

01/19/79

FRAMINGHAM EYE STUDY

CODE DESCRIPTION

Office of Biometry and Epidemiology  
National Eye Institute  
National Institutes of Health  
Building 31, Room 6A10  
Bethesda, Maryland 20014



(Updates to this document will be sent to those recipients who request that their name be kept on file for that purpose.)

## FRAMINGHAM EYE STUDY

## CODE DESCRIPTION

## 1. Introduction

This code description is for the data tape which contains the data collected in the **Framingham** Eye Study. Complete description of the Study, including examination protocols and data collection forms, is found in the **Framingham** Eye Study Monograph, and users of the data tape should be familiar **with** the Monograph to insure their adequate understanding and appropriate use of the items on the tape. Some Items and codes on the tape are not on the data collection forms but have been created through coding or computer processing. Card deck and column numbers correspond in general to the data collection forms and examination protocols, but the description which follows is the complete, final reference.

The card image format has been retained for the organization of the data, and no attempt has been made to eliminate redundant items (e.g., record number, birth date) which occur in several places in **the data**. Some redundancy was further introduced for convenience in early data processing.

Only numeric codes and blanks appear on the tape. The use of leading blanks or leading zeros is consistent within an item (data field) but not across items.

Tape variables identified in the code description by a three-digit E-number (e.g., **E001, E002**, etc.) are so marked for convenience in reference. Variables not so marked are either redundant variables or those whose use **is** not generally recommended.

Tape copies given to users outside of the National Eye Institute (NEI) differ from the master tape: record numbers are recoded to preserve the anonymity of the study participants. In the code description given to those users, archival data in Items **20:23-34** and **20:58-74** are not described=

## 2. Data files on the tape

	Deck No. -----	Deck Title - - - - -
FILE 1:	<b>11, 12, 13</b>	Screening Examination
	<b>14, 15, 16</b>	Definitive Examination
	<b>17, 18</b>	Glaucoma Suspect Recall Examination
	<b>19, 20</b>	Computer-generated summary codes
	21	Photograph Grading, Disc and Macula Fields, selected adjudicated grading
	22	Photograph Grading, Diabetic Retinopathy, selected adjudicated grading
FILE 2:	39	Photograph Grading, Disc and Macula Fields, two readers and adjudicator
FILE 3:		Photograph Grading, Diabetic Retinopathy, two readers and adjudicator
	40	O.D.
	41	<b>O.S.</b>

(Deck number appears in Columns **79-80** of each card Image.)

## 3. Tape characteristics

9-track, 1600 bpi, standard label (IBM)

File #	DSNAME	Contents	RECFM	LRECL	BLKSIZE	# RECORDS
1	FRAM.EYE.DATA	Main data file* (Decks 11-22)	FB	80	6720	32100
2	FRAM.DECK39	Disc 6 macula photograph grading (3 recc./case)	FB	80	6720	4614
3	FRAM.DECK40	Diabetic retinopathy photograph grading (6 records/case)	FB	80	6720	2688

\* Data for each person occur in 12 consecutive records in FILE 1.

## 4. Decks 19 and 20

The user should carefully examine Decks 19 and 20 before deciding on analyses to be performed, as these decks contain final diagnoses of the four major conditions (open angle glaucoma, senile cataract, senile macular degeneration, diabetic retinopathy) conveniently grouped together with-selected items of interest from other parts of the tape and with computer-created summary codes.

## 5. Data quality control

Data in FILE 1, Decks 11-20, have been extensively edited. Decks 21 and 22 have received somewhat lesser editing, as have FILE 2 and FILE 3 (Decks 39, 40, and 41). Careful users will perform their own checks of consistency between interrelated items when that consistency is important to their analyses.

## 6. Fundus photograph data

Photograph data appear in three forms and places:

- In Decks 39, 40, and 41: two replicate readings, plus one adjudicator reading when necessary;
- In Decks 21 and 22: random selection of one of the two replicate readings, or the adjudicator's reading if available;
- In Deck 20: summary items based on Decks 21 and 22.

## 7. Diagnosis algorithms

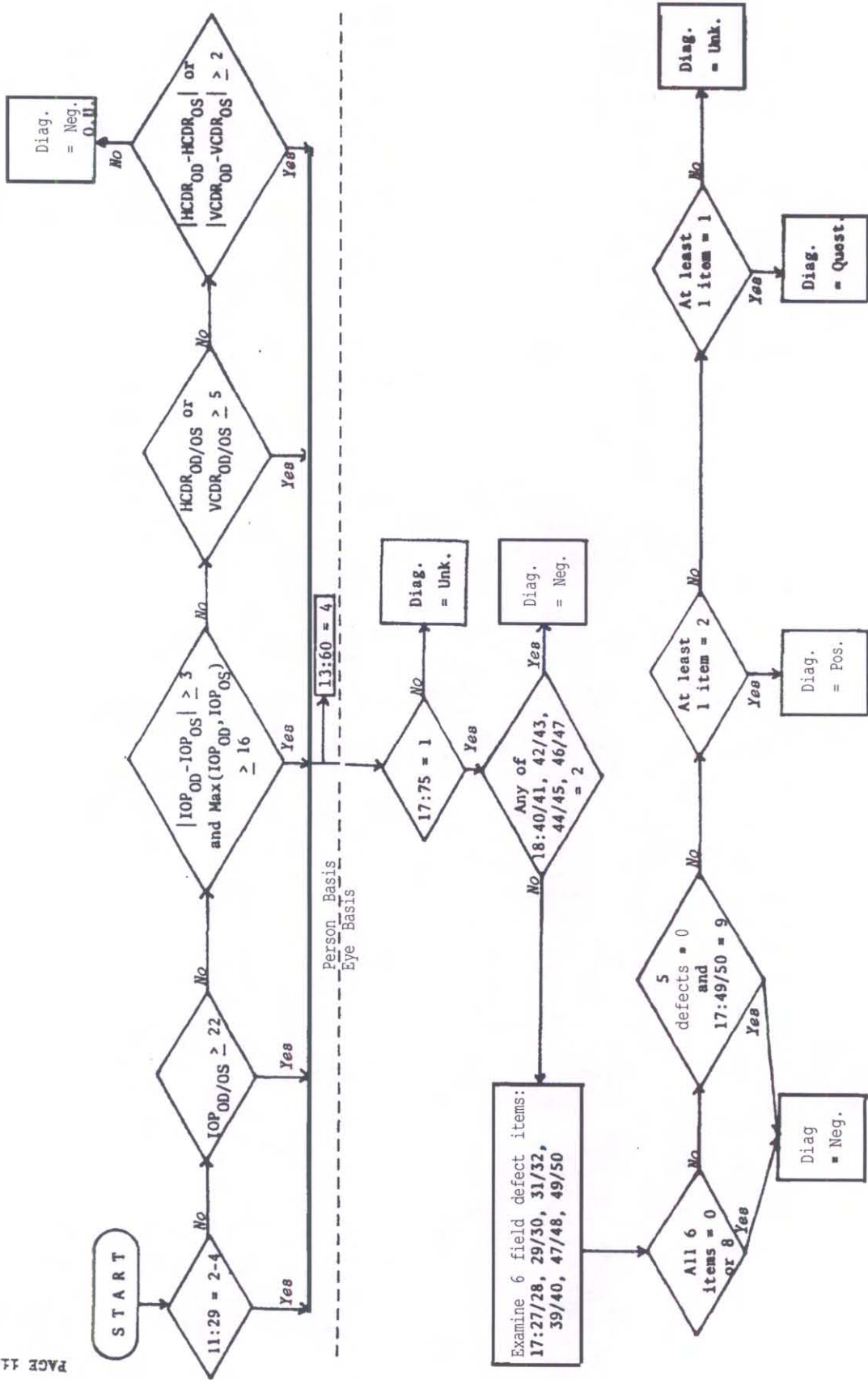
Diagnoses of the four major conditions were constructed according to a series of explicit logical instructions involving detailed items from Screening, Definitive, and Glaucoma Recall Examinations. The diagnoses so constructed are recorded in Items 19:9-16, 19:22-23, and 19:58-62, and are recommended for general use. Photographic data were not used in constructing these diagnoses.

Specific items referred to in the following flow charts are as follows:

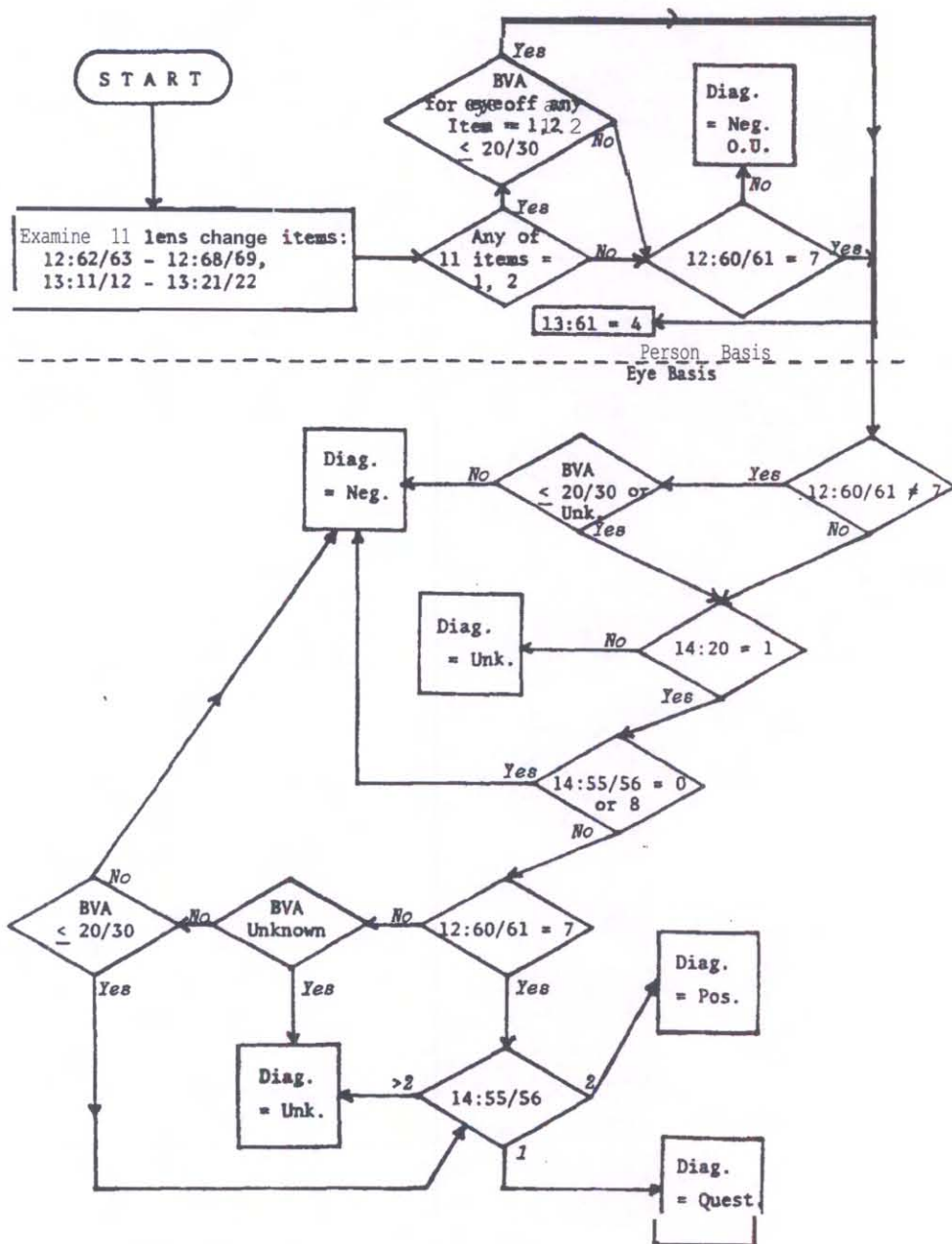
<b>BVA</b>	Best visual acuity	<b>12: 70-72/73-75</b>
<b>IOP</b>	Average IOP	<b>13: 67-68/69-70</b>
<b>RCDR</b>	Horizontal cup/disc ratio	<b>13: 27-28/29-30</b>
<b>VCDR</b>	Vertical cup/disc ratio	<b>13: 31-32/33-34</b>



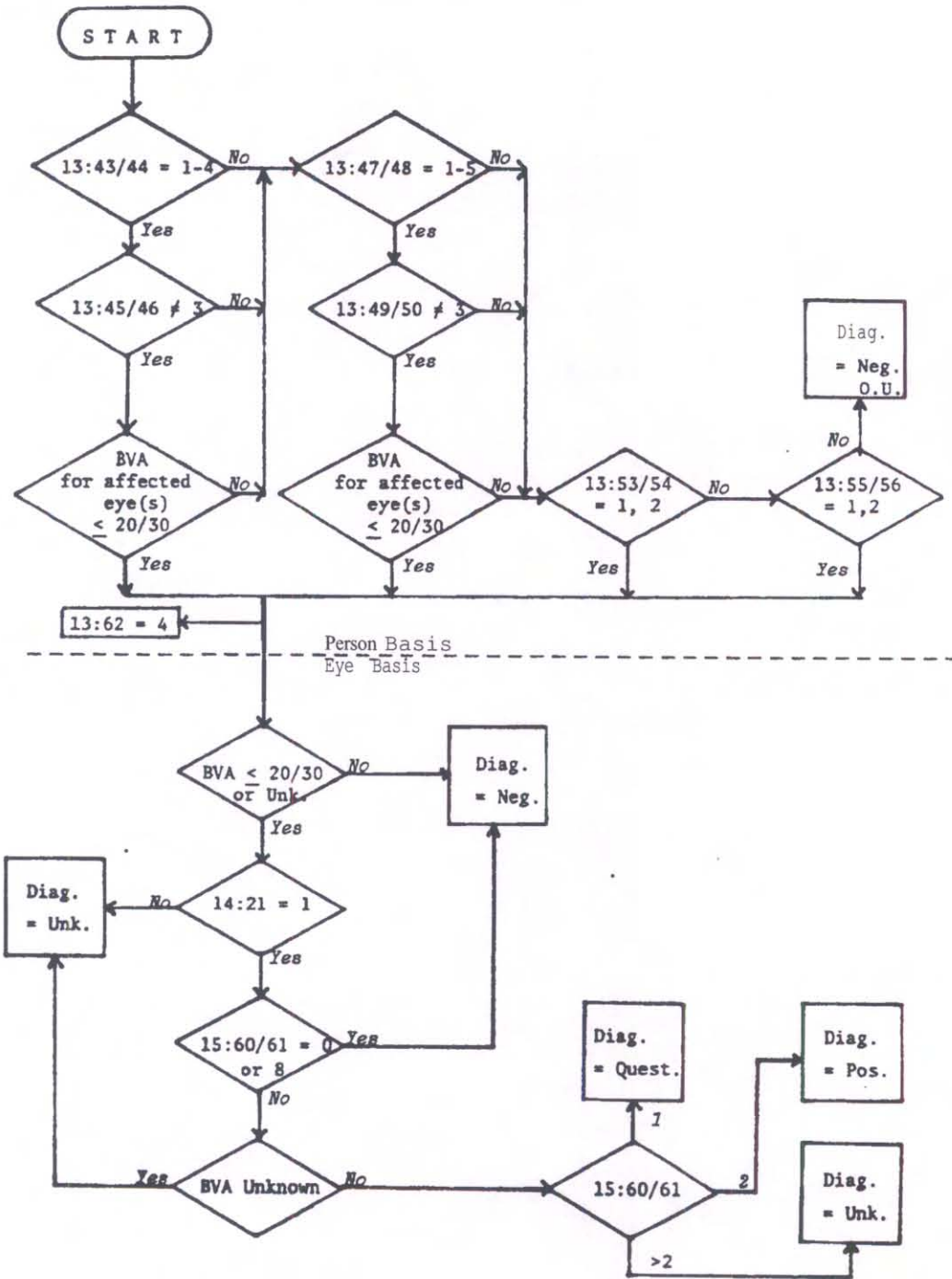
OPEN ANGLE GLAUCOMA



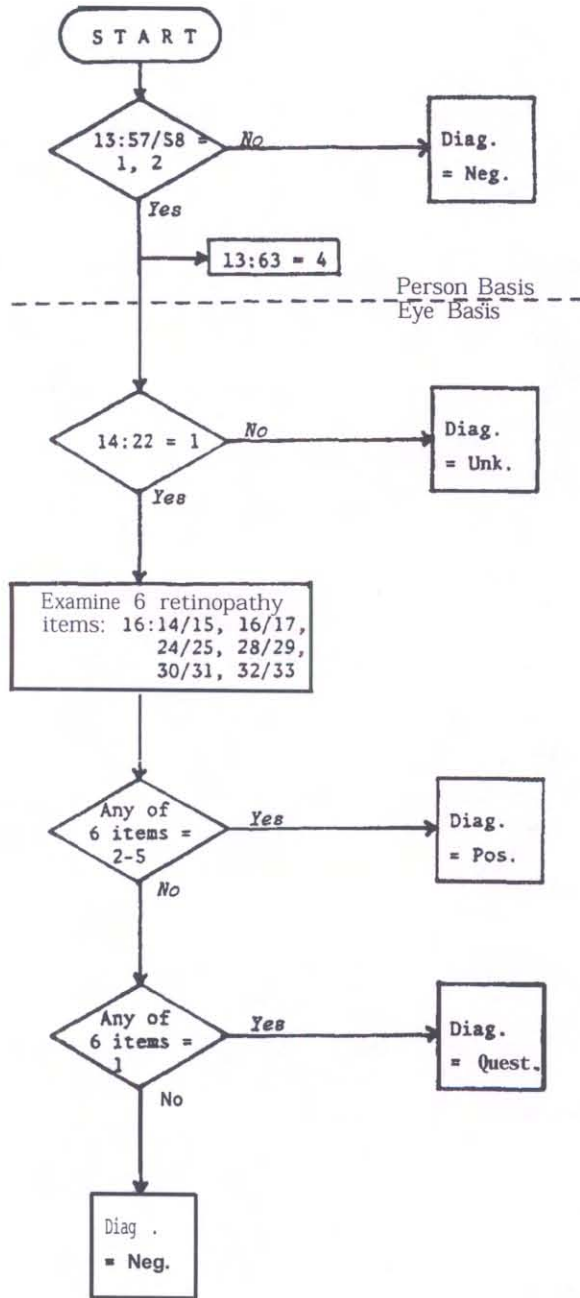
SENILE CATARACT



SENILE MACULAR DEGENERATION



DIABETIC\* RETINOPATHY



\* This flow diagram is for retinopathy with or without diabetes. Pot diabetic retinopathy, all cases with 19:24 = 0 are negative.

## CODE DESCRIPTION

## FILE 1

SCREENING EXAMINATION – Framingham Eye Study  
Form NIH-1897-1, Rev. 4-73 (Decks 1-13)

<u>Tape Variable</u>	<u>Card Source (Deck: Cols)</u>	<u>Item, Code, and Description</u>
PID	11: 1-4	Random ID Number 10000142-19997933 Data modified to protect confidentiality
E005	11: 11-12	Age (at last birthday) 52-85 Actual range
LASTEXAM		Exam number of the last completed clinic exam prior to eye exam



Tape Variable	Card Source (Deck: <b>Cols</b> )	Item, Code, and Description
3 1	E012 11:23	Cataract history 0 Negative 1 Questionable 2 Positive 9 Unknown
36 2	E013 11:24-25	If cataract questionable or positive, age first diagnosed 00-83 Age in years, reported range 88 Negative cataract history 99 Unknown age diagnosed, or unknown cataract history
39 1	E014 11:26	Macular degeneration history 0 Negative 1 Questionable 2 Positive 9 Unknown
41 2	E015 11:27-28	If macular degeneration questionable or positive, age first diagnosed 53-81 Age in years, reported range 88 Negative macular degeneration history 99 Unknown age diagnosed, or unknown macular degeneration history
44 1	E016 11:29	Glaucoma, history of treatment 0 Negative 1 Questionable 2 Positive, medical Rx only 3 Positive, surgical Rx 4 Positive, Rx unknown 9 History unknown
46 2	E017 11:30-31	If glaucoma questionable or positive, age first diagnosed 06-81 Age in years, reported range 88 Negative glaucoma history 99 Unknown age diagnosed, or unknown glaucoma history
49 1	E018 11:32	Diabetes mellitus history 0 Negative 1 Questionable 2 Positive 9 <b>Unknown</b>
51 2	E019 11:33-34	If diabetes questionable or positive, age first diagnosed 08-80 Age in years, reported range 88 Negative diabetes history 99 Unknown age diagnosed, or unknown diabetes history

Tape Variable	Card Source (Deck: <b>Cols</b> )	Item, Code, and Description
54	E020 11:35	Present treatment 0 None 1 Diet alone 2 Oral medication, no insulin 3 Oral medication plus insulin 4 Insulin, no oral medication 5 Other 8 Negative diabetes history 9 Unknown treatment, or unknown diabetes history
56	E021 11:36	Diabetic coma 0 Negative 1 Questionable 2 Positive 8. Negative diabetes <b>history</b> 9 Unknown if coma, or unknown diabetes history
57	E022 11:37	If diabetic coma questionable or positive, type: 2 Hypoglycemic 3 Hyperglycemic 4 Both 8 Negative coma history, or negative diabetes history 9 Unknown type, or unknown if coma, or unknown diabetes history
60	E023 11:38-39	If questionable or positive, years since last episode 00 Less than one year 01-30 Number of years 88 Negative coma history, or negative diabetes history 99 Unknown number of years, <b>or</b> unknown if coma, or unknown diabetes history
63	E024 11:40	Loss of an eye (includes <b>enucleation</b> and phthisis <b>bulbi</b> ) 0 Negative 2 <b>O.D.</b> absent 3 <b>O.S.</b> absent 4 <b>O.U.</b> absent
65	E025 11:41	Visual acuity: Bow tested 2 With distance glasses 3 Without distance glasses 8 Not tested, <b>O.U.</b> 9 Unknown

Tape Variable	Card Source (Deck: Cols)	Item, Code, and Description
	11:42-71	Visual acuities (V.A.)*
67 5 E026	11:42-46	Visual acuity, (first) O.D.
73 5 E027	11:47-51	Visual acuity, (first) O.S.
79 5 E028	11:52-56	Visual acuity with pinhole, O.D. (if V.A. 20/25 or worse)
85 5 E029	11:57-61	Visual acuity with pinhole, O.S. (if V.A. 20/25 or worse)
91 5 E030	11:62-66	Visual acuity after Rx, O.D. (if pinhole 20/30 or worse)
97 5 E031	11:67-71	Visual acuity after Rx, O.S. (if pinhole 20/30 or worse)

Code	Visual Acuity	Ln(1/V.A.)
20010	20/10	-0.693
20015	20/15	-0.288
20020	20/20	0.000
20025	20/25	0.223
20030	20/30	0.405
20035	20/35	0.560
20040	20/40	0.693
20050	20/50	0.916
20060	20/60	1.099
20070	20/70	1.253
20080	20/80	1.386
20100	20/100	1.609
20200	20/200	2.303
20300	20/300	2.708
10300**	10/300	3.401
20400	20/400	2.996
19400	Reads 20/400 line 19' from chart	3.047
:	:	:
01 400	Reads 20/400 line 1' from chart	5.491
20500	Counts fingers @ 20'	3.219
:	:	:
01500	Counts fingers @ 1' or unspecified distance	6.215
01600	Hand motion	6.397
01700	Light perception and projection	6.551
01800	Light perception	6.685
00001	No light perception	7.400***
88888*	Not applicable	8.880***
99999	Unknown	9.990***

- \* Visual acuity (11:42-46 and 11:47-51) is applicable for all eyes. Visual acuity with pinhole (11:52-56 and 11:57-61) is applicable if visual acuity for the eye is 20/25 or worse (excluding "no light perception"). Visual acuity after refraction (11:62-66 and 11:67-71) is applicable if both visual acuity and visual acuity with pinhole for the eye are 20/30 or worse (excluding "no light perception"). If visual acuity is "no light perception" for an eye, both visual acuity with pinhole and visual acuity after refraction are not applicable (code 88888) for that eye.
- \*\* Protocol did not provide for examining at less than 20 feet with the "20/300" line; however, one left eye has 10/300 for all three visual acuities.
- \*\*\* Ln is set arbitrarily.

Tape Card Source  
Variable (Deck: Cols)

Item, Code, and Description

103 2 E032 11: 72-74 Rx spherical equivalent, O.D. = (+ sphere) + 1/2 (+ cylinder)  
107 3 E033 11: 75-77 Rx spherical equivalent, O.S. = (+ sphere) + 1/2 (+ cylinder)

<u>Code</u>	<u>Sian</u>	<u>Diopters</u>
<b>000*</b>	+	0.00-0.05
001	+	0.06-0.15
002	+	0.16-0.25
:	:	
<b>098</b>	+	9.76-9.85
099	+	>9.86
100	-	0.00-0.05
101	-	0.06-0.15
102	-	0.16-0.25
:	:	
198	-	<b>9.76-9.85</b>
199	-	>9.86
<b>888**</b>		Not applicable
999		Unknown

- \* Code 000 for spherical equivalent includes some instances of "cannot improve" and "plano."
- \*\* Examined without distance glasses and first visual acuity or pinhole was 20/25 or better or was no light perception.

111 ' E034 12: 11  
113 ' E035 12: 12

**Arcus senilis, O.D.**  
**Arcus senilis, O.S.**  
0 Absent  
1 Questionable  
2 Resent  
8 Eye absent  
9 **Unknown**



Tape Variable	Card Source (Deck: Cols)	Item, Code, and Description
115	E036 12:13	Marginal degeneration, cornea, O.D.
117	E037 12:14	Marginal degeneration, cornea, O.S. See Column 12
119	E038 12:15	Peripheral neovascularization, cornea, O.D.
121	E039 12:16	Peripheral neovascularization, cornea, O.S. See Column 12
123	E040 12:17	<b>Stromal</b> opacity, cornea, O.D.
125	E041 12:18	<b>Stromal</b> opacity, cornea, O.S. See Column 12
127	E042 12:19	Number of central cornea guttata (A), O.D.
129	E043 12:20	Number of central cornea guttata (A), O.S. 0 Central guttata are absent 1 Guttata questionably present, either central or peripheral 2 Central guttata present, < 10 without edema 3 Central guttata present, $\geq$ 10 without edema 4 Central guttata present, with edema 8 Eye absent 9 Unknown number, or unknown if central guttata present
131	E044 12:21	Location of cornea guttata (B), O.D.
133	E045 12:22	location of cornea guttata (B), O.S. 0 Both central and peripheral guttata are absent 1 Guttata, any kind, questionably present (central, peripheral, or unknown location) 2 Resent - central 3 Resent - peripheral 4 Resent - central & peripheral 8 Eye absent 9 Unknown if any kind of guttata are present
135	E046 12:23	Pigment granules on corneal endothelium, O.D.
137	E047 12:24	Pigment granules on corneal endothelium, O.S. 0 Absent 1 Questionable 2 Resent $\leq$ 10 3 Resent $\geq$ 10 (no spindle) 4 Resent $\geq$ 10 (questionable spindle) 5 Resent $\geq$ 10 (definite spindle) 8 <b>Eye</b> absent 9 <b>Unknown</b>



Tape Variable	Card Source (Deck: <b>Cols</b> )	Item, Code, and Description	
520 1	E048	12:25	Iris atrophy, <b>O.D.</b>
1	E049	12:26	Iris atrophy, <b>O.S.</b>
		0	Absent
		1	Questionable
		2	Resent, pupillary margin
		3	Resent, <b>stroma</b>
		4	Resent, both
		5	Resent, location unspecified (Form NIH-1897-1, 5-72)
		8	Eye absent
		9	Unknown
143 1	E050	12:27	Pupil reaction, <b>O.D.</b>
	E051	12:28	Pupil reaction, <b>O.S.</b>
		0	None
		1	Sluggish
		2	Brisk
		8	Eye absent
		9	Unknown
	E052	12:29	Tonometry instrument
		1	Applanation
		2	Schiotz
		8	Eye absent, <b>O.U.</b>
		9	Unknown instrument, <b>or</b> tonometry not done
		12:30-41	Intraocular pressure (for average, see 13:67-70)
	E053	12:30-31	First pressure, <b>O.D.</b>
	E054	12:32-33	First pressure, <b>O.S.</b>
	E055	12:34-35	Second pressure, <b>O.D.</b>
	E056	12:36-37	Second pressure, <b>O.S.</b>
	E057	12:38-39	Third pressure, <b>O.D.</b>
	E058	12:40-41	Third pressure, <b>O.S.</b>
		01-76	Reported range in <b>mmHg</b>
		88	Eye absent
		99	Unknown
	E059	12:42-43	Time pressure taken
		9	A.M.
		12	:
			Noon
		13	1 P.M.
		:	:
		22	10 P.M.
		88	Eye absent, <b>O.U.</b>
		99	Unknown time, <b>or</b> tonometry not done

Tape Variable	Card Source (Deck: Cols)	Item, Code, and Description
E060	12: 44	Tension reliable, <b>O.D.?</b>
E061	12: 45	Tension reliable, <b>O.S.?</b>
		0 Yes
		1 Questionable
		2 No
		8 Eye absent
		9 Unknown if reliable, or tonometry not done
E062	12: 46-48	Estimation of angle depth as % of corneal thickness, <b>O.D.</b>
E063	12: 49-51	Estimation of angle depth as % of corneal thickness, <b>O.S.</b>
		000-300 <b>0-300%</b> , reported range
		888 Eye absent
		999 Unknown
E064	12: 52-53	Narrowest angle width on gonioscopy, <b>O.D.</b>
E065	12: 54-55	Narrowest angle width on gonioscopy, <b>O.S.</b>
		00-50 0 to 50 degrees
		88 Eye absent, or <b>12:46-48/49-51</b> $\geq$ 30% and pupil dilation is adequate
		99 Unknown
E066	12: 56	Pupil dilation, <b>O.D.</b>
E067	12: 57	Pupil dilation, <b>O.S.</b>
		0 Adequate
		2 Inadequate
		8 Not done, or eye absent
		9 Adequacy unknown
E068	12: 58	Lens examination, <b>O.D.</b>
E069	12: 59	Lens examination, <b>O.S.</b>
		0 Adequate
		2 Inadequate
		7 Aphakia
		8 Not examined, or eye absent
		9 Adequacy unknown
E070	12: 60	Lens changes present, <b>O.D.</b>
E071	12: 61	Lens changes present, <b>O.S.</b>
		(Summary of <b>12:62/63 - 12:68/69</b> and <b>13:11/12 - 13:21/22</b> )
		→ 0 Absent (all lens items = 0, or some = 0 and some = 9)
		1 Questionable (at least one Item = 1; none = 2)
		2 Present (at least one item = 2)
		7 Aphakia (all items = 7)
		8 Eye absent (all items = 8)
		9 Unknown (all items = 9)

Tape Variable	Card Source (Deck: <b>Cols</b> )	Item, Code, and Description
E072	<b>12:62</b>	Vacuoles, <b>O.D.</b>
E073	<b>12:63</b>	Vacuoles, <b>O.S.</b>
		0 Absent
		1 Questionable
		2 Present
		7 Aphakia
		8 Eye absent
		9 Unknown
E074	<b>12:64</b>	Waterclefts, <b>O.D.</b>
E075	<b>12:65</b>	Waterclefts, <b>O.S.</b>
		See Column 63
E076	<b>12:66</b>	Spokes, <b>O.D.</b>
E077	<b>12:67</b>	Spokes, <b>O.S.</b>
		See Column 63
E078	<b>12:68</b>	Lamellar changes, <b>O.D.</b>
E079	<b>12:69</b>	Lamellar changes, <b>O.S.</b>
		See Column 63
E080	<b>12:70-72</b>	Best visual acuity, O.D.
E081	<b>12:73-75</b>	Best visual acuity, O.S.
		(Selected for each eye from <b>11:42-71</b> ; code = visual acuity fractional value x 100)

<u>Code</u>	<u>Visual Acuity</u>
<b>200</b>	<b>20/10</b>
133	<b>20/15</b>
100	<b>20/20</b>
080	<b>20/25</b>
067	<b>20/30</b>
050	<b>20/40</b>
040	<b>20/50</b>
033	<b>20/60</b>
029	<b>20/70</b>
025	<b>20/80</b>
020	<b>20/100</b>
010	<b>20/200</b>
007	<b>20/300</b>
005	<b>20/400 - 18/400</b>
004	<b>17/400 - 14/400 &amp; counts</b> fingers at 20-18 feet
003	<b>10/300, 13/400-10/400, &amp;</b> counts fingers at 17-13 feet
002	<b>9/400-6/400 &amp; counts</b> fingers at 12-8 feet
001	<b>5/400-2/400 &amp; counts fingers</b> at 7-3 feet
<b>000</b>	<b>≤ 1/400 &amp; counts fingers</b> at ≤ 2 feet
<b>999</b>	<b>Unknown</b>

Tape Variable	Card Source (Deck: Cols)	Item, Code, and Description
E082	12:76	Corneal pathology summary, O.D.
E083	12:77	Corneal pathology summary, O.S.
		(Summary of 12:11/12 - 12:23/24)
		0 None (all items = 0)
		1 Questionable (at least one item = 1; none = 2-5)
		2 Present (at least one item = 2-5)
		8 Eye absent (all items = 8)
		9 Unknown (all items = 9, or some = 0 and some = 9)
E084	13:11	Pseudoexfoliation of lens, O.D.
E085	13:12	Pseudoexfoliation of lens, O.S.
		0 Absent
		1 Questionable
		2 Present
		7 Aphakia
		8 Rye absent
		9 <b>Unknown</b>
E086	13:13	Cortical cuneiform lens changes, O.D.
E087	13:14	Cortical cuneiform lens changes, O.S.
		See Column 12
E088	13:15	Decreased lucency of nucleus, O.D.
E089	13:16	Decreased lucency of nucleus, O.S.
		See Column 12
E090	13:17	Posterior subcapsular lens changes, O.D.
E091	13:18	Posterior eubcapsular lens changes, O.S.
		See Column 12
E092	13:19	Other senile lens changes, O.D.
E093	13:20	Other senile lens changes, O.S.
		See Column 12

Tape Variable	Card Source (Deck: <b>Cols</b> )	Item, Code, and Description
E094	13:21	Other lens changes, O.D.
E095	13:22	Other lens changes, O.S. See Column 12
E096	13:23	<b>Fundus</b> examination, O.D.
E097	13:24	<b>Fundus</b> examination, <b>O.S.</b> 0 Adequate 2 Inadequate 8 Not examined, or eye absent 9 Adequacy unknown
E098	13:25	Ophthalmoscope used, <b>O.D.</b>
E099	13:26	Ophthalmoscope used, O.S. 2 Direct only 3 Indirect only 4 Both direct and indirect 8 Not <b>ophthalmoscoped</b> , or eye absent 9 Unknown if direct or indirect
E100	13:27-28	Cup/disc ratio (in tenths), horizontal, <b>O.D.</b>
E101	13:29-30	Cup/disc ratio (in tenths), horizontal, <b>O.S.</b>
E102	13:31-32	Cup/disc ratio (in tenths), vertical, <b>O.D.</b>
E103	13:33-34	Cup/disc ratio (in tenths), vertical, <b>O.S.</b> 00-10 0.0 - 1.0, reported range 88 Eye absent 99 Unknown
E104	13:35	Does cup touch edge of disc, <b>O.D.?</b>
E105	13:36	Does cup touch edge of disc, <b>O.S.?</b> 0 No 1 Questionable 2 Yes, vertically 3 Yes, horizontally 4 Yes, both 8 No cup, <b>or eye absent</b> 9 Unknown
E106	13:37	Depth of cup, O.D.
E107	13:38	Depth of cup, O.S. 0 No cup 1 Questionable if cup is present 2 Cup present, lamina <b>cribrosa</b> not visible 3 Cup present, lamina <b>cribrosa</b> visible 8 Eye absent 9 <b>Unknown</b>





Tape Variable	Card Source (Deck: Cols)	Item, Code, and Description
E119	13:50	If drusen questionable or present, location, O.S. 2 Macular 3 Peripheral 4 Both macular and peripheral 8 Eye absent, or no drusen, or unknown if drusen 9 Location unknown
E121	13:52	If drusen questionable or present, estimated number, O.S. 2 < 10 3 10-99 4 ≥ 100 8 Eye absent, or no drusen, or unknown if drusen 9 Number unknown
E123	13:54	Serous, hemorrhagic or proliferative elevation of pigment or neurosensory epithelium, O.S. 0 Absent 1 Questionable 2 Present 8 Eye absent 9 Unknown
E126	13:57	Microaneurysms and/or dot hemorrhages, O.D.
E127	13:58	Microaneurysms and/or dot hemorrhages, O.S. See Column 54

Tape variable	Card Source (Deck: Cols)	Item, Code, and Description
E129	13:60	Meets referral criteria for glaucoma evaluation 0 No, meets no referral criteria, or unknown if meets referral criteria 2 Yes, meets referral criteria in effect through 5/9/73, but does not meet criteria used after this date 3 Yes, meets referral criteria in effect 5/10/73 through 10/28/73, but does not meet criteria used after this date 4 Yes, meets referral criteria at all points of the study
E130	13:61	Meets referral criteria for cataract evaluation 0 See Column 60, Code 0 2 See Column 60, Code 2 4 See Column 60, Code 4
E132	13:63	Meets referral criteria for diabetic retinopathy evaluation 0 See Column 60, Code 0 1 Referred for 7 photos only, meets no referral criterion for definitive evaluation 4 See Coluw 60, Code 4
E133	13:64	Meets referral criteria for other reasons 0 See Column 60, Code 0 4 See Column 60, Code 4
E134	13:65	Photos which should be taken 0 None 2 2 fields 3 7 fields, sample selection 4 7 fields, diabetes suspect 5 7 fields, sample & diabetes suspect  Note: Person has code 2 if he met any referral criterion, whether or not that criterion was still in effect when he had Screening Examination. However, persons who met only criteria no longer in effect were not supposed to have photos, and code 2, though assigned, is not valid for such persons.

Tape Variable	Card Source (Deck: <b>Colis</b> )	Item, Code, and Description
E135	13:66	Ocular findings other than glaucoma, cataract, macular degeneration or diabetic retinopathy 0 No 1 Yes
E136	13:67-68	Average intraocular pressure, O.D.
E137	13:69-70	Average intraocular pressure, O.S. 1-76 Reported range in mmHg 99 No intraocular pressure measurement, or eye absent
E138	13:71	Best visual acuity class, O.D. (classified from 12:70-72)
E139	13:72	Best visual acuity class, O.S. (classified from 12:73-75) 1 Better than or equal to 20/20 2 20/25 3 Worse than or equal to. 20/30 5 Unknown (V.A. = 99999)
E140	13:76	Recoded examination (first examination form) 1 Recoded (Form NIH-1897-1, 5-72) Blank Not recoded (Form NIH-1897-1, Rev. 4-73)
E142	13:78	<b>Macular pathology summary, O.S.</b> (Summary--of 13:43/44 - 13:55/56) 0 No pathology (all items = 0) 1 Questionable (at least 1 item = 1; none = 2-5) 2 Present (at least 1 item = 2-5) 8 Eye absent 9 Unknown (all items = 9, or some = 0 and some = 9)

DEFINITIVE EXAMINATION - Framingham Eye Study  
 Form NIH-1897-2, Rev. 4-73 (Decks 14-16)

Tape	Card Source	Item, Code, and Description
Variable	(Deck: <b>Cols</b> )	
E147	14:19	Definitive examination status, glaucoma
E148	14:20	Definitive examination status, cataract
E149	14:21	Definitive examination status, macular degeneration
<b>E150</b>	<b>14:22</b>	Definitive examination status, diabetic retinopathy
E151	14:23	Definitive examination status, other referral reason
		0 Not examined
		1 <b>Examined</b>



Tape Variable	Card Source (Deck: Cols)	Item, Code, and Description
<b>CATARACT SUSPECTS (14:24-62)</b>		
E152	14:24	History of conditions that may have contributed to presence of cataract other than senile type
		0 Negative
		2 Positive
		6 Cataract suspect, not examined
		9 <b>Unknown</b>
		Blank Does not meet referral criteria for cataract
E153	14:25	Lens examination, <b>O.D.</b>
E154	14:26	Lens examination, <b>O.S.</b>
		0 Adequate
		2 Inadequate
		6 Cataract suspect, not examined
		7 Aphakia
		8 Eye not examined, or eye absent
		9 -- Adequacy unknown
		Blank Does not meet referral criteria for cataract
E155	14:27	Lens changes present, <b>O.D.</b>
E156	14:28	Lens changes present, <b>O.S.</b>
		0 Absent
		1 Questionable
		2 Present
		6 Cataract suspect, not examined
		7 Aphakia
		8 Eye absent
		9 Unknown, or eye not examined
		Blank Does not meet referral criteria for cataract
	14:29-40	Location of lens changes:
E157	14:29	Capsular, <b>O.D.</b>
E158	14:30	Capsular, <b>O.S.</b>
E159	14:31	Subcapsular, <b>O.D.</b>
E160	14:32	Subcapsular, <b>O.S.</b>
E161	14:33	Cortical, <b>O.D.</b>
E162	14:34	Cortical, <b>O.S.</b>
E163	14:35	Nuclear, <b>O.D.</b>
E164	14:36	Nuclear, <b>O.S.</b>
E165	14:37	Perfpheral, <b>O.D.</b>
E166	14:38	Peripheral, <b>O.S.</b>
E167	14:39	Axial, <b>O.D.</b>
E168	14:40	Axial, <b>O.S.</b>
		0 Absent
		1 Questionable
		2 Resent
		6 Cataract suspect, not examined
		7 <b>Aphakia</b>
		8 Eye absent
		9 Unknown If this location, or lens changes unknown, <b>or eye</b> not examined
		Blank Does not <b>meet</b> referral criteria for cataract

Tape Variable	Card Source (Deck: Cols)	Item, Code, and Description
	<b>14:41-50</b>	Type of lens opacity:
E169	14:41	Pseudoexfoliation, <b>O.D.</b>
<b>E170</b>	14:42	Pseudoexfoliation, <b>O.S.</b>
E171	14:43	Cuneiform, <b>O.D.</b>
E172	14:44	Cuneiform, <b>O.S.</b>
E173	14:45	Nuclear sclerosis, <b>O.D.</b>
E174	14:46	Nuclear sclerosis, <b>O.S.</b>
<b>E175</b>	14:47	Posterior subcapsular, <b>O.D.</b>
E176	14:48	Posterior subcapsular, <b>O.S.</b>
E177	14:49	Other lens opacity, <b>O.D.</b>
E178	14:50	Other lens opacity, <b>O.S.</b>
		0 Absent
		1 Questionable
		2 Present
		6 Cataract suspect, not examined
		7 Aphakia
		8 Eye absent
		9 Unknown if this type, or lens changes unknown, or eye not examined
		Blank Does not meet referral criteria for cataract
E179	14:51	Stage of lens opacity, <b>O.D.</b>
E180	14:52	Stage of lens opacity, <b>O.S.</b>
		0 Absent
		2 Immature, nontumescent
		3 Immature, tumescent
		4 Mature
		5 Bypermature
		6 Cataract suspect, not examined
		7 Aphakia
		8 Eye absent
		9 Stage unknown, or eye not examined
		Blank Does not meet referral criteria for cataract
	<b>14:53-54</b>	If both opacity and best V.A. of <b>20/30</b> or worse are present, can the opacity account entirely for the visual defect?
		Note: No eye with opacity had unknown <b>V.A.</b>
E181	14:53	<b>O.D.</b>
E182	14:54	<b>O.S.</b>
		0 No
		1 Questionable
		2 Yes
		6 Cataract suspect, not examined
		7 <b>Aphakia</b>
		8 Absent eye, or lens changes absent or unknown, or eye not examined, or best <b>V.A. 20/25</b> or better
		9 Unknown if opacity accounts entirely for <b>V.A.</b> of <b>20/30</b> or worse
		Blank Does not meet referral criteria for cataract

Tape Variable	Card Source (Deck: Cols)	Item, Code, and Description
	<b>14:55-62</b>	Etiology of opacity or aphakia:
E183	<b>14:55</b>	Senile, <b>O.D.</b>
E184	<b>14:56</b>	Senile, <b>O.S.</b>
E185	<b>14:57</b>	Congenital, <b>O.D.</b>
E186	<b>14:58</b>	Congenital, <b>O.S.</b>
E187	<b>14:59</b>	Secondary, <b>O.D.</b>
E188	<b>14:60</b>	Secondary, <b>O.S.</b>
E189	<b>14:61</b>	Other, <b>O.D.</b>
<b>E190</b>	<b>14:62</b>	Other, <b>O.S.</b>
		0 No, or lens changes absent, or not <b>aphakic</b>
		1 Questionable
		2 Yes
		6 Cataract suspect, not examined
		8 Absent eye
		9 Unknown if this etiology, or lens changes unknown, or eye not examined
		Blank Does not meet referral criteria for cataract

Tape Variable	Card Source (Deck: Co1s)	Item, Code, and Description
<b>GLAUCOMA SUSPECTS (15:11-32)</b>		
<b>E191</b>	<b>15:11</b>	Disc examination, O.D.
E192	15:12	Disc examination, <b>O.S.</b>
		0 Adequate
		2 Inadequate
		6 Glaucoma suspect, not examined
		8 Not done, or eye absent
		9 Adequacy unknown
		Blank Does not meet referral criteria for glaucoma
E193	15:13-14	Cup/disc ratio (In tenths), horizontal, <b>O.D.</b>
E194	15:15-16	Cup/disc ratio (in tenths), horizontal, <b>O.S.</b>
<b>E195</b>	<b>15:17-18</b>	Cup/disc ratio (in tenths), vertical, <b>O.D.</b>
E196	15:19-20	Cup/disc ratio (in tenths), vertical, <b>O.S.</b>
		00-10 0.0 - 1.0, reported range
		66 Glaucoma suspect, not examined
		88 Eye absent
		99 Unknown, or eye not examined
		Blank Does not meet referral criteria for glaucoma
E197	15:21	Does cup touch edge of disc, <b>O.D.?</b>
E198	15:22	Does cup touch edge of disc, O.S.?
		0 No
		1 Questionable
		2 Yes, vertically
		3 Yes, horizontally
		4 Yes, both
		6 Glaucoma suspect, not examined
		8 Eye absent, or no cup
		9 Unknown, or eye not examined
		Blank Does not meet referral criteria for glaucoma
E199	15:23	Depth of cup, <b>O.D.</b>
E200	15:24	Depth of cup, <b>O.S.</b>
		1 Cup questionably present
		2 Cup present, lamina <b>cribrosa</b> not visible
		3 Cup present, lamina <b>cribrosa</b> visible
		6 Glaucoma suspect, not examined
		8 Eye absent, or no cup
		9 Unknown, or eye not examined
		Blank Does not meet referral criteria for glaucoma
<b>E201</b>	<b>15:25</b>	Diopter measure between cup bottom and top of disc, <b>O.D.</b>
E202	15:26	Diopter measure between cup bottom and top of disc, <b>O.S.</b>
		0-4 Reported range in diopters
		6 Glaucoma suspect, not examined
		8 Eye absent, or no cup
		9 Unknown, or eye not examined
		Blank Does not meet referral criteria for glaucoma



Tape Variable	Card Source (Deck: <b>Cols</b> )	Item, Code, and Description
E203	15: 27	Myopic cup, O.D.
E204	15: 28	<b>Myopic</b> cup, <b>O.S.</b>
		0 Absent
		1 Questionable
		2 Present
		6 Glaucoma suspect, not examined
		8 Eye absent, or no cup
		9 Unknown, or eye not examined
		Blank Does not meet referral criteria for glaucoma
E205	15: 29	Excavation of cup, O.D.
E206	15: 30	Excavation of cup, <b>O.S.</b>
		0 None
		1 Questionable
		2 Present
		6 Glaucoma suspect, not examined
		8 Eye absent, or no cup
		9 Unknown, or eye not examined
		Blank Does not meet referral criteria for glaucoma
E207	15: 31	Nasal displacement of blood vessels, <b>O.D.</b>
E208	15: 32	Nasal displacement of blood vessels, <b>O.S.</b>
		See Column 30

**MACULAR DEGENERATION SUSPECTS (15: 33-73)**

Note: "Absent eye" does not appear in the code description for macular degeneration suspects because no person with an absent eye had definitive examination of the **remaining** eye for macular degeneration.



Tape Variable	Card Source (Deck: Cols)	Item, Code, and Description
E250	16:11	History of any disease or condition that might be associated with retinal microaneurysms or dot hemorrhages 0 Negative 2 Positive 6 Diabetic retinopathy suspect, not examined 9 Unknown Blank Does not meet referral criteria for diabetic retinopathy
E251	16:12	<b>Fundus</b> examination, <b>O.D.</b>
E252	16:13	<b>Fundus</b> examination, <b>O.S.</b> 0 Adequate 2 Inadequate 6 Diabetic retinopathy suspect, not examined 8 Not done 9 Adequacy unknown Blank Does not meet referral criteria for diabetic retinopathy
	16:14-45	Grading of diabetic retinopathy. Even-numbered columns contain codes for <b>O.D.</b> ; odd-numbered, for <b>O.S.</b> For item descriptions, see table following the codes 0 (See the following table for definition of 1 ( codes 0-5. An "n.a." in a code column 2 ( indicates items for which the 3 ( code is not valid. 4 ( 5 ( 6 Diabetic retinopathy suspect, not examined 9 Unknown, or eye not examined Blank Does not meet referral criteria for diabetic retinopathy

Tape Variable	Card Source (Deck: Cole)	Item, Code, and Description	(ALL SINGLE CAPITAL LETTERS REFER TO STANDARD DIABETIC RETINOPATHY PHOTOS)					
			Type of Change	Absent	Questionable	Present		
			(0)	(1)	(2)	(3)	(4)	(5)
E253	16:14	Hemorrhages & microaneurysms (A,B)	abs.	ques.	<A	≥A	n.a.	≥B
E254	16:15					<B		
E255	16:16	Hard exudates (C,D)	abs.	ques.	<C	≥C	n.a.	≥D
E256	16:17					<D		
E257	16:18	Cotton wool patches (E)	abs.	ques.	n.a.	<E	n.a.	≥E
E258	16:19							
E259	16:20	Venous beading* (B,E,F,L)	abs.	ques.	n.a.	<F	n.a.	≥F
E260	16:21		E	B		=L		
E261	16:22	Arteriolar abnormalities* (G)	abs.	ques.	n.a.	<G	n.a.	at least 1 ≥G
E262	16:23							
E263	16:24	Intraretinal microvascular abnormality (H)	abbe.	<H & ques.	n.a.	<H but def.	n.a.	≥H
E264	16:25							
E265	16:26	Arteriovenous nicking (J)	abs.	ques.	n.a.	CJ	n.a.	≥J
E266	16:27							
E267	16:28	Macular edema (D)	abs.	ques.	n.a.	<I disc area	n.a.	≥I disc area
E268	16:29							
E269	16:30	Neovascularization within IDD of disc (K,L)	abs.	ques.	n.a.	<K	≥K <L	≥L
E270	16:31							
E271	16:32	Neovascularization outside IDD of disc (G)	abs.	ques.	n.a.	<G	n.a.	≥G
E272	16:33							
E273	16:34	Fibrous prolif. within IDD of disc (M)	abs.	ques.	n.a.	<M	n.a.	≥M
E274	16:35							
E275	16:36	Fibrous prolif. outside IDD of disc (N)	abs.	ques.	n.a.	<N	n.a.	≥N
E276	16:37							
E277	16:38	Plane of prolif. (G,L,M,N,P)	total contact w/retina G&L	ques.	0 lw. <1/4DD M	elev. ≥1/4DD <1DD	elev. ≥IDD <2DD 4	0 lev. ≥2DD =P
E278	16:39							
E279	16:40	Retinal 0 lwation (area) (P)	abs.	ques.	n.a.	<P <4DD	n.a.	≥P ≥4DD
E280	16:41							
E281	16:42	Preretinal hemorrhage (J,Q)	abs.	ques.	n.a.	<J & <Q	n.a.	≥J or ≥Q
X282	16:43							
E283	16:44	Vitreous hemorrhage	abs.	ques.	all other lesions can be graded	can see ≥ 1/2 fundus	cannot see ≥ 1/2 fundus	cannot see fundus
E284	16:45							

\*Ignore pathology within 1/2 DD of disc.

<b>Tape</b> Variable	Card Source (Deck: <b>Cols</b> )	<b>Item, Code, and Description</b>
	16: 46-47	If <u>both</u> retinopathy <u>and</u> best <b>V.A.</b> of <b>20/30</b> or worse are <b>present</b> , can the <b>retinopathy</b> account entirely for the visual deficit? Note: No eye with retinopathy had unknown <b>V.A.</b>
<b>E285</b>	16: 46	<b>O.D.</b>
<b>E286</b>	16: 47	<b>O.S.</b>
		0 No
		1 Questionable
		2 Yes
		6 Diabetic retinopathy suspect, not examined
		8 No retinopathy, or unknown if retinopathy, or best <b>V.A.</b> is <b>20/25</b> or better
		9 <b>Unknown</b> if retinopathy accounts entirely for <b>V.A.</b> of <b>20/30</b> or worse
		Blank Does not meet referral criteria for diabetic retinopathy
<b>E28 7</b>	16: 48	Is the retinopathy due to diabetes, <b>O.D.</b>
<b>E288</b>	16: 49	Is the retinopathy due to diabetes, <b>O.S.</b>
		0 No
		1 Questionable
		2 Yes
		6 Diabetic retinopathy suspect, not examined
		8 No retinopathy
		9 Unknown if retinopathy, <b>or unknown</b> if retinopathy is due to diabetes
		Blank Does not meet referral criteria for diabetic retinopathy
<b>E289</b>	16: 50	Other suspects (condition suspected other than cataract, glaucoma, macular degeneration, or diabetic retinopathy)
		0 Absent
		1 Questionable
		2 Resent
		9 unknown, or "other suspect" not examined
		<b>Blank</b> <b>Does</b> not meet referral criteria for other suspect
<b>E290</b>	16: 60	<b>Retinopathy</b> summary, <b>O.D.</b>
<b>E291</b>	16: 61	<b>Retinopathp</b> summary, <b>O.S.</b>
		(Summary of <b>16: 14/15 - 16: 44/45</b> )
		0 <b>Absent</b>
		1 Questionable
		2 Resent
		6 Diabetic retinopathy suspect, not examined
		9 <b>Unknown</b> , or eye not examined
		Blank Does not meet referral criteria for diabetic retinopathy

01/19/79

PAGE 28

Tape            Card Source  
Variable (Deck: **Colis**)

---

Item, Code, and Description

---

**E292    16:77**

Recoded examination (first examination *form*)

1            Recoded (**Form** NIH-1897-2, **5-72**)

Blank        Not recoded (Form NIH-1897-2, Rev. 4-73)

GLAUCOMA SUSPECT RECALL EXAMINATION - Framingham Eye Study  
Form NIB-1897-3, Rev. 10-73 (Decks 17-18)

Note: If person did not have Glaucoma Suspect Recall Examination, Decks 17 and 18 are blank except for record number (17:1-4 and 18:1-4), Glaucoma Recall Examination status (17:75), and deck number (17:79-80 and 18:79-80).

Tape Variable	Card Source (Deck: Cols)	Item, Code, and Description
---------------	--------------------------	-----------------------------

E298	17:21	Visual field reliable, O.D.
E299	17:22	Visual field reliable, O.S.
		0 Yes
		1 Questionable
		2 No
		8 Not done, or eye absent
		9 Unknown



e n	Tape Variable	Card Source (Deck: <b>Col's</b> )	Item, Code, and Description
	E300	17:27	Blind spot enlargement, <b>O.D.</b>
	<b>E301</b>	17:28	Blind spot enlargement, <b>O.S.</b>
	E302	17:29	Blind <b>spot</b> baring, <b>O.D.</b>
	E303	17:30	Blind spot baring, <b>O.S.</b>
	E304	17:31	<b>Arcuate</b> scotoma, <b>O.D.</b>
	E305	17:32	Arcuate scotoma, <b>O.S.</b>
			0 Negative
			1 Doubtful
			2 Definite
			8 Eye absent
			9 <b>Unknown</b>
	E306	17:33-35	If arcuate scotoma present, length, O.D.
	E307	17:36-38	If arcuate scotoma present, length, <b>O.S.</b>
			75-360 Reported range in degrees
			888 Arcuate scotoma is negative or unknown, or eye <b>is</b> absent
			999 Unknown
	E308	17:39	Paracentral scotoma, <b>O.D.</b>
	E309	17:40	Paracentral scotoma, <b>O.S.</b>
			<b>See</b> Column 32
	<b>E310</b>	17:41-43	If paracentral scotoma present, length, <b>O.D.</b>
	E311	17:44-46	If paracentral scotoma present, length, <b>O.S.</b>
			015-180 Reported range in degrees
			888 Paracentral scotoma is negative or unknown, or eye is absent
			999 <b>Unknown</b>
	E312	17:47	Nasal step, <b>O.D.</b>
	<b>E313</b>	17:48	Nasal step, <b>O.S.</b>
			<b>See</b> Column 32
	E314	17:49	Advanced glaucomatous field loss, <b>O.D.</b>
	<b>E315</b>	17:50	Advanced glaucomatous field loss, <b>O.S.</b>
			<b>see</b> Column 32
	E316	17:51-53	Maximum extent of visual field, O.D.
	E317	17:54-56	Maximum extent of visual field, <b>O.S.</b>
			000-150 Reported range in degrees
			888 <b>Eye</b> absent
			999 <b>Unknown</b>
	<b>E318</b>	17:57-59	<b>Minimum extent</b> of visual field, <b>O.D.</b>
	<b>E319</b>	17:60-62	<b>Minimum extent</b> of visual field, <b>O.S.</b>
			000-130 Reported range <b>in</b> degrees
			888 Rye absent
			999 <b>Unknown</b>

Tape Variable	Card Source (Deck: <b>Cols</b> )	Item, Code, and Description
E320	17:63	Field loss due to conditions other than glaucoma, O.D.
<b>E321</b>	<b>17:64</b>	<b>Field</b> loss due to conditions other than glaucoma, O.S.
		0 Negative (field defect is present)
		1 Doubtful (field defect <b>is</b> present)
		2 Definite (field defect <b>is</b> present)
		8 No field defect, or eye absent
		9 Unknown if field defect, or unknown if due to condition other than glaucoma
E322	17:65	Significant history or findings relating to secondary, congenital, or acute glaucoma, <b>O.D.</b>
E323	17:66	Significant history or findings relating to secondary, congenital, or acute glaucoma, <b>O.S.</b>
		0 Negative
		1 Doubtful
		2 Definite
		8 No field defect
		9 <b>Unknown</b>
E324	17:69-70	Age (at birthday prior to glaucoma suspect recall examination)
		52-84 Actual range
E325	17:75	Glaucoma recall examination status
		0 Not examined
		1 Examined

Tape Variable	Card Source (Deck: Cols)	Item, Code, and Description
E326	18:11	Tonometry instrument 1 Applanation 2 Schiotz 9 Unknown instrument, or tonometry not done
	18:12-23	Intraocular pressure (for average, see 18:63-66)
E327	18:12-13	First pressure, O.D.
E328	18:14-15	First pressure, O.S.
E329	18:16-17	Second pressure, O.D.
E330	18:18-19	Second pressure, O.S.
E331	18:20-21	Third pressure, O.D.
E332	18:22-23	Third pressure, O.S. 02-55 Reported range in mmHg 88 Eye absent 99 Unknown
E333	18:24-25	Time pressure taken 09 9 a.m. : : 12 Noon 13 1 p.m. : 21 10 p.m. 99 Unknown time, or tonometry not done
E334	18:26	Tension reliable, O.D.
E335	18:27	Tension reliable, O.S. 0 Yes 1 Questionable 2 No 8 Eye absent 9 Unknown If reliable, or tonometry not done
E336	18:28	Gonioscopy adequate, O.D.
E337	18:29	Gonioscopy adequate, O.S. 0 Adequate 2 Inadequate 8 Eye absent, or gonioscopy not done 9 Unknown

Tape Variable	Card Source (Deck: Cols)	Item, Code, and Description
E338	18:30-32	Narrowest angle width, O.D.
E339	18:33-35	Narrowest angle width, O.S.
		000-050 Reported range in degrees
		888 Eye absent
		999 Unknown
E340	18:36	Significant angle abnormalities present, O.D.
E341	18:37	Significant angle abnormalities present, O.S.
		0 Negative
		1 Doubtful
		2 Definite
		8 Eye absent
		9 <b>Unknown</b>
	18:38-47	Etiology of glaucoma:
E342	18:38	Open angle, O.D.
E343	18:39	Open angle, O.S.
E344	18:40	Closed angle, O.D.
E345	18:41	Closed angle, O.S.
E346	18:42	Congenital, O.D.
E347	18:43	Congenital, O.S.
E348	18:44	Secondary, O.D.
E349	18:45	Secondary, O.S.
E350	18:46	Other, O.D.
E351	18:47	Other, O.S.
		0 No, or no field defects
		1 Questionable
		2 <b>Yes</b>
		8 Eye absent
		9 <b>Unknown</b>
E352	18:48	Best visual acuity class, O.D. (classified from 12:70-72)
E353	18:49	Best visual acuity class, O.S. (classified from 12:73-75)
		1 Better than or equal to 20/20
		2 <b>20/25</b>
		3 Worse than or equal to 20/30
		5 <b>Unknown (V.A. = 99999)</b>
E354	18:50	Meets referral criteria for glaucoma evaluation
		0 No, meets no referral criteria, or unknown if meets referral criteria
		2 Yes, meets referral criteria in effect through <b>5/9/73</b> , but does not meet criteria used <b>after this date</b>
		3 <b>Yes, meets referral criteria In effect 5/10/73 through 10/28/73, but does not meet criteria used after this date</b>
		4 Yes, meets referral criteria at all points of the study

Tape Variable	Card Source (Deck: Cols)	Item, Code, and Description
E355	18:53	Field defect summary, O.D.
E356	18:54	Field defect summary, O.S.
		0 No field defect
		1 Doubtful
		2 Definite
		8 Eye absent
		9 Unknown
E357	18:55-56	Threshold stimulus, above, O.D.
E358	18:57-58	Threshold stimulus, above, O.S.
E359	18:59-60	Threshold stimulus, below, O.D.
E360	18:61-62	Threshold stimulus, below, O.S.
		<u>Size</u> <u>Intensity</u>
		00            0            1            Least stimulus
		01            I            1
		02            I            2
		03            I            3
		04            I            4
		05            II           4
		06            III          4
		07            IV          4
		08            V           4            Greatest stimulus
		88            Eye Absent
		99            Unknown
E361	18:63-64	Average Intraocular pressure, O.D.
E362	18:65-66	Average intraocular pressure, O.S.
		03-55        Reported range in mmHg, rounded to nearest Integer
		88            Eye absent
		99            Unknown
E363	18:77	Recoded examination (first examination form)
		1            Recoded (Form NIH-1897-3, 5-72)
		Blank        Not recoded (Form NIH-1897-3, Rev. 10-73)



MISCELLANEOUS **SUMMARY** ITEMS - Framingham Eye Study  
(Decks 19-20)

Tape Variable	Card Source (Deck: Cols)	Item, Code, and Description
E364	19: 5	Sex 1 Male 2 Female,
E365	19: 6-7	Age (Same as 11: 11-12)
E366	19: 8	Location (Last known residence at time Eye Study began as recorded in the Framingham Heart Study Master File of subjects) Note: Paper #1 refers to the taxi area (code 1) as the "local area" and to the local area (code 2) plus the outside area (code 3) as "outside the local area." (See 20: 58-74 for references to Papers #1 and 2) 1 Taxi area: Framingham taxi area which includes the communities of Framingham (all) Ashland Holliston Bopkinton Natick Southboro 2 Local:-outside taxi area but within a 25 mile radius of Framingham 3. Outside area: beyond a 25 mile radius of Framingham
	19: 9-16	Diagnosis of four major conditions as classified in FES Monograph, by eye. (Cf. 20: 23-34) (For diagnosis by person, see 19: 58-62)
E367	19: 9	Diagnosis of open angle glaucoma, O.D., as in FES Monograph
E368	19: 10	Diagnosis of open angle glaucoma, O.S., as in FES Monograph 1 Absent 2 Questionable 3 Positive 4 <b>Unknown</b>
E369	19: 11	Diagnosis of senile cataract, O.D., as in FES Monograph
E370	19: 12	Diagnosis of senile cataract, O.S., as in FES Monograph See Column 10

Tape Variable	Card Source (Deck: <b>Cols</b> )	Item, Code, and Description
E373	19:15	Diagnosis of retinopathy with or without diabetes, <b>O.D.</b> , as in <b>FES</b> Monograph
E374	19:16	Diagnosis of retinopathy with or without diabetes, <b>O.S.</b> , as in <b>FES</b> Monograph See Column 10
E375	19:17	Time period Screening Examination given 1 February 1 through May 9, 1973 2 May 10, 1973 through October 28, 1973 3 After October 28, 1973
	19:18-21	Referral criteria for four major conditions, status of persons
E376	19:18	Meets referral criteria for glaucoma evaluation (Same as <b>13:60</b> ) 0 No, meets no referral criteria, or unknown if meets referral criteria 2 Yes, meets referral criteria in effect through <b>5/9/73</b> , but does not meet criteria used after this date 3 Yes, meets referral criteria in <b>effect 5/10/73</b> through <b>10/28/73</b> , but does not meet criteria used after this date 4 Yes, meets referral criteria at all points of the study
E377	19:19	Meets referral criteria for cataract evaluation (Same as <b>13:61</b> ) 0 See Column 18, Code 0 2 See Column 18, Code 2 4 See Column 18, Code 4
E378	19:20	Meets referral criteria for macular degeneration evaluation (Same as <b>13:62</b> ) 0 See Column 18, Code 0 2 See Column 18, Code 2 4 See Column 18, Code 4
<b>E379</b>	19:21	Meets referral criteria for diabetic retinopathy evaluation (modification of <b>13:63</b> ; If <b>13:63</b> = 0 or 1 then <b>19:21</b> = 0) 0 See Column 18, Code 0 4 See <b>Column</b> 18, Code 4

Tape Variable	Card Source (Deck: <b>Cols</b> )	Item, Code, and Description
	<b>19:22-23</b>	Diagnosis of diabetic retinopathy as in <b>FES Monograph</b> and confirmed by diagnosis of diabetes mellitus in Framingham Heart Study examinations 1-12
E380	<b>19:22</b>	O.D.
E381	<b>19:23</b>	<b>O.S.</b>
		1 Absent
		2 Questionable
		3 Positive
		4 Unknown
		Note: Code = 1 for any person not diagnosed as having diabetes on the Heart Study. Persons diagnosed as having diabetes on the Heart Study have the same code as in <b>19:15/16</b> .
E383	<b>19:26</b>	Meets referral criteria for glaucoma evaluation, <b>O.D.</b>
E384	<b>19:27</b>	Meets referral criteria for glaucoma evaluation, <b>O.S.</b> See Column 18
E385	<b>19:28</b>	Meets referral criteria for cataract evaluation, <b>O.D.</b>
E386	<b>19:29</b>	Meets referral criteria for cataract evaluation, <b>O.S.</b> See Column 19
<b>E389</b>	<b>19:32</b>	Meets referral criteria for diabetic retinopathy evaluation, <b>O.D.</b>
E390	<b>19:33</b>	<b>Meets</b> referral criteria for diabetic retinopathy evaluation, <b>O.S.</b> See Column 21

Tape Variable	Card Source (Deck: <b>Cols</b> )	Item, Code, and Description
	<b>19: 34-57</b>	These variables show the status of each eye for each referral criterion for definitive examination for glaucoma ( <b>19: 34-43</b> ), cataract ( <b>19: 44-47</b> ), macular degeneration ( <b>19: 48-55</b> ), and diabetic retinopathy ( <b>19: 56-57</b> ). The values in <b>19: 26-33</b> are equal to the maximum value in <b>19: 34-57</b> for each disease in each eye.
E391	<b>19: 34</b>	Meets history criterion for glaucoma evaluation, <b>O.D.</b>
<b>E392</b>	<b>19: 35</b>	Meets history criterion for glaucoma evaluation, <b>O.S.</b> Note: For each person, code for O.D. is the same as for <b>O.S.</b> 0 No ( <b>11: 29</b> = 0, 1, or 9) 4 Yes ( <b>11: 29</b> = 2, 3, or 4)
<b>E393</b>	<b>19: 36</b>	Meets intraocular pressure (IOP) criterion for glaucoma evaluation, <b>O.D.</b>
E394	<b>19: 37</b>	Meets intraocular pressure ( <b>IOP</b> ) criterion for glaucoma evaluation, <b>O.S.</b> 0 No; average IOP < 20, or is unknown, or eye is absent 3 Yes; average IOP = 20 or 21 4 Yes; average IOP $\geq$ 22
E395	<b>19: 38</b>	Meets differential IOP criterion for glaucoma evaluation, <b>O.D.</b>
E396	<b>19: 39</b>	Meets differential IOP criterion for glaucoma evaluation, <b>O.S.</b> 0 No; difference in average IOP between eyes = 0-2, or is unknown, or at least one eye is absent 2 Yes; difference in average IOP between eyes $\geq$ 3 and higher average IOP < 16 4 Yes; difference in average IOP between eyes $\geq$ 3 and higher average IOP $\geq$ 16
E397	<b>19: 40</b>	Meets cup/disc ratio (CDR) criterion for glaucoma evaluation, <b>O.D.</b>
E398	<b>19: 41</b>	Meets cup/disc ratio (CDR) criterion for glaucoma evaluation, <b>O.S.</b> 0 No; both horizontal and vertical CDR = <b>0.0-0.2</b> or unknown, or eye is absent 2 Yes; maximum of horizontal and vertical CDR = <b>0.3</b> 3 Yes; maximum of horizontal and vertical CDR = <b>0.4</b> 4 Yes; maximum of horizontal and vertical CDR $\geq$ <b>0.5</b>
<b>E399</b>	<b>19: 42</b>	Meets differential CDR criterion for glaucoma evaluation, <b>O.D.</b>
E400	<b>19: 43</b>	Meets differential CDR criterion for glaucoma evaluation, <b>O.S.</b> 0 No; difference in horizontal and vertical CDR between eyes = 0.0, 0.1, or unknown, or at least one eye is absent 4 Yes; difference in horizontal or vertical CDR between eyes $\geq$ 0.2



Tape Variable	Card Source (Deck: Cols)	Item, Code, and Description
E401	19: 44	Meets lens changes criterion for cataract evaluation, <b>O.D.</b>
E402	19: 45	Meets lens changes criterion for cataract evaluation, <b>O.S.</b>
		0 No; lens changes are absent or unknown, or eye is <b>aphakic</b> or absent ( <b>12:60/61 = 0, 7, 8,</b> or 9)
		2 Yes; lens changes are questionable or present ( <b>12:60/61 = 1 or 2</b> ) and best visual acuity is <b>20/25</b> or better or is unknown
		4 Yes; lens changes are questionable or <b>present</b> ( <b>12:60/61 = 1 or 2</b> ) and best visual acuity is <b>20/30</b> or worse
E403	19: 46	Meets aphakia criterion for cataract evaluation, <b>O.D.</b>
E404	19: 47	Meets aphakia criterion for cataract evaluation, <b>O.S.</b>
		0 No ( <b>12:60/61 ≠ 7</b> )
		4 Yes ( <b>12:60/61 = 7</b> )



Tape Variable	Card Source (Deck: <b>Cols</b> )	Item, Code, and Description
E413	19: 56	Meets microaneurysm or dot hemorrhage criterion for diabetic retinopathy evaluation, O.D.
E414	19: 57	Meets microaneurysm or dot hemorrhage criterion for diabetic retinopathy evaluation, <b>O.S.</b>
		0 No; microaneurysms and dot hemorrhages are absent or unknown, or eye is absent ( <b>13:57/58 = 0,8,9</b> )
		4 Yes; microaneurysms and dot hemorrhages are questionable or present ( <b>13:57/58 = 1 or 2</b> )
	19: 58-62	Diagnosis of four major conditions as classified in <b>FES</b> Monograph, by person (Cf. <b>20:23-34</b> )
E415	19: 58	Diagnosis of open angle glaucoma, person status
E416	19: 59	Diagnosis of senile cataract, person status
E417	19: 60	Diagnosis of senile macular degeneration, person <b>status</b>
E418	19: 61	Diagnosis of retinopathy with or without diabetes mellitus, person status
E419	19: 62	Diagnosis of diabetic retinopathy and confirmed by diagnosis of diabetes mellitus in Framingham Heart Study examinations 1-12 (See <b>19:23</b> )
		0 Negative
		1 One eye positive
		2 <b>Two</b> eyes positive
		3 Questionable
		4 Incomplete
E420	19: 75	Age at Screening Examination (3 classes)
		1 Less than 65
		2 65-74
		3 75 or older
E421	19: 76	Age at Screening Examination (5-year intervals)
		1 Less than 55 (range = 52-54)
		2 <b>55-59</b>
		3 60-64
		4 65-69
		5 70-74
		6 75-79
		7 80-84
		8 85 (oldest examinees were 85)

<u>Tape</u> <u>Variable</u>	<u>Card Source</u> <u>(Deck: <b>Cols</b>)</u>	<u>Item, Code, and Description</u>
--------------------------------	--	------------------------------------

E423	<b>19: 78</b>	10% sample member
		0            No
		1            Yes