

National Health and Nutrition Examination Survey

2017-March 2020 Data Documentation, Codebook, and Frequencies

Audiometry (P_AUX)

Data File: P_AUX.xpt

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Component Description

The NHANES program suspended field operations in March 2020 due to the coronavirus disease 2019 (COVID-19) pandemic. As a result, data collection for the NHANES 2019-2020 cycle was not completed and the collected data are not nationally representative. Therefore, data collected from 2019 to March 2020 were combined with data from the NHANES 2017-2018 cycle to form a nationally representative sample of NHANES 2017-March 2020 pre-pandemic data. These data are available to the public. Please refer to the Analytic Notes section for more details on the use of the data.

The audiometry examination component (AUX) consists of four parts:

1) Pre-exam audiometric questions – a series of questions to identify conditions that would affect how audiometric testing is conducted, or how results are interpreted. Questions include whether the participant has pressure equalization (ear) tubes, a current cold or earache, exposure to loud noise or music through earphones in the past 24 hours, or perceived asymmetry between ears. NOTE: more extensive data relating to a survey participant's hearing status and history of noise exposure are contained in the audiometry questionnaire (AUQ) section of the NHANES Sample Person Questionnaire.

2) Otoscopy – a brief otoscopic screening (physical) exam of the ear canals and eardrums to identify abnormalities, which would require alternate audiometric procedures or influence interpretation of test results, and to identify conditions which might require medical referral. The exam screened for excessive or impacted ear cerumen (wax), physical abnormalities, or collapsing external ear canals.

3) Middle ear testing – a measurement of eardrum compliance by placing a probe with a rubber tip into the entrance of the ear canal. It is used to identify middle ear pathologies that might contribute to a hearing loss. There are three middle ear tests: tympanometry, wideband reflectance, and acoustic reflex. The P_AUX data file consists of tympanometric quantitative measurement variables for middle ear volume, pressure, compliance, and gradient. It also includes tympanogram quality rating and score variables. The raw data for the participant's tympanometric curves (P_AUXTYM), wideband reflectance curves (P_AUXWBR), and acoustic reflex curves (P_AUXAR) are released separately.

4) Pure tone air conduction audiometry – a measurement of hearing sensitivity conducted by presenting pure tone signals to the ear through earphones and varying the intensity of the signals until a participant's hearing threshold at that frequency is determined. Testing is performed at frequencies across the range of human hearing.

Eligible Sample

All participants aged 6–19 years and 70 years and older in the NHANES 2017-March 2020 pre-pandemic sample were eligible. There were no precluding conditions for any part of the audiologic exam. However, participants using hearing aids who were not able to remove them for testing and participants who had sufficient ear pain at the time of the exam that they could not tolerate headphones were excluded.

Protocol and Procedure

All audiometry exam sections were performed by trained examiners on participants in a dedicated sound-isolating room in the Mobile Examination Center (MEC). Hearing threshold testing was conducted on both ears of participants at seven frequencies. Children aged 6–11 years were tested in the following frequency order so that data could be obtained for more important frequencies first in case the child's attention waned before all frequencies could be completed: Ear 1: 1000, 2000, 1000 (repeat), 4000, 8000 Hz. Ear 2: 1000, 2000, 1000 (repeat), 4000, 8000, 6000, 3000, 500 Hz. Ear 1: 6000, 3000, 500 Hz. Adolescents aged 12–19 years and adults aged 70 years and older were tested in the frequency order 1000, 500, 1000 (repeat), 2000, 3000, 4000, 6000, 8000 Hz for ear 1 and then for ear 2. The ear tested first was varied to prevent biasing the data. However, if the participant indicated one ear hearing better than the other, the ear with better sensitivity was tested first. Testing was conducted according to a modified Hughson Westlake procedure using the automated testing mode of the audiometer. The approximate audiometer output constraints for standard and insert earphones was 100 decibels (dB) at 500 to 6000 Hz and 90 dB at 8000 Hz. Some earphones might produce slightly higher output than others. A threshold greater than 90 dB can be obtained using a manual testing mode. Observed values, therefore, varied between -10 and 110 dB. If a participant did not respond to the signal tone at any level for one or more frequencies because of deafness or severe hearing loss, a code value of 666 was entered. Manual testing was conducted on children aged 6-8 years. Manual testing was also conducted when the participant could not operate the response switch or responded too slowly or inconsistently for the audiometer to accurately record the response.

In some instances, if a pure tone audiometric signal is sufficiently loud, it can "cross over" and be heard by the opposite ear via bone conduction. When this occurs, it is difficult to determine if the threshold obtained is truly the threshold of the test ear, or an artifact of the non-test ear (which may have better hearing). For the NHANES hearing threshold testing, a crossover retesting protocol was performed whenever the observed threshold at any given frequency was poorer in one ear than the other by 25 dB at 500 and 1000 Hz or 40 dB at any higher frequency. Retesting was accomplished using insert earphones, which are smaller and have less direct contact with the bones of the head. Thus, a much louder stimulus is required before crossover occurs. Due to the complexity of the procedure, masking was not employed in the NHANES audiometry exam.

The NHANES 2017-2018 and the 2019-2020 Audiometry Procedures Manual are available on the NHANES website [NHANES 2017-2018 Audiometry Procedures Manual](#) and [NHANES 2019-2020 Audiometry Procedures Manual](#).

Quality Assurance & Quality Control

Instrumentation for the audiometry component included an ViAcoustics Audiometric Research Tool (ART) system with standard TDH-49P headphones and Etymotic EarTone 3A insert earphones. Interacoustics Titan (middle ear analyzer) was used to conduct middle ear testing. Ambient noise levels were measured daily using the ART system and monitored continuously during testing with a Quest Model BA-202-27 Bioacoustic Simulator. AUX data were entered directly into the computerized NHANES database system. Data from the ART system and Interacoustics Titan were captured electronically and uploaded into the survey information system automatically.

The ART system was used to conduct the pure-tone air conduction hearing test on survey participants. The ART system is a comprehensive, highly configurable audiometer designed for the research application. The ART system consists of dedicated National Instruments hardware and ART software as an audiometer. The ART software has been programmed to conduct the threshold test automatically. The system can also be used to conduct a guided manual test, in which the software suggests the presentation level and threshold determinations using the same algorithms as the automated test, but signals are presented manually by the tester, who can override the system suggestions when deemed appropriate.

The ART system contains an integrated calibration system, called Trident, to measure the sound levels put out by the system. A G.R.A.S. calibration kit with couplers for each type of earphones is used in conjunction with Trident to monitor calibration. ART calibration checks were conducted at the beginning of each survey location, daily before the exam, and at the end of each survey location to ensure that the accuracy has not shifted. Daily calibration procedures included checking the calibration of the G.R.A.S. microphone, the background noise measurement, an acoustic calibration check to measure the output and distortion, and a listening check to evaluate tone quality, attenuator accuracy, headphone cord integrity, and crossover.

Calibration checks were accomplished for each headphone type on alternating days (i.e., TDH-49 headphones one day, insert earphones the next). At the beginning and end of data collection at each survey location, the daily procedures were conducted on both sets of headphones, along with a linearity check across all seven test frequencies. In addition to these calibration checks, each ART system received an exhaustive calibration once a year or whenever unresolvable problems were discovered during the calibration checks. The calibrations were accomplished by a certified laboratory to ensure that the calibrations are traceable to the National Institute of Standards and Technology (NIST).

An Interacoustics Titan was used to conduct middle ear testing. The physical volume was checked on the Titan to ensure that it was within the calibration limits. In addition, the MEC Health Technicians ran a sample test on one ear to ensure that the unit was producing clear, normal graphs for the tympanogram and wideband reflectance. The Titan calibration checks were conducted at the beginning of each survey location, daily before the exam, and at the end of each survey location. The Titan also received an exhaustive NIST-traceable calibration check annually.

A Bioacoustic Simulator was used to continuously measure the background noise levels in the audiometric test room during the exam. Pure tone audiometric testing was not performed if ambient noise levels in the test booth exceeded maximum permissible levels. The microphones and sound measurement function of the bioacoustic simulator were checked by a certified laboratory annually or whenever unsolvable problems were discovered.

As an additional quality measure, all audiograms, whether conducted in automated or manual mode, tested the 1000 Hz frequency twice in each ear as a measure of the reliability of the participant's responses. Pure tone audiograms were not accepted if there was more than a 10 dB difference between them.

Tympanometry and/or wideband reflectance measures were sometimes repeated once per ear when the initial result was unsatisfactory (acoustic reflex testing was not repeated due to the number of loud tones presented in a single test). The best of each of the two curves was retained in the data. Subjective quality ratings for tympanograms are the variables AUAREQC and AUALEQC. These represent a qualitative assessment of each tympanogram by the consulting audiologist. The consulting audiologist also scored these tympanograms using a common classification system developed by Liden (1969) and modified by Jerger (1970). Two variables AUATYMTR and AUATYMTL provide information about what the tympanometry results mean in terms of the participant's middle ear status.

The MEC health technicians who performed the audiometry examination component of NHANES were professionally trained by a certified audiologist from the National Institute for Occupational Safety & Health (NIOSH). NIOSH also monitored the performance of each health technician on a regular basis. Field visits to each MEC were conducted by the NIOSH audiologist at least three times per year. Additionally, NCHS project officers visited the MECs approximately twice per year to observe the audiometry examinations and verify that standard testing procedures were being followed. NIOSH consultants provided the MEC health technicians with annual retraining and protocol updates.

Data Processing and Editing

The wording of some questions asked before the audiometry exam has been simplified for children aged 6–11 years. Therefore, there are two separated sets of variables for the pre-exam audiometric questionnaire: one for children aged 6–11 years and another for adolescents aged 12–19 years and adults aged 70 years and older.

All data were captured in the NHANES computerized database system, with audiometric and middle ear analyzer data automatically uploaded. On a continuous basis, a consulting audiologist performed a clinical review of all data for each participant as it was received, checking for quality and consistency. In addition, a computerized data editing program was developed to check for logical inconsistencies in the data and technician errors, and to cross-check other issues affecting data quality (consistency in identifying potential instances where crossover effects might have occurred, assurance of randomization of the initial test ear, etc.). Back-end edits of the data were performed as needed when errors were detected.

Analytic Notes

The COVID-19 pandemic required suspension of NHANES 2019-2020 field operations in March 2020 after data were collected in 18 of the 30 survey locations in the 2019-2020 sample. Because the collected data from 18 locations were not nationally representative, these data were combined with data from the previous cycle (2017-2018) to create a 2017-March 2020 pre-pandemic data file. The resulting exam sample weights in the demographic file should be used to calculate estimates from the combined cycles. These exam sample weights are not appropriate for independent analyses of the 2019-2020 data and will not yield nationally representative results for either the 2017-2018 data alone or the 2019-March 2020 data alone. Please refer to the NHANES website for additional information for the NHANES 2017-March 2020 pre-pandemic data, and for the previous 2017-2018 public use data file with specific weights for that 2-year cycle.

Audiologic data analysis is a complex procedure and requires a thorough knowledge of the specialty content area for valid results to be obtained. If an analyst does not have professional experience in this area, it is recommended that audiologic consultation be obtained to help formulate and review the results of the analysis. Data analysts should be especially aware of the fact that the number "666" in all primary audiometric frequency data fields (AUXU1K1R through AUXU8KL) as well as in all repeat test frequencies (AUXR1K1R through AUXR8KL) is a qualitative code for nonresponse at a particular frequency and does not represent actual measured decibel hearing threshold values. These nonresponse values should be appropriately edited prior to any numerical data analysis.

The algorithm for obtaining automated audiometric thresholds has changed slightly over NHANES cycles since 1999. From 1999-2016, automated thresholds were obtained using an Interacoustics AD226 audiometer, which defined threshold as the level at which the subject responded at least 50% of the time to a minimum of 2 out of 3 trials following ascending or descending presentations; if a subject responded consistently to the first two presentations at a given level, a third presentation at that level was not required. From 2017-2020, automated thresholds were obtained using the ViAcoustics ART software described above. The ART system defined threshold as the level at which the subject responded at least 50% of the time to ascending only signal presentations. In the 2017-2018 cycle, the software was programmed to require a third signal presentation even if a subject responded consistently to the first two presentations at a given level. The software was modified for the 2019-2020 cycle to eliminate the need for a third presentation when a subject responded consistently to the first two presentations at a given level.

The algorithm for obtaining manual audiometric thresholds has been unchanged since 1999. Threshold for manual audiometry was defined based on ascending presentations only following a minimum of two out of three responses. A third presentation was not required when a subject responded consistently to the first two presentations at a given level. This threshold definition is identical to the automated threshold determination algorithm used in the 2019-2020 cycle.

An internal analysis of response histories from a separate study indicated that inclusion of descending presentations toward threshold shifted the center point of the psychometric function by less than 2.5 dB, indicating that the influence of descending responses on center and width is very small for tests using the Hughson-Westlake procedure. Analysis also found that requiring the third ascending response resulted in a different threshold determination approximately 9% of the time, typically better by 5 dB. Thus, the differing threshold algorithms used across NHANES from 1999-2020 should have minimal impact on results over time. Nonetheless, analysts should be aware of these differences when comparing thresholds across various NHANES cycles.

NHANES thresholds in cycles prior to 1999 were all obtained manually using various threshold search procedures. Analysts comparing back to cycles prior to 1999 should refer to the data documentation from the earlier surveys to understand how differences in procedures could affect the thresholds obtained.

Please refer to the [NHANES Analytic Guidelines](#) and the online [NHANES Tutorial](#) for further details on the use of sample weights and other analytic issues.

The NHANES audiometry exam also collected the Words-In-Noise data in 2019-March 2020 as a convenience sample file, AUXW_R (Audiometry - Words-In-Noise), available through the [NCHS RDC](#).

References

- Jerger, J.F. (1970). Clinical experience with impedance audiometry. Archives of Otolaryngology, 92,

311-324.

- Liden, G. (1969). The scope and application of current audiometric tests. *Journal of Laryngology and Otology*, 83, 505-520.

Codebook and Frequencies

SEQN - Respondent sequence number

Variable Name:	SEQN
SAS Label:	Respondent sequence number
English Text:	Respondent sequence number.
Target:	Both males and females 6 YEARS - 19 YEARS
Target:	Both males and females 70 YEARS - 150 YEARS

AUAEXSTS - Status of an Audio Exam

Variable Name: AUAEXSTS
SAS Label: Status of an Audio Exam
English Text: Status of an Audiometry Exam
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Complete	3775	3775	
2	Partial	1010	4785	
3	Not done	362	5147	
.	Missing	0	5147	

AUAEXCMT - Comment code for an Audio Exam

Variable Name: AUAEXCMT
SAS Label: Comment code for an Audio Exam
English Text: Comment code for an Audio Exam
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
2	SP refusal	68	68	
3	No time	56	124	
4	Physical limitation	246	370	
5	Communication problem	8	378	
6	Equipment failure	109	487	
7	SP ill/emergency	20	507	
14	Interrupted	2	509	
51	SP unable to comply	492	1001	
56	Came late/left early	229	1230	
62	Problem with data capture	7	1237	
72	Error (technician/software/supply)	49	1286	
99	Other, specify	52	1338	
122	Language barrier	4	1342	
150	SP with parent SP	4	1346	
.	Missing	3801	5147	

AUQ011 - Have Ear Tube, Right or Left Ear?

Variable Name: AUQ011**SAS Label:** Have Ear Tube, Right or Left Ear?**English Text:** Do you now have a tube in your right or left ear? (If yes, indicate affected ear(s))**Target:** Both males and females 6 YEARS - 11 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes, right ear	4	4	
2	Yes, left ear	6	10	
3	Yes, both ears	19	29	
4	No	1624	1653	
7	Refused	5	1658	
9	Don't know	9	1667	
.	Missing	3480	5147	

AUQ540 - Had Cold, Runny Nose, Earache Today?

Variable Name: AUQ540
SAS Label: Had Cold, Runny Nose, Earache Today?
English Text: Do you have a cold, runny nose, or earache today?
Target: Both males and females 6 YEARS - 11 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes	279	279	
2	No	1377	1656	
7	Refused	1	1657	
9	Don't know	5	1662	
.	Missing	3485	5147	

AUQ550 - Had Cold, Runny Nose, Earache Yesterday?

Variable Name: AUQ550
SAS Label: Had Cold, Runny Nose, Earache Yesterday?
English Text: Did you have a cold, runny nose, or earache yesterday?
Target: Both males and females 6 YEARS - 11 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes	97	97	
2	No	1274	1371	
7	Refused	2	1373	
9	Don't know	8	1381	
.	Missing	3766	5147	

AUQ550A - Had Cold?

Variable Name: AUQ550A
SAS Label: Had Cold?
English Text: Have you had a cold today or yesterday?
Target: Both males and females 6 YEARS - 11 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes (checkbox checked)	77	77	
2	No (checkbox unchecked)	299	376	
9	Don't know	0	376	
.	Missing	4771	5147	

AUQ550B - Had Runny Nose?

Variable Name: AUQ550B
SAS Label: Had Runny Nose?
English Text: Have you had runny nose today or yesterday?
Target: Both males and females 6 YEARS - 11 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes (checkbox checked)	300	300	
2	No (checkbox unchecked)	76	376	
9	Don't know	0	376	
.	Missing	4771	5147	

AUQ550C - Earache, Right Ear?

Variable Name: AUQ550C**SAS Label:** Earache, Right Ear?**English Text:** Have you had an earache in right ear today or yesterday?**Target:** Both males and females 6 YEARS - 11 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes (checkbox checked)	11	11	
2	No (checkbox unchecked)	365	376	
9	Don't know	0	376	
.	Missing	4771	5147	

AUQ550D - Earache, Left Ear?

Variable Name: AUQ550D**SAS Label:** Earache, Left Ear?**English Text:** Have you had an earache in left ear today or yesterday?**Target:** Both males and females 6 YEARS - 11 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes (checkbox checked)	12	12	
2	No (checkbox unchecked)	364	376	
9	Don't know	0	376	
.	Missing	4771	5147	

AUQ550E - Earache, Both Ears?

Variable Name: AUQ550E**SAS Label:** Earache, Both Ears?**English Text:** Have you had an earache in both ears today or yesterday?**Target:** Both males and females 6 YEARS - 11 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes (checkbox checked)	3	3	
2	No (checkbox unchecked)	373	376	
9	Don't know	0	376	
.	Missing	4771	5147	

AUQ560 - Listened to Loud Sound Today?

Variable Name: AUQ560**SAS Label:** Listened to Loud Sound Today?**English Text:** Have you listened to sounds today that were so loud you would have to shout so someone close by could hear you?**Target:** Both males and females 6 YEARS - 11 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes	75	75	
2	No	1568	1643	
7	Refused	2	1645	
9	Don't know	9	1654	
.	Missing	3493	5147	

AUQ570 - Listened to Loud Sound Yesterday?

Variable Name: AUQ570**SAS Label:** Listened to Loud Sound Yesterday?**English Text:** Did you listen to any sounds that were that loud yesterday?**Target:** Both males and females 6 YEARS - 11 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes	75	75	
2	No	1496	1571	
7	Refused	0	1571	
9	Don't know	14	1585	
.	Missing	3562	5147	

AUQ580 - Hours Since Loud Sound Ended?

Variable Name: AUQ580**SAS Label:** Hours Since Loud Sound Ended?**English Text:** When was that?**Target:** Both males and females 6 YEARS - 11 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1 to 24	Range of Values	134	134	
77	Refused	0	134	
99	Don't know	16	150	
.	Missing	4997	5147	

AUQ590 - Listened to Music with Earphones Today?

Variable Name: AUQ590
SAS Label: Listened to Music with Earphones Today?
English Text: Have you listened to music with earphones today?
Target: Both males and females 6 YEARS - 11 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes	183	183	
2	No	1475	1658	
7	Refused	2	1660	
9	Don't know	2	1662	
.	Missing	3485	5147	

AUQ600 - Listened to Music w/Earphones Yesterday?

Variable Name: AUQ600
SAS Label: Listened to Music w/Earphones Yesterday?
English Text: Did you listen to music with earphones yesterday?
Target: Both males and females 6 YEARS - 11 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes	141	141	
2	No	1332	1473	
7	Refused	0	1473	
9	Don't know	5	1478	
.	Missing	3669	5147	

AUQ610 - Hours Since Stopped Listening?

Variable Name: AUQ610
SAS Label: Hours Since Stopped Listening?
English Text: When was that?
Target: Both males and females 6 YEARS - 11 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1 to 24	Range of Values	301	301	
77	Refused	0	301	
99	Don't know	22	323	
.	Missing	4824	5147	

AUQ051 - Self Reported Better Ear

Variable Name: AUQ051**SAS Label:** Self Reported Better Ear**English Text:** Is it easier for you to hear out of one ear than the other?**Target:** Both males and females 6 YEARS - 11 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes, right ear	103	103	
2	Yes, left ear	71	174	
7	Refused	2	176	
9	No / don't know	1485	1661	
.	Missing	3486	5147	

AUQ010 - Have Ear Tube, Right or Left Ear?

Variable Name: AUQ010

SAS Label: Have Ear Tube, Right or Left Ear?

English Text: Do you now have a tube in your right or left ear? (If yes, indicate affected ear(s))

Target: Both males and females 12 YEARS - 19 YEARS

Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes, right ear	8	8	
2	Yes, left ear	5	13	
3	Yes, both ears	3	16	
4	No	3078	3094	
7	Refused	1	3095	
9	Don't know	22	3117	
.	Missing	2030	5147	

AUQ020 - Had Cold, Sinus or Earache Last 24 Hrs?

Variable Name: AUQ020**SAS Label:** Had Cold, Sinus or Earache Last 24 Hrs?**English Text:** Have you had a cold, sinus problem, or earache in the last 24 hours?**Target:** Both males and females 12 YEARS - 19 YEARS**Target:** Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes	311	311	
2	No	2799	3110	
7	Refused	3	3113	
9	Don't know	4	3117	
.	Missing	2030	5147	

AUQ020A - Had Cold Last 24 Hrs?

Variable Name: AUQ020A
SAS Label: Had Cold Last 24 Hrs?
English Text: Have you had a cold in the last 24 hours?
Target: Both males and females 12 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes (checkbox checked)	103	103	
2	No (checkbox unchecked)	208	311	
9	Don't know	0	311	
.	Missing	4836	5147	

AUQ020B - Had Sinus Problem Last 24 Hours?

Variable Name: AUQ020B
SAS Label: Had Sinus Problem Last 24 Hours?
English Text: Have you had a sinus problem in the last 24 hours?
Target: Both males and females 12 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes (checkbox checked)	202	202	
2	No (checkbox unchecked)	109	311	
9	Don't know	0	311	
.	Missing	4836	5147	

AUQ020C - Earache Last 24 Hours, Right?

Variable Name: AUQ020C

SAS Label: Earache Last 24 Hours, Right?

English Text: Have you had an earache in the right ear in the last 24 hours?

Target: Both males and females 12 YEARS - 19 YEARS

Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes (checkbox checked)	13	13	
2	No (checkbox unchecked)	298	311	
9	Don't know	0	311	
.	Missing	4836	5147	

AUQ020D - Earache Last 24 Hours, Left?

Variable Name: AUQ020D
SAS Label: Earache Last 24 Hours, Left?
English Text: Have you had an earache in left ear in the last 24 hours?
Target: Both males and females 12 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes (checkbox checked)	11	11	
2	No (checkbox unchecked)	300	311	
9	Don't know	0	311	
.	Missing	4836	5147	

AUQ020E - Earache Last 24 Hours, Both?

Variable Name: AUQ020E
SAS Label: Earache Last 24 Hours, Both?
English Text: Have you had an earache in both ears in the last 24 hours?
Target: Both males and females 12 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes (checkbox checked)	5	5	
2	No (checkbox unchecked)	306	311	
9	Don't know	0	311	
.	Missing	4836	5147	

AUQ031 - Exposed to Loud Noise Last 24 Hrs?

Variable Name: AUQ031**SAS Label:** Exposed to Loud Noise Last 24 Hrs?**English Text:** In the past 24 hours, have you been exposed to noise so loud that you would have had to raise your voice to speak to someone an arm's length away?**Target:** Both males and females 12 YEARS - 19 YEARS**Target:** Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes	195	195	
2	No	2918	3113	
7	Refused	0	3113	
9	Don't know	4	3117	
.	Missing	2030	5147	

AUQ041 - Hours Since Noise Ended?

Variable Name: AUQ041
SAS Label: Hours Since Noise Ended?
English Text: How many hours ago did the noise end?
Target: Both males and females 12 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS
Hard Edits: 1 to 24

Code or Value	Value Description	Count	Cumulative	Skip to Item
1 to 24	Range of Values	194	194	
77	SP refused	0	194	
99	Don't know	1	195	
.	Missing	4952	5147	

AUQ520 - Listened to Music w/Earphone Last 24 Hrs

Variable Name: AUQ520**SAS Label:** Listened to Music w/Earphone Last 24 Hrs**English Text:** In the past 24 hours, have you listened to music with earphones?**Target:** Both males and females 12 YEARS - 19 YEARS**Target:** Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes	959	959	
2	No	2155	3114	
7	Refused	1	3115	
9	Don't know	2	3117	
.	Missing	2030	5147	

AUQ530 - Hours Since Music Ended?

Variable Name: AUQ530
SAS Label: Hours Since Music Ended?
English Text: How many hours ago did you stop listening?
Target: Both males and females 12 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1 to 24	Range of Values	952	952	
77	Refused	0	952	
99	Don't know	6	958	
.	Missing	4189	5147	

AUQ050 - Self Reported Better Ear

Variable Name: AUQ050
SAS Label: Self Reported Better Ear
English Text: Do you hear better in one ear than the other?
Target: Both males and females 12 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes, right ear	343	343	
2	Yes, left ear	295	638	
7	Refused	2	640	
9	No / don't know	2477	3117	
.	Missing	2030	5147	

AUXOTSPL - Normal Otoscopy, Left Ear?

Variable Name: AUXOTSPL
SAS Label: Normal Otoscopy, Left Ear?
English Text: Normal: Left Ear Otoscopy
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes (checkbox checked)	3899	3899	
2	No (checkbox unchecked)	879	4778	
.	Missing	369	5147	

AUXLOEXC - Excessive Cerumen, Left Ear

Variable Name: AUXLOEXC
SAS Label: Excessive Cerumen, Left Ear
English Text: Excessive Cerumen, Left Ear
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes (checkbox checked)	815	815	
2	No (checkbox unchecked)	3963	4778	
.	Missing	369	5147	

AUXLOIMC - Impacted Cerumen, Left Ear

Variable Name: AUXLOIMC
SAS Label: Impacted Cerumen, Left Ear
English Text: Impacted Cerumen, Left Ear
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes (checkbox checked)	55	55	
2	No (checkbox unchecked)	4723	4778	
.	Missing	369	5147	

AUXLOCOL - Collapsing Ear Canals, Left Ear

Variable Name: AUXLOCOL
SAS Label: Collapsing Ear Canals, Left Ear
English Text: Collapsing Ear Canal, Left Ear
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes (checkbox checked)	7	7	
2	No (checkbox unchecked)	4771	4778	
.	Missing	369	5147	

AUXLOABN - Other Exam Abnormality, Left Ear?

Variable Name: AUXLOABN
SAS Label: Other Exam Abnormality, Left Ear?
English Text: Other Exam Abnormality, Left Ear
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes (checkbox checked)	7	7	
2	No (checkbox unchecked)	4771	4778	
.	Missing	369	5147	

AUDLOABC - Comment,Other Exam Abnormality Left Ear

Variable Name: AUDLOABC

SAS Label: Comment,Other Exam Abnormality Left Ear

English Text: Other Exam Abnormality, Left, Comment

Target: Both males and females 6 YEARS - 19 YEARS

Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Possible Perforated Eardrum	3	3	
3	Possible Infection	0	3	
4	TM Scarring or Deformity	0	3	
5	Possible Ear Canal Abrasion	1	4	
6	Growth or Foreign Body in Ear Canal	1	5	
7	Deformity of Auricle	0	5	
8	Other	2	7	
9	Could not Visualize Eardrum	0	7	
.	Missing	5140	5147	

AUXROTSP - Normal Otoscopy, Right Ear?

Variable Name: AUXROTSP
SAS Label: Normal Otoscopy, Right Ear?
English Text: Normal: Right Ear Otoscopy
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes (checkbox checked)	3892	3892	
2	No (checkbox unchecked)	886	4778	
.	Missing	369	5147	

AUXROEXC - Excessive Cerumen, Right Ear

Variable Name: AUXROEXC
SAS Label: Excessive Cerumen, Right Ear
English Text: Excessive Cerumen, Right Ear
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes (checkbox checked)	831	831	
2	No (checkbox unchecked)	3947	4778	
.	Missing	369	5147	

AUXROIMC - Impacted Cerumen, Right Ear

Variable Name: AUXROIMC
SAS Label: Impacted Cerumen, Right Ear
English Text: Impacted Cerumen, Right Ear
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes (checkbox checked)	48	48	
2	No (checkbox unchecked)	4730	4778	
.	Missing	369	5147	

AUXROCOL - Collapsing Ear Canals, Right Ear

Variable Name: AUXROCOL
SAS Label: Collapsing Ear Canals, Right Ear
English Text: Collapsing Ear Canal, Right Ear
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes (checkbox checked)	10	10	
2	No (checkbox unchecked)	4768	4778	
.	Missing	369	5147	

AUXROABN - Other Exam Abnormality, Right Ear?

Variable Name: AUXROABN
SAS Label: Other Exam Abnormality, Right Ear?
English Text: Other Exam Abnormality, Right Ear
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes (checkbox checked)	6	6	
2	No (checkbox unchecked)	4772	4778	
.	Missing	369	5147	

AUDROABC - Comment,Other Exam Abnormality Right Ear

Variable Name: AUDROABC

SAS Label: Comment,Other Exam Abnormality Right Ear

English Text: Other Exam Abnormality, Right, Comment

Target: Both males and females 6 YEARS - 19 YEARS

Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Possible Perforated Eardrum	2	2	
3	Possible Infection	0	2	
4	TM Scarring or Deformity	0	2	
5	Possible Ear Canal Abrasion	0	2	
6	Growth or Foreign Body in Ear Canal	1	3	
7	Deformity of Auricle	0	3	
8	Other	2	5	
9	Could not Visualize Eardrum	1	6	
.	Missing	5141	5147	

AUXTMEPR - Middle Ear Pressure-Tymp, Rt Ear in daPa

Variable Name: AUXTMEPR

SAS Label: Middle Ear Pressure-Tymp, Rt Ear in daPa

English Text: Middle ear pressure (tympanometry), right ear, in daPa (dekaPascals)

Target: Both males and females 6 YEARS - 19 YEARS

Target: Both males and females 70 YEARS - 150 YEARS

Hard Edits: -400.0000 to 200.0000

Code or Value	Value Description	Count	Cumulative	Skip to Item
-299 to 199	Range of Values	4241	4241	
.	Missing	906	5147	

AUXTPVR - Physical Volume-Tymp, Right Ear in cc

Variable Name: AUXTPVR
SAS Label: Physical Volume-Tymp, Right Ear in cc
English Text: Physical volume (tympanometry), right ear, in cc
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS
Hard Edits: 0.0 to 7.0

Code or Value	Value Description	Count	Cumulative	Skip to Item
0.214 to 6.651	Range of Values	4446	4446	
.	Missing	701	5147	

AUXTWIDR - Tympanometric width, right ear

Variable Name: AUXTWIDR
SAS Label: Tympanometric width, right ear
English Text: Tympanometric width, right ear
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS
Hard Edits: 0.0000 to 500.0000

Code or Value	Value Description	Count	Cumulative	Skip to Item
1 to 455	Range of Values	4242	4242	
.	Missing	905	5147	

AUXTCOMR - Compliance (tympanometry), right ear

Variable Name: AUXTCOMR
SAS Label: Compliance (tympanometry), right ear
English Text: Compliance (tympanometry), right ear
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS
Hard Edits: 0.0000 to 8.0000

Code or Value	Value Description	Count	Cumulative	Skip to Item
0.15 to 7.205	Range of Values	4245	4245	
.	Missing	902	5147	

AUXTMEPL - Middle Ear Pressure, Tymp, Left in daPa

Variable Name: AUXTMEPL

SAS Label: Middle Ear Pressure, Tymp, Left in daPa

English Text: Middle ear pressure (tympanometry), left ear, in daPa (dekaPascals)

Target: Both males and females 6 YEARS - 19 YEARS

Target: Both males and females 70 YEARS - 150 YEARS

Hard Edits: -400.0000 to 200.0000

Code or Value	Value Description	Count	Cumulative	Skip to Item
-299 to 173	Range of Values	4243	4243	
.	Missing	904	5147	

AUXTPVL - Physical Volume-Tymp, Left ear in cc

Variable Name: AUXTPVL
SAS Label: Physical Volume-Tymp, Left ear in cc
English Text: Physical volume (tympanometry), left ear, in cc
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS
Hard Edits: 0.0 to 7.0

Code or Value	Value Description	Count	Cumulative	Skip to Item
0.09 to 5.829	Range of Values	4441	4441	
.	Missing	706	5147	

AUXTWIDL - Tympanometric width, left ear

Variable Name: AUXTWIDL
SAS Label: Tympanometric width, left ear
English Text: Tympanometric width, left ear
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS
Hard Edits: 0.0000 to 500.0000

Code or Value	Value Description	Count	Cumulative	Skip to Item
10 to 435	Range of Values	4245	4245	
.	Missing	902	5147	

AUXTCOML - Compliance (tympanometry), left ear

Variable Name: AUXTCOML
SAS Label: Compliance (tympanometry), left ear
English Text: Compliance (tympanometry), left ear
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS
Hard Edits: 0.0000 to 8.0000

Code or Value	Value Description	Count	Cumulative	Skip to Item
0.15 to 7.041	Range of Values	4248	4248	
.	Missing	899	5147	

AUAEAR - Which ear tested first?

Variable Name: AUAEAR
SAS Label: Which ear tested first?
English Text: Which ear tested first?
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Right	2414	2414	
2	Left	2331	4745	
.	Missing	402	5147	

AUAMODE - Audio Test Mode-Manual/Automatic/Mixed

Variable Name: AUAMODE
SAS Label: Audio Test Mode-Manual/Automatic/Mixed
English Text: Mode of Audiometric Test (Manual/Automatic/Mixed)
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Manual	905	905	
2	Automatic	3324	4229	
3	Mixed	509	4738	
.	Missing	409	5147	

AUAFMANL - Frequency, Switch to Manual Mode, Left

Variable Name: AUAFMANL

SAS Label: Frequency, Switch to Manual Mode, Left

English Text: Frequency at Which Switched From Auto to Manual Audio Testing (Left)

Target: Both males and females 6 YEARS - 19 YEARS

Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	None	4456	4456	
2	500 Hz	13	4469	
3	1000 Hz	51	4520	
4	2000 Hz	27	4547	
5	3000 Hz	13	4560	
6	4000 Hz	26	4586	
7	6000 Hz	40	4626	
8	8000 Hz	112	4738	
.	Missing	409	5147	

AUAFMANR - Frequency, Switch to Manual Mode, Right

Variable Name: AUAFMANR

SAS Label: Frequency, Switch to Manual Mode, Right

English Text: Frequency at Which Switched From Auto to Manual Audio Testing (Right)

Target: Both males and females 6 YEARS - 19 YEARS

Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	None	4486	4486	
2	500 Hz	20	4506	
3	1000 Hz	40	4546	
4	2000 Hz	20	4566	
5	3000 Hz	23	4589	
6	4000 Hz	18	4607	
7	6000 Hz	38	4645	
8	8000 Hz	93	4738	
.	Missing	409	5147	

AUXU1K1R - Right threshold @ 1000Hz (db)

Variable Name: AUXU1K1R
SAS Label: Right threshold @ 1000Hz (db)
English Text: Right threshold @ 1000Hz in decibels (Hearing Level)
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
-10 to 105	Range of Values	4519	4519	
666	No response	1	4520	
888	Could not obtain	163	4683	
.	Missing	464	5147	

AUXU500R - Right threshold @ 500Hz (db)

Variable Name: AUXU500R
SAS Label: Right threshold @ 500Hz (db)
English Text: Right threshold @ 500Hz in decibels (Hearing Level)
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
-10 to 105	Range of Values	4249	4249	
666	No response	2	4251	
888	Could not obtain	425	4676	
.	Missing	471	5147	

AUXU1K2R - Right Threshold @ 1000Hz-2nd Read (db)

Variable Name: AUXU1K2R

SAS Label: Right Threshold @ 1000Hz-2nd Read (db)

English Text: Right threshold @ 1000Hz (second reading) in decibels (Hearing Level)

Target: Both males and females 6 YEARS - 19 YEARS

Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
-10 to 105	Range of Values	4519	4519	
666	No response	1	4520	
888	Could not obtain	163	4683	
.	Missing	464	5147	

AUXU2KR - Right threshold @ 2000Hz (db)

Variable Name: AUXU2KR
SAS Label: Right threshold @ 2000Hz (db)
English Text: Right threshold @ 2000Hz in decibels (Hearing Level)
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
-10 to 110	Range of Values	4507	4507	
666	No response	7	4514	
888	Could not obtain	168	4682	
.	Missing	465	5147	

AUXU3KR - Right threshold @ 3000Hz (db)

Variable Name: AUXU3KR
SAS Label: Right threshold @ 3000Hz (db)
English Text: Right threshold @ 3000Hz in decibels (Hearing Levels)
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
-10 to 105	Range of Values	4215	4215	
666	No response	17	4232	
888	Could not obtain	441	4673	
.	Missing	474	5147	

AUXU4KR - Right threshold @ 4000Hz (db)

Variable Name: AUXU4KR
SAS Label: Right threshold @ 4000Hz (db)
English Text: Right threshold @ 4000Hz in decibels (Hearing Level)
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
-10 to 110	Range of Values	4455	4455	
666	No response	36	4491	
888	Could not obtain	187	4678	
.	Missing	469	5147	

AUXU6KR - Right threshold @ 6000Hz (db)

Variable Name: AUXU6KR
SAS Label: Right threshold @ 6000Hz (db)
English Text: Right threshold @ 6000Hz in decibels (Hearing Level)
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
-10 to 100	Range of Values	4156	4156	
666	No response	76	4232	
888	Could not obtain	438	4670	
.	Missing	477	5147	

AUXU8KR - Right threshold @ 8000Hz (db)

Variable Name: AUXU8KR
SAS Label: Right threshold @ 8000Hz (db)
English Text: Right threshold @ 8000Hz in decibels (Hearing Level)
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
-10 to 95	Range of Values	4222	4222	
666	No response	239	4461	
888	Could not obtain	212	4673	
.	Missing	474	5147	

AUXU1K1L - Left threshold @ 1000Hz (db)

Variable Name: AUXU1K1L
SAS Label: Left threshold @ 1000Hz (db)
English Text: Left threshold @ 1000Hz in decibels (Hearing Level)
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
-10 to 100	Range of Values	4508	4508	
666	No response	3	4511	
888	Could not obtain	164	4675	
.	Missing	472	5147	

AUXU500L - Left threshold @ 500Hz (db)

Variable Name: AUXU500L
SAS Label: Left threshold @ 500Hz (db)
English Text: Left threshold @ 500Hz in decibels (Hearing Level)
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
-10 to 105	Range of Values	4243	4243	
666	No response	3	4246	
888	Could not obtain	423	4669	
.	Missing	478	5147	

AUXU1K2L - Left threshold @ 1000Hz-2nd Read (db)

Variable Name: AUXU1K2L**SAS Label:** Left threshold @ 1000Hz-2nd Read (db)**English Text:** Left threshold @ 1000Hz (second reading) in decibels (Hearing Level)**Target:** Both males and females 6 YEARS - 19 YEARS**Target:** Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
-10 to 100	Range of Values	4506	4506	
666	No response	4	4510	
888	Could not obtain	164	4674	
.	Missing	473	5147	

AUXU2KL - Left threshold @ 2000Hz (db)

Variable Name: AUXU2KL
SAS Label: Left threshold @ 2000Hz (db)
English Text: Left threshold @ 2000Hz in decibels (Hearing Level)
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
-10 to 105	Range of Values	4494	4494	
666	No response	7	4501	
888	Could not obtain	172	4673	
.	Missing	474	5147	

AUXU3KL - Left threshold @ 3000Hz (db)

Variable Name: AUXU3KL
SAS Label: Left threshold @ 3000Hz (db)
English Text: Left threshold @ 3000Hz in decibels (Hearing Level)
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
-10 to 110	Range of Values	4208	4208	
666	No response	21	4229	
888	Could not obtain	440	4669	
.	Missing	478	5147	

AUXU4KL - Left threshold @ 4000Hz (db)

Variable Name: AUXU4KL
SAS Label: Left threshold @ 4000Hz (db)
English Text: Left threshold @ 4000Hz in decibels (Hearing Level)
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
-10 to 110	Range of Values	4448	4448	
666	No response	34	4482	
888	Could not obtain	191	4673	
.	Missing	474	5147	

AUXU6KL - Left threshold @ 6000Hz (db)

Variable Name: AUXU6KL
SAS Label: Left threshold @ 6000Hz (db)
English Text: Left threshold @ 6000Hz in decibels (Hearing Level)
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
-10 to 105	Range of Values	4156	4156	
666	No response	72	4228	
888	Could not obtain	441	4669	
.	Missing	478	5147	

AUXU8KL - Left threshold @ 8000Hz (db)

Variable Name: AUXU8KL
SAS Label: Left threshold @ 8000Hz (db)
English Text: Left threshold @ 8000Hz in decibels (Hearing Level)
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
-10 to 95	Range of Values	4223	4223	
666	No response	233	4456	
888	Could not obtain	215	4671	
.	Missing	476	5147	

AUXR1K1R - Right retest threshold @ 1000Hz (db)

Variable Name: AUXR1K1R
SAS Label: Right retest threshold @ 1000Hz (db)
English Text: Right retest threshold @ 1000Hz in decibels (Hearing Level)
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
10 to 100	Range of Values	29	29	
666	No response	1	30	
888	Could not obtain	1	31	
.	Missing	5116	5147	

AUXR5CR - Right retest threshold @ 500Hz (db)

Variable Name: AUXR5CR
SAS Label: Right retest threshold @ 500Hz (db)
English Text: Right retest threshold @ 500Hz in decibels (Hearing Level)
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
5 to 105	Range of Values	34	34	
666	No response	1	35	
888	Could not obtain	1	36	
.	Missing	5111	5147	

AUXR1K2R - Right Retest Threshold 1000Hz-2nd Read

Variable Name: AUXR1K2R

SAS Label: Right Retest Threshold 1000Hz-2nd Read

English Text: Right retest threshold @ 1000Hz, (second reading) in decibels (Hearing Level)

Target: Both males and females 6 YEARS - 19 YEARS

Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
20 to 90	Range of Values	4	4	
666	No response	0	4	
888	Could not obtain	0	4	
.	Missing	5143	5147	

AUXR2KR - Right retest threshold @ 2000Hz (db)

Variable Name: AUXR2KR
SAS Label: Right retest threshold @ 2000Hz (db)
English Text: Right retest threshold @ 2000Hz in decibels (Hearing Level)
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
25 to 100	Range of Values	14	14	
666	No response	0	14	
888	Could not obtain	1	15	
.	Missing	5132	5147	

AUXR3KR - Right retest threshold @ 3000Hz (db)

Variable Name: AUXR3KR
SAS Label: Right retest threshold @ 3000Hz (db)
English Text: Right retest threshold @ 3000Hz in decibels (Hearing Level)
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
45 to 100	Range of Values	8	8	
666	No response	2	10	
888	Could not obtain	1	11	
.	Missing	5136	5147	

AUXR4KR - Right retest threshold @ 4000Hz (db)

Variable Name: AUXR4KR
SAS Label: Right retest threshold @ 4000Hz (db)
English Text: Right retest threshold @ 4000Hz in decibels (Hearing Level)
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
45 to 100	Range of Values	9	9	
666	No response	2	11	
888	Could not obtain	1	12	
.	Missing	5135	5147	

AUXR6KR - Right retest threshold @ 6000Hz (db)

Variable Name: AUXR6KR
SAS Label: Right retest threshold @ 6000Hz (db)
English Text: Right retest threshold @ 6000Hz in decibels (Hearing Level)
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
35 to 90	Range of Values	9	9	
666	No response	3	12	
888	Could not obtain	1	13	
.	Missing	5134	5147	

AUXR8KR - Right retest threshold @ 8000Hz (db)

Variable Name: AUXR8KR
SAS Label: Right retest threshold @ 8000Hz (db)
English Text: Right retest threshold @ 8000Hz in decibels (Hearing Level)
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
45 to 80	Range of Values	5	5	
666	No response	1	6	
888	Could not obtain	1	7	
.	Missing	5140	5147	

AUXR1K1L - Left retest threshold @ 1000Hz (db)

Variable Name: AUXR1K1L
SAS Label: Left retest threshold @ 1000Hz (db)
English Text: Left retest threshold @ 1000Hz in decibels (Hearing Level)
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
5 to 95	Range of Values	28	28	
666	No response	0	28	
888	Could not obtain	0	28	
.	Missing	5119	5147	

AUXR5CL - Left retest threshold @ 500Hz (db)

Variable Name: AUXR5CL
SAS Label: Left retest threshold @ 500Hz (db)
English Text: Left retest threshold @ 500Hz in decibels (Hearing Level)
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
15 to 105	Range of Values	25	25	
666	No response	0	25	
888	Could not obtain	0	25	
.	Missing	5122	5147	

AUXR1K2L - Left Retest Threshold 1000Hz-2nd Read

Variable Name: AUXR1K2L

SAS Label: Left Retest Threshold 1000Hz-2nd Read

English Text: Left retest threshold @ 1000Hz, (second reading) in decibels (Hearing Level)

Target: Both males and females 6 YEARS - 19 YEARS

Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
30 to 80	Range of Values	4	4	
666	No response	0	4	
888	Could not obtain	0	4	
.	Missing	5143	5147	

AUXR2KL - Left retest threshold @ 2000Hz (db)

Variable Name: AUXR2KL
SAS Label: Left retest threshold @ 2000Hz (db)
English Text: Left retest threshold @ 2000Hz in decibels (Hearing Level)
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
30 to 95	Range of Values	10	10	
666	No response	2	12	
888	Could not obtain	0	12	
.	Missing	5135	5147	

AUXR3KL - Left retest threshold @ 3000Hz (db)

Variable Name: AUXR3KL
SAS Label: Left retest threshold @ 3000Hz (db)
English Text: Left retest threshold @ 3000Hz in decibels (Hearing Level)
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
50 to 105	Range of Values	6	6	
666	No response	0	6	
888	Could not obtain	0	6	
.	Missing	5141	5147	

AUXR4KL - Left retest threshold @ 4000Hz (db)

Variable Name: AUXR4KL
SAS Label: Left retest threshold @ 4000Hz (db)
English Text: Left retest threshold @ 4000Hz in decibels (Hearing Level)
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
45 to 100	Range of Values	7	7	
666	No response	0	7	
888	Could not obtain	0	7	
.	Missing	5140	5147	

AUXR6KL - Left retest threshold @ 6000Hz (db)

Variable Name: AUXR6KL
SAS Label: Left retest threshold @ 6000Hz (db)
English Text: Left retest threshold @ 6000Hz in decibels (Hearing Level)
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
40 to 95	Range of Values	8	8	
666	No response	1	9	
888	Could not obtain	0	9	
.	Missing	5138	5147	

AUXR8KL - Left retest threshold @ 8000Hz (db)

Variable Name: AUXR8KL
SAS Label: Left retest threshold @ 8000Hz (db)
English Text: Left retest threshold @ 8000Hz in decibels (Hearing Level)
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
40 to 80	Range of Values	13	13	
666	No response	1	14	
888	Could not obtain	1	15	
.	Missing	5132	5147	

AUAREQC - Right Ear Tympanogram Quality Code

Variable Name: AUAREQC
SAS Label: Right Ear Tympanogram Quality Code
English Text: Quality Code for Tympanogram of Right Ear
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Good - tympanogram is smooth and symmetrical	3709	3709	
2	Adequate - tympanogram is 'noisy' but adequate for interpretation	662	4371	
3	Poor - tympanogram cannot be interpreted	73	4444	
7	SP Refused Tympanometry	0	4444	
8	Could not obtain	285	4729	
9	Equivocal - tympanogram cannot be evaluated without further information	14	4743	
.	Missing	404	5147	

AUATYMTR - Tympanogram Type, Right Ear

Variable Name: AUATYMTR
SAS Label: Tympanogram Type, Right Ear
English Text: Tympanogram Type, Right Ear
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
Type A	Normal	3956	3956	
Type AS	Normal, but the ear drum is unusually stiff	186	4142	
Type AD	Normal, but the ear drum is unusually flaccid	45	4187	
Type B	Flat, no measurable ear drum mobility	50	4237	
Type C	Normal ear drum mobility, but negative middle ear pressure	136	4373	
88888	Could not obtain	285	4658	
99999	Could not interpret	85	4743	
< blank >	Missing	404	5147	

AUALEQC - Left Ear Tympanogram Quality Code

Variable Name: AUALEQC
SAS Label: Left Ear Tympanogram Quality Code
English Text: Quality Code for Tympanogram of Left Ear
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Good - tympanogram is smooth and symmetrical	3725	3725	
2	Adequate - tympanogram is 'noisy' but adequate for interpretation	628	4353	
3	Poor - tympanogram cannot be interpreted	84	4437	
7	SP Refused Tympanometry	0	4437	
8	Could not obtain	293	4730	
9	Equivocal - tympanogram cannot be evaluated without further information	13	4743	
.	Missing	404	5147	

AUATYMTL - Tympanogram Type, Left Ear

Variable Name: AUATYMTL
SAS Label: Tympanogram Type, Left Ear
English Text: Tympanogram Type, Left Ear
Target: Both males and females 6 YEARS - 19 YEARS
Target: Both males and females 70 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
Type A	Normal	3971	3971	
Type AS	Normal, but the ear drum is unusually stiff	177	4148	
Type AD	Normal, but the ear drum is unusually flaccid	36	4184	
Type B	Flat, no measurable ear drum mobility	46	4230	
Type C	Normal ear drum mobility, but negative middle ear pressure	125	4355	
88888	Could not obtain	293	4648	
99999	Could not interpret	95	4743	
< blank >	Missing	404	5147	