

In Re: 3M Combat Arms Earplug Products Liability Litigation Case No. 3:19md2885

Data Day | February 23, 2023

AGENDA

- 1. Census Form and DOEHRIS Data**
- 2. Hearing Loss Approach 1**
- 3. Hearing Loss Approach 2**
- 4. Hearing Loss Approach 3**
- 5. Hearing Loss Approach 4**
- 6. Comparison of Hearing Loss Approaches**
- 7. Tinnitus Approach 1**
- 8. Tinnitus Approach 2**
- 9. Comparison of Tinnitus Approaches**

Census Form and DOEHRS Data

Total Plaintiffs in MDL

382,474



Dismissed/Withdrawn/Closed

147,876



Active Plaintiffs in MDL

234,598

Status	Active Plaintiffs
Census Form Submitted	228,413
No Census Form Submitted	6,185
Total Active Plaintiffs	234,598

Census Form Question 2

2. Did the claimant serve in the military and/or armed forces?

Yes No

If yes:

a. Identify each branch the claimant served in, and the dates of service in each branch:

Branch	Start Date	End Date
<input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="checkbox"/> Present
<input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>

Census Form Question 2

b. Identify each of the claimant's duty stations between 2000 and present:

Duty Station	Military Occupational Specialty	Used Combat Arms Earplugs?	Start Date	End Date
		<input type="checkbox"/>	<input type="text"/>	<input type="text"/> <input type="checkbox"/> Present
		<input type="checkbox"/>	<input type="text"/>	<input type="text"/> <input type="checkbox"/> Present

Addendum A to Census Form

2. Did the claimant serve in the military and/or armed forces?

Yes No

3. If yes, identify each branch the claimant served in, the dates of service in each branch and the use of CAEv2 Combat Arms earplugs. Answers that you previously provided on a Census Form have been pre-filled in. If necessary, you can update this information below. Also make sure to answer questions regarding the use of Combat Arms earplugs for each branch service:

Branch	Start Date	End Date	Used Combat Arms Earplugs
<input type="text" value=""/>	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/>	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="checkbox"/> Present	<input type="text" value=""/>
<input type="text" value=""/>	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/>	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/>	<input type="text" value=""/>

6. Identify the physical injuries claimant sustained as a result of using CAEv2 earplugs:

Total Hearing Loss, Left Ear

Total Hearing Loss, Right Ear

Percentage/grade of hearing loss, if known:

Partial Hearing Loss, Left Ear

Partial Hearing Loss, Right Ear

Percentage/grade of hearing loss, if known:

Tinnitus, Left Ear

Tinnitus, Right Ear

Tinnitus - Extent Unknown

Other—Specify:

7. Identify the approximate year on which the claimant first noticed:
- a. that the CAEv2 was not providing adequate protection from loud noises;
Year:
 - b. the injury described in response to Question No. 6 above.

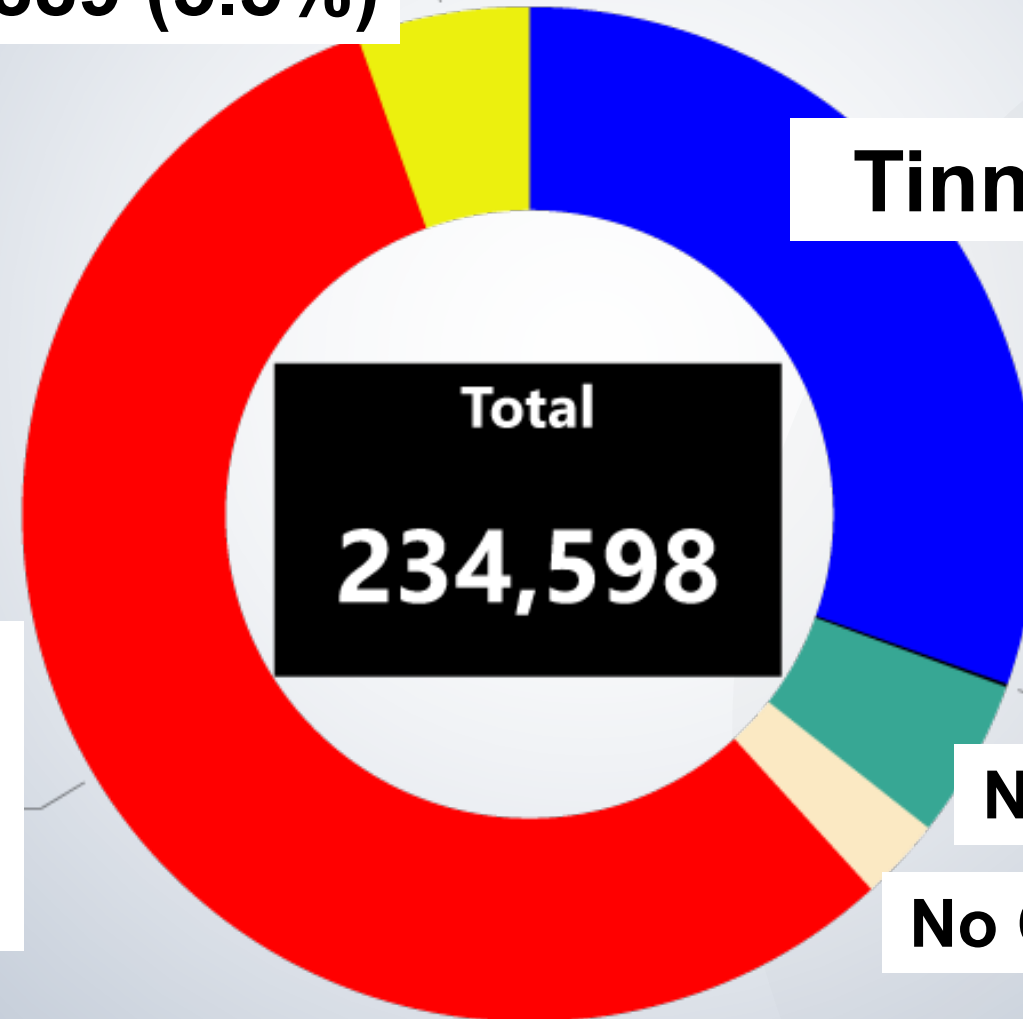
Injury described in response to Question No. 6	Approx. year first noticed injury
	<input type="text"/> <input type="text"/> <input type="text"/>
Total Hearing Loss, Left Ear	<input type="text"/> <input type="text"/> <input type="text"/>
Total Hearing Loss, Right Ear	<input type="text"/> <input type="text"/> <input type="text"/>
Partial Hearing Loss, Left Ear	<input type="text"/> <input type="text"/> <input type="text"/>
Partial Hearing Loss, Right Ear	<input type="text"/> <input type="text"/> <input type="text"/>
Tinnitus, Left Ear	<input type="text"/> <input type="text"/> <input type="text"/>
Tinnitus, Right Ear	<input type="text"/> <input type="text"/> <input type="text"/>

Figure 1. Active Plaintiffs: Injury Asserted in Census Form

Hearing Loss 12,889 (5.5%)

Tinnitus 71,408 (30.4%)

Hearing Loss
and Tinnitus
131,992 (56.3%)



Other 242 (0.1%)

Not Specified 11,882 (5.1%)

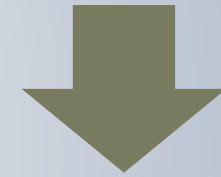
No Census Form 6,185 (2.6%)

DOEHRS:



- D** - Defense
- O** - Occupational
- E** - Environmental
- H** - Health
- R** - Readiness
- S** - System

DOEHRS Request	Date(s) of Production
5/19/2020	1/14/2021
7/15/2021	8/4/2021; 9/1/2021
2/10/2022	7/12/2022; 9/8/2022
1/27/2023	TBD

Active Plaintiffs in MDL—DOEHRS Data Returned?**234,598****DOEHRS Data
Returned****178,040****Submitted
but No Data
Returned****12,042****Submitted in
January 2023
Request****30,636****Not
Submitted
13,880**

Active Plaintiffs with DOEHRIS Data Returned

178,040



**Asserted
Hearing Loss**

112,257

**Asserted
Tinnitus Only**

56,159

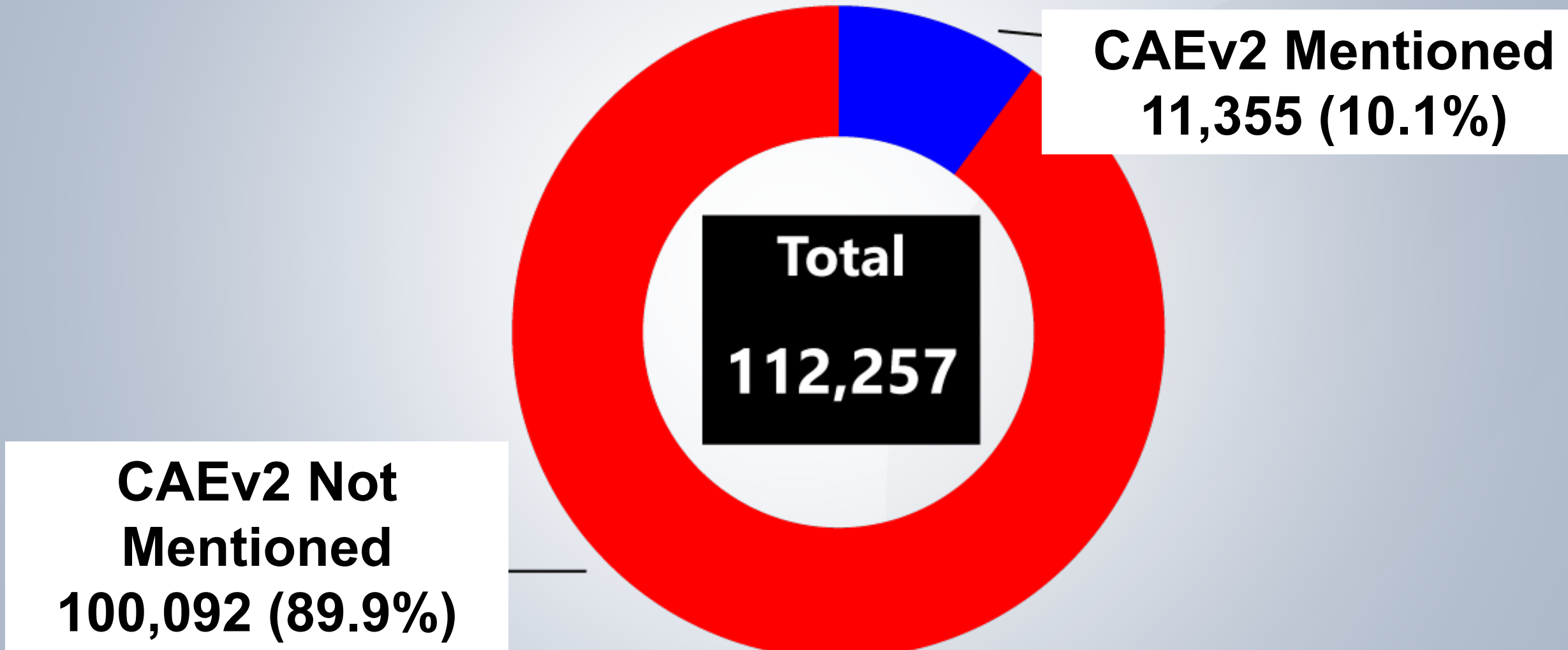
**Injury Not
Specified**

9,624

DOEHRS-HC DATA DESCRIPTIONS

<u>Field Name</u>	<u>Data Type</u>	<u>Definition</u>
AUDIO_DATE	VARCHAR2(18)	Audiogram Test Date. DD-MMM-YY HH:MM:SS
AUDIO_AUDIO_TYPE	VARCHAR2(20)	Audiogram Type code for hearing tests. Possible values: 0 - Manually Entered; 1 - Reference; 2 - 90-day; 3 - Annual; 4 - Termination; 5 - Follow-up 1; 6 - Follow-up 2; 8 - Non Hearing Conservation; 9 - Other; 10 - Pre Deployment; 11 - Post Deployment.
AUDIO_PURPOSE_DESC	VARCHAR2(50)	Reason for test. This will contain the description for the AUDIO_AUDIO_TYPE value (see above).
INSTALL_INSTALLATION_NAME	VARCHAR2(60)	Test Installation Name
INSTALL_INSTALLATION_ZIP	VARCHAR2(20)	Test Installation Zip/Pas/UIC.
AUEAR	VARCHAR2(2)	Left or Right
AU10	VARCHAR2(4)	1K Threshold
AU20	VARCHAR2(4)	2K Threshold
AU30	VARCHAR2(4)	3K Threshold
AU40	VARCHAR2(4)	4K Threshold
AU5	VARCHAR2(4)	0.5K Threshold
AU60	VARCHAR2(4)	6K Threshold
AU80	VARCHAR2(4)	8K Threshold
AUM10	VARCHAR2(1)	1K Threshold Manually Entered? ("t" or "Y" for Yes, "f" or "N" for No)
AUM20	VARCHAR2(1)	2K Threshold Manually Entered? ("t" or "Y" for Yes, "f" or "N" for No)
AUM30	VARCHAR2(1)	3K Threshold Manually Entered? ("t" or "Y" for Yes, "f" or "N" for No)
AUM40	VARCHAR2(1)	4K Threshold Manually Entered? ("t" or "Y" for Yes, "f" or "N" for No)
AUM5	VARCHAR2(1)	0.5K Threshold Manually Entered? ("t" or "Y" for Yes, "f" or "N" for No)
AUM60	VARCHAR2(1)	6K Threshold Manually Entered? ("t" or "Y" for Yes, "f" or "N" for No)
AUM80	VARCHAR2(1)	8K Threshold Manually Entered? ("t" or "Y" for Yes, "f" or "N" for No)
PER_BIRTH_DATE	VARCHAR2(9)	Patient Birth Date
PER_DOD_COMP	VARCHAR2(1)	Patient DoD Component
PER_NAME_FIRST	VARCHAR2(25)	Patient First Name
PER_NAME_LAST	VARCHAR2(30)	Patient Last Name
PER_NAME_MIDDLE	VARCHAR2(25)	Patient Middle Initial
PER_PAYGRADE	VARCHAR2(4)	Patient Paygrade
PER_SDOC	VARCHAR2(10)	Subject's job code AFSC/MOS/NEC/UIC/CS Series.
PER_SERV_COMP	VARCHAR2(1)	Patient Service Component
PER_SEX_CATEGORY	VARCHAR2(1)	Patient Gender
PER_SSN	VARCHAR2(16)	Patient IDN(SSN)

Figure 2. Combat Earplugs Mentioned in DOEHRS Data on Plaintiffs?



HEARING LOSS APPROACHES USING DOEHR'S DATA

	APPROACH	MEASURING	STARTING AUDIOGRAM	ENDING AUDIOGRAM
1.	HL Approach 1	Shifts	First in Data	Last in Data
2.	HL Approach 2	Shifts	Reference AG Nearest Start of Earplug Use	AG Nearest End of Earplug Use
3.	HL Approach 3	AMA Impairment	First in Data	Last in Data
4.	HL Approach 4	AMA Impairment	Reference AG Nearest Start of Earplug Use	AG Nearest End of Earplug Use

HL APPROACH 1: Shifts Between First and Last Audiograms

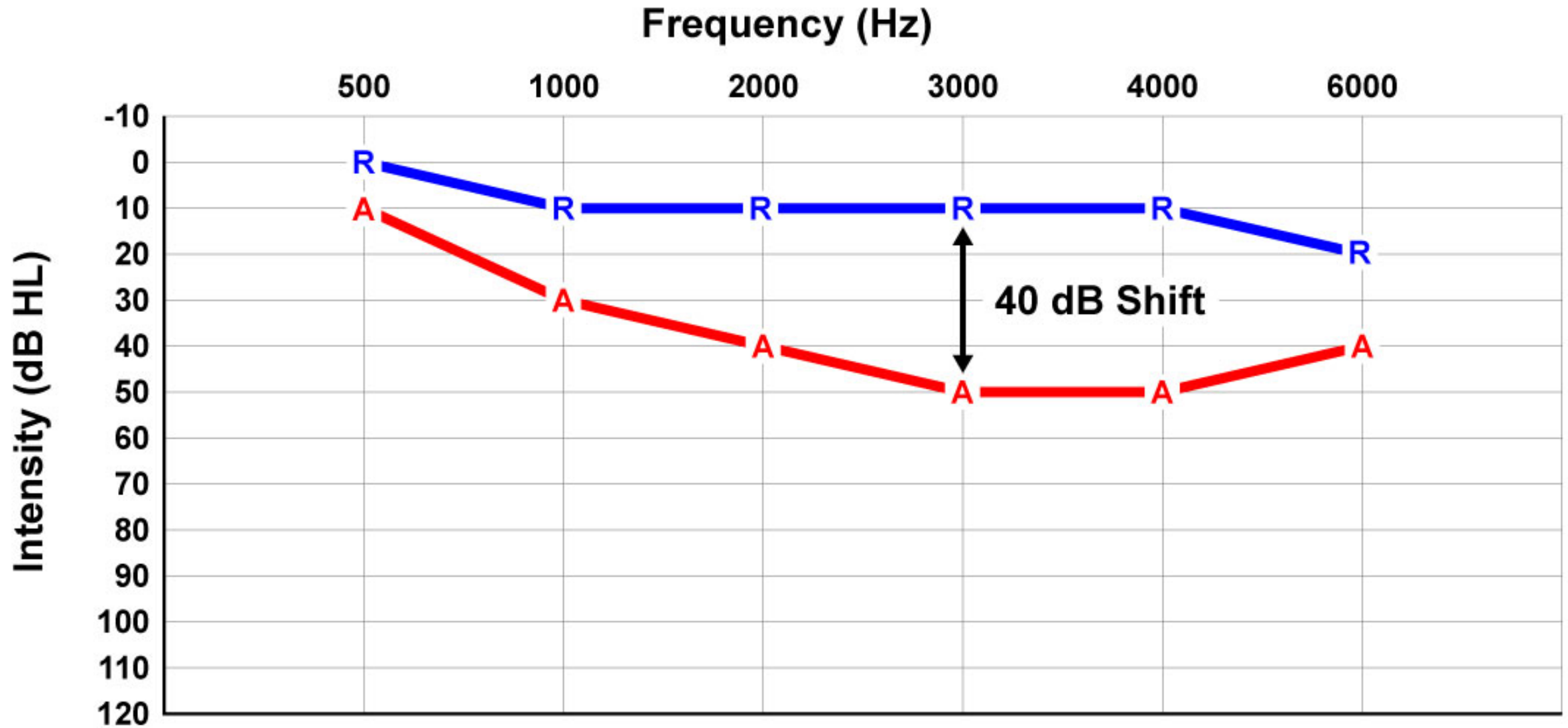
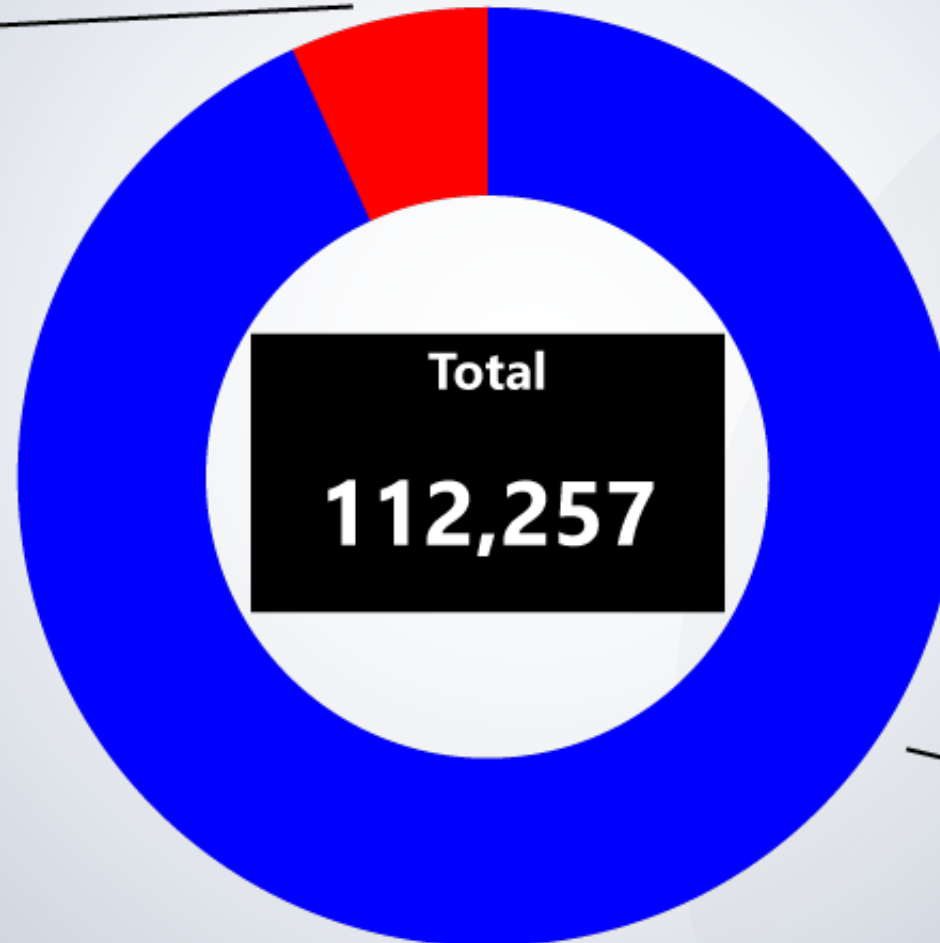


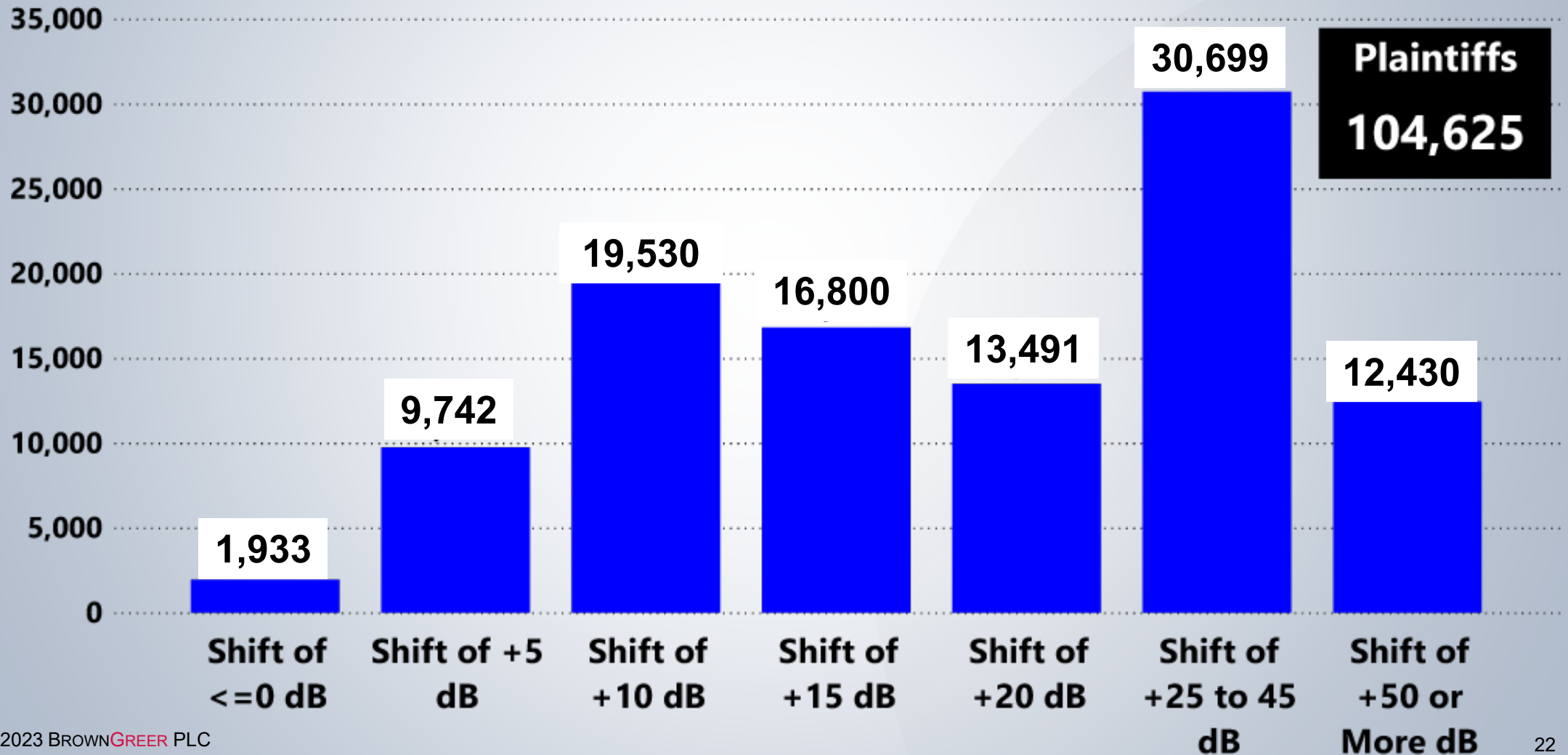
Figure 3. Plaintiffs Analyzed in HL Approach 1

**Only One
AG 7,632
(6.8%)**



**More than One
AG 104,625
(93.2%)**

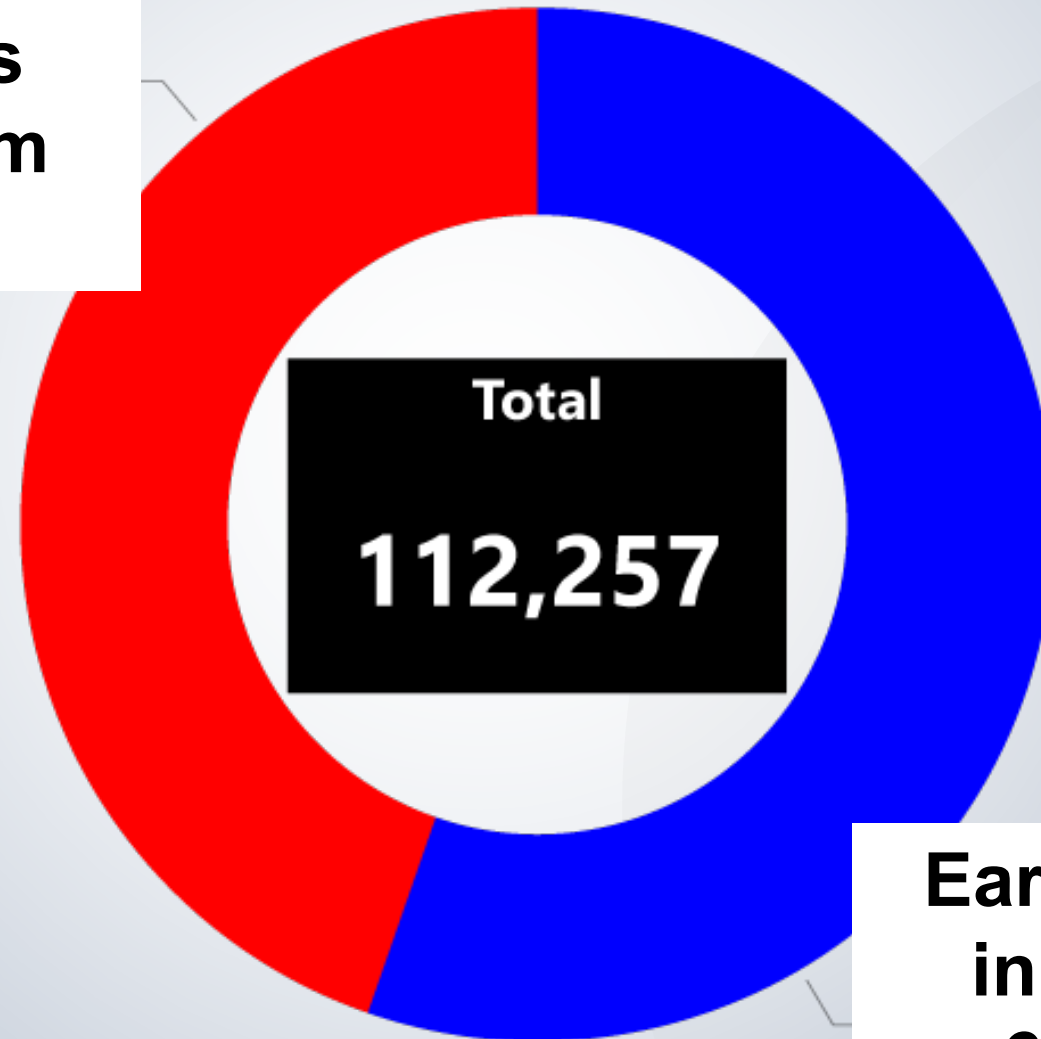
Figure 4. HL Approach 1: Maximum Threshold Shift(s) Between First and Last AG



HL APPROACH 2: Shifts Between Earplugs Start Use and End Use

Figure 5. Plaintiffs Analyzed in Approach 2

**Earplug Use Dates
Not in Census Form
50,146 (44.7%)**



**Earplug Use Dates
in Census Form
62,111 (55.3%)**

Reference AG: Audiogram Report Documents

DD-2216

DD-2215

HEARING CONSERVATION DATA										1. ZIP CODE/APO/FPO/PAS				
<i>(This form is subject to the Privacy Act of 1974 - use Blanket PAS - DD Form 2005)</i>														
2. DOD COMPONENT A - ARMY F - AIR FORCE 1 - OTHER DOD N - NAVY M - MARINE CORPS ACTIVITY						3. SERVICE COMPONENT R - REGULAR G - NATIONAL GUARD V - RESERVE 1 - OTHER								
4. SOCIAL SECURITY NUMBER				5. NAME (Last, First, Middle Initial)						6. DATE OF BIRTH (YYYYMMDD)			7. SEX M - MALE F - FEMALE	
8. PAY GRADE, UNIFORMED SERVICES		9. PAY GRADE, CIVILIAN		10. SERVICE DUTY OCCUPATION CODE			11. MAILING ADDRESS OF ASSIGNMENT							
12. LOCATION - PLACE OF WORK						13. MAJOR COMMAND			14. DUTY TELEPHONE (Include area code)					
15. AUDIOMETRY		a. PURPOSE 1 - 90 DAY 2 - ANNUAL 3 - TERMINATION 4 - OTHER												
AUDIOMETRIC DATA RE: ANSI S3.6 - 1989			LEFT						RIGHT					
			500	1000	2000	3000	4000	6000	500	1000	2000	3000	4000	6000
b. CURRENT AUDIOGRAM DATE (YYYYMMDD)														
c. REFERENCE AUDIOGRAM DATE (YYYYMMDD)														
d. SIGNIFICANT THRESHOLD SHIFT (STS) 1 - NO 2 - YES		e. THRESHOLD SHIFT →												
f. REMARKS (Include exposure data)														
g. TYPE OF PERSONAL HEARING PROTECTION USED 1 - SINGLE FLANGE (VS1R) 2 - TRIPLE FLANGE 3 - HAND FORMED EARPLUGS 4 - EAR CANAL CAPS 5 - NOISE MUFFS 6 - OTHER														
h. EXAMINER NAME (Last, First, Middle Initial)						i. TRAINING CERTIFICATE NO.		j. SERVICE DUTY OCCUPATION CODE			k. OFFICE SYMBOL			
l. AUDIOMETER TYPE 1 - MANUAL 2 - SELF-RECORDING (Automatic) 3 - MICROPROCESSOR		m. MODEL		n. MANUFACTURER				o. SERIAL NUMBER			p. LAST ELECTROACOUSTIC CALIBRATION DATE (YYYYMMDD)			
16. FOLLOWUP NO. 1			a. MINIMUM 14 HOURS NOISE FREE SINCE CURRENT AUDIOGRAM (See item 15.b.)											
AUDIOMETRIC DATA RE: ANSI S3.6 - 1989			LEFT						RIGHT					
			500	1000	2000	3000	4000	6000	500	1000	2000	3000	4000	6000
b. CURRENT AUDIOGRAM DATE (YYYYMMDD)														
c. REFERENCE AUDIOGRAM DATE (YYYYMMDD)														
d. SIGNIFICANT THRESHOLD SHIFT (STS) 1 - NO 2 - YES		e. THRESHOLD SHIFT →												
f. EXAMINER NAME (Last, First, Middle Initial)						g. TRAINING CERTIFICATE NO.		h. SERVICE DUTY OCCUPATION CODE			i. OFFICE SYMBOL			
j. AUDIOMETER TYPE 1 - MANUAL 2 - SELF-RECORDING (Automatic) 3 - MICROPROCESSOR		k. MODEL		l. MANUFACTURER				m. SERIAL NUMBER			n. LAST ELECTROACOUSTIC CALIBRATION DATE (YYYYMMDD)			
17. FOLLOWUP NO. 2			a. MINIMUM 14 HOURS NOISE FREE SINCE CURRENT AUDIOGRAM (See item 15.b.)											
AUDIOMETRIC DATA RE: ANSI S3.6 - 1989			LEFT						RIGHT					
			500	1000	2000	3000	4000	6000	500	1000	2000	3000	4000	6000
b. CURRENT AUDIOGRAM DATE (YYYYMMDD)														
c. REFERENCE AUDIOGRAM DATE (YYYYMMDD)														
d. SIGNIFICANT THRESHOLD SHIFT (STS) 1 - NO 2 - YES		e. THRESHOLD SHIFT →												
f. EXAMINER NAME (Last, First, Middle Initial)						g. TRAINING CERTIFICATE NO.		h. SERVICE DUTY OCCUPATION CODE			i. OFFICE SYMBOL			
j. AUDIOMETER TYPE 1 - MANUAL 2 - SELF-RECORDING (Automatic) 3 - MICROPROCESSOR		k. MODEL		l. MANUFACTURER				m. SERIAL NUMBER			n. LAST ELECTROACOUSTIC CALIBRATION DATE (YYYYMMDD)			

INSTRUCTIONS

(Refer to DoD Component Instructions for additional guidance)

PURPOSE: This form is used to record the results of periodic and followup audiometry for individuals routinely exposed to hazardous noise. Before this form is used, a DD Form 2215, "Reference Audiogram," must already be filed in the individual's health record.

- 1. ZIP CODE/APO/FPO/PAS.** Enter nine digit ZIP Code/APO/FPO/ PAS of where audiometric test is conducted.
- 2. DOD COMPONENT.** Enter letter in box of major organizational subdivision of DoD to which military or civilian individual is assigned. Enter "1" if DoD component is not listed.
- 3. SERVICE COMPONENT.** Enter letter in box corresponding to primary subdivision of separate military service in which military is assigned (e.g., Regular (R) - standing military component of armed forces in peace and war; Reserve (V) - component of ready trained personnel for military service when needed, etc.; National Guard (G) - component of National Guard personnel in full-time or part-time status). Enter "1" for all others not listed.
- 4. SOCIAL SECURITY NUMBER.** Enter nine digit social security number. If foreign national, enter "FN" in middle two blocks.
- 5. NAME.** Enter surname, given name and middle initial of individual being tested.
- 6. DATE OF BIRTH.** Enter year, month, day.
- 7. SEX.** Enter "M" if male, "F" if female.
- 8. PAY GRADE, UNIFORMED SERVICES.** For military personnel only, enter military personnel class and pay level serial number as follows:
 - O11 - General of the Army/General of the Air Force/Fleet Admiral
 - O10 - General/Admiral
 - O09 - Lieutenant General/Vice Admiral
 - O08 - Major General/Rear Admiral (Upper Half)
 - O07 - Brigadier General/Rear Admiral (Lower Half)/Commodore
 - O06 - Colonel (A,F,M)/Captain (N)
 - O05 - Lieutenant Colonel/Commander
 - O04 - Major/Lieutenant Commander
 - O03 - Captain (A,F,M)/Lieutenant (N)
 - O02 - First Lieutenant/Lieutenant Junior Grade
 - O01 - Second Lieutenant/Ensign
 - W05 - Chief Warrant Officer, W-5
 - W04 - Chief Warrant Officer, W-4
 - W03 - Chief Warrant Officer, W-3
 - W02 - Chief Warrant Officer, W-2
 - W01 - Warrant Officer, W-1
 - C00 - Cadet/Midshipman
 - E09 - Sergeant Major/Chief Master Sergeant/Master Chief Petty Officer
 - E08 - Master Sergeant (A,M)/Senior Chief Petty Officer/Senior Master Sergeant/First Sergeant(A)
 - E07 - Sergeant First Class/Gunnery Sergeant/Chief Petty Officer/Master Sergeant (F)/Platoon Sergeant (A)/Specialist-7
 - E06 - Staff Sergeant/Technical Sergeant/Petty Officer First Class/Specialist-6
 - E05 - Sergeant (A,M)/Staff Sergeant/Petty Officer Second Class/Specialist-5
 - E04 - Corporal/Sergeant (F)/Petty Officer Third Class/Specialist-4
 - E03 - Private First Class (A)/Airman First Class/Lance Corporal/Seaman
 - E02 - Private (PV1)/Airman/Private First Class (M)/Seaman Apprentice
 - E01 - Private (PV2)/Private (M)/Airman Basic/Seaman Recruit
- 9. GRADE, CIVILIAN.** Enter two letters and two numbers of Federal civilian employee rank (e.g., WG05, GS11, etc). Letter entries will be WG, WL, WS, WN, WD or GS. Number entries will be 01 to 18. Enter "1111" if other (e.g., foreign national, contractor, etc.).
- 10. SERVICE DUTY OCCUPATION CODE.** Enter code to which military member's duty occupation is assigned (e.g., MOS, SSI, NEC/Rating, NOBC or AFSC in which individual is actually working). Enter number code of civilian job series in which civilian member is actually working (e.g., for a carpenter enter "4607").
- 11. MAILING ADDRESS OF ASSIGNMENT.** Enter installation name (and street address for Navy and Marines), unit, office symbol, and ZIP Code/APO/ FPO/PAS of individual's current duty assignment.
- 12. LOCATION - PLACE OF WORK.** Enter specific location where individual is routinely exposed to hazardous noise including building number (e.g., Corpus Christi, NAS, Building 1571, Carpenter Shop). For Air Force personnel, enter 12-digit Workplace Identifier Code per AFOSH Std. 161-17.
- 13. MAJOR COMMAND.** Enter authorized abbreviation of military major command to which individual is assigned.
- 14. DUTY TELEPHONE.** Enter individual's duty telephone number.
- 15. AUDIOMETRY.**
 - a. Purpose.** Enter number in box for reason to complete audiogram.
 - "1" - First periodic test given 90 days after beginning duties in noise-hazardous area or operation;
 - "2" - Periodic test given at yearly intervals;
 - "3" - Last test given, regardless of noise exposure history, before termination of active duty or employment;
 - "4" - Test at interval for reason not listed above.
 - b. Current Audiogram Date.** Enter year, month, day (e.g., if January 31, 2000, enter 20000131) that audiometric test is given and current threshold levels determined for this individual at six frequencies in each ear. Results are entered in 5 dB increments (e.g., 0, 5, 10, 15, etc.). If responses exceed maximum limits of audiometer, enter that limit with plus sign (e.g., 110+).

- 15.c. Reference Audiogram Date.** Enter year, month, and day reference test results were obtained. See DD Form 2215, "Reference Audiogram," or other appropriate source. Enter threshold levels in 5 dB increments from reference audiogram.
- d. Significant Threshold Shift (STS).** Enter "1" if no STS is present; enter "2" if STS is present.
 - STS - NO: See DoD component specific manuals for detailed guidance.
 - STS-YES: Outlines procedures required when a significant threshold shift present: "Notify Supervisor" - Notify individual's supervisor that significant threshold shift has been found and followup audiogram must be done. "Followup No. 1 After Minimum 14 Hours Noise Free" - Schedule individual for first followup audiogram. They must be instructed to stay in a noise free environment (not to exceed 75 dBA or 120 dBP) for at least 14 hours prior to test. They must be told to avoid environments in which noise levels make it necessary to use raised voice to talk at 1 meter (3 feet) distance. If examinee has obvious ear problem (e.g., earache, draining ear, excessive cerumen buildup), he/she should be examined by physician and followup postponed until after any necessary treatment.
 - e. Threshold Shift.** Enter difference between current and most recent reference audiogram for 1000, 2000, 3000 and 4000 Hz. Refer to DoD component manuals for established criteria. Enter "+" to indicate positive shift (poorer hearing) or "-" to indicate negative shift (better hearing) on current audiogram.
 - f. Remarks.** Print any information considered pertinent. Include the individual's 8-hour TWA noise exposure, when available.
 - g. Type of Personal Hearing Protection Used.** Enter number for type of hearing protection that is routinely used by individual.
 - h. Examiner Name.** Enter surname, given name and middle initial of individual operating audiometer.
 - i. Training Certificate Number.** Enter audiometric technician training certificate number.
 - j. Service Duty Occupation Code.** Enter examiner's service duty occupation code (see Item 10).
 - k. Office Symbol.** Enter complete office symbol where examiner is performing the test.
 - l. Audiometer Type.** Enter number for type of audiometer used (e.g., "1" for manual type, etc.).
 - m. Model.** Enter manufacturer's designation of audiometer.
 - n. Manufacturer.** Enter name of company that produced audiometer.
 - o. Serial Number.** Enter manufacturer's serial number of audiometer.
 - p. Last Electroacoustic Calibration Date.** Enter year, month and day (see Item 15.b.) of last electroacoustic determination of this audiometer's performance specifications.

16. FOLLOWUP NO. 1. If significant threshold shift determined on periodic test, record results of first followup audiogram in this section. Mark (X) box to certify "Minimum 14 Hours Noise Free Since Current Audiogram (see Item 15.b.)."

- b., c., and e.,** "Current Audiogram," "Reference Audiogram," and "Threshold Shift" completed in same format as above. Note: Hearing threshold levels entered in 16.c. are the same values as those used in 15.c.
- d. "STS - NO" -** If no STS noted, enter "1" in box and follow steps in "STS - NO" section.
 - "STS - YES" - If STS remains following this examination (Followup No. 1), follow service component instructions (e.g., supervisor is notified for the second time, individual is scheduled for Followup No. 2 audiogram, and individual is instructed to stay in a noise free environment (not to exceed 75 dBA or 120 dBP) for a minimum of 14 hours of auditory rest since current audiogram (Item 15.b.).
 - e. through m.** Enter the required information according to guidelines for entries on periodic audiogram.

17. FOLLOWUP NO. 2. If significant threshold shift determined on Followup No. 1, record results of Followup No. 2 in this section. Mark (X) box to certify "Minimum 14 Hours Noise Free Since Current Audiogram (see Item 15.b.)."

- b., c., and e.,** "Current Audiogram," "Reference Audiogram," and "Threshold Shift" completed in same format as above. Note: Hearing threshold levels entered in 17.c. are the same values as those used in 15.c.
- d. "STS - NO" -** If no STS noted, enter "1" in box and follow steps in "STS - NO" section.
 - "STS - YES" - If STS remains following this examination (Followup No. 2), enter "2" in box. Refer to DoD component instructions for appropriate patient disposition.
 - e. through m.** Enter the required information according to guidelines for entries on periodic audiogram.

See specific DoD component manuals regarding followup procedures required in addition to those listed above. For example, if the annual test indicates a "negative" threshold shift and is confirmed on the first followup, the reference audiogram may be reestablished at this time without any further followup testing for DA personnel.

REFERENCE AUDIOGRAM <i>(This form is subject to the Privacy Act of 1974 - use Blanket PAS - DD Form 2005)</i>										1. ZIP CODE/APO/FPO/PAS				
2. DOD COMPONENT A - ARMY F - AIR FORCE 1 - OTHER N - NAVY M - MARINE CORPS					3. SERVICE COMPONENT R - REGULAR G - NATIONAL GUARD V - RESERVE 1 - OTHER									
4. SOCIAL SECURITY NUMBER			5. NAME <i>(Last, First, Middle Initial)</i>					6. DATE OF BIRTH (YYYYMMDD)			7. SEX M - MALE F - FEMALE			
8. PAY GRADE, UNIFORMED SERVICES		9. PAY GRADE, CIVILIAN		10. SERVICE DUTY OCCUPATION CODE			11. MAILING ADDRESS OF ASSIGNMENT							
12. LOCATION - PLACE OF WORK					13. MAJOR COMMAND			14. DUTY TELEPHONE <i>(Include area code)</i>						
AUDIOMETRY														
15. REASON FOR CONDUCTING AUDIOGRAM <input type="checkbox"/> 1 - REFERENCE ESTABLISHED PRIOR TO INITIAL DUTY IN HAZARDOUS NOISE AREAS <input type="checkbox"/> 2 - REFERENCE ESTABLISHED FOLLOWING EXPOSURE IN NOISE DUTIES <input type="checkbox"/> 3 - REFERENCE RE-ESTABLISHED AFTER FOLLOW-UP PROGRAM														
16. AUDIOMETRIC DATA RE: ANSI S3.6 - 1989		LEFT						RIGHT						
		500	1000	2000	3000	4000	6000	500	1000	2000	3000	4000	6000	
17. DATE OF AUDIOGRAM (YYYYMMDD)														
18. MEETS REFERRAL CRITERIA <input type="checkbox"/> 1 - NO <input type="checkbox"/> 2 - YES			19. MILITARY TIME OF DAY <i>(Optional)</i>			20. HOURS SINCE LAST NOISE EXPOSURE			21. EAR, NOSE, AND THROAT PROBLEM AT TIME OF TEST <input type="checkbox"/> 1 - NO <input type="checkbox"/> 2 - YES <input type="checkbox"/> 3 - UNKNOWN					
22. EXAMINER														
a. NAME <i>(Last, First, Middle Initial)</i>					b. TRAINING CERTIFICATION NUMBER			c. SERVICE DUTY OCCUPATION CODE			d. OFFICE SYMBOL			
23. AUDIOMETER										e. LAST ELECTROACOUSTIC CALIBRATION DATE (YYYYMMDD)				
a. TYPE <input type="checkbox"/> 1 - MANUAL <input type="checkbox"/> 2 - SELF-RECORDING <i>(Automatic)</i> <input type="checkbox"/> 3 - MICROPROCESSOR		b. MODEL		c. MANUFACTURER			d. SERIAL NUMBER							
24. PERSONAL HEARING PROTECTION														
a. TYPE ISSUED 1 - SINGLE FLANGE (VS1R) 2 - TRIPLE FLANGE 3 - HAND FORMED EARPLUG				4 - EAR CANAL CAPS 5 - NOISE MUFFS 6 - OTHER 7 - NONE			b. SIZE EARPLUGS L R 1 - XS 4 - L 2 - S 5 - XL 3 - M		c. DOUBLE PROTECTION USED <input type="checkbox"/> 1 - NO <input type="checkbox"/> 2 - YES		d. GLASSES WORN <i>(Including goggles)</i> <input type="checkbox"/> 1 - NO <input type="checkbox"/> 2 - YES		e. FREQUENCY GLASSES WORN 1 - ALWAYS 2 - SELDOM 3 - N/A	
25. REMARKS <i>(Include exposure data)</i>														

INSTRUCTIONS

(Refer to DoD Component Instructions for additional guidance)

PURPOSE: This form is used to record initial audiometric test results with which later audiometric test results can be compared (see DD Form 2216, "Hearing Conservation Data," to record periodic test results).

1. **ZIP CODE/APO/FPO/PAS.** Enter nine digit ZIP Code/APO/FPO/ PAS of where audiometric test is conducted.
2. **DOD COMPONENT.** Enter letter in box of major organizational subdivision of DoD to which military or civilian individual is assigned. Enter "1" if DoD component is not listed.
3. **SERVICE COMPONENT.** Enter letter in box corresponding to primary subdivision of separate military service in which military is assigned (e.g., Regular (R) - standing military component of armed forces in peace and war; Reserve (V) - component of ready trained personnel for military service when needed, etc.; National Guard (G) - component of National Guard personnel in full-time or part-time status). Enter "1" for all others, including civilians.

PERSONAL DATA OF INDIVIDUAL BEING TESTED:

4. **SOCIAL SECURITY NUMBER.** Enter nine digit social security number. If foreign national, enter "FN" in middle two blocks.
5. **NAME.** Enter surname, given name and middle initial.
6. **DATE OF BIRTH.** Enter year, month, day.
7. **SEX.** Enter "M" if male, "F" if female.
8. **PAY GRADE, UNIFORMED SERVICES.** For military personnel only, enter military personnel class and pay level serial number as follows:
 - O11 - General of the Army/General of the Air Force/Fleet Admiral
 - O10 - General/Admiral
 - O09 - Lieutenant General/Vice Admiral
 - O08 - Major General/Rear Admiral (Upper Half)
 - O07 - Brigadier General/Rear Admiral (Lower Half)/Commodore
 - O06 - Colonel (A,F,M)/Captain (N)
 - O05 - Lieutenant Colonel/Commander
 - O04 - Major/Lieutenant Commander
 - O03 - Captain (A,F,M)/Lieutenant (N)
 - O02 - First Lieutenant/Lieutenant Junior Grade
 - O01 - Second Lieutenant/Ensign
 - W05 - Chief Warrant Officer, W-5
 - W04 - Chief Warrant Officer, W-4
 - W03 - Chief Warrant Officer, W-3
 - W02 - Chief Warrant Officer, W-2
 - W01 - Warrant Officer, W-1
 - C00 - Cadet/Midshipman
 - E09 - Sergeant Major/Chief Master Sergeant/Master Chief Petty Officer
 - E08 - Master Sergeant (A,M)/Senior Chief Petty Officer/Senior Master Sergeant/First Sergeant(A)
 - E07 - Sergeant First Class/Gunnery Sergeant/Chief Petty Officer/ Master Sergeant (F)/Platoon Sergeant (A)/Specialist-7
 - E06 - Staff Sergeant/Technical Sergeant/Petty Officer First Class/ Specialist-6
 - E05 - Sergeant (A,M)/Staff Sergeant/Petty Officer Second Class/ Specialist-5
 - E04 - Corporal/Sergeant (F)/Petty Officer Third Class/Specialist-4
 - E03 - Private First Class (A)/Airman First Class/Lance Corporal/Seaman
 - E02 - Private (PV1)/Airman/Private First Class (M)/Seaman Apprentice
 - E01 - Private (PV2)/Private (M)/Airman Basic/Seaman Recruit

9. **GRADE, CIVILIAN.** Enter two letters and two numbers of Federal civilian employee rank (e.g., WG05, GS11, etc.). Letter entries will be WG, WL, WS, WN, WD or GS. Number entries will be 01 to 18. Enter "1111" if other (e.g., foreign national, contractor, etc.).

10. **SERVICE DUTY OCCUPATION CODE.** Enter code to which military member's duty occupation is assigned (e.g., MOS, SSI, NEC/Rating, NOBC or AFSC in which individual is actually working). Enter number code of civilian job series in which civilian member is actually working (e.g., for a carpenter enter "4607").

11. **MAILING ADDRESS OF ASSIGNMENT.** Enter installation name (and street address for Navy and Marines), unit, office symbol, and ZIP Code/APO/FPO/PAS of individual's current duty assignment.

12. **LOCATION - PLACE OF WORK.** Enter specific location where individual is routinely exposed to hazardous noise including building number (e.g., Corpus Christi, NAS, Building 1571, Carpenter Shop). For Air Force personnel, enter 12-digit Workplace Identifier Code per AFOSH Std. 161-17.

13. **MAJOR COMMAND.** Enter authorized abbreviation of military major command to which individual is assigned.
14. **DUTY TELEPHONE.** Enter individual's duty telephone number.

AUDIOMETRY:

15. **REASON FOR CONDUCTING AUDIOGRAM.** Enter number in box for reason to complete reference audiogram.
 1 - Individual has not yet worked in hazardous noise duty areas and no reference audiogram has been accomplished.
 2 - Individual has worked in hazardous noise duty areas but reference audiogram has been lost or was never accomplished.
 3 - Individual has worked in hazardous noise duty areas and requires revised reference audiogram following completion of hearing conservation follow-up program.

16. **AUDIOMETRIC DATA RE: ANSI S3.6 - 1989.** Enter threshold levels determined for this individual at six frequencies in each ear. Results are entered in 5dB increments (e.g., 0, 5, 10, 15, etc). If responses exceed maximum limits of audiometer, enter that limit with plus sign (e.g., 110 +).

17. **DATE OF AUDIOGRAM.** Enter year, month, and day the audiometric test is given. (If January 14, 1999, enter 19990114.)

18. **MEETS REFERRAL CRITERIA.** Based on the audiometric test results, each DoD component should apply its own criteria.

19. **MILITARY TIME OF DAY.** Enter four digits for hour of day (24-hour clock) this audiogram is completed (e.g., "0830," "1400," etc.). This field is optional.

20. **HOURS SINCE LAST NOISE EXPOSURE.** Enter appropriate number of hours prior to this audiogram that individual was last exposed to hazardous noise (e.g., steady noise 85 dBA or greater and/or impulse noise above 140 dBP).

21. **EAR, NOSE, AND THROAT PROBLEM AT TIME OF TEST.** Enter "1" (NO) if individual has no ear, nose or throat problems at time of test that could be causing a temporary (conductive) hearing loss (e.g., ear canal blocked with ear wax, ear infection, head cold, etc.). Enter "2" (YES) if problem was present and "3" (UNKNOWN) if no way to determine presence of problem.

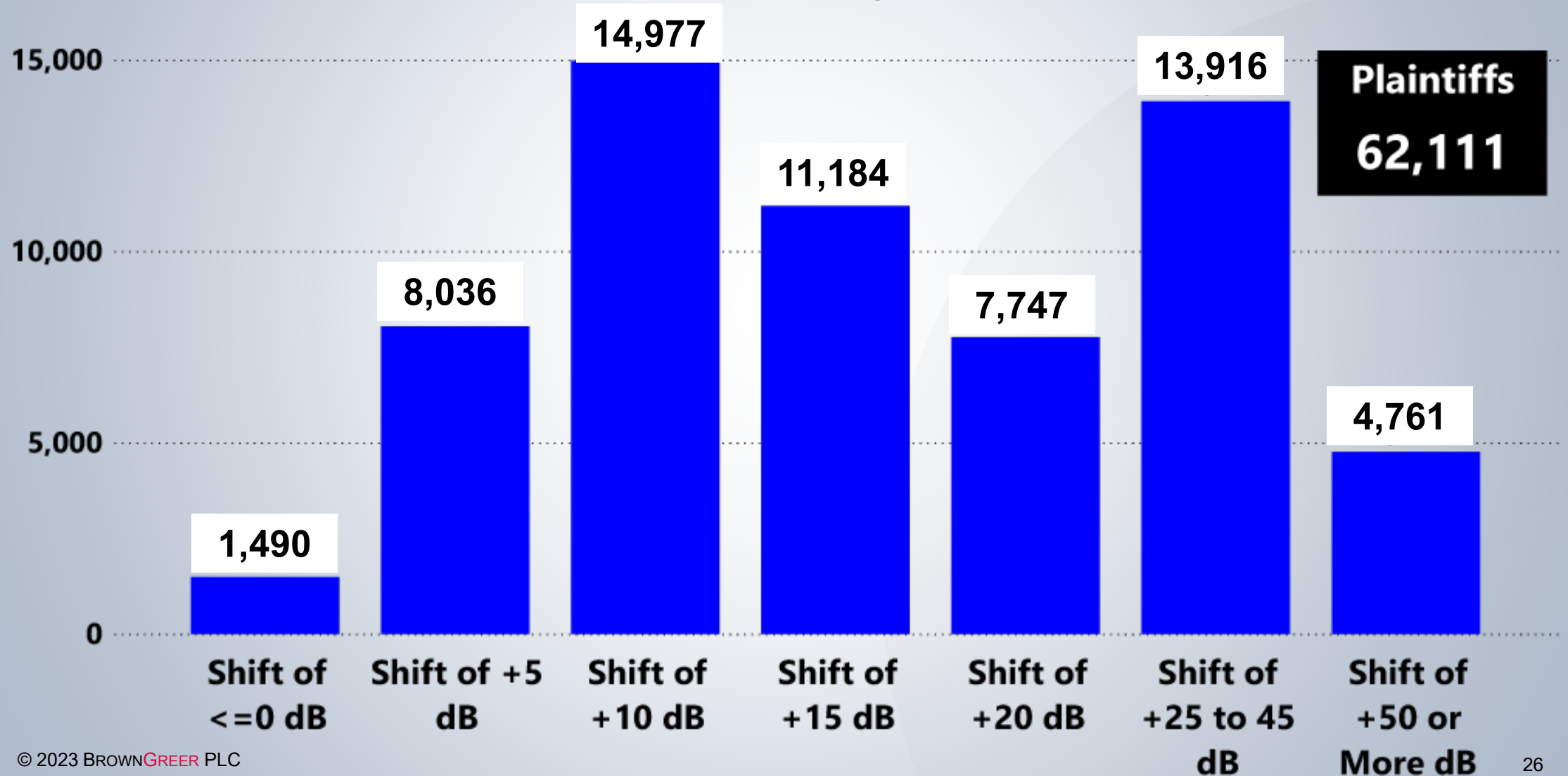
22. **EXAMINER.**
 - a. **Name.** Enter surname, given name and middle initial of individual operating audiometer.
 - b. **Training Certification Number.** Enter audiometric technician training certification number.
 - c. **Service Duty Occupation Code.** Enter examiner's service duty occupation code (see Item 10).
 - d. **Office Symbol.** Enter complete office symbol where examiner is performing the test.

23. **AUDIOMETER.**
 - a. **Type.** Enter number for type of audiometer used (e.g., "1" for manual type).
 - b. **Model.** Enter manufacturer's designation.
 - c. **Manufacturer.** Enter name of company that produced audiometer.
 - d. **Serial Number.** Enter manufacturer's serial number.
 - e. **Last Electroacoustic Calibration Date.** Enter year, month and day (see Item 16) of last electroacoustic determination of this audiometer's performance specifications.

24. **PERSONAL HEARING PROTECTION.**
 - a. **Type Issued.** Enter number for type of hearing protector that the individual was issued (e.g., "2" for triple flange, etc.; if "6 - OTHER," explain in Item 25, "Remarks").
 - b. **Size Earplugs.** Enter number for size of earplugs (single or triple flange) used for each ear (e.g., "4" for Large in right ear (R) and "3" for Medium or Regular in left ear (L)).
 - c. **Double Protection Used.** Enter "1" in box if earplugs are not routinely worn in combination with noise muffs or a noise-attenuating helmet. Enter "2" if they are routinely worn together.
 - d. **Glasses Worn.** Enter "1" in box if eye glasses or goggles are not routinely worn with noise muffs or noise-attenuating helmet.
 - e. **Frequency Glasses Worn.** Indicate frequency of use if "2" was entered in Item 24.d. If "1" was entered in 24.d., enter "3" - N/A.

25. **REMARKS.** Print explanations for any of above items marked "OTHER" and any information considered pertinent. Include the individual's 8-hour TWA noise exposure, when available.

Figure 6. HL Approach 2: Maximum Threshold Shift(s) Between Reference AG Earplug Use Start Date and AG Earplug Use End Date



HL APPROACH 3: AMA Impairment on First and Last Audiograms

AMA Impairment Guide: Steps in Impairment Rating

$(\text{dB } 500 \text{ Hz} + \text{dB } 1000 \text{ Hz} + \text{dB } 2000 \text{ Hz} + \text{dB } 3000 \text{ Hz})/4$

=

dB Hearing Loss

dB Hearing Loss

-

25 dB

X

1.5%

=

Single Ear % Rating

AMA Binaural Hearing Loss Formula

$$[5(\text{Better Ear}) + \text{Worse Ear}]/6$$

=

Binaural % Rating

AMA Report Form



HEARING IMPAIRMENT CALCULATION WORKSHEET

Date	Date of audiogram	Claim number
Name		Hours since last exposure to noise (must be more than 14) <input type="text"/>

Monaural Hearing Loss Formula: A.N.S.I. 1969

$$([(500 \text{ Hz} + 1000 \text{ Hz} + 2000 \text{ Hz} + 3000 \text{ Hz}) \div 4] - 25) \times 1.5 = \% \text{ of loss}$$

LEFT EAR (X)

<u>Hz</u>	<u>dB level</u>
500	_____
1000	_____
2000	_____
3000	_____
Total	_____
STOP here if total is 100 or less	
Avg threshold for 4 frequencies	$\div 4 =$ _____
Less threshold fence of 25 dB	$- 25 =$ _____
Multiplied by 1.5 equals the % of monaural loss	$\times 1.5 =$ _____
Add rating for tinnitus of 0 through 5%	_____
Total percent monaural hearing loss	_____

RIGHT EAR (O)

<u>Hz</u>	<u>dB level</u>
500	_____
1000	_____
2000	_____
3000	_____
Total	_____
STOP here if total is 100 or less	
Avg threshold for 4 frequencies	$\div 4 =$ _____
Less threshold fence of 25 dB	$- 25 =$ _____
Multiplied by 1.5 equals the % of monaural loss	$\times 1.5 =$ _____
Add rating for tinnitus of 0 through 5%	_____
Total percent monaural hearing loss	_____

STOP HERE IF EITHER OF THE MONAURAL HEARING LOSS %'s ARE ZERO!!!

Combined Hearing Loss Formula:

$$([\% \text{ better ear} \times 5] + [\% \text{ worse ear}]) \div 6 = \% \text{ of loss}$$

% better ear _____ $\times 5 =$ _____

Plus % worse ear _____ $+$ _____

Sub-Total _____

Sub-Total divided by 6 $\div 6 =$ _____ % Binaural
 Hearing Loss

AMA Apportionment Formula

Total Impairment Rating

-

Baseline Impairment Rating

=

% Final Rating

Plaintiffs With More than One Audiogram
104,625

**Hearing Loss in Left
Ear Only**
6,317

**Hearing Loss in Right
Ear Only**
3,334

**Hearing Loss
in Both Ears**
6,366

Hearing Loss in Either or Both Ears
16,017

Figure 7. Plaintiffs by Net Percentage of AMA Hearing Loss in Left Ear Under Approach 3

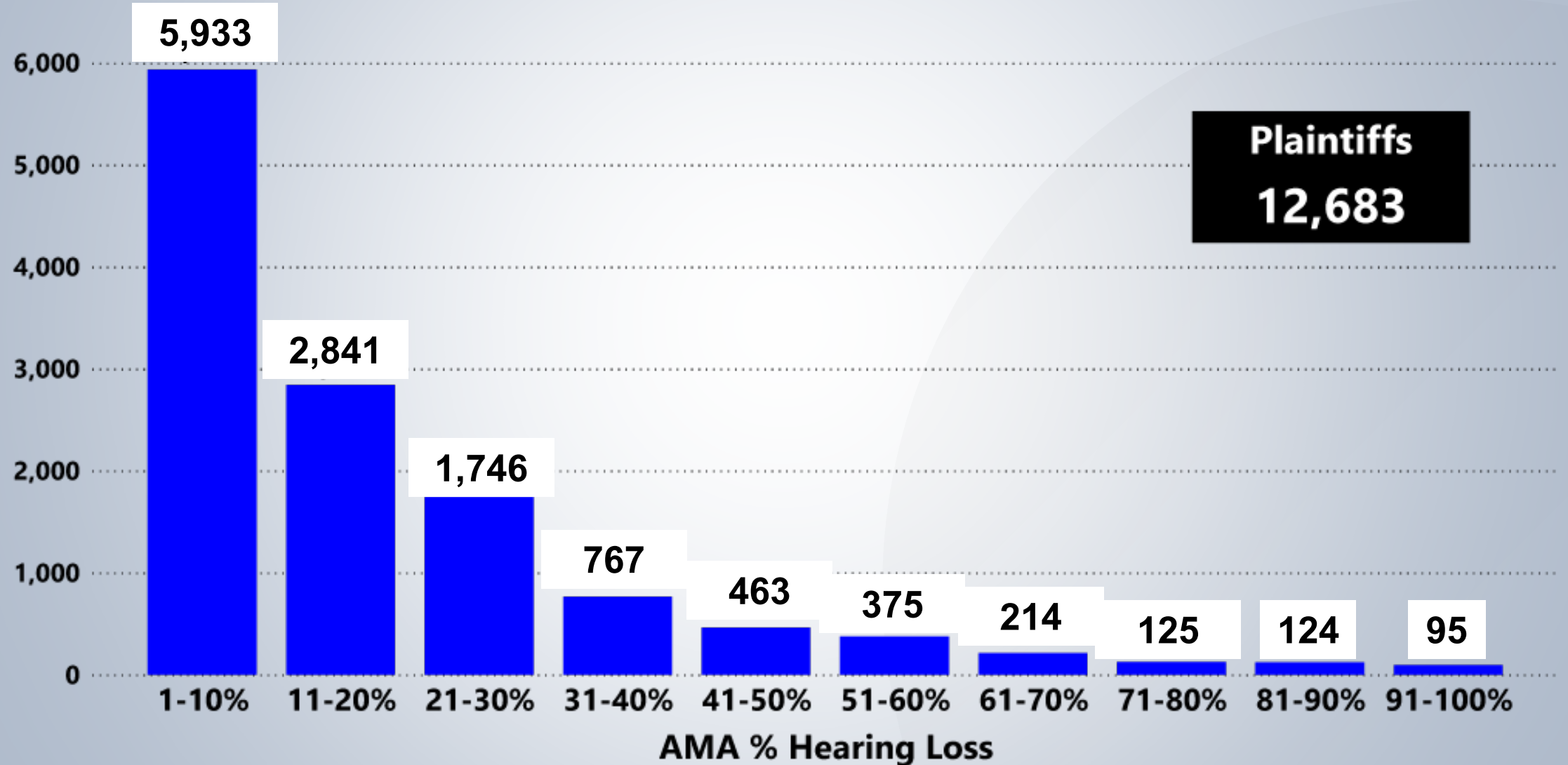


Figure 8. Plaintiffs by Net Percentage of AMA Hearing Loss in Right Ear Under Approach 3

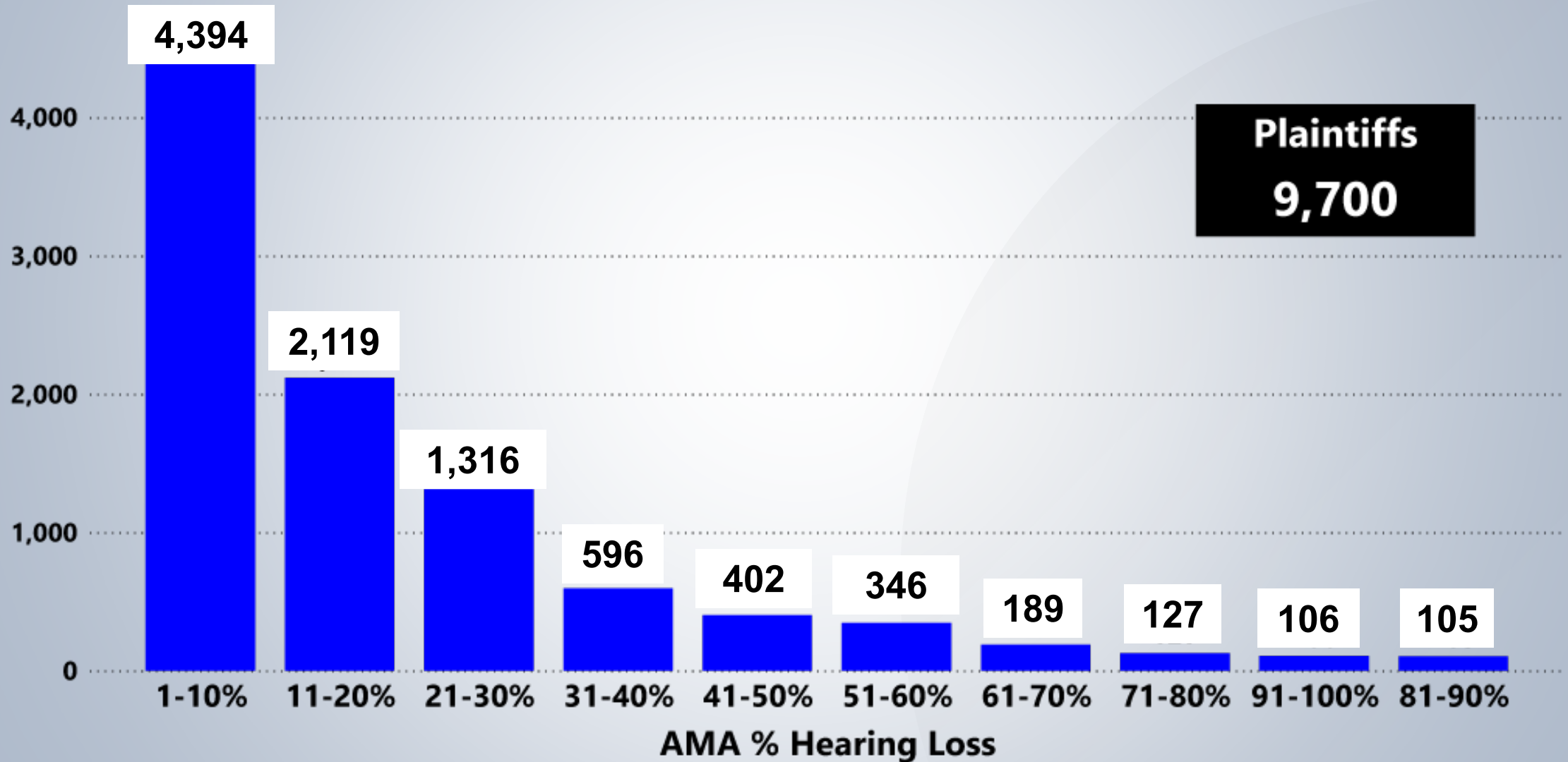
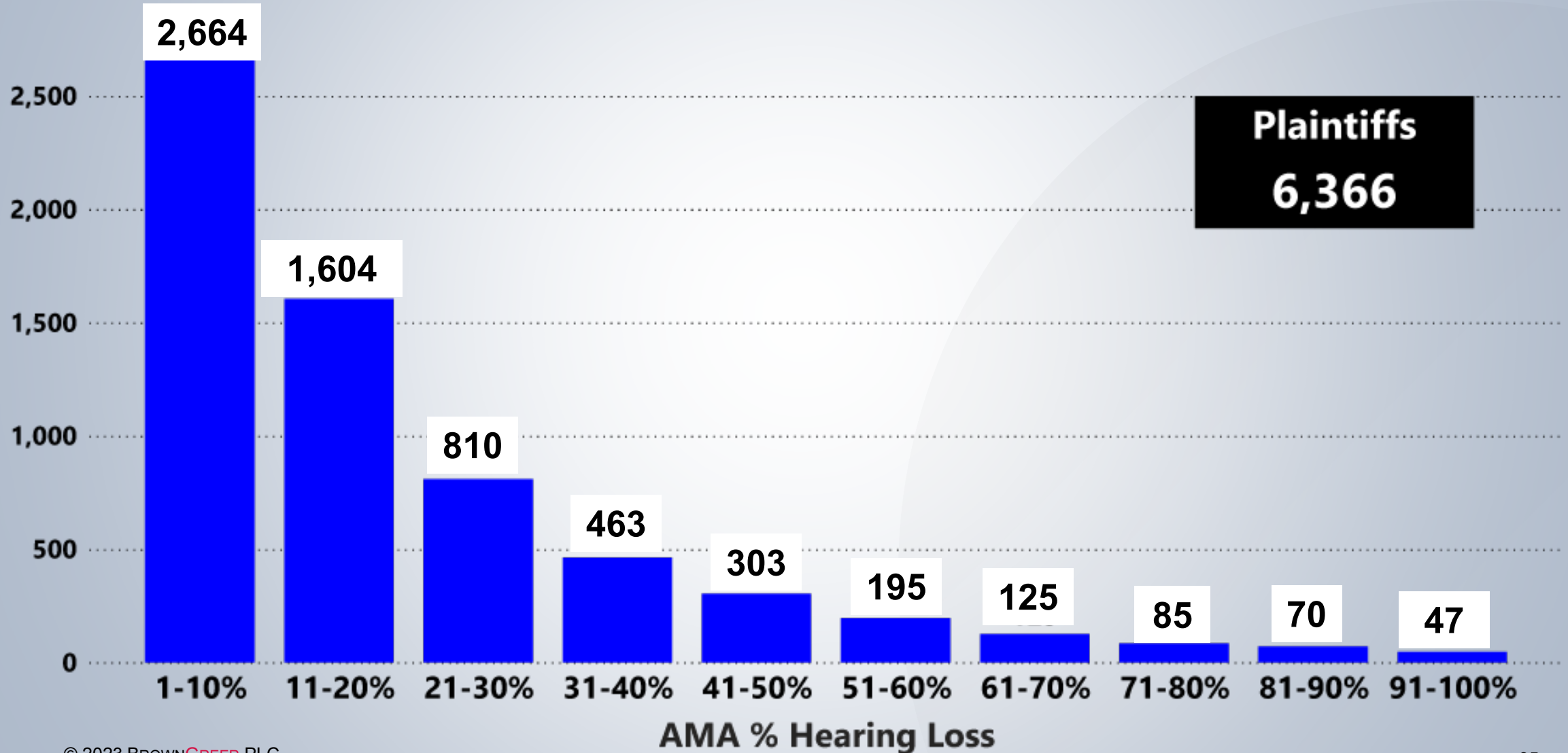


Figure 9. Plaintiffs by Net Percentage of AMA Hearing Loss in Both Ears Under Approach 3



HL APPROACH 4: AMA Impairment Earplugs Start Use to End Use

**Plaintiffs With Earplug Use Dates in Census Form
62,111**

**Hearing Loss in Left
Ear Only
3,108**

**Hearing Loss in Right
Ear Only
1,731**

**Hearing Loss
in Both Ears
2,542**

**Hearing Loss in Either or Both Ears
7,381**

Figure 10. Plaintiffs by Net Percentage of AMA Hearing Loss in Left Ear Under Approach 4

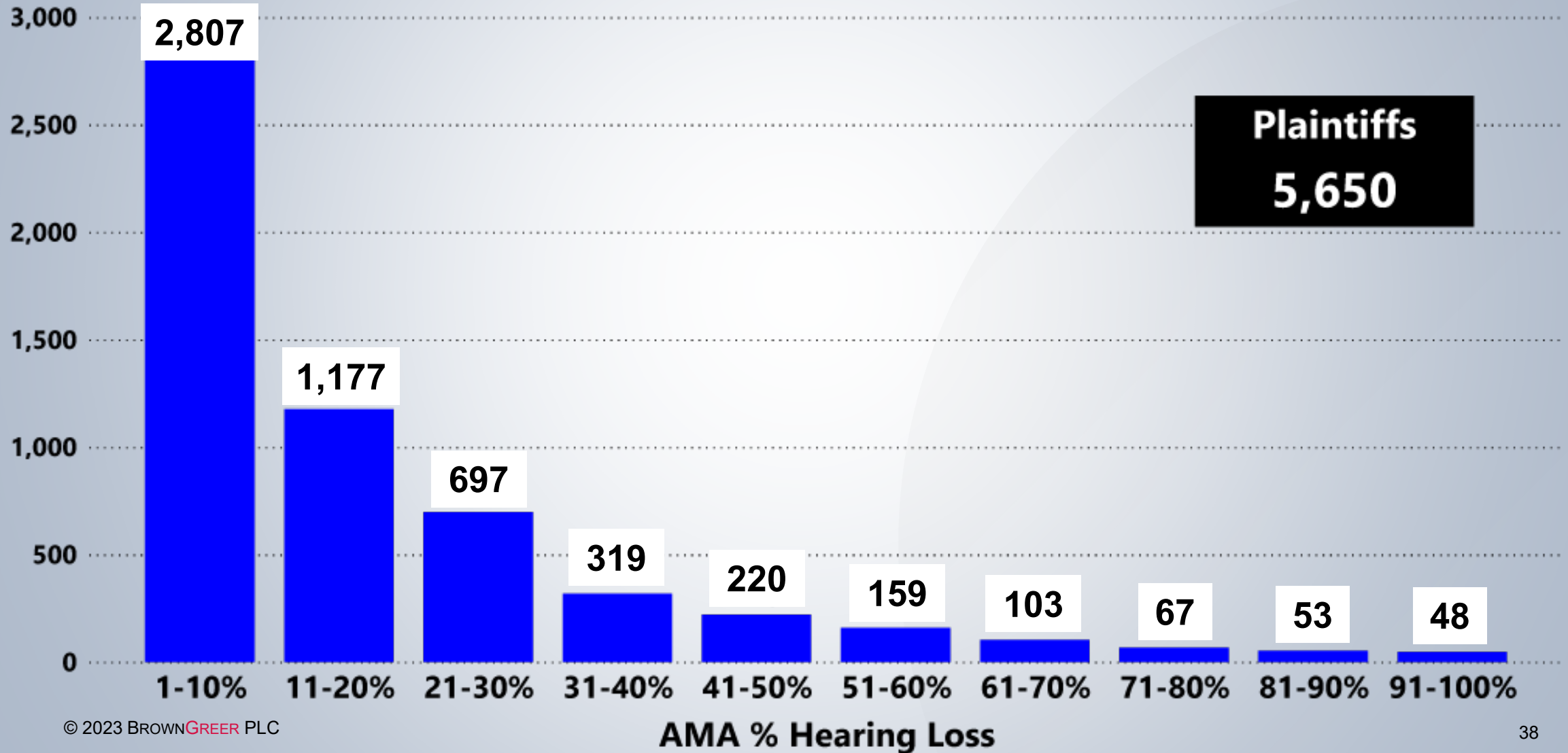


Figure 11. Plaintiffs by Net Percentage of AMA Hearing Loss in Right Ear Under Approach 4

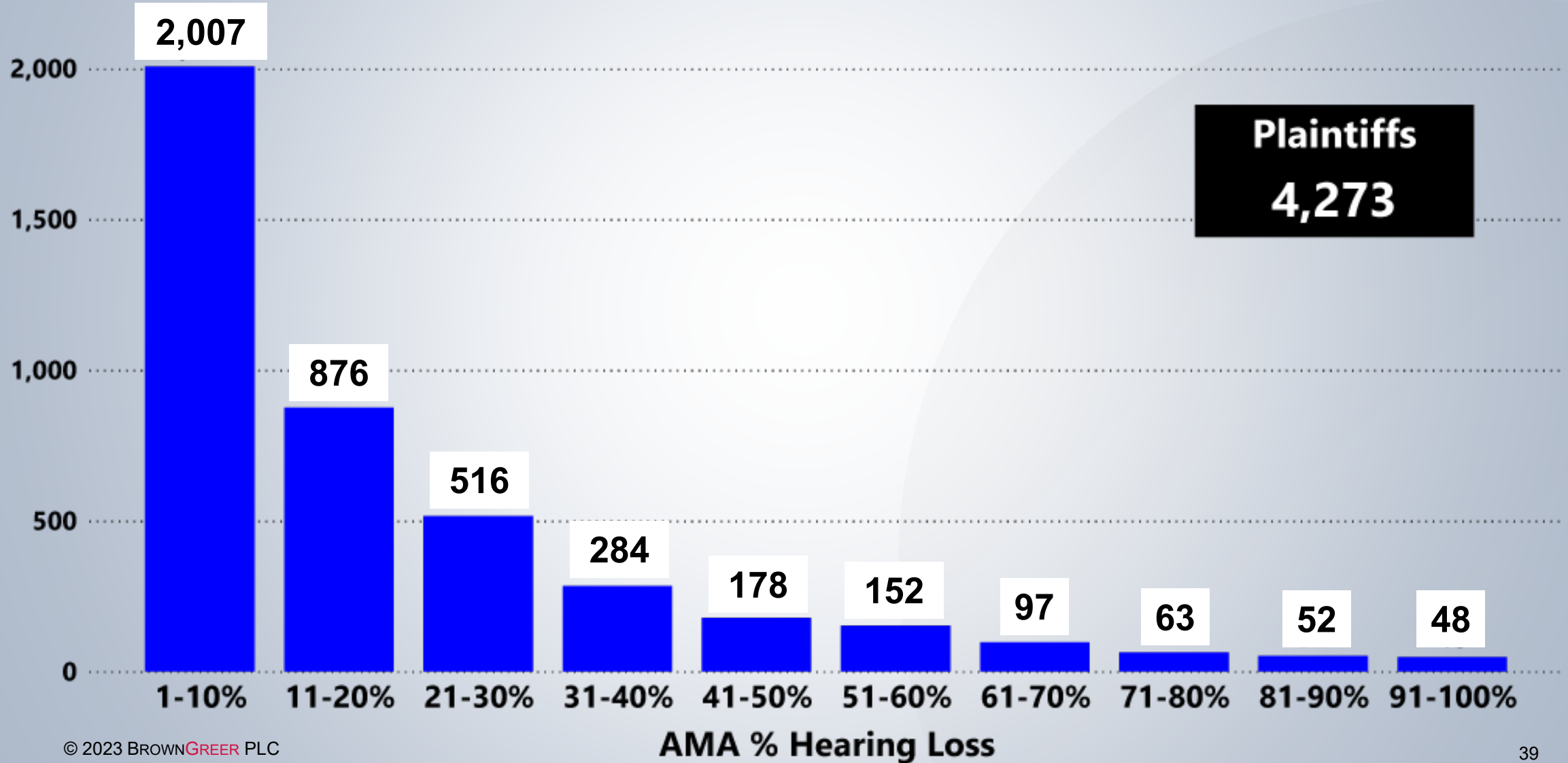
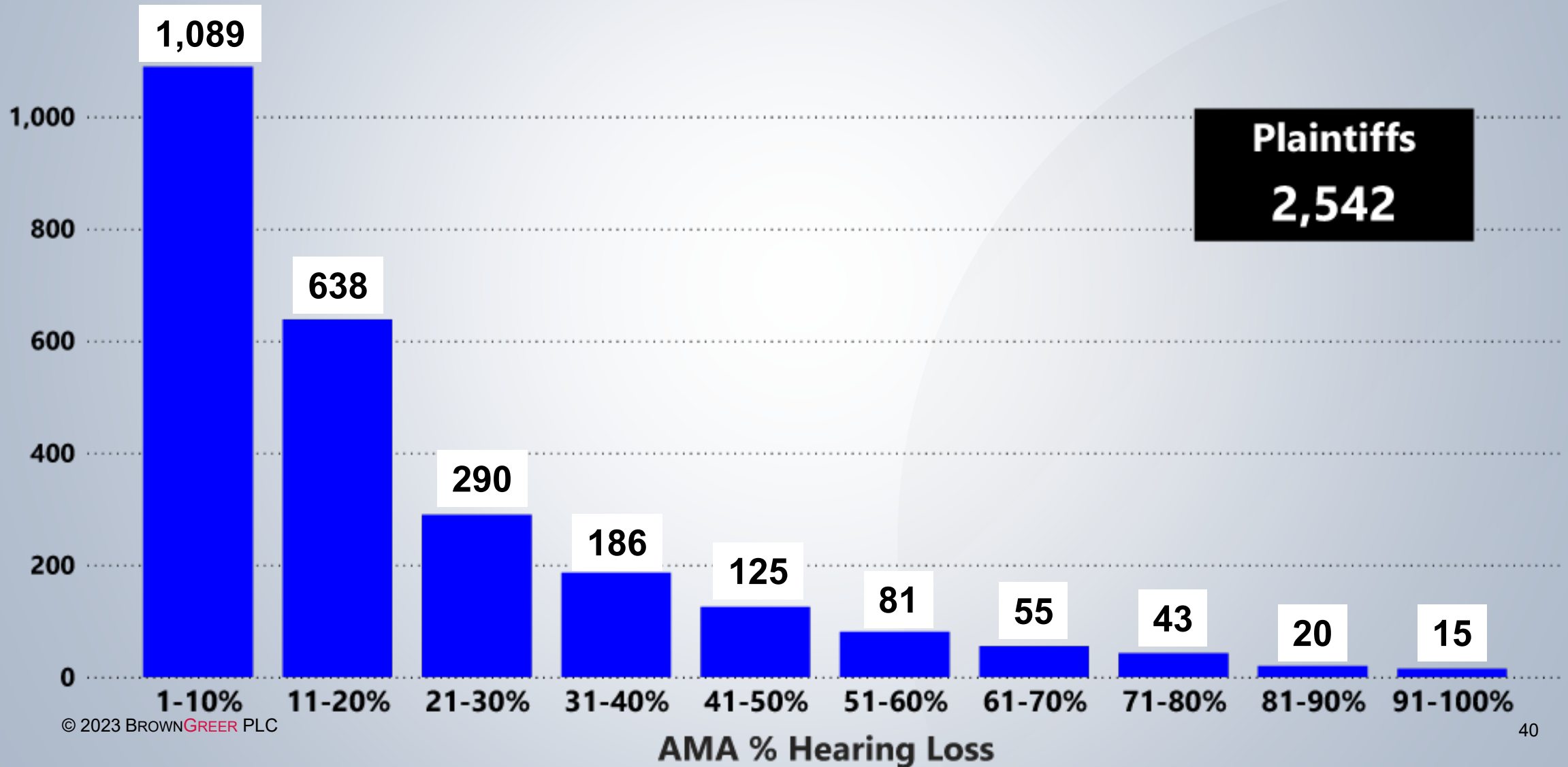


Figure 12. Plaintiffs by Net Percentage of AMA Hearing Loss in Both Ears Under Approach 4



Comparison of Hearing Loss Approaches

Figure 13. Compare HL Approach 1 and HL Approach 2

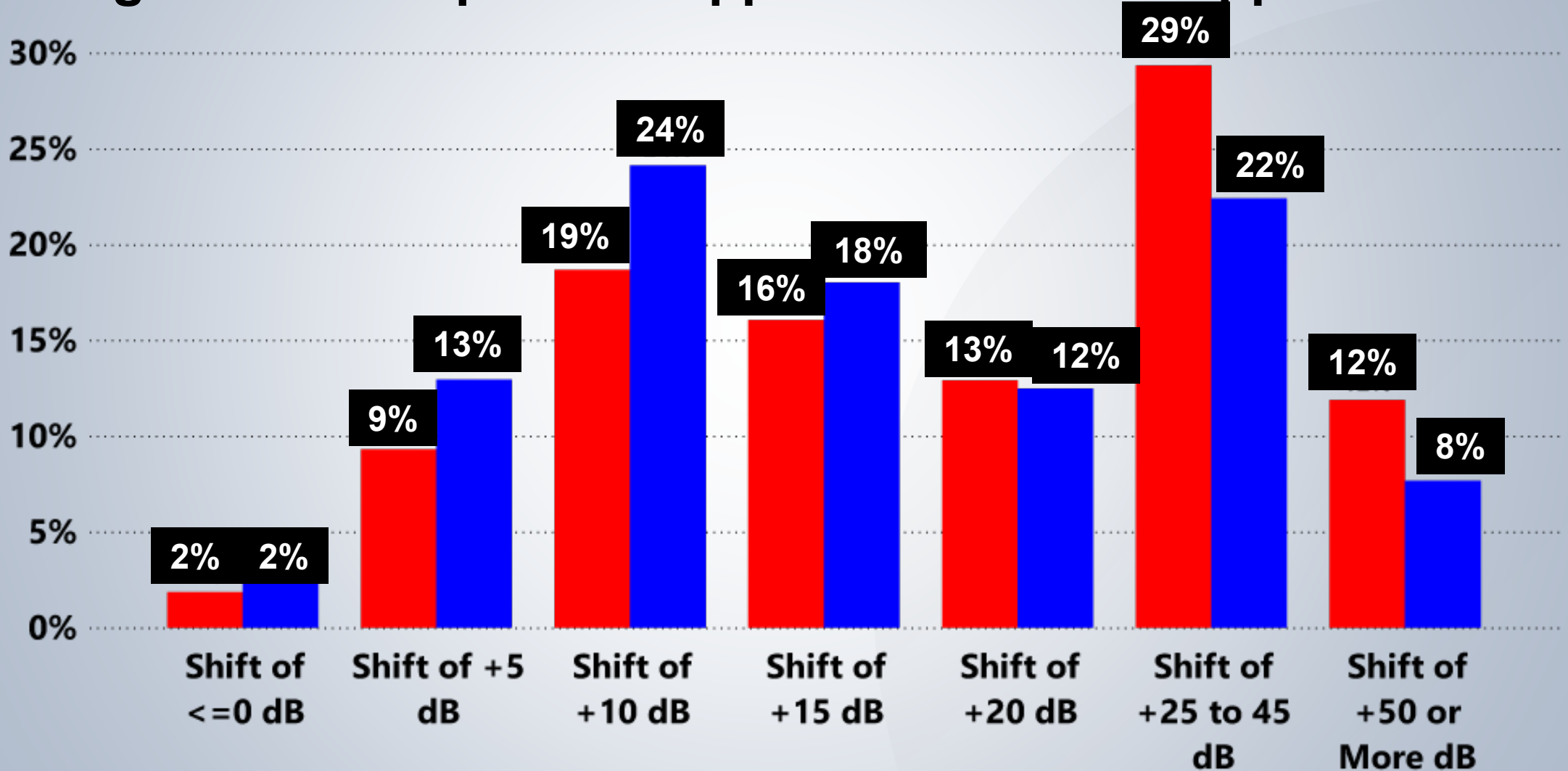


Figure 14. Maximum Threshold Shift(s) Between Reference AG Earplug Use Start Date and AG Earplug Use End Date: 500 Hz & 1000 Hz only

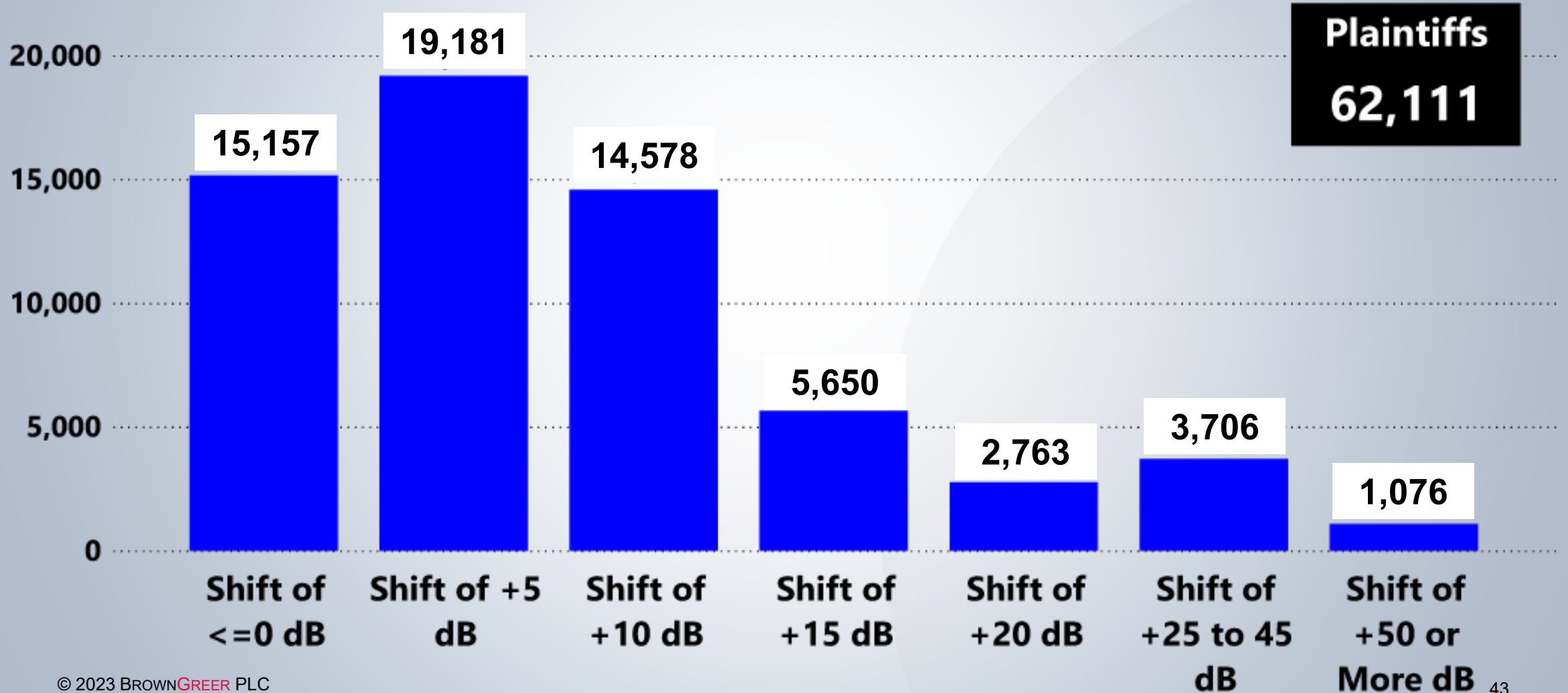


Figure 6. HL Approach 2: Maximum Threshold Shift(s) Between Reference AG Earplug Use Start Date and AG Earplug Use End Date

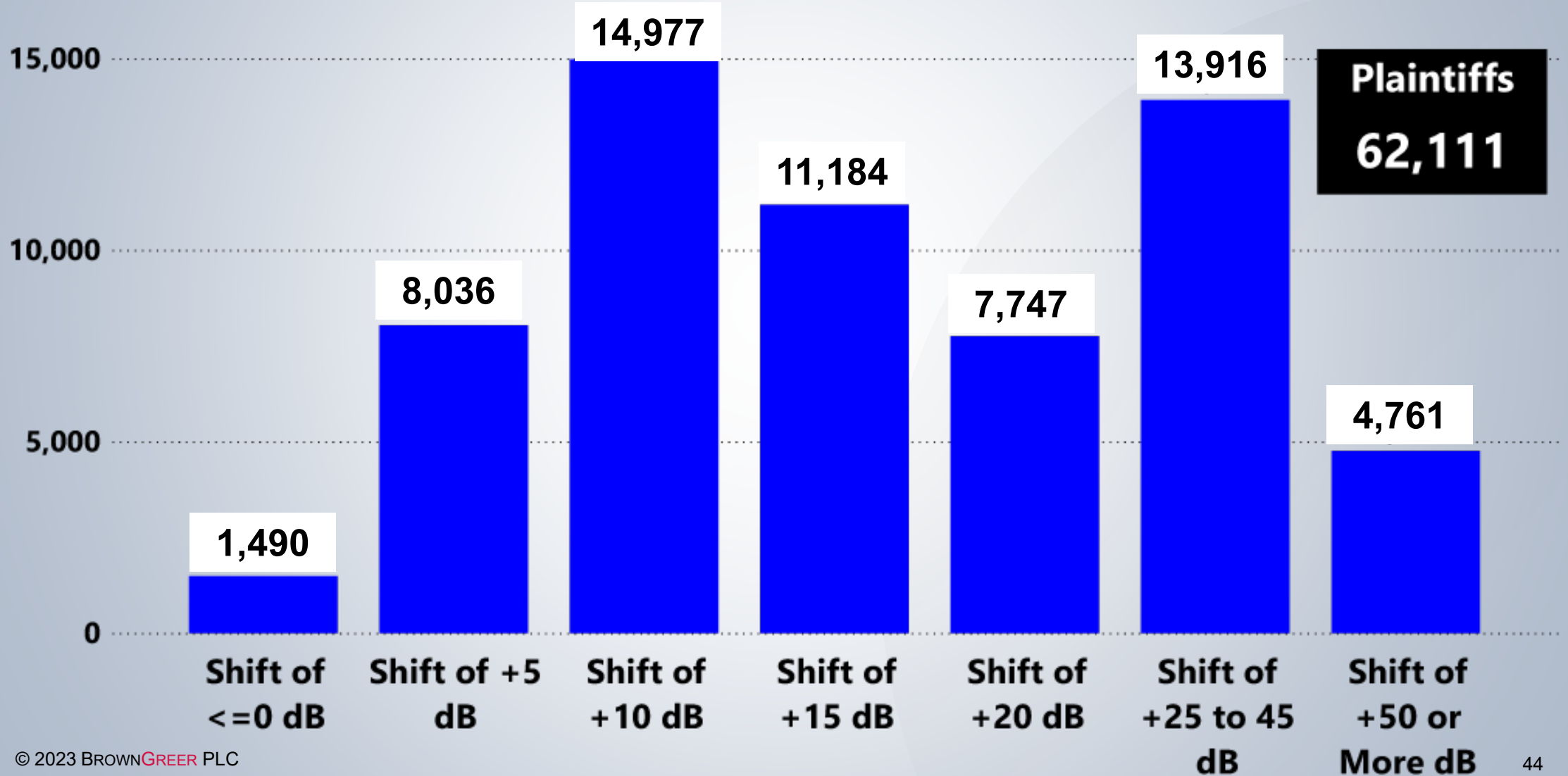
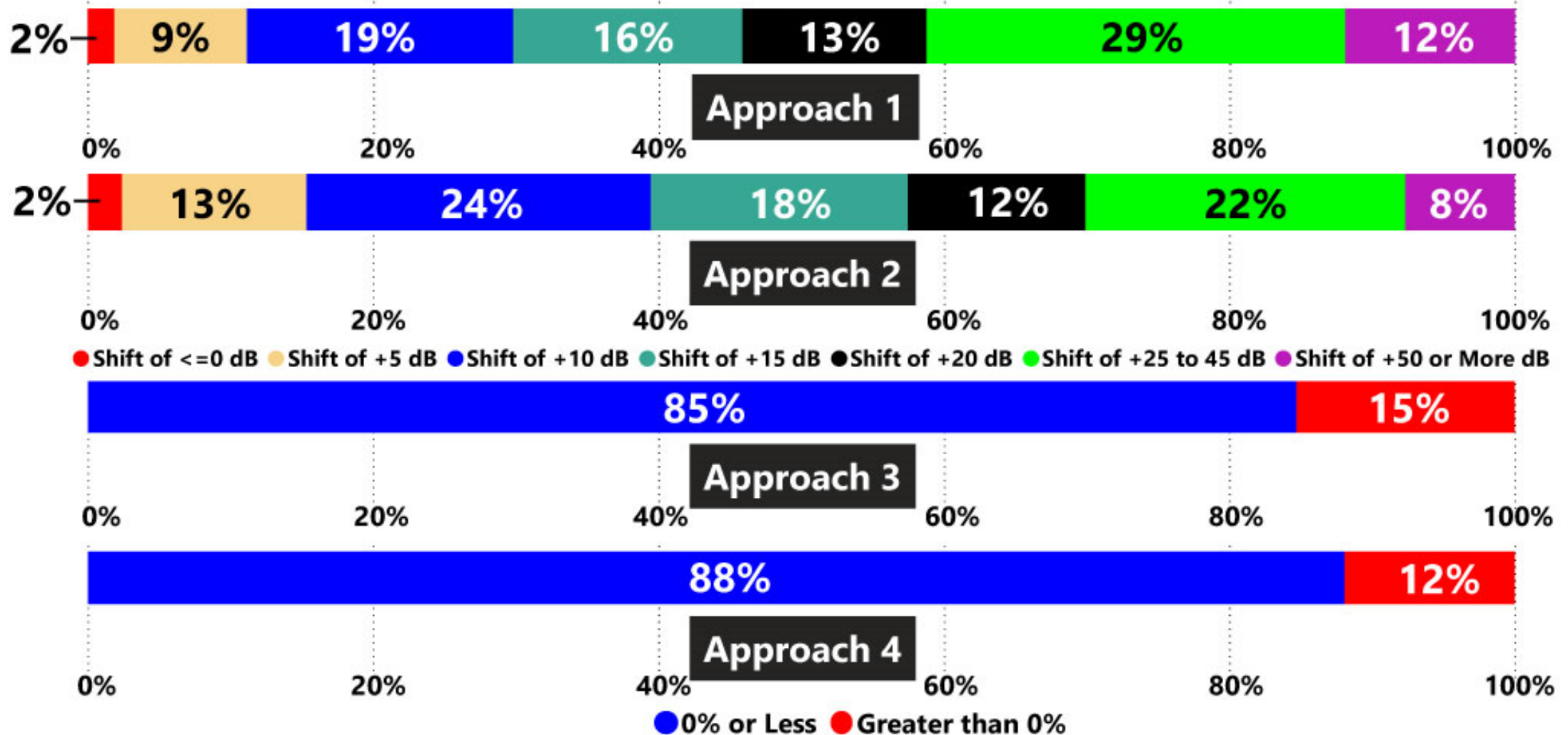


Figure 15. Comparison of All HL Approaches



TINNITUS ANALYSIS

Tinnitus Assertion: 158,999 Active Plaintiffs

Active Plaintiffs: Injury Asserted in Census Form and Presence of Medical Records

	INJURY ASSERTED	SUBMITTED RECORDS	NO RECORDS
1.	Hearing Loss and Tinnitus	55,344	76,648
2.	Tinnitus Only	28,710	42,698
3.	Hearing Loss Only	3,451	9,438
4.	No Hearing Loss or Tinnitus Assertions	18,309	
5.	TOTALS (Total Active Plaintiffs: 234,598)	87,505	128,784

	Word/Term Mentioned	Hearing Loss and Tinnitus	Tinnitus	TOTALS
1.	Tinnitus	33,954	16,857	50,811
2.	Ringing	13,332	6,502	19,834
3.	Buzzing	2,202	1,136	3,338
4.	Tinnitus Handicap Inventory or Questionnaire	0	0	0
5.	Tinnitus Functional Index	197	72	269
6.	Tinnitus Reaction Questionnaire	0	0	0
7.	Tinnitus Pitch and Loudness Matching	5	4	9
8.	Minimum Masking Levels	8	7	15
9.	TOTALS WITH MENTION IN RECORDS	49,698	24,578	74,276

Active Plaintiffs With Tinnitus Assertion and Medical Records

	INJURY ASSERTED	MENTION	NO MENTION	TOTALS
1.	Hearing Loss and Tinnitus	31,457	23,887	55,344
2.	Tinnitus Only	15,500	13,210	28,710
3.	TOTALS	46,957	37,097	84,054

Active Plaintiffs with DOEHRs Data Returned**178,040****Asserted
Hearing Loss****112,257****Asserted
Tinnitus Only****56,159****Injury Not
Specified****9,624**

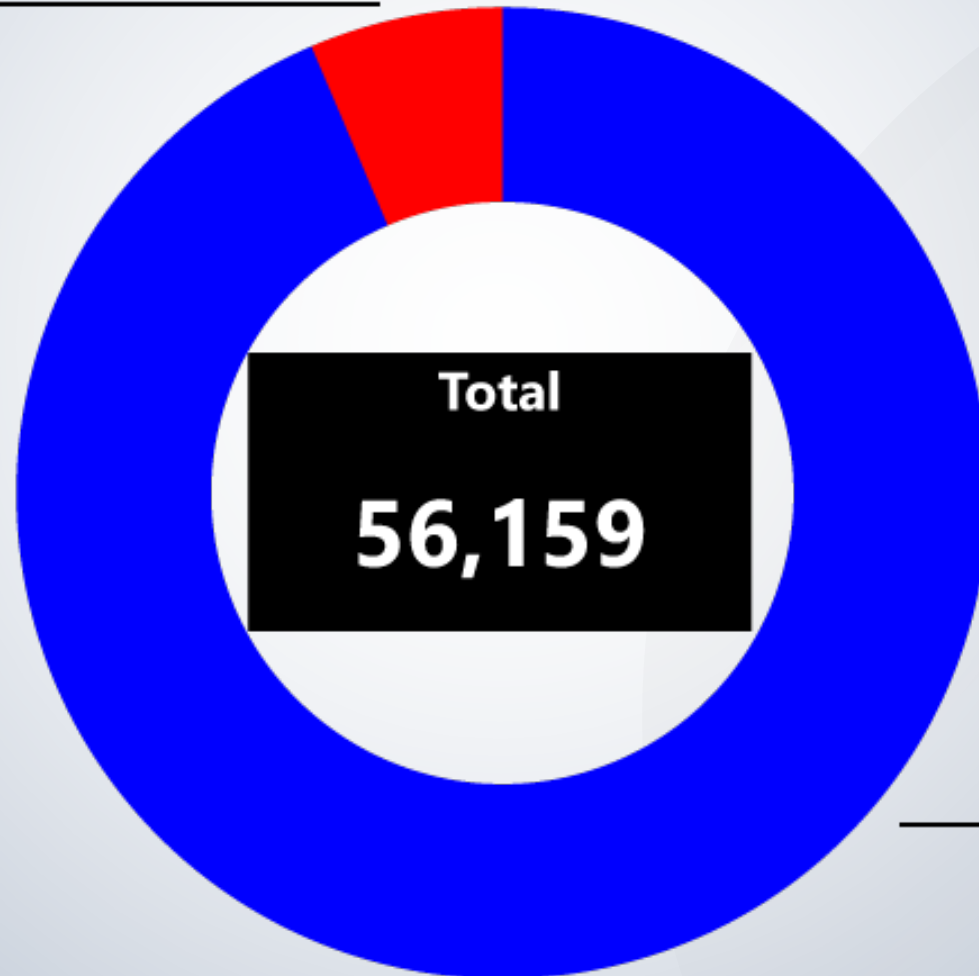
TINNITUS APPROACHES USING DOEHR'S DATA

	APPROACH	MEASURING	STARTING AUDIOGRAM	ENDING AUDIOGRAM
1.	T Approach 1	Shifts of 10 dB or More	First in Data	Last in Data
2.	T Approach 2	Shifts of 10 dB or More	Reference AG Nearest Start of Earplug Use	AG Nearest End of Earplug Use

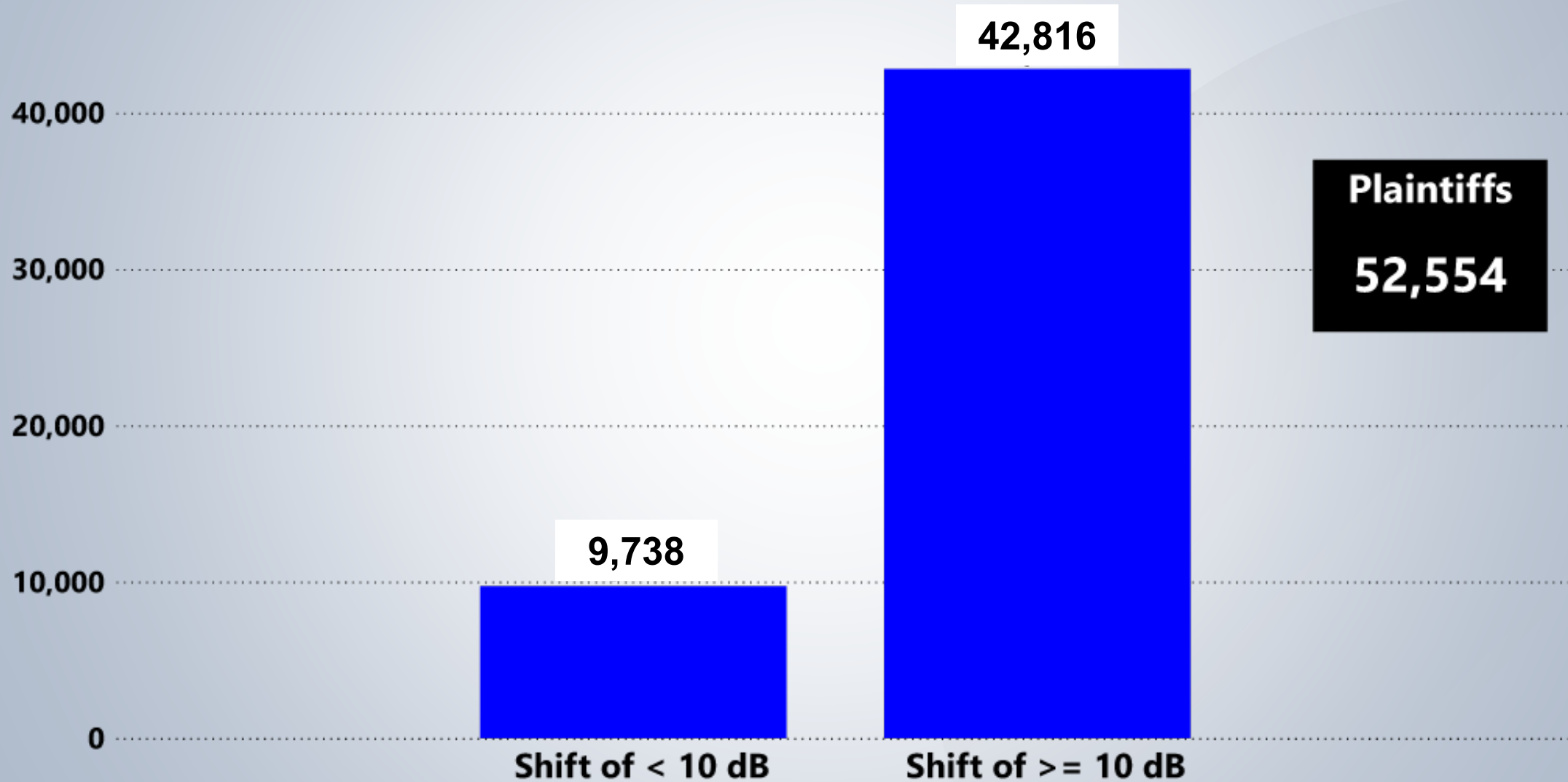
TINNITUS APPROACH 1: 10 dB or More Shifts First and Last AG

Figure 16. Plaintiffs Analyzed in T Approach 1

**Only One
AG 3,605
(6.4%)**



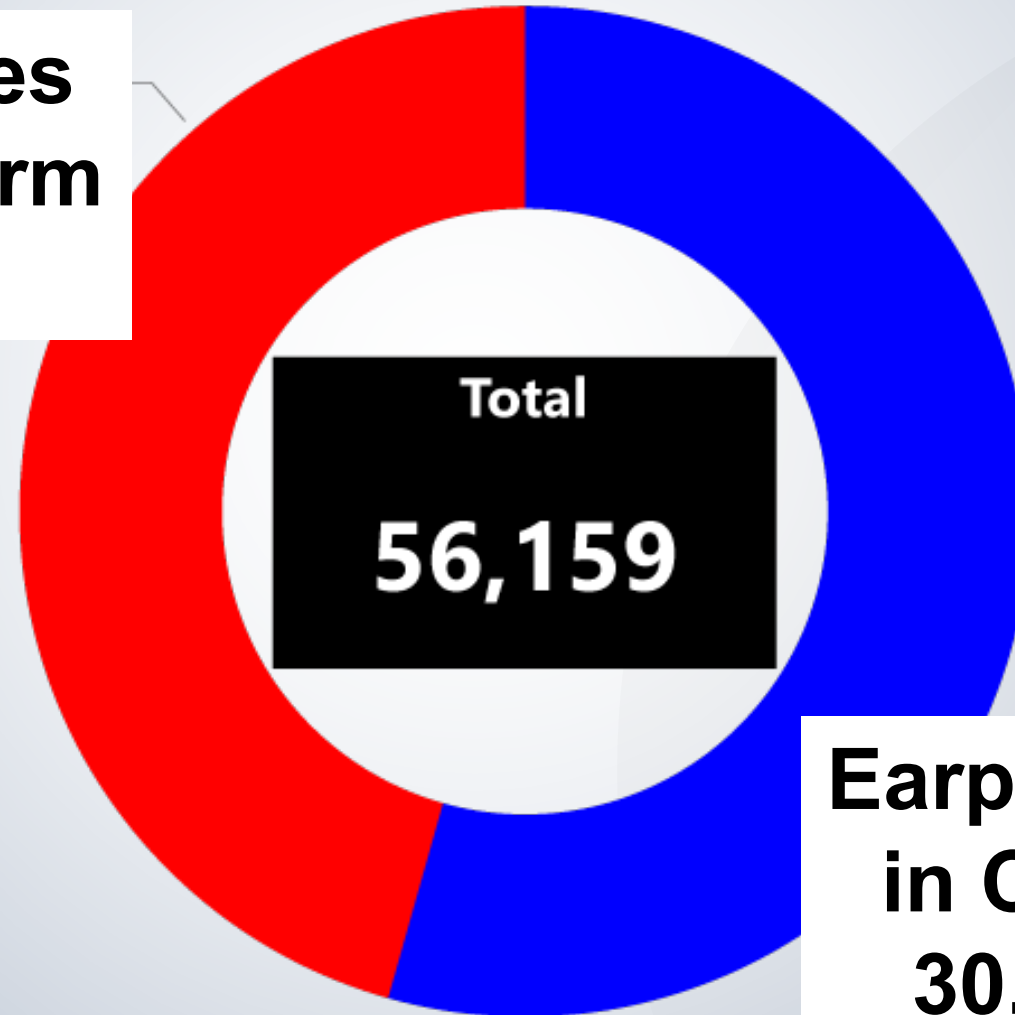
**More than
One AG
52,554 (93.6%)**

Figure 17. Plaintiffs With 10 dB or More Shift(s) Between First and Last AG

**8. TINNITUS APPROACH 2: 10 dB
or More Shifts Between
Reference AG Earplug Use Start
Date and AG Earplug Use End
Date**

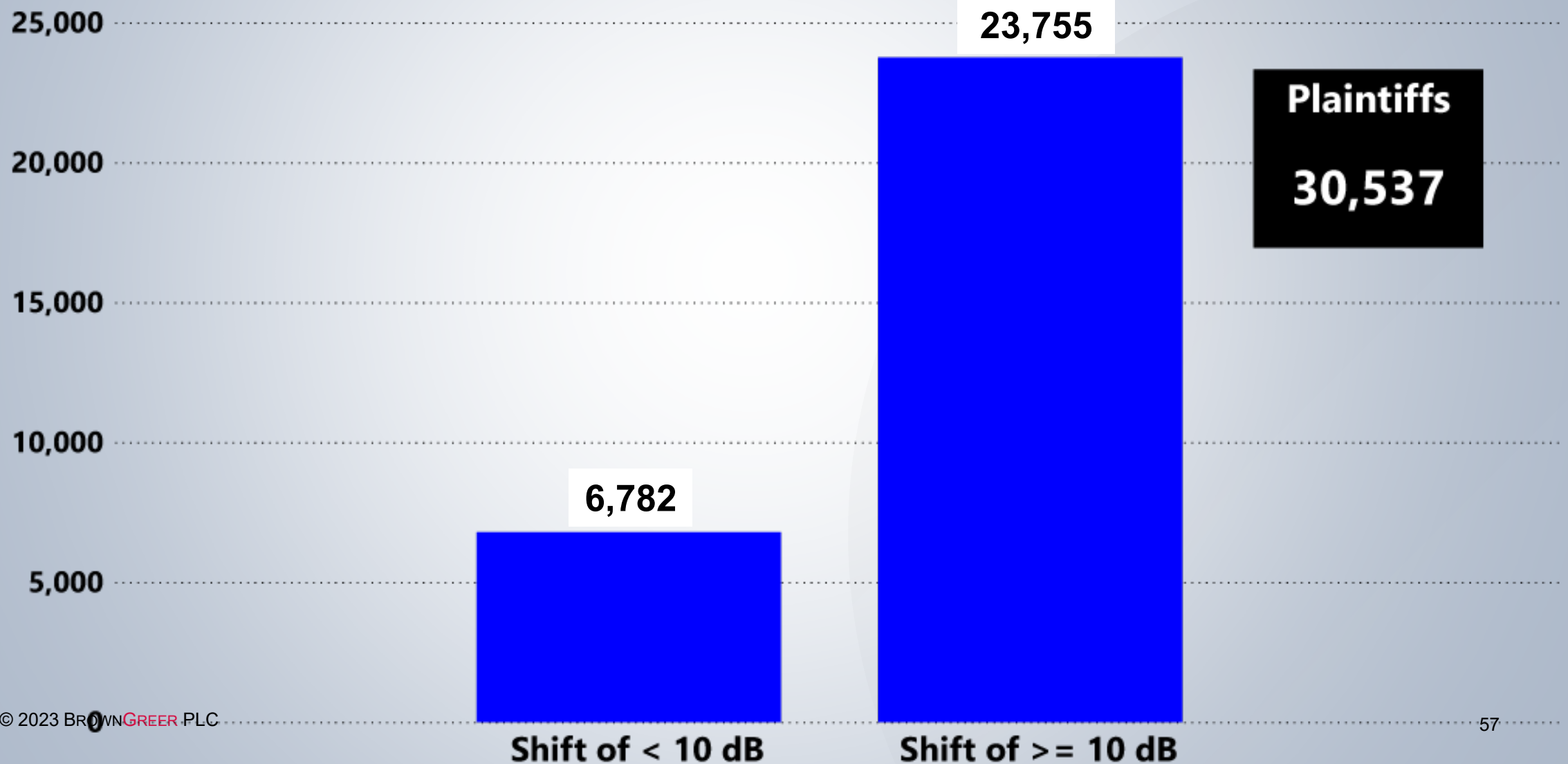
Figure 18. Plaintiffs Analyzed in T Approach 2

**Earplug Use Dates
Not in Census Form
25,622 (45.6%)**



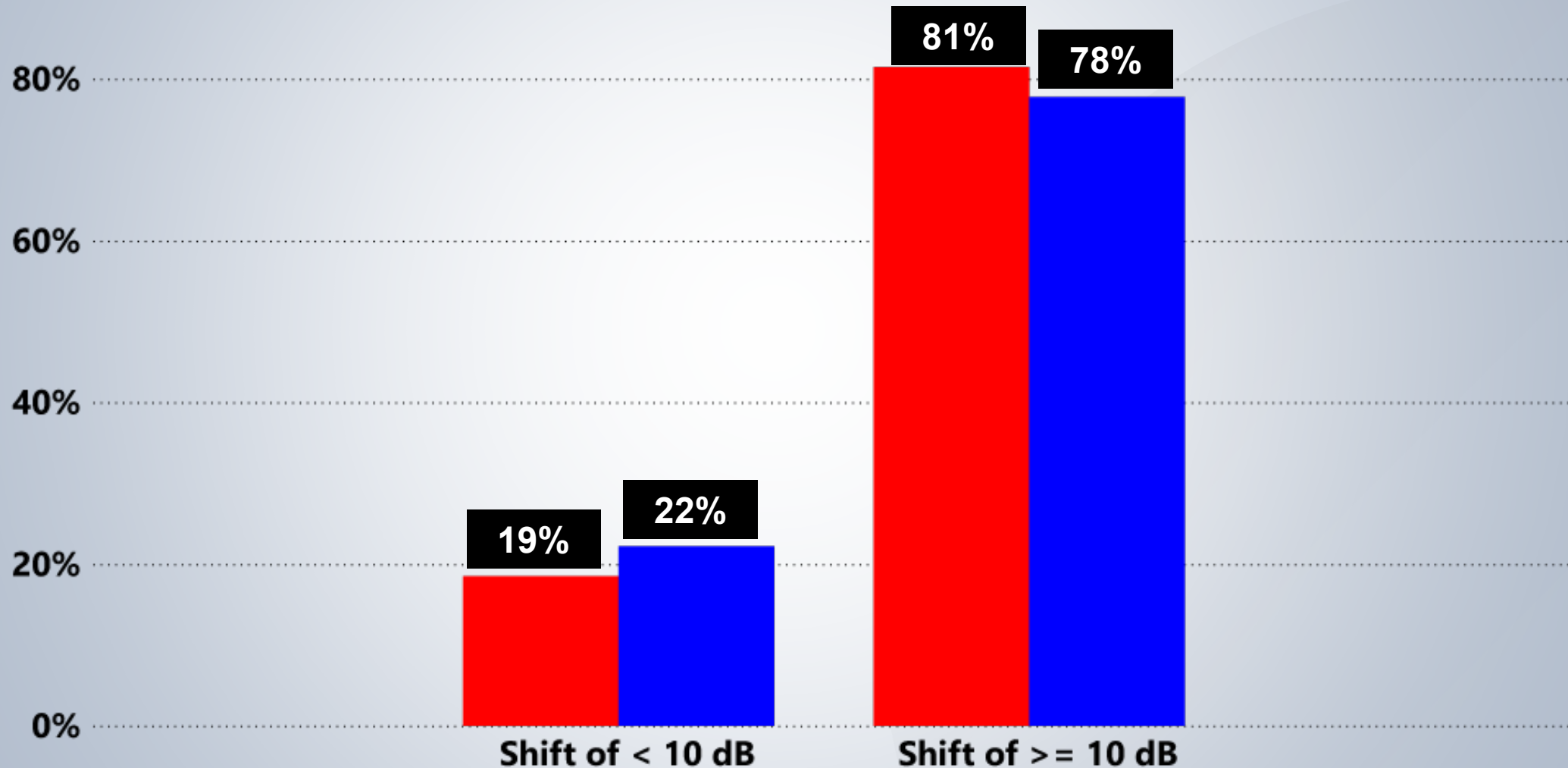
**Earplug Use Dates
in Census Form
30,537 (54.4%)**

Figure 19. Plaintiffs With 10 dB or More Shift(s) Between Reference AG Closest to Earplug Use Start Date and AG Closest to Earplug Use End Date



Comparison of Tinnitus Approaches

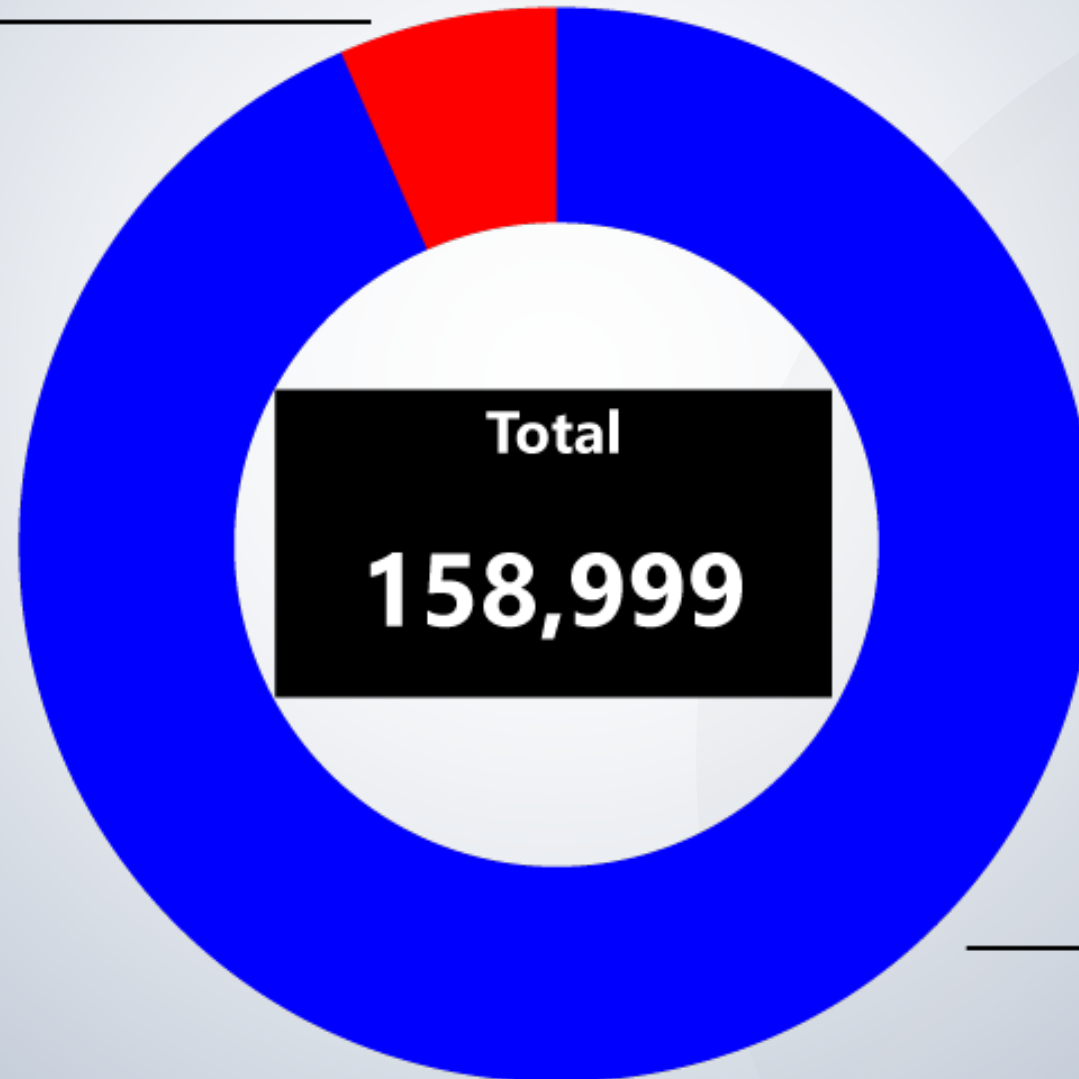
Figure 20. Compare T Approach 1 and Tinnitus Approach 2



TINNITUS APPROACH 1- EXPANDED: 10 dB or More Shifts First and Last AG

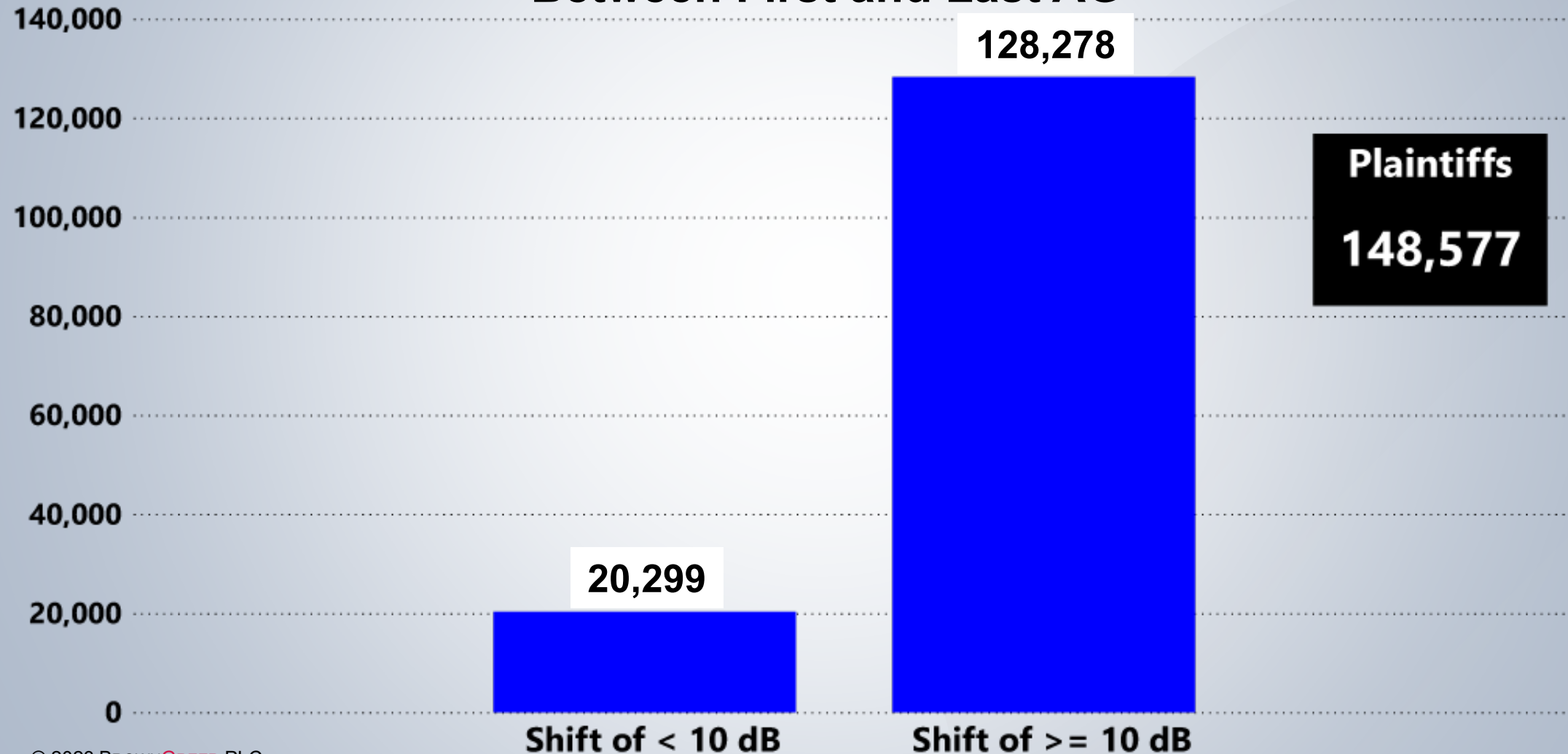
Figure 16E. Plaintiffs Analyzed in T Approach 1 - Expanded

**Only One
AG 10,422
(6.6%)**



**More than One
AG 148,577
(93.4%)**

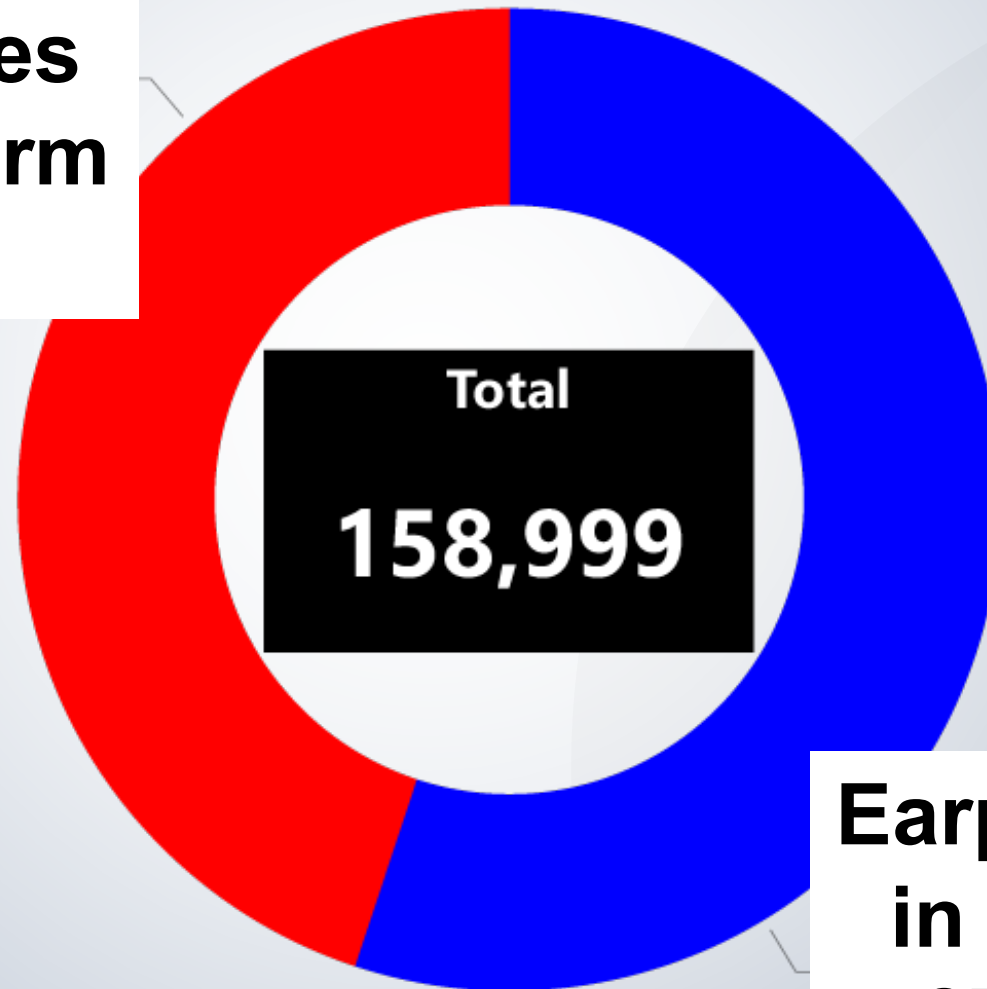
**Figure 17E. T Approach 1- Expanded Plaintiffs With 10 dB or More Shift(s)
Between First and Last AG**



**TINNITUS APPROACH 2-
EXPANDED: 10 dB or More
Shifts Between Reference AG
Earplug Use Start Date and
AG Earplug Use End Date**

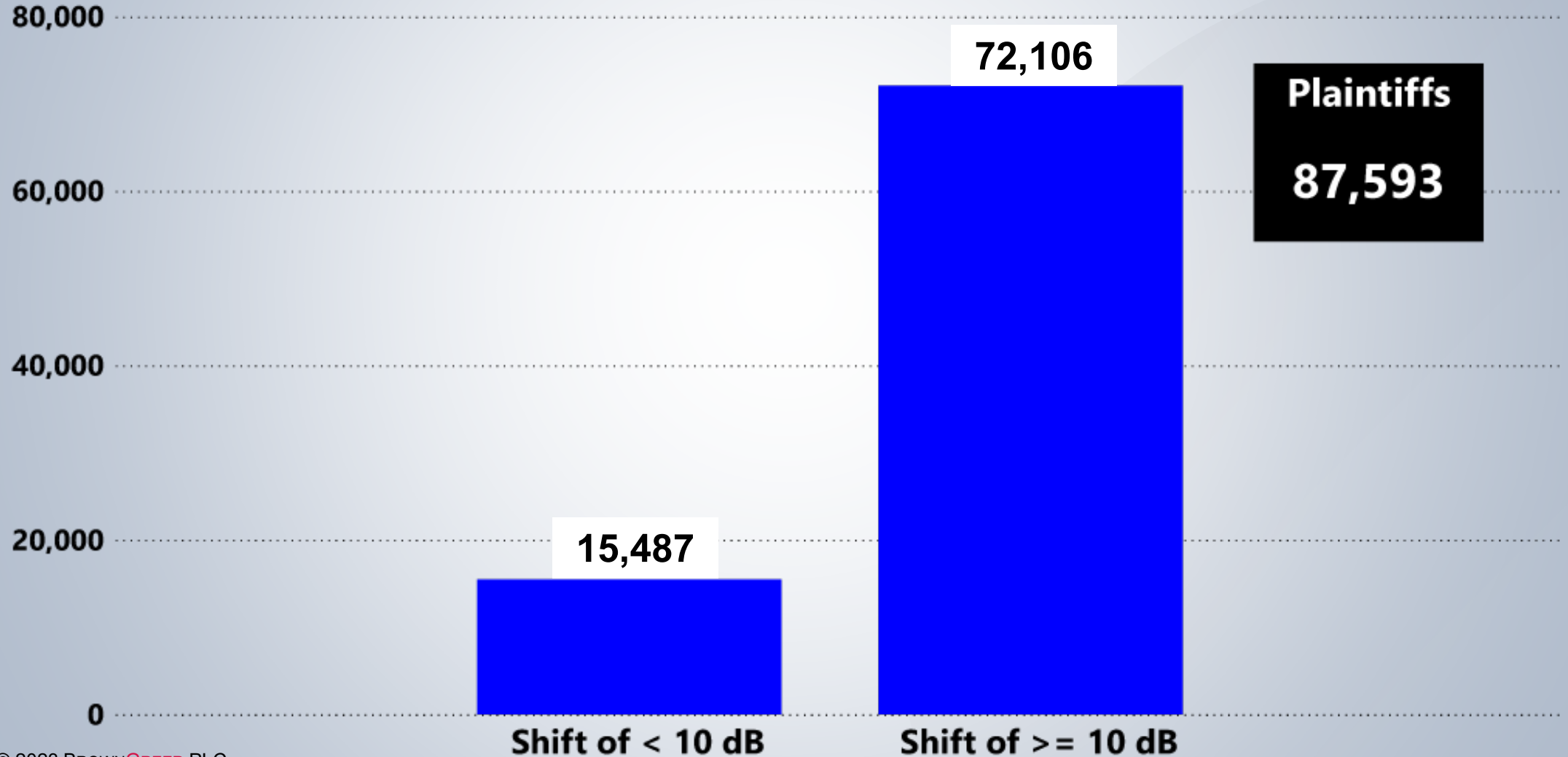
Figure 18E. Plaintiffs Analyzed in T Approach 2 - Expanded

**Earplug Use Dates
Not in Census Form
71,406 (44.9%)**



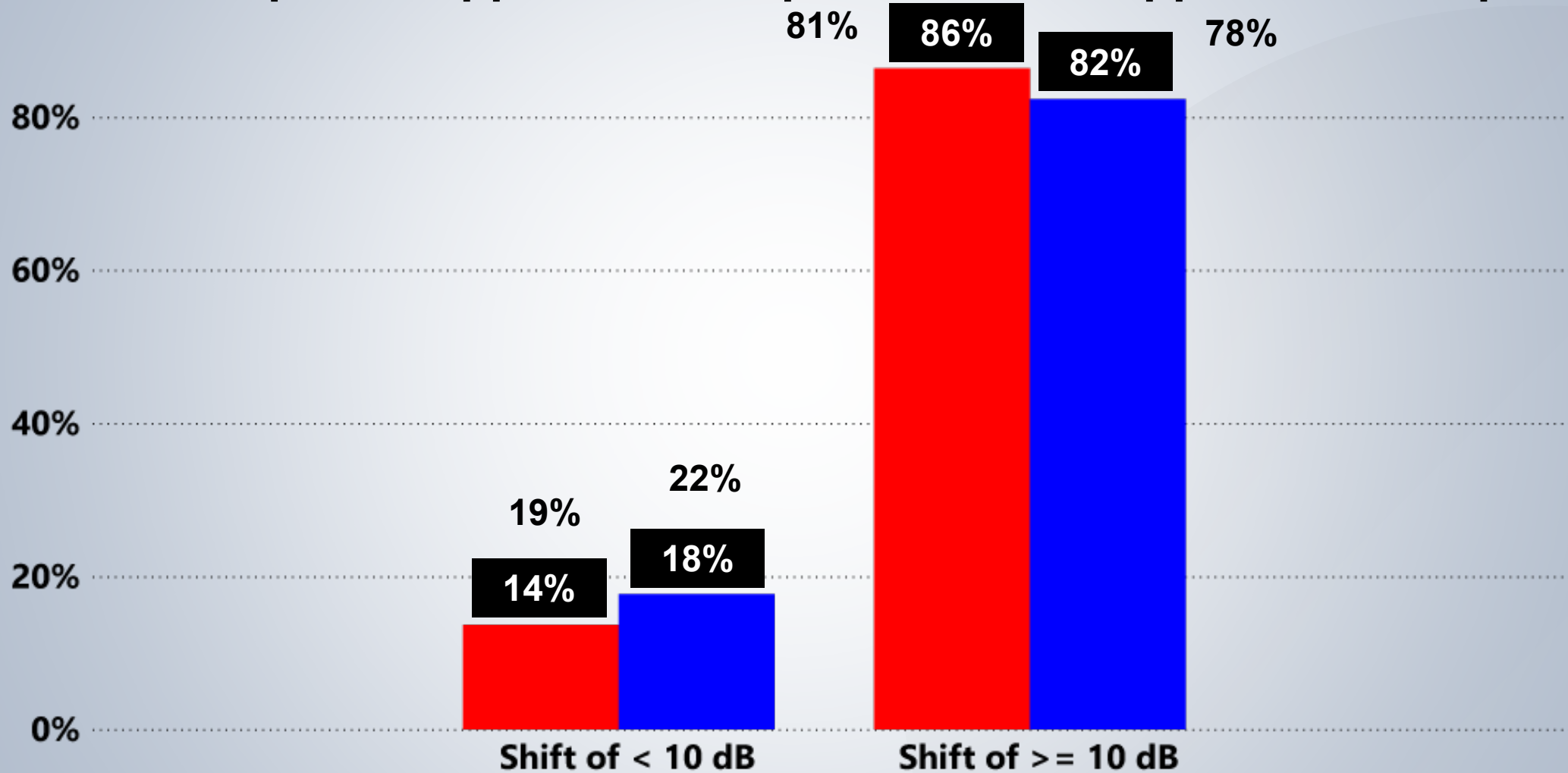
**Earplug Use Dates
in Census Form
87,593 (55.1%)**

Figure 19E. T Approach 2 - Expanded Plaintiffs With 10 dB or More Shift(s) Between Reference AG Earplug Use Start Date and AG Earplug Use End Date



Comparison of Tinnitus Expanded Approaches

Figure 20E. Compare T Approach 1- Expanded and T Approach 2 - Expanded



Analysis Approach ● Approach 1 - First to Last ● Approach 2 - Earplug Use Start and End