



# Autism spectrum disorder (ASD) prevalence necessitates extended learning for pediatric audiologists

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- Previous LEND trainee at Cincinnati Children's/University of Cincinnati
- Currently working with Georgia LEND pediatric audiology program
- Sibling of someone with hearing loss
- Special interest in Deaf+



# Learning Objectives

- Participants will be able to identify the prevalence of co-occurring ASD and D/HH in children.
- Participants will be able to describe the ECHO learning model for early intervention professionals by GaLEND focusing on improving supports and services for children and families with dual diagnosis DHH/ASD
- Participants will be able to outline the interdisciplinary components of providing services for children and families with dual diagnosis DHH/ASD



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Why?



# Statistics

- Autism Spectrum Disorder (ASD) - **1 in 59** children (Oren, et. al., 2020)
- Co-occurring ASD diagnosis with children who are deaf or hard of hearing (DHH) is 3% nationwide (Gallaudet University, 2020)
- Studies of children with ASD showed prevalence of hearing loss at 3.5% (McAtee, et. al., 2019)
  - 10 times higher than in general population
  - Symptoms may be worsened by hearing difficulties (Demopoulous & Lewine, 2016)



Where do **we** fit in?





## Audiology scope of practice – (ASHA, 2018)

- By virtue of education, training, licensure, and certification, audiologists engage in professional practice in the areas of hearing and balance assessment, nonmedical treatment, and (re)habilitation. Audiologists provide patient-centered care in the prevention, identification, diagnosis, and evidence-based intervention and treatment of hearing, balance, and other related disorders for people of all ages. Hearing, balance, and **other related disorders are complex, with medical, psychological, physical, social, educational, and employment implications.** Treatment services require audiologists to know existing and emerging technologies, intervention strategies, and interpersonal skills to counsel and guide individuals and their family members through the (re)habilitative process. Audiologists provide professional and personalized services to minimize the negative impact of these disorders, leading to improved outcomes and quality of life.





## Autism

- Delay in speech/language or speech regression
- Avoidance of eye contact
- Learning difficulties
- Transition difficulties
- Sensory difficulties
- Echolalia
- Repetitive behaviors

## Hearing loss

- Delay in speech/language
- Learning difficulties
- Unresponsive to name or loud sounds
- Listens to TV or tablet on high volume
- Does not follow conversations or directions



# Conflicting Data in Research

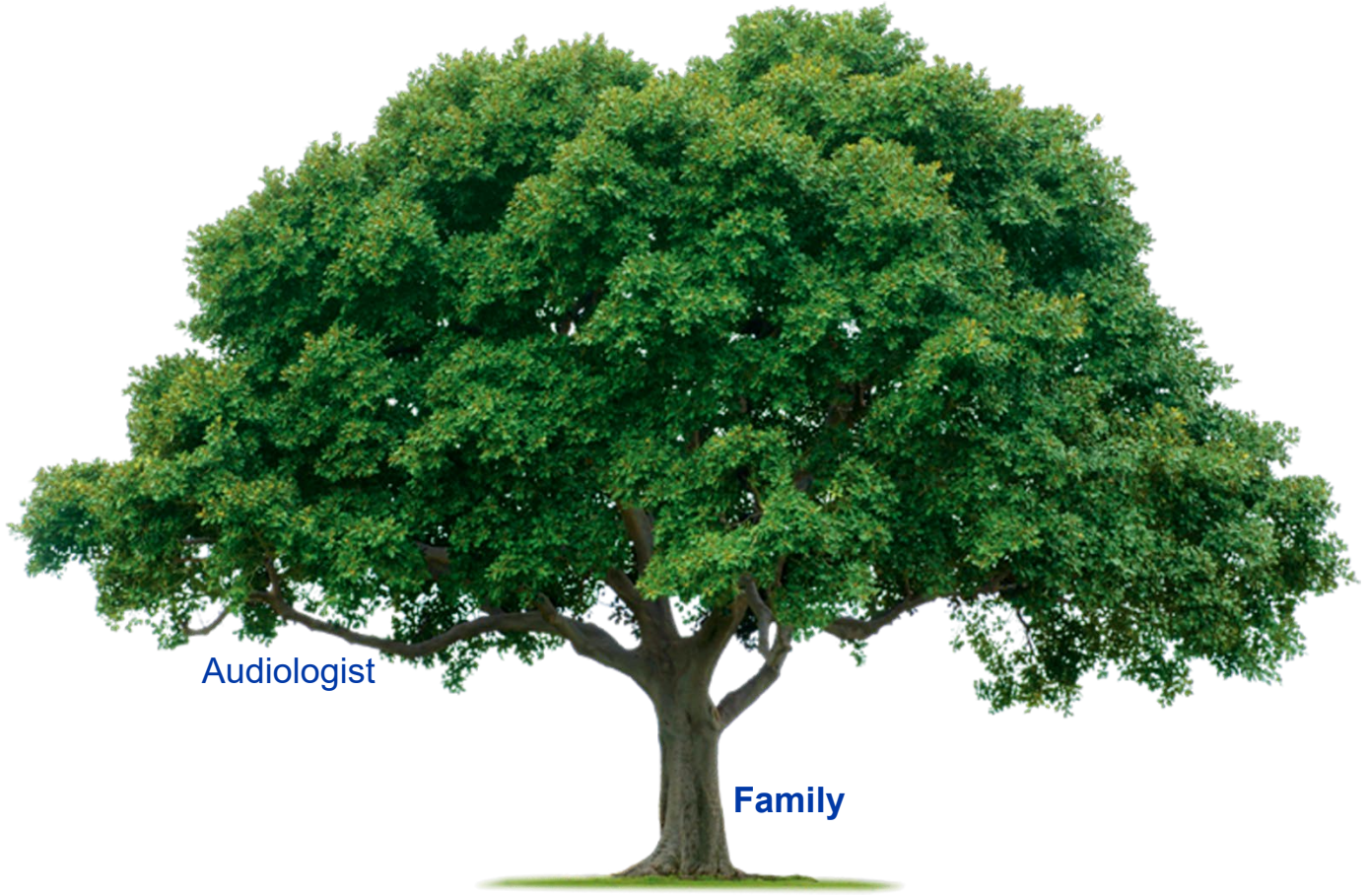
- ASD evaluations occurred for children with hearing loss at an earlier age than those without (Kancherla, et. al., 2013).
- ASD diagnosis may be later for children with hearing loss because of overlapping symptoms
  - Both require interdisciplinary evaluations
  - Involves ruling in/out other concerns
  - Scope of practice (Szarkowski & Johnston, 2018)





## Interdisciplinary team

- Audiologists
- Speech pathologists
- Family members
- Auditory verbal therapists
- EI providers
- Occupational therapists
- Psychologists
- Physical therapists
- ENT
- Pediatrician
- Developmental pediatrician
- School personnel
- Educational audiologists



Audiologist

**Family**

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What?



Dual  
diagnosis of  
Autism and  
hearing loss

Reasons  
for  
extended  
learning

Late ID hearing  
loss found by  
evaluation for  
suspected  
autism

Hearing  
evaluations  
for children  
with speech  
delay



# 1. Dual diagnosis of ASD and hearing loss

## Evaluation/treatment considerations



- Evaluation by developmental age level
- Assessing benefit of devices
- Retention of devices
- ASL



# Considerations found in the literature

- Use of videos of models that the individuals with ASD can watch and imitate during their evaluation (McAtee, et. al., 2019)
- Send materials to the family home before evaluation to help the child become familiar with agenda (Beers, et. al., 2013)
- Allowing multiple appointment times
- Practice use of headphones
- Allow time for transition and adjustment (Szarkowski & Johnston, 2018)





## Lisa Condes, Parent Guide IN H&V





# ASD Diagnosis





## 2. Hearing evaluations for concerns for speech delay

- Parent report:
  - Speech delay
  - Does not respond to name being called
  - Listens to TV on high volume
  - Parental concern for hearing loss

Results: normal hearing

Need to address parent concerns





# Case Studies

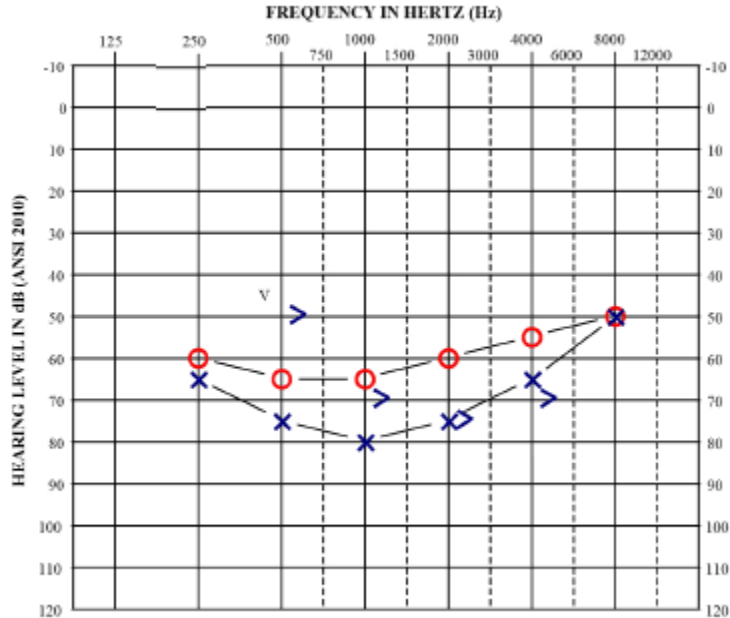
3. Late ID hearing loss found by evaluation for suspected autism



## Case 1 Example:

- 4 years of age
  - Speech delay
  - Previously in speech therapy, stopped during covid due to virtual
  - Restarting speech therapy
  - No hearing evaluation
  - Passed NBHS
  - Pediatrician concern for Autism





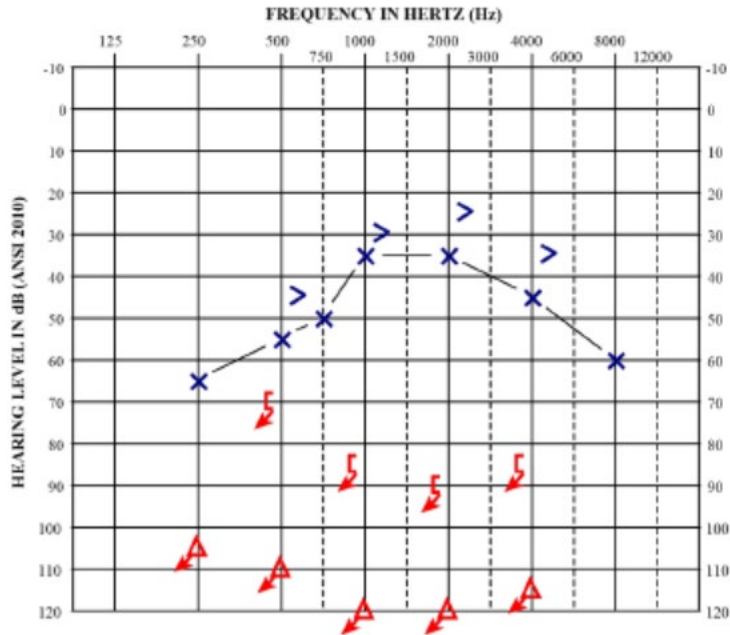
- No ASD diagnosis
- Underwent CI surgery for left ear November 2021



## Another case example

- 7 years of age
  - ASD diagnosis
  - ENT visit for ear infections
  - Recently kicked off the bus for not following directions





- Newly identified
- ASD diagnosis?
- Hearing aid consultation scheduled



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How?



## GA Lend

- Interdisciplinary training
- Pediatric audiology supplement August 2022
- Targeted professional developmental program for current audiologists



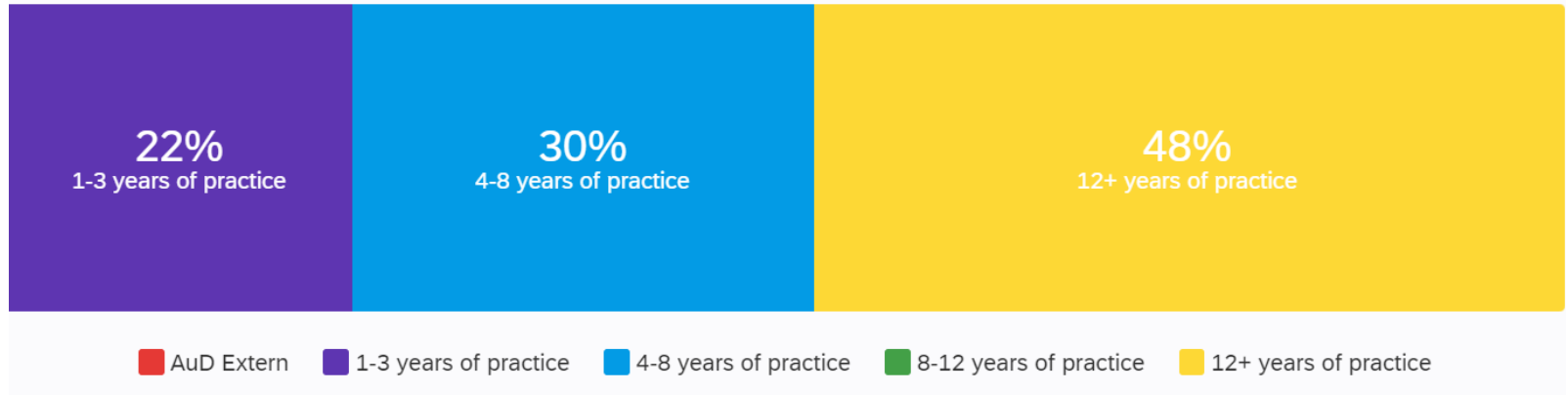


## **Autism Spectrum Disorder Screening in Audiology Settings - Survey**

- Online survey
- Participants: pediatric audiologists in the state of Georgia
  - 27 participants

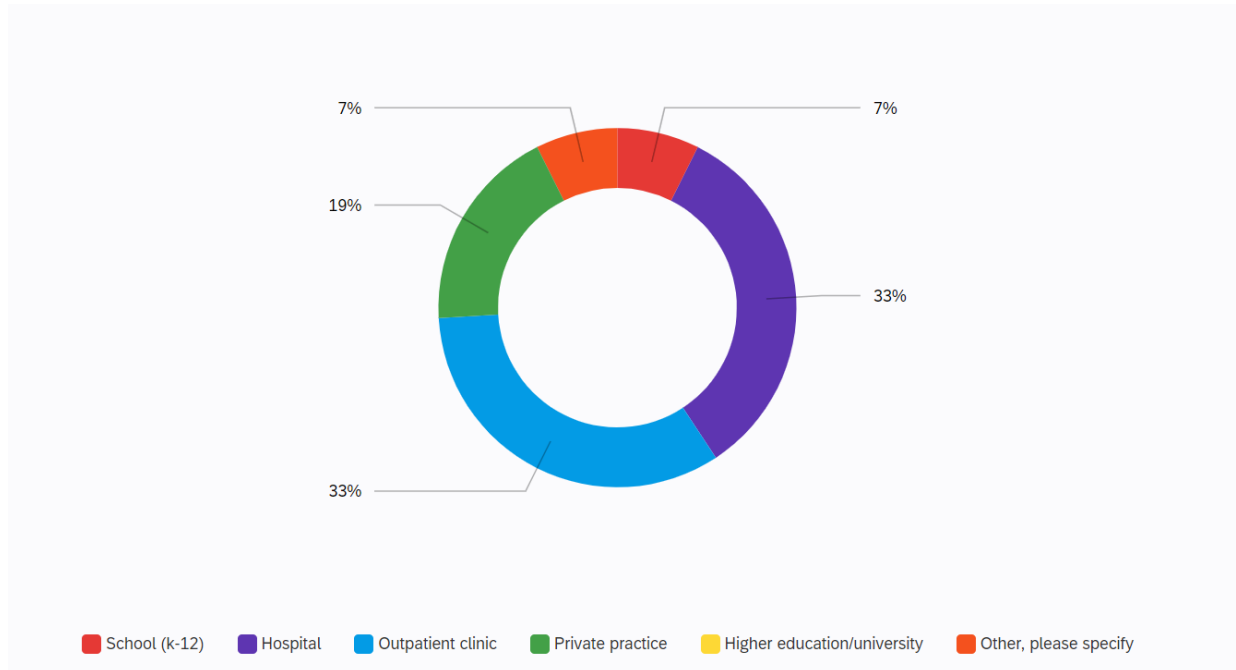


## Participants' years of practice



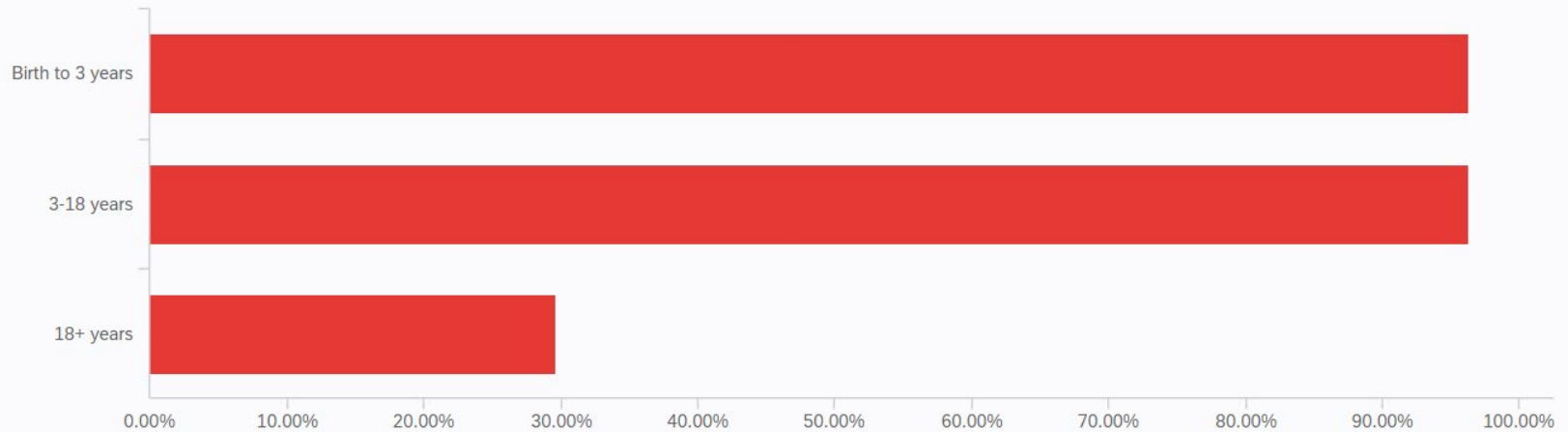


# Clinical Setting of Participants



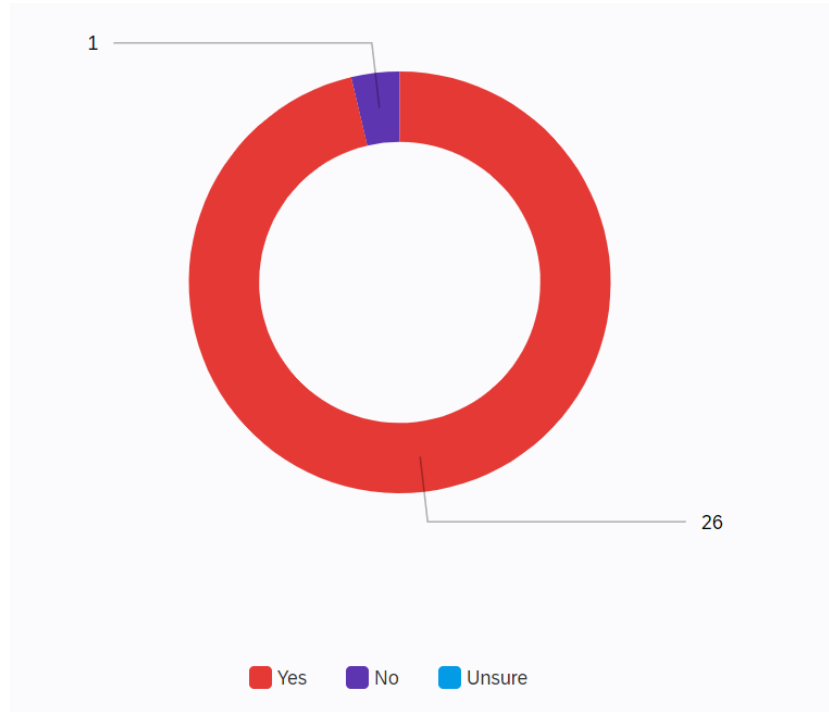


# Participant patient population





1. During your audiologic evaluation, do you actively look for red flags in behavior or development?





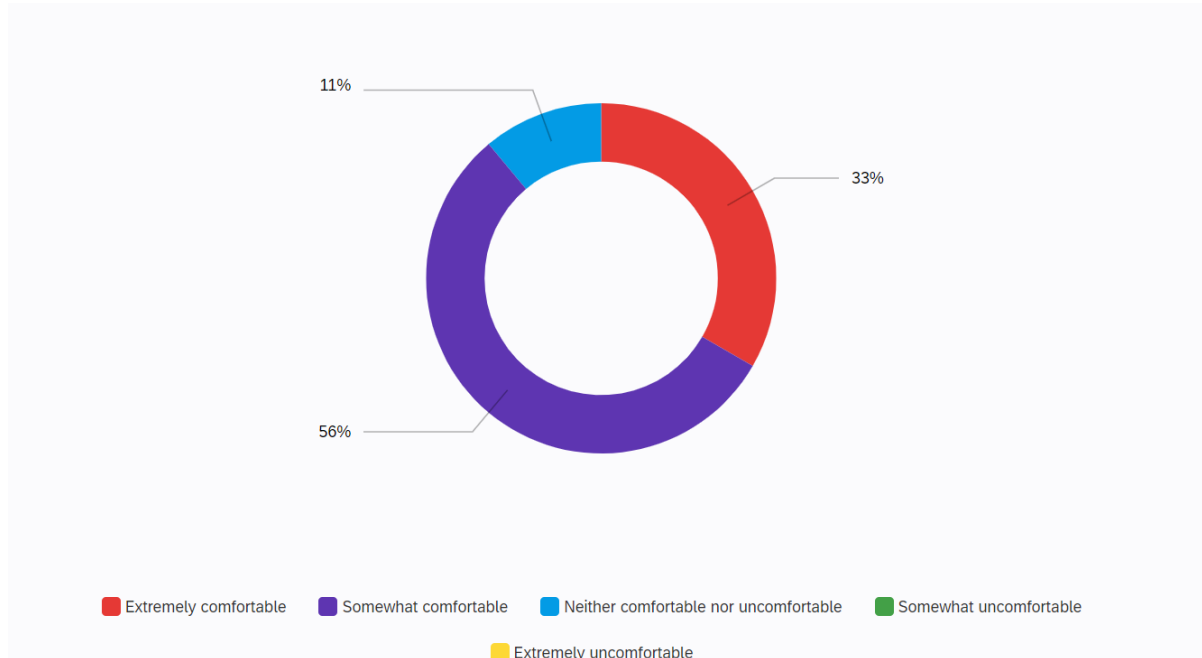
Follow up – if yes, what specifically do you look for?





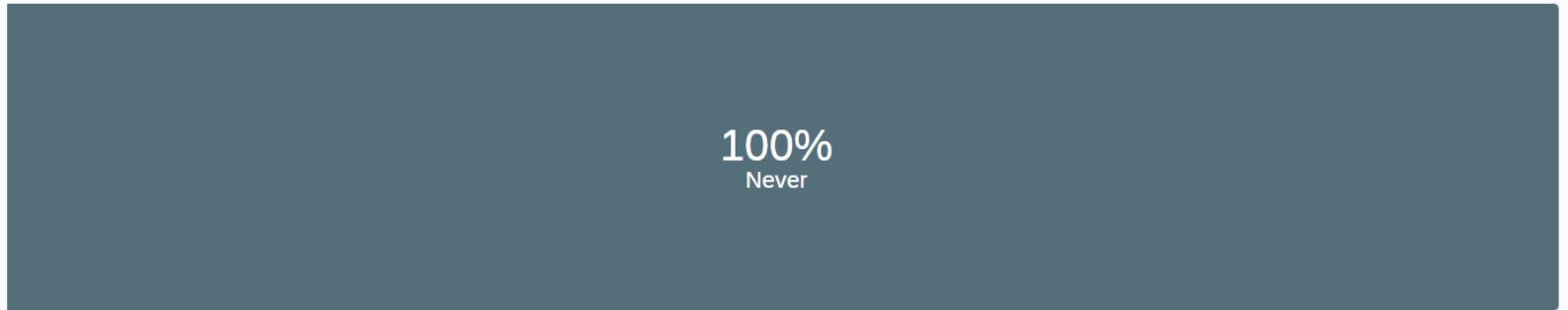


## 2. Do you feel comfortable identifying red flags for ASD?





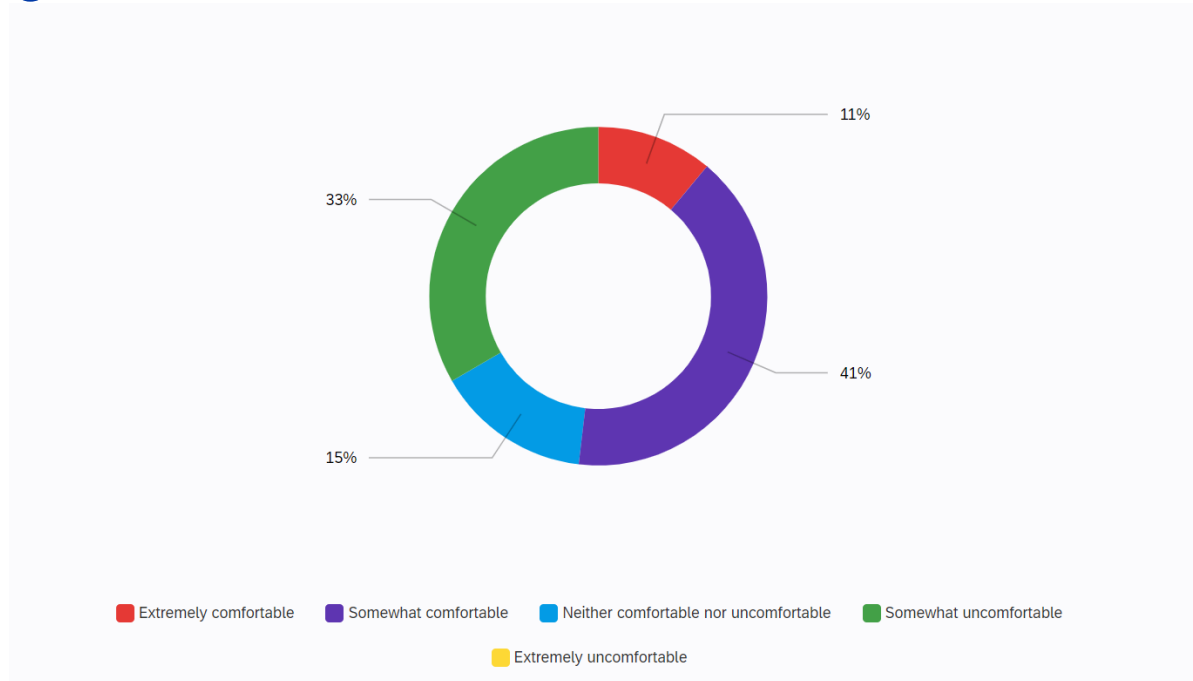
### 3. Do you use standardized screening tool for red flags of ASD?



Always Most of the time About half the time Sometimes Never

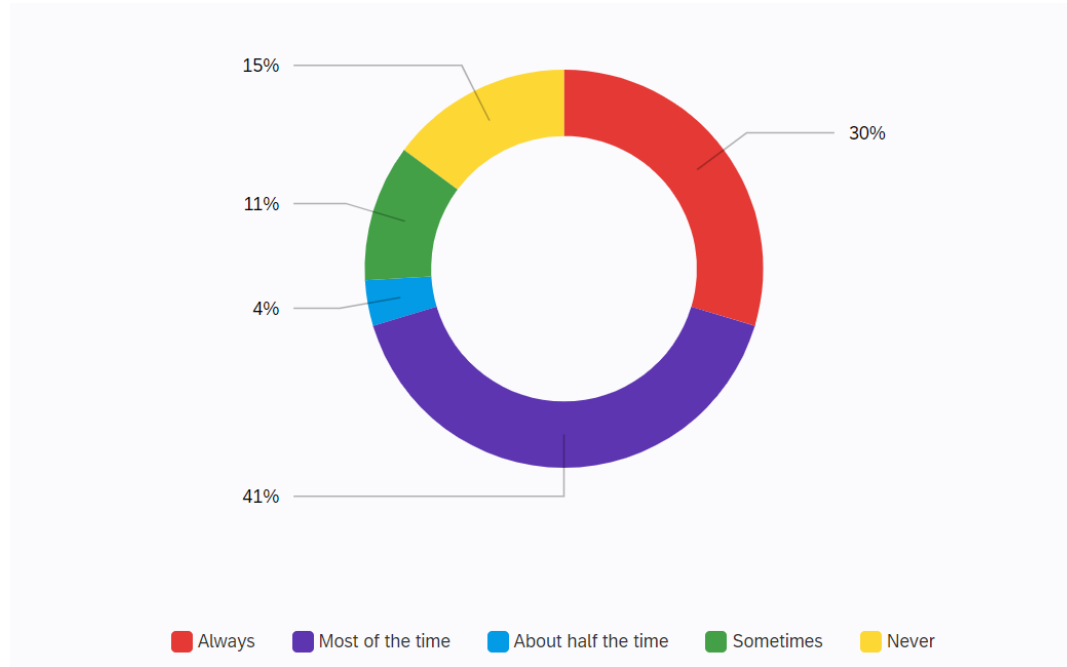


## 4. What is your comfort level talking to parents about red flags for ASD that you may observe during your audiological evaluation?





## 5. Are you actively providing referrals to other professionals regarding any concerns about red flags for ASD?

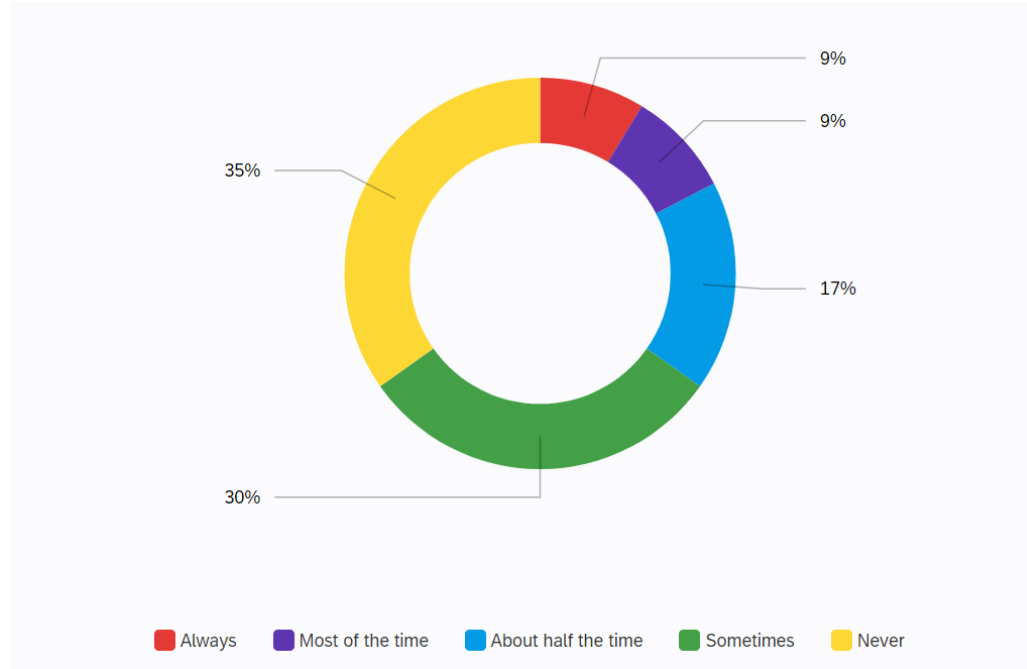




- If yes, who do you refer to?
  - PCP, Developmental pediatrician, OT, ST, psychologist
- What information do you include in your referral?
  - Audiogram and concerns seen during appointment

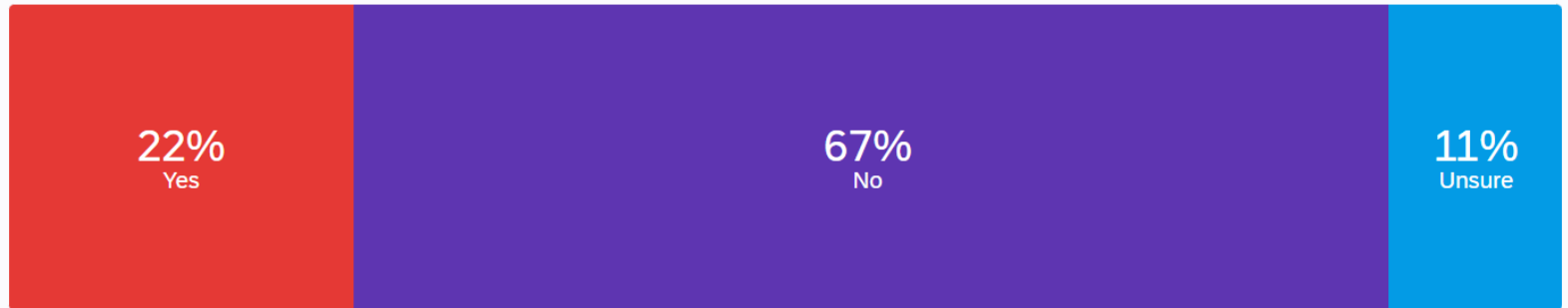


## 6. Do you follow-up with the family at a later date to see if they pursued an evaluation?





## 7. Are there behavioral and developmental professionals on staff who perform Autism Spectrum Disorder (ASD) evaluations?



■ Yes ■ No ■ Unsure



8. What information would be helpful for you to learn on this topic to increase your knowledge and clinical practice in serving children with ASD and their families?

- Available screening tools
- Updated referral list
- Other developmental disorders similar to ASD
- How to professionally communicate concerns to the family
- Techniques to use during appointments





## Overall survey takeaways

Great at identifying red flags

Not as comfortable communicating red flags

Referral numbers

Following up if referred











# Sources

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