

# National Health and Nutrition Examination Survey 2005–2006

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## Documentation, Codebook, and Frequencies

Vision

Examination

Survey Years:  
2005 to 2006

SAS Transport File:  
VIX\_D.XPT



April 2008

# NHANES 2005–2006 Data Documentation

## Exam Component: Vision (VIX\_D)

Years of Coverage: 2005–2006

First Published: April 2008

Last Revised: NA

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### Component Description

The NHANES Vision Examination data will be used to: 1) measure the prevalence of visual acuity impairment (visual acuity worse than 20/40) in the U.S. population; 2) measure the distribution of refractive error in the U.S. population; and 3) evaluate functional impairment related to vision.

The NHANES 2005–2006 Vision Examination consisted of three parts:

**Eye Glasses Prescription Determination** – For persons 12 years of age and older, eye glass prescriptions are measured when eye glasses for viewing distant objects are available.

**Distance Visual Acuity and Objective Refraction/Keratometric Evaluation** – For all persons 12 years and older, distance vision is assessed regardless of whether they wear eyeglasses or contacts; the refraction test measures the person’s refractive error and corneal curvature.

**Vision Near Card Test** – For persons 50 years and over, visual acuity at near was assessed.

### Eligible Sample

All sample persons aged 12 years and older are eligible to participate in (1) automated determination of prescription for eye glasses used to view distant objects, (2) distance visual acuity assessment and (3) automated objective refraction/keratometric evaluation. Sample persons aged 50 years and older are also eligible for the Near Card visual acuity test.

Participants were excluded from the Vision Exam if they were determined to be completely blind or unable to see in both eyes based on the following question asked in the Sample Person Household Interview: “With both eyes open, can you see light?” Participants were also excluded from the exam if they had a severe eye infection (i.e., purulent discharge with redness and inflammation) in one or both eyes. A participant wearing an eye patch would not be excluded; however, the exam would not be conducted on the affected eye.

## **Protocol and Procedure**

The vision exam included measurements of: 1) eyeglass prescription for glasses used to view distant objects; 2) presenting visual acuity with current correction; 3) visual acuity incorporating objective refraction; and 4) near-vision acuity.

Health technicians completed screening questions that involved observation of the subject to determine if the medical exclusion criteria applied. The sample person was then asked additional screening questions (e.g. do they wear any distance correction) to determine which measurements in the examination protocol were relevant.

If the sample person wore eyeglasses to see distant objects, their current eyeglass prescription was determined by using the Nidek Auto Lensmeter Model LM-990A. The Nidek Auto Refractor Model ARK-760 instrument was used to assess visual acuity. Presenting visual acuity was tested with whatever distance correction the participant usually wears, if any. If the participant's visual acuity with their usual correction was 20/30 or worse, visual acuity was further assessed using the objective refraction measurements as the "correction factor" for the participant.

For sample persons aged 50 years and older, near vision was tested with a near vision card, and usual reading distance was recorded prior to measuring their presenting distance visual acuity.

The Nidek Auto Lensmeter Model LM-990A and the Nidek Auto Refractor Model ARK-760 instruments have been used since 1999.

The Vision Examination Protocol is discussed in detail in the NHANES Vision Procedures Manual.

## **Quality Assurance & Quality Control**

A variety of quality control procedures were used to ensure the accurate and reliable collection of these data. Calibrations of the lensmeter and the autorefractor were performed prior to conducting examinations at each survey location, and weekly thereafter. At regular intervals, NCHS and contractor staff observed vision examinations conducted in the MEC to evaluate whether appropriate procedures and techniques were being followed. Retraining sessions were conducted with all MEC health technicians to review data collection procedures.

The MEC health technicians conducted the vision examination. These technicians received 8 weeks of training initially, and subsequently underwent updates and remedial training as needed.

## **Data Processing and Editing**

Technicians referred to the Vision Procedures Manual for specific instructions for the administration of this component.

For details on the QA/QC process for this component, please refer to the NHANES Vision Procedures Manual.

Automated data collection procedures for the survey were used to collect the vision data. Eyeglass prescription data were captured electronically by the lensmeter, and the objective refraction and visual acuity data were captured by the autorefractor. Both sets of data were then transferred to the survey database system. Visual acuity data values were also captured manually by the technician and entered directly into the database.

During the editing process, all data were examined for logical inconsistencies and technician or equipment errors. Back-end edits of the data were performed when errors were detected.

### **Variable-Specific Editing:**

#### **VIDLVA and VIDRVA – Presenting visual acuity variables**

These variables provide the participant's presenting visual acuity, tested with the autorefractor, while wearing whatever distance correction the participant usually wears, if any. The values were automatically captured from the autorefractor and also manually recorded by the technician. In cases of disagreement between the automatic and technician-recorded values, the values recorded by the technician were used (unless they were missing, in which case the machine-captured data were used).

#### **VIDLOVA and VIDROVA – Visual acuity with objective refraction variables (measured only for eyes with presenting visual acuity of 20/30 or worse).**

These variables provide the participant's visual acuity, measured after incorporating information from the objective refraction measurements. The values were automatically captured from the autorefractor and also manually recorded by the technician. In cases of disagreement between the automatic and technician-recorded values, the values recorded by the technician were used (unless they were missing, in which case the machine-captured data were used).

**Analytic Notes** Users are encouraged to note carefully the English instructions describing the various variables in the codebook documentation.

This dataset only contains data for the vision examination conducted in the MEC. There is another dataset containing household interview responses to the vision section (VIQ) of the Sample Person Questionnaire. Data from the two datasets can be combined and analyzed using the guidelines provided by NCHS. Note that not all of the same persons appear in the household interview and MEC examination datasets.

Please refer to the Analytic Guidelines for further details on the use of sample weights and other analytic issues. The Analytic Guidelines are available on the NHANES website.

**References** None

## Locator Record

**Title:** Vision (VIX\_D)

**Contact Number:** 1-866-441-NCHS

**Years of Content:** 2005–2006

**First Published:** April 2008

**Revised:** NA

**Access Constraints:** None

**Use Constraints:** None

**Geographic Coverage:** National

**Subject:** Vision Examination Data

**Record Source:** NHANES 2005–2006

**Survey Methodology:** NHANES 2005–2006 is a stratified multistage probability sample of the civilian non-institutionalized population of the U.S.

**Medium:** NHANES Web site; SAS transport files

**National Health and Nutrition Examination Survey  
Codebook for Data Production (2005-2006)**

**MEC Examination  
Vision Examination (VIX\_D)  
Person Level Data**

April 2008



<b>SEQN</b>	<b>Target</b>
	B(12 Yrs. to 150 Yrs.)
<b>Hard Edits</b>	<b>SAS Label</b>
	Respondent sequence number
<b>English Text:</b> Respondent sequence number	
<b>English Instructions:</b>	

<b>VIQ110</b>	<b>Target</b>
	B(12 Yrs. to 150 Yrs.)
<b>Hard Edits</b>	<b>SAS Label</b>
	SP has a severe eye infection?
<b>English Text:</b> Does SP appear to have a severe eye infection in one or both eyes?	
<b>English Instructions:</b> The examiner observes the examinee's eyes for possible infection. If either eye has a sign of infection, the examinee is excluded from the vision component.	

<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
1	Yes	0	0	
2	No	6558	6558	VIQ130
.	Missing	422	6980	



<b>VIQ121</b>		<b>Target</b>		
		B(12 Yrs. to 150 Yrs.)		
<b>Hard Edits</b>		<b>SAS Label</b>		
		Which eye(s) infected?		
<b>English Text:</b> if VIQ110 = "Yes" record which eye(s) is/are affected.				
<b>English Instructions:</b>				
Code or Value	Description	Count	Cumulative	Skip to Item
1	Right	0	0	End of Section
2	Left	0	0	End of Section
3	Both	0	0	End of Section
.	Missing	6980	6980	

<b>VIQ130</b>		<b>Target</b>		
		B(12 Yrs. to 150 Yrs.)		
<b>Hard Edits</b>		<b>SAS Label</b>		
		Is SP wearing an eye patch?		
<b>English Text:</b> Is SP wearing an eye patch?				
<b>English Instructions:</b> Although the SP is not excluded from the vision examination because he/she wears an eye patch, the examiner will not conduct the examination on the affected eye.				
Code or Value	Description	Count	Cumulative	Skip to Item
1	Yes	1	1	
2	No	6557	6558	VIQ150
.	Missing	422	6980	

<b>VIQ141</b>		<b>Target</b>		
		B(12 Yrs. to 150 Yrs.)		
<b>Hard Edits</b>		<b>SAS Label</b>		
		Which eye has eye patch?		
<b>English Text:</b> If VIQ130 = "Yes" record which eye(s) is/are affected.				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
1	Right	1	1	
2	Left	0	1	
3	Both	0	1	
.	Missing	6979	6980	

<b>VIQ150</b>		<b>Target</b>		
		B(50 Yrs. to 150 Yrs.)		
<b>Hard Edits</b>		<b>SAS Label</b>		
		Glasses/contact lenses for near work?		
<b>English Text:</b> Do you wear glasses or contact lenses for reading or near work?				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
1	Yes	1696	1696	
2	No	302	1998	VIXNC1
9	Don't know	0	1998	
.	Missing	4982	6980	

<b>VIQ160</b>		<b>Target</b>		
		B(50 Yrs. to 150 Yrs.)		
<b>Hard Edits</b>		<b>SAS Label</b>		
		Glasses/contact lenses available?		
<b>English Text:</b> If VIQ150 = "Yes", record if the examinee brought their near work glasses, contacts, or a combination of glasses and/or contacts to the testing facility.				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
1	Yes	1515	1515	
2	No	181	1696	VIXNC1
.	Missing	5284	6980	

<b>VIQ170</b>		<b>Target</b>		
		B(50 Yrs. to 150 Yrs.)		
<b>Hard Edits</b>		<b>SAS Label</b>		
		Glasses or contacts worn for near test?		
<b>English Text:</b> If VIQ160 = "Yes", record whether the examinee wore glasses, contacts, or a combination of glasses and/or contacts for test of near vision.				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
1	Glasses	1483	1483	
2	Contacts	31	1514	
3	Both glasses and contact lenses	1	1515	
.	Missing	5465	6980	

<b>VIXNC1</b>	<b>Target</b>
	B(50 Yrs. to 150 Yrs.)
<b>Hard Edits</b>	<b>SAS Label</b>
	Line read on near card

**English Text:** The number of the last line the examinee read with one or fewer misses, that is the number of the last line where the examinee read at least four out of the five characters correctly. Line 1 has the largest print: line 5 has the smallest print.

**English Instructions:**

Code or Value	Description	Count	Cumulative	Skip to Item
0 to 5	Range of Values	1994	1994	
8	Could not obtain	4	1998	
.	Missing	4982	6980	

<b>VIXNC2</b>	<b>Target</b>
	B(50 Yrs. to 150 Yrs.)
<b>Hard Edits</b>	<b>SAS Label</b>
	Testing distance of near card

**English Text:** Record to the nearest inch the distance from the center of the card to the examinee's brow.

**English Instructions:** A measuring tape is used to determine the distance. (Rounding rule: Numbers less than 0.5, round down (example  $16 \frac{1}{4} = 16$ ) and numbers equal to or greater than 0.5, round up ( $13 \frac{1}{2} = 14$ ,  $21 \frac{3}{4} = 22$ .)

Code or Value	Description	Count	Cumulative	Skip to Item
1 to 35	Range of Values	1994	1994	
88	Could not obtain	4	1998	
.	Missing	4982	6980	

<b>VIQ180</b>	<b>Target</b>
	B(12 Yrs. to 150 Yrs.)
<b>Hard Edits</b>	<b>SAS Label</b>
	Eye surgery for near sightedness?
<b>English Text:</b> Have you ever had eye surgery to treat or prevent nearsightedness or myopia?	
<b>English Instructions:</b> The interest is in laser or radial keratotomy (RK) surgeries used to improve nearsightedness. Some other terms to describe this surgery include: PRK, RK, Lasik, Eximer, or Refractive Surgery.	

Code or Value	Description	Count	Cumulative	Skip to Item
1	Yes	94	94	
2	No	6443	6537	VIQ200
9	Don't know	10	6547	VIQ200
.	Missing	433	6980	

<b>VIQ191</b>	<b>Target</b>			
	B(12 Yrs. to 150 Yrs.)			
<b>Hard Edits</b>	<b>SAS Label</b>			
	Which eye(s) surgery - near-sightedness?			
<b>English Text:</b> If VIQ180 = "Yes", record which eye(s) was/were operated on.				
<b>English Instructions:</b>				
Code or Value	Description	Count	Cumulative	Skip to Item
1	Right	7	7	
2	Left	4	11	
3	Both	82	93	
9	Don't know	1	94	
.	Missing	6886	6980	

<b>VIQ200</b>		<b>Target</b>		
		B(12 Yrs. to 150 Yrs.)		
<b>Hard Edits</b>		<b>SAS Label</b>		
		Eye surgery for cataracts?		
<b>English Text:</b> Have you ever had eye surgery to treat cataracts?				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
1	Yes	350	350	
2	No	6194	6544	VIQ220
9	Don't know	3	6547	VIQ220
.	Missing	433	6980	

<b>VIQ211</b>		<b>Target</b>		
		B(12 Yrs. to 150 Yrs.)		
<b>Hard Edits</b>		<b>SAS Label</b>		
		Which eye(s) cataract surgery?		
<b>English Text:</b> if VIQ200 = "Yes", record which eye(s) was/were operated on for cataracts.				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
1	Right	62	62	
2	Left	36	98	
3	Both	247	345	
9	Don't know	5	350	
.	Missing	6630	6980	

<b>VIQ220</b>		<b>Target</b>		
		B(12 Yrs. to 150 Yrs.)		
<b>Hard Edits</b>		<b>SAS Label</b>		
		Glasses/contact lenses worn for distance		
<b>English Text:</b> Do you wear glasses or contact lenses for distance vision, such as when you watch television?				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
1	Yes	2765	2765	
2	No	3780	6545	VIXOCMT
9	Don't know	2	6547	
.	Missing	433	6980	

<b>VIQ230</b>		<b>Target</b>		
		B(12 Yrs. to 150 Yrs.)		
<b>Hard Edits</b>		<b>SAS Label</b>		
		Is distance correction available?		
<b>English Text:</b> If VIQ220 = "Yes", record if examinee brought their distance correction to the testing center.				
<b>English Instructions:</b> The SP could be wearing the correction or brought it with them.				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
1	Yes	2380	2380	
2	No	385	2765	
.	Missing	4215	6980	

<b>VIQ240</b>	<b>Target</b>
	B(12 Yrs. to 150 Yrs.)
<b>Hard Edits</b>	<b>SAS Label</b>
	Which type? Glasses or contacts?
<b>English Text:</b> If VIQ230 = "Yes", record the type of correction (glasses, contacts, or a combination of glasses and contacts) the SP has with them.	
<b>English Instructions:</b> This specifies the type of correction worn by the SP for the presenting VA tests (VIDRVA and VIDLVA).	

Code or Value	Description	Count	Cumulative	Skip to Item
1	Glasses	1949	1949	
2	Contacts	383	2332	VIXOCMT
3	Both glasses and contact lenses	48	2380	
.	Missing	4600	6980	

<b>VIQ250</b>	<b>Target</b>			
	B(12 Yrs. to 150 Yrs.)			
<b>Hard Edits</b>	<b>SAS Label</b>			
	Was prescription obtained?			
<b>English Text:</b> Did the examiner capture the prescription of the examinee's lens?				
<b>English Instructions:</b> This pertains to the lens prescription used for viewing distant objects.				
Code or Value	Description	Count	Cumulative	Skip to Item
1	Yes	1991	1991	
2	No	6	1997	
.	Missing	4983	6980	



<b>VIXPRS</b>	<b>Target</b>			
	B(12 Yrs. to 150 Yrs.)			
<b>Hard Edits</b>	<b>SAS Label</b>			
	Prescription, right sphere			
<b>English Text:</b> The prescription of the sphere in the right lens used for distance correction.				
<b>English Instructions:</b> For distance eyeglasses only.				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
-14.25 to 11.75	Range of Values	1947	1947	
88	Could not obtain	45	1992	
.	Missing	4988	6980	

<b>VIXPRC</b>	<b>Target</b>			
	B(12 Yrs. to 150 Yrs.)			
<b>Hard Edits</b>	<b>SAS Label</b>			
	Prescription, right cylinder			
<b>English Text:</b> Prescription of the cylinder in the right lens used for distance correction				
<b>English Instructions:</b> For distance eyeglasses only				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
0 to 8.25	Range of Values	1946	1946	
88	Could not obtain	45	1991	
.	Missing	4989	6980	

<b>VIXPRA</b>		<b>Target</b>		
		B(12 Yrs. to 150 Yrs.)		
<b>Hard Edits</b>		<b>SAS Label</b>		
		Prescription, right axis		
<b>English Text:</b> Prescription of the axis in the right lens used for distance correction				
<b>English Instructions:</b> For distance eyeglasses only.				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
0 to 180	Range of Values	1947	1947	
888	Could not obtain	45	1992	
.	Missing	4988	6980	

<b>VIXPLS</b>		<b>Target</b>		
		B(12 Yrs. to 150 Yrs.)		
<b>Hard Edits</b>		<b>SAS Label</b>		
		Prescription, left sphere		
<b>English Text:</b> Prescription of the sphere in the left lens used for distance correction.				
<b>English Instructions:</b> For distance eyeglasses only.				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
-14.5 to 11.5	Range of Values	1947	1947	
88	Could not obtain	45	1992	
.	Missing	4988	6980	

<b>VIXPLC</b>		<b>Target</b>		
		B(12 Yrs. to 150 Yrs.)		
<b>Hard Edits</b>		<b>SAS Label</b>		
		Prescription, left cylinder		
<b>English Text:</b> Prescription of the cylinder in the left lens used for distance correction.				
<b>English Instructions:</b> For distance eyeglasses only.				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
0 to 7	Range of Values	1948	1948	
88	Could not obtain	44	1992	
.	Missing	4988	6980	

<b>VIXPLA</b>		<b>Target</b>		
		B(12 Yrs. to 150 Yrs.)		
<b>Hard Edits</b>		<b>SAS Label</b>		
		Prescription, left axis		
<b>English Text:</b> Prescription of the axis in the left lens used for distance correction.				
<b>English Instructions:</b> For distance eyeglasses only.				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
0 to 180	Range of Values	1948	1948	
888	Could not obtain	44	1992	
.	Missing	4988	6980	

<b>VIXOCMT</b>		<b>Target</b>		
		B(12 Yrs. to 150 Yrs.)		
<b>Hard Edits</b>		<b>SAS Label</b>		
		Visual Acuity Comments		
<b>English Text:</b> The examiner can note special circumstances related to a visual acuity test.				
<b>English Instructions:</b> These apply to distance vision tests.				
Code or Value	Description	Count	Cumulative	Skip to Item
1	Monovision glasses/contacts worn for visual acuity	11	11	
2	Cataract contact lenses worn for objective refraction	3	14	
3	Contacts worn for objective refraction	17	31	
4	Artificial eye	6	37	
5	Monovision contacts worn for objective refraction	2	39	
6	Contact in right eye only for presenting visual acuity	1	40	
7	Contact in left eye only for presenting visual acuity	3	43	
.	Missing	6937	6980	

<b>VIXORSM</b>		<b>Target</b>		
		B(12 Yrs. to 150 Yrs.)		
<b>Hard Edits</b>		<b>SAS Label</b>		
		OR right sphere, median		
<b>English Text:</b> Spherical dioptric power (median value of three objective refractions) of the examinee's right eye.				
<b>English Instructions:</b>				
Code or Value	Description	Count	Cumulative	Skip to Item
-20 to 9.25	Range of Values	6324	6324	
88	Could not obtain	203	6527	
.	Missing	453	6980	

<b>VIXORCM</b>	<b>Target</b>			
	B(12 Yrs. to 150 Yrs.)			
<b>Hard Edits</b>	<b>SAS Label</b>			
	OR right cylinder, median			
<b>English Text:</b> Cylindrical dioptric power (median value of three objective refractions) of the examinee's right eye.				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
0 to 8	Range of Values	6321	6321	
88	Could not obtain	203	6524	
.	Missing	456	6980	

<b>VIXORAM</b>	<b>Target</b>			
	B(12 Yrs. to 150 Yrs.)			
<b>Hard Edits</b>	<b>SAS Label</b>			
	OR right axis, median			
<b>English Text:</b> Axis of refractive astigmatism (median value of three objective refractions) of the examinee's right eye.				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
0 to 180	Range of Values	6324	6324	
888	Could not obtain	203	6527	
.	Missing	453	6980	

<b>VIDORFM</b>	<b>Target</b>			
	B(12 Yrs. to 150 Yrs.)			
<b>Hard Edits</b>	<b>SAS Label</b>			
	OR right confidence level reading			
<b>English Text:</b> The confidence level of the objective refraction reading for the right eye (mean of three measures).				
<b>English Instructions:</b> Lower values equate to less confidence in the objective refraction values.				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
5 to 9	Range of Values	6363	6363	
.	Missing	617	6980	

<b>VIXOLSM</b>	<b>Target</b>			
	B(12 Yrs. to 150 Yrs.)			
<b>Hard Edits</b>	<b>SAS Label</b>			
	OR left sphere, median			
<b>English Text:</b> Spherical dioptric power (median value of three objective refractions) of the examinee's left eye.				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
-21.5 to 11.25	Range of Values	6309	6309	
88	Could not obtain	218	6527	
.	Missing	453	6980	

<b>VIXOLCM</b>	<b>Target</b>			
	B(12 Yrs. to 150 Yrs.)			
<b>Hard Edits</b>	<b>SAS Label</b>			
	OR left cylinder, median			
<b>English Text:</b> Cylindrical dioptric power (median value of three objective refractions) of the examinee's left eye.				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
0 to 8	Range of Values	6306	6306	
88	Could not obtain	218	6524	
.	Missing	456	6980	

<b>VIXOLAM</b>	<b>Target</b>			
	B(12 Yrs. to 150 Yrs.)			
<b>Hard Edits</b>	<b>SAS Label</b>			
	OR left axis, median			
<b>English Text:</b> Axis of refractive astigmatism (median value of three objective refractions) of the examinee's left eye.				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
0 to 180	Range of Values	6309	6309	
888	Could not obtain	218	6527	
.	Missing	453	6980	

<b>VIDOLFM</b>		<b>Target</b>		
		B(12 Yrs. to 150 Yrs.)		
<b>Hard Edits</b>		<b>SAS Label</b>		
		OR left confidence level reading		
<b>English Text:</b> The confidence level of the objective refraction reading of the left eye (mean of three measures).				
<b>English Instructions:</b> Lower values equate to less confidence in the objective refraction values.				
Code or Value	Description	Count	Cumulative	Skip to Item
5 to 9	Range of Values	6384	6384	
.	Missing	596	6980	

<b>VIXKRM1</b>		<b>Target</b>		
		B(12 Yrs. to 150 Yrs.)		
<b>Hard Edits</b>		<b>SAS Label</b>		
		Right keratometry radius flat curve (mm)		
<b>English Text:</b> Keratometric measure. Radius of corneal curvature (in mm) in the least power meridian of the examinee's right eye (median of three measures).				
<b>English Instructions:</b>				
Code or Value	Description	Count	Cumulative	Skip to Item
6.74 to 9.77	Range of Values	6429	6429	
88	Could not obtain	98	6527	
.	Missing	453	6980	



<b>VIXKRD1</b>	<b>Target</b>			
	B(12 Yrs. to 150 Yrs.)			
<b>Hard Edits</b>	<b>SAS Label</b>			
	Right keratometry power flat curve (D)			
<b>English Text:</b> Keratometric measure. Dioptric power in the least power meridian of the cornea in the examinee's right eye (median of three measures).				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
34.5 to 50	Range of Values	6429	6429	
88	Could not obtain	98	6527	
.	Missing	453	6980	

<b>VIXKRG1</b>	<b>Target</b>			
	B(12 Yrs. to 150 Yrs.)			
<b>Hard Edits</b>	<b>SAS Label</b>			
	Right keratometry axis flat curve (deg)			
<b>English Text:</b> Keratometric measure. Axis of corneal astigmatism (in degrees) in the least power meridian of the examinee's right eye.				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
0 to 180	Range of Values	6429	6429	
888	Could not obtain	98	6527	
.	Missing	453	6980	

<b>VIXKRM2</b>	<b>Target</b>			
	B(12 Yrs. to 150 Yrs.)			
<b>Hard Edits</b>	<b>SAS Label</b>			
	Right keratometry radius steep curve(mm)			
<b>English Text:</b> Keratometric measure. Radius of corneal curvature (in mm) in the greatest power meridian of the examinee's right eye (median of three measures).				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
4.96 to 9.39	Range of Values	6429	6429	
88	Could not obtain	98	6527	
.	Missing	453	6980	

<b>VIXKRD2</b>	<b>Target</b>			
	B(12 Yrs. to 150 Yrs.)			
<b>Hard Edits</b>	<b>SAS Label</b>			
	Right keratometry power steep curve (D)			
<b>English Text:</b> Keratometric measure. Dioptric power in the meridian of the cornea with the greatest power in the examinee's right eye (median of three measures).				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
36 to 68	Range of Values	6429	6429	
88	Could not obtain	98	6527	
.	Missing	453	6980	

<b>VIXKRG2</b>	<b>Target</b>			
	B(12 Yrs. to 150 Yrs.)			
<b>Hard Edits</b>	<b>SAS Label</b>			
	Right keratometry axis steep curve (deg)			
<b>English Text:</b> Keratometric measure. Axis of corneal astigmatism (in degrees) in the greatest power meridian of the examinee's right eye.				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
0 to 179	Range of Values	6429	6429	
888	Could not obtain	98	6527	
.	Missing	453	6980	

<b>VIXKRMM</b>	<b>Target</b>			
	B(12 Yrs. to 150 Yrs.)			
<b>Hard Edits</b>	<b>SAS Label</b>			
	Right keratometry radius, average (mm)			
<b>English Text:</b> Keratometric measure. Radius of corneal curvature (in mm) averaged across meridians in the examinee's right eye.				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
6.39 to 9.45	Range of Values	6429	6429	
88	Could not obtain	98	6527	
.	Missing	453	6980	

<b>VIXKRDM</b>	<b>Target</b>			
	B(12 Yrs. to 150 Yrs.)			
<b>Hard Edits</b>	<b>SAS Label</b>			
	Right keratometry power, average (D)			
<b>English Text:</b> Keratometric measure. Dioptric power of the cornea averaged across meridians in the examinee's right eye.				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
35.75 to 52.75	Range of Values	6429	6429	
88	Could not obtain	98	6527	
.	Missing	453	6980	

<b>VIXKRCD</b>	<b>Target</b>			
	B(12 Yrs. to 150 Yrs.)			
<b>Hard Edits</b>	<b>SAS Label</b>			
	Right keratometry cylinder			
<b>English Text:</b> Keratometric measure. Difference in dioptric power between meridians of the cornea in the examinee's right eye				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
-5.75 to 24.75	Range of Values	6429	6429	
88	Could not obtain	98	6527	
.	Missing	453	6980	

<b>VIXKRCG</b>	<b>Target</b>			
	B(12 Yrs. to 150 Yrs.)			
<b>Hard Edits</b>	<b>SAS Label</b>			
	Right keratometry axis (deg)			
<b>English Text:</b> Keratometric measure. Axis of corneal astigmatism (in degrees) in the steepest meridian of the cornea in the examinee's right eye.				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
0 to 179	Range of Values	6429	6429	
888	Could not obtain	98	6527	
.	Missing	453	6980	

<b>VIXKLM1</b>	<b>Target</b>			
	B(12 Yrs. to 150 Yrs.)			
<b>Hard Edits</b>	<b>SAS Label</b>			
	Left keratometry radius flat curve (mm)			
<b>English Text:</b> Keratometric measure. Radius of corneal curvature (in mm) in the least power meridian of the examinee's left eye (median of three measures).				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
6.36 to 9.72	Range of Values	6460	6460	
88	Could not obtain	67	6527	
.	Missing	453	6980	

<b>VIXKLD1</b>	<b>Target</b>			
	B(12 Yrs. to 150 Yrs.)			
<b>Hard Edits</b>	<b>SAS Label</b>			
	Left keratometry power flat curve (D)			
<b>English Text:</b> Keratometric measure. Dioptric power in the least power meridian of the cornea in the examinee's left eye (median of three measures).				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
34.75 to 53	Range of Values	6460	6460	
88	Could not obtain	67	6527	
.	Missing	453	6980	

<b>VIXKLG1</b>	<b>Target</b>			
	B(12 Yrs. to 150 Yrs.)			
<b>Hard Edits</b>	<b>SAS Label</b>			
	Left keratometry axis flat curve (deg)			
<b>English Text:</b> Keratometric measure. Axis of corneal astigmatism (in degrees) in the least power median of the examinee's left eye.				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
0 to 180	Range of Values	6460	6460	
888	Could not obtain	67	6527	
.	Missing	453	6980	

<b>VIXKLM2</b>	<b>Target</b>			
	B(12 Yrs. to 150 Yrs.)			
<b>Hard Edits</b>	<b>SAS Label</b>			
	Left keratometry radius steep curve (mm)			
<b>English Text:</b> Keratometric measure. Radius of corneal curvature (in mm) in the greatest power meridian of the examinee's left eye (median of three measures).				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
5.15 to 9.23	Range of Values	6460	6460	
88	Could not obtain	67	6527	
.	Missing	453	6980	

<b>VIXKLD2</b>	<b>Target</b>			
	B(12 Yrs. to 150 Yrs.)			
<b>Hard Edits</b>	<b>SAS Label</b>			
	Left keratometry power steep curve (D)			
<b>English Text:</b> Keratometric measure. Dioptric power in the meridian of the cornea with the greatest power in the examinee's left eye (median of three measures).				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
36.5 to 65.5	Range of Values	6460	6460	
88	Could not obtain	67	6527	
.	Missing	453	6980	

<b>VIXKLG2</b>	<b>Target</b>			
	B(12 Yrs. to 150 Yrs.)			
<b>Hard Edits</b>	<b>SAS Label</b>			
	Left keratometry axis steep curve (deg)			
<b>English Text:</b> Keratometric measure. Axis of corneal astigmatism (in degrees) in the greatest power meridian of the examinee's left eye.				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
0 to 179	Range of Values	6460	6460	
888	Could not obtain	67	6527	
.	Missing	453	6980	

<b>VIXKLMM</b>	<b>Target</b>			
	B(12 Yrs. to 150 Yrs.)			
<b>Hard Edits</b>	<b>SAS Label</b>			
	Left keratometry radius, average (mm)			
<b>English Text:</b> Keratometric measure. Radius of corneal curvature (in mm) averaged across meridians in the examinee's left eye.				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
5.8 to 9.34	Range of Values	6460	6460	
88	Could not obtain	67	6527	
.	Missing	453	6980	



<b>VIXKLDM</b>	<b>Target</b>			
	B(12 Yrs. to 150 Yrs.)			
<b>Hard Edits</b>	<b>SAS Label</b>			
	Left keratometry power, average (D)			
<b>English Text:</b> Keratometric measure. Dioptric power of the cornea averaged across meridians in the examinee's right eye.				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
36.25 to 58.25	Range of Values	6460	6460	
88	Could not obtain	67	6527	
.	Missing	453	6980	

<b>VIXKLCD</b>	<b>Target</b>			
	B(12 Yrs. to 150 Yrs.)			
<b>Hard Edits</b>	<b>SAS Label</b>			
	Left keratometry cylinder			
<b>English Text:</b> Keratometric measure. Difference in dioptric power between meridians of the cornea in the examinee's left eye.				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
-5.5 to 24.75	Range of Values	6460	6460	
88	Could not obtain	67	6527	
.	Missing	453	6980	

<b>VIXKLCG</b>	<b>Target</b>			
	B(12 Yrs. to 150 Yrs.)			
<b>Hard Edits</b>	<b>SAS Label</b>			
	Left keratometry axis (deg)			
<b>English Text:</b> Keratometric measure. Axis of corneal astigmatism (in degrees) in the steepest meridian of the cornea in the examinee's left eye.				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
0 to 179	Range of Values	6460	6460	
888	Could not obtain	67	6527	
.	Missing	453	6980	

<b>VIDRVA</b>	<b>Target</b>			
	B(12 Yrs. to 150 Yrs.)			
<b>Hard Edits</b>	<b>SAS Label</b>			
	Right visual acuity, presenting			
<b>English Text:</b> The presenting visual acuity of the right eye with usual correction.				
<b>English Instructions:</b> Usual correction could be: eyeglasses, contacts, eyeglasses and contacts, or no correction depending on what the SP wore (or brought with them) to view distant objects on the day they visited the MEC (see VIQ230 and VIQ240).				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
20	20/20	2885	2885	
25	20/25	1632	4517	
30	20/30	621	5138	
40	20/40	281	5419	
50	20/50	623	6042	
60	20/60	87	6129	
80	20/80	121	6250	
200	20/200	164	6414	
666	20/200+	72	6486	
.	Missing	494	6980	

<b>VIDLVA</b>	<b>Target</b>
	B(12 Yrs. to 150 Yrs.)
<b>Hard Edits</b>	<b>SAS Label</b>
	Left visual acuity, presenting
<b>English Text:</b> The presenting visual acuity of the left eye with usual correction.	
<b>English Instructions:</b> Usual correction could be: eyeglasses, contacts, eyeglasses and contacts, or no correction depending on what the SP wore (or brought with them) to view distant objects on the day they visited the MEC (see VIQ230 and VIQ240).	

<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
20	20/20	2930	2930	
25	20/25	1610	4540	
30	20/30	630	5170	
40	20/40	258	5428	
50	20/50	611	6039	
60	20/60	88	6127	
80	20/80	104	6231	
200	20/200	173	6404	
666	20/200+	74	6478	
.	Missing	502	6980	

<b>VIDROVA</b>	<b>Target</b>
	B(12 Yrs. to 150 Yrs.)
<b>Hard Edits</b>	<b>SAS Label</b>
	Right visual acuity, w/ obj. refraction

**English Text:** The visual acuity with objective refraction of the right eye.

**English Instructions:** This is the visual acuity reported by the SP after the autorefractor inserted what it deemed, based on the objective refraction, to be the most appropriate lens (if any) to allow the eye to see 20/25 or better. This test was only performed on eyes whose presenting visual acuity was 20/30 or worse.

<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
25	20/25	1357	1357	
30	20/30	125	1482	
40	20/40	80	1562	
50	20/50	193	1755	
60	20/60	13	1768	
80	20/80	27	1795	
200	20/200	42	1837	
666	20/200+	33	1870	
.	Missing	5110	6980	

<b>VIDLOVA</b>	<b>Target</b>
	B(12 Yrs. to 150 Yrs.)
<b>Hard Edits</b>	<b>SAS Label</b>
	Left visual acuity, w/ obj. refraction

**English Text:** The visual acuity with objective refraction of the left eye.

**English Instructions:** This is the visual acuity reported by the SP after the autorefractor inserted what it deemed, based on the objective refraction, to be the most appropriate lens (if any) to allow the eye to see 20/25 or better. This test was only performed on eyes whose presenting visual acuity was 20/30 or worse.

<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
25	20/25	1343	1343	
30	20/30	129	1472	
40	20/40	84	1556	
50	20/50	186	1742	
60	20/60	18	1760	
80	20/80	24	1784	
200	20/200	34	1818	
666	20/200+	34	1852	
.	Missing	5128	6980	