Background and Need

Congenital hearing loss is the most frequently occurring birth defect. According to Clinical Preventive Service Recommendations: congenital hearing loss affects approximately 3 per 1,000 children; even mild or unilateral hearing loss can affect a child's potential to develop speech, language, social skills and school performance, including grade retention; and hearing loss may be present at birth or may occur later. When compared to other preventive interventions and to commonly accepted cost-effectiveness benchmarks, universal newborn hearing screening is cost-effective, and early hearing detection and intervention (EHDI) services can significantly impact the long term outcomes for children who are Deaf or hard of hearing.

Tracking and surveillance systems are also needed in order to effectively track and document the status of every child identified through a screening program, and to identify those who need follow-up, or those who may be at risk of being 'lost.'. A well planned, integrated system is also critical for identifying gaps in service provision, and planning for process improvements.

The main goal of this project as well as the MCHB funded project is the achievement of the 1-3-6 benchmarks and ensuring children with hearing loss are identified early and connected to appropriate services. Funding for the specific project activities listed are to support the collection and reporting of data on these children, and to provide the capacity for the collection and analysis of this data for the improvement of the whole system. The emphasis on providing training, and upgrading the data tracking system are designed to increase the sustainability of the EHDI system. The Idaho EHDI system functions as a collaborative, voluntary effort to provide the recommended "Standard of Care." The EHDI program provides the supportive infrastructure for the providers of this standard of care. With limited staffing capacity, program activities have primarily focused on supporting hospital staff with screening activities, and promoting the provision of timely and appropriate services through educational outreach activities for audiologists, early interventionists, and medical personnel.

This funding will be used to identify and close some of the system gaps where babies are missed or lost and to support Idaho's movement towards a system that will be in alignment not only with the Part C database, but will also be in a position to integrate with other state systems as soon as the opportunities arise. The conversion to a secure web-based system will allow hospitals and other providers, such as audiologists, to update data from any computer with internet capability and will enable the state program to have immediate access to accurate data in order to engage in more timely follow-up.

EHDI in Idaho

Since late 2007, the Idaho Infant Toddler (Part C) Program (ITP) has been the lead agency for Idaho's Early Hearing Detection and Intervention Program- Idaho Sound Beginnings (ISB). The Infant Toddler Program has demonstrated a long term and active commitment to establishing and refining the EHDI system in Idaho. They support the work of EHDI, dedicate regional staff to assist with ISB's follow-up efforts, serve on the ISB Advisory Committee, and provide OAE hearing screenings for out-of-hospital births. Idaho Sound Beginnings promotes the use of these services through their health promotion outreach activities and supports the regional Infant Toddler staff by providing audiology training as needed. The Infant Toddler Program engages in a renewable memorandum of understanding with the Idaho School for the Deaf and the Blind

(ISDB), outlining their shared commitment and individual roles and responsibilities in providing services to the birth to 3 population. The Idaho EHDI program is an integral partner in this collaboration to ensure that babies are identified early and connected with appropriate services in a timely way.

Idaho Sound Beginnings (ISB) collected data on approximately 96 percent of Idaho births in 2008 (based on a comparison of EHDI program data to preliminary aggregate birth data from Vital Records).

All 32 Idaho birth hospitals voluntarily screen infants for hearing loss, and only 5 hospitals' initial screening rates in 2008 were below the 95 percent benchmark set by the JCIH. Statewide, over 98 percent of infants born in hospitals received at least an initial screening in 2008.

Although the percent of infants receiving a newborn hearing screening in Idaho is above the Joint Committee on Infant Hearing (JCIH) benchmark of 95 percent, the percent of newborns who failed to return for an outpatient rescreen in 2008 averaged 30 percent, ranging from 23 percent of babies who referred on their initial inpatient screen, to 74 percent of babies who did not receive any hearing screening before hospital discharge ('missed' babies).

Tracking and Surveillance System

The Hi-Track data tracking software is used by the Idaho Sound Beginnings program (ISB) and by 30 of the 32 birthing hospitals. Hard copy aggregate data from the two hospitals not using Hi-Track is submitted monthly. ISB pays the yearly licensing fees for the Hi-Track software. All hospitals signed initial MOA's agreeing to submit their newborn hearing screening data to the state EHDI office by the 10th of each month. Compliance is universal, but timely compliance has proven inconsistent. The Hi-Track system in use in Idaho is a 'distributed' type of system, requiring monthly downloading and transmittal of an encrypted electronic transfer file (ETF). Depending on each hospitals computer and internet capabilities, the file may be sent via email, or on a floppy disk.

The thirty Idaho birth hospitals transmitting data electronically are using version 3.5 of the Hi-Track software. The state program has been upgraded to the newer 4.0 version. Transmitted data from the individual hospitals undergoes a conversion process as it is entered into the state database, and the older 3.5 version lacks many of the tracking enhancements that have been implemented in the version 4 software. In particular, the creation of a "file cabinet" system in Hi-Track 4 to actively track babies' needs would be an excellent tool for hospitals to use to quickly track babies needing inpatient or outpatient screenings.

Many of the hospitals make limited use of the tracking, reporting, and letter writing features of their current Hi-Track program, due in large part to a lack of adequate training, and a reported low comfort level with the software. To be effectual, upgrading to version 4 will need to be accompanied by an intensive training component to ensure that hospitals are aware of the available features of the program, and understand and are comfortable with using these features. Extra training for state EHDI staff is also needed. There are major differences between the versions and the provision of intensive training will be vital to the accomplishment of the project goals.

Version 4 includes expanded tracking criteria over the older version. Since the success of a software program and the accuracy of the reported data are dependent upon consistency of the data entered, the development of a standardized guide to data entry coding will be an imperative. The purpose of this guide will be to ensure that hospitals are following consistent criteria in entering everything from medical record numbers to recommendations for follow-up. Development of this

guide will be a collaborative effort between NCHAM staff, and the state EHDI coordinator and audiologist, in order to reflect the needs of the state tracking program. Once developed, the "guide" will be personalized for each hospital to reflect differences in screening equipment used or any other required variations in procedure. Providing hospital staff with this type of short 'at-a-glance' document has proven to be a positive factor in the past with increasing compliance with screening recommendations.

The referral, follow-up, and tracking/surveillance system has remained relatively unchanged since its implementation over eight years ago. Recent program changes including the addition of the role of parent contact and the use of part time data entry help have highlighted the need for a thorough analysis of the entire system is needed in order to identify areas where the workflow can be streamlined and to avoid duplication and inefficiencies. After initial analysis of the state program, collaborative input will be solicited from a team of stakeholders. This team will be comprised of at least one representative each from the Infant Toddler (Part C) program, Idaho School for the Deaf and Blind (ISDB) Outreach Program, Audiology, and Idaho Hands and Voices and may be the same "state team" members who attended the 2008 National EHDI Family Support Conference and have already collaborated on enhancements to Idaho's EHDI family support system.

All Idaho birth hospitals use the ISB designed hearing screening referral form to note results and recommendations for babies needing follow-up and to obtain parental signature allowing the exchange of hearing screening and follow-up information between, Idaho Sound Beginnings, the audiologist, Idaho Part C program, Idaho School for the Deaf and the Blind and Idaho Hands and Voices. Items such as full contact information and risk factors are usually completed on the signed referral form, but often not entered into Hi-Track by hospital staff. The information on the referrals received is checked against the baby's Hi-Track record and any missing data is entered into the Hi-Track file by ISB data manager or temporary staff. Currently, Hi-Track does not have a field to note the receipt of the signed referral. The inclusion of such a field, and the ability to filter a report by hospital from this field, will enable ISB to quickly identify and respond to hospitals that may be negligent in completing or sending the forms in a timely manner.

The ITP is responsible for maintaining an interagency data collection system that captures early intervention enrollment and service data required for management and reporting. With the current ITP data system, determining the enrollment status of an infant referred from the EHDI program requires that an individual request be submitted to the ITP data manager and electronic transmittal of referrals from EHDI to ITP are not possible.

The ITP will be piloting their new web-based data system in the Fall of 2009. The Part C program is ready to begin planning for data linkage with the EHDI database as a second stage enhancement to their system development. The IT developers of the new ITP-Web will be available and included in all upgrades made to the Hi-Track system in order to ensure compatibility.

Summary of Program Strengths	Summary of Program Barriers/Weaknesses
• All birthing hospitals voluntarily participate in UNHS • UNHS endorsed by Idaho Hospital Association as "Standard of Care" • Over 98% of babies born in Idaho hospitals	• Screening is voluntary • 3.3% of babies are born out-of-hospital • Rate of completion of outpatient rescreens varies widely by hospital • Support and time for hospital follow-up on babies

had their hearing screened in 2008 • Hospital participation and support for hearing screening is generally high • Out-of-hospital births are able to receive hearing screens at their regional Part C office	needing rescreens is limited • Time for state staff to devote to supporting hospital efforts on follow-up is limited • Dependence on midwives to provide information and brochures to parents of babies born out-of-hospital
• 30 hospitals use Hi-Track system and voluntarily report data • Hi-Track version 4 provides improved tracking and surveillance tools, including reports and letters • Hospitals have the ability to share their Hi-Track physician lists with State program • The State program would then have the ability to provide physicians with timely reports of their babies • Several provider and hospital programs are currently using or piloting web-based data systems- the Idaho Trauma Registry, the new Idaho Infant Toddler-web database, and the just piloted Idaho Health Data Exchange.	• Reporting is voluntary • 2 hospitals report aggregate data • Reporting of screenings for out-of-hospital births is incomplete • Data may not be complete (hospitals may not be including all babies such as transfers or deceased. • Outpatient rescreen data is not reported consistently • All Hospitals are currently using older versions of Hi-Track • Creation and submission of electronic data is not a high priority and is dependent on the availability of one hospital staff person. • Late submission of data impedes the state program's efforts to provide timely feedback to hospital programs and alert them to babies who are at risk of being 'lost' • Late submission of data impedes the state program's efforts to provide timely feedback to hospitals in the form of reports to assist with quality improvement efforts • Most hospitals are in need of technical assistance and training, and are unfamiliar with most of the tracking and other features of Hi-Track, due to lack of time commitment for staff to receive adequate training.
• Approximately 34 babies have been early identified each year since 2002	• Potentially, the same number of babies have not been early identified each year • Late and missing data hinders timely tracking and surveillance activities
• All babies identified with hearing loss, including mild and unilateral losses are eligible for and referred to the Part C program. • The Part C program has agreed to involve development of a linkage with EHDI data in the second phase of their web system roll out.	• There is currently no way for the EHDI program quickly and efficiently refer babies to the Part C program • Information on IFSP enrollment and services provided is difficult and time consuming to obtain
• All audiologists included in the EHDI	• Comprehensive diagnostic services are not readily

listing voluntarily completed the 2008 survey of statewide pediatric audiology services • Several Idaho audiologists have attended pediatric audiology training each year that it has been offered • Most audiologists send testing results to the EHDI program in hard copy form	accessible in all areas of the state • Results are not always reported on the EHDI program form and data elements are often missing • Audiology office protocols for follow-up for children "at risk" for late-onset or progressive hearing loss vary. • Information on follow-up audiology appointments, or later appointments for children with risk factors is often missing

Data and Demographics

Idaho is a largely rural state. It's 44 counties are divided among 7 regional districts. Districts 3 and 4 comprise most of the southwestern corner of the state and account for 44 percent of the state's births. Statewide, 6 of the 44 counties account for 63% of the births demonstrating the extreme rural nature of the state with the majority of the population clustered in a few locales. The geographic features of the state and its remote and mountainous terrain adds to travel and training costs and often air travel is the most efficient way to reach outlying areas, especially in the winter.

The percentage of mothers of Hispanic origin has risen to over 15 percent. Two districts-District 3 and District 5-account for 58 percent of the over 3500 reported births of Hispanic origin.
Size of individual hospitals and birth numbers vary widely affecting training and follow-up needs. The following chart shows the birth distribution and varying size of Idaho's 32 birth hospitals.

Births/year	25-135	200-700	1,000-2,000	5,100	
Number of Hospitals	13	9	9	1	32

Idaho hospitals are evenly split between screening equipment types with 16 using OAE technology and 16 using AABR technology, although AABR now accounts for over 80 percent of state births. Most of the AABR hospitals complete the two stage screening before discharge and are referring directly to diagnostics. This change in equipment and protocols over the last several years has led to a large decrease in the number of babies lost at the outpatient rescreen stage.

The majority of the OAE screened hospital births occur in more rural areas of the state. Since the OAE technology relies on outpatient rescreens this increases the susceptibility of infants in more rural areas to be lost to follow-up at the rescreen stage. These babies would benefit from an improved tracking system allowing for more timely follow-up efforts.

2008 Hearing Screening Data	Births reported
HT 'individual' data from 30 hospitals	21,750
Individual reports for screens done by ITP (home births)	24
Reported aggregate data from 2 hospitals	1,935
Total reported births from hearing screening	23,709

Vital Records 2008 births (not final data)* = 24,600 (difference of approximately 891 births)

Data Problems:

1,935 reported births are not	Largest hospital reporting aggregate data will be upgraded to

<table>
<tr><td>accompanied by individually identifiable data (not in Hi-Track)</td><td>Hi-Track and provided with training. Hospital was shown a demo of HT during December 2008 site visit and coordinator is agreeable to using HT (1695 births). The second hospital (240 births), is located at the Air Force base and has been willing to share aggregate data, but not to participate in electronic data sharing.</td></tr>
<tr><td>800 unreported out of hospital births.
(2007 Vital Records)
(Hearing screening data reported for only 24 births)</td><td rowspan="2">Efforts to increase screening and reporting of out of hospital births- outreach and education efforts with midwives will be continued, and Part C staff will provide input on needed changes to tracking process, including responding to a survey regarding the actual number of hearing screenings provided by their program. The Part C program manager has endorsed reporting of all hearing screenings done by regional offices to the EHDI program. Reporting and tracking guide developed in collaboration with Part C staff should increase the number of reported screenings.
A full HT data linkage with Vital Records will be completed in order to verify accuracy of births numbers reported and to provide an analysis of data by hospital, region, and demographics such as ethnicity.
A change made to the birth certificate in 2004 enables hospitals to indicate if a newborn has failed the hearing screen before hospital discharge. This data can be linked with demographic information and reviewed over time. The first results reported by Vital Statistics showed that “failed newborn hearing test” (860) was the 3rd most common abnormal condition reported on the 2005 birth certificate. Initial data showed that 3.9 percent of births reported a failed newborn hearing test, and the percentage rose to 6.5 percent in the Hispanic population. Further information is needed which can only be gathered by linking ISB program data and Vital Statistics birth data. This has been determined to be a feasible project and will help to identify demographic information regarding these infants along with uncovering possible data collection disparities that may need attention. This project was first agreed to in 2006, but was never accomplished due to lack of funding and support. The program director for Vital Records is willing to consider restarting the project.</td></tr>
<tr><td>Approximately 91 other births unaccounted for by EHDI program data
(after manual removal of duplicates from electronic data reported.)</td></tr>
<tr><td>181 babies in Hi-Track reported as never being screened (2008) (does not include 9 refused)</td><td>Probably “lost to follow-up”
More timely and in-depth analysis of hospital data is needed in order to provide more immediate feedback to hospitals in an effort to contact these families and/or determine if any of these babies are actually “lost to documentation” by the hospital (actual number is probably higher).</td></tr>
</table>

338 babies in Hi-Track reported as needing outpatient rescreens (2008)	Probably "lost to follow-up" More timely and in-depth analysis of hospital data is needed in order to provide more immediate feedback to hospitals in an effort to contact these families and/or determine if any of these babies are actually "lost to documentation" by the hospital.
HT babies not completing hearing screening (2008) 338+181=519	Further data analysis needed to determine reasons why screening was never completed and develop targeted response strategy. In-depth analysis of individual hospital data has been limited by staff time as well as the timely receipt of data from the hospitals. Training for hospital staff in using the Hi-Track system to track the status of their hearing screens is needed to increase comfort level of staff with the system. Quicker analysis and the ability to provide more timely feedback to hospitals would help ensure that more of these babies complete screening before one month of age.
81 babies reported in Hi-Track as not completing evaluation	Increase timeliness of contact by state parent consultant to educate and guide parents through follow-up. Dependent upon increase in timeliness and accuracy of information received from hospitals and audiologists.
258 reported babies still in process of evaluation (not including known risk monitoring)	Increase timeliness and accuracy of information received from audiologists in order to target infants most at risk of being lost to follow-up. Audiologists have recently begun to receive monthly email reminders to send their diagnostic reports to the EHDI program. Develop and pilot a process to receive diagnostic follow-up information beyond initial audiology visit from audiologists.
Early Intervention enrollment information not available	Develop an electronic link to enable EHDI program to quickly refer babies after diagnosis and a method to receive timely follow-up information from EI.

Resolution of Challenges

A significant barrier to program activities has been the limitation in staff time. Staff have focused work efforts on the key activities necessary to support the program goals and have achieved a 98 percent screening rate for hospital births, and an almost 70% return for out-patient follow-up rate. The current system is limited by funding level (MCHB grant) and capacity and has been able to maintain these outcomes, but not improve beyond them.

Funding for system evaluation leading to refinements and efficiencies of collaborative workflow, and data tracking systems enhancements with support for provider participation in training, will enable the Idaho program to identify and address system gaps where babies are lost to screening, follow-up, and documentation. Support for data system enhancement and training as well as

support for collaborative efforts to increase the efficiency of the workflow, and the beginning of electronic data integration with the Part C program will initially provide for timely and efficient referral to the Part C program, and secondarily allow for reporting of enrollment status back to the EHDI program.

Increasing the timeliness and accuracy of outcome data will allow for clearer identification and documentation of system gaps, leading not only to targeted systems improvements, but also to improved planning for future needs, such as program integration or legislation, as well as an increase in timeliness of feedback to hospitals and other providers which will aid follow-up and documentation efforts.

Program Goals

The long-term program goal is to ensure that children with hearing loss are identified early in life and receive timely and appropriate follow-up in accordance with the JCIH "1-3-6" goals.

All project activities focus on achieving the following project goals:

- To increase the number of infants screened for hearing loss.
- To reduce the percentage lost to follow-up after failure to pass newborn hearing screening.
- To reduce the number lost-to-documentation of screening and testing results.
- To increase the number of infants attaining the 1-3-6 goals.
- To increase program ability to report individually identifiable and accurate, unduplicated, hearing screening and testing results for all babies.
- To increase program ability to document and report EI status.
- To increase program ability to document late-onset and progressive hearing losses.
- To implement enhancements that will support the above-mentioned purposes by establishing electronic data linkages and/or positioning the program for the success of future linkage opportunities.

Program Methodology

Activities designed to increase the number of infants completing screening by one month, the timely reporting of screening results from hospital programs, and the provision of timely and useful feedback to hospital programs, include:

Surveying hospitals to identify strengths, weaknesses and gaps in screening and reporting systems, as well as determine their needs from the state program.

Monitoring hospitals more consistently and providing them with timely outcome data.

Providing technical assistance as needed.

Upgrading all hospitals to version 4 of Hi-Track program.

Providing training to hospital staff to increase their comfort level with the electronic data reporting system, and their understanding of the directly proportional effect of timely and accurate reporting on the effectiveness of tracking efforts and ultimately on early diagnosis.

Providing financial support for training and upgrading activities-

A team composed of Advisory Board members and providers will review results of survey and assist with design and development of application for mini-grant/scholarships to hospitals to encourage their participation in Hi-Track training and upgrading activities. Reimbursement may be offered for staff time to attend Hi-Track training, both from NCHAM and the state program (including phone and off-site training time), IT time to implement upgrades, and to work with NCHAM to link their admissions data directly to the Hi-Track program to pre-

populate the database, or memory or other upgrades needed for their tracking system computer in order for them to convert to Hi-Track 4 and access the web-based version.

- Providing in-depth Hi-Track version 4 training to state EHDI staff, who will then develop an "at a glance" guide to Hi-Track data entry for screening staff, as well as guides for state staff, and audiologists in order to maintain accuracy and consistency of reporting.
- Converting to a secure web-based tracking system to allow for more timely receipt of data by the state program, thereby allowing for more immediate tracking efforts.

Activities to increase screening and reporting rate for out-of-hospital births include:

- Providing more timely feedback to Part C programs on screening outcomes statewide,
- Providing Part C regions with training on consistent reporting of screening results,
- Continuing to support Part C regions in providing hearing screenings by providing opportunities for audiology training,
- Providing immediate access to EHDI screening and reporting protocols on the Part C e-manual.
- Analyzing EHDI data against birth records by the Division of Vital Records to determine discrepancies between hospital EHDI data and birth records, and to identify duplications, gaps in data and demographic features.
- Investigate back linking of EHDI data with Metabolic data as a viable method of comparing birth records (a linkage of this type is used by the Hawaii EHDI program and the Oregon labs, who also provide tracking for Idaho's Metabolic program.)

Activities to decrease loss to follow-up include:

- Developing a sortable field in Hi-Track for state staff to record the receipt of a signed referral.
- Developing a sortable field in Hi-Track to record audiologist information.
- Analyzing EHDI data to determine individual hospital factors that may be contributing to loss to follow-up and timely diagnosis of babies, and developing a plan to address loss to follow-up rates based on information gained from analysis.
- Design and present an in-depth training and review session on tracking and reporting during the annual (October) EHDI conference.
- Announce scholarship/grant opportunity for training during EHDI conference
- Converting to a secure web-based tracking system to allow for more timely receipt of data by the state program

Activities to increase timely reporting of diagnostic results including amplification information include:

- Converting to a secure web-based tracking system.
- Providing access to web reporting for audiologists
- Providing training to audiologists.
- Providing monthly reports to audiologists on number of babies referred to their office and number of babies actually completing diagnostics (dependent on addition of audiologist tracking and sorting field in Hi-Track)
- Developing guide to Hi-Track reporting for audiologists.
- Offering travel stipends to audiologists to support attendance at EHDI presentation during annual Idaho Speech and Hearing Association Conference.

Activities to increase number of babies enrolled in early intervention by six months of age and the reporting of EI status to EHDI program include:

Developing a software link between Hi-Track and the new ITP-web to allow electronic transmittal of referrals from EHDI to Part C.

Access to follow-up data on ITP-web by the EHDI program.

Investigation of link to allow electronic transmittal of hearing follow-up results to EHDI program from ITP-web.

Providing more timely feedback to Part C programs on program outcomes statewide,

Providing Part C regions with training on consistent reporting of screening results,

Providing immediate access to EHDI screening and reporting protocols on the Part C e-manual.

Activities to increase program ability to integrate with other state programs include:

Conversion to a web-based software program

Including evaluation of Hi-Track web-based to determine feasibility of conversion and identify potential barriers to it's use and effectiveness.

Continued investigation and monitoring of the development of the Idaho Health Data Exchange as a future potential conduit, allowing for internet transmittal of screening data between hospitals, the EHDI program, and physicians.

Collaboration and Capacity

Idaho Sound Beginnings program has achieved its current level of success through strong support from programs such as the Idaho Hospital Association, combined with creative outreach efforts by the state EHDI program to collaborate with individual hospital staff and support their voluntary commitment to screening and data reporting.

The Idaho Sound Beginnings Advisory Committee continues the role of guidance and support to the EHDI program. Members of the ISB Advisory Committee are:

Sherry Iverson, RN, Executive Director, Idaho Chapter AAP, and Idaho Perinatal Project;
Carolee Eslinger, Program Specialist, Idaho Infant Toddler Program;
Toni Pugmire, Director of Education, Idaho Hospital Association;
Vacant, CEO, Idaho Medical Association;
Janet Stout, Director of Outreach, Idaho School for the Deaf and the Blind;
Mitch Scoggins, Program Specialist, Division of Health, Bureau of Clinical and Preventative Services, Children's Special Health Program (Metabolic);
James VanLooy, M.D., Neonatologist, St. Luke's Regional Children's Hospital, EHDI Chapter Champion;
David Ballance, M.D., Family Physician, Member Idaho Academy of Family Physicians;
Susie Jones, parent of a child with hearing loss, Speech Language Pathologist Director of Idaho Hands & Voices;
Steven Snow, Exec. Director of the Council for the Deaf and Hard of Hearing;
Debbie Baerlocher, AuD, Clinic Manager, Hearing and Balance Centers at the Elks, EHDI Consulting Pediatric Audiologist for Idaho Sound Beginnings.

The ISB Advisory Committee meets quarterly to review and assess EHDI program goals and accomplishments; to provide professional insight, information, and guidance; to provide opportunities for collaborative activities; to support ISB training and outreach activities through the provision of access to membership for outreach and/or provision of venue support. Members

of the Committee also research current recommendations for EHDI and advise ISB on strategies for implementation.

Other programs and associations who provide technical support include, but are not limited to: Idaho Hospital Association – provides the venue for EHDI annual stakeholder meeting; Idaho Perinatal Project – provides educational access to physicians, nurses, midwives and other groups, and supports presentations on EHDI topics to members at their annual conference; Idaho Medical Association, Idaho Academy of Family Physicians, Idaho Association of Physician's Assistants, and Idaho Nurses Association – provide CEU accreditation, presentation opportunities, and access to membership through their websites and newsletters. Idaho School for the Deaf and Blind (ISDB) provides support on issues of early childhood hearing loss, interventions, and communication methods, and collaborates with ISB in providing specialized early intervention training to early intervention generalists and health professionals, and Idaho Hands & Voices works with ISB to ensure that parents receive support from experienced parent consultants in a timely and appropriate manner.

The Idaho Infant Toddler Program (the lead agency for EHDI) and the Idaho School for the Deaf and the Blind participate in an interagency agreement. The purposes of this agreement are to:

- Work together to serve and support birth to three-year-old children with hearing loss and/or vision loss and their families.
- Understand each agency's roles and responsibilities, including financial obligations.
- Clarify the process and protocols to coordinate services and assure efficiencies and compliance with the provisions of IDEA and Idaho Code Chapter 16, Title 1, Idaho's Early Intervention Act.
- Minimize delays or gaps in service.
- Assure that procedural safeguards are met and services are delivered in a timely way at no cost to families.

Organization

ISB has enjoyed success due in part to the effectiveness of collaborative efforts with other organizations in Idaho dedicated to ensuring all newborns receive hearing screening services before hospital discharge. As of September 1, 2007, the Idaho Sound Beginnings program was transferred from the Council for the Deaf and Hard of Hearing (Council) to the Infant Toddler Program (Part C).

The Idaho Infant Toddler Program is the lead agency for the EHDI Program. The Infant Toddler Program, partnered with the Council for the Deaf in the establishment of Idaho's Universal Newborn Hearing Screening Consortium in 1995. Mary Jones has served as Idaho's Infant Toddler Program (Part C) Coordinator for 18 years, providing administrative management for early intervention services to infants, toddlers and their families. She provides oversight to the activities of the Idaho EHDI Program.

The Idaho Infant Toddler Program is part of the Idaho Department of Health and Welfare (IDHW) Division of Family and Community Services. The Metabolic screening program is also part of the IDHW, and is located in the Division of Public Health.

Staffing

Program Coordinator– 1.0 FTE Cynthia J. Carlin

Ms. Carlin has been with the EHDI program for over 8 years, and has served as the EHDI Program Coordinator for over two years. She is responsible for ensuring that all activities pertinent to the goals of the EHDI program are carried out. She will provide management

oversight for all grant activities, and will oversee the planned software integration. With the transition of the EHDI program to the administration of the Part C program, she also manages the program budget and contracts and provides supervision to staff. The Coordinator will be responsible for some program training and analysis activities as needed and will integrate data system training during regular site visits.

Program Consultant .25 FTE Andrea Amestoy, RN,

Ms. Amestoy joined the EHDI program in July of 2007. She is an experienced NICU nurse and pre-natal educator. She also has experience with teaching a Health Careers course for the Boise School District. She has been providing training to hospital staff on EHDI procedures and has most recently developed and presented a cultural awareness for health professionals training. In addition to her formal training and experience, Ms. Amestoy brings the unique perspective of a parent of a young child with hearing loss to the position. She has recently added the role of parent follow-up support to her resume.

Pediatric Audiology Consultant, .10 FTE Debbie Baerlocher, AuD (Additional .10 FTE)

Ms. Baerlocher has served as the Pediatric Audiology Consultant for Idaho Sound Beginnings for over three years. She is an experienced Pediatric Audiologist and trainer. She will continue to provide audiology training to hospital staff, as well as presenting at state medical conferences. She will participate in HiTrack training, oversee the piloting of Hi-Track for use in reporting diagnostic results, and serve as liaison and support to state audiologists in promoting accurate data reporting. She will be responsible for oversight of EHDI data analysis activities.

Data Manager, .80 FTE Janette Lytle (Additional .20 FTE proposed)

Ms. Lytle has six years experience with Idaho EHDI and the Hi-Track software program. She is responsible for processing all data, and developing and distributing data reports to hospitals, staff, and others. She provides technical assistance and training to 32 state hospitals. She is responsible for processing of referral forms, matching infant data with their Hi-Track records, updating records with audiology and other follow-up information. She provides comparison reports to the Program Coordinator highlighting hospitals which are not achieving benchmarks. She works with hospitals to help them refine their protocol in order to achieve the JCIH benchmarks.

Program staffing capacity will be increased by:

Addition to staff of a part time (.50 FTE)Project Assistant (to be hired). This individual will be responsible for providing support to carry out project activities, including communicating with hospital staff, assisting with program data analysis and evaluation, ensuring all follow-up efforts are documented and reported, assisting with the development of the data entry guide, coordinating scholarship project, and other administrative and support functions as required.

Expansion of contracted time of current Data Manager (additional 52 days/year) and current Audiologist (additional 26 days/year).

Evaluation Plan

1. Hospitals, audiologists, and early intervention personnel will participate in an online survey to assess their comfort level and satisfaction with the web-based Hi-Track system and program changes. such as receiving more immediate feedback from the state program.

Indicators will include:

The percent of providers who report that the upgrades in data tracking system and procedure, and the provision of extra training have increased their

comfort level with the tracking system
knowledge level and understanding of the use of the tracking system
use of the tracking and reporting features of the system
amount of demographic information they regularly enter
sense of understanding and collaboration with the state program
understanding of the need for accurate data entry
completion rate for referral forms and data entry
completion of demographic information.

Data reported from the surveillance and tracking system will be used to monitor: screening rates, refer rates, number of missed babies, number lost to follow-up at outpatient stage, number lost to follow-up at diagnostic stage, number referred to and enrolled in early intervention, number for whom follow-up diagnostic information, such as amplification information is received, number for whom demographic information is received, number of home birth screenings reported.

Data collected from subsequent years will be compared with 2008 data to identify the rate of improvement.

Target dates for activities are:

The receipt of electronic data from the largest hospital sending aggregate data by 12/30/2009
The conversion of 50% of hospitals to Hi-Track version 4 by 6/30/2010
The completion of evaluation and assessment of web based Hi-Track and conversion of the state program by 3/30/2010
The conversion of remaining 50% of hospitals to Hi-Track version 4 by 12/30/2010
The completion and distribution of data entry guide to hospitals by 3/30/2010
The piloting of Hi-Track 4 and web access in three audiology clinics by 6/30/2010
The use of Hi-Track 4 and web access by a minimum of six audiology clinics by 6/30 2011
The completion of a data linkage and analysis by Vital Records by 6/30/2010
The completion of IT assessment and development of data linkage with Metabolic records by 02/30/2011
The completion of development and piloting of data system linkage with ITP-web by 6/30/2011

Performance indicators include:

-The number of individual state births reported and documented in Hi-Track will increase by 1800 births by June 2011 as reported in Hi-Track

-The number of out-of-hospital births reported as having received a hearing screening will increase to 25 percent of the total number of our-of-hospital births.

-The number of state births unaccounted for in the hearing screening database will decrease by 30 percent as measured by Hi-Track data reports compared to Vital Records birth data.

-The number of duplicate birth records will decrease by 30% as measured by Hi-Track data reports and a comparison with Vital Records birth data.

-The number of babies reported as ‘missing’ a hearing screen will decrease by 50 percent as reported in Hi-Track.

-The number of babies reported as needing outpatient rescreens will decrease by 50 percent as reported in Hi-Track.

-The number of babies reported as not completing evaluation will be decreased by 50 percent as reported in Hi-Track.

-The number of babies with early intervention information reported in Hi-Track will increase by 50 percent.
-The number of babies reaching the 1-3-6 goals will increase by 30% over 2008, as reported in Hi-Track.
Final Target date for completion of all activities-June 30, 2011
Evaluation activities will be coordinated by the project assistant under the oversight of the EHDI Program Coordinator and the Audiology Consultant, who will be responsible for the data analysis and reporting of final data.