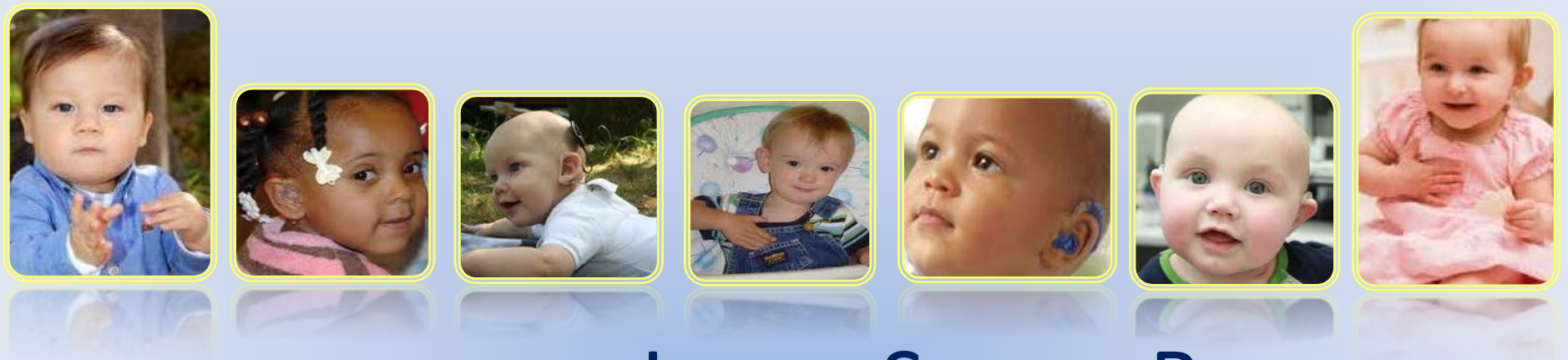


IDAHO SOUND BEGINNINGS

EARLY HEARING DETECTION AND INTERVENTION

Audiology Consulting Team: It Works!
Debbie Baerlocher, AuD
Brian Shakespeare

Idaho Department of Health and Welfare
Infant Toddler Program
St. Luke's Elks Hearing and Balance

Idaho Sound Beginnings Team

Brian Shakespeare
EHDI Coordinator

Andrea Amestoy
Parent Outreach Coordinator

Pamela Blessinger
Health Information Specialist

Burdette Hoelzle
Data Manager

Audiology Consulting Team (ACT)

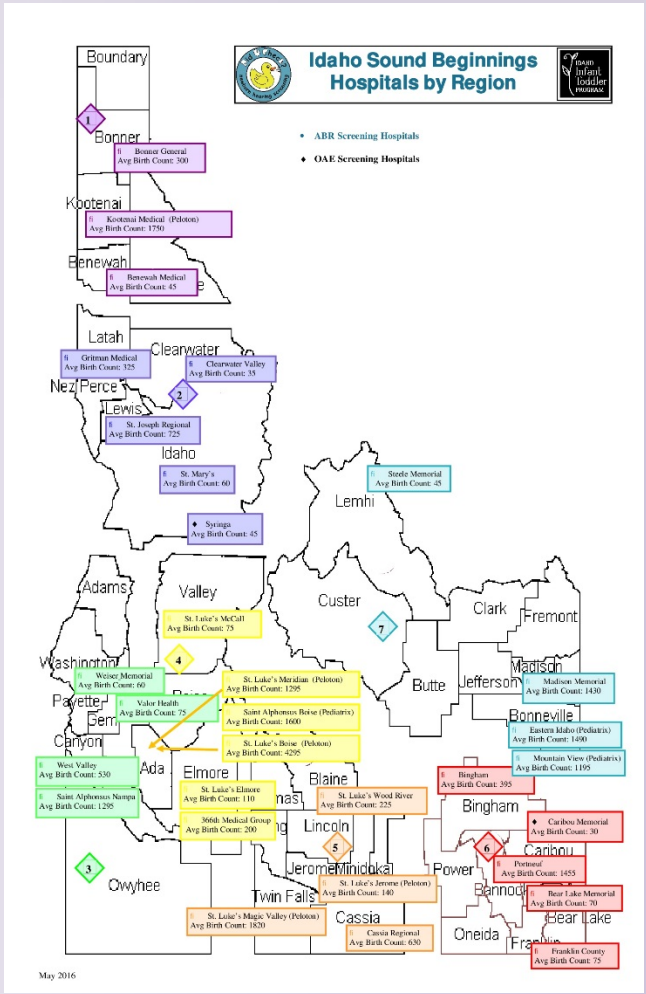
Debbie Baerlocher
Team Lead
Regions 1 and 2

Hillary Carlson
Regions 3 and 4

Jessica Clark
Regions 5, 6, and 7

Jay Richman
St. Luke's Network

IDAHO IS A BIG STATE!



- State divided into 7 regions
- 29 birthing hospitals covering large area (83,642 sq miles)
- Not enough work for a full time audiologist; travel required

Division of Responsibility

The State is divided into monitoring regions (2-3/audiologist) for hospitals

Midwives throughout state that screen babies (8 practices, encompassing 1000-1200 of births)

Idaho Midwifery Council

Early Head Start
Learning Begins at Birth

Infant/Toddler screening programs, Head Start and Migrant or Native American programs

ACT Responsibilities

Training

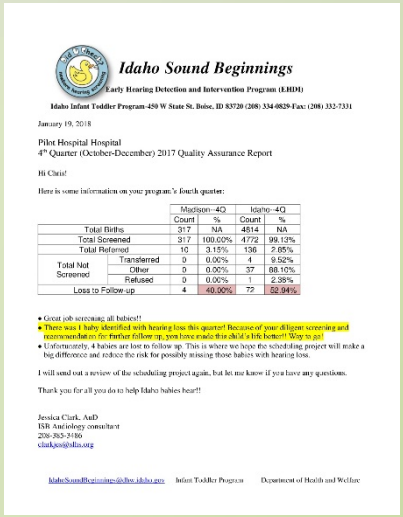
- Education for administrators and physicians
- Write educational material for website, brochures, parents, and physicians
- Mentoring audiologists new to pediatrics
- Consulting on difficult/abnormal cases

ACT Responsibilities

Training

- Know each hospital's equipment
- Work with outsourced screening companies
- State protocols should be followed
- Train screeners on proper techniques
- Tips and tricks for obtaining an accurate screening

ACT Responsibilities



Idaho Sound Beginnings

Early Hearing Detection and Intervention Program (EHDI)

Idaho Infant Toddler Program-450 W State St, Boise, ID 83720 (208) 334-0829-Fax: (208) 332-7331

January 19, 2018

Pilot Hospital Hospital
4th Quarter (October-December) 2017 Quality Assurance Report

Hi Chris!

Here is some information on your program's fourth quarter:

		Madison- 4Q		Idaho- 4Q	
		Count	%	Count	%
Total Births		317	NA	4814	NA
Total Screened		317	100.00%	4772	99.13%
Total Referred		10	3.15%	136	2.85%
Total Not Screened	Transferred	0	0.00%	4	9.52%
	Other	0	0.00%	37	88.10%
	Refused	0	0.00%	1	2.38%
Loss to Follow-up		4	40.00%	72	82.94%

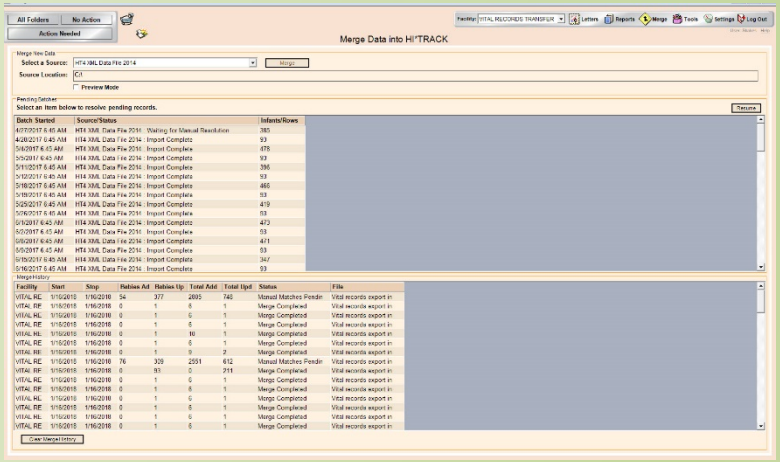
- Great job screening all babies!!
- There was 1 baby identified with hearing loss this quarter! Because of your diligent screening and recommendation for further follow up, you have made this child's life better!! Way to go!
- Unfortunately, 4 babies are lost to follow up. This is where we hope the scheduling project will make a big difference and reduce the risk for possibly missing those babies with hearing loss.

I will send out a review of the scheduling project again, but let me know if you have any questions.

Thank you for all you do to help Idaho babies hear!!

Jessica Clark, AuD
ISB Audiology consultant
208-363-2486
clarkjes@slhs.org

IdahoSoundBeginnings@hw.idaho.gov Infant Toddler Program Department of Health and Welfare



Monitoring

- Screening Rate
- Number of screenings completed per infant
- Refer Rate
- LTF Rate
- How often is each program uploading data to the EHDI-IS?
- Is the program reporting all requested data?

ACT Responsibilities

Monitoring

- Hospitals report frequency is based on their birth count
  - ≤ 100 = Biannual report
  - > 100, < 500 = Quarterly report
  - > 500 = Monthly report
- All programs receive a year-end report; developed with ACT and in-house EHDI team looking at state, region and by hospital stats
- Purpose of reporting is to give a snapshot of current status, raise concerns and point out successes
- All programs appreciate knowing if a baby has been identified

ACT RESPONSIBILITIES

Idaho Sound Beginnings

Early Hearing Detection and Intervention Program (EHDI)

Idaho Infant Toddler Program-450 W State St. Boise, ID 83720 (208) 334-0829-Fax: (208) 332-7331

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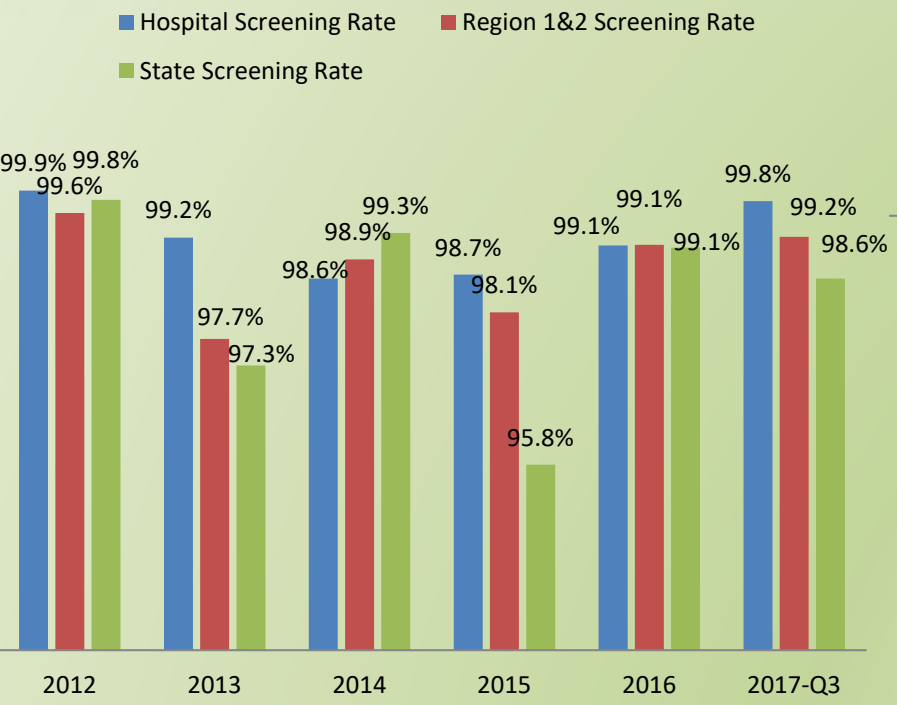
Thank you for all you do to help Idaho babies hear!!

Jessica Clark, AuD
ISB Audiology consultant
208-385-3486
clarkjes@slhs.org

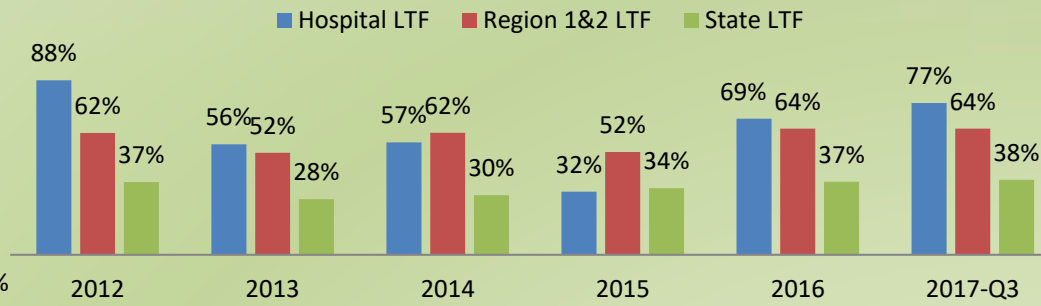
IdahoSoundBeginnings@dhw.idaho.gov Infant Toddler Program Department of Health and Welfare

ACT RESPONSIBILITIES

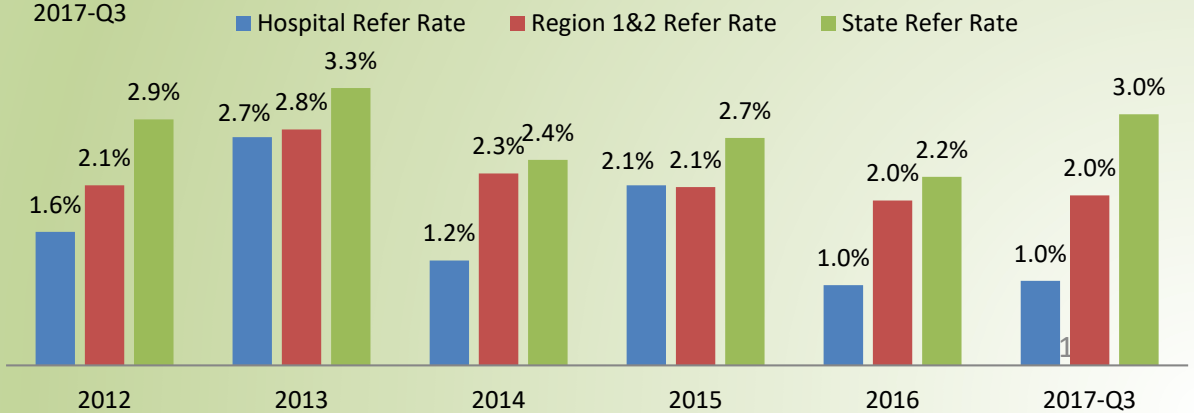
Screening Rate 2012 - 2017Q3



Loss to Follow Up 2012 - 2017Q3



Refer Rate 2012 - 2017-Q3



ACT RESPONSIBILITIES

Monitoring

- Quality improvement and assurance for each program
- Implementing and monitoring PDSAs

Example: Scheduling Follow-up Appt. prior to discharge from hospital:

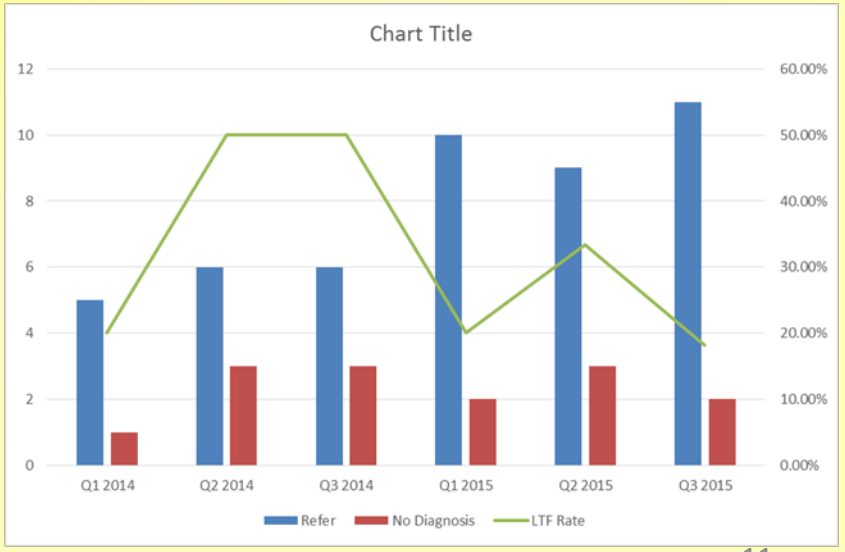
1. Educate screening program on steps when infant refers on NHS:
   a) Inform parents of screening results
   b) Display EHDI-Pals website for parents with Aud. Clinic locations
   c) Allow parents to select audiology clinic
   d) Facilitate scheduling of follow-up appointment
   e) Report Aud. Clinic and date of appointment to EHDI program
2. Troubleshoot and streamline process in facility
3. Spread PDSA to new facilty
4. Return to step 1

Results

Pilot Hospital 1

- In the first three quarters, Pilot Hospital 1 saw a 43% reduction in LTF rate compared with the same time period in the prior year

QTR	Refer	No Diagnosis	LTF Rate
Q1 2014	5	1	20.00%
Q2 2014	6	3	50.00%
Q3 2014	6	3	50.00%
Q1 2015	10	2	20.00%
Q2 2015	9	3	33.33%
Q3 2015	11	2	18.18%
Pre-Intervention	17	7	41.18%
Post-Intervention	30	7	23.33%
Total	47	14	29.79%

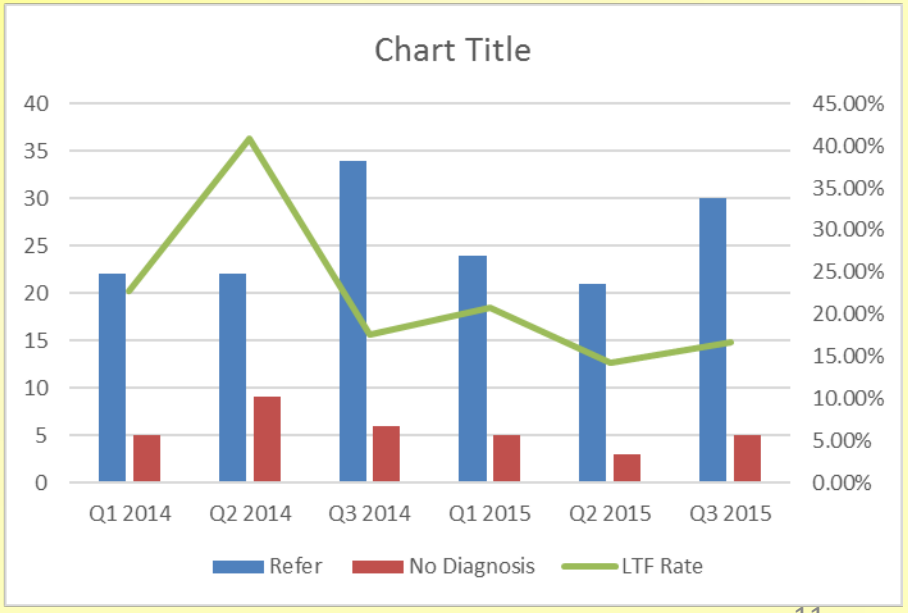


RESULTS

Pilot Hospital 2

- In the first three quarters, Pilot Hospital 2 saw a 32% reduction in LTF rate compared with the same time period in the prior year

QTR	Refer	No Diagnosis	LTF Rate
Q1 2014	22	5	22.73%
Q2 2014	22	9	40.91%
Q3 2014	34	6	17.65%
Q1 2015	24	5	20.83%
Q2 2015	21	3	14.29%
Q3 2015	30	5	16.67%
Pre-Intervention	78	20	25.64%
Post-Intervention	75	13	17.33%
Total	153	33	21.57%

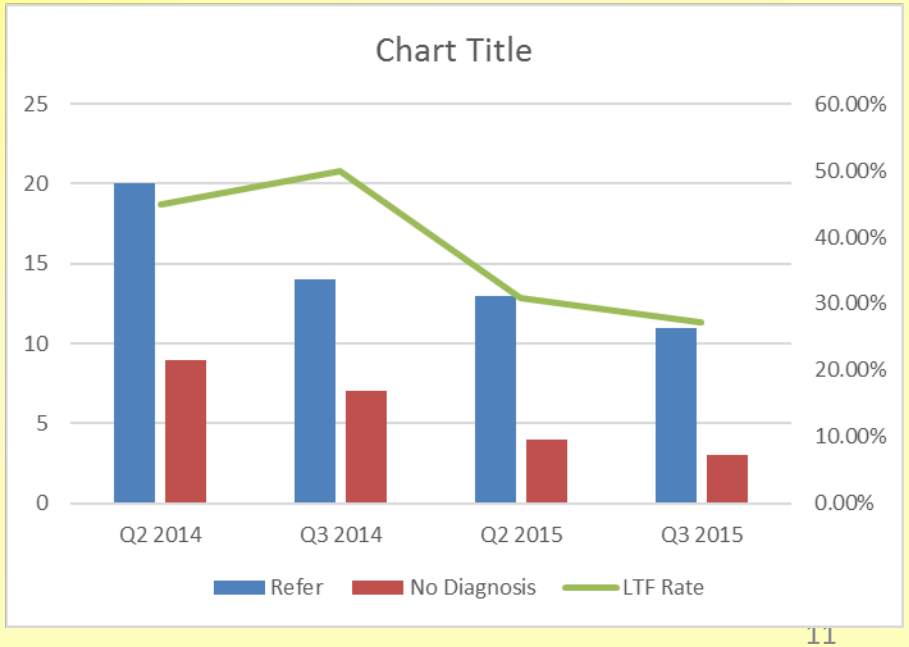


RESULTS

Pilot Hospital 3

- In the first two quarters, Pilot Hospital 3 saw a 38% reduction in LTF rate compared with the same time period in the prior year

QTR	Refer	No Diagnosis	LTF Rate
Q2 2014	20	9	45.00%
Q3 2014	14	7	50.00%
Q2 2015	13	4	30.77%
Q3 2015	11	3	27.27%
Pre-Intervention	34	16	47.06%
Post-Intervention	24	7	29.17%
Total	58	23	39.66%

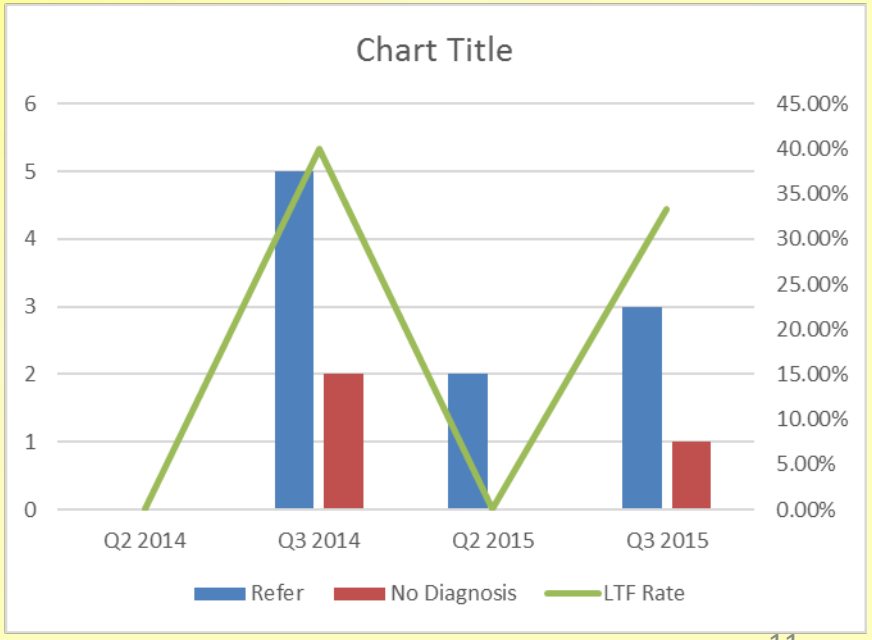


Results

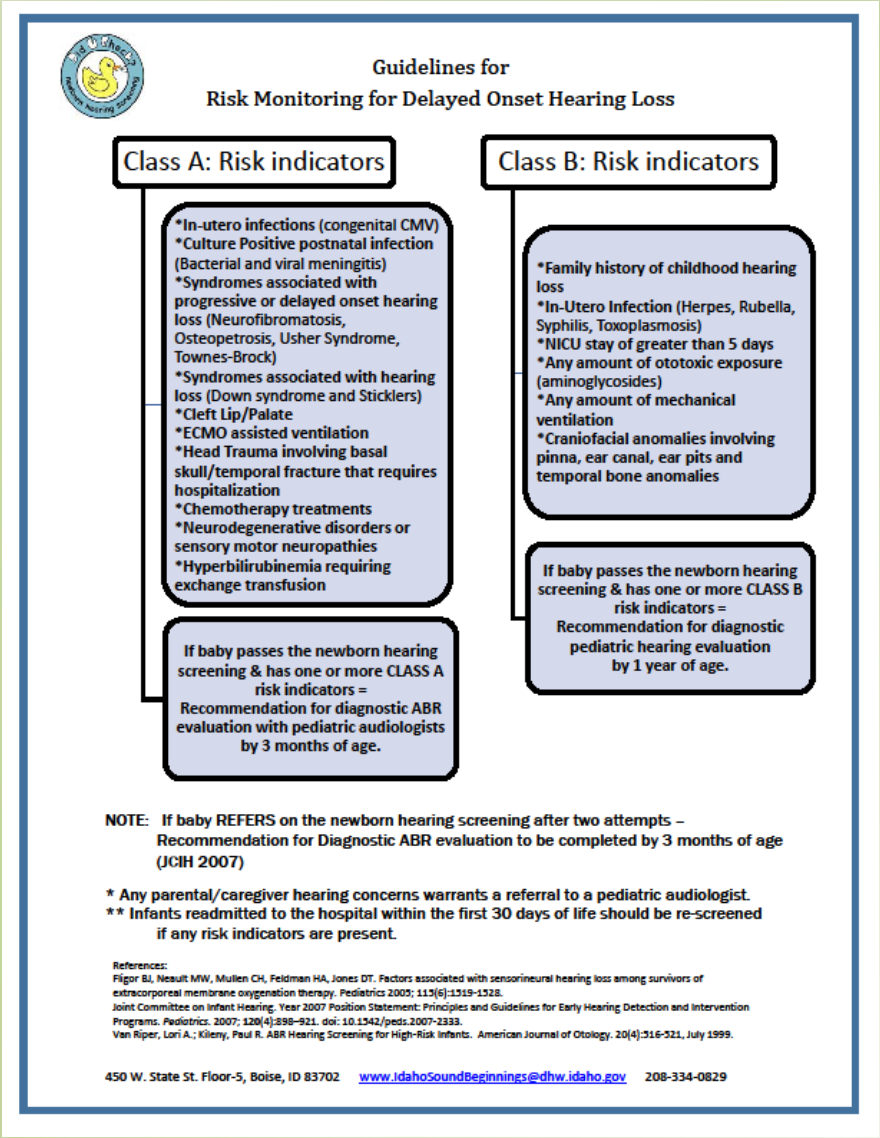
Pilot Hospital 4

- In the first two quarters, Pilot Hospital 4 saw a 50% reduction in LTF rate compared with the same time period in the prior year
- This chart looks erratic because of the very low birth count

QTR	Refer	No Diagnosis	LTF Rate
Q2 2014	0	0	0.00%
Q3 2014	5	2	40.00%
Q2 2015	2	0	0.00%
Q3 2015	3	1	33.33%
Pre-Intervention	5	2	40.00%
Post-Intervention	5	1	20.00%
Total	10	3	30.00%



Class A and B Risk Factors



Guidelines for
Risk Monitoring for Delayed Onset Hearing Loss

Class A: Risk indicators

- *In-utero infections (congenital CMV)
- *Culture Positive postnatal infection (Bacterial and viral meningitis)
- *Syndromes associated with progressive or delayed onset hearing loss (Neurofibromatosis, Osteopetrosis, Usher Syndrome, Townes-Brock)
- *Syndromes associated with hearing loss (Down syndrome and Sticklers)
- *Cleft Lip/Palate
- *ECMO assisted ventilation
- *Head Trauma involving basal skull/temporal fracture that requires hospitalization
- *Chemotherapy treatments
- *Neurodegenerative disorders or sensory motor neuropathies
- *Hyperbilirubinemia requiring exchange transfusion

If baby passes the newborn hearing screening & has one or more CLASS A risk indicators = Recommendation for diagnostic ABR evaluation with pediatric audiologists by 3 months of age.

Class B: Risk indicators

- *Family history of childhood hearing loss
- *In-Utero Infection (Herpes, Rubella, Syphilis, Toxoplasmosis)
- *NICU stay of greater than 5 days
- *Any amount of ototoxic exposure (aminoglycosides)
- *Any amount of mechanical ventilation
- *Craniofacial anomalies involving pinna, ear canal, ear pits and temporal bone anomalies

If baby passes the newborn hearing screening & has one or more CLASS B risk indicators = Recommendation for diagnostic pediatric hearing evaluation by 1 year of age.

NOTE: If baby REFERS on the newborn hearing screening after two attempts – Recommendation for Diagnostic ABR evaluation to be completed by 3 months of age (JCIH 2007)

* Any parental/caregiver hearing concerns warrants a referral to a pediatric audiologist.
** Infants readmitted to the hospital within the first 30 days of life should be re-screened if any risk indicators are present.

References:
Figor BJ, Neault MW, Mullen CH, Feldman HA, Jones DT. Factors associated with sensorineural hearing loss among survivors of extracorporeal membrane oxygenation therapy. Pediatrics 2005; 115(6):1519-1528.
Joint Committee on Infant Hearing. Year 2007 Position Statement: Principles and Guidelines for Early Hearing Detection and Intervention Programs. *Pediatrics*. 2007; 120(4):898–921. doi: 10.1542/peds.2007-2333.
Van Riper, Lori A.; Kileny, Paul R. ABR Hearing Screening for High-Risk Infants. American Journal of Otology. 20(4):516-521, July 1999.

450 W. State St. Floor-5, Boise, ID 83702 www.idahoSoundBeginnings@dhw.idaho.gov 208-334-0829

PICU Poster

Idaho Sound Beginnings–Early Hearing Detection and Intervention Program

Hearing Screening in the PICU

WHO: **Infants readmitted in their first month of life**

WHAT: **Repeat hearing screening before discharge,**
if *any* risk factor for late-onset or progressive hearing loss is present

RISK FACTORS FOR LATER ONSET HEARING LOSS (*JCIH) and *Idaho recommendations for timing of audiologic follow-up*

CLASS A (HIGHER RISK):

Refer for Dx by 3 months of age

- In-utero infections (CMV, herpes, rubella, toxoplasmosis, syphilis)
- Culture-positive postnatal infection (meningitis)
- Diagnosed syndromes associated with hearing loss
- Craniofacial or temporal bone anomalies
- ECMO
- Head Trauma
- Hyperbilirubinemia requiring exchange transfusion

CLASS B (HIGH RISK):

Refer for Dx by 9 months of age

- Family HX of permanent childhood hearing loss
- NICU stay is greater than 5 days
- Any amount of mechanical ventilation
- Any amount of ototoxic exposure (mycin, diuretics)
- Caregiver concern

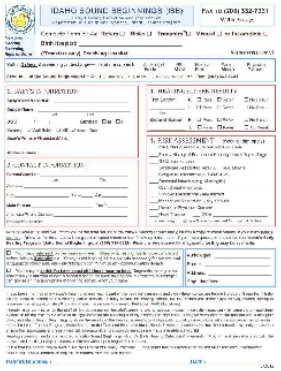
1. **INITIATE Referral Form-**
   a. contact information
   b. signature
   c. all risk factors
2. **SCREEN both ears**
   (no more than twice each)
3. **NOTE screening results on form**
4. **INFORM parents and PCP of:**
   a. risks
   b. screening results
   c. recommended follow-up
5. **Recommended follow-up**

SCREENING REFER:

Audiologic testing by 3 months of age.

SCREENING PASS:

See Class A and B Risk Factors for recommended timing of Audiologic follow-up



NEXT STEPS:

(Screening and Referral Form Completed)

FAX completed referral forms to: 208-332-7331
(Idaho Sound Beginnings/ Early Hearing Program)
Questions?
Phone: 208-334-0829

Email:
IdahoSoundBeginnings@dhw.idaho.gov

Provide parents with a copy of the referral form with documented results. Encourage parents to contact Idaho Sound Beginnings for a list of Pediatric Audiologists in their area, information on financial assistance for Audiologic Testing, questions concerning appropriate follow-up recommendations, or to speak with a parent consultant.

References:
Cone-Wesson, B., Vohr, B.R., Sininger, Y.S., Wilson, J.E., Folsomm R.C., Gorga, M.P., & Norton, S.J. (2000). Identification of neonatal hearing impairment, Infants with hearing loss. *Ear and Hearing. 21*, 488-507.
Fligor BJ, Neault MW, Mullen CH, Feldman HA, Jones DT. Factors associated with sensorineural hearing loss among survivors of extracorporeal membrane oxygenation therapy. Pediatrics 2005; 115(6):1519-1528.
*Joint Committee on Infant Hearing. Year 2007 Position Statement: Principles and Guidelines for Early Hearing Detection and Intervention Programs. *Pediatrics*. 2007; 120(4):898-921. doi: 10.1542/peds.2007-2333.
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This poster was supported in part by project H61MC00010 from the Maternal and Child Health Bureau, Health Resources and Services Administration, DHHS.

IDAHO DEPARTMENT OF HEALTH & WELFARE

IDAHO Infant Toddler PROGRAM

BROCHURES

A Parent's Guide to Hearing Screening

Babies can't tell us if they can't hear

Idaho Sound Beginnings
Idaho Infant Toddler Program

HW-0609 3/16

When should I have my baby's hearing screened?

Your baby should have a hearing screening before leaving the birth center or within the first month of life. If hearing loss is suspected, make sure a pediatric audiologist (hearing expert) tests your baby's hearing. If hearing loss is early identified, there is much that can be done.

Where can my baby's hearing be screened?

Most Idaho birth centers have the equipment to perform the hearing screening before your baby leaves the center. If your baby is not born in a birth center, call Idaho Sound Beginnings at 208-334-0829 to learn where your baby can have a hearing screening.

Why should my baby's hearing be screened?

If your baby can't hear well, he/she may have problems learning to talk and communicate.

Your baby's first year of life is critical to the development of speech and language.

Research shows that identifying hearing loss and doing something about it *early* makes a positive difference in the development of language, communication skills, thinking, reading, and social-emotional development. Maximizing your baby's potential is the desired goal.

Newborn Hearing Screening

Hearing Loss is the most common birth disorder in newborns. It affects how your baby perceives sounds and is able to communicate with you and the world.

Most babies with hearing loss are born to hearing parents.

"Although I am a pediatric nurse, I knew nothing about hearing loss in newborns. Because of my healthy pregnancy, I was stunned when my baby was diagnosed with hearing loss before he was one-month old. He was able to receive special services right away and is developing wonderfully. I am grateful for Ryder's progress and delighted that in addition to my hugs and smiles, he hasn't missed a moment of communicating with us and learning language."

Andrea A., Mom and R.N., Boise, ID

My Audiologist (aw-dee-AH-luh-jist) is a specialist in infant hearing. *Ryder A.*

This brochure was supported in part by project H61 MC 00010 from the Maternal and Child Health Bureau, Health Resources and Services Administration, DHHS.

How will my baby's hearing be screened?

There are two different screening tools that may be used to screen your infant's hearing. Both are safe and painless and the screening takes place while your child sleeps. Occasionally, screening can't be completed before discharge, and a baby may need a follow-up screening.

If your baby does not pass the hearing screening, they should have a complete hearing evaluation by a pediatric audiologist to find out if there is a hearing loss. Hearing loss is invisible. Only reliable audiological tests can identify hearing loss.

If you have questions or concerns about your baby's hearing, hearing test, or payment for testing, please call:

Idaho Sound Beginnings
www.IdahoSoundBeginnings.dhw.idaho.gov
(208) 334-0829

For financial help call:
The Idaho CareLine at 2-1-1

For more Information:
www.InfantToddler.Idaho.gov
www.babyhearing.org

IDAHO DEPARTMENT OF HEALTH & WELFARE

Thanks to our contributing partners: NCHAM National Center for Hearing Assessment and Management Utah State University

Hearing Milestones

Follow your baby's development, even if he/she passed the hearing screening. Some babies develop hearing loss later in childhood.

MONTH

- Startles to sounds
- Calmed by mother's voice
- Turns head towards your voice

3 6

- Turns eyes and head to find your voice
- Babbles a variety of sounds
- Enjoys sound-making toys

6 10

- Reacts to hearing his name
- Understands easy words like "no" and "bye-bye"
- Says "da-da" or "ma-ma"

10 15

- Repeats simple words and sounds
- Use two to three words other than "ma-ma" or "da-da"
- Gives toys on request

18

- Uses seven or more true words
- Follows simple spoken directions
- Can ask for several things by name

24

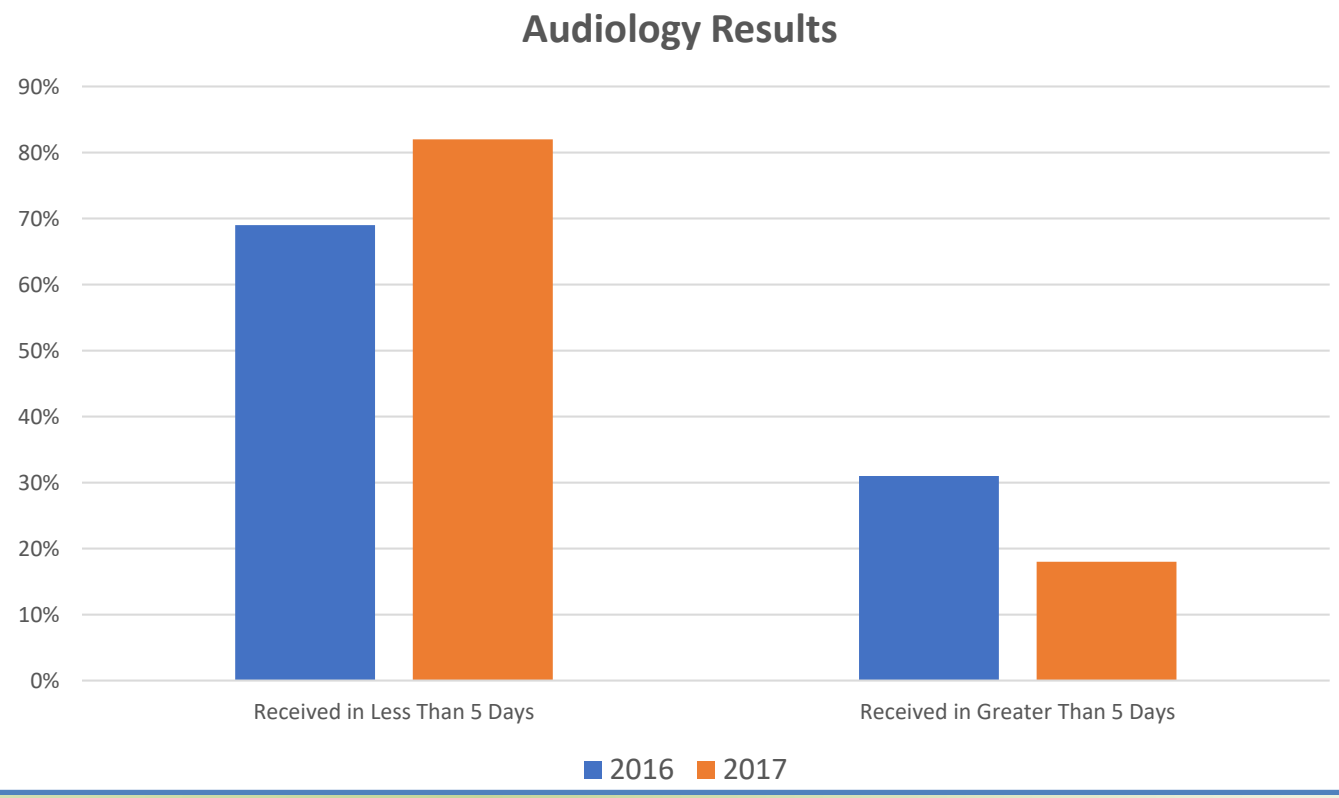
- Vocabulary of 20+ words
- Speaks in two-word phrase

Other Projects

- Mentoring new audiologists or audiologists new to pediatrics
- Ensuring audiologists across the state report diagnostic results to the EHDI program
- Moving audiologists to online reporting
- Marketing to Hospitals, Audiologists, ENT's, Pediatricians, & other professionals
- Successfully have moved hospitals to online reporting

Audiology Reporting

Idaho Sound Beginnings' goal is to have all audiology results received within 5 days of the diagnostic appointment. The chart below compares 2016 and 2017 results.



Advantages of using a team

- When an Audiologist leaves the program, other members of the team can cover responsibilities and a new member is incorporated seamlessly
- Audiologists only need to have time in their schedule for 2 hours a week (10 hours/month)
- Audiologists only do on-site trainings once or twice a year
- ACT coordinator plus at least one other audiologist participate in Advisory Committee (for ISB program) which brings in all players for EHDI
- ACT meets quarterly to stay in touch and brainstorm challenges with their individual areas of responsibility

QUESTIONS???

Together we can make a difference!

IDAHO SOUND BEGINNINGS
EARLY HEARING DETECTION AND INTERVENTION