



# Hearing Screening

Newborn and Beyond.....

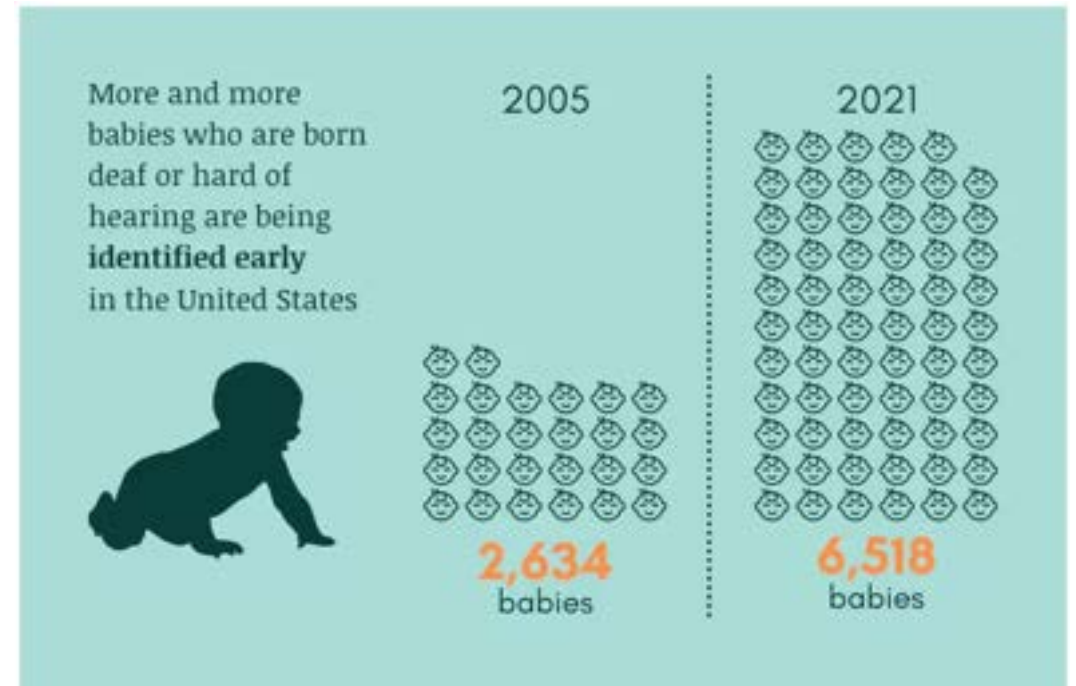
QTIP

October 9, 2024

# Evolution of Universal Newborn Hearing Screening



- Risk Factor registry
- NICU babies – pre to mid 90's
- Universal Newborn Hearing Screening (UNHS) – mid 90's
- Early Hearing Detection and Intervention (EHDI) – 2000's
  - Federal EHDI Act first authorized in 2000
  - SC UNHSI Act effective June 30, 2001





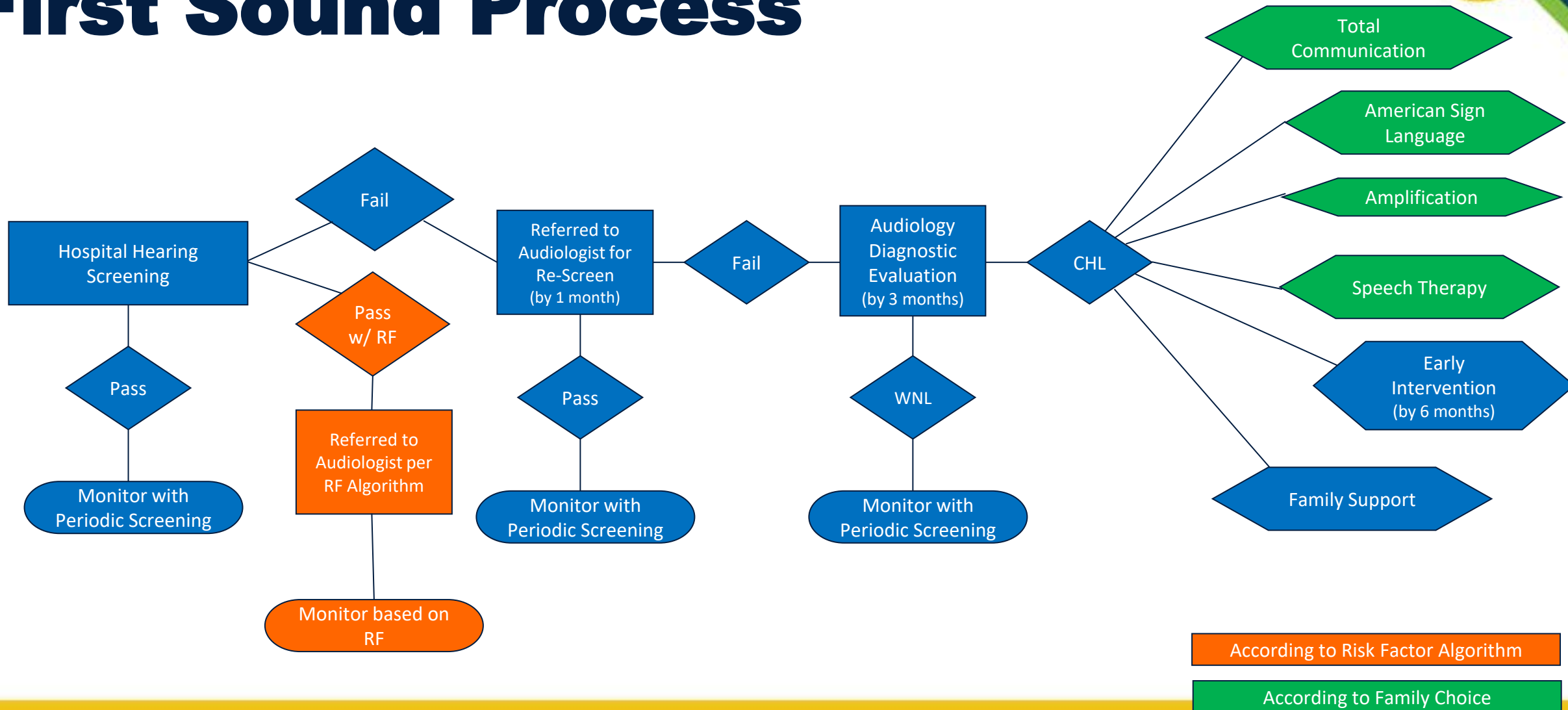
# **SC – 1976 Code Section 44-37-40 – “Universal Newborn Hearing Screening and Intervention Act” – June 30, 2001**

- |  |  |
|--|--|
| <ul style="list-style-type: none"><li>• All hospitals required to screen newborns during birth admission for hearing loss<ul style="list-style-type: none"><li>• Exception: Less than 100 average births annually</li></ul></li><li>• All hospitals required to give parents educational material – regardless of # of births</li><li>• Newborns delivered at non-screening hospitals or out of hospital – required to receive educational material and should be screened by 1 month of age</li></ul> | <ul style="list-style-type: none"><li>• All babies referred by hospital screening are to receive:<ul style="list-style-type: none"><li>• Audiologic Evaluation by Audiologist, or</li><li>• Medical Evaluation by Physician or Otolaryngologist, or</li><li>• Both, if indicated</li></ul></li><li>• Confirmed HL:<ul style="list-style-type: none"><li>• Medical Intervention</li><li>• Audiologic Habilitation</li><li>• Early Intervention services</li><li>• Augmentative Hearing Devices</li></ul></li><li>• NBHS reporting procedures must be followed by:<ul style="list-style-type: none"><li>• Hospitals</li><li>• Audiologists</li><li>• Early Interventionist</li></ul></li></ul> |
|--|--|

# BENCHMARKS



# First Sound Process



# RISK FACTOR GUIDELINE



## Audiologic Diagnostic Appointment Guidelines for Risk Factor Referrals

For infants who pass the newborn hearing screen, but have any of the following risk factors for hearing loss.



CR-011618 04/17

### TIER 1

- Cytomegalovirus (CMV) infection
- Bacterial meningitis & certain types of viral meningitis, especially herpes & varicella
- Parental or medical provider concern

**Schedule** audiologic diagnostic evaluation:  
To occur by **30 days** post discharge  
Notify First Sound, family and pediatrician of appointment

### TIER 2

- Down Syndrome
- Cleft lip/palate
- Craniofacial anomalies (e.g. microtia/atresia, temporal bone anomalies)
- Syndromes associated with hearing loss (e.g. CHARGE, Treacher Collins, Pierre Robin, BOR, Waardenburg syndrome, etc.)
- Perinatal asphyxia
- ECMO
- Hyperbilirubinemia (> 20mg/dL bilirubin)
- Permanent childhood or young adult\* hearing loss in immediate family (infant's parents or siblings)
- Neurodegenerative disorders

*\* excludes young adult hearing loss resulting from acute illness or trauma*

**Schedule** audiologic diagnostic evaluation:  
To occur by **3 months** post discharge  
Notify First Sound, family and pediatrician of appointment

### TIER 3

- > 10 days mechanical ventilation
- ≤ 32 weeks gestational age
- < 1500 grams birthweight
- Permanent childhood or young adult\* hearing loss in extended family
- Herpes, rubella, syphilis, toxoplasmosis
- Head trauma
- Ototoxic medications (> 7 day course or in conjunction with loop diuretics)

*\* excludes young adult hearing loss resulting from acute illness or trauma*

**Schedule** audiologic diagnostic evaluation:

To occur by **6 months** post discharge

Notify First Sound, family and pediatrician of appointment

### IMPORTANT REMINDER

For NICU stay for >5 days advise parents it is recommended to have baby re-screened between 24-30 months old

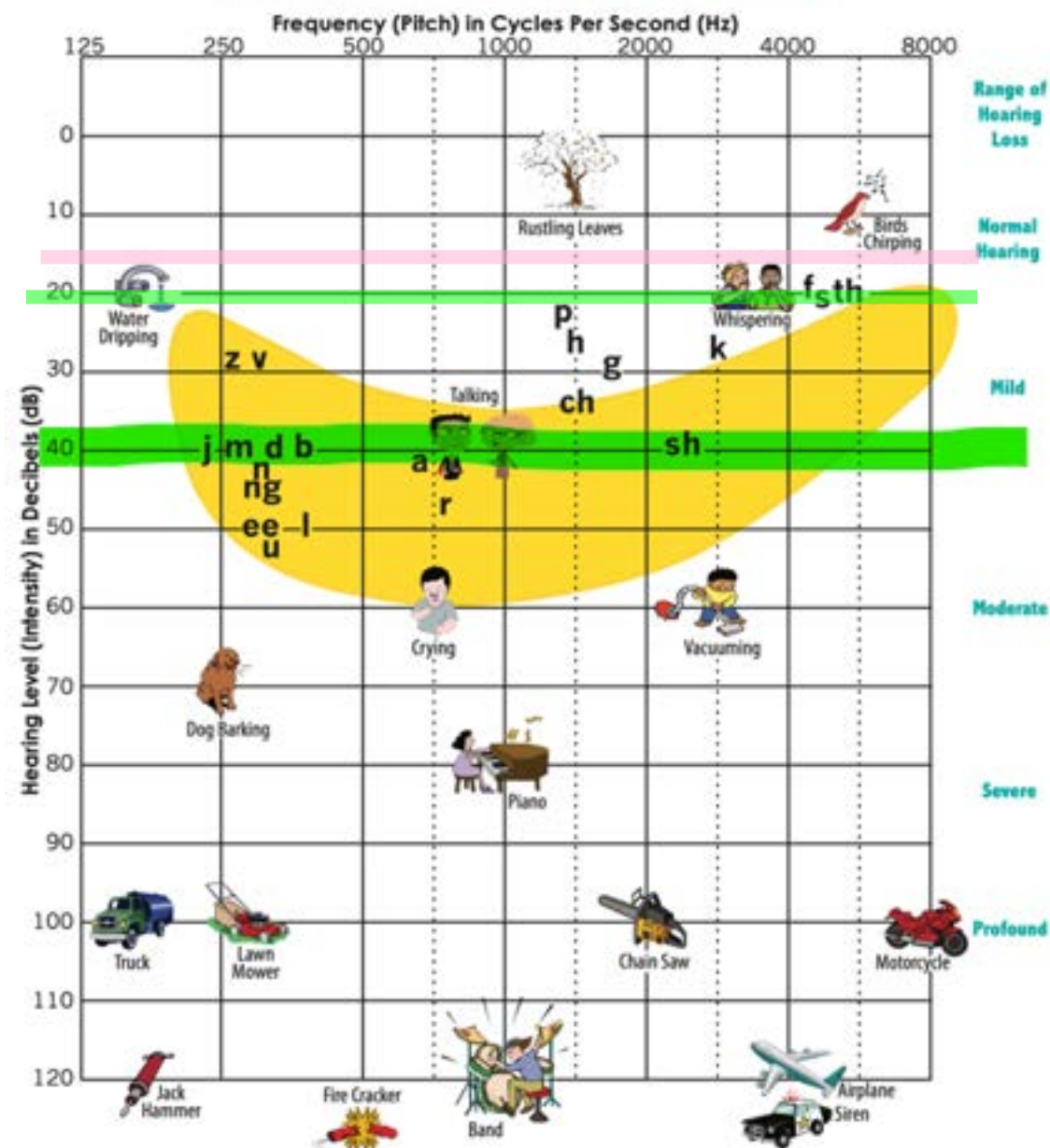




# Impact of Late-Identified Congenital Hearing Loss

- Delayed speech/language development
- Educational
  - Delayed academic readiness than hearing peers
  - Difficulty managing in the classroom
- Delayed Social Development
- Any degree/type of hearing loss has significant impact
  - Mild/Minimal hearing loss – can miss 25-40% of speech signal
  - Unilateral hearing loss
  - Bilateral hearing loss

## Audiogram of Familiar Sounds

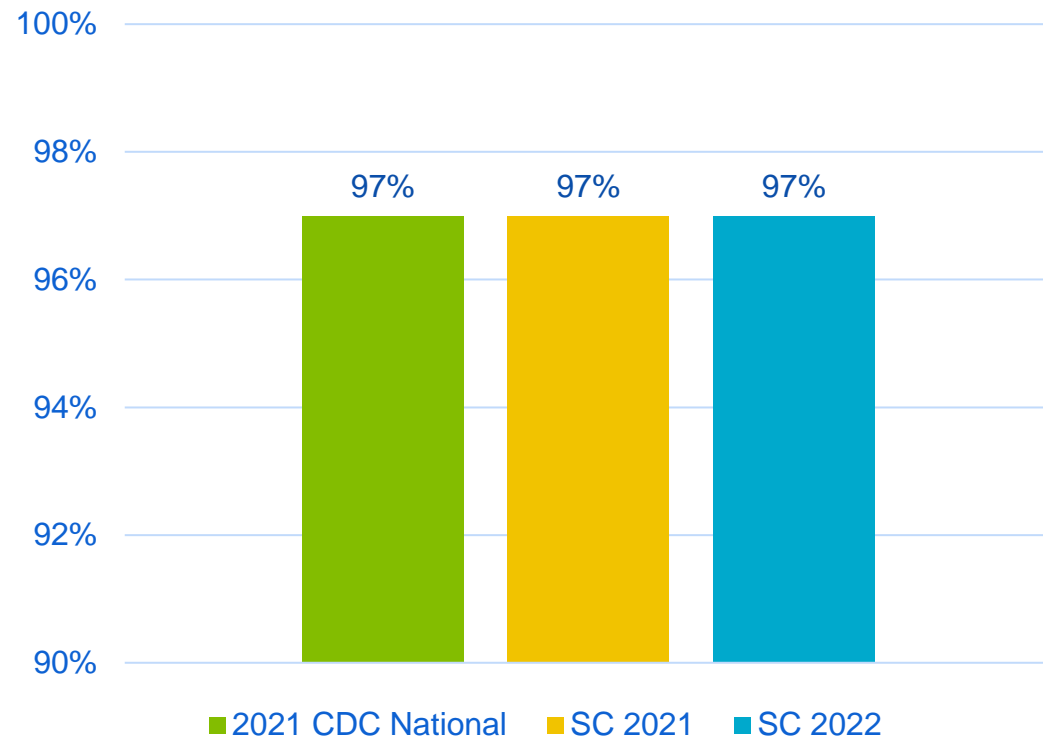




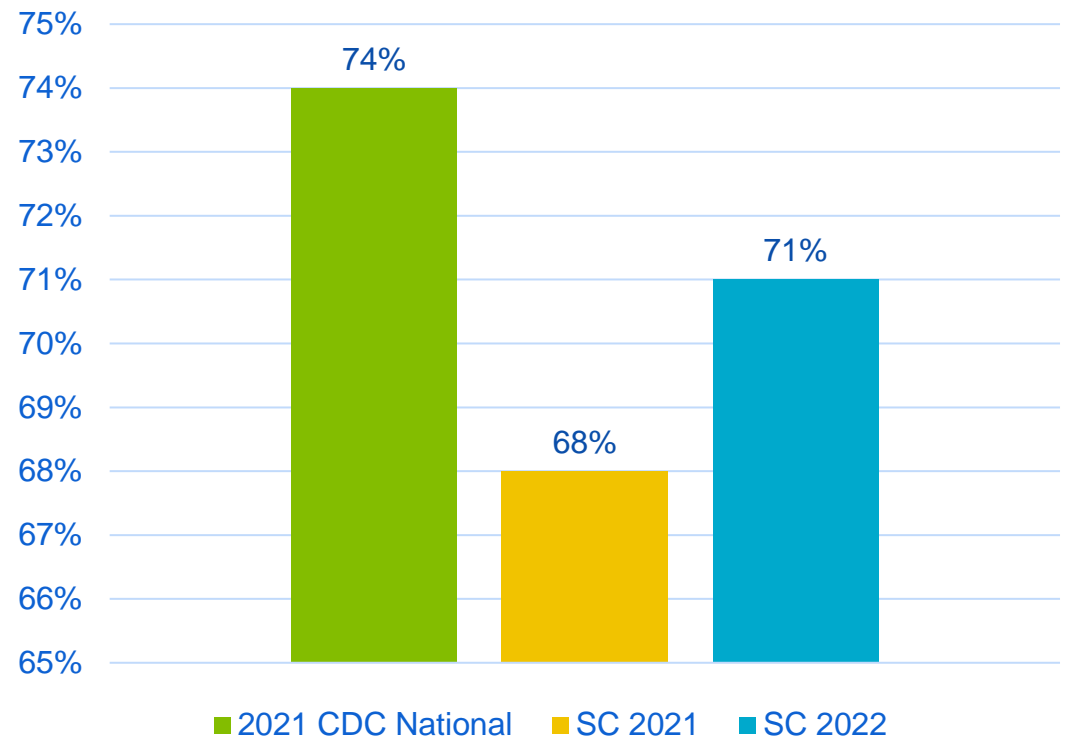


# South Carolina By the Numbers

## Screening



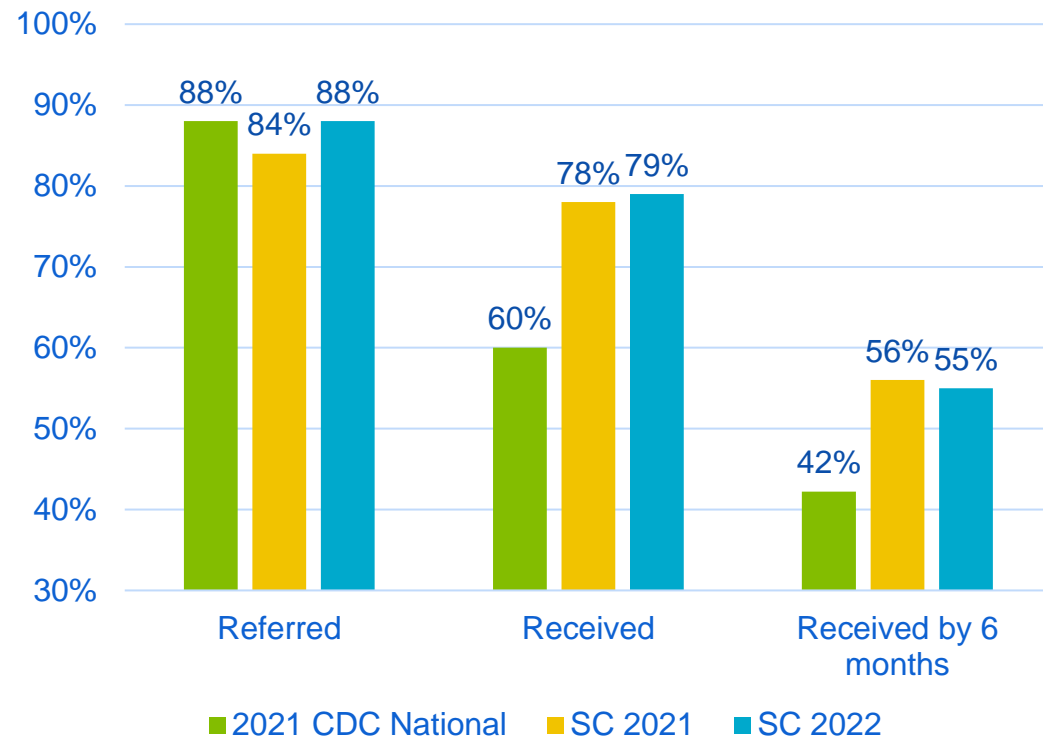
## Confirmed Hearing Loss by 3 Months of Age



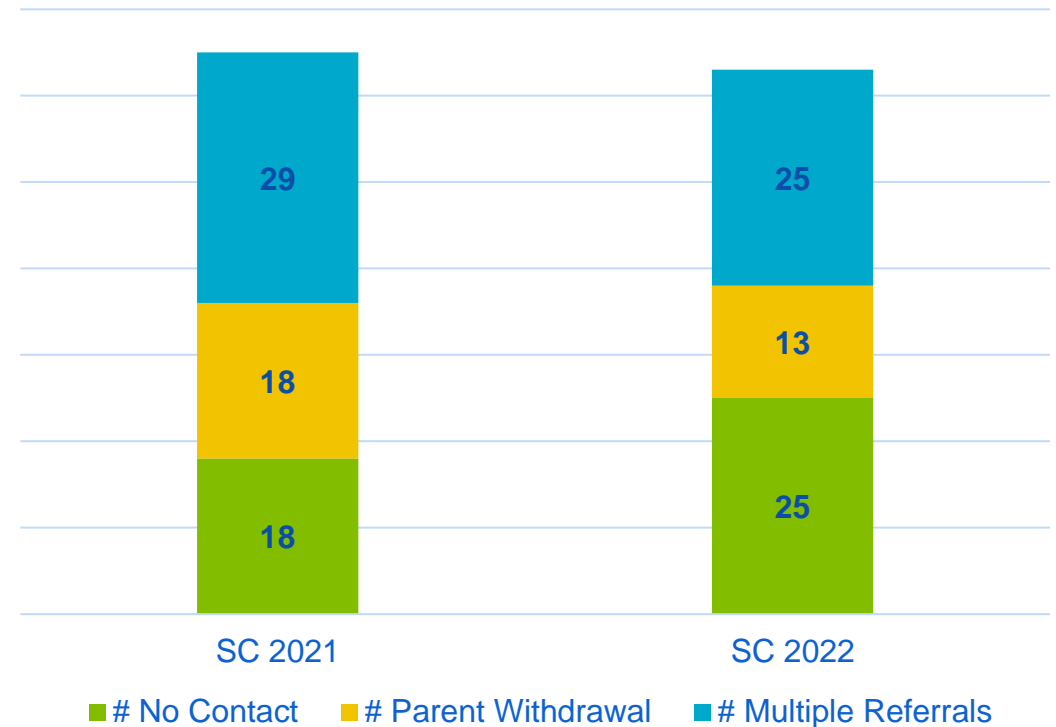


# South Carolina By the Numbers

## Early Intervention by 6 Months of Age



## Factors Impacting EI Service Enrollment by 6 Months of Age





# Late Onset Hearing Loss in Children

- Passing the newborn hearing screening is not the final determination
- CDC Hearing Loss Statistics
  - 1.7 per 1000 babies
  - 5 per 1000 children ages 3-17
  - 14.9% children ages 6-19 have at least a slight hearing loss in one or both ears

# EPSDT Periodicity Guidelines

American Academy of Pediatrics  
DEDICATED TO THE HEALTH OF ALL CHILDREN®

Recommendations for Preventive Pediatric Health Care  
Bright Futures/American Academy of Pediatrics

Bright Futures  
prevention and health promotion for infants, children, adolescents, and their families™

Each child and family is unique; therefore, these Recommendations for Preventive Pediatric Health Care are designed for the care of children who are receiving nurturing parenting, have no manifestations of any important health problems, and are growing and developing in a satisfactory fashion. Developmental, psychosocial, and chronic disease issues for children and adolescents may require more frequent counseling and treatment visits separate from preventive care visits. Additional visits also may become necessary if circumstances suggest concern.

These recommendations represent a consensus by the American Academy of Pediatrics (AAP) and Bright Futures. The AAP continues to emphasize the great importance of continuity of care in comprehensive health supervision and the need to avoid fragmentation of care.

Refer to the specific guidance by age as listed in the Bright Futures Guidelines (Hagan JJ, Shaw JS, Duncan PM, eds. Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents. 4th ed. American Academy of Pediatrics; 2017).

The recommendations in this statement do not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate.

The Bright Futures/American Academy of Pediatrics Recommendations for Preventive Pediatric Health Care are updated annually.

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	INFANCY								EARLY CHILDHOOD						MIDDLE CHILDHOOD						ADOLESCENCE												
AGE <sup>1</sup>	Prenatal <sup>1</sup>	Newborn <sup>1</sup>	3-5 d <sup>1</sup>	By 1 mo	2 mo	4 mo	6 mo	9 mo	12 mo	15 mo	18 mo	24 mo	30 mo	3 y	4 y	5 y	6 y	7 y	8 y	9 y	10 y	11 y	12 y	13 y	14 y	15 y	16 y	17 y	18 y	19 y	20 y	21 y	
SENSORY SCREENING																																	
Vision <sup>2</sup>		★	★	★	★	★	★	★	★	★	★	★	★	●	●	●	●	★	●	★	●	★	●	★	★	●	★	★	★	★	★	★	
Hearing		● <sup>3</sup>	● <sup>3</sup>	→	→	★	★	★	★	★	★	★	★	★	●	●	●	★	●	★	●	←	←	● <sup>3</sup>	→	←	←	●	→	←	←	●	→

KEY: ● = to be performed ★ = risk assessment to be performed with appropriate action to follow, if positive ← ★ or ● → = range during which a service may be provided

Hearing is only recommended at birth and not again until Age 4 (if no Risk Factors)

# Common Feedback from Families

- “Wait and see what happens with language development”
- “Wait until school – they’ll catch up”
- “Different kids develop at different times”
- “He’s just a boy”
- “It’s probably due to being in a dual-language household”
- “Don’t worry about following up with the audiologist, it’s probably just fluid”
- “It’s only one ear” or “It’s only a mild hearing loss”
- “He/She will grow out of it”



# Opportunities to Impact Meeting EHDI Benchmarks

- Communication with First Sound
  - Call for newborn hearing screening results if needed
  - Notification letters from First Sound
    - Appointment information (established, needed, missed)
    - Confirmation of hearing loss
- Make referrals to audiology for follow-up
  - If screened inpatient only, can follow-up with rescreen
  - If screened inpatient and failed again outpatient, needs referral for a diagnostic audiological evaluation
- Encourage families to keep follow-up audiology appointments already in place





# Opportunities to Impact Meeting EHDI Benchmarks

- Make referral to **contracted** audiologist for **initial** hearing screening if missed or delivered out of hospital
  - Contracted audiologists can file claim with First Sound for babies with no insurance or private insurance that does not pay
- Send requested referrals to audiologists (Medicaid/Insurance)
- **IF** screened at PCP office:
  - Report to First Sound
  - Ensure that any audiology appointments in place are cancelled
- Upon notification of confirmed hearing loss:
  - Make referral to BabyNet
  - Make referral to Beginnings SC & SC Hands & Voices

# beginnings®



WHERE BELONGING BEGINS FOR DEAF &  
HARD OF HEARING CHILDREN

In South Carolina, there are  
**at least** 11,000 children with  
permanent hearing loss.



There are **9,232 children** in  
SC who are not identified  
and/or not receiving  
appropriate services.

Experts state that if a child with pre-  
lingual hearing loss has not reached  
age-related language milestones by  
age three, that child has only a **5-15%**  
chance of ever catching up.



**Hearing loss is the only disability that is created when the child does not have access to language.** Incidental language develops through interactions between an adult and a child that occur naturally in an unstructured situation and make up 90% of all knowledge a child has by the age of 5.

Beginnings SC has received  
more than **560** referrals and  
has served more than **450**  
families.



# Programs



## PARENT COUNSELING

Parents are the key to their child's hearing loss journey. We support parents in this journey by means of education, support, and empowerment, free of charge.



## SERVICES FOR CHILD CARE PROVIDERS

We provide hearing screenings and Endeavors training to child care providers across SC, free of charge.



## ADVOCACY & POLICY

We collaborate with legislators, agencies, and influencers to promote policies that benefit those with a hearing loss.



## TECHNICAL ASSISTANCE & TRAINING

We share best practice strategies for hearing loss with pediatricians, educators, and the community.



## AWARENESS & EDUCATION

We utilize social media, our website, media, events, and exhibiting to foster awareness and action.





## Early Identification & Intervention

As a partner agency of the South Carolina DSS Division of Early Care and Education, it is our goal to identify children with hearing loss and facilitate interventions that could prevent potentially years of lost language and brain development.

Beginnings SC offers a comprehensive program of hearing screenings, staff development, and parent support to childcare providers, after-care programs, and other programs in S.C. *There is no cost for the services Beginnings SC provides.*



SCAN NOW TO REQUEST  
A HEARING SCREENING!



## Beginnings SC

Where belonging begins for deaf  
& hard of hearing children

### Contact Us

437 Center Street  
West Columbia, SC 29169

**Web:** [beginningssc.org](http://beginningssc.org)

**Phone:** (803) 216-1171

**Videophone:** (803) 929-7785

**Email:**

[hearingscreening@beginningssc.org](mailto:hearingscreening@beginningssc.org)



## Hearing Screening Program

beginnings 



## HOW COMMON IS HEARING LOSS IN CHILDREN?

1-2 per every 1,000 children have a permanent, sensorineural hearing loss at birth. That number triples by age 6. 1 in 100 school-age children have a permanent hearing loss.

## WHY SCREEN CHILDREN FOR HEARING LOSS?

Language development directly affects brain development. Even a "little" hearing loss impedes typical language development. 30-40% of preschool-age children cannot hear well enough during ear infections to learn language incidentally.

Because hearing loss has a major impact on development, a federal mandate requires that all children be screened at birth. However, children are typically not rescreened until kindergarten.

*Beginnings SC is changing that.*

## WILL WE RECEIVE PROFESSIONAL TRAINING?

Beginnings SC will provide FREE SC Endeavors-approved trainings to staff about hearing loss. The trainings will cover the following objectives:

- Risk factors
- How to approach parents if a hearing loss is suspected
- How to integrate children with hearing loss into the program

## Our Suggested Procedure

**Our screening process is multiphasic and may require more than one site visit for the initial screening depending on the number of children.**

### Phone Call/Site Visit with Director:

The screening process, procedures, and follow-up will be discussed.

**Initial Screening:** It will take roughly 5 minutes to screen each child with an Otoacoustic Emissions (OAE) machine. The screenings will take place on-site in each classroom.

**Second Screening:** Children who do not pass the initial screening (~25% of children) will need to be rescreened approximately 2 weeks later.

**Follow-up:** To reduce loss to follow up, multiple forms of contact and ongoing support will be provided to each family.



## How to Schedule a Hearing Screening:

Email us at  
[hearingscreening@beginningssc.org](mailto:hearingscreening@beginningssc.org)  
to set up your screening or visit  
[beginningssc.org/hearing-screenings/](http://beginningssc.org/hearing-screenings/)

Hearing screenings are free of charge for childcare programs + screenings are offered state-wide. We come to you!



# Hearing Screening Results

## Parent Information: Your child's hearing

Your child **PASSED** the OAE hearing screening!

We recommend bringing this document to your child's **Pediatrician or Family Doctor** to be added to their record. If you do not currently have one, please contact us for assistance in finding one in your area.

### What does it mean?

This means that when screened today, there was no indication that your child has difficulty hearing. No further steps are needed at this time unless you have concerns about your child's hearing or language development. If you have concerns at *any* time, please let us know and we can assist you in getting a referral for a full assessment.



### Next Steps:

1

Your child passed the hearing screening now, but be aware that hearing can change at any point in childhood.

2

Speech and language begin to develop at birth, even if baby doesn't start to talk until later. If any degree of hearing loss is present, it is better to catch it early so they can receive services and access to language.

3

You know your child best. If you feel your child is not hearing well despite a passing result or at any other time, contact Beginnings SC and we will do what we can to help get your child screened by an Audiologist.

Did you know, nearly

**15%**

of children ages 6 - 19 have a permanent hearing loss?

\*Data from CDC 2022

Questions? Contact Us!  
(803) 216-1171 or  
deborah@beginningssc.org

beginnings

# Hearing Screening Results

## Parent Information: Your child's hearing

Your child is being referred to their **Pediatrician** because of a failed hearing screening.

We recommend bringing this document to your child's **Pediatrician or Family Doctor**. If you do not currently have one, please contact us for assistance in finding one in your area.

### What does it mean?

Your child has failed hearing screenings on two separate occasions and after reviewing your child's results, we are recommending that a more detailed examination be scheduled with a doctor. Some children may not pass the hearing screening due to conditions that require the attention of a Pediatrician. It is important that your child's ears be examined by a doctor as soon as possible so that a follow-up hearing screening can happen.

Did you know nearly  
**15%**  
of children ages 6 - 19 have a  
permanent hearing loss?

\*Data from CDC 2022

Scan here to learn  
more about the OAE  
screening process!



### Next Steps:

1

Make an appointment with your child's pediatrician as soon as possible to have their ears checked due to a failed hearing screening.

2

Inform the center and Beginnings SC when their ears have been checked so they can be screened again.

3

Be on the look out for results from a follow-up screening.



Questions? Contact Us!  
(803) 216-1171 or  
deborah@beginningssc.org

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# Hearing Screening Results

## Parent Information: Your child's hearing

### FREQUENTLY ASKED QUESTIONS:

#### Did my child cooperate?

If you are receiving this letter then, yes! The screening machine we use does all the work, so your child does not have to respond to sounds or answer questions - it is an objective tool.

#### Is it possible this is an incorrect result?

We do not often get false positives. Our machine is calibrated as needed and our screeners are well trained. It is more likely that there is something preventing a pass result- but it does not always mean hearing loss. Many children fail one to two screenings as a result of fluid behind the eardrum - which may or may not be infected.

#### Does fail/refer mean my child has hearing loss?

Possibly. A refer means that something was preventing all of the sounds emitted by the machine to travel through the listening system and get back to the machine uninterrupted. That can happen for a variety of reasons including wax, fluid behind the eardrum, an object in the ear canal OR a hearing loss. That is the reason we stress the importance of following up with the provider. We won't know until we follow-up to find the reason for the failed screening.

#### What if my child has already seen an ENT or audiologist?

This failed result could mean a problem that was previously treated by your ENT (ex. peTubes) and indicates a follow-up appointment is needed. It is important to let your provider know that your child recently failed an OAE screening and have them check that both the middle and inner ear are functioning to allow for language access.

**Hearing can change at any time. Talk with your child's primary care provider or contact Beginnings SC if anything on the list below applies to your child now or in the future:**

1. A parent or other close family member had/has hearing loss
2. Your baby was in the NICU for more than five days
3. Your baby had an exchange transfusion
4. Your child had/has many ear infections
5. Your child had/has a head injury
6. You don't think your child is hearing or talking well

**Did you know?**

**50%**

of infants with hearing loss have no risk factors.

Questions? Contact Us!  
(803) 216-1171 or  
deborah@beginningssc.org

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Child's Name: \_\_\_\_\_

Date of Birth: \_\_\_\_\_

Screener Name: \_\_\_\_\_



OAE Screening Dates	Left Ear Result	Right Ear Result

**PLEASE BRING THIS FORM TO YOUR CHILD'S PEDIATRICIAN.**

\*If the result reads "can't test" this means that the child was repeatedly uncooperative and could not be screened. If any other result is present, it means that the child's hearing was screened with an OAE machine.

If this child did not pass the Otoacoustic Emissions (OAE) hearing screening and is being referred to you as the primary health care provider. The OAE screening is a physiological measure of cochlear function and is designed to identify children who may have sensorineural hearing loss; however, some outer or middle ear disorders may cause conductive hearing loss and contribute to a failed OAE screening.

This medical referral is being made to determine if there is any outer and/or middle ear disorder present (cerumen impaction, otitis media with effusion, acute otitis media, structural anomaly, etc.). **Pneumatic otoscopy** and/or **tympanometry** will provide vital information about the next appropriate step in the child's hearing screening/diagnostic process. When the medical evaluation and any recommended treatment is complete, we will conduct another OAE hearing screening. If the child does not pass that rescreen, a referral to an audiologist qualified to evaluate infants and toddlers will be requested to determine if a sensorineural hearing loss is present.

Federal Head Start regulations require hearing screenings for all enrolled children and referral for medical and audiological evaluations for children who do not pass. Please let us know if you have any questions. We look forward to communicating with you to obtain the results and recommendations from the medical evaluation.

Thank you,

Hearing Screening Program  
Beginnings SC  
437 Center St., West Columbia, SC 29169  
Email: [hearingscreening@beginningssc.org](mailto:hearingscreening@beginningssc.org)  
Office: (803) 216-1171 | Fax: (803) 753-0094

Beginnings SC Hearing Screening Program

# CERTIFICATE

OF COMPLETION

The certificate is presented to

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FIRST SCREENING DATE \_\_\_\_\_

SECOND SCREENING DATE \_\_\_\_\_

THIRD SCREENING DATE \_\_\_\_\_

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Beginnings SC Hearing  
Screening Program Staff



WHERE BELONGING BEGINS FOR DEAF &  
HARD OF HEARING CHILDREN



## PARENT SUPPORT SERVICES

### DIRECT TO PARENT SERVICES



#### ON-CALL COACHING HOURS

Immediate guidance on critical concerns can make all the difference. Parents can book readily-available appointments with licensed Teachers for the Deaf and parent experts who can provide real-time information, support, and referrals. During office hours parents can receive IFSP/IEP prep support and pre-school transition support.



#### PARENT NETWORKING EVENTS IN PARTNERSHIP WITH HANDS AND VOICES

Building a community is invaluable, especially with other family members who have lived a similar experience. We organize parent networking events in collaboration with Hands and Voices, providing parents with a supportive network of peers who understand the unique challenges they face.



#### LANGUAGE BUILDING SERVICES (0-5)

After access needs are met, parents must focus on language building with their Deaf or hard of hearing child. We provide opportunities for building language through events, like language building game nights.



#### READY-TO-USE RESOURCE LIBRARY

Here at BSC we think resources should be open access and should be readily available for all, including current parents and parents with children with unidentified hearing loss.



#### PARENT-FOCUSED WORKSHOPS

Beginnings SC facilitates workshops and resources set up for families based on their identified needs.

### VISIT OUR WEBSITE



#### TUTORING THROUGH COLLEGE PARTNERSHIPS (5-21)

Finding tutoring in a child's language modality is tough for parents. Beginnings SC facilitates tutoring opportunities through college partnerships.



#### PARENT EDUCATION (0-5)

During 11 parent education sessions, our trained Parent Education Specialist provide impartial support and the resources they need to make informed decisions for their children.



#### ATTACHMENT AND BIOBEHAVIORAL CATCH-UP (0-2)

Attachment and Biobehavioral Catch-up (ABC) is a 10-week home visiting program that is responsive to our families with children who have hearing loss. Our coach will share information about common parenting challenges of infants and support the parent with parenting during the visit, particularly helping them notice the positive parenting they are already doing.

### MAKE A REFERRAL TO OUR PARENT SUPPORT SERVICES



## PARENT SUPPORT SERVICES

### PARENT SERVICES IN COORDINATION WITH CHILDCARE CENTERS



#### LOANER LIBRARY SERVICES

Resources to support access to sound can be expensive! We have a retention devices library for parents to trial different retention devices before making an expensive purchase! We also provide remote microphones to child care centers so parents can ensure their child has access to incidental language.



#### HEARING SCREENING FOLLOW-UP/SUPPORT TO DIAGNOSIS

When a child does not pass their hearing screenings, parents need support, education, and intervention, whether the hearing loss is temporary or permanent. We are ready to support families from our hearing screening process to diagnosis throughout our follow up after hearing screenings.



#### GUIDANCE FOR NAVIGATING CHILDCARE CENTERS FOR DEAF PARENTS WHO USE ASL

Navigating the childcare enrollment process is already a difficult process, but the process can be even more tricky to navigate when using your second language. We on-call coaching directly to Deaf parents who use American Sign Language, facilitation of child care resources, and scheduling of interpreting services for enrollment activities.



#### TRAINING AND TECHNICAL ASSISTANCE FOR CHILDCARE PROVIDERS

Supporting childcare providers is vital. Caregivers can request that specialized training and technical assistance be provided to their child's child care center so Deaf children can bloom in those gardens, too.



#### HEARING SCREENINGS

We want to support parents on their journey, and we provide hearing screenings at child care centers to ensure parents receive the education and support they need to ensure that Deaf children receive early intervention immediately.



**it is not being deaf  
that disables a  
child**

It is the deprivation of access to language  
and meaningful communication with their  
families, peers, and communities that  
disables a Deaf or Hard of Hearing child.



**Beginnings SC**



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