



# **Nevada**

## **Newborn Hearing Screening**

### **Annual Report**

#### **2007**

Bureau of Family Health Services

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 newborn hearing screening 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 year 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 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 affects 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 Newborn Hearing Screening (NHS) 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 the report.

Since creation of the program in 2002 Nevada has had great success in 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 jumped to approximately 94.4 percent, and in 2007 the screening rate was over 98.8 percent. From these numbers and federal statistics the program estimates that it has now identified more than 500 infants in Nevada with hearing loss that would have otherwise gone unrecognized. The success of the program also extends beyond legal requirement and currently all exempt hospitals 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 various stakeholders and working with community programs. The purpose is to create knowledge of the hearing screening program, ensure access to screening services through programs such as the Nevada Children's Special Health Care Needs, and ensure appropriate intervention upon identification of hearing loss through Nevada Early Intervention Services. It also includes improving family education and enhancing parent-to-parent support.

The program still has much to accomplish. This year, the Newborn Hearing Screening program is working with the Nevada Early Intervention hearing loss task force to address program, provider and family needs. The task force consists of individuals from organizations around the state including: the University of Nevada School of Medicine, county school districts, private practice medical professionals, and various community groups. The task force is currently addressing a number of issues including program standardization, educating medical professionals, and identifying gaps in services. The task force is also working to develop a database as part of a follow-up system for the program. This will help to ensure that infants identified with hearing loss are receiving necessary services, allow the state to track hearing loss statistics, and streamline screening and identification procedures.

The outlook for the program is exceptional. The State Health Division is proud that in 2006 the Health Resource and Services administration (HRSA) awarded the program a three year grant to continue developing the program and providing program coordination and services. In addition, for 2008 the program has been invited to participate in the National Initiative for Children's Healthcare Quality (NICHQ) Learning Collaborative. This is wonderful opportunity for the program to work with federal agencies and hearing screening programs in other states to develop standardized policies and procedures for the Nevada program. In the ensuing years the program is going to continue its development and work to increase services for families through activities such as helping non-profit parent-to-parent support programs that can help parents understand the screening process and find important resources. Through the program's past accomplishments, current efforts, and future goals it is expected that hearing screening will come to be accepted as a standard of care throughout Nevada. 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 Newborn Hearing Screening program 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 physicians, audiologists, early intervention staff, and other relevant community partners. The program will continue developing strategies to increase the percentage of newborns that receive screens, diagnostic evaluations, and appropriate early intervention. The program will also continue working to decrease the timeline from identification to intervention in order to ensure adequate services within timeframes that minimize the negative impact of hearing loss. The Newborn Hearing Screening program currently has no financial need outside the scope of HRSA 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.

## Newborn Hearing Screening by Hospital, Nevada Yearly Summary 2007 (preliminary)

Hospital	Births*	Screens	Percent Screened	Referred	Percent Referred**	Refused	Percent Refused
Carson Tahoe	1042	1038	99.62%	48	4.62%	6	0.58%
Churchill Community <sup>+</sup>	383	357	93.21%	16	4.48%	26	6.79%
Humbolt General <sup>+</sup>	248	248	100.00%	30	12.10%	0	0.00%
Mesa View <sup>+</sup>	203	203	100.00%	19	9.36%	0	0.00%
Mike O'Callaghan <sup>++</sup>	690	662	95.94%	36	5.44%	28	4.06%
Mountainview	2146	2132	99.35%	30	1.41%	14	0.65%
Northeastern	684	674	98.54%	30	4.45%	10	1.46%
North Vista	2020	2020	100.00%	0	0.00%	0	0.00%
Saint Marys	2229	2225	99.82%	51	2.29%	0	0.00%
Saint Marys NICU	144	144	100.00%	5	3.47%	0	0.00%
Saint Rose Delima	1438	1438	100.00%	46	3.20%	0	0.00%
Saint Rose Sienna	2755	2755	100.00%	64	2.32%	0	0.00%
Southern Hills	1079	1052	97.50%	44	4.18%	27	2.50%
Spring Valley	2159	2131	98.70%	42	1.97%	29	1.34%
Summerlin	3561	3403	95.56%	53	1.56%	158	4.44%
Sunrise	4679	4679	100.00%	301	6.43%	0	0.00%
University Medical Center	5136	5016	97.66%	244	4.86%	120	2.34%
Valley	3798	3763	99.08%	61	1.62%	36	0.95%
Renown	4735	4732	99.94%	19	0.40%	3	0.06%
William Ririe <sup>+^</sup>	80	72	90.00%	8	11.11%	8	10.00%
<b>State Total<sup>***</sup></b>	<b>39209</b>	<b>38744</b>	<b>98.81%</b>	<b>1147</b>	<b>2.96%</b>	<b>465</b>	<b>1.19%</b>

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

\*\*\* 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

+ 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

^ This low screening percentage is accounted for by the combination of equipment problems and a lack of alternate screening facilities in the rural area

## 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)