These include direct costs such as medical intervention and interpreters, and indirect costs such as losses in productivity and limitations in the type of work people with hearing loss are able to perform. In 1990, a U.S. Department of Education study estimated that the cost of mainstream education was \$3,383 per student, the cost of a self-contained classroom for children with hearing loss was \$9,689 per student, and the cost of a residential placement was \$35,780 per student. At the college level it has been estimated that interpreting, captioning, note taking, document conversion, and test accommodations for a full-time student with hearing loss can cost over \$20,000 per year. As adults, the need for interpreters at work, in hospitals, in the legal system, and other areas of life can lead to financial strains on employers and public services and, ultimately, discrimination against people with hearing loss.

In stark contrast, if children with hearing loss are identified early and have access to appropriate intervention, including amplification and speech therapy, the detrimental effects of hearing loss can be diminished or even eliminated. Research has shown that when a child with hearing loss is identified by three months of age and given appropriate services by six months of age their speech and language development can occur at a rate

similar to that of their normal hearing peers. In addition, it is estimated by the National Centers for Hearing Assessment and Management (NCHAM) that statewide hearing screening programs would more than pay for themselves if an additional two percent of children with hearing loss could be placed in self-contained classrooms instead of residential programs.

In response to these facts the Nevada EHDI program was initiated on January 1, 2002 following legislative enactment of NRS 442.500-590. This law mandates that all hospitals providing care for more than 500 newborns per year administer hearing screens on all infants prior to discharge. The law also stipulates that infants in need of further audiological analysis must be appropriately referred before discharge from the birthing hospital and requires that an annual report be sent to the governor. The legislation and the regulations are included at the conclusion of this report.

Since creation of the program in 2002 Nevada has had great success screening infants for hearing loss. Prior to this time it was estimated that 40 percent of infants born in the state each year received a hearing screen. Upon passage of the law in 2002 this number



increased to approximately 90.8 percent per the July 2003 revised report, and in 2009 the screening rate was 98.9 percent. From these numbers and federal

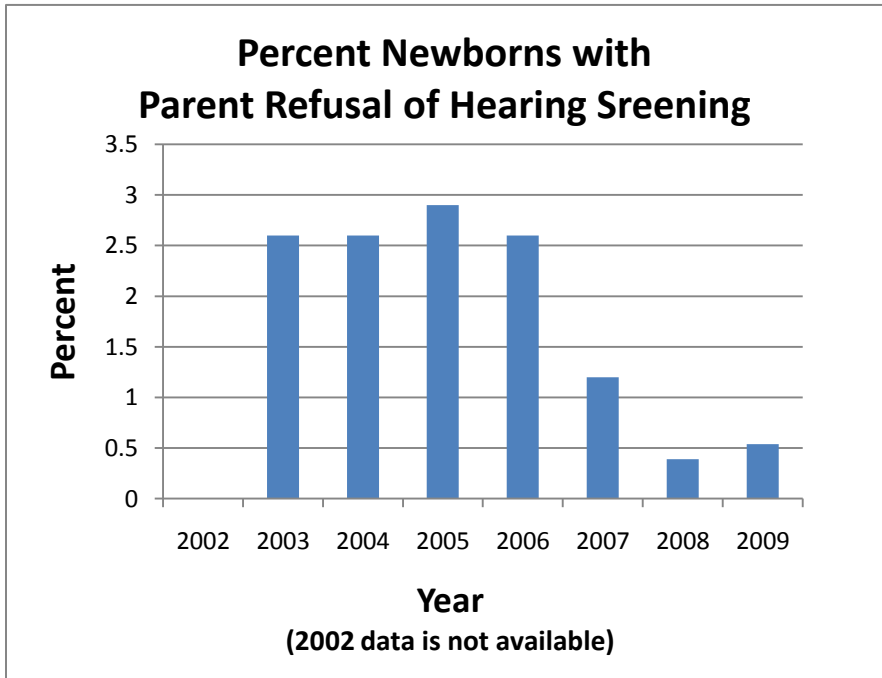
statistics about the incidence of hearing loss, the program estimates that it has now identified approximately 1000 infants in Nevada with hearing loss. Of these, 600 may

have gone unrecognized without mandated newborn hearing screening. The success of the program also extends beyond the legal requirement as currently all birthing hospitals in the state, including those that would be exempt, are screening infants for hearing loss.

In addition to success in screening, the program has become an advocate for children and families of children with hearing loss. This includes developing partnerships with stakeholders and working with community programs. The purpose is to create knowledge of the hearing screening program, ensure financial access to follow-up services through programs such as the Nevada Children with Special Health Care Needs benefit, and ensure access to quality audiology services as well as appropriate intervention upon identification of hearing loss through coordination with Nevada Early Intervention Services. The hearing screening program also strives to improve family education and enhance parent-to-parent support. This has been addressed by establishing sub-grants and/or coordinating with various agencies and community programs such as Nevada Hands & Voices and the Deaf and Hard of Hearing Advocacy and Resource Center (DHHARC). Nevada Hands & Voices is a parent driven non-profit organization that provides families with resources, networks and information needed to improve communication access and educational outcomes for children with hearing loss. The group is unbiased towards communication modes and methods. The DHHARC is used to provide sign language interpreter and Computer Assisted Realtime Translation (C.A.R.T.) services. The program also sponsored its first Nevada Hearing Conference in December, 2009. This conference provided educational and networking opportunities for parents and professionals, as well as provided an opportunity for the program to present its past successes and future challenges for the diagnosis and intervention of infants with hearing loss in Nevada.

The program still has much to accomplish. In 2008 the Nevada EHDI program received a second grant through the Centers for Disease Control and Prevention (CDC). Funds from this grant are being used to help develop and implement an EHDI database that will allow the program to track children referred by the screening, collect and analyze

program data, and streamline screening and identification procedures. The program will continue working with hospitals and families to decrease the number of refused



screenings. It is believed that parents refuse hearing screenings for their children because of a lack of knowledge from either the parents or staff assisting them. Financial barriers have also contributed to why parents refuse screenings for

their children. The program is also pursuing the development of an Advisory Council that will encompass the Nevada Newborn Screening Program, the EHDI Program, and other congenital and inherited disorders. The purpose will be to identify statewide need, develop program standardization, educate medical professionals and state law makers, and identify gaps in services.

The outlook for the program is exceptional. The Health Resource and Services Administration (HRSA) awarded the program a continuation of the 2006 grant to further develop the program and provide coordination activities and services. The State Health Division is proud of the continuing support from both the CDC and HRSA. In the ensuing years the program will work toward monitoring and tracking infants who referred on the newborn hearing screening, provide in-service training to hospitals, develop informational resources and increase services for families through non-profit parent-to-parent support programs that can help parents understand the screening and diagnosis process and find important resources. Through the program's past accomplishments,

current efforts, and future goals it is expected that hearing screening will not only come to be accepted as a standard of care throughout Nevada, but that all infants will have access to timely and appropriate diagnostic hearing assessment, follow-up services and intervention. The long-term results of the program's success will be better outcomes for children with hearing loss, decreased financial burden, and trust that the State of Nevada truly cares for its children.

Recommendations

The Nevada State Health Division's Early Hearing Detection and Intervention Program (EHDI) will continue to develop and provide services for infants with hearing loss and their families. This will be done through developing and redefining collaborations with hospitals, physicians, audiologists, early intervention staff, and other relevant community partners. The program will continue developing strategies to increase the percentage of newborns that receive hearing screenings, diagnostic evaluations, and appropriate early intervention. The program will continue to work with families and hospitals to decrease the number of refused screenings. The program will also continue working to decrease the timeline from screening to identification, and then from identification to intervention, in order to ensure adequate services within timeframes that minimize the negative impact of hearing loss. The Newborn Hearing Screening / EHDI program currently has no financial need outside the scope of HRSA and CDC grant funds and is accomplishing its purpose of screening infants for hearing loss. Therefore, the program does not seek additional legislative action at this time.

Nevada Newborn Hearing Screening by Hospital Yearly Summary 2009 (preliminary)

Hospital	Births*	Screens	Percent Screened	Referred	Percent Referred**	Refused	Percent Refused
Carson Tahoe	928	907	97.74%	17	1.87%	4	0.43%
Churchill Community ⁺	388	352	90.72%	34	9.66%	13	3.35%
Humbolt General ⁺	571	570	99.82%	0	0.00%	0	0.00%
Mesa View ⁺	157	157	100.00%	1	0.64%	0	0.00%
Mike O'Callaghan ⁺⁺	673	652	96.88%	75	11.50%	15	2.23%
Mountainview	1764	1755	99.49%	7	0.40%	9	0.51%
Northeastern	640	630	98.44%	19	3.02%	0	0.00%
North Vista	1360	1360	100.00%	6	0.44%	0	0.00%
Saint Marys	2043	2043	100.00%	17	0.83%	0	0.00%
Saint Marys NICU	1101	1101	100.00%	1	0.09%	0	0.00%
Saint Rose Delima	1098	1093	99.54%	51	4.67%	0	0.00%
Saint Rose Sienna	2914	2904	99.66%	66	2.27%	0	0.00%
Southern Hills	1348	1332	98.81%	10	0.75%	13	0.96%
Spring Valley	2127	2116	99.48%	4	0.19%	10	0.47%
Summerlin	2985	2896	97.02%	28	0.97%	89	2.98%
Sunrise	5281	5281	100.00%	445	8.43%	0	0.00%
University Medical Center	4271	4203	98.41%	290	6.90%	2	0.05%
Valley	2929	2891	98.70%	72	2.49%	38	1.30%
Renown	4076	4071	99.88%	9	0.22%	5	0.12%
William Ririe ^{+^}	93	58	62.37%	48	82.76%	0	0.00%
State Total⁺⁺⁺	36747	36372	98.98%	1200	3.30%	198	0.54%

Note: Screening numbers are considered preliminary due to a lag in reporting. Thus, there is some discrepancy between program numbers and birth registry data.

* Numbers reported by hospital

** As a percentage of infants screened, not births

+ Hospitals with less than 500 births per year which are exempt from state legal requirements

++ Mike O'Callaghan is a federal hospital located on Nellis Air Force base and is exempt from state law

+++ There is some discrepancy between the numbers screened and refused, and the total number of births due to inter-hospital transfer and infants referred to community audiologists for the initial screen

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 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 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 Health 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 Health 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 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 Health Division; required contents; distribution.

1. The Health 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 Health 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.

3. (Added to NRS by 2001, 2462)

SCREENING OF HEARING OF NEWBORN CHILDREN

NAC 442.850 Annual reports to Health Division: Contents. ([NRS 442.540](#), [442.550](#)) The annual written report required to be submitted to the Health Division 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 Health Division. ([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 Health Division of the referral at the time the referral is made.

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