

## INTRODUCTION

The central aim of the Washington State Early Hearing-loss Detection, Diagnosis & Intervention (EHDDI) proposal is to decrease the loss to follow-up or loss to documentation (LTFD) of infants who have not passed newborn hearing screening by 5% per year from 2014 through 2016. As we reported to the Center for Disease Control and Prevention (CDC) in the 2012 Hearing Screening and Follow-up Survey (HSFS), 50% of infants who do not pass their final screen were LTFD. Our goal is to decrease this to at least 35% by 2017. We will support targeted and measurable efforts that will increase the numbers of infants receiving timely appropriate follow-up care after not passing their newborn hearing screen as well as improve documentation across all aspects of the EHDDI process (screening to diagnosis to intervention).

## NEEDS ASSESSMENT

Washington State encompasses over 66,000 square miles of the northwest corner of the United States. Its bordering states are Oregon to the south and Idaho to the east, with British Columbia on our northern border and the Pacific Ocean to the west. The Cascade Mountains divide the state into distinct areas, with eastern Washington containing more rural and agricultural areas. In 2010, approximately half of Washington's 6.7million population was concentrated in the Seattle-Tacoma-Bellevue Metropolitan area. Population density estimates for 2010 range from 913 persons per square mile in King County (Seattle) to less than 4 persons per square mile in Garfield and Ferry counties (the southeast corner and the northeast corner of the state respectively).

The majority of Washington's population identifies itself as White and non-Hispanic. Other population groups, in order of largest numbers to smallest numbers, include Hispanics, Asian-Pacific Islanders, African Americans and Native Americans. Data from the 2010 Census show that racial minorities and people of Hispanic origin increased from 20% of Washington's population in 2000 to 27% in 2010. According to the 2010-2012 American Community Survey 3-year estimates, approximately 19% of the adult population does not speak English at home.

Counties east of the Cascade Mountains have the highest percentage of Hispanics by population in Washington. Yakima, Franklin, and Adams Counties in south central and southeast Washington have Hispanic populations of over 50%. In 2000, the Migrant Health Program Bureau of the Health Resources and Services Administration estimated that there were 186,976 migrant and seasonal workers in Washington, the majority of which were also in counties east of the Cascades. Migrant and seasonal farm workers face many barriers to accessing health services. Community and migrant health centers are the primary source of health care for this population.

Blacks and Asian/Pacific Islanders are predominantly located in urban areas west of the Cascades. Approximately 59% of Asian/Pacific Islanders and 50% of Blacks resided in King

County alone in 2010. There are also 29 federally recognized American Indian tribes throughout Washington with varying populations and land areas. Understanding these geographic and population demographics is essential to developing targeted interventions within hospitals and clinics in these communities.

In 2012, 87,359 births occurred in Washington. There are 63 birthing hospitals and 14 free-standing birthing centers. Newborn hearing screening is not mandated in Washington but all birthing hospitals perform universal newborn hearing screening. All but two hospitals report their hearing screening data to the Department of Health's (DOH) Early Hearing-loss Detection, Diagnosis, and Intervention (EHDDI) program. The two hospitals that do not report their newborn hearing screening results are naval hospitals that are required to use PerkinElmer in Pennsylvania for their dried blood spot screening services. Because our EHDDI-Information System (IS) tracks infants using hearing screening results reported on a modified dried blood spot form, we are unable to obtain data from these two hospitals at this time.

#### Appropriate and Timely Newborn Hearing Screening

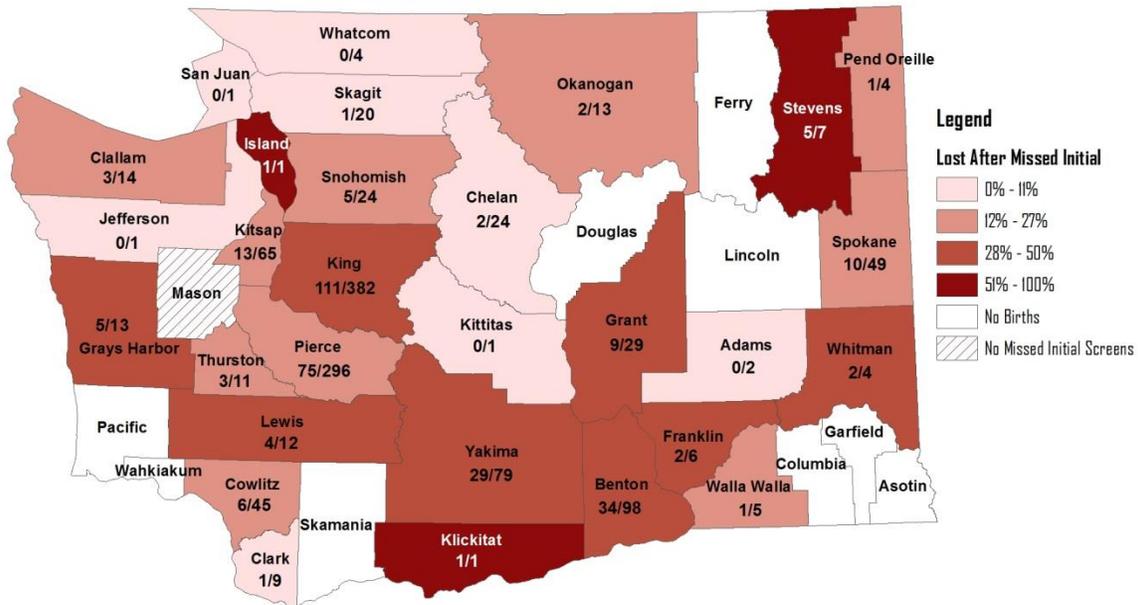
The EHDDI program followed nearly 84,000 infants who were born in Washington State in 2012. Besides infants born at the two military hospitals, we also do not track more than 75% of out-of-hospital births. We follow infants who are born out-of-hospital only if a hearing screen is sent to the program since this is voluntary. We received hearing screens for 638 of the 2856 (22%) out-of-hospital births in 2012. While this is better than in 2008 when only 7% of out-of-hospital births had a reported hearing screen, we still have a significant number of infants who do not receive hearing screens.

There are many factors that contribute to out-of-hospital births not receiving hearing screens. Families who choose to give birth outside of the hospital are often skeptical of standard recommended hospital-based procedures and they value minimal clinical intervention. Many families who give birth outside of the hospital prefer to remain outside of the hospital system to receive the remainder of their postpartum and newborn care. In order for these infants to be screened, we need to educate midwives and work with them to develop strategies that bring hearing screening to the family in their home or into settings where they feel most comfortable.

The EHDDI program received at least one hearing screen for 99% of the approximately 84,000 infants we followed in 2012. 96% of these infants received their final hearing screen before one month of age, with an average age at initial screen of 2 days of age. 1% of the infants we followed were reported as missing their initial screen and 326 (27%) of these infants were lost to follow-up. Figure 1 illustrates the percent of infants lost after missing an initial hearing screen in each county. Of note, 26 of the 29 infants lost in Yakima County were born at Sunnyside Community Hospital, which, until 2013, was doing out-patient initial hearing screens. Similarly, 72 of the 111 lost in King County were born at Overlake Hospital, which also does out-patient initial hearing screens. Since this seems to be a major factor in infants not receiving

hearing screens, we intend to work with these hospitals to develop and implement in-patient initial newborn hearing screen protocols.

**Figure 1.** Map of Washington showing the percent of infants lost after missing their initial screen in each county. (Note: because the numbers are small the numerator and denominator are also provided.)



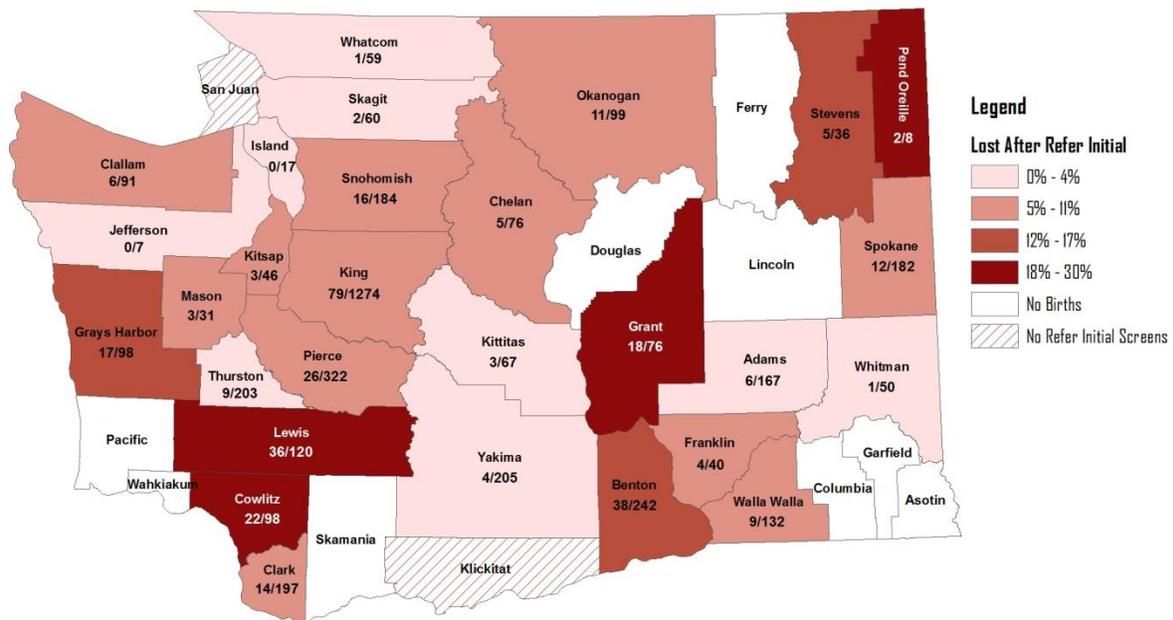
Five percent of infants born in 2012 did not pass their initial hearing screen. While hospitals with over 1000 births per year have an average refer rate at initial screen of 4%, 14 smaller hospitals (ranging from 50 to 660 births per year) have refer rates of 15% or more and comprise one quarter of all the initial refers. We want to continue offering assistance to hospital screening programs to improve the skills of their hearing screeners. Implementing strategies at these hospitals like establishing competencies and changing the location of where the screening takes place should help improve refer rates and decrease the number of infants who require follow-up.

Of those infants who do not pass their initial hearing screen, 352 (8%) did not receive a second hearing screen. We know that in 251 (80%) of these cases, the infant’s Primary Care Provider (PCP) shared with the family that the infant needed a rescreen, but either the family did not bring their child in for a rescreen or the screening result was not reported to the EHDDI program. We continue to work with our American Academy of Pediatrics (AAP) Chapter Champion to educate PCPs about the importance of an infant getting a second screen if he/she does not pass their initial screen and ensure that PCPs have the tools needed to make appropriate referrals. We also plan to test strategies at hospitals that will improve how screeners

communicate results to families, ensure rescreen appointments are scheduled, and improve hospitals rescreen results reported to the EHDDI program.

Figure 2 illustrates the percent infants lost after not passing their initial hearing screen in each county. We found that counties with hospitals that have high refer rates on initial screen and/or do not do out-patient rescreens at the hospital have high percentages of infants who do not get a second hearing screen. For example, St. John Medical Center in Cowlitz County screens with auditory brainstem response (ABR) and does not do rescreens. Providers in the community (Longview) are responsible for rescreens, however they only screen with otoacoustic emissions (OAE). Providence Centralia Hospital in Lewis County refers 19% of infants on their initial screen and does not do rescreens at the hospital. In Grant County, 11 of the 18 infants who were lost were born at Coulee Medical Center, which has a 27% refer rate on initial screen. To address these issues, we will continue our efforts, in collaboration with an audiologist at Seattle Children’s Hospital, to train hospital based hearing screeners in order to reduce the number of false positives and high screening refer rates. Using the Model for Improvement framework (Plan-Do-Study-Act cycles), we will also work with hospitals to develop and test out-patient hearing screening procedures in an effort to decrease the number of infants who do not receive a needed second hearing screen.

**Figure 2.** Map of Washington showing the percent of infants lost after not passing their initial screen in each county. (Note: because the numbers are small the numerator and denominator are also provided.)

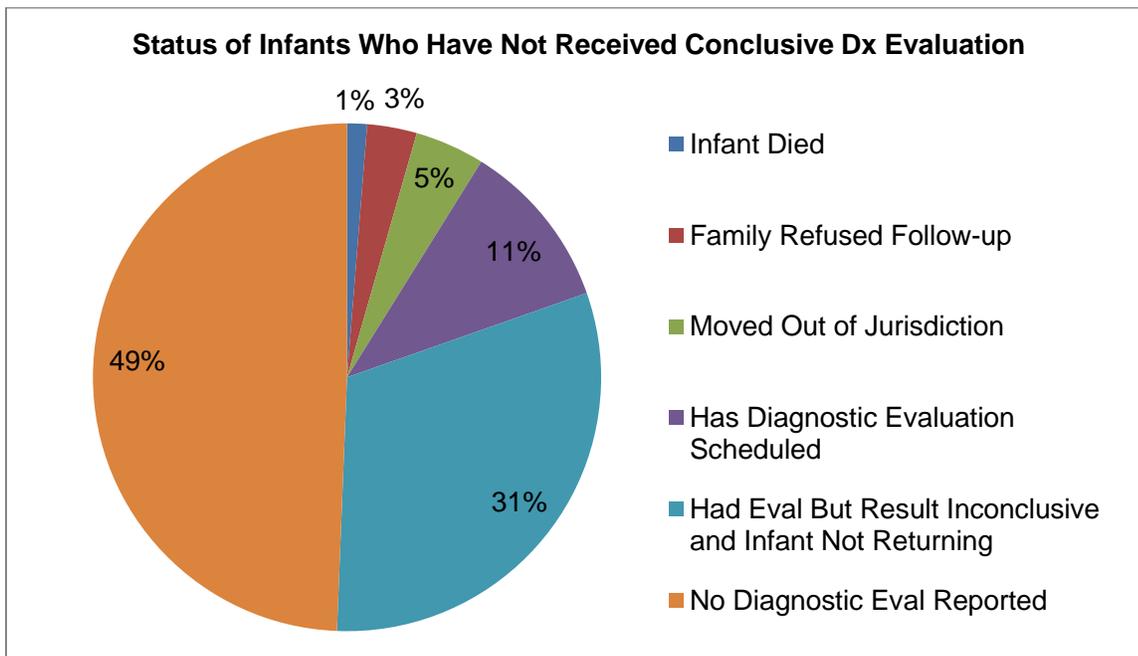


### Appropriate and Timely Diagnostic Follow-up

The EHDDI program reports data to the CDC each year through its HSFS. For infants born in 2012, we reported to the CDC that 495 of the 988 infants (50%) who did not pass their final screen were lost to follow-up or documentation. This is a substantial decrease in loss to follow-up from 2009 when it was 73%. However, we still have significant improvements to make in regard to this measure. Of note, this statistic includes infants who both did not pass their initial screen and required a second hearing screen and 576 infants who were referred for a diagnostic evaluation with an audiologist. When evaluating the EHDDI system in Washington, we usually separate these two points of LTFD and use the EHDDI statistics provided in Attachment 6. We do this because the follow-up needed for these two groups of infants is different (screening vs. diagnostic evaluation), as is their risk for actually having a hearing loss. In this section of the needs assessment, we will specifically be referring to the 576 infants who were referred to audiology after not passing their hearing screenings.

264 infants (27%) born in 2012 and referred to audiology were found to not have a hearing loss. 154 infants were reported as having been diagnosed with a hearing loss. This equals an incidence of 1.8 per 1000, which is within the expected range of 1-3 per 1000. However, 158 infants (26%) who were referred to audiology have not yet received a conclusive diagnostic evaluation. Figure 3 illustrates the EHDDI program's current follow-up information for these infants.

**Figure 3.** Pie chart showing the follow-up status for infants born in 2012 who were referred to audiology, but have not received a conclusive diagnostic evaluation.

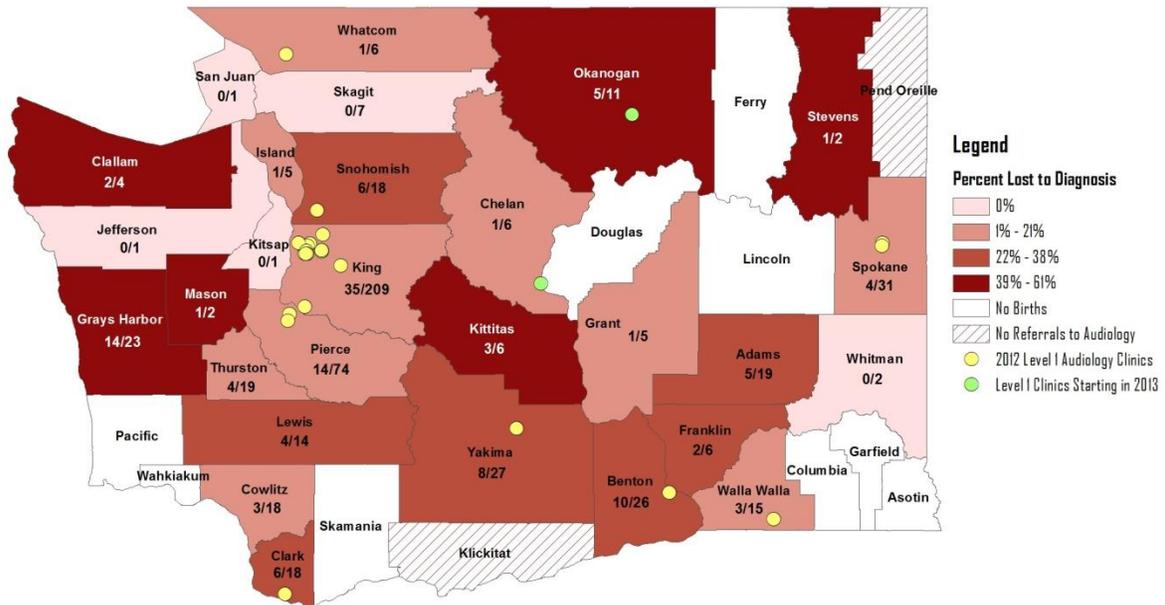


Over the past three years we have refined the EHDDI program's follow-up protocols for infants who need diagnostic evaluations. Every month we send audiology clinics faxes with the names of infants who have been referred to their clinic but for whom we do not have a conclusive diagnostic result. Historically, we sent these faxes on a quarterly basis. In 2011 audiologists also began using the EHDDI program's new web application to report diagnostic results. The new system features a less complicated registration process for audiologists and more efficient reporting fields. We believe that this has improved reporting by our audiology clinics and contributed to our decrease in loss to follow-up from 45% in 2009 to 23% in 2012 (excludes infants who passed away or where the family refused follow-up).

However, there are still too many infants who are never seen for a diagnostic evaluation or do not return for a necessary appointment with their audiologist. In 2013 we began mailing letters to parents of infants who were referred to audiology, but never had an appointment with an audiologist. Unfortunately, of the 22 families we sent a letter to, only 4 (22%) ended up getting an evaluation for their infant and none responded to our letter as was requested. Using this as a baseline measure, we plan to use the Model for Improvement framework to work with the Washington Chapter of Guide By Your Side™ (GBYS) to develop and test changes to how we contact parents. We also want to begin working with audiologists to connect families with GBYS before a diagnosis of hearing loss is even made (i.e., following an incomplete or inconclusive evaluation). We plan to test this in one or two clinics and observe whether this strategy decreases the number of infants who do not come back for needed appointments with the audiologist.

Figure 4 illustrates geographically the percent infants born in 2012 who were lost after being referred for a diagnostic evaluation. The yellow and green dots on the map indicate Level 1 Audiology Clinics, which can provide complete diagnostic testing for infants birth to six months of age. Counties with high LTFD (between 39% and 61%) are generally those furthest away from Level 1 clinics. For example, the closest Level 1 clinic for infants born at Gray's Harbor Community Hospital in Grays Harbor County is 80.4 miles with an estimated driving time of 1 hour and 37 minutes. The time and cost of this travel poses a barrier for families. We were very pleased that two Level 1 audiology clinics were established in central Washington in 2013. In the next three years, we will work with audiologists to develop and test strategies in rural audiology clinics that increase their capacity and expertise to evaluate infants. We will also work with Seattle Children's Hospital to explore the use of tele-audiology to improve access to appropriate diagnostic audiology services.

**Figure 4.** Map of Washington showing the percent of infants lost after being referred for an audiologic evaluation in each county. (Note: because the numbers are small the numerator and denominator are also provided.)



### Appropriate and Timely Early Intervention Services

The EHDDI program does not currently have information on whether infants diagnosed with hearing loss receive early intervention (EI) services by six months of age. For the past year we have been working with the vendor of our tracking and surveillance software (Neometrics Inc.) to modify our application and electronically link with Washington State’s IDEA Part C program, known as Early Support for Infants and Toddlers (ESIT). We are now in the final stages of testing and hope to have the linkage complete in March of 2014. Once we have established the electronic linkage between the two systems, audiologists and EHDDI staff will be able to refer infants to the ESIT program through the EHDDI web application. Our EHDDI-IS will get Part C enrollment and EI services information from ESIT for infants referred through EHDDI-IS and for infants who are identified as having hearing loss in the ESIT system (irrespective of whether they were referred through EHDDI).

Data from our linkage with the ESIT program will be used to identify whether infants with hearing loss receive EI services by six months of age. We may also be able to identify infants with later onset hearing loss by identifying children with hearing loss via ESIT who we indicate passed their newborn hearing screening. We will identify which communities and demographic populations are not receiving timely EI services and work with our colleagues at ESIT, Center for Childhood Deafness and Hearing Loss (CDHL), Office of Deaf and Hard of

Hearing (ODHH), and GBYS as well as hospital based screeners and pediatric audiologists to identify and test changes that can be made.

Besides our data linkage with the ESIT program, one of our major efforts around Early Intervention in the past five years has been our work on a multiagency team to establish a ‘State EHDDI Plan.’ This team meets at least quarterly and consists of individuals from EHDDI, ESIT, CDHL, ODHH, WSDS and GBYS. Two years ago the team drafted a plan (Attachment 9) that outlines the steps and linkages that need to occur to ensure that families from across Washington receive appropriate and timely services throughout the EHDDI process. Our multiagency team continues to meet to discuss how we can facilitate the implementation of this plan and support quality EI services in Washington.

It is worth noting that because of the economic downturn, our past Governor disbanded most Advisory Committees and placed a moratorium on developing new committees. Although Washington has a new Governor, there is no indication that the moratorium will be lifted. But the EHDDI program has always enjoyed a strong collaborative stakeholder network that we will continue to utilize in improving the EHDDI system in our state.

We have already begun this in the current year by hosting a day-long EHDDI Planning Meeting on February 7, 2014. We invited a team of stakeholders (parents of children with hearing loss, hospital newborn hearing screening coordinators, audiologists, early interventionists and representatives from ESIT, CDHL, ODHH and WSDS) to identify Washington’s needs around screening, diagnosis and early intervention (EI) and suggest change strategies. (See Attachment 10 for Stakeholder Team Roster)

Some of the relevant barriers that our stakeholder team identified were the decentralized model for funding EI service, lack of knowledge about best practices for EI, the state not having standards for services, and not enough appropriate resources available for families who are of low socioeconomic status, minorities, or non-English speakers. The team also proposed several changes that could be tested to alleviate these barriers. These strategies include connecting families with family support services as part of the Individualized Family Service Plan (IFSP) process, using distance technology (tele-intervention or tele-support) to meet the needs of families, conducting trainings for Family Resources Coordinators (FRCs) and service providers, and creating standards for EI programs using the 2013 Joint Committee on Infant Hearing (JCIH) Early Intervention supplement.

## METHODOLOGY

As already noted, in February the EHDDI program brought together a stakeholder team to help us identify needs and possible change strategies. This team is comprised of individuals with diverse backgrounds and specialties and includes participation from the varied geographic areas around Washington, including eastern and central Washington. The EHDDI program will

continue to engage with members from this team during the project to plan and test change strategies. We will also utilize this team to help spread successful strategies.

As already noted, we will use the Model for Improvement framework to achieve this project's aims. With the help of our stakeholder team, we have identified change strategies to test through "Plan – Do – Study – Act" (PDSA) cycles.

Plan: Data from our tracking and surveillance system will identify communities that have high LTFD rates for each step of the EHDDI process (screening, diagnostic evaluation, and early intervention). We will partner with hospitals, clinics, and early intervention providers in these communities to improve the EHDDI system and decrease loss to follow-up. EHDDI program staff and our community partners will design strategies of change and determine how to measure success. Strategies will incorporate specific community needs. Our first recommendations will include National Initiative for Children's Healthcare Quality (NICHQ) small tests of change that have already shown positive results: scripting messages to parents, making rescreen or audiology appointments at the time of a failed hearing screen, using telephone reminders for appointments, and streamlining referrals to Part C/ESIT. In cases where NICHQ strategies would not meet the needs of the community, (e.g. collecting alternate contact phone numbers of parents at a hospital that has no means to perform follow-up services), we will develop novel change strategies to improve screening and follow-up rates. We will emphasize strategies for making appropriate referrals and reporting screening, diagnostic, and early intervention/Part C data to the EHDDI Program.

Do: EHDDI program staff and our community partners will implement interventions designed in the planning phase. We will monitor data and document problems, successes or unanticipated consequences that occur throughout the intervention.

Study: We will analyze screening, diagnostic and early intervention data to measure improvements to the EHDDI process in each participating community, then communicate these findings to our partners.

Act: If the quality improvement activities decrease loss to LTFD rates, we will continue using them. If we do not meet quality improvement goals, we will use what we learned to improve the strategies or develop new interventions, and begin a new cycle.

Once a change strategy is found to be successful, we will use EHDDI data to identify other communities that would benefit from implementing the strategy. We will work with our stakeholder team and the community partners where the strategy was successful to garner participation in other communities. Hospitals and clinics will be more likely to participate if the change strategy is reinforced by colleagues in their field. If appropriate, we will also use our stakeholder team to disseminate success stories to their clients and partners.

Throughout this project we will also collaborate with Home Visiting programs and Head Start programs through our Early Childhood Outreach (ECHO) team. All EHDDI program staff are members of Washington's ECHO team, which is currently led by Nancy Hatfield from Washington Sensory Disabilities Services (WSDS) and also includes an audiologist from Seattle Children's Hospital and an audiologist from Center for Childhood Deafness and Hearing Loss (CDHL). In the past two years we have purchased hearing screening equipment and trained 10 Head Start Programs and two Early Intervention programs that serve infants. We plan to continue supporting the ECHO initiative by assisting with trainings and outreach.

We continue to communicate with our agency members to the home visiting cross agency work group. Maternal, Infant and Early Childhood Home Visiting (MIECHV) is funding both Nurse Family Partnership (NFP) and Parents as Teachers models. Both models require home visitors to track well child visits. NFP, for example, uses Bright Futures which specifically asks if the newborn had a hearing screening before the first week visit. Additionally, Washington is requiring that both models also implement ASQ-3 developmental screens to meet three of the 35 required constructs. The ASQ-3 screen for two month olds also includes a newborn hearing screening question. The Department of Early Learning is the lead agency for this work. They are in the process of implementing the new programs, and in some rural counties, there is planning for how to implement the evidence-based programs. By the time all implementation is complete, there will be home visiting programs in 20 (out of 39) of the highest risk counties identified by the needs assessment that was completed in 2010.

Sustaining the Washington EHDDI program is a constant discussion. We were successful in securing a small amount of general state funds in 2008 when it was unclear if the program would be successful in securing additional federal funds (i.e., a competitive grant cycle). However, the funds provided would cover only a third of existing staff and would clearly not allow for ongoing quality improvement efforts. We have discussed the possibility of raising the states' newborn screening fee however this is strongly opposed by the state hospital association. We have also considered asking hospitals to pay a "follow-up subscription fee" based on the number of births at their facility annually as well as incentives for low refer/missed screen rates. This subscription fee recognizes that in most states with mandates, the hospitals are held accountable for the follow-up whereas in Washington, we take on this work on their behalf. We continue to try and negotiate with the hospital association and our State Board of Health what is the least expensive and most actionable alternative to supporting the EHDDI program long-term.

## WORK PLAN

Washington's proposal is meant to improve loss to follow-up and documentation by developing and implementing targeted strategies that result in measureable improvements for infants and families throughout the EHDDI process. This section contains our specific project aims and the strategies and activities we propose to achieve these aims. Attachment 1 includes all information detailed in this section and identifies the timeline, person(s) responsible, and measures for each proposed change strategy that we will use to determine completion, timeliness and impact.

### **Aim 1**

**By August 31, 2017, increase the percent of infants born out-of-hospital who receive a newborn hearing screen by 25%.**

Currently: 22% (638/2856 infants)

Proposed: 47% (~1500/3000 infants)

### Strategies

- S1.1 Have newborn hearing screening and follow-up included in the curriculum at the Master of Science in Midwifery program at Bastyr University.
- S1.2 Work with Guide By Your Side™ (GBYS) to submit an article that includes a story from a parent of a child with hearing loss in the Midwives' Association of Washington State's (MAWS) Newsletter.
- S1.3 Include a midwife on our stakeholder team.
- S1.4 Survey midwives who currently have screening equipment to learn more about how they structure screenings (e.g. as part of well-baby checks, open screening times at birth centers), what they struggle with regarding screening, if they feel that screening and caring for the equipment is sustainable for their practice, and what alternative strategies they would suggest to ensure infants born out-of-hospital receive hearing screens.
- S1.5 Work with hospitals and communities to ensure information about newborn hearing screening is included in child birth preparation classes.
- S1.6 Invite midwives and doulas to the newborn hearing screening meetings that are organized through our contract with Seattle Children's Hospital.
- S1.7 Work with GBYS to conduct outreach to practicing midwives, Mother of Preschoolers (MOPS), and Program for Early Parent Support (PEPS).
- S1.8 Educate doulas about newborn hearing screening, so they can reinforce its importance to the family.

- S1.9 Work with our stakeholder team to use the results of the midwife survey to design and implement strategies to increase the number of infants born out-of-hospital who are screened for hearing loss.

## **Aim 2**

**By August 31, 2017, decrease the number of infants who fail to receive a second hearing screen after not passing their initial newborn hearing screen by 200 infants.**

Currently: 8% (352/4187 infants)

Proposed: 5% (~150/4000 infants)

### Strategies

- S2.1 Conduct site visits to hospitals that have refer rates of greater than 10% or percent infants lost after not passing the initial screen of greater than 10%. During the site visits, we will recommend small tests of change like using scripts, implementing annual competencies, and using the National Center for Hearing Assessment and Management (NCHAM) training curriculum.
- S2.2 Conduct small tests of change for the follow-up protocol that is initiated after the provider informs the EHDDI program that he/she has referred an infant or shared the recommendation to get a second hearing screen with the family. For example, when providers respond as shared, attempt to determine where baby referred rather than closing case.
- S2.3 Conduct small tests of change on how the EHDDI program tracks responses from hospitals who receive the Did Not Pass – No Record of Rescreen (DNP) Report. For example, keep log of which hospitals do not respond and contact those hospitals to encourage responses.
- S2.4 Include the specific topic of second hearing screens at the annual Newborn Hearing Screening Meeting, highlighting the importance of a child getting a rescreen by one month of age and the nuances of reporting the results to the EHDDI program.
- S2.5 Work with hospitals to test the strategy of having the hearing screener get an email or cell phone number from the family when an infant does not pass his/her hearing screen. The screener will then send an email or text that includes a link to a video using parent stories to highlight the importance of newborn hearing screening and follow-up. The email or text will also include a reminder of the date, time, and location of the infant's scheduled rescreen.
- S2.6 Conduct outreach to smaller audiology and ENT clinics that do hearing screens to ensure they are reporting results to the EHDDI program.
- S2.7 Modify the action EHDDI staff take after we find out that an infant has moved out of state, such as developing a letter to send to other state EHDI programs to inform the

new state of residence and attempt to get follow-up data as well as working more closely with Oregon regarding border babies.

- S2.8 Explore potential outreach strategies and methods for raising awareness in community organizations such as the Women, Infants, and Children's (WIC) program, car seat coalitions, food banks, migrant workers' clinics, etc.
- S2.9 Use the EHDDI-Information System (IS) to identify hospitals that do not report rescreens and conduct small tests of change with those hospitals to increase reporting.
- S2.10 Conduct small tests of change at hospitals to establish drop-in outpatient hearing screening times that include evening and Saturday hours.

### **Aim 3**

**By August 31, 2017, decrease by 15% the percent of infants who fail to receive a conclusive diagnostic evaluation after being referred to audiology due to not passing their hearing screening.**

Currently: 23% (134/576 infants)

Proposed: 8% (~50/600 infants)

- S3.1 Design and conduct small tests of change on the protocol we use to contact parents after they do not bring their infant in for a needed diagnostic evaluation.
- S3.2 Enhance the EHDDI web application to allow audiologists to search for all infants born in the state, rather than just the infants referred to their clinic (the EHDDI program has already received approval for this from our Enterprise Records Management Office and our Information Security Officer).
- S3.3 Work with Seattle Children's Hospital to create an online module about newborn hearing screening and diagnostic follow-up that providers can take for Maintenance of Certification, including a pre-test and post-test. See S4.5 for associated strategy.
- S3.4 Promote newborn hearing screening and follow-up through the Nursing Association.
- S3.5 Work with audiologists to test the strategy of connecting the family with GBYS during the first audiology visit, even if it is not a conclusive diagnostic evaluation.
- S3.6 Explore efforts to increase awareness of pediatric hearing loss, such as a public service announcement (PSA), that target families and professionals, including the importance of timeliness and understanding degree of hearing loss.
- S3.7 Work with hospitals to test the strategy of having the hearing screener connect the family with GBYS after the infant does not pass his/her second hearing screen.
- S3.8 After an infant does not pass two hearing screens and needs a diagnostic evaluation, work with the hospital to test the strategy of having the hearing screener give the family information about their audiology referral, as well as two parent stories – one of a family who brought their child in for a diagnostic evaluation and was diagnosed with hearing loss and another whose child went in for an evaluation and did not have a hearing loss.

#### **Aim 4**

**By August 31, 2017, increase the percent of infants who receive a conclusive diagnostic evaluation by 3 months of age by 25%.**

Currently: 55% (230/418 infants)

Proposed: 80% (~330/420 infants)

- S4.1 Create a checklist of items we want to cover with audiology clinics during our site visits.
- S4.2 Host quarterly grand rounds/case studies for audiologists to reinforce best practices.
- S4.3 Work with Seattle Children's Hospital to explore possibility of a pilot tele-audiology site in a region with high loss to follow-up.
- S4.4 Survey providers about their knowledge of newborn hearing screening and follow-up, specifically asking them about the need for infants with atresia to return to audiology after having a medical evaluation/treatment with an Ear, Nose and Throat (ENT) doctor.
- S4.5 Work with Washington's American Academy of Pediatrics (AAP) Chapter Champion to offer educational opportunities or information for providers that explain and clarify the importance of an infant receiving a diagnostic evaluation before three months of age. See S3.3 for associated educational strategy.
- S4.6 Conduct site visits with audiology clinics to review reporting, diagnostic practices, scheduling, and follow-up.
- S4.7 Work with audiology clinics to test the strategy of having open slots on their schedule each week for initial diagnostic evaluations.

#### **Aim 5**

**By August 31, 2017, increase the percent of infants who have hearing loss who are referred to the Early Support for Infant and Toddlers (ESIT) program through the EHDDI-IS by 30%.**

Currently: 0% (0/154 infants)

Proposed: 30% (~45/150 infants)

- S5.1 Conduct trainings for audiologists in how to use the EHDDI web application and document referrals.
- S5.2 Work audiologists and ESIT to improve the EHDDI web application (e.g. have EHDDI-IS send diagnostic results to ESIT when an infant is referred to ESIT through EHDDI-IS).
- S5.3 Create and disseminate to audiologists a report that lists infants who have been diagnosed with hearing loss, but have not been referred to ESIT.

## Aim 6

By August 31, 2017, improve access to family support services in Washington for families with children who have hearing loss.

- S6.1 Collaborate with the multi-agency team to use the 2013 Joint Committee on Infant Hearing (JCIH) Early Intervention supplement to draft and disseminate guidelines for EI programs that serve birth to three year olds who are deaf or hard of hearing.
- S6.2 Contract with Hands and Voices to continue building the GBYS program to support families of children at risk for or diagnosed with hearing loss, such as through increasing outreach/education to community organizations and initiating referrals to families before final hearing loss diagnosis (see S1.2, S1.7, S3.5, S3.7, and S6.5).
- S6.3 Continue to participate in the multi-agency team that has designed and is now working on implementing the State Plan to ensure families with children who have hearing loss receive timely and appropriate early intervention (EI) services.
- S6.4 Work with our partners to educate Family Resources Coordinators (FRCs) on the specific needs for children with hearing loss, such as presentations at their annual meetings and at the Local Lead Agency meetings.
- S6.5 Collaborate with ESIT to explore incorporating family linkages to support services (GBYS, Father's Network, Parent to Parent, Center for Childhood Deafness and Hearing Loss (CDHL)) in the child's Individual Family Service Plan (IFSP).

## RESOLUTION OF CHALLENGES

We do not anticipate delays for the majority of the stated goals and objectives. However, objectives and activities that depend on hospitals and other providers to voluntarily implement strategies may present challenges. To address potential denials from hospitals to participate, we will provide hospital specific data “pre” implementation and offer them “post” implementation statistics as an incentive for initiating quality improvement efforts. Staff will use existing EHDDI data to illustrate the problems seen within the hospital and share evidence that these strategies have proven successful in other states/hospitals. Staff will also pursue private and public communication vehicles (i.e., direct phone calls/emails/letters to hospital leaders and monthly newsletters) to persuade the hospital to participate in recommended improvement strategies.

For efforts that may require approval from our Investigational Review Board (e.g. surveying midwives and PCPs) we will prepare the documents needed to argue that the work is part of public health program evaluation and should be exempt. Other activities that may require development and testing (e.g. developing training for doulas or birthing classes and a module for physicians to earn Maintenance of Certification) we have built into our timeline sufficient time to seek out existing validated materials as well as development and testing if necessary.

Lastly, in the event of EHDDI program staff vacancies due to turnover we will recruit as soon as possible. For long-term illness or disability, we will plan to hire temporary staff to ensure there is no work stoppage. Any significant changes to our proposed timeline and activities will be reported to HRSA, as well.

## EVALUATION AND TECHNICAL SUPPORT CAPACITY

EHDDI staff will use both process and outcome measures to evaluate program performance. The work plan (Attachment 1) identifies the timeline, person(s) responsible, and measures for each proposed change strategy that we will use to determine completion, timeliness and impact. To evaluate outcomes, EHDDI staff will primarily use data from the EHDDI-IS to measure progress in achieving our aims. As appropriate, we will use EHDDI-IS to analyze performance of our aims related to hearing screening (Aims 1 and 2). We will also analyze hospital and out-of-hospital birth statistics on a monthly basis, including percent infants who missed initially, percent who referred on their initial screen, and percent infants where the family refused screening. On a quarterly basis we will conduct a more detailed analysis of screening data, including the percent infants LTFD and whether infants received their hearing screen by one month of age.

As needed, we will analyze data related to our aims associated with decreasing loss to follow-up to audiology (Aim 3) and increasing timeliness of diagnostic evaluations (Aim 4). In addition, every six months we will conduct a detailed analysis of our diagnostic data, including number of infants diagnosed with hearing loss, percent infants who have been lost to audiology, the geographic areas where there is high LTFD, and whether infants who are referred for diagnostic evaluations due to not passing their newborn hearing screens are receiving evaluations by three months of age.

Data sources other than EHDDI-IS may also be used, as needed and available. For example, in Aim 4, Strategy 4, (S4.4) we will use results from our survey of providers to evaluate their knowledge of newborn hearing screening and follow-up. We will then use what we learn to work with our American Academy of Pediatrics (AAP) Chapter Champion to provide educational opportunities and information for providers.

The Washington EHDDI Manager has an MPH in epidemiology from the University of Washington and over 5 years of experience in tracking screening rates and follow-up statistics for the EHDDI Program, including for previous Center for Disease Control and Prevention (CDC) and HRSA grant projects. She annually calculates and submits program data to the CDC. The EHDDI program also has access to staff in the Department of Health Office of Healthy Communities' Surveillance and Evaluation Section, which consists of multiple epidemiologists and research assistants, to assist in the construction of surveys and if more sophisticated statistical analyses is required.

## ORGANIZATIONAL INFORMATION

The EHDDI program is part of the Screening and Genetics Unit within the Office of Healthy Communities (OHC), Division of Prevention and Community Health (PCH) in the Washington State Department of Health (DOH). The agency's mission is to protect and improve the health of people in Washington State. Our aims fits with the PCH Agenda for Change focus area of "promoting policies and systems that increase the number of people who are healthy at every stage of life to provide a healthy start." The Screening and Genetics Unit works to improve the health of people with, or at risk of, genetic disease or congenital abnormalities by:

- Serving as a resource for accurate, up-to-date information
- Promoting educational opportunities for health and social service providers
- Evaluating quality, trends, and access to services.

OHC is the Title V Agency in Washington State and works to promote and develop an environment that supports the optimal health of all women of childbearing age, infants, children, adolescents, and their families. Programs within OHC include: the Screening and Genetics Unit, Children with Special Health Care Needs (CSHCN), Child Health and Adolescent Health, Tobacco Prevention and Control Program, and Patient-Centered Medical Home Collaborative, and Healthy Youth Survey.

The newborn screening (NBS) program resides in the Office of Newborn Screening, within the Division of Disease Control and Health Statistics. Since EHDDI and NBS staff work together closely, EHDDI staff are co-located with the NBS follow-up staff at the public health laboratories in Shoreline, WA (just north of Seattle). Staff from both programs use an integrated follow-up surveillance system built and maintained by Neometrics. Since organizationally, the NBS and EHDDI programs are in different divisions, program managers interact on a weekly basis concerning issues such as space, staff or shared programmatic costs or activities.

While hearing screening currently is voluntary in Washington State, the Screening and Genetics Unit has historically been successful in securing state general funds from the legislature to support the EHDDI program. The first occurred in 2005 when the program requested and received \$125,000 annually for EHDDI. In 2008, the program received additional funds now at \$325,000 annually.

The Screening and Genetics Unit has 6.0 full-time equivalents (FTEs), most of whom participate in this project:

Program Manager/Principal Investigator, Debra Lochner Doyle, MS, LCGC, oversees all aspects of the Unit's activities as well as coordinating genetics and EHDDI related activities across the agency.

Health Services Consultant 4/ EHDDI Manager, Karin Neidt, MPH, manages grants and contracts, supervises EHDDI follow-up staff, analyzes data, compiles and distributes data reports, manages data system updates, participates in interagency meetings, convenes weekly EHDDI team meetings.

Health Services Consultant 2/ EHDDI Follow-up Coordinator, Elysia Gonzales, RN, MPH, completes day-to-day follow-up actions (e.g., phone, fax, letters) triggered by the EHDDI tracking and surveillance system, completes data entry to the system as additional information is learned based on the actions taken. She participates in hospital site visits to review follow-up protocols and implement targeted improvement strategies. For this project, Elysia will also be taking on the role of Quality Improvement lead ensuring that the small tests of change are coordinated and completed.

Health Services Consultant 2/ EHDDI Follow-up Coordinator, Marcie Hoskyn, AuD, FAAA, completes day-to-day follow-up actions (phone, fax, letters) triggered by the EHDDI tracking and surveillance system, does data entry to the system as additional information is learned based on the actions taken, helps test data system updates. She will also participate in hospital site visits and trainings for audiologists.

Secretary Senior, Meagan Powell, handles day-to-day logistical operations and clerical support for all Screening and Genetics staff.

Staff from the Grants Management Office further support the Screening and Genetics Unit, handling federal financial reporting. A Budget Program Specialist works with Screening and Genetics Unit staff to ensure all fiscal accounts are entered into the state fiscal monitoring system, and meets with program staff monthly to monitor accounts. In addition, a warrants officer processes warrants authorized for payment by program staff and enters these payments into the fiscal monitoring system.

## Work Plan - Washington State

<b>Aim 1 - By August 31, 2017, increase the percent of infants born out-of-hospital who receive a newborn hearing screen by 25%.</b>					
Currently: 22% (638/2856 infants); Proposed: 47% (~1500/3000 infants)					
<b>Outcome Measure</b>					
<b>% of infants born out-of-hospital who received hearing screen</b>					
<b>Strategies / Activities</b>		<b>Start Date</b>	<b>Completion Date</b>	<b>Lead Staff and Partner Support</b>	<b>Process Measures</b>
S1.1	Have newborn hearing screening and follow-up included in the curriculum at the Master of Science in Midwifery program at Bastyr University.	9/1/2014	8/31/2017	Karin Neidt	* Bastyr curriculum includes hearing screening and follow-up-Yes/No
S1.2	Work with Guide By Your Side™ (GBYS) to submit an article that includes a story from a parent of a child with hearing loss in the Midwives' Association of Washington State's (MAWS) Newsletter.	9/1/2014	2/28/2015	Karin Neidt, GBYS	* Article submitted to MAWS Newsletter-Yes/No
S1.3	Include a midwife on our stakeholder team.	12/1/2014	5/31/2015	Karin Neidt	* Midwife included on stakeholder team-Yes/No
S1.4	Survey midwives who currently have screening equipment to learn more about how they structure screenings (e.g. as part of well-baby checks, open screening times at birth centers), what they struggle with regarding screening, if they feel that screening and caring for the equipment is sustainable for their practice, and what alternative strategies they would suggest to ensure infants born out-of-hospital receive hearing screens.	1/1/2015	12/31/2015	Karin Neidt	* % midwives responded to survey * Summary compiled of respondents' challenges and alternative strategies-Yes/No
S1.5	Work with hospitals and communities to ensure information about newborn hearing screening is included in child birth preparation classes.	1/1/2015	12/31/2015	Marcie Hoskyn	* # hospitals/community programs providing newborn hearing screening education in their child birth classes
S1.6	Invite midwives and doulas to the newborn hearing screening meetings that are organized through our contract with Seattle Children's Hospital.	3/1/2015	6/30/2017	Karin Neidt, Seattle Children's	* # of midwives invited to newborn hearing screening (NBHS) meetings * # of midwives attended NBHS meetings * # of doulas invited to NBHS meetings * # of doulas attended NBHS meetings
S1.7	Work with GBYS to conduct outreach to practicing midwives, Mother of Preschoolers (MOPS), and Program for Early Parent Support (PEPS).	9/1/2015	8/31/2016	Karin Neidt, GBYS	* # of parent groups receiving education * # of midwifery practices receiving education
S1.8	Educate doulas about newborn hearing screening, so they can reinforce its importance to the family.	10/1/2015	9/30/2016	Elysia Gonzales	* # of doulas trained

S1.9	Work with our stakeholder team to use the results of the midwife survey to design and implement strategies to increase the number of infants born out-of-hospital who are screened for hearing loss.	1/1/2016	12/31/2016	Karin Neidt, Deb Doyle	* Strategies defined-Yes/No * Implemented at least one strategy based on survey results-Yes/No
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**Aim 2 - By August 31, 2017, decrease the number of infants who fail to receive a second hearing screen after not passing their initial newborn hearing screen by 200 infants.**

Currently: 8% (352/4187 infants); Proposed: 5% (~150/4000 infants)

**Outcome Measures**

- # of infants who fail to receive 2nd hearing screen after not passing the initial
- % of infants who fail to receive 2nd hearing screen after not passing the initial
- # of hospitals implementing quality improvement strategies

Strategies / Activities		Start Date	Completion Date	Lead Staff and Partner Support	Process Measures
S2.1	Conduct site visits to hospitals that have refer rates of greater than 10% or percent infants lost after not passing the initial screen of greater than 10%. During the site visits, we will recommend small tests of change like using scripts, implementing annual competencies, and using the National Center for Hearing Assessment and Management (NCHAM) training curriculum.	9/1/2014	8/31/2017	Elysia Gonzales, Seattle Children's	* % of hospitals visited with refer rates > 10% * # of hospitals to pilot tests of change related to using scripts, implementing annual competencies, and/or using the NCHAM training curriculum
S2.2	Conduct small tests of change for the follow-up protocol that is initiated after the provider informs the EHDDI program that he/she has referred an infant or shared the recommendation to get a second hearing screen with the family. For example, when providers respond as shared, attempt to determine where baby referred rather than closing case.	9/1/2014	8/31/2015	Marcie Hoskyn	* Tests of change conducted by EHDDI related to follow-up protocols initiated once provider indicates an infant referred for hearing rescreen-Yes/No * Tests of change conducted by EHDDI related to follow-up protocols initiated once provider indicates recommendations shared-Yes/No * # of infants closed as "shared" with no later rescreen
S2.3	Conduct small tests of change on how the EHDDI program tracks responses from hospitals who receive the Did Not Pass – No Record of Rescreen (DNP) Report. For example, keep log of which hospitals do not respond and contact those hospitals to encourage responses.	9/1/2014	8/31/2015	Karin Neidt	* % of responses to DNP report received from hospitals

S2.4	Include the specific topic of second hearing screens at the annual Newborn Hearing Screening Meeting, highlighting the importance of a child getting a rescreen by one month of age and the nuances of reporting the results to the EHDDI program.	1/1/2015	6/30/2015	Karin Neidt, Seattle Children's	* Presentation on hearing rescreens included in annual newborn hearing screening meeting-Yes/No
S2.5	Work with hospitals to test the strategy of having the hearing screener get an email or cell phone number from the family when an infant does not pass his/her hearing screen. The screener will then send an email or text that includes a link to a video using parent stories to highlight the importance of newborn hearing screening and follow-up. The email or text will also include a reminder of the date, time, and location of the infant's scheduled rescreen.	2/1/2015	1/31/2016	Elysia Gonzales, Seattle Children's	* Hospital(s) piloted tests of change related to emailing/texting families appt reminders and link to video-Yes/No * # of infants who received rescreens after not passing the initial
S2.6	Conduct outreach to smaller audiology and ENT clinics that do hearing screens to ensure they are reporting results to the EHDDI program.	4/1/2015	3/31/2016	Marcie Hoskyn	* # of audiology and ENT clinics contacted
S2.7	Modify the action EHDDI staff take after we find out that an infant has moved out of state, such as developing a letter to send to other state EHDI programs to inform the new state of residence and attempt to get follow-up data as well as working more closely with Oregon regarding border babies.	8/1/2015	7/30/2016	Karin Neidt	* Action modified for out-of-state infants-Yes/No * # of infants lost after failing initial screen and closed as moved out of state * # of infants lost after referral to audiology and closed as moved out of state
S2.8	Explore potential outreach strategies and methods for raising awareness in community organizations such as the Women, Infants, and Children's (WIC) program, car seat coalitions, food banks, migrant workers' clinics, etc.	9/1/2015	8/31/2017	Karin Neidt	* # of community organizations contacted
S2.9	Use the EHDDI-Information System (IS) to identify hospitals that do not report rescreens and conduct small tests of change with those hospitals to increase reporting.	12/1/2015	11/30/2016	Karin Neidt	* # of hospitals that do not report all rescreens * Hospital(s) piloted small tests of change related to changing practices for reporting rescreens-Yes/No * # of infants who received rescreens after not passing the initial
S2.10	Conduct small tests of change at hospitals to establish drop-in outpatient hearing screening times that include evening and Saturday hours.	5/1/2016	4/30/2017	Elysia Gonzales, Seattle Children's	* Hospital(s) piloted small tests of change related to establishing drop-in outpatient hearing screening times-Yes/No * # of infants who received rescreens after not passing the initial

**Aim 3 - By August 31, 2017, decrease by 15% the percent of infants who fail to receive a conclusive diagnostic evaluation after being referred to audiology due to not passing their hearing screening.**

Currently: 23% (134/576 infants); Proposed: 8% (~50/600 infants)

**Outcome Measures**

**% of infants who fail to receive conclusive diagnostic evaluation**

**# of hospitals implementing quality improvement strategies**

**# of audiology clinics implementing quality improvement strategies**

Strategies / Activities		Start Date	Completion Date	Lead Staff and Partner Support	Process Measures
S3.1	Design and conduct small tests of change on the protocol we use to contact parents after they do not bring their infant in for a needed diagnostic evaluation.	9/1/2014	8/31/2015	Elysia Gonzales	* Tests of change conducted by EHDDI related to contacting parent protocol-Yes/No * # of infants who received diagnostic evaluations
S3.2	Enhance the EHDDI web application to allow audiologists to search for all infants born in the state, rather than just the infants referred to their clinic (the EHDDI program has already received approval for this from our Enterprise Records Management Office and our Information Security Officer).	9/1/2014	8/31/2016	Karin Neidt	* Audiologists able to access all infants in EHDDI-IS-Yes/No
S3.3	Work with Seattle Children's Hospital to create an online module about newborn hearing screening and diagnostic follow-up that providers can take for Maintenance of Certification, including a pre-test and post-test. See S4.5 for associated strategy.	1/1/2015	12/31/2016	Marcie Hoskyn, Seattle Children's	* Online educational module for providers created-Yes/No * # of pre/post-tests taken
S3.4	Promote newborn hearing screening and follow-up through the Nursing Association.	3/1/2015	2/28/2016	Elysia Gonzales	* Article submitted to Nursing Association(s) for newsletter and/or website-Yes/No
S3.5	Work with audiologists to test the strategy of connecting the family with GBYS during the first audiology visit, even if it is not a conclusive diagnostic evaluation.	9/1/2015	8/31/2016	Marcie Hoskyn, Seattle Children's, GBYS	* Audiology clinic(s) piloted tests of change related to connecting family with GBYS during first audiology visit-Yes/No * # of infants who received diagnostic evaluations
S3.6	Explore efforts to increase awareness of pediatric hearing loss, such as a public service announcement (PSA), that target families and professionals, including the importance of timeliness and understanding degree of hearing loss.	9/1/2015	8/31/2017	Marcie Hoskyn	* # of state EHDI programs contacted * # of community partners contacted
S3.7	Work with hospitals to test the strategy of having the hearing screener connect the family with GBYS after the infant does not pass his/her second hearing screen.	9/1/2016	8/31/2017	Elysia Gonzales, Seattle Children's, GBYS	* Hospital(s) piloted tests of change related to connecting family with GBYS after infant does not pass second hearing screen-Yes/No * # of infants who received diagnostic evaluations

S3.8	After an infant does not pass two hearing screens and needs a diagnostic evaluation, work with the hospital to test the strategy of having the hearing screener give the family information about their audiology referral, as well as two parent stories – one of a family who brought their child in for a diagnostic evaluation and was diagnosed with hearing loss and another whose child went in for an evaluation and did not have a hearing loss.	9/1/2016	8/31/2017	Elysia Gonzales, Seattle Children's	<ul style="list-style-type: none"> <li>* Two parent stories created-Yes/No</li> <li>* Hospital(s) piloted tests of change related to giving family information about audiology referral along with two parent stories-Yes/No</li> <li>* # of infants who received diagnostic evaluations</li> </ul>
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**Aim 4 - By August 31, 2017, increase the percent of infants who receive a conclusive diagnostic evaluation by 3 months of age by 25%.**

Currently: 55% (230/418 infants); Proposed: 80% (~330/420 infants)

<b>Outcome Measures</b>					
<b>% of infants who receive conclusive diagnostic evaluation by 3 months</b>					
<b># of audiology clinics implementing quality improvement strategies</b>					
<b>Strategies / Activities</b>		<b>Start Date</b>	<b>Completion Date</b>	<b>Lead Staff and Partner Support</b>	<b>Process Measures</b>
S4.1	Create a checklist of items we want to cover with audiology clinics during our site visits.	9/1/2014	5/31/2015	Marcie Hoskyn, Seattle Children's	* Audiology training checklist created-Yes/No
S4.2	Host quarterly grand rounds/case studies for audiologists to reinforce best practices.	9/1/2014	8/31/2015	Marcie Hoskyn, Seattle Children's	<ul style="list-style-type: none"> <li>* # of grand rounds hosted</li> <li>* % of audiology clinics consistently attending</li> </ul>
S4.3	Work with Seattle Children's Hospital to explore possibility of a pilot tele-audiology site in a region with high loss to follow-up.	9/1/2014	2/28/2016	Karin Neidt, Seattle Children's	* Proposal for pilot tele-audiology site created-Yes/No
S4.4	Survey providers about their knowledge of newborn hearing screening and follow-up, specifically asking them about the need for infants with atresia to return to audiology after having an medical evaluation/treatment with an Ear, Nose and Throat (ENT) doctor.	1/1/2015	12/31/2015	Marcie Hoskyn	<ul style="list-style-type: none"> <li>* % of survey respondents</li> <li>* Summary of survey responses created-Yes/No</li> </ul>
S4.5	Work with Washington's American Academy of Pediatrics (AAP) Chapter Champion to offer educational opportunities or information for providers that explain and clarify the importance of an infant receiving a diagnostic evaluation before three months of age. See S3.3 for associated educational strategy.	6/1/2015	5/31/2017	Karin Neidt, AAP Chapter Champion	<ul style="list-style-type: none"> <li>* # of providers identified who need information or education</li> <li>* # of providers who received information or education</li> </ul>
S4.6	Conduct site visits with audiology clinics to review reporting, diagnostic practices, scheduling, and follow-up.	6/1/2015	8/31/2017	Marcie Hoskyn, Seattle Children's	* # audiology clinics visited

S4.7	Work with audiology clinics to test the strategy of having open slots on their schedule each week for initial diagnostic evaluations.	9/1/2016	8/31/2017	Marcie Hoskyn, Seattle Children's	* Audiology clinic(s) piloted tests of change related to open slots on their schedule each week for initial diagnostic evaluations-Yes/No * # of designated open slots filled with initial diagnostic evaluations
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**Aim 5 - By August 31, 2017, increase the percent of infants who have hearing loss who are referred to the Early Support for Infant and Toddlers (ESIT) program through the EHDDI-IS by 30%.**

Currently: 0% (0/154 infants); Proposed: 30% (~45/150 infants)

<b>Outcome Measure</b>					
<b>% of infants referred to ESIT via EHDDI-IS</b>					
<b>Strategies / Activities</b>		<b>Start Date</b>	<b>Completion Date</b>	<b>Lead Staff and Partner Support</b>	<b>Process Measures</b>
S5.1	Conduct trainings for audiologists in how to use the EHDDI web application and document referrals.	9/1/2014	8/31/2015	Karin Neidt	* # of trainings provided to audiologists * # of infants referred to ESIT through EHDDI-IS
S5.2	Work with audiologists and ESIT to improve the EHDDI web application (e.g. have EHDDI-IS send diagnostic results to ESIT when an infant is referred to ESIT through EHDDI-IS).	4/1/2015	3/31/2016	Karin Neidt ESIT	* Feedback received from audiologists and ESIT regarding EHDDI-IS improvements-Yes/No
S5.3	Create and disseminate to audiologists a report that lists infants who have been diagnosed with hearing loss, but have not been referred to ESIT.	6/1/2015	8/31/2017	Karin Neidt	* Summary report sent to all audiologists-Yes/No * # of infants diagnosed with hearing loss without a referral to ESIT

**Aim 6 - By August 31, 2017, improve access to family support services in Washington for families with children who have hearing loss.**

Currently: unknown; Proposed: To Be Determined

<b>Outcome measures vary by strategy, see table below</b>						
<b>Strategies / Activities</b>		<b>Start Date</b>	<b>Completion Date</b>	<b>Lead Staff and Partner Support</b>	<b>Process Measures</b>	<b>Outcome Measures</b>
S6.1	Collaborate with the multi-agency team to use the 2013 Joint Committee on Infant Hearing (JCIH) Early Intervention supplement to draft and disseminate guidelines for EI programs that serve birth to three year olds who are deaf or hard of hearing.	9/1/2014	2/28/2016	Karin Neidt Deb Doyle, WSDS, CDHL, ESIT	* Team meetings held to draft and disseminate guidelines for EI programs-Yes/No	Measured by ESIT/CDHL
S6.2	Contract with Hands and Voices to continue building the GBYS program to support families of children at risk for or diagnosed with hearing loss, such as through increasing outreach/education to community organizations and initiating referrals to families before final hearing loss diagnosis (see S1.2, 1.7, 3.5, 3.7, 6.5).	9/1/2014	8/31/2017	Karin Neidt GBYS	* Contract established with Hands & Voices-Yes/No	* # of families served by GBYS

S6.3	Continue to participate in the multi-agency team that has designed and is now working on implementing the State Plan to ensure families with children who have hearing loss receive timely and appropriate early intervention (EI) services.	9/1/2014	8/31/2017	Karin Neidt, Deb Doyle	* Stakeholder meetings held to discuss ensuring families receive timely and appropriate EI-Yes/No	* % of infants receiving timely EI
S6.4	Work with our partners to educate Family Resources Coordinators (FRCs) on the specific needs for children with hearing loss, such as presentations at their annual meetings and at the Local Lead Agency meetings.	3/1/2015	2/28/2017	Karin Neidt, ESIT	* Team meetings held to discuss FRC trainings-Yes/No * # FRC trainings held	Measured by ESIT
S6.5	Collaborate with ESIT to explore incorporating family linkages to support services (GBYS, Father's Network, Parent to Parent, Center for Childhood Deafness and Hearing Loss (CDHL)) in the child's Individual Family Service Plan (IFSP).	1/1/2016	4/30/2017	Karin Neidt ESIT, CDHL	* Team meetings held to discuss incorporating family linkages to support services-Yes/No	Measured by ESIT/CDHL