Newborn Hearing Screening in Alaska

Hearing impairment is the most common disability among newborns – with a higher incidence than cerebral palsy, Down Syndrome, and severe mental retardation. Prior to 1991, when Universal Newborn Hearing Screening (UNHS) was initiated, only children with high risk factors for congenital hearing loss were screened at birth. However, only half of newborns with hearing loss demonstrate such risk factors. In the absence of newborn hearing screening, the average age of identification of a hearing impairment is 2-3 years of age. Unfortunately, the most important period of speech and language development is from birth to age three.

### Seriousness

#### Healthy People 2010 Targets and National Data

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Alaska 2003</th>
<th>Nation 2001</th>
<th>Healthy People 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase the proportion of newborns who are screened for hearing loss by age 1 month</td>
<td>81.1%</td>
<td>66%</td>
<td>90%</td>
</tr>
<tr>
<td>Increase the proportion of newborns who have audiologic evaluation by age 3 months</td>
<td>---</td>
<td>56%</td>
<td>70%</td>
</tr>
<tr>
<td>Increase the proportion of newborns who are enrolled in appropriate intervention services by age 6 months</td>
<td>67%</td>
<td>57%</td>
<td>85%</td>
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</tbody>
</table>

---This data is not available.

+Note that this is an underestimate because it includes only those infants that were identified with PCHL and not those with partial hearing loss or mild impairments. Preliminary data for 2004 suggest that there has been improvement in the proportion of referrals by 6 months of age.

- Although under the target, Alaska is making progress toward achieving the Healthy People 2010 objectives of increasing screenings, evaluations, and interventions.
- In 2003, 4 in 5 newborns born in Alaska received newborn hearing screening prior to hospital discharge.
- Of the infants screened; 12 were identified with Permanent Childhood Hearing Loss (PCHL) and 8 of those went on to receive early intervention services.
- Alaska is one of 12 states that do not have mandatory newborn hearing screening.

### Urgency

- Although newborn hearing screening has not been consistently done in every community, the number of newborns screened continues to increase significantly on a yearly basis. From 1997-2003, the percentage of newborns screened before hospital discharge increased nearly five-fold.
- Although screening is increasing, nearly 1 in 5 newborns born were Alaska were not screened at hospital discharge.

### Disparities

The access disparities have been greatly reduced because universal newborn hearing screening programs have been voluntarily adopted in all communities in Alaska where birthing facilities exist. Race and ethnicity data is not available at this time for analysis.

### Economic Loss

According to recent studies, the estimated lifetime costs are expected to total $2.1 billion for persons born in 2000 with a hearing loss; and an average lifetime cost of $417,000 per individual. When children are not identified and served early, special education for a child with hearing loss may cost an additional $420,000.

The cost of identifying a newborn with hearing loss is less than one-tenth the cost of identifying newborns with metabolic disorders such as Phenylketonuria (PKU) and hypothyrodism, for which screenings are required in every state.

### Interventions & Recommendations

UNHS began in some states in 1991. In 1998 and 1999, three Alaskan hospitals implemented a newborn hearing screening program on their own initiative. In 2000, Alaska received federal funding to implement the Early Hearing Detection & Intervention Program with the Alaska Department of Health & Social Services. The American Academy of Pediatrics, the National Institutes of Health, the American Academy of Audiology, the Joint Committee for further information on this topic, please contact the State of Alaska, Department of Health and Social Services Women’s, Children’s, & Family Health Section at 907-334-2424 or visit our web site at www.epi.hss.state.ak.us/mchepi
on Infant Hearing, and the National Association of the Deaf recommend universal newborn hearing screening.\textsuperscript{13,14,15} The Centers for Disease Control and Prevention has identified seven developmental goals for hearing screening in the United States.

**Intervention Effectiveness**
Through early identification and intervention, children identified with hearing loss at birth or shortly thereafter can learn and progress at a rate comparable to those with normal hearing.\textsuperscript{14}

To date, all 23 Alaskan communities have implemented universal newborn hearing screening programs. The majority of screenings are performed in hospitals by nurses prior to discharge. However, in some smaller communities, public health nurses perform the screening during home visits after hospital discharge or in their well child clinics. In an effort to screen newborns born in free standing birthing centers or at home, hearing screening equipment was placed in communities with public health nurses where a significant number of births are occurring out of hospital.

**Capacity**

**Propriety**
Increasing the percentage of Alaskan newborns that are screened for hearing loss in order to identify infants with hearing impairments early falls within the overall mission of the Women’s, Children’s, and Family Health Section. National initiatives have been set forth to address this issue (HP2010) and the Maternal and Child Health Bureau require that an indicator for newborn hearing screening (NPM#12) be monitored on a yearly basis.

**Economic Feasibility**
Delays in diagnosis can lead to increased intervention throughout life, resulting in increased economic costs to the State and society as a whole.\textsuperscript{16}

For most birthing hospitals, the cost for newborn hearing screening per child is between $20-$60 and continues to decrease. Many birthing facilities in Alaska implementing newborn hearing screening voluntarily include it in their newborn package cost.

**Acceptability**
Overall, parents are supportive of hearing screening in the newborn period once they understand its importance. However, education is still needed regarding newborn hearing screening and its importance among healthcare providers and the general public.

**Legality**

**References**

**Data Sources**
   http://www.hss.state.ak.us/dhcs/newborn/default.htm

**Resources**
State of Alaska’s, Early Hearing Detection & Intervention (EHDI) Program, Division of Public Health, Department of Health and Social Services.