

**National Health and Nutrition
Examination Survey 2005–2006**

**Documentation, Codebook,
and Frequencies**

Ophthalmology – Retinal Imaging

Examination

**Survey Years:
2005 to 2006**

**SAS Transport File:
OPXRET_D.XPT**



December 2008

NHANES 2005–2006 Data Documentation

Exam Component: Ophthalmology – Retinal Imaging Exam (OPXRET_D)

Years of Coverage: 2005-2006

First Published: December 2008

Last Revised: NA

Component Description

The Retinal Imaging subsection of the Ophthalmology Component tests for the presence of diabetic retinopathy, age-related macular degeneration, and other retinal conditions. Two forty-five degree non-mydratiac digital retinal images of each eye were obtained using an ophthalmic digital imaging system (1).

Eligible Sample

All examined participants aged 40 years and older who did not meet any of the exclusion criteria. Persons could be excluded from the retinal imaging component due to blindness (i.e., unable to see light with both eyes open), eye infections, or eye patches on both eyes (1).

Protocol and Procedure

The retinal imaging exam was performed using an ophthalmic digital imaging system (Retinal Photography) to assess the presence of retinal diseases.

Forty-five degree non-mydratiac digital images of the retina were captured from survey participants aged 40 years and older using the Canon Non-Mydratiac Retinal Camera CR6-45NM. Technicians conducting the exams were trained in the use of the digital imaging system. The room was darkened while these images were captured to allow the pupils to dilate naturally. No pharmacologic dilation was used (1).

The exam was conducted with the participant seated in a chair in front of the Canon CR6-45NM, with a Canon 10D camera back (6.3 megapixels per image), with the flash default (DA) set to 2. Please refer to the NHANES Ophthalmology Procedures Manual in the NHANES website for camera settings. Participants were asked to focus on a target for proper field positioning while two digital images per eye were obtained. The first image was centered on the macula (field 2) and the second on the optic nerve (field 1). The first eye to be imaged was determined by an automated system. The digital images were copied to DVDs and shipped to the University of Wisconsin for grading using standardized methods used for other populations.

Field 1 and 2 images provided photographic documentation of the optic disc, macula, and substantial portions of the temporal arcades.

During external alignment of the pupil, its size was estimated, once for each eye, prior to taking the first image for that eye. Each digital image was

initially evaluated as it appeared on the back of the digital camera. Technicians were trained to determine when an image should be repeated, such as an image being too dark or the person blinked. After taking the required four images, repeat images were captured for those that were obviously ungradable. The maximum number of images allowed was 12 (i.e., 3 per field) (1).

Digital images were evaluated by graders at the University of Wisconsin. If an eye was judged to have a treatable pathologic condition that posed an imminent threat to vision, the University of Wisconsin notified NCHS within three working days of receipt of the images. Further information can be found in the NHANES Ophthalmology Procedures Manual available on the NHANES website.

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 Canon forty-five degree non-mydratic camera were performed prior to conducting examinations at each survey location. Prior to data collection, a multistage training was conducted during which the technician was required to image a minimum of 25 volunteers (50 eyes). Six images captured by each technician were sent to graders for evaluation. At regular intervals, NCHS and contractor staff observed digital imaging examinations to evaluate whether appropriate procedures and techniques were being followed. Midyear and annual retraining sessions were conducted with health technicians to review data collection procedures, provide feedback, review grader evaluation comments, and reinforce proper protocols and technique.

Digital images of the retina were sent to graders under contract to the University of Wisconsin, Madison for reading. The grading protocol for assessing retinopathy, macular degeneration, and other retinal lesions was successfully performed in NHANES III. The grading team included nine experienced graders (a preliminary grading coordinator, two preliminary graders, and six detail graders).

The digital images were evaluated in semi-quantitative fashion by independent graders using EyeQ Lite, an image processing software for storage, retrieval, and manipulation of digital images. The graders viewed each retinal image with a high resolution monitor, using the EyeQLite image processing software and database, and referenced the written protocol and the digital photographic standards to evaluate retinal abnormalities.

Three distinct steps comprised the grading process: early review for pathology, preliminary grading, and detail grading. A preliminary grading coordinator reviewed images for significant pathology and notified NCHS of pathology within 3 days of receiving the images. All images were further

graded by at least two graders (a preliminary grader and a detail grader). Upon systematic grading, if the first two graders did not agree on pathology, a third grader graded the eye. If two of the three graders disagreed, the image was evaluated by an adjudicator to make a final decision. Refer to the NHANES Digital Grading Protocol on the NHANES website for more detail (2).

The reading center provided a photo quality report generated from the graders' evaluations of all photographs which was used to evaluate re-training of technicians.

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

Inspection, calibration, and maintenance of the equipment and supplies were performed on a regular basis. The NHANES Ophthalmology Procedures Manual details the equipment quality control procedures (1).

Data Processing and Editing

Automated data collection procedures for the survey were used to collect the digital imaging data. Digital images were captured by a non-mydratic camera. The captured images were then transferred to the survey database system.

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

Analytic Notes

Users are encouraged to note carefully the "English Instructions" describing the various variables and suggested analysis in the codebook documentation.

Note that eye conditions are provided for the worse eye, right eye, and left eye. The following can be determined from the variable names: OP - Ophthalmology component; third letter - data was gathered through examination (X), it is an administrative variable (A), or a derived variable (D). Worse eye is defined by "U", right eye by "D", and left eye by "S". The remaining letters refer to the corresponding data gathered or eye condition.

OPASCCT2 (Retinal Imaging Exam Status Comment) is a quality control variable that allowed NCHS to monitor the component and the reasons technicians provided for why an exam was not done or incomplete. The data were not collected for analytic reasons but for quality control purposes. This variable is only provided in the data release file to allow analysts to have some information on missing data

and possible reasons for non-response.

References to the Early Treatment Diabetic Retinopathy Study (ETDRS) standards are made in the codebook, thus familiarization with the standards is helpful.

Retinal Imaging data can be combined with the Ophthalmology Frequency Doubling Technology data to assess for the presence of glaucoma. Visual acuity data can be used in analysis where noted in the English Instructions.

Please refer to the Analytic Guidelines on the NHANES website to obtain further details on the use of sample weights and other analytic issues (3).

The NHANES Digital Grading Protocol which can be found on the NHANES website provides definitions and a detailed description of the grading process (2).

References

1. National Center for Health Statistics. NHANES Ophthalmology Procedures Manual is available on the NHANES website.
2. National Center for Health Statistics. NHANES Digital Grading Protocol is available on the NHANES website.
3. National Center for Health Statistics. NHANES Analytic Guidelines are available on the NHANES website.

Locator Record

Title: Retinal Imaging Exam

Contact Number: 1-866-441-NCHS

Years of Content: 2005–2006

First Published: December 2008

Revised: NA

Access Constraints: None

Use Constraints: None

Geographic Coverage: National

Subject: Retinal Imaging Exam, non-mydratric digital imaging, fundus photography

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)**

**Retinal Imaging Section of the Ophthalmology Exam (OPXRET_D)
Person Level Data**

December 2008



SEQN	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Respondent sequence number
English Text: Respondent sequence number.	
English Instructions:	

OPASCST2	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Exam status
English Text: Retinal Imaging Status	
English Instructions:	

Code or Value	Description	Count	Cumulative	Skip to Item
1	Complete	2403	2403	
2	Partial	101	2504	
3	Not done	430	2934	
.	Missing	0	2934	

OPASCCT2		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Reason for not done/partial		
English Text: Retinal Imaging Comment				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
1	Safety exclusion	3	3	
2	SP refusal	85	88	
3	No time	13	101	
4	Physical limitation	94	195	
5	Communication problem	22	217	
6	Equipment failure	3	220	
7	SP ill/emergency	16	236	
12	Eye specific limitation	60	296	
56	Came late/left early	198	494	
72	Error (technician/software/supply)	4	498	
84	SP with child	15	513	
86	SP Blind	1	514	
99	Other, specify	2	516	
100	Eye specific limitation: Eye missing/glass eye	1	517	
101	Eye specific limitation: Small pupil size	2	519	
102	Eye specific limitation: Cataract, right eye	1	520	
103	Eye specific limitation: SP unable to keep eyes open	6	526	
104	Eye specific limitation: SP unable to fixate adequately	3	529	
105	Eye specific limitation: Interference with drooping eyelids	1	530	
106	Eye specific limitation: SP not able to control blinking	1	531	
.	Missing	2403	2934	

VIQ110		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		SP has severe eye infection?		
English Text: Does SP appear to have a severe eye infection in one or both eyes?				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
1	Yes	0	0	
2	No	2780	2780	
.	Missing	154	2934	

VIQ130		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		SP wearing eye patch		
English Text: Is SP wearing an eye patch?				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
1	Yes	1	1	
2	No	2779	2780	
.	Missing	154	2934	

VIQ141		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Which eye?		
English Text: If so, which eye?				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
1	Right	1	1	
2	Left	0	1	
3	Both	0	1	
.	Missing	2933	2934	

OPXDCOMP		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Are field 1 & field 2 present, right eye		
English Text: Are field 1 & field 2 present, right eye?				
English Instructions: Completeness of the photo. If field 1 or field 2 are missing, the photos will be incomplete.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No photos	28	28	
1	Incomplete	91	119	
2	Complete	2385	2504	
.	Missing	430	2934	

OPXDF1		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Field 1 Present, Right Eye		
English Text: Is field 1 present in the photos of the right eye?				
English Instructions: If present, there is a gradability value, OPXDGRBL.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	Absent	100	100	
2	Present	2404	2504	
.	Missing	430	2934	

OPXDF1FO		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Field 1 Focus, Right Eye		
English Text: Was the optic nerve in focus from the right eye?				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	Good/fair	2152	2152	
1	Borderline	188	2340	
2	Poor	64	2404	
.	Missing	530	2934	

OPXDF2		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Field 2 Present, Right Eye		
English Text: Is field 2 present, Right Eye?				
English Instructions: Was field 2 present in the photos of the right eye? If absent, ARM and ME may not be measurable in this eye. If present, there is a gradability value, OPXDGRBL.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	Absent	38	38	
2	Present	2466	2504	
.	Missing	430	2934	

OPXDF2FO		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Field 2 Focus, Right Eye		
English Text: Field 2 Focus, Right Eye				
English Instructions: Was the Macula Image in Focus from the right eye?				
Code or Value	Description	Count	Cumulative	Skip to Item
0	Good/fair	2118	2118	
1	Borderline	241	2359	
2	Poor	107	2466	
.	Missing	468	2934	

OPXDGRBL	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Gradability of images, Right Eye

English Text: Gradability of images, right eye. This assumes at least one digital image of the right eye is available.

English Instructions: 0=All fields are gradable; 1=Disc is ungradable; 2=Portion of the macula is ungradable; 4= Portion of the disc and macula are ungradable; 5=Disc and macula are ungradable; 6= All available fields are ungradable. Please refer to the NHANES Digital Retinal Image Grading Protocol for more details and definitions.

Code or Value	Description	Count	Cumulative	Skip to Item
0	Gradable	2256	2256	
1	Disc ungradable	4	2260	
2	Part macula	130	2390	
3	Macula ungradable	54	2444	
4	Part disc & macula	5	2449	
5	Disc & macula ungradable	9	2458	
6	Ungradable	18	2476	
.	Missing	458	2934	

OPXDPM	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Pupil Size, Right Eye

English Text:

English Instructions:

Code or Value	Description	Count	Cumulative	Skip to Item
1 to 6	Range of Values	2368	2368	
.	Missing	566	2934	

OPXDPHPR		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Photo Problems, Right Eye		
English Text: Photo Problems				
English Instructions: Were there problems with the quality of the images from the right eye?				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	1289	1289	
2	Yes	1187	2476	
9	No photos of eye	28	2504	
.	Missing	430	2934	

OPXDPHIL		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Photo Prob - Illumination, Right Eye		
English Text: Photo Problem - Illumination				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2014	2014	
2	Yes	462	2476	
9	No photos of eye	28	2504	
.	Missing	430	2934	

OPXDPHFD		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Photo Prob - Field Definition, Right Eye		
English Text: Photo Problem - Field Definition				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2399	2399	
2	Yes	77	2476	
9	No photos of eye	28	2504	
.	Missing	430	2934	

OPXDPHHZ		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Photo Prob - Haze, Right Eye		
English Text: Photo Problem - Haze				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	1740	1740	
2	Yes	736	2476	
9	No photos of eye	28	2504	
.	Missing	430	2934	

OPXDPHDD		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Photo Prob - Dust/Dirt, Right Eye		
English Text: Photo Problem - Dust/Dirt				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2190	2190	
2	Yes	286	2476	
9	No photos of eye	28	2504	
.	Missing	430	2934	

OPXDPLA		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Photo Prob - Lashes, Right Eye		
English Text: Photo Problem - Lashes				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2374	2374	
2	Yes	102	2476	
9	No photos of eye	28	2504	
.	Missing	430	2934	

OPXDPHAR	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Photo Prob - Arc, Right Eye			
English Text: Photo Problem - Arc				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2388	2388	
2	Yes	88	2476	
9	No photos of eye	28	2504	
.	Missing	430	2934	

OPXDPHRC	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Photo Prob - Red Channel, Right Eye			
English Text: Photo Problem - Red Channel				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2468	2468	
2	Yes	8	2476	
9	No photos of eye	28	2504	
.	Missing	430	2934	

OPXDPHOT		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Photo Prob - Other, Right Eye		
English Text: Photo Problem - Other				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	1910	1910	
2	Yes	566	2476	
9	No photos of eye	28	2504	
.	Missing	430	2934	

OPDURET	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Retinopathy level, worse eye

English Text: Calculated levels of retinopathy severity, worse eye. The worse eye is the eye with the more severe retinopathy.

English Instructions: Calculated severity levels are described in more detail in the NHANES Grading Protocol, Retinopathy section. HE=HARD EXUDATES; SE=SOFT EXUDATE; IRMA=INTRARETINAL MICROVASCULAR ABNORMALITIES; VL=VENOUS LOOPS; MAS=MICROANEURYSMS; HEM=HEMORRHAGES; NPR=NON-PROLIFERATIVE RETINOPATHY; RET=RETINOPATHY; PRP LASER=PANRETINAL PHOTOCOAGULATION SCARS PRESENT; PR=PROLIFERATIVE RETINOPATHY; HRC=HIGH RISK CHARACTERISTICS AS DEFINED IN THE EARLY TREATMENT DIABETIC RETINOPATHY STUDY; AND VH=VITREOUS HEMORRHAGE Note: Retinopathy is graded masked to diabetes status and retinopathy may be found in persons with and without diabetes (even though value labels may indicate otherwise). Level 12 is indicated when specific nondiabetic disease, e.g. retinal vein occlusion, is present. To examine retinopathy in persons with diabetes use the diabetes definition found in the NHANES Grading Protocol; to examine in nondiabetic persons exclude all persons with diabetes.

Code or Value	Description	Count	Cumulative	Skip to Item
10	No retinopathy	2022	2022	
12	Non-diabetic retinal disease specific retinopathy	33	2055	
13	Questionable retinopathy	90	2145	
14	HE, SE, IRMA, VL but no MAS	11	2156	
15	HEM only, no MAS	57	2213	
20	MAS only	129	2342	
31	Early NPR	47	2389	
41	Moderate NPR	52	2441	
51	Severe NPR	5	2446	
60	Fibrous prolif. only	3	2449	
61	No retinopathy but PRP laser	0	2449	
62	MAS only + PRP laser	0	2449	
63	Early NPR + PRP laser	1	2450	
64	Moderate/severe NPR + PRP laser	1	2451	
65	PR < HRC	7	2458	
70	PR >= HRC	1	2459	
80	Total VH	0	2459	
.	Missing	475	2934	

OPDURL4	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	4 levels retinopathy severity, worse eye

English Text: This variable provides information on four levels of retinopathy severity, from the worse eye. The worse eye is the eye with the more severe retinopathy.

English Instructions: Four levels of retinopathy severity are computed from variable OPDURET: 1=LEVELS 10-13; 2=LEVELS 14-31; 3=LEVELS 41-51; 4=LEVELS 60-80. This variable is often used in examining associations with retinopathy severity. To collapse further, can combine code 1=No Retinopathy; 2-4=Retinopathy; For a No Proliferative Retinopathy vs. Proliferative analysis, combine 1-3 as Non-Proliferative.

Code or Value	Description	Count	Cumulative	Skip to Item
1	No retinopathy	2145	2145	
2	Mild NPR	244	2389	
3	Moderate/severe NPR	57	2446	
4	PR (Proliferative)	13	2459	
.	Missing	475	2934	

OPDUARMA	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Any retinopathy, worse eye

English Text: This field is coded for the presence or absence of any retinopathy from the worse eye. The worse eye is the eye with the more severe retinopathy.

English Instructions: This variable is calculated from the OPDURET variable as follows: 0(No)=LEVELS <14; 1(Yes)=LEVELS >=14

Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2145	2145	
1	Yes	314	2459	
.	Missing	475	2934	

OPDUHMA	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	MAS, HEM, worse eye
<p>English Text: This summary variable provides information describing microaneurysms (MAS) only, blot hemorrhages (HEM) only, or both, using two severity levels from the ETDRS standard 2A, worse eye.</p> <p>English Instructions: Value 5 is more severe than value 4. For MAS only, see variable OPDUMA. For HEM only, see variable OPDUHEM. Combined MAS and/or HEM would include values 2 to 5 as present and values 0 & 1 as none.</p>	

Code or Value	Description	Count	Cumulative	Skip to Item
0	None	2044	2044	
1	Questionable	85	2129	
2	MAS only	146	2275	
3	HEM only	79	2354	
4	HEM+MAS < 2A	102	2456	
5	HEM+MAS >= 2A	6	2462	
.	Missing	472	2934	

OPDUMA	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Retinal microaneurysms, worse eye
<p>English Text: This variable provides information only on eyes with retinal microaneurysms and no retinal blot hemorrhage, worse eye.</p> <p>English Instructions: This variable is calculated as being present (1=YES) if variable OPDUHMA=2 and absent (0=NO) if OPDUHMA=0 or 1. For eyes with any microaneurysms, recode from OPDUHMA.</p>	

Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2226	2226	
1	Yes	177	2403	
.	Missing	531	2934	

OPDUHEM	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Retinal blot hemorrhages, worse eye
English Text: This variable provides information only on eyes with retinal blot hemorrhages and no microaneurysms in the worse eye.	
English Instructions: This variable is computed as present (1=YES) from OPDUHMA variable code=3 and absent (0=NO) from OPDUHMA variable code=0 or 1. For eyes with any retinal blot hemorrhages, recode from OPDUHMA.	

Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2271	2271	
1	Yes	84	2355	
.	Missing	579	2934	

OPDUHE	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Retinal hard exudate, worse eye
English Text: This variable provides information on the presence or absence of hard exudate in the worse eye. Hard exudate is a result of lipoprotein deposition in the retina and is usually associated with macular edema.	
English Instructions: Can combine code 0=No and 1=Questionable for absent.	

Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2392	2392	
1	Questionable	12	2404	
2	Yes	57	2461	
.	Missing	473	2934	

OPDUSE	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Retinal soft exudate, worse eye

English Text: This variable provides information on the presence or absence of soft exudate in the worse eye. Soft exudate, sometimes called cotton wool spot, is due to retinal nerve fiber layer infarction, a result of retinal ischemia.

English Instructions: Can combine code 0=No and 1=Questionable for absent.

Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2376	2376	
1	Questionable	15	2391	
2	Yes	71	2462	
.	Missing	472	2934	

OPDUIRMA	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	IRMA, worse eye

English Text: This variable provides information on the presence or absence of Intraretinal Microvascular Abnormalities (IRMA), from the worse eye. IRMA are retinal collateral vessels in areas of retinal ischemia indicating a more severe level of retinopathy. This variable is coded using the ETDRS photo standard, 8A. Eyes with IRMA \geq 8A have more severe disease than eyes with standard <8A.

English Instructions: Can combine code 0=None and 1=Questionable for IRMA absent and codes 2 & 3 for IRMA present.

Code or Value	Description	Count	Cumulative	Skip to Item
0	None	2381	2381	
1	Questionable	35	2416	
2	< 8A	36	2452	
3	\geq 8A	6	2458	
.	Missing	476	2934	

OPDUVB	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Retinal venous beading, worse eye			
English Text: This variable provides information on the presence or absence of retinal venous beading from the worse eye. Venous beading is a manifestation of severe retinal ischemia.				
English Instructions: Can combine code 0=No and 1=Questionable for absent.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2465	2465	
1	Questionable	3	2468	
2	Yes	0	2468	
.	Missing	466	2934	

OPDUNVO	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Retinal new vessels on disc, worse eye			
English Text: This variable provides information on the presence or absence of retinal new vessels on the optic disc area, from the worse eye. Retinal new vessels on the optic disc area are a manifestation of proliferative retinopathy due to retinal ischemia. This variable is coded using the ETDRS photo standard, 10A. Eyes with standard $\geq 10A$ have more new vessels than eyes with standard $< 10A$.				
English Instructions: When combined with other manifestations of proliferative retinopathy is equivalent to OPDURL4=4 (Proliferative). Can combine code 0=None and 1=Questionable for absent; codes 2= $< 10A$ with 3= $\geq 10A$ for present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	None	2466	2466	
1	Questionable	2	2468	
2	$< 10A$	4	2472	
3	$\geq 10A$	0	2472	
.	Missing	462	2934	

OPDUNVE	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Retinal new vessels elsewhere, worse eye

English Text: This variable provides information on the presence or absence of retinal new vessels elsewhere outside the optic disc margin in the worse eye. Retinal new vessels elsewhere outside the optic disc margin are a manifestation of proliferative retinopathy due to retinal ischemia. The more area affected, the more severe the disease.

English Instructions: When combined with other manifestations of proliferative retinopathy is equivalent to OPDURL4=4 (Proliferative). Can combine code 0=None and 1=Questionable for absent and code 2=<1/2 DISC AREA with 3=>=1/2 DISC AREA for present.

Code or Value	Description	Count	Cumulative	Skip to Item
0	None	2456	2456	
1	Questionable	4	2460	
2	< 1/2 Disc Area	4	2464	
3	>= 1/2 Disc Area	0	2464	
.	Missing	470	2934	

OPDURFP	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Retinal fibrous proliferation, worse eye

English Text: This variable provides information on the presence or absence of retinal fibrous proliferation in the worse eye. Retinal fibrous proliferation is a manifestation of proliferative retinopathy due to retinal ischemia. The more area affected, the greater the disease.

English Instructions: FPD = Fibrous proliferation within the optic disc area; FPE = Fibrous proliferation elsewhere outside the optic disc margin. When combined with other manifestations of proliferative retinopathy is equivalent to OPDURL4=4. Can combine code 0=None and 1=Questionable for absent; 2=FPD ONLY, 3=FPE ONLY, and 4=FPD + FPE for any present.

Code or Value	Description	Count	Cumulative	Skip to Item
0	None	2458	2458	
1	Questionable	4	2462	
2	FPD only	2	2464	
3	FPE only	1	2465	
4	FPD + FPE	3	2468	
.	Missing	466	2934	

OPDUPHVH	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Pre-ret./ vitreous hemorrhage, worse eye

English Text: This variable provides information on the presence or absence of pre-retinal hemorrhage or vitreous hemorrhage in the worse eye. Pre-retinal hemorrhage or vitreous hemorrhage is a manifestation of proliferative retinopathy due to retinal ischemia. The more area is affected, the more severe the disease.

English Instructions: When combined with other manifestations of proliferative retinopathy is equivalent to OPDURL4=4. Can combine 0=None and 1=Questionable for absent and 2=<1 Disc Area and 3=>= 1 Disc Area for present.

Code or Value	Description	Count	Cumulative	Skip to Item
0	None	2465	2465	
1	Questionable	2	2467	
2	< 1 Disc Area	0	2467	
3	>= 1 Disc Area	1	2468	
.	Missing	466	2934	

OPDUME	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Macular edema, worse eye

English Text: This variable provides information on the presence or absence of macular edema by clinical significance from the worse eye. The definition for Clinically Significant Macular Edema (CSME), found in the NHANES Grading Protocol: CSME is considered present when edema involves the fovea or is within 500 microns of the fovea, or when a 1+disc area of edema is present with at least a portion of it within the macula.

English Instructions: Increased permeability of retinal capillaries and MAS may result in accumulation of extracellular fluid and thickening of normally compact retinal tissue called Macular Edema. In some cases, the macular edema becomes clinically significant. "OTHER" refers to evidence of macular edema associated with retinopathy often associated with a specific ocular or systemic condition (e.g. retinal vein occlusion). Can combine 0=No and 1=Questionable for absent; and 2=Yes, but not CSME and 3=Yes, CSME for any macular edema present; exclude 7 from analysis.

Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2400	2400	
1	Questionable	12	2412	
2	Yes, but not CSME	5	2417	
3	Yes CSME	24	2441	
7	Other	0	2441	
.	Missing	493	2934	

OPDUMEC	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Macular edema in center, worse eye

English Text: This variable provides information on the presence or absence of macular edema in the center from the worse eye. Center involvement specifies involvement of the fovea by macular edema. Cysts indicate more severe involvement, usually associated with visual loss.

English Instructions: "OTHER" refers to evidence of macular edema associated with retinopathy often associated with a specific ocular or systemic condition (e.g. retinal vein occlusion). Can combine 0=None and 1=Questionable for absent; 2=Present and CSME and 3=CSME with cysts for any present central involvement; exclude 7 from analysis. Can combine with visual acuity data in corresponding eye.

Code or Value	Description	Count	Cumulative	Skip to Item
0	None	2415	2415	
1	Questionable	8	2423	
2	Present and CSME	15	2438	
3	CSME with cysts	2	2440	
7	Other	1	2441	
.	Missing	493	2934	

OPDUPPS	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Panret. photocoagulation scar, worse eye

English Text: This variable provides information on the presence or absence of panretinal photocoagulation scars in the worse eye. Panretinal photocoagulation in a scatter pattern across the retina or in specific areas outside the macular area later results in scarring and is a surrogate for having had active severe disease. Local and/or scatter photocoagulation is usually done to prevent preretinal and vitreous hemorrhage or the development of retinal new vessels.

English Instructions: In the absence of retinopathy, is usually combined with other signs of proliferative retinopathy which may or may not be present (refer to OPDURET). Can combine 0=None and 1=Questionable/Incomplete for absent; and codes 2, 3, and 4 as present.

Code or Value	Description	Count	Cumulative	Skip to Item
0	None	2453	2453	
1	Questionable/incomplete	4	2457	
2	Local	1	2458	
3	Scatter only	11	2469	
4	Scatter + local	0	2469	
.	Missing	465	2934	

OPDUFOC	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Focal photocoag. scars for ME, worse eye

English Text: This variable provides information on the presence or absence of focal laser photocoagulation from the worse eye. It can appear either as treatment of leaking retinal microaneurysms (MA Rx only) or in a grid pattern in macula done for the treatment of localized or diffuse macular edema (Grid only), or sometimes together.

English Instructions: Can combine codes 0=None and 1=Questionable for absent and codes 2-4 (MA RX only, Grid Only, and MA RX + Grid Rx) for present.

Code or Value	Description	Count	Cumulative	Skip to Item
0	None	2446	2446	
1	Questionable	3	2449	
2	MA RX only	16	2465	
3	Grid only	0	2465	
4	MA RX & Grid RX	0	2465	
.	Missing	469	2934	

OPDUARM	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	ARM, 3 severity levels, worse eye

English Text: This variable provides information on the 3-level severity classification of age-related macular degeneration (ARM) from the worse eye. Early ARM is defined by presence or absence of drusen and/or pigmentary abnormalities; late ARM by exudative ARM signs and/or geographic atrophy.

English Instructions: For ANY ARM, can combine codes 1=Early ARM and 2=Late ARM.

Code or Value	Description	Count	Cumulative	Skip to Item
0	No ARM	2220	2220	
1	Early ARM	166	2386	
2	Late ARM	27	2413	
.	Missing	521	2934	

OPDUPIGA	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Ret. & pigmentary abnorm., worse eye

English Text: This variable provides information on the presence or absence of increased retinal pigment and/or RPE depigmentation, a manifestation of early ARM in absence of signs of late ARM, from the worse eye.

English Instructions:

Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2272	2272	
1	Yes	142	2414	
.	Missing	520	2934	

OPDULARM	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Late ARM, worse eye

English Text: This variable provides information on the presence or absence of exudative ARM and/or geographic atrophy from the worse eye.

English Instructions: Late ARM is defined by the presence of signs of exudative ARM and/or geographic atrophy.

Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2397	2397	
1	Yes	27	2424	
.	Missing	510	2934	

OPDUGA	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Geographic atrophy, worse eye			
English Text: This variable provides information on the presence or absence of pure geographic atrophy in the absence of signs of Exudative ARM, worse eye				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2397	2397	
1	Yes	19	2416	
.	Missing	518	2934	

OPDUEXU	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Exudative ARM, worse eye			
English Text: This variable provides information on the presence or absence of exudative ARM from the worse eye.				
English Instructions: Exudative ARM is also called neovascular ARM. Sometimes geographic atrophy is present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2416	2416	
1	Yes	8	2424	
.	Missing	510	2934	

OPDUHD	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Hard distinct drusen, worse eye			
English Text: This variable provides information on the presence or absence of hard distinct drusen, from the worse eye.				
English Instructions: Currently considered not to be a sign of ARM by itself.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	928	928	
1	Yes	1484	2412	
.	Missing	522	2934	

OPDUD125	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Drusen \geq 125 microns, worse eye			
English Text: This variable provides information on the presence or absence of large drusen, greater than or equal to 125 microns in diameter, from the worse eye.				
English Instructions: Large drusen are considered a sign of early ARM.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2162	2162	
1	Yes	255	2417	
.	Missing	517	2934	

OPDUD500	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Drusen \geq 500 microns, worse eye			
English Text: This variable provides information on the presence or absence of large drusen, greater than or equal to 500 microns in diameter, from the worse eye.				
English Instructions: Large drusen covering more area indicates more involvement in the macula area.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2309	2309	
1	Yes	106	2415	
.	Missing	519	2934	

OPDUASD	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Any soft drusen, worse eye			
English Text: This variable provides information on the presence or absence of any soft indistinct and/or soft distinct drusen from the worse eye.				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2003	2003	
1	Yes	416	2419	
.	Missing	515	2934	

OPDUSDD	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Soft distinct drusen, worse eye			
English Text: This variable provides information on the presence or absence of soft distinct drusen, from the worse eye.				
English Instructions: Soft distinct drusen is a less severe type of drusen than soft indistinct drusen.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2032	2032	
1	Yes	387	2419	
.	Missing	515	2934	

OPDUSID	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Soft indistinct drusen, worse eye			
English Text: This variable provides information on the presence or absence of soft indistinct drusen from the worse eye.				
English Instructions: Soft indistinct drusen is a more severe type of drusen than soft distinct drusen.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2288	2288	
1	Yes	125	2413	
.	Missing	521	2934	

OPDUIRP	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Increased retinal pigment, worse eye			
English Text: This variable provides information on the presence or absence of increased retinal pigment due to disruption of the retinal pigment epithelium in early ARM, from the worse eye.				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2277	2277	
1	Yes	137	2414	
.	Missing	520	2934	

OPDURPE	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	RPE depigmentation, worse eye			
English Text: This variable provides information on the presence or absence of decreased retinal pigmentation due to disruption of the retinal pigment epithelium in early ARM, from the worse eye.				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2336	2336	
1	Yes	75	2411	
.	Missing	523	2934	

OPDUAGA	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Any geographic atrophy, worse eye
English Text: This variable provides information on the presence or absence of any geographic atrophy from the worse eye.	
English Instructions: This variable differs from the pure geographic atrophy variable, OPDUGA, because exudative ARM may be present concurrently in which case OPDUAGA may result from exudative ARM and/or its treatment.	

Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2401	2401	
1	Yes	23	2424	
.	Missing	510	2934	

OPDUPED	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	RPE/sensory ret. detachment, worse eye			
English Text: This variable provides information on the presence or absence of Retinal Pigment Epithelial detachment/ Sensory Retinal detachment, a sign of exudative ARM, from the worse eye.				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2417	2417	
1	Yes	6	2423	
.	Missing	511	2934	

OPDUSNV	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Subretinal new vessels, worse eye			
English Text: This variable provides information on the presence or absence of subretinal new vessels, a sign of exudative ARM, from the worse eye.				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2421	2421	
1	Yes	2	2423	
.	Missing	511	2934	

OPDUSUBH	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Subretinal hemorrhage, worse eye			
English Text: This variable provides information on the presence or absence of subretinal hemorrhage, a sign of exudative ARM, from the worse eye.				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2421	2421	
1	Yes	3	2424	
.	Missing	510	2934	

OPDUSFS	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Subretinal fibrous scar, worse eye			
English Text: This variable provides information on the presence or absence of subretinal fibrous scar, a sign of exudative ARM, from the worse eye.				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2419	2419	
1	Yes	5	2424	
.	Missing	510	2934	

OPDUARMX	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Treatment for ARM, worse eye			
English Text: This variable provides information on the presence or absence of 3 types of treatment for exudative ARM in the worse eye: laser, photodynamic and/or thermal treatment. The presence or absence of these treatments is a sign of exudative ARM.				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2423	2423	
1	Yes	1	2424	
.	Missing	510	2934	

OPDUBCO	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Retinal artery occlusion, worse eye			
English Text: This variable provides information on the presence or absence of retinal artery occlusion (branch or central), a blockage of retinal arteriole or artery resulting in infarction of the retina, from the worse eye.				
English Instructions: Can combine codes 0=No and 1=Questionable to define absent; 2=Yes and 3=Yes, in center, to define present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2477	2477	
1	Questionable	2	2479	
2	Yes	0	2479	
3	Yes, in center	0	2479	
.	Missing	455	2934	

OPDUBVO	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Retinal branch vein occlusion, worse eye			
English Text: This variable provides information on the presence or absence of retinal branch vein occlusion, a blockage of retinal branch venule (level 12 in the retinopathy severity scale, variable OPDURET), from the worse eye.				
English Instructions: Can combine with retinal central vein occlusion (OPDUCVO) to get retinal vein occlusion. Can combine 0=No and 1=Questionable to define absent; 2=Yes and 3=Yes, in center to define present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2459	2459	
1	Questionable	4	2463	
2	Yes	12	2475	
3	Yes, in center	0	2475	
.	Missing	459	2934	

OPDUCVO	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Ret. central vein occlusion, worse eye

English Text: This variable provides information on the presence or absence of retinal central vein occlusion (RCVO) from the worse eye; blockage of the retinal central vein (level 12 in the retinal severity scale variable, OPDURET).

English Instructions: Can combine with retinal branch vein occlusion (OPDUBVO) to get retinal vein occlusion. Can combine 0=No and 1=Questionable to define absent; 2=Yes and 3=Yes, in center to define present.

Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2478	2478	
1	Questionable	1	2479	
2	Yes	1	2480	
3	Yes, in center	0	2480	
.	Missing	454	2934	

OPDUAVN	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Retinal AV nicking, worse eye

English Text: This variable provides information on the presence or absence of retinal arterio-venous nicking, a pinching of the vein at an artery crossing, from the worse eye. May be secondary to hypertension. Refer to the NHANES Detailed Grading Protocol for more details.

English Instructions: Can combine 0=No and 1=Questionable to define absent.

Code or Value	Description	Count	Cumulative	Skip to Item
0	No	1685	1685	
1	Questionable	520	2205	
2	Yes	270	2475	
.	Missing	459	2934	

OPDUFAN	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Focal arteriolar narrowing, worse eye			
English Text: This variable provides information on the presence or absence of retinal focal arteriolar narrowing, focal pinching or narrowing of the arteriole, from the worse eye. May be secondary to hypertension. Refer to the NHANES Detailed Grading Protocol for more details.				
English Instructions: Can combine 0=No and 1=Questionable to define absent.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2286	2286	
1	Questionable	140	2426	
2	Yes	40	2466	
.	Missing	468	2934	

OPDUHOLL	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Hollenhorst plaque, worse eye			
English Text: This variable provides information on the presence or absence of retinal arteriolar embolus (Hollenhorst plaque), from the worse eye. Usually fibrin or cholesterol embolus seen in retinal arterioles, often at a bifurcation of the vessel.				
English Instructions: Can combine 0=No and 1=Questionable to define absent.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2460	2460	
1	Questionable	6	2466	
2	Yes	10	2476	
.	Missing	458	2934	

OPDUPPA	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Peripapillary atrophy, worse eye			
English Text: This variables provides information on the presence or absence of peripapillary atrophy, defined as retinal-choroidal atrophic area around the disc, from the worse eye.				
English Instructions: Can combine 0=No and 1=Questionable to define absent.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2215	2215	
1	Questionable	71	2286	
2	Yes	195	2481	
.	Missing	453	2934	

OPDUASHY	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Asteroid Hyalosis, worse eye			
English Text: This variable provides information on the presence or absence of Asteroid Hyalosis, soap-like crystals floating in the vitreous cavity in front of the retina, which can obstruct the view of retinal lesions, from the worse eye.				
English Instructions: Can combine 0=No and 1=Questionable to define absent; 2=Yes and 3=Yes, in center to define present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2461	2461	
1	Questionable	10	2471	
2	Yes	12	2483	
3	Yes, in center	1	2484	
.	Missing	450	2934	

OPDUCHRA	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Chorioretinal abnormality, worse eye			
English Text: This variable provides information on the presence or absence of any chorioretinal abnormality from the worse eye.				
English Instructions: Can combine 0=No and 1=Questionable to define absent; 2=Yes and 3=Yes, in center to define present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2471	2471	
1	Questionable	1	2472	
2	Yes	7	2479	
3	Yes, in center	0	2479	
.	Missing	455	2934	

OPDUMACH	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Macular hole, worse eye			
English Text: This variable provides information on the presence or absence of a macular hole, a round sharply defined hole involving the center of the macula, resulting in a decrease in visual acuity, from the worse eye.				
English Instructions: Can combine 0=No and 1=Questionable to define absent. Can analyze with visual acuity data.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2429	2429	
1	Questionable	6	2435	
2	Yes	4	2439	
.	Missing	495	2934	

OPDUCHN	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Choroidal nevus, worse eye			
English Text: This variable provides information on the presence or absence of choroidal nevus, a localized increase in the number of pigment bearing cells in choroid, usually round or oval in shape, from the worse eye.				
English Instructions: Can combine 0=No and 1=Questionable to define absent; ; 2=Yes and 3=Yes, in center to define present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2314	2314	
1	Questionable	51	2365	
2	Yes	109	2474	
3	Yes, in center	0	2474	
.	Missing	460	2934	

OPDUOTRX	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Any other treatment, worse eye			
English Text: This variable provides information on the presence or absence of any other laser treatment for other conditions (i.e. local treatment for retinal detachment), from the worse eye.				
English Instructions: Can combine 0=No and 1=Questionable to define absent; ; 2=Yes and 3=Yes, in center to define present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2479	2479	
1	Questionable	0	2479	
2	Yes	2	2481	
3	Yes, in center	0	2481	
.	Missing	453	2934	

OPDUPOHS	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Histoplasmosis syndrome, worse eye			
English Text: This variable provides information on the presence or absence of Presumed Ocular Histoplasmosis Syndrome, which usually manifests by peripapillary atrophic scars, focal round chorioretinal active lesions or punched out scars, from the worse eye.				
English Instructions: Can combine 0=No and 1=Questionable to define absent; 2=Yes and 3=Yes, in center to define present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2480	2480	
1	Questionable	1	2481	
2	Yes	0	2481	
3	Yes, in center	0	2481	
.	Missing	453	2934	

OPDURDET	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Retinal detachment, worse eye			
English Text: This variable provides information on the presence or absence of traction or traumatic retinal detachment (not ARM Pigment Epithelial Detachment), from the worse eye.				
English Instructions: Can combine 0=No and 1=Questionable to define absent; 2=Yes and 3=Yes, in center to define present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2468	2468	
1	Questionable	3	2471	
2	Yes	8	2479	
3	Yes, in center	0	2479	
.	Missing	455	2934	

OPDUSWR	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	SW, cellophane changes, worse eye			
English Text: This variable provides information on the presence or absence of epiretinal membrane (cellophane changes), from the worse eye. Epiretinal membrane (cellophane changes) refers to a patch or patches of irregular increased reflection on the inner surface of the retina due to membrane cellophane changes only with no traction.				
English Instructions: Can combine with epiretinal membrane (traction changes) variable (OPDUSWRT). Can combine 0=No and 1=Questionable to define absent; 2=Yes and 3=Yes, in center to define present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	1895	1895	
1	Questionable	62	1957	
2	Yes	456	2413	
3	Yes, in center	38	2451	
.	Missing	483	2934	

OPDUSWRT	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	SW, traction changes, worse eye			
English Text: This variable provides information on the presence or absence of epiretinal membrane (retinal traction changes), from the worse eye. Epiretinal membrane (retinal traction changes) refers to a patch or patches of irregular increased reflection on the inner surface of the retina due to retinal traction changes of the membrane.				
English Instructions: Can combine with epiretinal membrane cellophane changes, variable OPDUSWR. Can combine 0=No and 1=Questionable to define absent; 2=Yes and 3=Yes, in center to define present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2357	2357	
1	Questionable	19	2376	
2	Yes	55	2431	
3	Yes, in center	15	2446	
.	Missing	488	2934	

OPDUOTHC	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Other ocular conditions, worse eye			
English Text: This variable provides information of other ocular conditions not graded elsewhere, from the worse eye.				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2347	2347	
1	Questionable	18	2365	
2	Yes	115	2480	
3	Yes, in center	0	2480	
.	Missing	454	2934	

OPDDRET	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Retinopathy level, right eye.

English Text: Calculated levels of retinopathy severity, right eye.

English Instructions: Calculated severity levels are described in more detail in the NHANES Grading Protocol, Retinopathy section. HE=HARD EXUDATES; SE=SOFT EXUDATE; IRMA=INTRARETINAL MICROVASCULAR ABNORMALITIES; VL=VENOUS LOOPS; MAS=MICROANEURYSMS; HEM=HEMORRHAGES; NPR=NON-PROLIFERATIVE RETINOPATHY; RET=RETINOPATHY; PRP LASER= PANRETINAL PHOTOCOAGULATION SCARS PRESENT; PR=PROLIFERATIVE RETINOPATHY; HRC=HIGH RISK CHARACTERISTICS AS DEFINED IN THE EARLY TREATMENT DIABETIC RETINOPATHY STUDY; AND VH=VITREOUS HEMORRHAGE Note: Retinopathy is graded masked to diabetes status and retinopathy may be found in persons with and without diabetes (even though value labels may indicate otherwise). Level 12 is indicated when specific nondiabetic disease, e.g. retinal vein occlusion, is present. To examine retinopathy in persons with diabetes use the diabetes definition found in the NHANES Grading Protocol; to examine in nondiabetic persons exclude all persons with diabetes.

Code or Value	Description	Count	Cumulative	Skip to Item
10	No retinopathy	2105	2105	
12	Non-diabetic retinal disease specific retinopathy	24	2129	
13	Questionable retinopathy	59	2188	
14	HE, SE, IRMA, VL but no MAS	7	2195	
15	HEM only, no MAS	35	2230	
20	MAS only	83	2313	
31	Early NPR	38	2351	
41	Moderate NPR	42	2393	
51	Severe NPR	4	2397	
60	Fibrous prolif. only	3	2400	
61	No retinopathy but PRP laser	0	2400	
62	MAS only + PRP laser	0	2400	
63	Early NPR + PRP laser	2	2402	
64	Moderate/severe NPR + PRP laser	1	2403	
65	PR < HRC	3	2406	
70	PR >= HRC	0	2406	
80	Total VH	0	2406	
.	Missing	528	2934	

OPDDRL4	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	4 levels retinopathy severity, right eye			
English Text: This variable provides information on four levels of retinopathy severity, from the right eye.				
English Instructions: Four levels of retinopathy severity are calculated from variable OPDDRET: 1=LEVELS 10-13; 2=LEVELS 14-31; 3=LEVELS 41-51; 4=LEVELS 60-80 This variable is often used in examining associations with retinopathy severity. To collapse further 1=No Retinopathy ; 2-4=Retinopathy; For a No Proliferative Retinopathy vs. Proliferative analysis, combine 1-3 as Non-Proliferative.				
Code or Value	Description	Count	Cumulative	Skip to Item
1	No retinopathy	2188	2188	
2	Mild NPR	163	2351	
3	Moderate/severe NPR	46	2397	
4	PR (Proliferative)	9	2406	
.	Missing	528	2934	

OPDDARMA	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Any retinopathy, right eye			
English Text: This field is coded for the presence or absence of any retinopathy from the right eye.				
English Instructions: This variable is computed from the OPDDRET variable as follows: 0(No)=LEVELS <14; 1(Yes)=LEVELS >=14				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2188	2188	
1	Yes	218	2406	
.	Missing	528	2934	

OPDDHMA	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	MAS, HEM, right eye
English Text: This summary variable provides information on describing microaneurysms (MAS) only, blot hemorrhages (HEM) only, or both using two severity levels using the ETDRS standard 2A, right eye.	
English Instructions: Value 5 is more severe than value 4. For MAS only, see variable OPDDMA. For HEM only, see variable OPDDHEM. Combined MAS and/or HEM would include values 2 to 5 as present and values 0 & 1 as none.	

Code or Value	Description	Count	Cumulative	Skip to Item
0	None	2123	2123	
1	Questionable	58	2181	
2	MAS only	105	2286	
3	HEM only	45	2331	
4	HEM+MAS < 2A	76	2407	
5	HEM+MAS >= 2A	3	2410	
.	Missing	524	2934	

OPDDMA	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Retinal microaneurysms, right eye
English Text: This variable provides information only on eyes with retinal microaneurysms and no retinal blot hemorrhage, right eye.	
English Instructions: This variable is calculated as being present (1=YES) if variable OPDDHMA=2 and absent (0=NO) if OPDDHMA=0 or 1. For eyes with any microaneurysms, recode from OPDDHMA.	

Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2181	2181	
1	Yes	105	2286	
.	Missing	648	2934	

OPDDHEM	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Retinal blot hemorrhages, right eye
English Text: This variable provides information only on eyes with retinal blot hemorrhages and no microaneurysms in the right eye.	
English Instructions: This variable is computed as present (1=YES) from OPDDHMA variable code=3 and absent (0=NO) from OPDDHMA variable code=0 or 1. For eyes with any retinal blot hemorrhages, recode from OPDDHMA.	

Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2181	2181	
1	Yes	45	2226	
.	Missing	708	2934	

OPDDHE	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Retinal hard exudate, right eye
English Text: This variable provides information on the presence or absence of hard exudate in the right eye. Hard exudate is a result of lipoprotein deposition in the retina and is usually associated with macular edema.	
English Instructions: Can combine code 0=No and 1=Questionable for absent.	

Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2355	2355	
1	Questionable	10	2365	
2	Yes	43	2408	
.	Missing	526	2934	

OPDDSE	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Retinal soft exudate, right eye			
English Text: This variable provides information on the presence or absence of soft exudate in the right eye. Soft exudate, sometimes called cotton wool spot, is due to retinal nerve fiber layer infarction, a result of retinal ischemia.				
English Instructions: Can combine code 0=No and 1=Questionable for absent.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2350	2350	
1	Questionable	8	2358	
2	Yes	50	2408	
.	Missing	526	2934	

OPDDIRMA	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	IRMA, right eye			
English Text: This variable provides information on the presence or absence of Intraretinal Microvascular Abnormalities (IRMA), from the right eye. IRMA are retinal collateral vessels in areas of retinal ischemia indicating a more severe level of retinopathy. This variable is coded using the ETDRS photo standard, 8A. Eyes with IRMA \geq 8A have more severe disease than eyes with standard <8A.				
English Instructions: Can combine code 0=None and 1=Questionable for IRMA absent and codes 2 & 3 for IRMA present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	None	2351	2351	
1	Questionable	21	2372	
2	< 8A	27	2399	
3	\geq 8A	5	2404	
.	Missing	530	2934	

OPDDVB	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Retinal venous beading, right eye			
English Text: This variable provides information on the presence or absence of retinal venous beading from the right eye. Venous beading is a manifestation of severe retinal ischemia.				
English Instructions: Can combine code 0=No and 1=Questionable for absent.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2416	2416	
1	Questionable	1	2417	
2	Yes	0	2417	
.	Missing	517	2934	

OPDDNVO	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Retinal new vessels on disc, right eye			
English Text: This variable provides information on the presence or absence of retinal new vessels on the optic disc area, from the right eye. Retinal new vessels on the optic disc area are a manifestation of proliferative retinopathy due to retinal ischemia. This variable is coded using the ETDRS photo standard, 10A. Eyes with standard $\geq 10A$ have more severe vessels than eyes with standard $< 10A$.				
English Instructions: When combined with other manifestations of proliferative retinopathy is equivalent to OPDDRL4=4 (Proliferative). Can combine code 0=None and 1=Questionable for absent; codes 2= $< 10A$ with 3= $\geq 10A$ for present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	None	2427	2427	
1	Questionable	2	2429	
2	$< 10A$	1	2430	
3	$\geq 10A$	0	2430	
.	Missing	504	2934	

OPDDNVE	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Retinal new vessels elsewhere, right eye

English Text: This variable provides information on the presence or absence of retinal new vessels elsewhere outside the optic disc margin in the right eye. Retinal new vessels elsewhere outside the optic disc margin are a manifestation of proliferative retinopathy due to retinal ischemia. The more area affected, the more severe the disease.

English Instructions: When combined with other manifestations of proliferative retinopathy is equivalent to OPDDRL4=4 (Proliferative). Can combine code 0=None and 1=Questionable for absent and code 2=<1/2 DISC AREA with 3=>=1/2 DISC AREA for present.

Code or Value	Description	Count	Cumulative	Skip to Item
0	None	2411	2411	
1	Questionable	3	2414	
2	< 1/2 Disc Area	2	2416	
3	>= 1/2 Disc Area	0	2416	
.	Missing	518	2934	

OPDDRFP	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Retinal fibrous proliferation, right eye

English Text: This variable provides information on the presence or absence of retinal fibrous proliferation in the right eye. Retinal fibrous proliferation is a manifestation of proliferative retinopathy due to retinal ischemia. The more area affected, the greater the disease.

English Instructions: FPD = Fibrous proliferation within the optic disc area; FPE = Fibrous proliferation elsewhere outside the optic disc margin. When combined with other manifestations of proliferative retinopathy is equivalent to OPDDR4=4. Can combine code 0=None and 1=Questionable for absent; 2=FPD ONLY, 3=FPE ONLY, and 4=FPD + FPE for any present.

Code or Value	Description	Count	Cumulative	Skip to Item
0	None	2415	2415	
1	Questionable	3	2418	
2	FPD only	0	2418	
3	FPE only	2	2420	
4	FPD + FPE	1	2421	
.	Missing	513	2934	

OPDDPHVH	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Pre-ret./ vitreous hemorrhage, right eye

English Text: This variable provides information on the presence or absence of pre-retinal hemorrhage or vitreous hemorrhage in the right eye. Pre-retinal hemorrhage or vitreous hemorrhage is a manifestation of proliferative retinopathy due to retinal ischemia. The more area is affected, the more severe the disease.

English Instructions: When combined with other manifestations of proliferative retinopathy is equivalent to OPDDRL4=4. Can combine 0=None and 1=Questionable for absent and 2=<1 Disc Area and 3=>= 1 Disc Area for present.

Code or Value	Description	Count	Cumulative	Skip to Item
0	None	2421	2421	
1	Questionable	1	2422	
2	< 1 Disc Area	0	2422	
3	>= 1 Disc Area	0	2422	
.	Missing	512	2934	

OPDDME	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Macular edema, right eye

English Text: This variable provides information on the presence or absence of macular edema by clinical significance from the right eye. The definition for Clinically Significant Macular Edema (CSME), found in the NHANES Grading Protocol: CSME is considered present when edema involves the fovea or is within 500 microns of the fovea, or when a 1+disc area of edema is present with at least a portion of it within the macula.

English Instructions: Increased permeability of retinal capillaries and MAS may result in accumulation of extracellular fluid and thickening of normally compact retinal tissue called Macular Edema. In some cases, the macular edema becomes clinically significant. "OTHER" refers to evidence of macular edema associated with retinopathy often associated with a specific ocular or systemic condition (e.g. retinal vein occlusion). Can combine 0=No and 1=Questionable for absent; and 2=Yes, but not CSME and 3=Yes, CSME for any macular edema present; exclude 7 from analysis.

Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2343	2343	
1	Questionable	11	2354	
2	Yes, but not CSME	6	2360	
3	Yes CSME	15	2375	
7	Other	0	2375	
.	Missing	559	2934	

OPDDMEC	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Macular edema in center, right eye

English Text: This variable provides information on the presence or absence of macular edema in the center from the right eye. Center involvement specifies involvement of the fovea by macular edema. Cysts indicate more severe involvement, usually associated with visual loss.

English Instructions: "OTHER" refers to evidence of macular edema associated with retinopathy often associated with a specific ocular or systemic condition (e.g. retinal vein occlusion). Can combine 0=None and 1=Questionable for absent; 2=Present and CSME and 3=CSME with cysts for any present central involvement; exclude 7 from analysis. Can combine with visual acuity data in corresponding eye.

Code or Value	Description	Count	Cumulative	Skip to Item
0	None	2359	2359	
1	Questionable	5	2364	
2	Present and CSME	9	2373	
3	CSME with cysts	2	2375	
7	Other	0	2375	
.	Missing	559	2934	

OPDDPPS	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Panret. photocoagulation scar, right eye

English Text: This variable provides information on the presence or absence of panretinal photocoagulation scars in the right eye. Panretinal photocoagulation in a scatter pattern across the retina or in specific areas outside the macular area later results in scarring and is a surrogate for having had active severe disease. Local and/or scatter photocoagulation is usually done to prevent preretinal and vitreous hemorrhage or the development of retinal new vessels.

English Instructions: In the absence of retinopathy, is usually combined with other signs of proliferative retinopathy which may or may not be present (refer to OPDURET). Can combine 0=None and 1=Questionable/Incomplete for absent; and codes 2, 3, and 4 as present.

Code or Value	Description	Count	Cumulative	Skip to Item
0	None	2409	2409	
1	Questionable/incomplete	2	2411	
2	Local	0	2411	
3	Scatter only	8	2419	
4	Scatter + local	0	2419	
.	Missing	515	2934	

OPDDFOC	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Focal photocoag. scars for ME, right eye

English Text: This variable provides information on the presence or absence of focal laser photocoagulation from the right eye. It can appear either as treatment of leaking retinal microaneurysms (MA Rx only) or in a grid pattern in macula done for the treatment of localized or diffuse macular edema (Grid only), or sometimes together.

English Instructions: Can combine codes 0=None and 1=Questionable for absent and codes 2-4 (MA RX only, Grid Only, and MA RX + Grid Rx) for present.

Code or Value	Description	Count	Cumulative	Skip to Item
0	None	2404	2404	
1	Questionable	1	2405	
2	MA RX only	12	2417	
3	Grid only	0	2417	
4	MA RX & Grid RX	0	2417	
.	Missing	517	2934	

OPDDARM	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	ARM, 3 severity levels, right eye

English Text: This variable provides information on the 3-level severity classification of age-related macular degeneration (ARM) from the right eye. Early ARM is defined by presence or absence of drusen and/or pigmentary abnormalities; late ARM by exudative ARM signs and/or geographic atrophy.

English Instructions: Can combine codes 1=Early ARM and 2=Late ARM.

Code or Value	Description	Count	Cumulative	Skip to Item
0	No ARM	2182	2182	
1	Early ARM	131	2313	
2	Late ARM	22	2335	
.	Missing	599	2934	

OPDDPIGA	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Ret. & pigmentary abnorm., right eye			
English Text: This variable provides information on the presence or absence of increased retinal pigment and/or RPE depigmentation, a manifestation of early ARM in absence of signs of late ARM, from the right eye.				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2230	2230	
1	Yes	108	2338	
.	Missing	596	2934	

OPDDLARM	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Late ARM, right eye			
English Text: This variable provides information on the presence or absence of exudative ARM and/or geographic atrophy from the right eye.				
English Instructions: Late ARM is defined by the presence of signs of exudative ARM and/or geographic atrophy.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2334	2334	
1	Yes	22	2356	
.	Missing	578	2934	

OPDDGA	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Geographic atrophy, right eye			
English Text: This variable provides information on the presence or absence of pure geographic atrophy in the absence of signs of Exudative ARM, right eye				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2334	2334	
1	Yes	17	2351	
.	Missing	583	2934	

OPDDEXU	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Exudative ARM, right eye			
English Text: This variable provides information on the presence or absence of exudative ARM from the right eye.				
English Instructions: Exudative ARM is also called neovascular ARM. Sometimes geographic atrophy is present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2351	2351	
1	Yes	5	2356	
.	Missing	578	2934	

OPDDAREX	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Excluded for ARM, right eye			
English Text: Was the right eye excluded for ARM?				
English Instructions: ARM may not be ascertained for many reasons, refer to OPDDREA for the reason for ARM exclusion.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2360	2360	
1	Yes	35	2395	
.	Missing	539	2934	

OPDDREA	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Reason for ARM exclusion, right eye

English Text: If a condition exists in the macula which confounds the grader from evaluating Age Related Macular Degeneration (ARM) lesions from similar changes in the retina due to another process the eye is excluded (cannot grade) from evaluation of all ARM lesions from the right eye.

English Instructions: This variable lists reasons such as trauma, laser treatment, retinal vessel occlusion, retinal dystrophy, myopic degeneration, presumed ocular histoplasmosis or chorioretinal toxoplasmosis scar, nonspecific inflammatory retinal lesion, retinopathy of prematurity (ROP), non ARM retinal pigment epithelial abnormality, non ARM detachment, unknown, other, and/or a retinal coloboma or staphyloma.

Code or Value	Description	Count	Cumulative	Skip to Item
0	None	2411	2411	
1	Trauma	0	2411	
2	Laser RX	15	2426	
3	Vessel occlusion	0	2426	
4	Macular dystrophy	1	2427	
5	Myopic degeneration	1	2428	
6	Histoplasmosis/toxoplasmosis	1	2429	
7	Inflammatory lesion	1	2430	
9	Retinopathy of prematurity	0	2430	
10	Non-ARM RPE abnormality	5	2435	
11	Non-ARM detachment	0	2435	
12	Unknown etiology	5	2440	
15	Other	6	2446	
16	Coloboma/staphyloma	0	2446	
99	No photos of eye	28	2474	
.	Missing	460	2934	

OPDDHD	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Hard distinct drusen, right eye			
English Text: This variable provides information on the presence or absence of hard distinct drusen, from the right eye.				
English Instructions: Currently considered not to be a sign of ARM by itself.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	1171	1171	
1	Yes	1172	2343	
.	Missing	591	2934	

OPDDD125	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Drusen \geq 125 microns, right eye			
English Text: This variable provides information on the presence or absence of large drusen, greater than or equal to 125 microns in diameter, from the right eye.				
English Instructions: Large drusen are considered a sign of early ARM.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2178	2178	
1	Yes	169	2347	
.	Missing	587	2934	

OPDDD500	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Drusen \geq 500 microns, right eye			
English Text: This variable provides information on the presence or absence of large drusen, greater than or equal to 500 microns in diameter, from the right eye.				
English Instructions: Large drusen covering more area indicates more involvement in the macula area.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2260	2260	
1	Yes	83	2343	
.	Missing	591	2934	

OPDDASD	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Any soft drusen, right eye			
English Text: This variable provides information on the presence or absence of any soft indistinct and/or soft distinct drusen from the right eye.				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2070	2070	
1	Yes	278	2348	
.	Missing	586	2934	

OPDDSDD	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Soft distinct drusen, right eye			
English Text: This variable provides information on the presence or absence of soft distinct drusen, from the right eye.				
English Instructions: Soft distinct drusen is a less severe type of drusen than soft indistinct drusen.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2095	2095	
1	Yes	253	2348	
.	Missing	586	2934	

OPDDSID	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Soft indistinct drusen, right eye			
English Text: This variable provides information on the presence or absence of soft indistinct drusen from the right eye.				
English Instructions: Soft indistinct drusen is a more severe type of drusen than soft distinct drusen.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2247	2247	
1	Yes	91	2338	
.	Missing	596	2934	

OPDDIRP	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Increased retinal pigment, right eye			
English Text: This variable provides information on the presence or absence of increased retinal pigment due to disruption of the retinal pigment epithelium in early ARM, from the right eye.				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2232	2232	
1	Yes	105	2337	
.	Missing	597	2934	

OPDDRPE	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	RPE depigmentation, right eye			
English Text: This variable provides information on the presence or absence of decreased retinal pigmentation due to disruption of the retinal pigment epithelium in early ARM, from the right eye.				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2279	2279	
1	Yes	54	2333	
.	Missing	601	2934	

OPDDAGA	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Any geographic atrophy, right eye
English Text: This variable provides information on the presence or absence of any geographic atrophy from the right eye.	
English Instructions: This variable differs from the pure geographic atrophy variable, OPDDGA, because exudative ARM may be present concurrently in which case OPDDGA may result from exudative ARM and/or its treatment.	

Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2337	2337	
1	Yes	19	2356	
.	Missing	578	2934	

OPDDPED	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	RPE/sensory ret. detachment, right eye			
English Text: This variable provides information on the presence or absence of Retinal Pigment Epithelial detachment/ Sensory Retinal detachment, a sign of exudative ARM, from the right eye.				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2351	2351	
1	Yes	4	2355	
.	Missing	579	2934	

OPDDSNV	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Subretinal new vessels, right eye			
English Text: This variable provides information on the presence or absence of subretinal new vessels, a sign of exudative ARM, from the right eye.				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2354	2354	
1	Yes	1	2355	
.	Missing	579	2934	

OPDDSUBH	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Subretinal hemorrhage, right eye			
English Text: This variable provides information on the presence or absence of subretinal hemorrhage, a sign of exudative ARM, from the right eye.				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2352	2352	
1	Yes	3	2355	
.	Missing	579	2934	

OPDDSFS	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Subretinal fibrous scar, right eye			
English Text: This variable provides information on the presence or absence of subretinal fibrous scar, a sign of exudative ARM, from the right eye.				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2354	2354	
1	Yes	2	2356	
.	Missing	578	2934	

OPDDARMX	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Treatment for ARM, right eye			
English Text: This variable provides information on the presence or absence of 3 types of treatment for exudative ARM in the right eye: laser, photodynamic and/or thermal treatment. The presence or absence of these treatments is a sign of exudative ARM.				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2356	2356	
1	Yes	0	2356	
.	Missing	578	2934	

OPDDBC0	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Retinal artery occlusion, right eye			
English Text: This variable provides information on the presence or absence of retinal artery occlusion (branch or central), a blockage of retinal arteriole or artery resulting infarction of the retina, from the right eye.				
English Instructions: Can combine codes 0=No and 1=Questionable to define absent; 2=Yes and 3=Yes, in center, to define present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2437	2437	
1	Questionable	2	2439	
2	Yes	0	2439	
3	Yes, in center	0	2439	
.	Missing	495	2934	

OPDDBV0	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Retinal branch vein occlusion, right eye			
English Text: This variable provides information on the presence or absence of retinal branch vein occlusion, a blockage of retinal branch venule (level 12 in the retinopathy severity scale, variable OPDURET), from the right eye.				
English Instructions: Can combine with retinal central vein occlusion (OPDDCVO) to get retinal vein occlusion. Can combine 0=No and 1=Questionable to define absent; 2=Yes and 3=Yes, in center to define present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2425	2425	
1	Questionable	2	2427	
2	Yes	8	2435	
3	Yes, in center	0	2435	
.	Missing	499	2934	

OPDDCVO		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Ret. central vein occlusion, right eye		
English Text: This variable provides information on the presence or absence of retinal central vein occlusion (RCVO) from the right eye; blockage of the retinal central vein (level 12 in the retinal severity scale variable, OPDDRET).				
English Instructions: Can combine with retinal branch vein occlusion (OPDDBVO) to get retinal vein occlusion. Can combine 0=No and 1=Questionable to define absent; 2=Yes and 3=Yes, in center to define present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2439	2439	
1	Questionable	1	2440	
2	Yes	0	2440	
3	Yes, in center	0	2440	
.	Missing	494	2934	

OPDDAVN		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Retinal AV nicking, right eye		
English Text: This variable provides information on the presence or absence of retinal arterio-venous nicking, a pinching of the vein at an artery crossing, from the right eye. May be secondary to hypertension. Refer to the NHANES Detailed Grading Protocol for more details.				
English Instructions: Can combine 0=No and 1=Questionable to define absent.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	1916	1916	
1	Questionable	349	2265	
2	Yes	165	2430	
.	Missing	504	2934	

OPDDFAN	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Focal arteriolar narrowing, right eye			
English Text: This variable provides information on the presence or absence of retinal focal arteriolar narrowing, focal pinching or narrowing of the arteriole, from the right eye. May be secondary to hypertension. Refer to the NHANES Detailed Grading Protocol for more details.				
English Instructions: Can combine 0=No and 1=Questionable to define absent.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2308	2308	
1	Questionable	91	2399	
2	Yes	22	2421	
.	Missing	513	2934	

OPDDHOLL	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Hollenhorst plaque, right eye			
English Text: This variable provides information on the presence or absence of retinal arteriolar embolus (Hollenhorst plaque), from the worse eye. Usually fibrin or cholesterol embolus seen in retinal arterioles, often at a bifurcation of the vessel.				
English Instructions: Can combine 0=No and 1=Questionable to define absent.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2427	2427	
1	Questionable	3	2430	
2	Yes	5	2435	
.	Missing	499	2934	

OPDDPPA	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Peripapillary atrophy, right eye			
English Text: This variables provides information on the presence or absence of peripapillary atrophy, defined as retinal-choroidal atrophic area around the disc, from the right eye.				
English Instructions: Can combine 0=No and 1=Questionable to define absent.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2234	2234	
1	Questionable	54	2288	
2	Yes	149	2437	
.	Missing	497	2934	

OPDDASHY	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Asteroid Hyalosis, right eye			
English Text: This variable provides information on the presence or absence of Asteroid Hyalosis, soap-like crystals floating in the vitreous cavity in front of the retina, which can obstruct the view of retinal lesions, from the right eye.				
English Instructions: Can combine 0=No and 1=Questionable to define absent; 2=Yes and 3=Yes, in center to define present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2435	2435	
1	Questionable	5	2440	
2	Yes	4	2444	
3	Yes, in center	1	2445	
.	Missing	489	2934	

OPDDCHRA	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Chorioretinal abnormality, right eye			
English Text: This variable provides information on the presence or absence of any chorioretinal abnormality from the right eye.				
English Instructions: Can combine 0=No and 1=Questionable to define absent; 2=Yes and 3=Yes, in center to define present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2434	2434	
1	Questionable	0	2434	
2	Yes	3	2437	
3	Yes, in center	0	2437	
.	Missing	497	2934	

OPDDMACH	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Macular hole, right eye			
English Text: This variable provides information on the presence or absence of a macular hole, a round sharply defined hole involving the center of the macula, resulting in a decrease in visual acuity, from the right eye.				
English Instructions: Can combine 0=No and 1=Questionable to define absent. Can analyze with visual acuity data.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2371	2371	
1	Questionable	5	2376	
2	Yes	2	2378	
.	Missing	556	2934	

OPDDCHN	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Choroidal nevus, right eye			
English Text: This variable provides information on the presence or absence of choroidal nevus, a localized increase in the number of pigment bearing cells in choroid, usually round or oval in shape, from the right eye.				
English Instructions: Can combine 0=No and 1=Questionable to define absent; ; 2=Yes and 3=Yes, in center to define present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2353	2353	
1	Questionable	23	2376	
2	Yes	57	2433	
3	Yes, in center	0	2433	
.	Missing	501	2934	

OPDDOTRX	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Any other treatment, right eye			
English Text: This variable provides information on the presence or absence of any other laser treatment for other conditions (i.e. local treatment for retinal detachment), from the right eye.				
English Instructions: Can combine 0=No and 1=Questionable to define absent; ; 2=Yes and 3=Yes, in center to define present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2438	2438	
1	Questionable	0	2438	
2	Yes	1	2439	
3	Yes, in center	0	2439	
.	Missing	495	2934	

OPDDPOHS	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Histoplasmosis syndrome, right eye			
English Text: This variable provides information on the presence or absence of Presumed Ocular Histoplasmosis Syndrome, which usually manifests by peripapillary atrophic scars, focal round chorioretinal active lesions or punched out scars, from the right eye.				
English Instructions: Can combine 0=No and 1=Questionable to define absent; 2=Yes and 3=Yes, in center to define present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2439	2439	
1	Questionable	0	2439	
2	Yes	0	2439	
3	Yes, in center	0	2439	
.	Missing	495	2934	

OPDDRDET	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Retinal detachment, right eye			
English Text: This variable provides information on the presence or absence of traction or traumatic retinal detachment (not ARM Pigment Epithelial Detachment), from the right eye.				
English Instructions: Can combine 0=No and 1=Questionable to define absent; 2=Yes and 3=Yes, in center to define present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2431	2431	
1	Questionable	2	2433	
2	Yes	4	2437	
3	Yes, in center	0	2437	
.	Missing	497	2934	

OPDDSWR		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		SW, cellophane changes, right eye		
<p>English Text: This variable provides information on the presence or absence of epiretinal membrane (cellophane changes), from the right eye. Epiretinal membrane (cellophane changes) refers to a patch or patches of irregular increased reflection on the inner surface of the retina due to membrane cellophane changes only with no traction.</p>				
<p>English Instructions: Can combine with epiretinal membrane (traction changes) variable (OPDDSWRT). Can combine 0=No and 1=Questionable to define absent; 2=Yes and 3=Yes, in center to define present.</p>				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2016	2016	
1	Questionable	41	2057	
2	Yes	313	2370	
3	Yes, in center	16	2386	
.	Missing	548	2934	

OPDDSWRT		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		SW, traction changes, right eye		
<p>English Text: This variable provides information on the presence or absence of epiretinal membrane (retinal traction changes), from the right eye. Epiretinal membrane (retinal traction changes) refers to a patch or patches of irregular increased reflection on the inner surface of the retina due to retinal traction changes of the membrane.</p>				
<p>English Instructions: Can combine with epiretinal membrane cellophane changes, variable OPDDSWR. Can combine 0=No and 1=Questionable to define absent; 2=Yes and 3=Yes, in center to define present.</p>				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2338	2338	
1	Questionable	11	2349	
2	Yes	27	2376	
3	Yes, in center	8	2384	
.	Missing	550	2934	

OPDDOTHC	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Other ocular conditions, right eye			
English Text: This variable provides information of other ocular conditions not graded elsewhere, from the right eye.				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2345	2345	
1	Questionable	15	2360	
2	Yes	78	2438	
3	Yes, in center	0	2438	
.	Missing	496	2934	

OPDDVCDR	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Vertical cup disc ratio, right eye			
English Text: This variable provides the vertical cup to disc ratio, in microns, from the right eye.				
English Instructions: The vertical cup to disc ratio is from 0 to 1.0.				
Code or Value	Description	Count	Cumulative	Skip to Item
0.12 to 0.92	Range of Values	2403	2403	
.	Missing	531	2934	

OPXSCOMP		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Are field 1 & field 2 present, left eye		
English Text: Are field 1 & field 2 present, left eye?				
English Instructions: Completeness of the photo. If field 1 or field 2 are missing, the photos will be incomplete.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No photos	20	20	
1	Incomplete	110	130	
2	Complete	2374	2504	
.	Missing	430	2934	

OPXSF1		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Field 1 Present, Left Eye		
English Text: Is field 1 present in the photos of the left eye?				
English Instructions: If present, there is a gradability value, OPXSGRBL.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	Absent	103	103	
2	Present	2401	2504	
.	Missing	430	2934	

OPXSF1FO		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Field 1 Focus, Left Eye		
English Text: Was the optic nerve in focus from the left eye?				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	Good/fair	2204	2204	
1	Borderline	151	2355	
2	Poor	46	2401	
.	Missing	533	2934	

OPXSF2		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Field 2 Present, Left Eye		
English Text: Is field 2 present, Left Eye?				
English Instructions: Was field 2 present in the photos of the left eye? If absent, ARM and ME may not be measurable in this eye. If present, there is a gradability value, OPXSGRBL.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	Absent	43	43	
2	Present	2461	2504	
.	Missing	430	2934	

OPXSF2FO		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Field 2 Focus, Left Eye		
English Text: Field 2 Focus, Left eye				
English Instructions: Was the Macula Image in Focus from the left eye?				
Code or Value	Description	Count	Cumulative	Skip to Item
0	Good/fair	2172	2172	
1	Borderline	204	2376	
2	Poor	85	2461	
.	Missing	473	2934	

OPXSGRBL		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Gradability of images, Left Eye		
English Text: Gradability of images, left eye. This assumes at least one digital image of the left eye is available.				
English Instructions: 0=All fields are gradable; 1=Disc is ungradable; 2=Portion of the macula is ungradable; 4= Portion of the disc and macula are ungradable; 5=Disc and macula are ungradable; 6= All available fields are ungradable. Please refer to the NHANES Digital Retinal Image Grading Protocol for more details and definitions.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	Gradable	2271	2271	
1	Disc ungradable	6	2277	
2	Part macula	105	2382	
3	Macula ungradable	68	2450	
4	Part disc & macula	7	2457	
5	Disc & macula ungradable	10	2467	
6	Ungradable	17	2484	
.	Missing	450	2934	

OPXSPMM		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Pupil Size, Left Eye		
English Text:				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
1 to 6	Range of Values	2369	2369	
.	Missing	565	2934	

OPXSPHPR		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Photo Problems, Left Eye		
English Text: Photo Problems				
English Instructions: Were there problems with the quality of the images from the left eye?				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	1274	1274	
2	Yes	1210	2484	
9	No photos of eye	20	2504	
.	Missing	430	2934	

OPXSPHIL		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Photo Prob - Illumination, Left Eye		
English Text: Photo Problem - Illumination				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	1994	1994	
2	Yes	490	2484	
9	No photos of eye	20	2504	
.	Missing	430	2934	

OPXSPHFD		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Photo Prob - Field Definition, Left Eye		
English Text: Photo Problem - Field Definition				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2379	2379	
2	Yes	105	2484	
9	No photos of eye	20	2504	
.	Missing	430	2934	

OPXSPHHZ	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Photo Prob - Haze, Left Eye			
English Text: Photo Problem - Haze				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	1765	1765	
2	Yes	719	2484	
9	No photos of eye	20	2504	
.	Missing	430	2934	

OPXSPHDD	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Photo Prob - Dust/Dirt, Left Eye			
English Text: Photo Problem - Dust/Dirt				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2196	2196	
2	Yes	288	2484	
9	No photos of eye	20	2504	
.	Missing	430	2934	

OPXSPHLA		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Photo Prob - Lashes, Left Eye		
English Text: Photo Problem - Lashes				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2370	2370	
2	Yes	114	2484	
9	No photos of eye	20	2504	
.	Missing	430	2934	

OPXSPHAR		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Photo Prob - Arc, Left Eye		
English Text: Photo Problem - Arc				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2407	2407	
2	Yes	77	2484	
9	No photos of eye	20	2504	
.	Missing	430	2934	

OPXSPHRC	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Photo Prob - Red Channel, Left Eye			
English Text: Photo Problem - Red Channel				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2480	2480	
2	Yes	4	2484	
9	No photos of eye	20	2504	
.	Missing	430	2934	

OPXSPHOT	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Photo Prob - Other, Left Eye			
English Text: Photo Problem - Other				
English Instructions: If other is coded describe the problem or artifact from the left eye.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	1901	1901	
2	Yes	583	2484	
9	No photos of eye	20	2504	
.	Missing	430	2934	

OPDSRET	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Retinopathy level, left eye.

English Text: Calculated levels of retinopathy severity, left eye.

English Instructions: Calculated severity levels are described in more detail in the NHANES Grading Protocol, Retinopathy section. HE=HARD EXUDATES; SE=SOFT EXUDATE; IRMA=INTRARETINAL MICROVASCULAR ABNORMALITIES; VL=VENOUS LOOPS; MAS=MICROANEURYSMS; HEM=HEMORRHAGES; NPR=NON-PROLIFERATIVE RETINOPATHY; RET=RETINOPATHY; PRP LASER=PANRETINAL PHOTOCOAGULATION SCARS PRESENT; PR=PROLIFERATIVE RETINOPATHY; HRC=HIGH RISK CHARACTERISTICS AS DEFINED IN THE EARLY TREATMENT DIABETIC RETINOPATHY STUDY; AND VH=VITREOUS HEMORRHAGE Note: Retinopathy is graded masked to diabetes status and retinopathy may be found in persons with and without diabetes (even though value labels may indicate otherwise). Level 12 is indicated when specific nondiabetic disease, e.g. retinal vein occlusion, is present. To examine retinopathy in persons with diabetes use the diabetes definition found in the NHANES Grading Protocol; to examine in nondiabetic persons exclude all persons with diabetes.

Code or Value	Description	Count	Cumulative	Skip to Item
10	No retinopathy	2124	2124	
12	Non-diabetic retinal disease specific retinopathy	22	2146	
13	Questionable retinopathy	59	2205	
14	HE, SE, IRMA, VL but no MAS	8	2213	
15	HEM only, no MAS	30	2243	
20	MAS only	77	2320	
31	Early NPR	35	2355	
41	Moderate NPR	40	2395	
51	Severe NPR	2	2397	
60	Fibrous prolif. only	2	2399	
61	No retinopathy but PRP laser	1	2400	
62	MAS only + PRP laser	0	2400	
63	Early NPR + PRP laser	0	2400	
64	Moderate/severe NPR + PRP laser	0	2400	
65	PR < HRC	5	2405	
70	PR >= HRC	1	2406	
80	Total VH	0	2406	
.	Missing	528	2934	

OPDSRL4	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	4 levels retinopathy severity, left eye			
English Text: This variable provides information on four levels of retinopathy severity, from the left eye.				
English Instructions: Four levels of retinopathy severity are computed from variable OPDSRET: 1=LEVELS 10-13; 2=LEVELS 14-31; 3=LEVELS 41-51; 4=LEVELS 60-80 This variable is often used in examining associations with retinopathy severity. To collapse further 1=No Retinopathy; 2-4=Retinopathy; For a No Proliferative Retinopathy vs. Proliferative analysis, combine 1-3 as Non-Proliferative.				
Code or Value	Description	Count	Cumulative	Skip to Item
1	No retinopathy	2205	2205	
2	Mild NPR	150	2355	
3	Moderate/severe NPR	42	2397	
4	PR (Proliferative)	9	2406	
.	Missing	528	2934	

OPDSARMA	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Any retinopathy, left eye			
English Text: This field is coded for the presence or absence of any retinopathy from the left eye.				
English Instructions: This variable is computed from the OPDSRET variable as follows: 0(No)=LEVELS <14; 1(Yes)=LEVELS >=14				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2205	2205	
1	Yes	201	2406	
.	Missing	528	2934	

OPDSHMA	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	MAS, HEM, left eye
English Text: This summary variable provides information on describing microaneurysms (MAS) only, blot hemorrhages (HEM) only, or both using two severity levels using the ETDRS standard 2A, left eye.	
English Instructions: Value 5 is more severe than value 4. For MAS only, see variable OPDSMA. For HEM only, see variable OPDSHEM. Combined MAS and/or HEM would include values 2 to 5 as present and values 0 & 1 as none.	

Code or Value	Description	Count	Cumulative	Skip to Item
0	None	2144	2144	
1	Questionable	58	2202	
2	MAS only	97	2299	
3	HEM only	40	2339	
4	HEM+MAS < 2A	68	2407	
5	HEM+MAS >= 2A	3	2410	
.	Missing	524	2934	

OPDSMA	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Retinal microaneurysms, left eye			
English Text: This variable provides information only on eyes with retinal microaneurysms and no retinal blot hemorrhage, left eye.				
English Instructions: This variable is calculated as being present (1=YES) if variable OPDSHMA=2 and absent (0=NO) if OPDSHMA=0 or 1. For eyes with any microaneurysms, recode from OPDSHMA.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2202	2202	
1	Yes	97	2299	
.	Missing	635	2934	

OPDSHEM	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Retinal blot hemorrhages, left eye
English Text: This variable provides information only on eyes with retinal blot hemorrhages and no microaneurysms in the left eye.	
English Instructions: This variable is computed as present (1=YES) from OPDSHMA variable code=3 and absent (0=NO) from OPDSHMA variable code=0 or 1. For eyes with any retinal blot hemorrhages, recode from OPDSHMA.	

Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2202	2202	
1	Yes	40	2242	
.	Missing	692	2934	

OPDSHE	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Retinal hard exudate, left eye
English Text: This variable provides information on the presence or absence of hard exudate in the left eye. Hard exudate is a result of lipoprotein deposition in the retina and is usually associated with macular edema.	
English Instructions: Can combine code 0=No and 1=Questionable for absent.	

Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2365	2365	
1	Questionable	9	2374	
2	Yes	40	2414	
.	Missing	520	2934	

OPDSSE	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Retinal soft exudate, left eye

English Text: This variable provides information on the presence or absence of soft exudate in the left eye. Soft exudate, sometimes called cotton wool spot, is due to retinal nerve fiber layer infarction, a result of retinal ischemia.

English Instructions: Can combine code 0=No and 1=Questionable for absent.

Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2353	2353	
1	Questionable	10	2363	
2	Yes	50	2413	
.	Missing	521	2934	

OPDSIRMA	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	IRMA, left eye

English Text: This variable provides information on the presence or absence of Intraretinal Microvascular Abnormalities (IRMA), from the left eye. IRMA are retinal collateral vessels in areas of retinal ischemia indicating a more severe level of retinopathy. This variable is coded using the ETDRS photo standard, 8A. Eyes with IRMA \geq 8A have more severe disease than eyes with standard $<$ 8A.

English Instructions: Can combine code 0=None and 1=Questionable for IRMA absent and codes 2 & 3 for IRMA present.

Code or Value	Description	Count	Cumulative	Skip to Item
0	None	2363	2363	
1	Questionable	25	2388	
2	< 8A	15	2403	
3	\geq 8A	4	2407	
.	Missing	527	2934	

OPDSVB	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Retinal venous beading, left eye			
English Text: This variable provides information on the presence or absence of retinal venous beading from the left eye. Venous beading is a manifestation of severe retinal ischemia.				
English Instructions: Can combine code 0=No and 1=Questionable for absent.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2424	2424	
1	Questionable	2	2426	
2	Yes	0	2426	
.	Missing	508	2934	

OPDSNVO	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Retinal new vessels on disc, left eye			
English Text: This variable provides information on the presence or absence of retinal new vessels on the optic disc area, from the left eye. Retinal new vessels on the optic disc area are a manifestation of proliferative retinopathy due to retinal ischemia. This variable is coded using the ETDRS photo standard, 10A. Eyes with standard $\geq 10A$ have more severe vessels than eyes with standard $< 10A$.				
English Instructions: When combined with other manifestations of proliferative retinopathy is equivalent to OPDSRL4=4 (Proliferative). Can combine code 0=None and 1=Questionable for absent; codes 2= $< 10A$ with 3= $\geq 10A$ for present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	None	2431	2431	
1	Questionable	1	2432	
2	< 10A	3	2435	
3	$\geq 10A$	0	2435	
.	Missing	499	2934	

OPDSNVE	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Retinal new vessels elsewhere, left eye

English Text: This variable provides information on the presence or absence of retinal new vessels elsewhere outside the optic disc margin in the left eye. Retinal new vessels elsewhere outside the optic disc margin are a manifestation of proliferative retinopathy due to retinal ischemia. The more area affected, the more severe the disease.

English Instructions: When combined with other manifestations of proliferative retinopathy is equivalent to OPDSRL4=4 (Proliferative). Can combine code 0=None and 1=Questionable for absent and code 2=<1/2 DISC AREA with 3=>=1/2 DISC AREA for present.

Code or Value	Description	Count	Cumulative	Skip to Item
0	None	2413	2413	
1	Questionable	2	2415	
2	< 1/2 Disc Area	3	2418	
3	>= 1/2 Disc Area	0	2418	
.	Missing	516	2934	

OPDSRFP	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Retinal fibrous proliferation, left eye

English Text: This variable provides information on the presence or absence of retinal fibrous proliferation in the left eye. Retinal fibrous proliferation is a manifestation of proliferative retinopathy due to retinal ischemia. The more area affected, the greater the disease.

English Instructions: FPD = Fibrous proliferation within the optic disc area; FPE = Fibrous proliferation elsewhere outside the optic disc margin. When combined with other manifestations of proliferative retinopathy is equivalent to OPDSRL4=4. Can combine code 0=None and 1=Questionable for absent; 2=FPD ONLY, 3=FPE ONLY, and 4=FPD + FPE for any present.

Code or Value	Description	Count	Cumulative	Skip to Item
0	None	2422	2422	
1	Questionable	1	2423	
2	FPD only	2	2425	
3	FPE only	1	2426	
4	FPD + FPE	2	2428	
.	Missing	506	2934	

OPDSPHVH	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Pre-ret./ vitreous hemorrhage, left eye

English Text: This variable provides information on the presence or absence of pre-retinal hemorrhage or vitreous hemorrhage in the left eye. Pre-retinal hemorrhage or vitreous hemorrhage is a manifestation of proliferative retinopathy due to retinal ischemia. The more area is affected, the more severe the disease.

English Instructions: When combined with other manifestations of proliferative retinopathy is equivalent to OPDSRL4=4. Can combine 0=None and 1=Questionable for absent and 2=<1 Disc Area and 3=>= 1 Disc Area for present.

Code or Value	Description	Count	Cumulative	Skip to Item
0	None	2425	2425	
1	Questionable	1	2426	
2	< 1 Disc Area	0	2426	
3	>= 1 Disc Area	1	2427	
.	Missing	507	2934	

OPDSME	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Macular edema, left eye

English Text: This variable provides information on the presence or absence of macular edema by clinical significance. The definition for Clinically Significant Macular Edema (CSME), found in the NHANES Grading Protocol: CSME is considered present when edema involves the fovea or is within 500 microns of the fovea, or when a 1+disc area of edema is present with at least a portion of it within the macula.

English Instructions: Increased permeability of retinal capillaries and MAS may result in accumulation of extracellular fluid and thickening of normally compact retinal tissue called Macular Edema. In some cases, the macular edema becomes clinically significant. "OTHER" refers to evidence of macular edema associated with retinopathy often associated with a specific ocular or systemic condition (e.g. retinal vein occlusion). Can combine 0=No and 1=Questionable for absent; and 2=Yes, but not CSME and 3=Yes, CSME for any macular edema present; exclude 7 from analysis.

Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2348	2348	
1	Questionable	3	2351	
2	Yes, but not CSME	5	2356	
3	Yes CSME	15	2371	
7	Other	0	2371	
.	Missing	563	2934	

OPDSMEC	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Macular edema in center, left eye

English Text: This variable provides information on the presence or absence of macular edema in the center from the left eye. Center involvement specifies involvement of the fovea by macular edema. Cysts indicate more severe involvement, usually associated with visual loss.

English Instructions: "OTHER" refers to evidence of macular edema associated with retinopathy often associated with a specific ocular or systemic condition (e.g. retinal vein occlusion). Can combine 0=None and 1=Questionable for absent; 2=Present and CSME and 3=CSME with cysts for any present central involvement; exclude 7 from analysis. Can combine with visual acuity data in corresponding eye.

Code or Value	Description	Count	Cumulative	Skip to Item
0	None	2354	2354	
1	Questionable	4	2358	
2	Present and CSME	12	2370	
3	CSME with cysts	0	2370	
7	Other	1	2371	
.	Missing	563	2934	

OPDSPPS	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Panret. photocoagulation scar, left eye

English Text: This variable provides information on the presence or absence of panretinal photocoagulation scars in the left eye. Panretinal photocoagulation in a scatter pattern across the retina or in specific areas outside the macular area later results in scarring and is a surrogate for having had active severe disease. Local and/or scatter photocoagulation is usually done to prevent preretinal and vitreous hemorrhage or the development of retinal new vessels.

English Instructions: In the absence of retinopathy, is usually combined with other signs of proliferative retinopathy which may or may not be present (refer to OPDSRET). Can combine 0=None and 1=Questionable/Incomplete for absent; and codes 2, 3, and 4 as present.

Code or Value	Description	Count	Cumulative	Skip to Item
0	None	2420	2420	
1	Questionable/incomplete	4	2424	
2	Local	1	2425	
3	Scatter only	8	2433	
4	Scatter + local	0	2433	
.	Missing	501	2934	

OPDSFOC	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Focal photocoag. scars for ME, left eye

English Text: This variable provides information on the presence or absence of focal laser photocoagulation from the left eye. It can appear either as treatment of leaking retinal microaneurysms (MA Rx only) or in a grid pattern in macula done for the treatment of localized or diffuse macular edema (Grid only), or sometimes together.

English Instructions: Can combine codes 0=None and 1=Questionable for absent and codes 2-4 (MA RX only, Grid Only, and MA RX + Grid Rx) for present.

Code or Value	Description	Count	Cumulative	Skip to Item
0	None	2408	2408	
1	Questionable	2	2410	
2	MA RX only	13	2423	
3	Grid only	0	2423	
4	MA RX & Grid RX	0	2423	
.	Missing	511	2934	

OPDSARM	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	ARM, 3 severity levels, left eye

English Text: This variable provides information on the 3-level severity classification of age-related macular degeneration (ARM) from the left eye. Early ARM is defined by presence or absence of drusen and/or pigmentary abnormalities; late ARM by exudative ARM signs and/or geographic atrophy.

English Instructions: Can combine codes 1=Early ARM and 2=Late ARM.

Code or Value	Description	Count	Cumulative	Skip to Item
0	No ARM	2206	2206	
1	Early ARM	101	2307	
2	Late ARM	22	2329	
.	Missing	605	2934	

OPDSPIGA	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Ret. & pigmentary abnorm., left eye			
English Text: This variable provides information on the presence or absence of increased retinal pigment and/or RPE depigmentation, a manifestation of early ARM in absence of signs of late ARM, from the left eye.				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2240	2240	
1	Yes	89	2329	
.	Missing	605	2934	

OPDSLARM	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Late ARM, left eye			
English Text: This variable provides information on the presence or absence of exudative ARM and/or geographic atrophy from the left eye.				
English Instructions: Late ARM is defined by the presence of signs of exudative ARM and/or geographic atrophy.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2322	2322	
1	Yes	22	2344	
.	Missing	590	2934	

OPDSGA	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Geographic atrophy, left eye			
English Text: This variable provides information on the presence or absence of pure geographic atrophy in the absence of signs of Exudative ARM, left eye				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2322	2322	
1	Yes	16	2338	
.	Missing	596	2934	

OPDSEXU	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Exudative ARM, left eye			
English Text: This variable provides information on the presence or absence of exudative ARM from the left eye.				
English Instructions: Exudative ARM is also called neovascular ARM. Sometimes geographic atrophy is present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2338	2338	
1	Yes	6	2344	
.	Missing	590	2934	

OPDSAREX	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Excluded for ARM, left eye			
English Text: Was the left eye excluded for ARM?				
English Instructions: ARM may not be ascertained for many reasons, refer to OPDSREA for the reason for ARM exclusion.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2347	2347	
1	Yes	37	2384	
.	Missing	550	2934	

OPDSREA	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Reason for ARM exclusion, left eye

English Text: If a condition exists in the macula which confounds the grader from evaluating Age Related Macular Degeneration (ARM) lesions from similar changes in the retina due to another process the eye is excluded (cannot grade) from evaluation of all ARM lesions from the right eye.

English Instructions: This variable lists reasons such as trauma, laser treatment, retinal vessel occlusion, retinal dystrophy, myopic degeneration, presumed ocular histoplasmosis or chorioretinal toxoplasmosis scar, nonspecific inflammatory retinal lesion, retinopathy of prematurity (ROP), non ARM retinal pigment epithelial abnormality, non ARM detachment, unknown, other, and/or a retinal coloboma or staphyloma.

Code or Value	Description	Count	Cumulative	Skip to Item
0	None	2411	2411	
1	Trauma	0	2411	
2	Laser RX	18	2429	
3	Vessel occlusion	1	2430	
4	Macular dystrophy	1	2431	
5	Myopic degeneration	1	2432	
6	Histoplasmosis/toxoplasmosis	1	2433	
7	Inflammatory lesion	1	2434	
9	Retinopathy of prematurity	0	2434	
10	Non-ARM RPE abnormality	4	2438	
11	Non-ARM detachment	0	2438	
12	Unknown etiology	2	2440	
15	Other	8	2448	
16	Coloboma/staphyloma	0	2448	
99	No photos of eye	20	2468	
.	Missing	466	2934	

OPDSHD	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Hard distinct drusen, left eye

English Text: This variable provides information on the presence or absence of hard distinct drusen, from the left eye.

English Instructions: Currently considered not to be a sign of ARM by itself.

Code or Value	Description	Count	Cumulative	Skip to Item
0	No	1165	1165	
1	Yes	1155	2320	
.	Missing	614	2934	

OPDSD125	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Drusen \geq 125 microns, left eye

English Text: This variable provides information on the presence or absence of large drusen, greater than or equal to 125 microns in diameter, from the left eye.

English Instructions: Large drusen are considered a sign of early ARM.

Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2163	2163	
1	Yes	172	2335	
.	Missing	599	2934	

OPDSD500	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Drusen \geq 500 microns, left eye			
English Text: This variable provides information on the presence or absence of large drusen, greater than or equal to 500 microns in diameter, from the left eye.				
English Instructions: Large drusen are considered a sign of early ARM.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2259	2259	
1	Yes	75	2334	
.	Missing	600	2934	

OPDSASD	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Any soft drusen, left eye			
English Text: This variable provides information on the presence or absence of any soft indistinct and/or soft distinct drusen from the left eye.				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2048	2048	
1	Yes	288	2336	
.	Missing	598	2934	

OPDSSDD	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Soft distinct drusen, left eye			
English Text: This variable provides information on the presence or absence of soft distinct drusen, from the left eye.				
English Instructions: Soft distinct drusen is a less severe type of drusen than soft indistinct drusen.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2070	2070	
1	Yes	266	2336	
.	Missing	598	2934	

OPDSSID	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Soft indistinct drusen, left eye			
English Text: This variable provides information on the presence or absence of soft indistinct drusen from the left eye.				
English Instructions: Soft indistinct drusen is a more severe type of drusen than soft distinct drusen.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2246	2246	
1	Yes	85	2331	
.	Missing	603	2934	

OPDSIRP	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Increased retinal pigment, left eye			
English Text: This variable provides information on the presence or absence of increased retinal pigment due to disruption of the retinal pigment epithelium in early ARM, from the left eye.				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2245	2245	
1	Yes	84	2329	
.	Missing	605	2934	

OPDSRPE	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	RPE depigmentation, left eye			
English Text: This variable provides information on the presence or absence of decreased retinal pigmentation due to disruption of the retinal pigment epithelium in early ARM, from the left eye.				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2277	2277	
1	Yes	51	2328	
.	Missing	606	2934	

OPDSAGA	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Any geographic atrophy, left eye

English Text: This variable provides information on the presence or absence of any geographic atrophy from the left eye.

English Instructions: This variable differs from the pure geographic atrophy variable, OPDSGA, because exudative ARM may be present concurrently in which case OPDSGA may result from exudative ARM and/or its treatment.

Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2325	2325	
1	Yes	19	2344	
.	Missing	590	2934	

OPDSPED	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	RPE/sensory ret. detachment, left eye

English Text: This variable provides information on the presence or absence of Retinal Pigment Epithelial detachment/ Sensory Retinal detachment, a sign of exudative ARM, from the left eye.

English Instructions:

Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2339	2339	
1	Yes	4	2343	
.	Missing	591	2934	

OPDSSNV	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Subretinal new vessels, left eye			
English Text: This variable provides information on the presence or absence of subretinal new vessels, a sign of exudative ARM, from the left eye.				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2341	2341	
1	Yes	2	2343	
.	Missing	591	2934	

OPDSSUBH	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Subretinal hemorrhage, left eye			
English Text: This variable provides information on the presence or absence of subretinal hemorrhage, a sign of exudative ARM, from the left eye.				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2343	2343	
1	Yes	1	2344	
.	Missing	590	2934	

OPDSSFS	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Subretinal fibrous scar, left eye			
English Text: This variable provides information on the presence or absence of subretinal fibrous scar, a sign of exudative ARM, from the left eye.				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2340	2340	
1	Yes	4	2344	
.	Missing	590	2934	

OPDSARMX	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Treatment for ARM, left eye			
English Text: This variable provides information on the presence or absence of 3 types of treatment for exudative ARM in the left eye: laser, photodynamic and/or thermal treatment. The presence or absence of these treatments is a sign of exudative ARM.				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2343	2343	
1	Yes	1	2344	
.	Missing	590	2934	

OPDSBCO	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Retinal artery occlusion, left eye			
English Text: This variable provides information on the presence or absence of retinal artery occlusion (branch or central), a blockage of retinal arteriole or artery resulting infarction of the retina, from the left eye.				
English Instructions: Can combine codes 0=No and 1=Questionable to define absent; 2=Yes and 3=Yes, in center, to define present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2447	2447	
1	Questionable	0	2447	
2	Yes	0	2447	
3	Yes, in center	0	2447	
.	Missing	487	2934	

OPDSBVO	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Retinal branch vein occlusion, left eye			
English Text: This variable provides information on the presence or absence of retinal branch vein occlusion, a blockage of retinal branch venule (level 12 in the retinopathy severity scale, variable OPDURET), from the left eye.				
English Instructions: Can combine with retinal central vein occlusion (OPDSCVO) to get retinal vein occlusion. Can combine 0=No and 1=Questionable to define absent; 2=Yes and 3=Yes, in center to define present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2437	2437	
1	Questionable	2	2439	
2	Yes	4	2443	
3	Yes, in center	0	2443	
.	Missing	491	2934	

OPDSCVO	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Ret. central vein occlusion, left eye

English Text: This variable provides information on the presence or absence of retinal central vein occlusion (RCVO) from the left eye; blockage of the retinal central vein (level 12 in the retinal severity scale variable, OPDSRET).

English Instructions: Can combine with retinal branch vein occlusion (OPDSBVO) to get retinal vein occlusion. Can combine 0=No and 1=Questionable to define absent; 2=Yes and 3=Yes, in center to define present.

Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2446	2446	
1	Questionable	1	2447	
2	Yes	1	2448	
3	Yes, in center	0	2448	
.	Missing	486	2934	

OPDSAVN	Target
	B(40 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Retinal AV nicking, left eye

English Text: This variable provides information on the presence or absence of retinal arterio-venous nicking, a pinching of the vein at an artery crossing, from the left eye. May be secondary to hypertension. Refer to the NHANES Detailed Grading Protocol for more details.

English Instructions: Can combine 0=No and 1=Questionable to define absent.

Code or Value	Description	Count	Cumulative	Skip to Item
0	No	1960	1960	
1	Questionable	335	2295	
2	Yes	145	2440	
.	Missing	494	2934	

OPDSFAN	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Focal arteriolar narrowing, left eye			
English Text: This variable provides information on the presence or absence of retinal focal arteriolar narrowing, focal pinching or narrowing of the arteriole, from the left eye. May be secondary to hypertension. Refer to the NHANES Detailed Grading Protocol for more details.				
English Instructions: Can combine 0=No and 1=Questionable to define absent.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2312	2312	
1	Questionable	84	2396	
2	Yes	27	2423	
.	Missing	511	2934	

OPDSHOLL	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Hollenhorst plaque, left eye			
English Text: This variable provides information on the presence or absence of retinal arteriolar embolus (Hollenhorst plaque), from the worse eye. Usually fibrin or cholesterol embolus seen in retinal arterioles, often at a bifurcation of the vessel.				
English Instructions: Can combine 0=No and 1=Questionable to define absent.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2433	2433	
1	Questionable	3	2436	
2	Yes	5	2441	
.	Missing	493	2934	

OPDSPPA		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Peripapillary atrophy, left eye		
English Text: This variables provides information on the presence or absence of peripapillary atrophy, defined as retinal-choroidal atrophic area around the disc, from the left eye.				
English Instructions: Can combine 0=No and 1=Questionable to define absent.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2249	2249	
1	Questionable	66	2315	
2	Yes	132	2447	
.	Missing	487	2934	

OPDSASHY		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Asteroid Hyalosis, left eye		
English Text: This variable provides information on the presence or absence of Asteroid Hyalosis, soap-like crystals floating in the vitreous cavity in front of the retina, which can obstruct the view of retinal lesions, from the left eye.				
English Instructions: Can combine 0=No and 1=Questionable to define absent; 2=Yes and 3=Yes, in center to define present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2439	2439	
1	Questionable	5	2444	
2	Yes	9	2453	
3	Yes, in center	1	2454	
.	Missing	480	2934	

OPDSCHRA	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Chorioretinal abnormality, left eye			
English Text: This variable provides information on the presence or absence of any chorioretinal abnormality from the left eye.				
English Instructions: Can combine 0=No and 1=Questionable to define absent; 2=Yes and 3=Yes, in center to define present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2443	2443	
1	Questionable	1	2444	
2	Yes	4	2448	
3	Yes, in center	0	2448	
.	Missing	486	2934	

OPDSMACH	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Macular hole, left eye			
English Text: This variable provides information on the presence or absence of a macular hole, a round sharply defined hole involving the center of the macula, resulting in a decrease in visual acuity, from the left eye.				
English Instructions: Can combine 0=No and 1=Questionable to define absent. Can analyze with visual acuity data.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2367	2367	
1	Questionable	1	2368	
2	Yes	2	2370	
.	Missing	564	2934	

OPDSCHN	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Choroidal nevus, left eye			
English Text: This variable provides information on the presence or absence of choroidal nevus, a localized increase in the number of pigment bearing cells in choroid, usually round or oval in shape, from the left eye.				
English Instructions: Can combine 0=No and 1=Questionable to define absent; ; 2=Yes and 3=Yes, in center to define present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2356	2356	
1	Questionable	31	2387	
2	Yes	55	2442	
3	Yes, in center	0	2442	
.	Missing	492	2934	

OPDSOTRX	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Any other treatment, left eye			
English Text: This variable provides information on the presence or absence of any other laser treatment for other conditions (i.e. local treatment for retinal detachment), from the left eye.				
English Instructions: Can combine 0=No and 1=Questionable to define absent; ; 2=Yes and 3=Yes, in center to define present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2449	2449	
1	Questionable	0	2449	
2	Yes	1	2450	
3	Yes, in center	0	2450	
.	Missing	484	2934	

OPDSPOHS	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Histoplasmosis syndrome, left eye			
English Text: This variable provides information on the presence or absence of Presumed Ocular Histoplasmosis Syndrome, which usually manifests by peripapillary atrophic scars, focal round chorioretinal active lesions or punched out scars, from the left eye.				
English Instructions: Can combine 0=No and 1=Questionable to define absent; 2=Yes and 3=Yes, in center to define present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2448	2448	
1	Questionable	1	2449	
2	Yes	0	2449	
3	Yes, in center	0	2449	
.	Missing	485	2934	

OPDSRDET	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Retinal detachment, left eye			
English Text: This variable provides information on the presence or absence of traction or traumatic retinal detachment (not ARM Pigment Epithelial Detachment), from the left eye.				
English Instructions: Can combine 0=No and 1=Questionable to define absent; 2=Yes and 3=Yes, in center to define present.				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2441	2441	
1	Questionable	1	2442	
2	Yes	6	2448	
3	Yes, in center	0	2448	
.	Missing	486	2934	

OPDSSWR		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		SW, cellophane changes, left eye		
<p>English Text: This variable provides information on the presence or absence of epiretinal membrane (cellophane changes) from the left eye. Epiretinal membrane (cellophane changes) refers to a patch or patches of irregular increased reflection on the inner surface of the retina due to membrane cellophane changes only with no traction.</p>				
<p>English Instructions: Can combine with epiretinal membrane (traction changes) variable (OPDSSWRT). Can combine 0=No and 1=Questionable to define absent; 2=Yes and 3=Yes, in center to define present.</p>				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2015	2015	
1	Questionable	42	2057	
2	Yes	301	2358	
3	Yes, in center	24	2382	
.	Missing	552	2934	

OPDSSWRT		Target		
		B(40 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		SW, traction changes, left eye		
<p>English Text: This variable provides information on the presence or absence of epiretinal membrane (retinal traction changes), from the left eye. Epiretinal membrane (retinal traction changes) refers to a patch or patches of irregular increased reflection on the inner surface of the retina due to retinal traction changes of the membrane.</p>				
<p>English Instructions: Can combine with epiretinal membrane cellophane changes, variable OPDSSWR. Can combine 0=No and 1=Questionable to define absent; 2=Yes and 3=Yes, in center to define present.</p>				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2325	2325	
1	Questionable	11	2336	
2	Yes	32	2368	
3	Yes, in center	8	2376	
.	Missing	558	2934	

OPDSOTHC	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Other ocular conditions, left eye			
English Text: This variable provides information of other ocular conditions not graded elsewhere, from the left eye.				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
0	No	2370	2370	
1	Questionable	6	2376	
2	Yes	73	2449	
3	Yes, in center	0	2449	
.	Missing	485	2934	

OPDSVCDR	Target			
	B(40 Yrs. to 150 Yrs.)			
Hard Edits	SAS Label			
	Vertical cup disc ratio, left eye			
English Text: This variable provides the vertical cup to disc ratio, in microns, from the left eye.				
English Instructions: The vertical cup to disc ration is from 0 to 1.0				
Code or Value	Description	Count	Cumulative	Skip to Item
0.14 to 0.86	Range of Values	2413	2413	
.	Missing	521	2934	