

Improving Timely Intervention Through
Program Redesign and Family Navigation:
A Collaborative Model for Newborn Hearing Screening Success

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Disclosures

- Employed by the University of Miami Ear Institute Children's Hearing Program
- No financial disclosures



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Previously On...



Background Information

- University of Miami Children's Hearing Program within the Ear Institute
 - Outpatient clinic for the pediatric population
- Neighboring birthing hospital is one of the largest children's hospital in the Southeastern United States
 - Level IV NICU
 - Average of 480-500 births per month



It's imperative to see this volume of infants in a timely manner, but there are many barriers to care

Health Disparities

- Preventable differences in the burden of disease, injury, violence, or opportunities to achieve optimal health that are experienced by socially disadvantaged populations (Centers for Disease and Control and Prevention, 2008)
- Multiple causes including internal/external biases, poverty, environmental threats, inadequate access to health care, individual and behavioral factors, and educational inequalities
- Even with equal access, healthcare system patients who belong to minority groups are substantially less likely to receive key diagnostic procedures or effective therapies

(Hoffman, 2016), (Le and Phuoc, 2019)

Health Disparities

- Disability affects people of all races, ethnicities, genders, sexual orientation, and socioeconomic status
 - **BUT that doesn't mean that it occurs uniformly among these groups**
- “It’s vitally important to distinguish between disability as a natural part of the human condition and disability-related health disparities that can lead to compromised care, ill health, institutionalization, and premature death” (Yee, 2011)

How does this pertain to our patient population in South Florida?

Social Determinants of Health

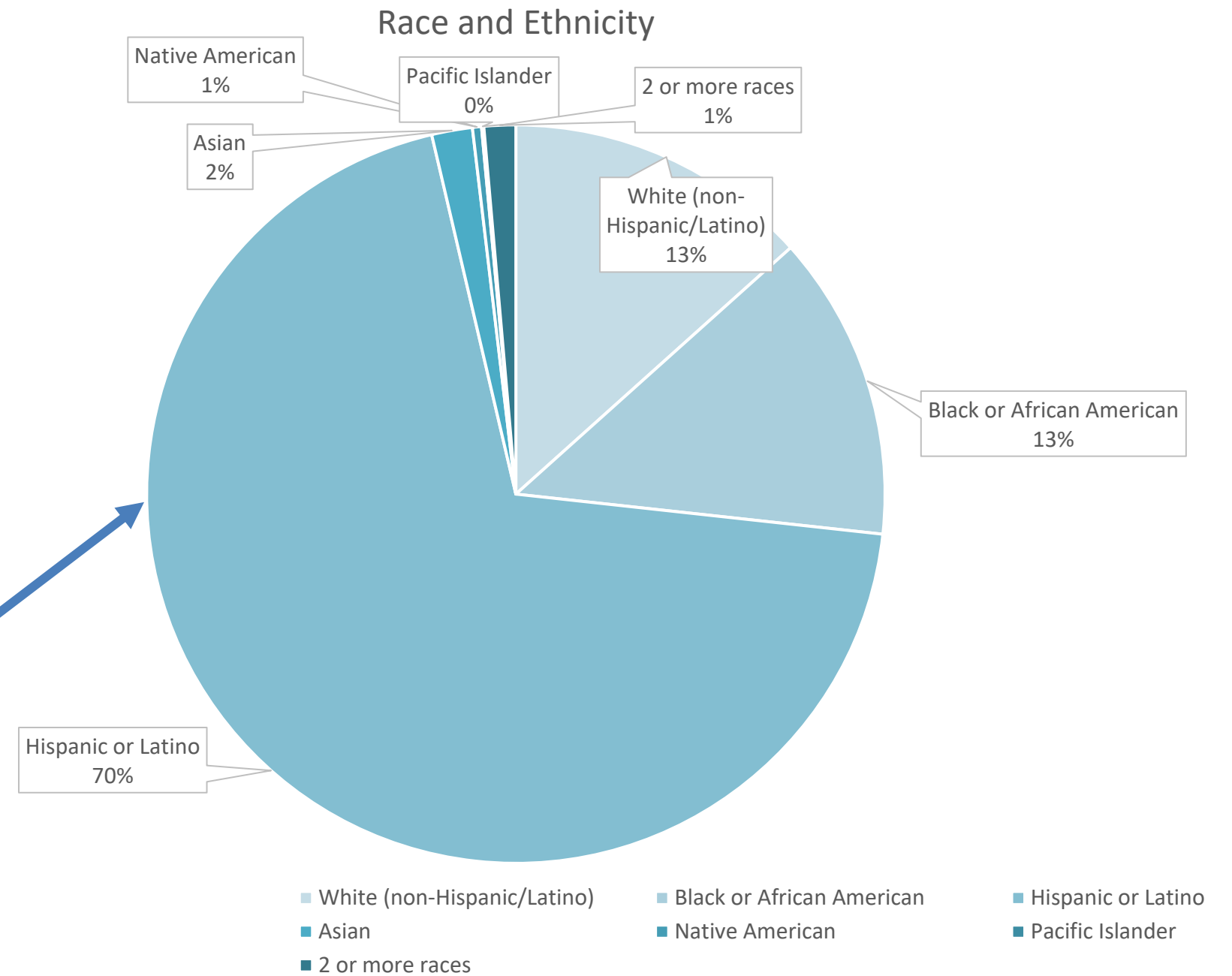
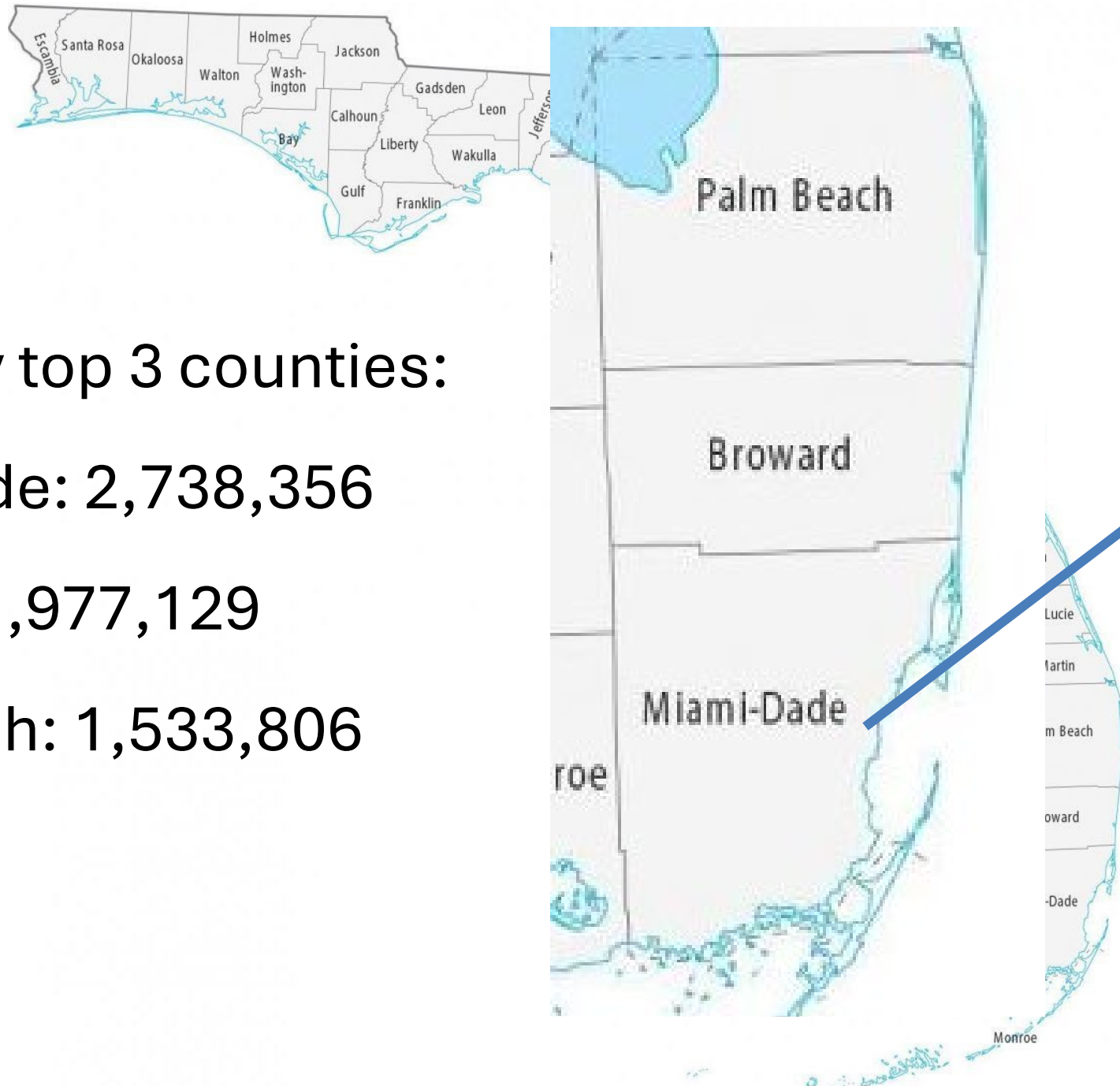
- The Miami Herald states that the top 3 social determinants of health are:
 - Poverty, a need for available and affordable housing, and jobs
 - The cost of living in Miami Dade County is 18.9% more expensive than the rest of the US while the poverty rate is also higher
- A household survey completed by a group of large medical institutions indicated that:
 - Race/ethnic groups including Black people and Hispanic/Latino people struggle with access to care, gaps in insurance coverage, financial stress, poor housing conditions, higher food insecurity, higher stress, higher fair or poor mental health, and are at a higher risk for chronic health conditions

South Florida Community Demographics- Race/ Ethnicity

Total population of Florida: 23.46 million

Population by top 3 counties:

- 1) Miami-Dade: 2,738,356
- 2) Broward: 1,977,129
- 3) Palm Beach: 1,533,806



Miami Dade County Demographics

- 75.2% of families speak another language other than English at home
- 11.4% of families (18.5% of children) live below the poverty level
 - higher than both the average Florida and US national level
- 2.2% of people have a hearing difficulty (doesn't specify between children or adults)
- 72.6% of mother received early prenatal care
 - Lower than prior value, trending downward
- Food insecurity rate: 15.1%
 - Higher than Florida average and US national average

The Guidelines

Screening

1

All infants should undergo hearing screening prior to discharge from the birth hospital and **no later than one month of age**, using physiologic measures with objective determination of outcome.

Diagnosis

3

All infants whose initial birth-screen and any subsequent rescreening warrant additional testing should have appropriate audiologic evaluation to confirm the infant's hearing status **no later than 3 months of age**.

6

Intervention

Early intervention services should be offered through an approach that reflects the family's preferences and goals for their child, and should begin as soon as possible after diagnosis but **no later than six months of age**.

National Newborn Hearing Screening and EHDI

- In 2022, 6,272 infants identified with hearing loss
 - ~60% diagnosed after 3 months of age
 - Only 40.9% enrolled in EI services by 6 months of age

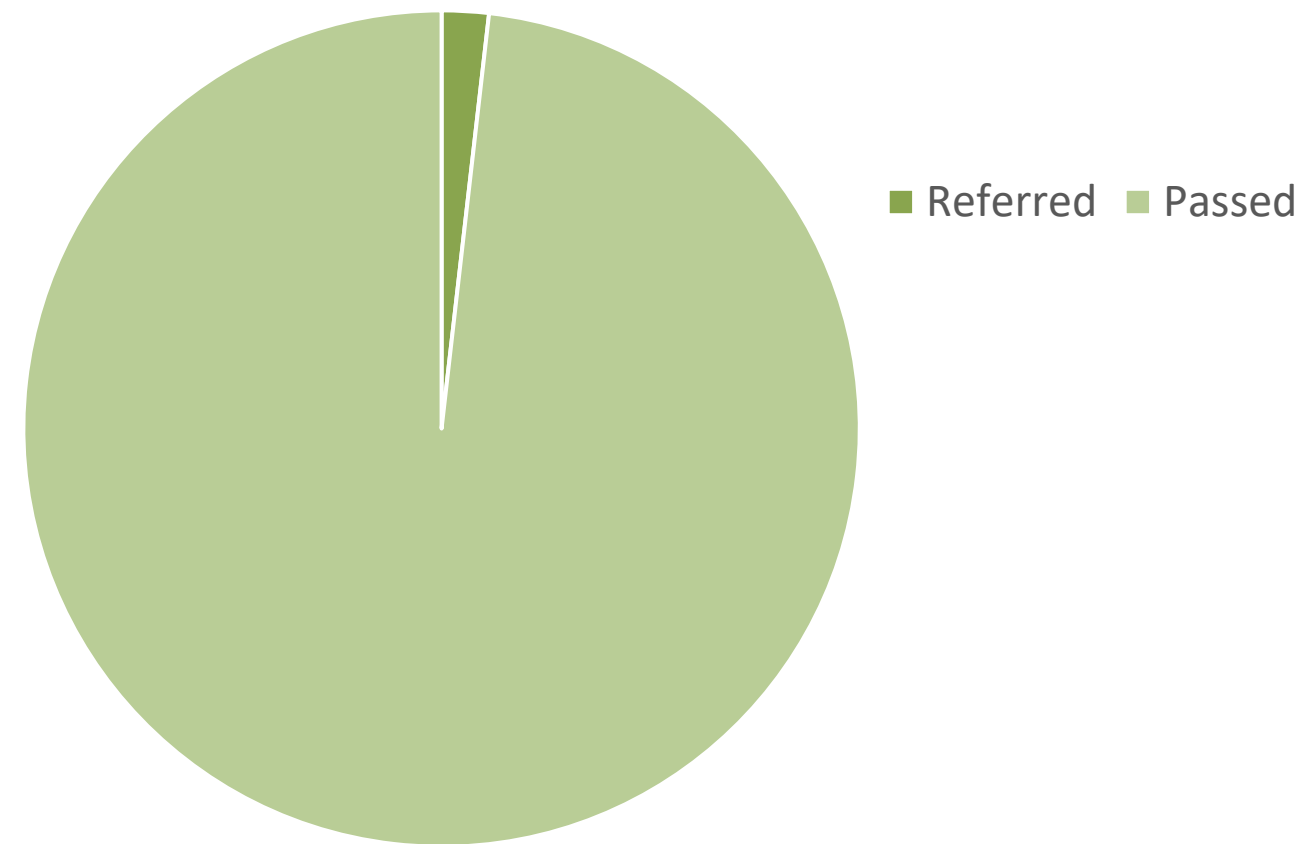


Florida Newborn Hearing Screening and EHDI

- 222,461 live births
– 99% received NBHS

- 4,037 referred NBHS

- Prevalence of infant hearing loss in FL: 1.4 / 1000 live births



What happens after a referred newborn hearing screening?

Barriers to Care

- **Majority of babies are being screened, but what happens next and why may it take longer than recommended?**
- Many factors that increase the chances of loss to follow-up after a referred hearing screening including:
 - Access to sites
 - Transportation barriers
 - Insurance
 - Socioemotional factors
 - Family buy-in
 - Finances
 - Health disparities

Our Babies

- 4405 babies were born at our partner birthing hospital in 2025
- It's evident that there are inherent barriers to timely follow-up
- Additional barriers present when taking existing health disparities into consideration

Being born in the US and belonging to a minority population already subjects infants to health disparities

Timely follow-up helps bridge the gap that may be widened by health disparities and additional barriers to care

Identified Challenges Within Our Program

- **When the program was initially acquired:**
 - Equipment issues/new equipment
 - Lack of properly trained screeners
 - Technique and counseling
 - Obtaining 2 accurate screenings prior to discharge time
 - Supply shortages
 - Different electronic medical record systems
 - Delays in outpatient NBHS follow-up if scheduling is left up to families

Changes Following Audiology Oversight

- Inpatient:**

- Increased inpatient training
- Optimized use of EMR to track babies who referred
- Standardized screening protocol

- Timing of

- First screening:
- Repeat screening
- Patient tracking

The image illustrates the integration of clinical practice with EMR systems for audiology oversight. It features an anatomical diagram of an ear with a probe, a grid of 'Patient label' forms, a screenshot of an EMR 'Patient List' interface, and a table of patient data.

Room	Bed	Name	DOB	MRN	Sex	Age	Medical Service	Attending Physician	Length of Stay
					Male	13 hours	Newborn		
					Female	24 hours	Newborn		
					Female	24 hours	Newborn		
					Male	29 hours	Newborn		
					Male	15 hours	Newborn		
					Male	23 hours	Newborn		
					Female	8 hours	Newborn		
					Female	13 hours	Newborn		
					Female	14 hours	Newborn		

Changes Following Audiology Oversight

- **Outpatient:**
 - Consistent protocols
 - Independent schedule managed by audiology LEND Externs and audiology assistants
 - DPOAEs, AABR, and tympanometry if necessary
 - Referral for additional testing based on risk factors

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**NEWBORN HEARING SCREENING
PROTOCOL**



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CHILDREN'S HEARING PROGRAM

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Importance of an Audiology Oversight

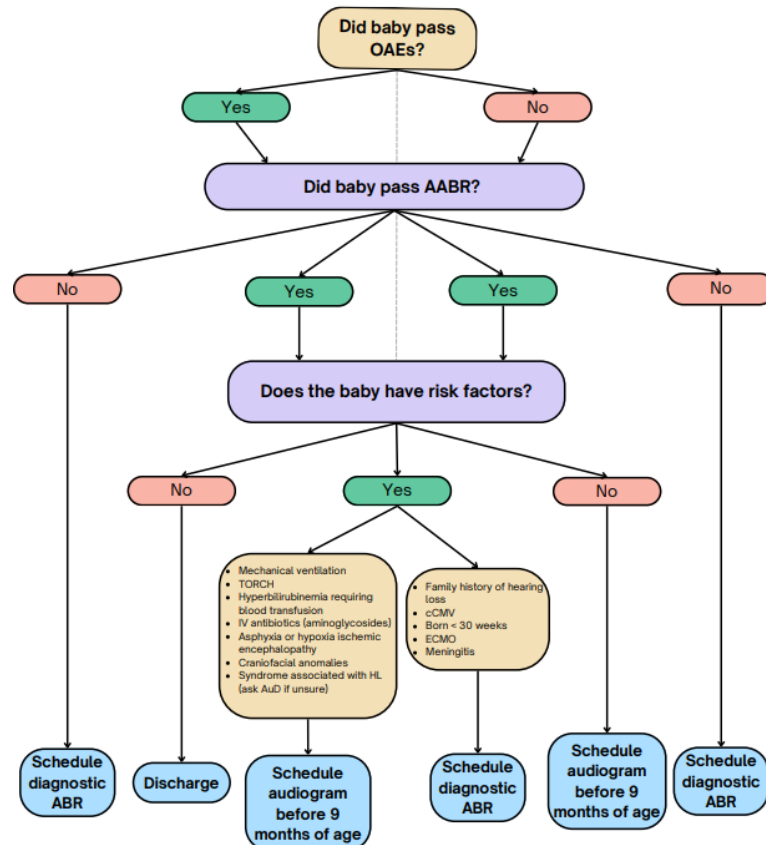
Welcome to Newborn Hearing Screening Bootcamp!

Created and presented by Dr. Samantha Espinal



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OUTPATIENT NEWBORN HEARING SCREENING: WHEN TO REFER FOR ADDITIONAL TESTING



WHEN IN DOUBT, ASK AN AUDIOLOGIST

Outpatient Risk Factors Referral Guide

Children's Hearing Program

Newborn Hearing Screening

patient label

Screeener: _____
Co-signer: _____

Birth & Medical History:

Baby was born: Full term (38+ weeks) Premature (under 38 weeks) How many weeks? _____

Were there any complications during the pregnancy or birth? Yes No

Did your baby spend any time in the NICU? (Risk factor: > 5 days) Yes No

If yes, how long? _____ days _____ weeks _____ months

What complications occurred during the pregnancy/birth? What treatment did they receive in the NICU? (see below)

Did your baby receive mechanical ventilation? Yes No

Did your baby receive IV antibiotics? Yes No

Did your baby have jaundice that required phototherapy? Yes No

If yes, did they require a blood transfusion? Yes No

Did your baby require ECMO? Yes No

Did your baby have a low birth weight (less than 1500 g)? Yes No

Has your baby been diagnosed with any syndromes? Yes No

If yes, what? _____

If yes, what specialties are they followed by? _____

Any history of infectious diseases (Herpes, Rubella, Toxoplasmosis etc)? Yes No

Any family history of permanent hearing loss in childhood? Yes No

Any craniofacial anomalies observed or reported? Yes No

Newborn Hearing Screening History:

Did your baby pass their newborn hearing screening? Yes No

If no, which ear did they fail in? Left Right Both

If no, did they test positive for congenital cytomegalovirus (cCMV)? Yes No

Appointment Checklist:

OAE test (4 trials) OAE scan Co-signer Charges F/U appt if needed

AABR test Cover sheet Dx code LOS Upload to eReports

Documentation Resources

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Newborn Hearing Screening Competencies

Please type which number best represents your skill level in each area. Cells are red when left blank and will automatically change color once a ranking is filled.

Rankings:	Ranking (0-4)	Infant 1	Infant 2	Infant 3	Review Method
General Knowledge: The Importance of ENDI					
Observer asks screener why it's important to screen the hearing of newborns. (Observer determines if screener as a general understanding of this concept).					
Comments:					
Preparing to Screen					
Ensures baby is ready for screening (sleeping, fed, quiet)					
Educates parents about the newborn hearing screen					
Follows hospital/clinic infection control procedures					
Swaddles and positions baby in preparation for screening					
Asks case history questions and identifies risk factors for hearing loss					
Enters all required patient information accurately into screening equipment					
Comments:					
Screening with OAE					
Explains and understands what structures(+) OAEs are testing					
If conducting OAE, cleans and prepares probe for screening					
If conducting OAE, appropriately places probe in baby's ear					
Quits baby, if needed					
Ensures proper ear is selected on the equipment and initiates screening					
Demonstrates troubleshooting techniques, if needed (calms baby and re-positions probe)					
When switching ears, uses recommended techniques					
Comments:					
Screening with AABR					
Explains and understands what structures(+) AABR is testing					
Prepares skin and appropriately places electrodes/probe or muffle					
Quits baby, if needed					
Ensures proper ear is selected on the equipment and initiates screening					
Demonstrates troubleshooting techniques, if needed (calms baby and re-positions probe)					
When switching ears, uses recommended techniques					
Comments: They have not performed tympanometry with me					
Completing the Screening Process					
Prints, documents results, per hospital/clinic protocol					
Conducts state reporting responsibilities					
If passing results, effectively communicates results to parents (both verbal and written)					
If failing results: _____					
communicates results to parents (both verbal and written)					
schedules a follow-up appointment for outpatient/diagnostic testing					
provides a written handout with appointment time and details					
Comments:					

Screener Competencies

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Key Improvements

- Real-time data tracking
- Standardized protocols
- Direct outpatient scheduling pathways
- Streamline referral workflow
- Improved documentation for state reporting system
- Goal is to reach EHDI 1-3-6 goals

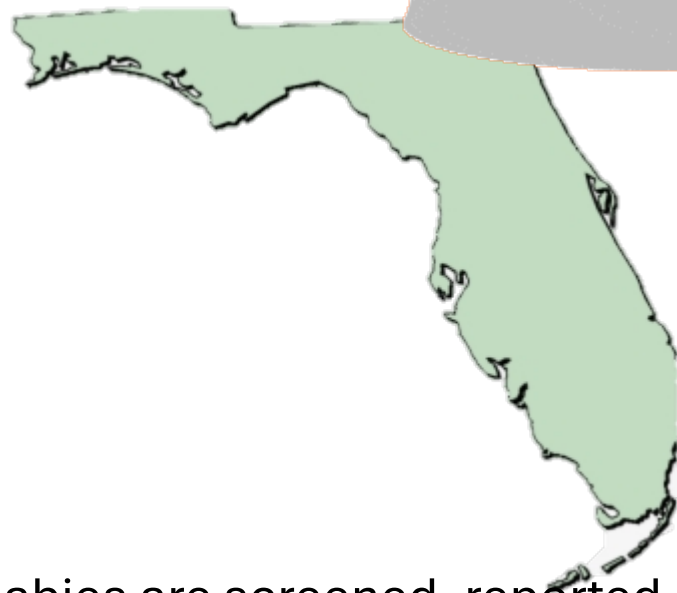
Everyone Wants the Babies Screened

Birth Hospital



Screening
with
email
assistance

State



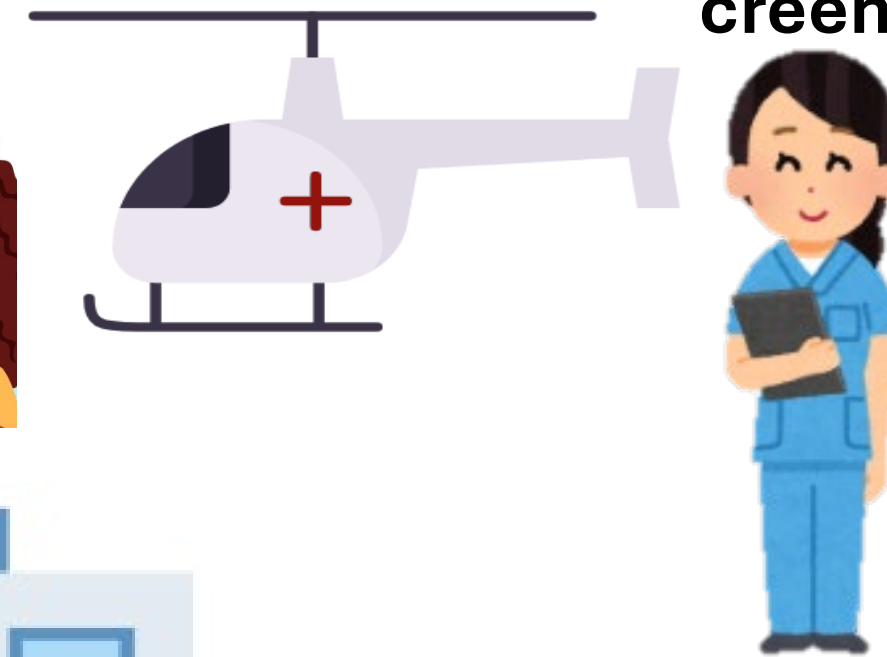
Babies are screened, reported,
and referred to EI

Families



Ensure babies are healthy

Screeners



Complete efficient screening
AND addressing additional
needs

Otolaryngologist



Identify at-risk babies

How do we improve
outcomes in an established
healthcare system that is so
complex?



FAMILY NAVIGATOR

Why a Family Navigator?

- Patient Navigation, especially around newborn hearing screening and follow-up, is about creating a **structured, family-centered system** that:
 - reduces loss to follow-up
 - improves timely intervention
 - ensures access to hearing technology

Why a Family Navigator?

Patient Navigation begins as soon as a newborn screening is completed in the hospital.

The Family Navigator guides families through each step of the journey, from follow-up testing and diagnostic confirmation to connecting them with the specialized care, early intervention, and support services they need.

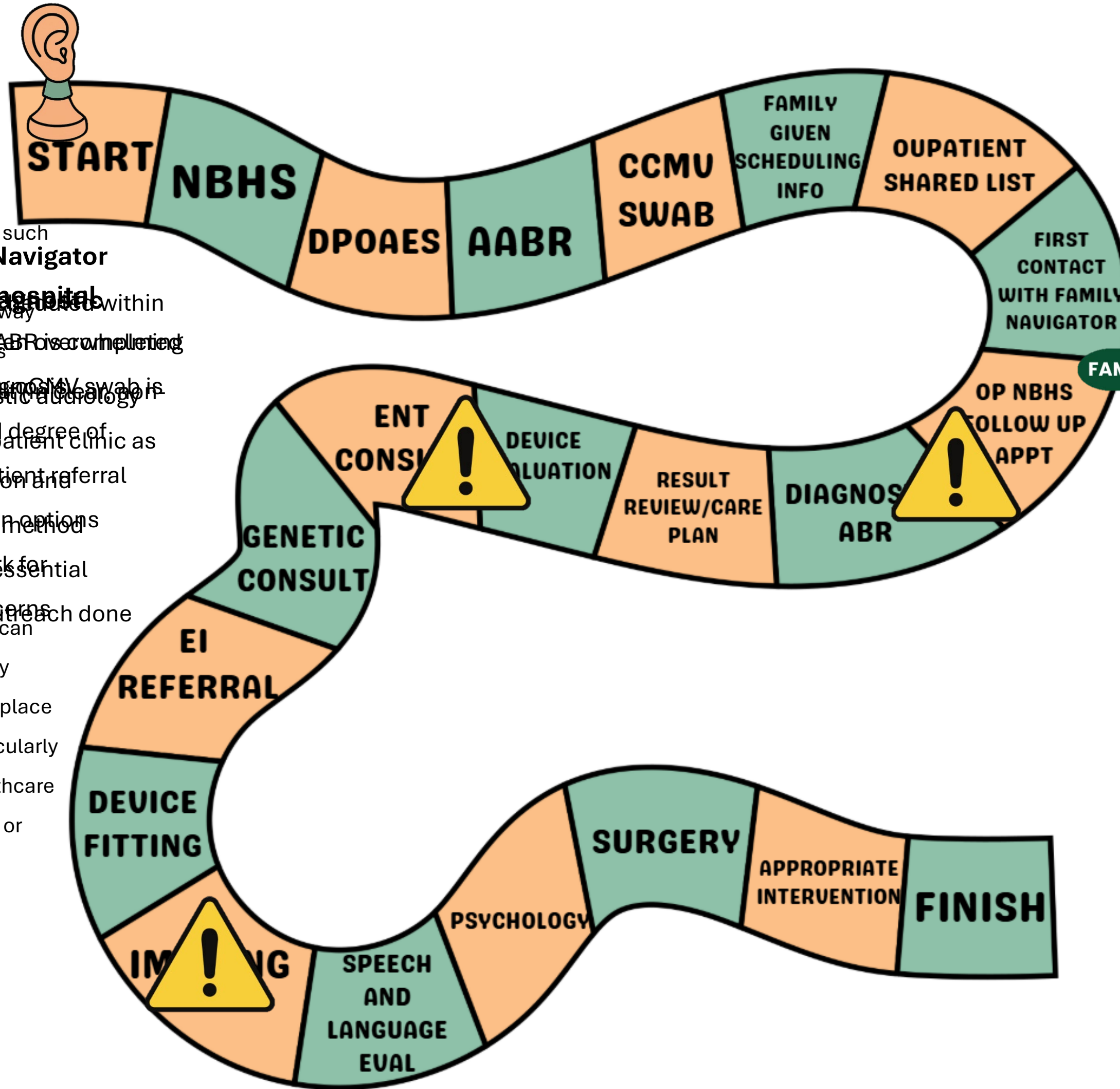
Core Responsibilities- Addressing Barriers to Care

- Ensures every newborn who refers their hearing screening receives timely follow-up
 - Flexible scheduling (calls on evening/weekend option)
- Supports families through appointments, communication, and care coordination
- Additional contact attempts if families No Show NBHS follow-up appointment

Core Responsibilities- Addressing Barriers to Care

- Removes barriers to care (e.g., language, transportation, insurance)
 - Navigators/schedulers who speak Spanish
 - Language Interpretation services for additional languages
 - Connection with social work for insurance concerns
- Coordinates between the hospital, audiology providers, early intervention programs, and families

Patient navigation bridges gaps between clinical protocols and family needs



Surgical Intervention:

- When considering surgical devices such as cochlear implants and bone
- **First encounter with Family Navigator**

Navigation with NBHS Family Navigator
 • Navigating the care pathway within

Evaluation
 • If a doctor refers DPOAEs and/or ABR over multiple coordinated steps

- across multiple steps
- If a patient is following ABR/CI/AV swab is help schedule a diagnostic audiology

• order to determine the type and degree of appointment at an outpatient clinic as

- Action items for patient and referral
- as soon as possible

- comprehensive family education.
- preferred communication method
- Connect with Social Work for
- Discuss why follow up is essential

• **NO SHOWS/financial concerns**
 • Additional outreach done

This complex, multi-stage process can create significant barriers that delay timely access to care. Such delays place an added burden on families, particularly those navigating complicated healthcare systems without adequate support or guidance.



FAMILY NAVIGATOR



Children's *Hearing Program*

OUR TEAM



PSYCHOLOGY

SOCIAL WORK



FAMILY NAVIGATOR



DEAF EDUCATION

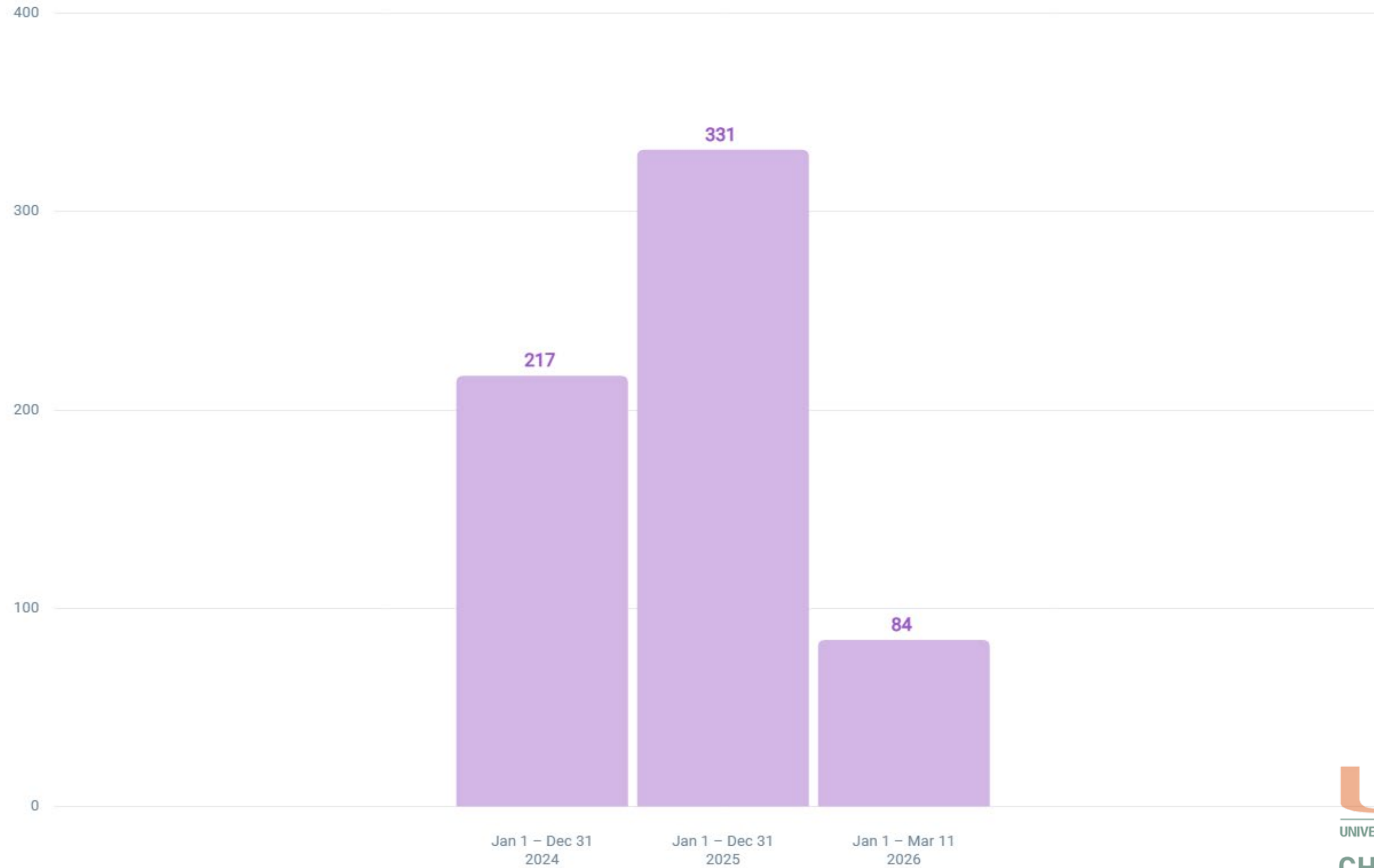


AUDITORY VERBAL
THERAPY

AUDIOLOGY

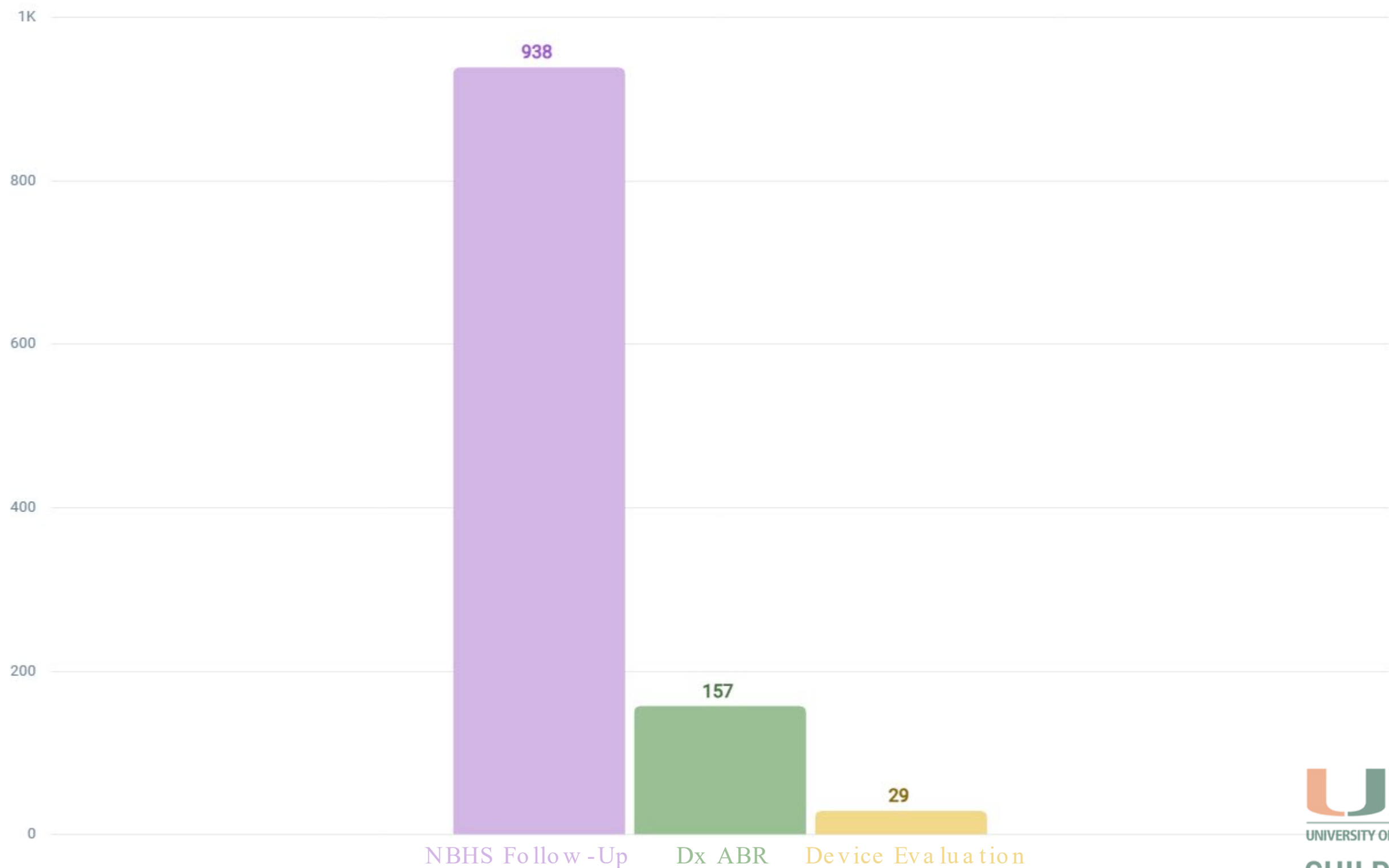


Rise in Diagnostic ABRs Since Adding the NBHS Follow-up



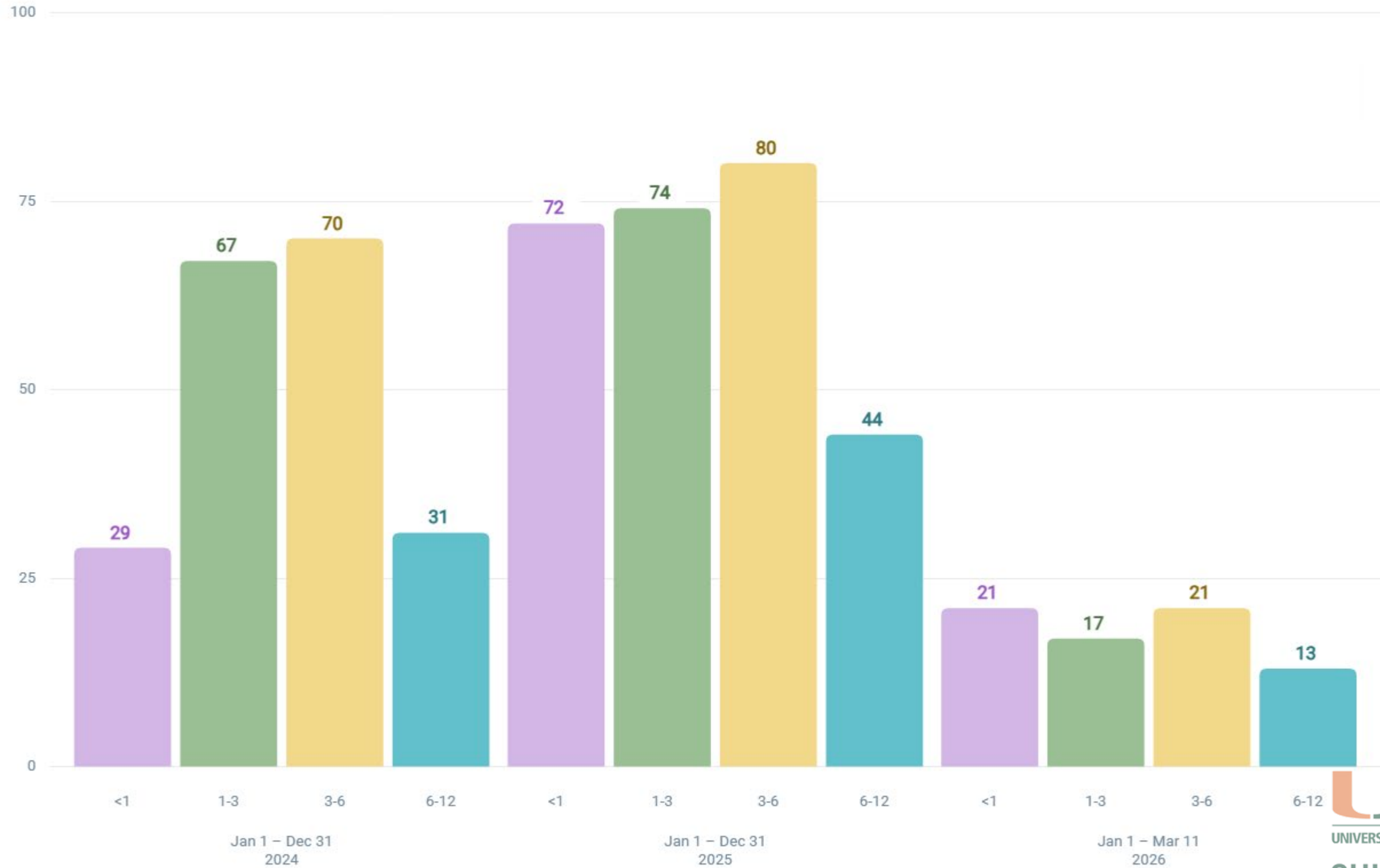
January 1 2024 – March 11 2026

NBHS to Follow Up Care



January 1 2024 – March 11 2026

Average Age at Time of Diagnostic ABR



January 1 2024 – March 11 2026

Key Elements for Replication

- Identify gaps in current program
- Seek out support/buy-in from leadership
- Gather evidence to support need for family navigation
- Build community networks
- **Advocate for yourselves and your families!**

Final Message

Families don't need more instructions- they need navigation.

Early hearing detection works best when strong systems and strong family support work together.

Collaboration is the intervention.

Screening alone doesn't change outcomes- systems do!



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Thank



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