

PARENT EXPERIENCES MONITORING AIDED AUDIBILITY

KAREN MUÑOZ & MAKYNZIE LARSEN
EHDI CONFERENCE, CHICAGO
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CHILDREN LEARNING
TO COMMUNICATE
THROUGH SPOKEN
LANGUAGE NEED
CONSISTENT ACCESS
TO SPEECH SOUNDS





...HOWEVER,
MULTIPLE FACTORS
CAN INTERFERE,
LIMITING
AUDIBILITY

MONITORING AUDIBILITY TAKES TEAM WORK

PARENTS

- Ensure consistent device use
- Routinely check device function
- Monitor child's responses to sound

Tomblin et al., 2015

AUDIOLOGISTS

- Appropriately program devices
- Routinely monitor hearing and devices
- Provide parent education and support

American Academy of Audiology (AAA), 2013; Seewald & Scollie, 2003

PARENT EXPERIENCES MONITORING AIDED HEARING FOR CHILDREN BIRTH TO 6 YEARS

Pediatric Hearing Aid Management: Parent Experiences Monitoring Children's Aided Hearing

This survey will help us better understand parent experiences monitoring how children, birth to six years of age, are hearing with their hearing aids. If you have more than one child that uses hearing aids, please complete a separate survey for each child. Completing the survey should take about 5-10 minutes.

Your experiences are important!

Information About Your Child

1. How old is your child?
2. How long has your child had his/her hearing aid(s)?
3. How many hours a day does your child typically wear his/her hearing aid(s)?
4. My child uses a BCHA or
5. My child's hearing loss is:
6. My child has other disabilities in addition to hearing loss:

Pediatric Bone-Conduction Hearing Aid Management: Parent Experiences Monitoring Children's Aided Hearing

This survey will help us better understand parent experiences monitoring how children, birth to six years of age, are hearing with their Bone-Conduction Hearing Aid (BCHA). If you have more than one child who uses a BCHA, please complete a separate survey for each child. Completing the survey should take about 5-10 minutes.

Information About You

7. How old are you?
8. I am my child's:
9. One or more of my child's caregivers has had a hearing loss since childhood:
10. My race is:
11. I live in:
12. What is your educational level?

Hearing Aid Use

13. How often do each of the following professionals talk with you about how many hours your child is wearing his/her hearing aid(s)?

Information About Your Child

1. How old is your child?
2. How long has your child had his/her hearing aid(s)?
3. How many hours a day does your child typically wear his/her hearing aid(s)?
4. My child uses a BCHA or
5. My child has other disabilities in addition to hearing loss:

Information About You

7. How old are you?
8. I am my child's:
9. One or more of my child's caregivers has had a hearing loss since childhood:
10. My race is:
11. I live in:
12. What is your educational level?

Bone Conduction Hearing Aid Use

13. How often do each of the following professionals talk with you about how many hours your child is wearing his/her BCHA?

Pediatric Cochlear Implant Management: Parent Experiences Monitoring Children's Aided Hearing

This survey will help us better understand parent experiences monitoring how children, birth to six years of age, are hearing with their cochlear implant(s). If you have more than one child who uses a cochlear implant, please complete a separate survey for each child. Completing the survey should take about 5-10 minutes.

Your experiences are important!

Information About Your Child

1. How old is your child?
2. How long has your child had his/her cochlear implant(s)?
3. How many hours a day does your child typically wear his/her cochlear implant(s)?
4. My child uses a cochlear implant in:
5. My child has other disabilities in addition to hearing loss:

Information About You

7. How old are you?
8. I am my child's:
9. One or more of my child's caregivers has had a hearing loss since childhood:
10. My race is:
11. I live in:
12. What is your educational level?

Cochlear Implant Use

Consistent use of cochlear implants is important for children to learn to speak. Having children wear their devices consistently can be hard for many different reasons. Getting information about cochlear implant use can help identify when there is a problem.

13. How often do each of the following professionals talk with you about how many hours your child is wearing his/her cochlear implant(s)?

178 Parents

HA	81
BCHA	36
CI	61

Manuscript under review

		HA	BCHA	CI
Child's age in months	M (SD)	41 (23.81)	44 (23.40)	47 (18.76)
Child has devices in both ears	% (n)	78% (63)	42% (15)	89% (54)
Child has additional disabilities	% (n)	27% (22)	31% (11)	16% (10)
Mother completed survey	% (n)	90% (73)	97% (35)	95% (58)
Mother's age	M (SD)	35 (5.35)	36 (6.62)	35 (5.12)
Mother has a college degree	% (n)	82% (66)	80% (29)	82% (50)
Mother identifies race as White	% (n)	88% (71)	78% (28)	85% (52)

PARTICIPANT CHARACTERISTICS

HEARING DEVICE USE FACTORS



Device Type	M (SD)	Range
HA	10 (3.17)	4 - 14
BCHA	10 (2.97)	5 - 16
CI	12 (3.16)	4 - 16

AVERAGE HOURS OF DAILY DEVICE USE

Device Use Factors	n	M (SD)	95% CI	p
Child age				<0.001
Early intervention age (0-35 months)	73	9.58(2.59)	8.97, 10.18	
Preschool age (36-60 months)	46	11.00 (2.53)	10.25, 11.75	
Early Elementary age (>60 months)	53	11.51 (2.47)	10.83, 12.19	
Device type				0.004
Hearing aid	78	10.08 (2.52)	9.51, 10.65	
Bone Conduction Hearing Aid	35	10.06 (2.92)	9.05, 11.06	
Cochlear Implant	59	11.47 (2.49)	10.82, 12.12	
Length of Time with Device				0.001
12 months or less	58	10.9 (2.50)	9.43, 10.74	
13-24 months	49	9.86 (2.59)	9.11, 10.60	
More than 24 months	65	11.49 (2.64)	10.84, 12.15	

EFFECTS OF CHILD AGE, DEVICE TYPE, AND LENGTH OF TIME WITH DEVICE ON TYPICAL HOURS HEARING DEVICE USE

Device Type	Yes	No
HA	39% (31)	60% (47)
BCHA	58% (21)	42% (15)
CI	79% (50)	21% (13)

GIVEN LOANER DEVICE DURING REPAIR

NEW EARMOLDS FOR CHILDREN 0-3 DURING THE PAST YEAR

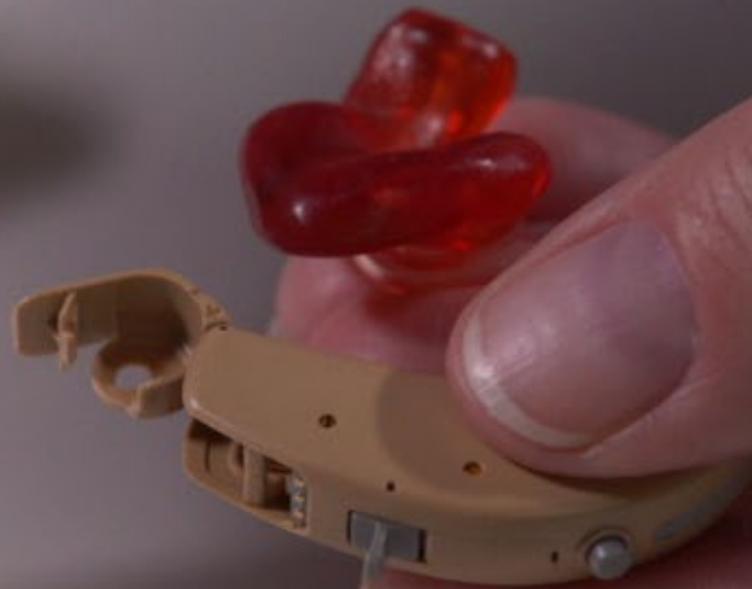


Frequency of replacement:

- **10% Never**
- 14% Once
- 24% Twice
- 24% Three times
- 28% Four times or more

31% 3-4 weeks shipping time

HEARING
DEVICE
MONITORING:
PARENT FACTORS



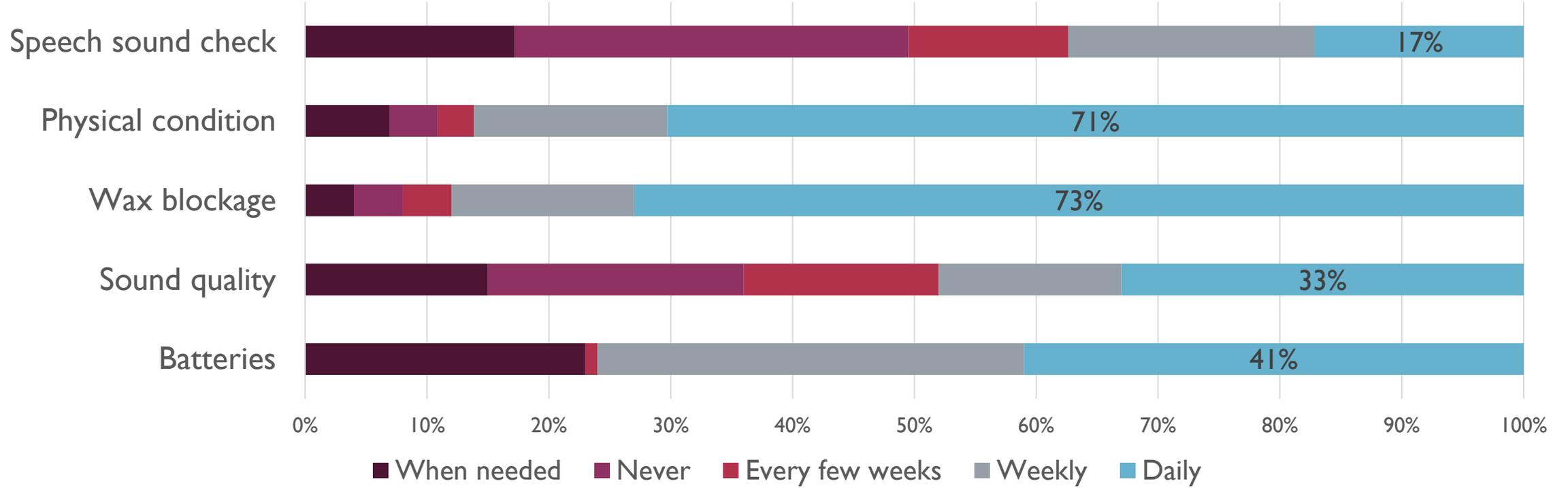
PARENT CONFIDENCE: OVERALL ITEMS BY DEVICE TYPE



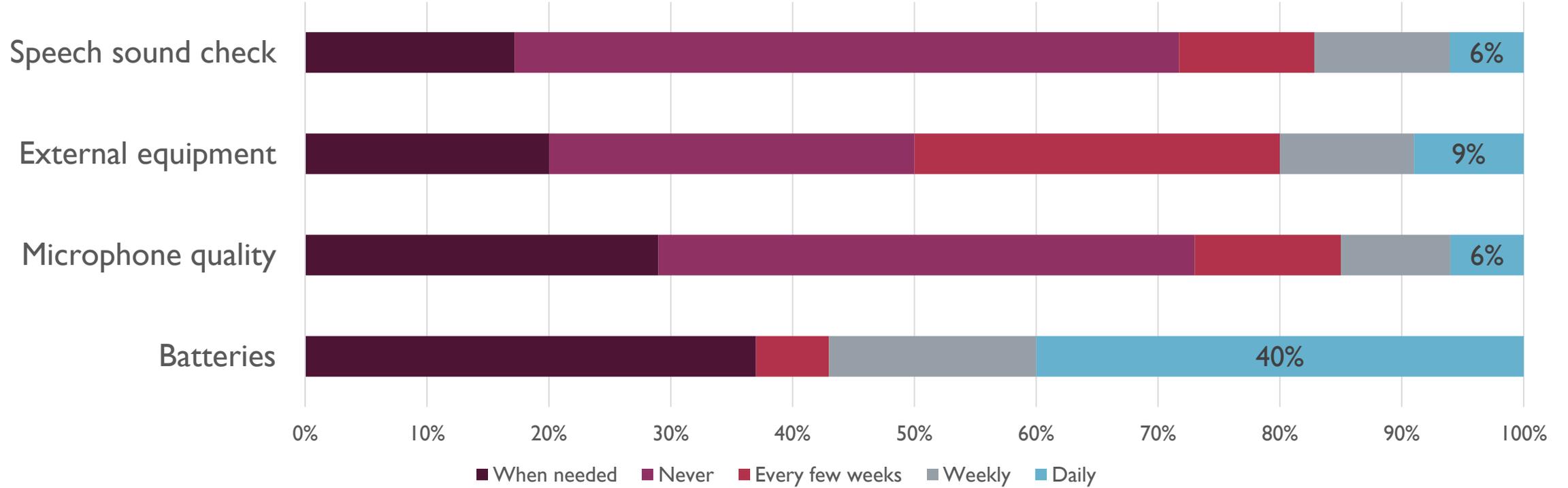
REPORTED LOWER THAN 50

- **HA: 44%**
- **BCHA: 17%**
- **CI: 5%**

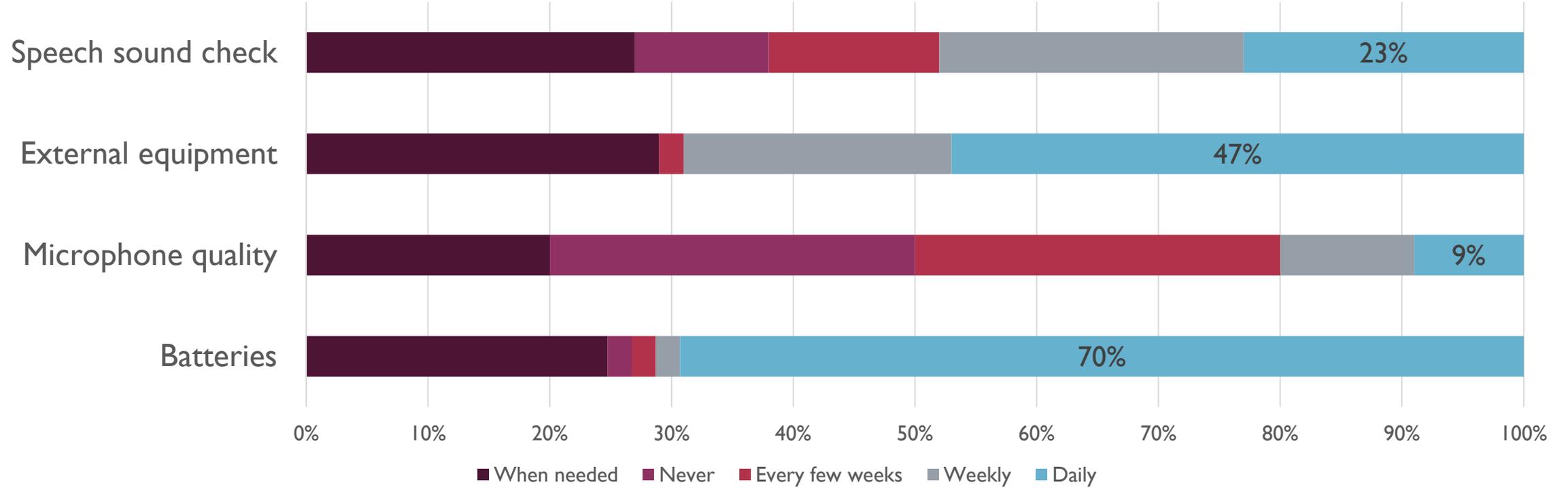
Scale: 0 (not confident at all) to 100 (completely confident)



HA FUNCTION: FREQUENCY CHECKED (N=75)



BCHA FUNCTION: FREQUENCY CHECKED (N=35)



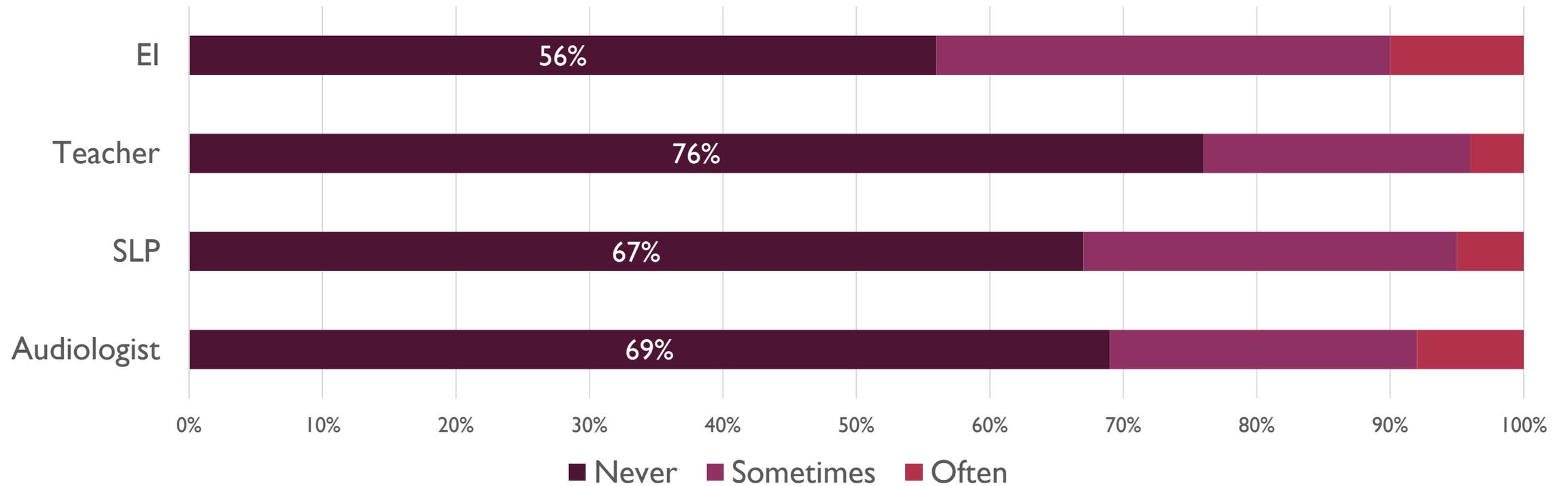
CI FUNCTION: FREQUENCY CHECKED (N=56)



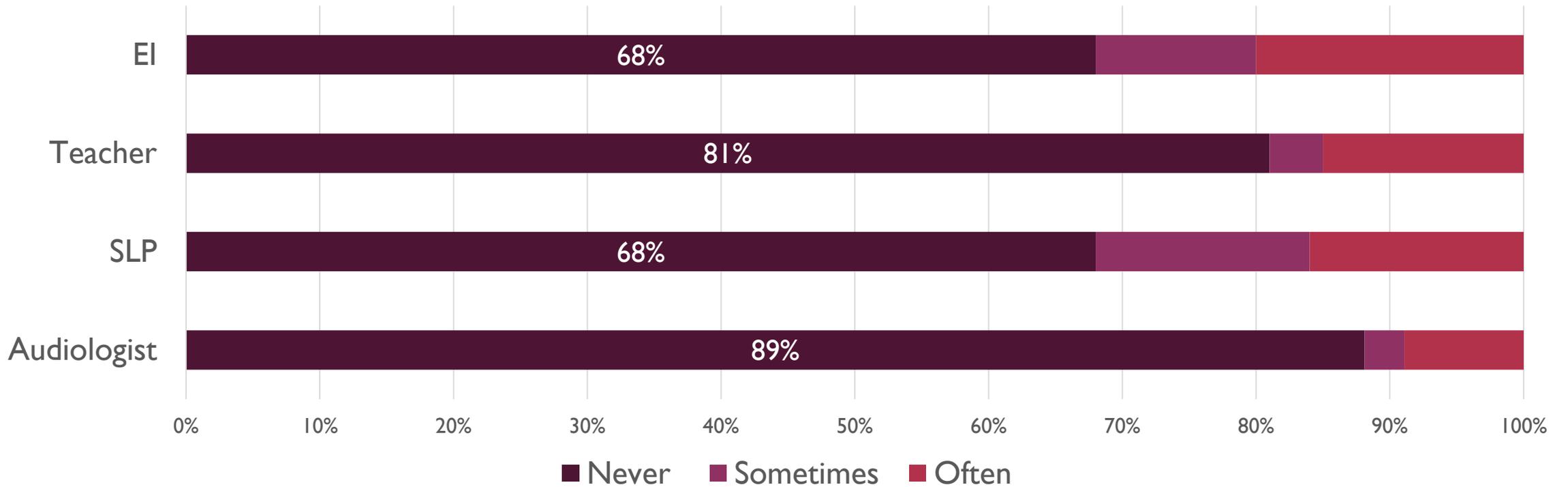
QUESTIONNAIRE
TO EXPLORE
BENEFIT:

PROFESSIONAL
REQUESTED

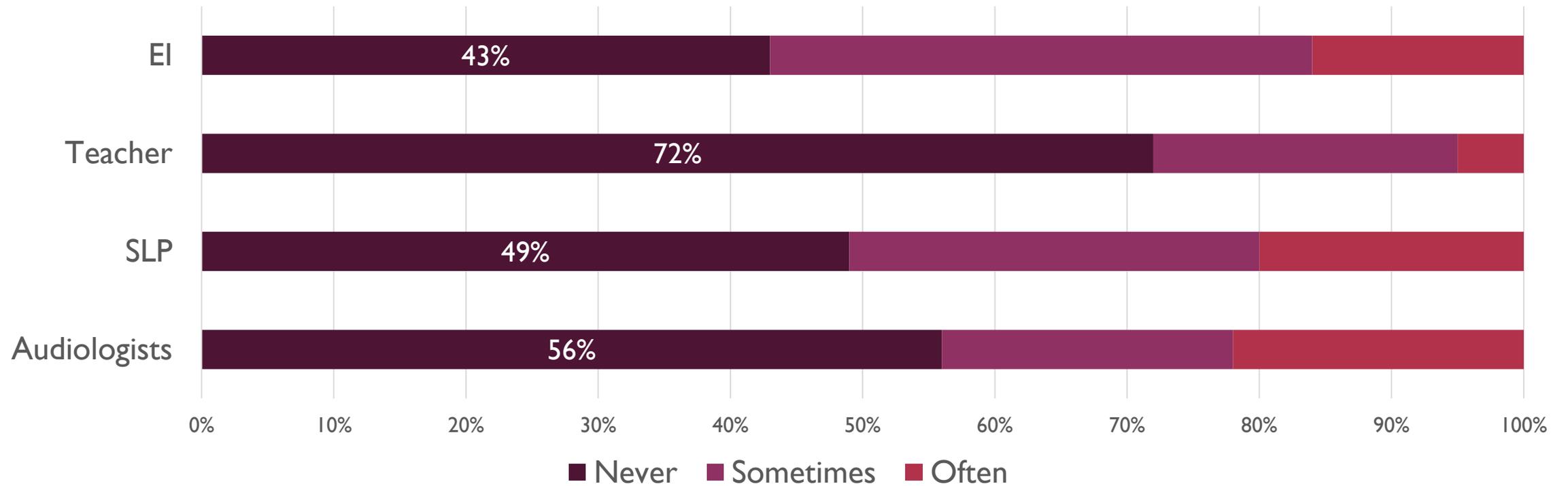
QUESTIONNAIRE COMPLETED: HEARING AIDS



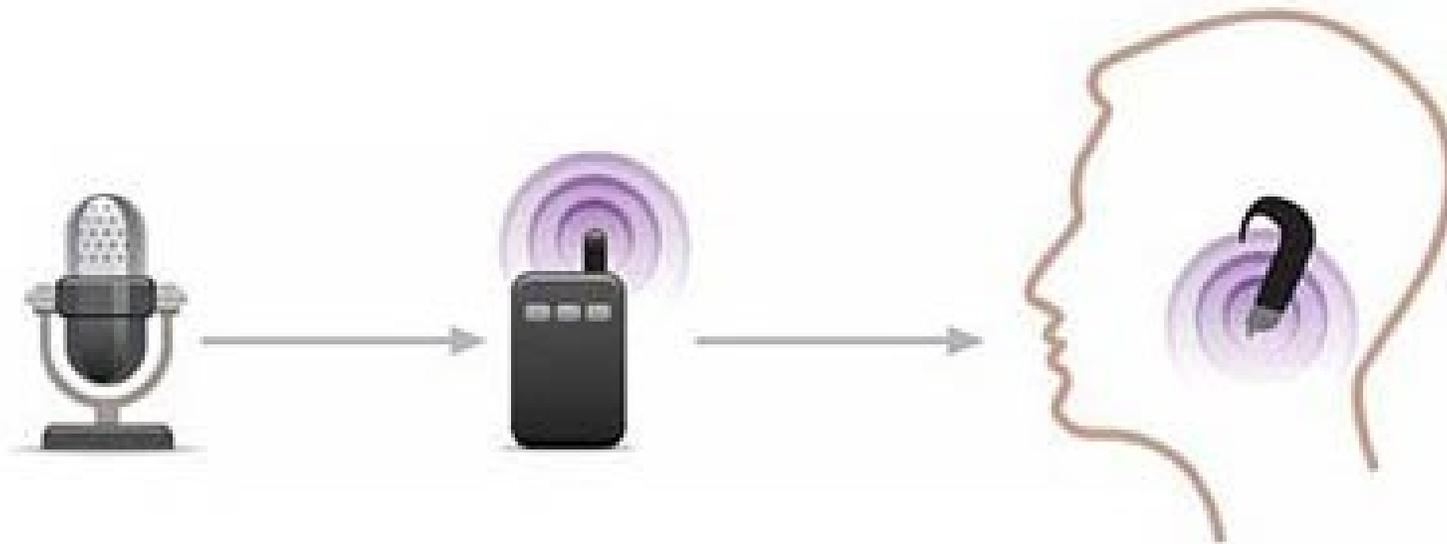
QUESTIONNAIRE COMPLETED: BONE CONDUCTION HEARING AIDS



QUESTIONNAIRE COMPLETED: COCHLEAR IMPLANTS



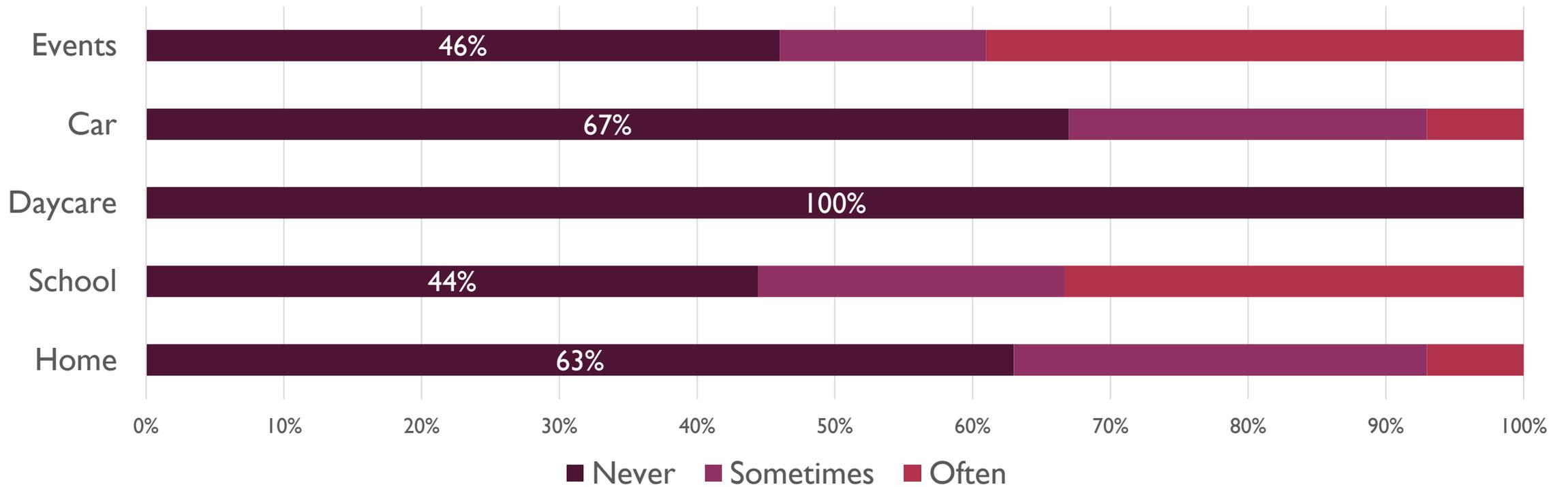
PERSONAL FM SYSTEM



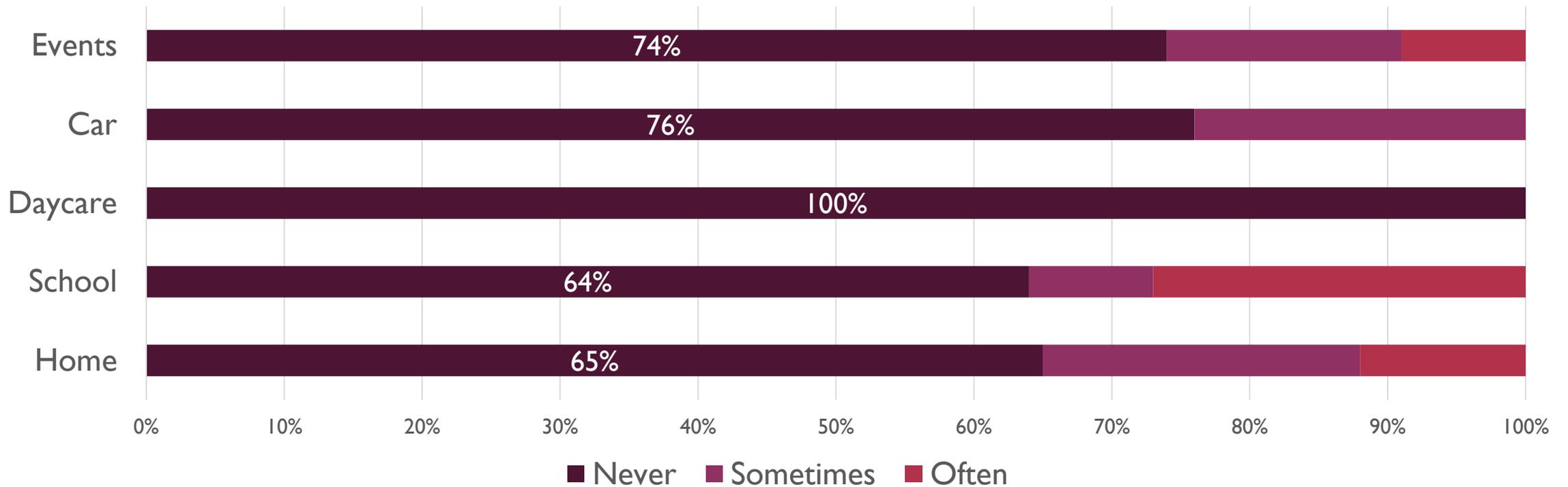
	Yes	No
HA (n=130)	39%	60%
BCHA (n=36)	58%	42%
CI (n=63)	71%	21%

CHILDREN WHO HAVE PERSONAL FM SYSTEMS

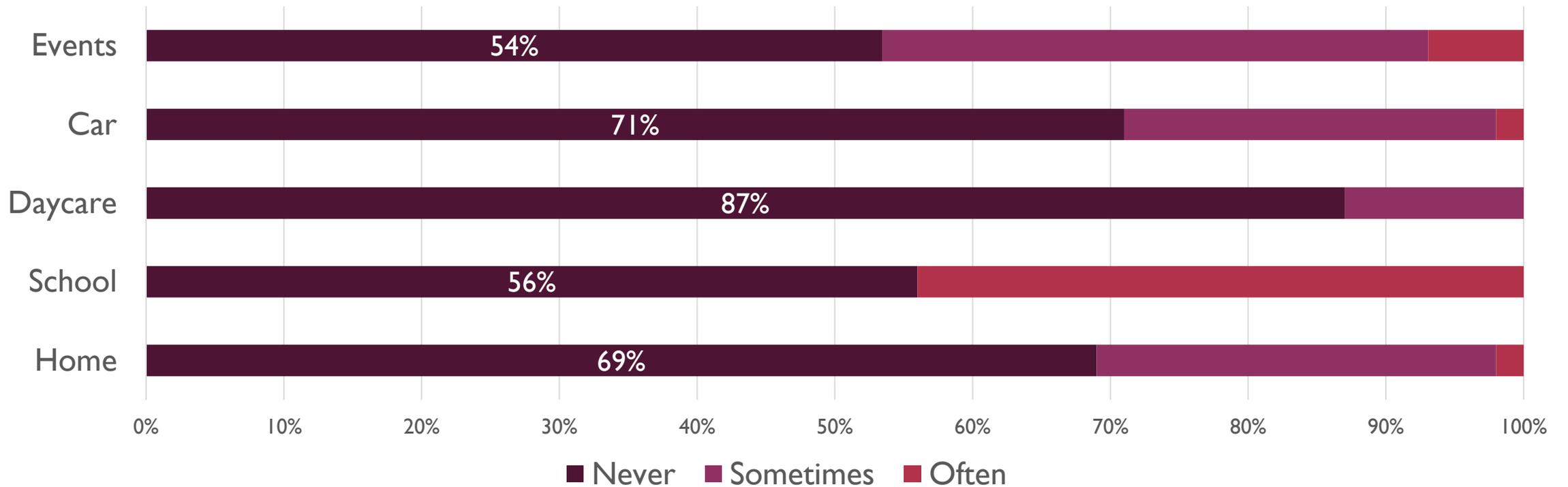
FREQUENCY OF FM USE: HEARING AIDS



FREQUENCY OF FM USE: BONE CONDUCTION HEARING AIDS



FREQUENCY OF FM USE: COCHLEAR IMPLANTS



CHALLENGES

Child-related challenges

“At 3 years old it’s tough to tell if there is a problem with the aid settings or if my child just doesn’t want to wear them.”

Parent-related challenges

“Knowing what he’s hearing without the hearing aids in and what is developing because of the hearing aids.”

Device-related challenges

“I just have to assume that it is programmed correctly and is not too loud for my son.”

ADVICE

Parent education & support

”Explain as much as possible in terms parents understand. For many parents this is a new journey and we are trying to learn what we can to make the best decisions possible and support our child.”

Relationship with parents

”Be patient. Be positive. Be open to our wants and needs”

Professional practices

“Be as detailed as possible in your exams/appointment.”

TAKE AWAY POINTS

Consistent Audibility at Risk

Hours of use varies

Other factors interrupt access

Parent-Professional Partnerships Essential for Monitoring Audibility

Parents have education and support needs

Ongoing collaboration and
communication needed



Resources for Parents and Professionals



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One Step at a Time**
Hearing-Language-Literacy



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QUESTIONS