The Oregon EHDI Program Annual Report 2010

INTRODUCTION

The Early Hearing Detection and Intervention (EHDI) program in Oregon collaborates with hospitals, audiologists, local public health, and early intervention facilities to ensure that infants with hearing loss receive appropriate and timely intervention. Current legislation mandates newborn hearing screening for infants born in hospitals with more than 200 births a year, and establishes a hearing screening registry, tracking, and recall system to ensure timely follow-up and intervention.

Funding for the registry and tracking system comes from two federal grants, from the Centers for Disease Control (CDC) and the Health Resources and Services Administration (HRSA). The EHDI program goals follow the national best practices of 1, 3, 6:

- Hearing screening by month of age
- Diagnostic audiology by 3 months of age
- Enrollment in Early Intervention by 6 months of age

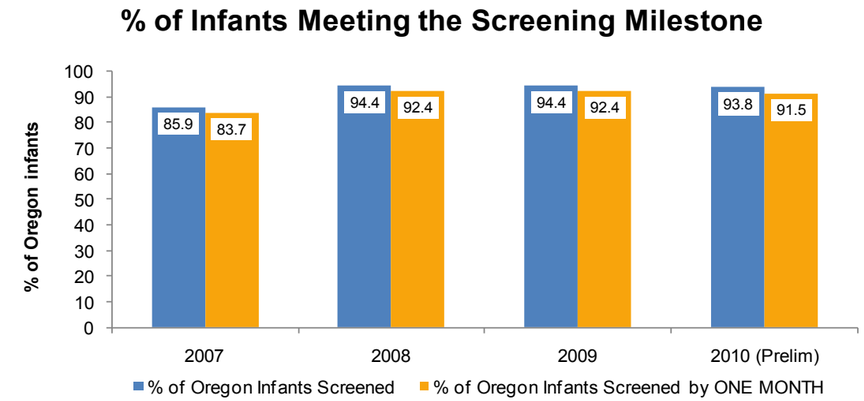
The Oregon EHDI program consists of a program coordinator, a data quality specialist, a follow-up specialist, a parent coordinator, an administrative specialist, and a program evaluator. The program is overseen by the Maternal and Child Health (MCH) Operations Manager. Through the parent coordinator the program works closely with Guide By Your Side, a parent-to-parent mentoring program for parents whose children have hearing loss.

Hospital screening information is recorded as part of the Oregon Vital Events Registry System (OVERS) by hospital staff. Since these records are linked to birth certificate data EHDI staff has access to hearing screening status for virtually all infants born in Oregon. Screenings that occur outside the birth hospital (e.g. for an infant screened at a screening clinic) and diagnostic follow-up evaluations are recorded by audiologists through a web-based data entry system.

"Nisi quis tristique ullamcorper, justo nisl gravida metus, quis tincidunt purus metus vulputate sem. Duis consectetur congue justo sed tincidunt. Maecenas ut lectus odio, id vehicula nibh. Sed augue mauris, tincidunt rutrum placerat nec, feugiat sed neque."

HEARING SCREENING BY ONE MONTH

EHDI's goal is that all infants receive a hearing screening by one month of age. The total percentage of infants screened increased in 2008 and has remained steady since then. The following graph shows the overall screening rates for the past four years.



Preliminary 2010 data shows that almost all infants born in mandated screening hospitals receive a hearing screening, and the vast majority of these screenings occur before one month of age. Infants born in mandated screening hospitals represent 94% of all births in Oregon. Screening rates are lower for the remaining 6% of infants who are born in non-mandated hospitals or born out of the hospital setting. Screening rates are the lowest for infants born in birth centers and at home. Fewer than 10% of these infants receive a screening before one month of age. The year 2010 was the first in which out-of-hospital births could be tracked, so the percentage of infants screened by type of facility cannot be compared to previous years.

Table 1. Preliminary 2010 screening data

Type of Birth Facility	Total n	% of births screened at any change	% of births screened by 1 month of age
Mandated screening hospital	42,889	97.10 %	95.20 %
Non-mandated hospital	12,056	69.1 %	66.4 %
Birth Center	522	29.2 %	6.9 %
Home Birth	1, 035	20.2 %	7.3 %
All Births	45,651	93.8 %	91.5 %

The implementation of the new data collection system in 2010 allows EHDI staff to track screening data much more closely. Based on the screening data by type of birth facility, the Oregon EHDI program staff is currently taking the following action steps to increase screening:

- Creating an action plan for three mandated facilities with screening rates less than 90%.
- Expanding the free screening clinic program in an areas with high number of out-of-hospital births
- Working with midwives to increase knowledge of the importance of hearing screening
- Out of hospital letters to families

DIAGNOSTIC AUDIOLOGY BY THREE MONTHS

EHDI's program goal is that all infants who need screening follow-up received a diagnostic evaluation by three months of age. In 2010, 941 of the 42822 infants that were screened (2.2%) referred on their hearing screen. As seen in Table 2, only 31% of these infants received a diagnostic evaluation by three months of age. The 2010 diagnostic data is not comparable to previous years' data due to differences in methodology in the old data collection system. The biggest differences in this milestone were regional: infants who live in the Portland metro area were much more likely to receive a diagnostic evaluation.

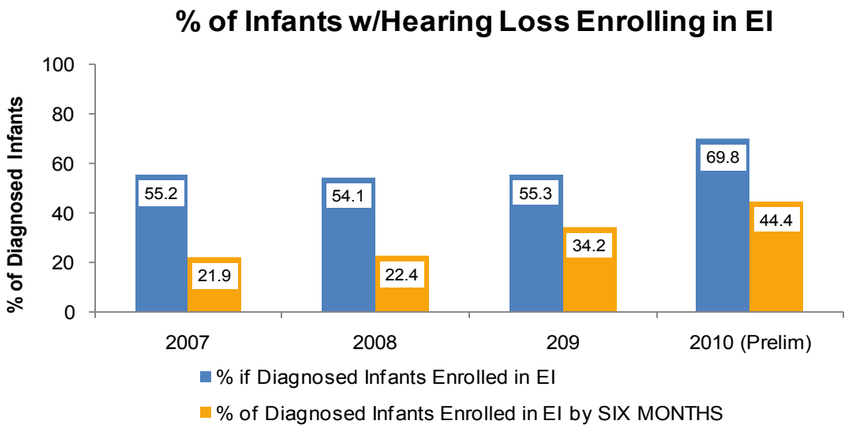
Geographical region of birth	Total n	% receiving a diagnostic evaluation at any age	% receiving a diagnostic evaluation by 3 months
Portland metro area	377	66.8 %	47.2 %
Willamette Valley	189	48.1 %	33.3 %
Eastern Oregon	100	39.0 %	22.0 %
Coastal/NW Oregon	29	31.0 %	31.0 %
Southern Oregon	174	24.7 %	9.8 %
Central Oregon	72	11.1 %	2.8 %
ALL Births	941	47.0 %	30.9 %

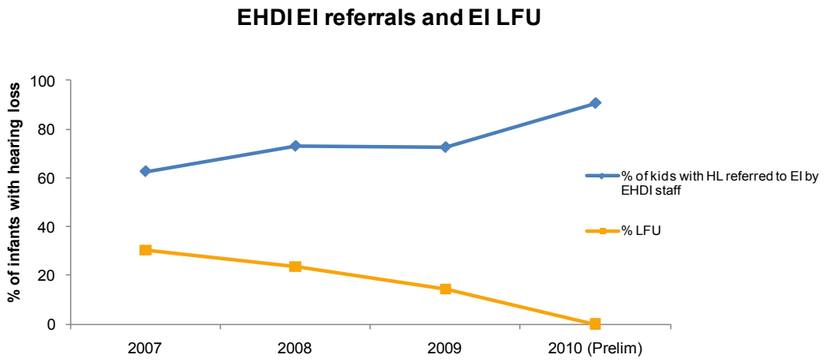
Oregon EHDI staff are currently taking the following action steps to increase diagnostic follow-up:

- Full implementation of a web-based audiology reporting system
- Hiring an EHDI audiology consultant to work with sites
- Working with specific regions (Central and Southern OR) to place additional diagnostic equipment

EARLY INTERVENTION BY SIX MONTHS

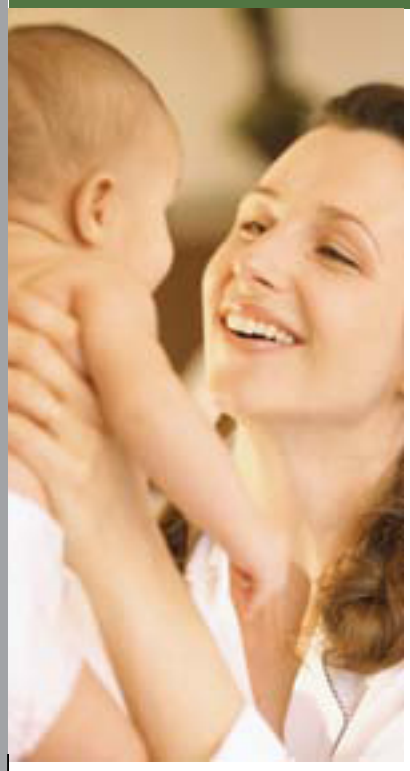
EHDI's goal is that all infants with confirmed hearing loss enroll in Early Intervention (EI) by six months of age. The percentage of infants with confirmed hearing loss who enroll in EI remained steady in 2007-2009 and increased in 2010, as seen in the figure below. Seventy percent of the 62 infants with confirmed permanent hearing loss in 2010 enrolled in EI, and 45% of these infants enrolled in EI by six months. This increase also corresponds with a decrease in loss-to-follow up among infants with confirmed hearing loss, and an increase in the percentage of infants with hearing loss referred to EI directly by EHDI staff. Both of these factors are seen in Figure X.





Oregon EHDI staff are currently taking the following action steps to increase EI enrollment:

- Continuing to have a Follow-up specialist that communicates with EI
- Working with GBYS and PHN (see next sections)
- Working with EI and EC CARES data system and consents



EHDI Partnerships

EHDI staff work very closely with the Guide by Your Side program. In 2010, parent guides worked with 108 families, including 56 of the 62 cases of confirmed permanent hearing loss among 2010 births. The remaining GBYS cases primarily included families in which the infant had been referred at their screening but did not yet have a confirmed diagnosis, and/or families in which the infant was referred at their hearing screen but was still in need of diagnostic follow-up. The average number of contacts with each family was 1.9, with a range from 1 to 11 contacts per family.

EHDI staff also partner with local public health nurses to ensure follow-up. The nurses are more likely to get involved once a child has confirmed hearing loss, compared to the GBYS parents who are often involved during the diagnosis stage. The EHDI follow-up specialist sends simultaneous emails to Early Intervention and to the county public health nurse when she refers an infant to EI. Seventy six (76) infants born in 2010 were referred to a public health nurse, including 54 of the 62 cases of confirmed permanent hearing loss.

Summary and Next Steps

Almost all infants born in Oregon receive a hearing screening, especially if they are born at a mandated screening hospital. The EHDI program is working to increase the percentage of infants born at non-mandated hospitals and out of the hospital who are screened. Slightly less of half of all referred infants return for a diagnostic evaluation, and referred infants outside of the Portland area are even less likely to have a diagnostic evaluation. The Oregon EHDI program is working to increase access to diagnostic audiology across the state. The EHDI program has made great strides in improving the percentage of infants with confirmed permanent hearing loss who enroll in Early Intervention, and we continue to dialogue with EI about ways to streamline enrollment reporting. EHDI staff are currently working to fully integrate EI data into the EHDI system, to connect with Project Alert to increase access to primary care provider information, to expand free screening clinics, and to complete hospital scorecards for each hospital in the state.