

Public Use Data Tape Documentation

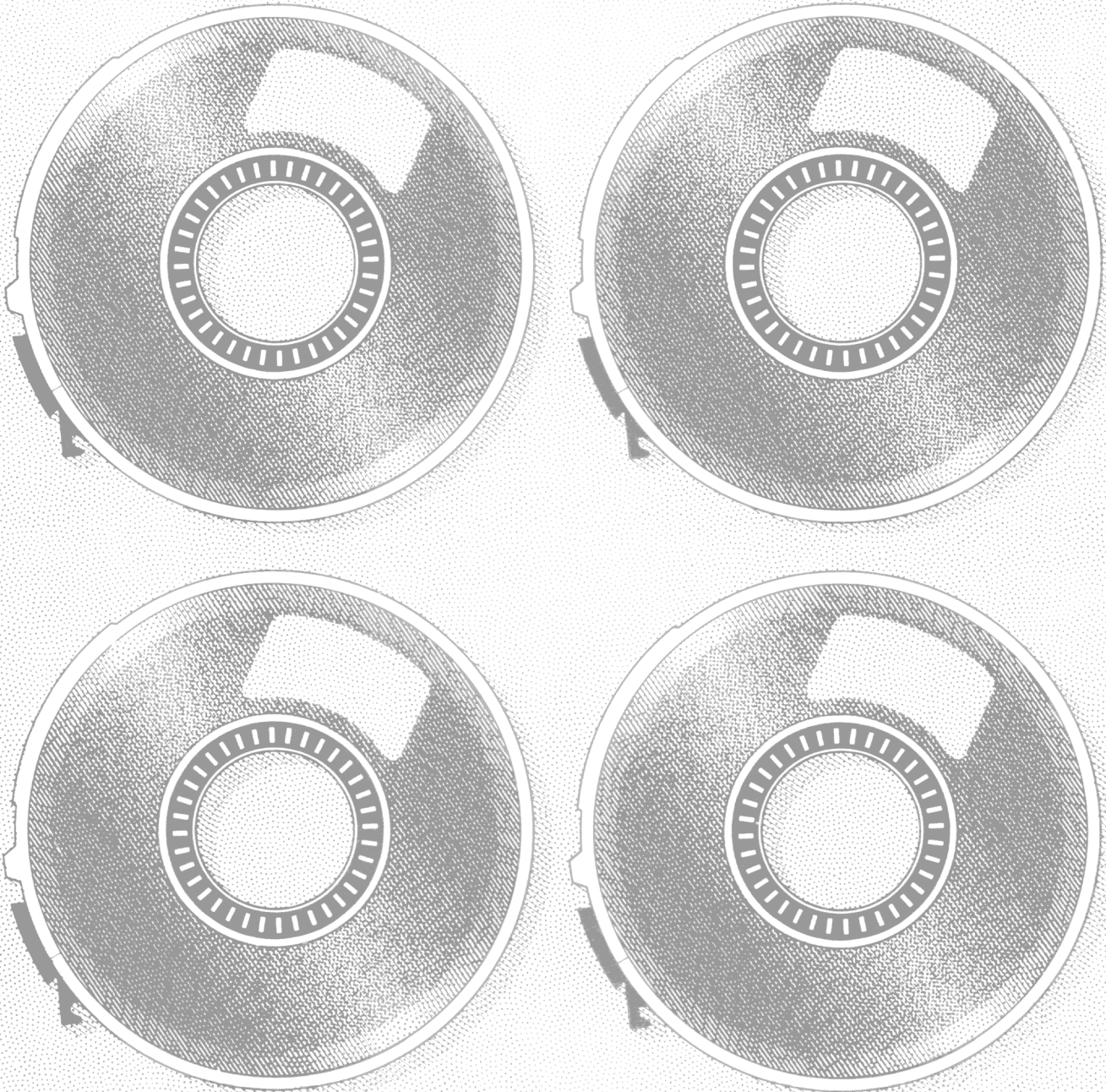


Vision
Ages 6 Years - 74 Years
Tape Number 6507

Version 1

Hispanic Health and Nutrition
Examination Survey, 1982-1984

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES • Public Health Service • Centers for Disease Control • National Center for Health Statistics



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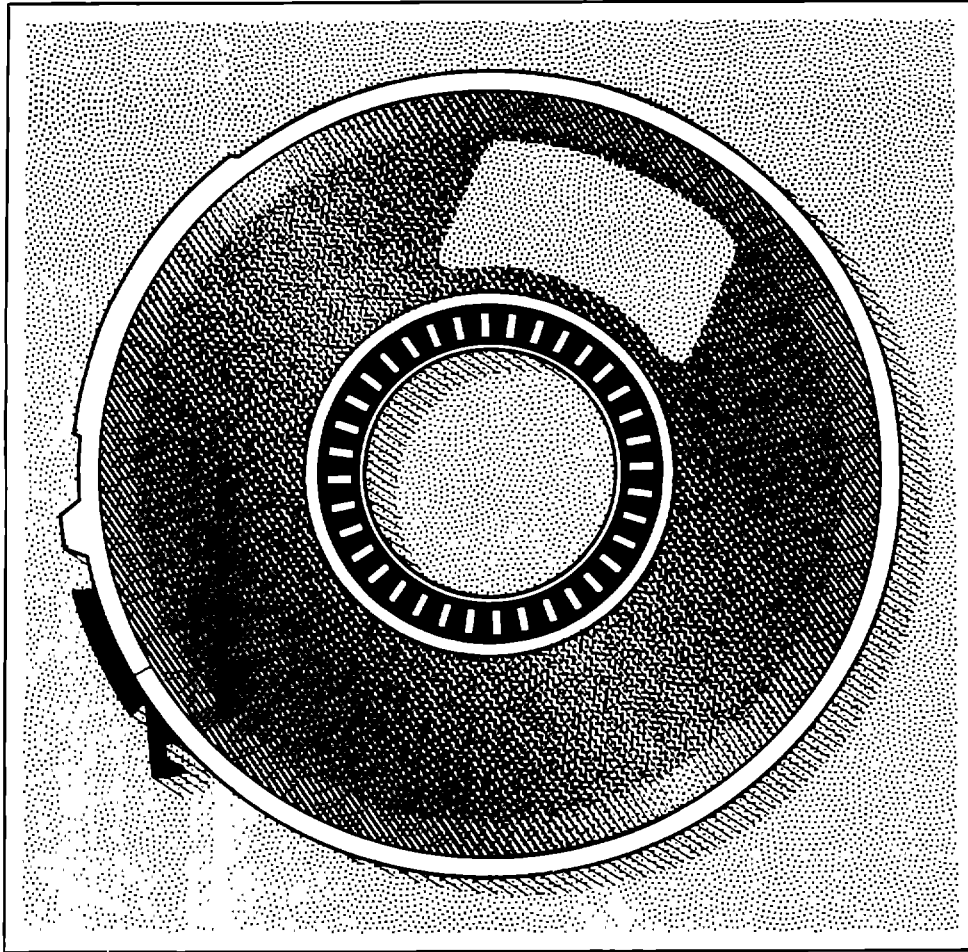
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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Centers for Disease Control
National Center for Health Statistics

Hyattsville, Maryland
November 1988

Hispanic Health and Nutrition Examination Survey

Mexican Americans
Cuban Americans
Puerto Ricans

Tape Number 6507

VISION

Ages 6 Years - 74 Years

Version 1

October 1988

The Hispanic Health and Nutrition Examination Survey (HHANES) was conducted from July 1982 through December 1984. The data on the tape documented here are from all three portions of the survey:

Mexican Americans

Residing in selected counties of Texas, Colorado, New Mexico, Arizona, and California
Surveyed from July 1982 through November 1983
9,894 persons sampled; 8,554 interviewed; 7,462 examined

Cuban Americans

Residing in Dade County (Miami), Florida
Surveyed from January 1984 through April 1984
2,244 persons sampled; 1,766 interviewed; 1,357 examined

Puerto Ricans

Residing in the New York City area, including parts of New Jersey and Connecticut
Surveyed from May 1984 through December 1984
3,786 persons sampled; 3,369 interviewed; 2,834 examined

The following tape characteristics are those of the version of the tape kept at NCHS and of the tape transmitted to the National Technical Information Service for release to users:

Tape labels: IBM standard
Data set name: HHANES.DU650701
Data set organization: Physical sequential
Record format: Fixed block
Record length: 600
Block size: 24000
Density: 6250 BPI
Number of records: 11,653
Data code: EBCDIC

CAUTION

BEFORE USING THIS DATA TAPE,
PLEASE READ THIS PAGE

- o Read the accompanying description of the survey, "The Plan and Operation of the Hispanic Health and Nutrition Examination Survey", DHHS Publication No. (PHS) 85-1321 before conducting analyses of the data on this tape.
- o Two aspects of HHANES, especially, should be taken into account when conducting any analyses: the sample weights and the complex survey design.
- o Analyses should not be conducted on data combined from the three portions of the survey (Mexican-American, Cuban-American, Puerto Rican).
- o HHANES is a survey of Hispanic households and some of the sample persons included on this tape are not of Hispanic origin. A detailed description of the data codes dealing with national origin or ancestry appears in the NOTES section of this document.
- o Examine the range and frequency of values of a variable before conducting an analysis of data. The range may include unusual or unexpected values. The frequency counts may be useful to determine which analyses may be worthwhile.
- o Language of Interview, which may appear several places on this tape, can vary depending on the questionnaire (several used in the survey) and on whether the response was provided by the sample person or by a proxy.
- o For some data items, reference is made to a note. The notes (in a separate section of this document) may be very important in data analyses. Attention to them is strongly urged.
- o For some data items, the number of sample persons with a positive response is very small. In these instances, it may not be possible to produce a reliable population estimate.

This Public Use Data Tape has been edited very carefully. Numerous consistency and other checks were also performed. Nevertheless, due especially to the large number of data items, some errors may have gone undetected.

Please bring to the attention of NCHS any errors in the data tape or the documentation. Errata sheets will be sent to people who have purchased the data tapes and corrections will be made to subsequently released data tapes.

In publications, please acknowledge NCHS as the original data source. The acknowledgment should include a disclaimer crediting the authors for analyses, interpretations, and conclusions; NCHS should be cited as being responsible for only the collection and processing of the data. In addition, NCHS requests that the acronym HHANES be placed in the abstracts of journal articles and other publications based on data from this survey in order to facilitate the retrieval of such materials through automated bibliographic searches. Please send reprints of journal articles and other publications that include data from this tape to NCHS.

Division of Health Examination Statistics
National Center for Health Statistics
Center Building, Room 2-58
3700 East-West Highway
Hyattsville, MD 20782

Public Use Data Tapes for the Hispanic Health and Nutrition Examination Survey will be released through the National Technical Information Service (NTIS) as soon as the data have been edited, validated, and documented. A list of NCHS Public Use Data Tapes that can be purchased from NTIS may be obtained by writing the Scientific and Technical Information Branch, NCHS.

Scientific and Technical Information Branch
National Center for Health Statistics
Center Building, Room 1-57
3700 East-West Highway
Hyattsville, MD 20782
301-436-8500

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SECTION A. INTRODUCTION AND SURVEY DESCRIPTION

The National Center for Health Statistics (NCHS) collects, analyzes, and disseminates data on the health status of Americans. The results of surveys, analyses, and studies are made known primarily through publications and the release of computer data tapes. This document contains details required to guide programmers, statistical analysts, and research scientists in the use of a Public Use Data Tape.

From 1960 through 1980 NCHS conducted five population-based, national health examination surveys. Each survey involved collecting data by direct physical examination, the taking of a medical history, and laboratory and clinical tests and measurements. Questionnaires and examination components have been designed to obtain and support analyses of data on certain targeted conditions such as diabetes, hypertension, and anemia. Beginning with the first National Health and Nutrition Examination Survey (NHANES I) a nutrition component was added to obtain information on nutritional status and dietary practices. The numbers of Hispanics in these samples were, however, insufficient to enable adequate estimation of their health conditions. From 1982 through 1984 a Hispanic Health and Nutrition Examination Survey (HHANES) was conducted to obtain data on the health and nutritional status of three Hispanic groups: Mexican Americans from Texas, Colorado, New Mexico, Arizona, and California; Cuban Americans from Dade County, Florida; and Puerto Ricans from the New York City area, including parts of New Jersey and Connecticut.

The general structure of the HHANES sample design was similar to that of the previous National Health and Nutrition Examination Surveys. All of these studies have used complex, multistage, stratified, clustered samples of defined populations. The major difference between HHANES and the previous surveys is that HHANES was a survey of three special subgroups of the population in selected areas of the United States rather than a national probability sample. A detailed presentation of the design specifications is found in Chapter 5 of "Plan and Operation of the Hispanic Health and Nutrition Examination Survey, 1982-84" (Ref. No. 1).

Data collection began with a household interview. Several questionnaires were administered:

- o A Household Screener Questionnaire (HSQ), administered at each selected address, for determining household eligibility and for selecting sample persons.
- o A Family Questionnaire (FQ), administered once for each family containing sample persons, which included sections on family relationships, basic demographic information for sample persons and head of family, Medicare and health insurance coverage, participation in income assistance programs, and housing characteristics.
- o An Adult Sample Person Questionnaire (ASPQ), for persons 12 through 74 years which, depending on age, included sections on health status measures, health services utilization, smoking (20 through 74 years), meal program participation, and acculturation. Information on the use of medicines and vitamins in the past two weeks was also obtained.
- o A Child Sample Person Questionnaire (CSPQ), for sample persons 6 months through 11 years which included sections on a number of health status issues, health care utilization, infant feeding practices, participation in meal programs, school attendance, and language use. Information on the use of medicines and vitamins in the past two weeks was also obtained.

At the Mobile Examination Center two questionnaires were administered and an examination performed:

- o An Adult Sample Person Supplement (ASPS), for sample persons 12 through 74 years, which included sections on alcohol consumption, drug abuse, depression, smoking (12 through 19 years), pesticide exposure, and reproductive history.
- o A Dietary Questionnaire (DQ), for persons 6 months through 74 years, by which trained dietary interviewers collected information about "usual" consumption habits and dietary practices, and recorded foods consumed 24-hours prior to midnight of the interview.
- o An examination which included a variety of tests and procedures. Age at interview and other factors determined which procedures were administered to which examinees. A dentist performed a dental examination and a vision test. Technicians took blood and urine specimens and administered a glucose tolerance test, X-rays, electrocardiograms, and ultrasonographs of the gallbladder. Technicians also performed hearing tests and took a variety of body measurements. A physician performed a medical examination focusing especially on the cardiovascular, gastrointestinal, neurological, and musculoskeletal systems. The physician's impression of overall health, nutritional and weight status, and health care needs were also recorded. Some blood and urine specimen analyses were performed by technicians in the examination center; others were conducted under contract at various laboratories.

Because the HHANES sample is not a simple random one, it is necessary to incorporate sample weights for proper analysis of the data. These sample weights are a composite of individual selection probabilities, adjustments for noncoverage and nonresponse, and poststratification adjustments. The HHANES sample weights, which are necessary for the calculation of point estimates, are located on all data tapes in positions 184-213. Because of the complex sample design and the ratio adjustments used to produce the sample weights, commonly used methods of point and variance estimation and hypothesis testing which assume simple random sampling may give misleading results. In order to provide users with the capability of estimating the complex sample variances in the HHANES data, Strata and Pseudo Primary Sampling Unit (PSU) codes have been provided on all data tapes in positions 214-217. These codes and the sample weights are necessary for the calculation of variances.

There are computer programs available designed for variance estimation for complex sample designs. The balanced repeated replication approach (Ref. No. 2) is used in &REPERR and a linearization approach is used in &PSALMS to calculate variance-covariance matrixes. Both routines are available within the OSIRIS IV library (Ref. No. 3). SURREGR (Ref. No. 4) and SUPERCARP (Ref. No. 5) are programs that calculate variance-covariance matrixes using a linearization approach (Ref. No. 6) (Taylor series expansion). Another program, SESUDAAN (Ref. No. 7) calculates standard errors, variances, and design effects. (Note: This version of SESUDAAN should not be used to obtain variances for totals.) SURREGR and SESUDAAN are special procedures which run data under the SAS system (Ref. No. 8).

Even though the total number of examined persons in this survey is quite large, subclass analyses can lead to estimates that are unstable, particularly estimates of variances. Consequently, analyses of subclasses require that the user pay particular attention to the number of sample persons in the subclass and the number of PSU's that contain at least one sample person in the subclass. Small sample sizes, or a small number of PSU's used in the variance calculations, may produce unstable estimates of the variances.

A more complete discussion of these issues and possible analytic strategies for examining various hypotheses is presented in Chapter 11 of "Plan and Operation of the Hispanic Health and Nutrition Examination Survey, 1982-84" (Ref. No. 1) and in an earlier NCHS methodology (Series 2) publication (Ref. No. 9).

Some users, however, may not have access to the computer programs for estimating complex sample variances or may want to do their preliminary analyses without using them. In addition, variance estimates calculated from HHANES data through use of the programs described previously are likely to be unstable because there were so few sample areas for each portion of HHANES. This instability is not due to there being too few people in the sample but may be due to the fact that the sample was selected from relatively few areas. Therefore, the following discussion is designed to provide an alternative approach to deal with the unavailability of software and the small number of PSU's. The approach is based on using average design effects (Ref. No. 10).

The design effect, defined as the ratio of the variance of a statistic from a complex sample to the variance of the same statistic from a simple random sample of the same size, that is,

$$\text{DESIGN EFFECT (DEFF)} = \frac{\text{COMPLEX SAMPLE VARIANCE}}{\text{SIMPLE RANDOM SAMPLE VARIANCE}}$$

is often used to show the impact of the complex sample design on variances. If the design effect is near 1, the complex sample design has little effect on the variances and the user could consider assuming simple random sampling for the analysis.

Some illustrative design effects for HHANES data on this tape are given in the following tables. The design effects in the tables are the average for the age groups usually presented in NCHS Series 11 publications. If the average design effect for a subgroup was less than 1.0 (implying an improvement over simple random sampling), it was coded as 1.0.

The following guidelines were used in the calculation of the average design effects:

1. Exclude all persons of non-Hispanic origin,
2. Exclude all estimates for large age ranges, such as all ages combined or 'all adults', and
3. Exclude all estimates where the proportion of the subpopulation with the specific characteristic or condition was zero percent or one hundred percent.

Design effects tend to be larger when age groups are combined, just as they are when the sexes are combined, as shown in the tables. The data in the tables give the user an idea of the range in design effects for selected response variables from this data tape. If a response variable is not one shown in the tables take the range into account; it is possible that a user could have one of the higher, rather than one of the lower, design effects.

Average Design Effects, by Sex, for Selected Variables --
Mexican-American Portion

Variable	Mean or Proportion	Tape Positions	Both Sexes	Male	Female
<u>Distance Vision Acuity of 20/20 or better</u>					
Both eyes without correction	p	511-513	2.4	1.7	1.8
Right eye with correction if worn	p	517-519	1.5	1.3	1.3
Both eyes with correction	p	520-522	1.2	1.2	1.0
<u>Distance Vision Acuity of worse than 20/50</u>					
Both eyes without correction	p	511-513	1.8	1.1	1.6
Right eye with correction if worn	p	517-519	1.0	1.1	1.1
Both eyes with correction	p	520-522	1.0	1.0	1.2
<u>Binocular Vision</u>					
Pass at 50 cm	p	523	1.3	1.2	1.2
<u>Near Vision Acuity of 20/20 or better at 40 cm</u>					
Both eyes without correction	p	529-531	2.5	1.7	2.0
Both eyes with correction	p	541-543	1.4	1.3	1.5

Source: NCHS, HHANES, 1982-84, Tape Number 6507, Version 1.

Average Design Effects, by Sex, for Selected Variables --
Cuban-American Portion

Variable	Mean or Proportion	Tape Positions	Both Sexes	Male	Female
<u>Distance Vision Acuity of 20/20 or better</u>					
Both eyes without correction	p	511-513	1.0	1.0	1.0
Right eye with correction if worn	p	517-519	1.0	1.0	1.0
Both eyes with correction	p	520-522	1.1	1.1	1.2
<u>Distance Vision Acuity of worse than 20/50</u>					
Both eyes without correction	p	511-513	1.2	1.0	1.1
Right eye with correction if worn	p	517-519	1.1	1.3	1.0
Both eyes with correction	p	520-522	1.0	1.0	1.0
<u>Binocular Vision</u>					
Pass at 50 cm	p	523	1.6	1.6	1.0
<u>Near Vision Acuity of 20/20 or better at 40 cm</u>					
Both eyes without correction	p	529-531	1.0	1.0	1.0
Both eyes with correction	p	541-543	1.2	1.0	1.2

Source: NCHS, HHANES, 1982-84, Tape Number 6507, Version 1.

Average Design Effects, by Sex, for Selected Variables --
Puerto Rican Portion

Variable	Mean or Proportion	Tape Positions	Both Sexes	Male	Female
<u>Distance Vision Acuity of 20/20 or better</u>					
Both eyes without correction	p	511-513	1.1	1.0	1.0
Right eye with correction if worn	p	517-519	1.9	1.3	1.6
Both eyes with correction	p	520-522	1.4	1.0	1.5
<u>Distance Vision Acuity of worse than 20/50</u>					
Both eyes without correction	p	511-513	1.0	1.0	1.0
Right eye with correction if worn	p	517-519	1.0	1.0	1.0
Both eyes with correction	p	520-522	1.0	1.0	1.0
<u>Binocular Vision</u>					
Pass at 50 cm	p	523	1.6	1.2	1.5
<u>Near Vision Acuity of 20/20 or better at 40 cm</u>					
Both eyes without correction	p	529-531	2.7	2.1	1.5
Both eyes with correction	p	541-543	1.0	1.0	1.0

Source: NCHS, HHANES, 1982-84, Tape Number 6507, Version 1.

Suppose, for example, that of the 1,438 Mexican-Americans ages 6-11 years, 1,106 or 77 percent have binocular distance vision acuity without correction of 20/20 or better.

Assuming simple random sampling, the variance for the percent is calculated by converting the percent to a proportion and using the standard formula for the variance of a proportion,

$$V = \frac{pq}{n}$$

This variance (V) multiplied by the design effect (DEFF) provides an estimate of the variance from a complex sample of the same sample size (n). In the example above,

$$V = \frac{(.77)(.23)}{1438}$$

= 0.00012 = variance for a simple random sample.

Then, multiplying by the design effect,

$$= (0.00012)(2.4)$$

$$= (0.00029) = \text{estimated variance for the complex sample}$$

In a similar way, the complex sample variance of a mean is determined by multiplying the simple random sample variance of the mean by the appropriate design effect.

The user can then proceed with estimating confidence intervals and testing hypotheses in the usual manner.

The user should recognize that this approach does not incorporate the variance covariance matrix. In most cases, this leads to a slight overestimate of the variance because the covariance terms, which are subtracted in the variance of a ratio, in general are positive. Thus, in a borderline case, the null hypothesis would be less likely to be rejected (Ref. No. 11).

Alternative or better approaches may exist or be developed. Users who want to suggest such approaches, or who want the latest information should contact the Scientific and Technical Information Branch (address given in the beginning of this documentation).

SECTION B. DATA COLLECTION AND PROCESSING PROCEDURES

Data presented in Sections E through H and the family relationships data in Section J were collected on the Household Screener and Family Questionnaires. Data presented in Section K were collected on the Adult Sample Person Questionnaire or on the Child Sample Person Questionnaire. Section L data were collected during the physical examination which was administered in the mobile examination center. Data presented in Section M on the vision examination findings were collected by the dentist. Examination forms and complete descriptions of the vision examination procedures and equipment are given in Appendices 1 through 3. Completed interview and examination forms were reviewed in the Survey's field offices and again in the data processing center of NCHS by clerical editors. The editors checked the forms for completeness, clarity, and compliance with skip patterns, and they coded items such as industry and occupation. At the data processing center the questionnaires were keyed and verified on key-to-disk data entry equipment under the control of programs that checked for valid codes and ranges, compliance with skip patterns, and consistency. After being keyed, data were reedited by analysts for reasonableness and consistency and for compliance with instructions for sampling and questionnaire administration.

The vision data like the questionnaire data have undergone numerous quality control and editing procedures in both the data collection and data processing phases of the survey. Where possible, the results have been compared with those of previous studies.

The examination protocol included training and periodic retraining of examiners by a supervisor and consultant, as well as an ongoing system of quality control procedures to reduce variability introduced by errors of measurement. The vision screening included tests of near vision, binocularity of vision, and distance vision. The tests were administered in the order listed above to minimize the changes in lighting to which the eyes had to adjust. The tests were given by the dentist, who was trained in vision testing methods, to all sample persons 6-19 years of age and to a random half-sample of those 20-74 years of age. The tests were administered in the dental examining room immediately following completion of the dental examination. The conditions of the vision screening tests adhered largely to the procedures outlined in the report of the National Academy of Sciences-National Research Council Committee on Vision (Ref. No. 12).

The near vision test determined visual acuity at up to four fixed distances from 30 to 60 centimeters (cm). A test card consisting of Sloan letters or, for illiterate examinees, Landolt Rings, was positioned at 40 cm from the eyes, using a bar with a chin rest on one end and a metal frame that held the card and could be moved to pre-marked distance settings. (This procedure provided a means for conducting the near vision test at standard distances.) Persons who were unable to read the 20/20 line at 40 cm were also tested at 60 cm, 50 cm and 30 cm. However, only the standard visual acuities recorded at 40 cm are provided on the accompanying data tape. Examinees who wore glasses for near vision and remembered to bring them to the examination center were tested first without correction and then with correction. Contact lens wearers were tested only with correction to avoid the problem of having to remove and re-insert the lenses. For persons who forgot their glasses or contact lenses, this information was recorded, but obviously only uncorrected vision could be tested.

Binocularity was assessed using the Random Dot E (RDE) test, which is valuable for determining the presence of amblyopia and for producing conservative estimates of stereoacuity thresholds. The test, developed primarily for use with young children, is simple, accurate, and quick, and makes minimal demands on the subject (Ref. No. 13). In HHANES, examinees were given polarized glasses to be worn during the test (the glasses were used over any corrective lenses); they were then shown an RDE test card and a stereo blank card and asked to identify the RDE card. The two cards looked identical to persons with impaired binocularity, whereas those with normal vision could easily distinguish the outline of an apparently recessed "E" on the test card. The test was conducted first at 50 cm and again at 100 cm. To minimize the problem of guessing, the test was repeated four times at each distance. A passing score depended on choosing the correct card all four times.

Distance vision was tested using a chart with Sloan Letters or Landolt Rings. During the first 13 locations the basic test distance was 4 meters for determining visual acuity in the range 20/15 through 20/80 and 1 meter for the range 20/100 through 20/400. However, because of space limitations in the examination center, the 4 meter distance was simulated by placing the chart with reversed Sloan letters on an illuminated box on one wall of the examination room and situating a mirror of high optical quality on the opposite wall. The examinees then read the reflection in the mirror. Subsequent to location 13, for logistic reasons, the 1 meter chart for acuities 20/100 or worse was replaced with two 4 meter charts. This procedure allowed the determination of distance visual acuity as poor as 20/200+. All distance visual acuities poorer than 20/200 were recoded to 20/200 for comparability. To investigate the comparability of visual acuity determined with and without a mirror, up to four randomly selected sample persons each day were retested using an actual 4-meter test distance in another part of the examination center. The results of this experiment indicate that acuities obtained with a mirror are slightly worse than acuities obtained without a mirror. However, use of a mirror did not significantly compromise the validity of the data.

Distance vision was measured for each eye separately and for both eyes together. Persons who wore glasses for distance vision were tested with uncorrected vision for both eyes first, followed by tests with correction for the left and right eyes separately, and then both eyes. Contact lens wearers were tested, with corrected vision only, first for each eye separately and then for both eyes. Examinees who had no corrective lenses, and those who forgot to bring them to the examination center, had their uncorrected vision tested, each eye separately, and then both eyes together. To control bias resulting from memorization of the chart, the examiner alternated the eye to be tested first -- sample persons with even numbers had the right eye tested first, and odd-numbered sample persons began with the left eye.

The examination protocol included training of examiners by a consultant, as well as an ongoing system of quality control procedures to reduce variability introduced by errors of measurement. Despite these efforts to reduce measurement errors, residual errors of a magnitude large enough to warrant concern occur in any survey. In the HHANES, systematic examiner differences were observed for the distance vision examination, the binocular vision (RDE) examination, and the near vision examination. The use of multiple examiners increases the variability of the distribution because of the inclusion of interexaminer errors of measurement while minimizing the effect of an individual examiner bias. Users should be aware that these technician differences do exist and are encouraged to consider this issue before analyzing the vision examination data.

The general tape description format is Tape Position X Item X Counts. The item (field) may be a tape descriptor (e.g. Version Number), a sample person descriptor (e.g. Age at Interview), or a question (e.g. Is sample person covered by Medicare?). Where appropriate, data entries are presented by codes. Frequency counts are given for each code. The counts are included to help the user in planning analyses and in verifying that programs account for all data. The data source is given also (e.g., from Family Questionnaire). In some cases, a note is referenced. The notes contain explanations of the item (e.g. how Poverty Index is calculated).

The questionnaire data have undergone many quality control and editing procedures. The responses of sample persons to some questions may appear extreme or illogical. Self-reported data, especially, are subject to a number of sources of variability, including recall and other reporting errors. In the data clean-up process, responses that varied considerably from expected were verified through direct review of the collection form or a copy of it. Such responses may not represent fact, but they are included as recorded in the field. The user must determine if these responses should be included in analyses.

Responses to "other" and "specify" were recoded to existing categories, if possible. For responses that could not be recoded, new code categories were created if the information was deemed analytically useful. Caution should be used in interpreting the data from these new categories because there is no way of knowing which other respondents would have selected one of the new categories if given the option.

Missing data or unintelligible entries were assigned a code, usually "8," which is labeled as "blank but applicable." These codes indicate that a sample person should have a data value for a particular item but for varying reasons that value is unavailable.

Copies of the questionnaires, both in English and Spanish, can be found in the plan and operation report for HHANES (Ref. No. 1). Detailed information on interviewing and examination procedures is contained in the household interviewer's manual (Ref. No. 14) and the mobile examination center interviewer's manual (Ref. No. 15) and the dental examiner's manual (Ref. No. 16). These manuals are available upon request from:

Division of Health Examination Statistics
National Center for Health Statistics
Center Building, Room 2-58
3700 East-West Highway
Hyattsville, MD 20782
301-436-7080

SECTION C. REFERENCES

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15. National Center for Health Statistics: Instruction Manual Part 15g, Mobile Examination Center Interviewer's Manual for the Hispanic Health and Nutrition Examination Survey, 1982-84. Hyattsville, MD, 1986.
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SECTION D. TAPE POSITION INDEX

TAPE POSITIONS 1-400 contain data categories common to all data tapes: sociodemographic data, family composition, family income, residence and household. Sample weights are also in this set of data.

TAPE POSITIONS 401+ contain data categories unique to this data tape.

SOCIODEMOGRAPHIC DATA - SAMPLE PERSON (SECTION E)

1-5	Sample Person Sequence Number
6-15	Survey and Tape Identifiers
16	Examination Status
17	Language of Interview
18-21	Date of Interview
22-25	Date of Examination
26-29	Date of Birth
30-32	Age at Interview
33-38	Age at Examination
39-43	Family Number
44-45	Relationship to Head of Family
46	Sex
47	Race
48-49	National Origin or Ancestry
50-52	Birth Place
53	National Origin Recode
54-56	Education
57	Marital Status
58	Service in Armed Forces
59-69	Work/Occupation/Employment
70-95	Health Insurance/Health Care Support
96-99	Income Assistance/Public Compensation or Support

SOCIODEMOGRAPHIC DATA - HEAD OF FAMILY (SECTION F)

100	Interview and Examination Status
102-105	Date of Birth
106-107	Age at Interview
109	Sex
110	Race
111-112	National Origin or Ancestry
113-115	Birth Place
116-118	Education
119	Marital Status
120	Service in Armed Forces
121-131	Work/Occupation/Employment

FAMILY COMPOSITION AND INCOME DATA (SECTION G)

132-133	Number of People in Family
134-135	Number of Sample People in Family
136-138	Combined Family Income
139-143	Per Capita Income
144-146	Poverty Index
147-162	Income, Food Stamps

RESIDENCE AND HOUSEHOLD DATA (SECTION H)

163	Size of Place
164	Standard Metropolitan Statistical Area
165-166	Number of People in Household
167-168	Number of Sample People in Household
169-170	Number of Rooms
171	Kitchen Facilities Access
172-183	Heating/Cooling Equipment

SAMPLE WEIGHTS (SECTION I)

184-189	Examination Final Weight
190-195	Interview Final Weight
196-201	GTT/Ultrasound Weight
202-207	Audiometry/Vision Weight
208-213	Pesticide Weight
214-215	Strata Code
216-217	Pseudo PSU Code

FAMILY RELATIONSHIPS (SECTION J)

218-400	Data not yet available
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MEDICAL HISTORY DATA-VISION (SECTION K)

403	Subsample Indicator
404-405	Birth Defects - Children
406-423	History and Care of Vision Problems - Children
424	Adult Sample Person Questionnaire Data Missing
425	Subsample Indicator
426-444	History and Care of Vision Problems - Adults

PHYSICAL FINDINGS - EYES (SECTION L)

445	Physician's Examination Form Blank
446	Strabismus
447-448	Conjunctiva
449-450	Xerophthalmia, Keratomalacia
451	Pterygium
452-453	Corneal Lesion
454-455	Pupils
456-457	Globe Absent
458-459	Ocular Fundus - Red Reflex
460-461	Lens Opacities
462-463	Fundus Visualization
464-479	Ocular Fundus - Pathologies

VISION TEST DATA (SECTION M)

501-504	Tape Number
505	Vision Exam Blank
506-508	Examiner Number
509	Optotype Used
510-522	Distance Vision
523-524	Binocular Vision
525-531	Near Vision

Position	Item description and code	M	Counts C	P	Source and notes
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SECTION E. SOCIODEMOGRAPHIC DATA - SAMPLE PERSON (POS 1-99)

Source: Family Questionnaire (FQ)
Household Screener Questionnaire (HSQ)

1-5	Sample person sequence number 00001-09894 Mexican Americans 10002-12238 Cuban Americans 13001-16785 Puerto Ricans	7462 - -	- 1357 -	- - 2834	
6-12	Blank				
13	Portion of survey 1 Mexican-American (M) 2 Cuban-American (C) 3 Puerto Rican (P)	7462 - -	- 1357 -	- - 2834	
14	Family Questionnaire missing 1 Yes 2 No	21 7441	6 1351	10 2824	See Note 1
15	Version number 1	7462	1357	2834	
16	Examination status 1 Examined 2 Not examined	7462 0	1357 0	2834 0	See Note 2
17	Language of interview (Pos. 1-400) 1 English 2 Spanish Blank	4513 2929 20	244 1107 6	1229 1595 10	FQ
18-19 20-21	Date of interview 01-12 Month 82-84 Year	7462 7462	1357 1357	2834 2834	HSQ 4
22-23 24-25	Date of examination From survey control record 01-12 Month 82-84 Year	7462 7462	1357 1357	2834 2834	
26-27 28-29	Date of birth 01-12 Month 88 Blank but applicable 08-84 Year 88 Blank but applicable	7462 0 7462 0	1357 0 1357 0	2834 0 2834 0	HSQ 2e
30-31	Age at interview (computed) 01-74 (See next column for units)	7462	1357	2834	
32	Age at interview units 1 Years 2 Months	7342 120	1349 8	2796 38	HSQ 2f

Position	Item description and code	M	Counts C	P	Source and notes
	Age at examination (computed) Positions 33-38 are all 0 for non-examined persons.				
33-34	00-75 Years	7462	1357	2834	
35-36	00-11 Months	7462	1357	2834	
37-38	00-30 Days	7462	1357	2834	
39-43	Family number 00002-03529 04005-04922 07001-08584	7462 - -	- 1357 -	- - 2834	See Note 3
44-45	What is sample person's relationship to head of family? Sample person is: 01 Head of family living alone (1 family with only 1 member) 02 Head of family, with no related persons in household (2+ persons in household) 03 Head of family, with related persons in household 04 Wife of head (husband living at home and not in Armed Forces) 05 Wife of head (husband living at home and is in Armed Forces) 06 Husband of head (wife living at home and not in Armed Forces) 07 Husband of head (wife living at home and is in Armed Forces) 08 Child of head or head's spouse 09 Grandchild of head or head's spouse 10 Parent of head or head's spouse 11 Other relative (includes ex-spouse, daughter-in-law, etc.) 12 Foster child	145 76 1582 1299 5 35 0 3769 217 57 273 4	56 23 369 300 0 12 0 484 32 35 46 0	113 24 678 296 0 37 0 1437 115 33 101 0	HSQ 2b See Note 4
46	Sex 1 Male 2 Female	3516 3946	636 721	1237 1597	FQ B-4
47	Observed race 1 White 2 Black 3 Other 8 Blank but applicable 9 Not observed Blank	7213 76 8 72 72 21	1300 15 3 15 18 6	2462 152 73 59 78 10	FQ B-5 See Note 5
48-49	Sample person's national origin or ancestry. 01 Mexican/Mexicano 02 Mexican-American 03 Chicano 04 Puerto Rican 05 Boricuan 06 Cuban 07 Cuban-American 08 Hispano - specify 09 Other Latin-American or other Spanish - specify 00 Other - specify 10 Spanish-American 11 Spanish (Spain)	1641 5202 102 7 0 4 0 150 37 276 22 21	1 0 0 3 0 1069 222 14 18 30 0 0	1 0 0 2596 36 20 0 26 41 114 0 0	HSQ 2c See Note 6

Position	Item description and code	Counts			Source and notes
		M	C	P	
50-52	In what state or foreign country was sample person born?				FQ B-6 See Note 7
	001-118 State/country code	7403	1345	2771	
	888 Blank but applicable	38	6	53	
	Blank	21	6	10	
53	National origin recode "Hispanic" = Mexican-American in Southwest, Cuban-American in Florida and Puerto Rican in New York City area.				See Note 8
	1 "Hispanic"	7197	1291	2645	
	2 Not "Hispanic"	265	66	189	
54-55	What is the highest grade or year of regular school sample person has ever attended?				FQ B-7
	00 Never attended or kindergarten only	1476	116	446	
	01-08 Elementary grade	3118	556	1090	
	09-12 High school grade	2119	400	1011	
	13-16 College	581	243	225	
	17 Graduate school	70	30	14	
	88 Blank but applicable	77	6	38	
	Blank	21	6	10	
56	Did sample person finish that grade/year?				FQ B-8
	1 Yes	3938	853	1436	
	2 No	1934	368	861	
	8 Blank but applicable	93	14	81	
	Blank	1497	122	456	
57	Is sample person now married, widowed, divorced, separated or has he or she never been married?				FQ B-9
	0 Under 14 years of age	2953	297	1000	
	1 Married - spouse in household	2600	632	660	
	2 Married - spouse not in household	70	17	54	
	3 Widowed	161	50	66	
	4 Divorced	214	92	155	
	5 Separated	159	21	149	
	6 Never married	1265	241	730	
	8 Blank but applicable	19	1	10	
	Blank	21	6	10	
58	Did sample person ever serve in the Armed Forces of the United States?				FQ B-11
	1 Yes	416	27	145	
	2 No	3557	952	1409	
	8 Blank but applicable	7	3	14	
	Blank	3482	375	1266	
59	During the past 2 weeks, did sample person work at any time at a job or business, not counting work around the house?				FQ B-12
	1 Yes	2210	622	613	
	2 No	1751	349	930	
	8 Blank but applicable	19	11	25	
	Blank	3482	375	1266	

Position	Item description and code	M'	Counts C	P	Source and notes
60	Even though sample person did not work during those 2 weeks, did he or she have a job or business?				FQ B-13
	1 Yes	46	13	23	
	2 No	1704	334	902	
	8 Blank but applicable	20	13	30	
	Blank	5692	997	1879	
61	Was sample person looking for work or on layoff from a job?				FQ B-14
	1 Yes	217	43	60	
	2 No	1533	304	865	
	8 Blank but applicable	20	13	30	
	Blank	5692	997	1879	
62	Which, looking for work or on layoff from a job or both?				FQ B-15
	1 Looking	146	34	44	
	2 Layoff	46	6	8	
	3 Both	23	2	7	
	8 Blank but applicable	22	14	31	
	Blank	7225	1301	2744	
63-65	What kind of business or industry does sample person work for?				FQ B-19 See Note 9
	010-932 Industry code	2429	665	681	
	990 Blank but applicable	49	18	37	
	Blank	4984	674	2116	
66-68	What kind of work was sample person doing?				FQ B-20 See Note 9
	003-889 Occupation code	2432	666	681	
	999 Blank but applicable	46	17	37	
	Blank	4984	674	2116	
69	Class of worker				FQ B-22
	1 An employee of a private company, business or individual for wages, salary, or commission	1912	543	551	
	2 A Federal government employee	74	6	21	
	3 A State government employee	124	19	17	
	4 A Local government employee	169	17	56	
	5 Self-employed in own incorporated business or professional practice	17	12	7	
	6 Self-employed in own unincorporated business, professional practice, or farm	131	67	27	
	7 Working without pay in family business or farm	3	0	0	
	8 Blank but applicable	46	18	38	
	0 Never worked or never worked at a full-time civilian job lasting 2 weeks or more	2	1	1	
	Blank	4984	674	2116	
70	Is sample person now covered by Medicare?				FQ C-2
	1 Covered	303	107	139	
	2 Not covered	7129	1237	2674	
	8 Blank but applicable	6	6	11	
	9 Don't know	3	1	0	
	Blank	21	6	10	

Position	Item description and code	M	Counts C	P	Source and notes
71	Is sample person now covered by the part of Social Security Medicare which pays for hospital bills?				FQ C-3
	1 Yes	270	100	124	
	2 No	18	4	5	
	8 Blank but applicable	15	6	20	
	9 Don't know	6	3	1	
	Blank	7153	1244	2684	
72	Is sample person now covered by that part of Medicare which pays for doctor's bills? This is the Medicare plan for which he or she or some agency must pay a certain amount each month.				FQ C-4
	1 Yes	269	100	111	
	2 No	17	5	17	
	8 Blank but applicable	15	6	20	
	9 Don't know	8	2	2	
	Blank	7153	1244	2684	
73	Type of Medicare coverage As shown on Medicare card				FQ C-5
	1 Hospital	0	0	0	
	2 Medical	2	0	0	
	3 Card not available	3	0	2	
	4 Hospital and medical	5	3	0	
	8 Blank but applicable	15	6	20	
	Blank	7437	1348	2812	
	HEALTH INSURANCE				See Note 10
74	Is sample person covered by any health insurance plan which pays any part of a hospital, doctor's, or surgeon's bill?				FQ C-11
	1 Yes	4094	818	1011	
	2 No	3326	526	1796	
	8 Blank but applicable	13	7	16	
	9 Don't know	8	0	1	
	Blank	21	6	10	
75	Is sample person covered by a plan that pays any part of hospital expenses?				FQ C-9
	1 Yes	4039	806	955	
	2 No	6	7	9	
	8 Blank but applicable	54	12	55	
	9 Don't know	8	0	8	
	Blank	3355	532	1807	
76	Is sample person covered by a plan that pays any part of a doctor's or surgeon's bills for operations?				FQ C-10
	1 Yes	4034	804	945	
	2 No	22	11	28	
	8 Blank but applicable	36	10	35	
	9 Don't know	15	0	19	
	Blank	3355	532	1807	

Position	Item description and code	M	Counts C	P	Source and notes
	Many people do not carry health insurance for various reasons. Which of these statements describes why sample person is not covered by any health insurance (or Medicare)? (Positions 77-80)				FQ C-13/15 See Note 10.
77-78	<u>Main reason</u>				
	01 Care received through Medicaid or welfare	267	31	854	
	02 Unemployed, or reasons related to unemployment	350	40	114	
	03 Can't obtain insurance because of poor health, illness, or age	24	2	15	
	04 Too expensive, can't afford health insurance	1767	280	506	
	05 Dissatisfied with previous insurance	50	3	3	
	06 Don't believe in insurance	31	4	8	
	07 Have been healthy, not much sickness in the family, haven't needed health insurance	206	23	31	
	08 Military dependent, (CHAMPUS), Veteran's benefits	45	1	15	
	09 Some other reason - not specified	2	0	7	
	10 Some other reason - specified	255	35	58	
	88 Blank but applicable	118	34	77	
	Blank	4347	904	1146	
79-80	<u>Second reason</u>				
	00 No second reason reported	2573	339	1374	
	01 Care received through Medicaid or welfare	70	17	58	
	02 Unemployed, or reasons related to unemployment	109	30	30	
	03 Can't obtain insurance because of poor health, illness, or age	4	2	3	
	04 Too expensive, can't afford health insurance	168	20	132	
	05 Dissatisfied with previous insurance	15	1	2	
	06 Don't believe in insurance	18	3	3	
	07 Have been healthy, not much sickness in the family, haven't needed health insurance	47	4	8	
	08 Military dependent, (CHAMPUS), Veteran's benefits	0	0	2	
	09 Some other reason - not specified	0	0	0	
	10 Some other reason - specified	25	8	7	
	88 Blank but applicable	86	29	69	
	Blank	4347	904	1146	
81-87	Blank				
88	During the last 12 months, has sample person received health care which has been or will be paid for by Medicaid?				FQ D-6
	1 Yes	537	101	1076	
	2 No	6859	1242	1708	
	8 Blank but applicable	45	7	40	
	9 Don't know	0	1	0	
	Blank	21	6	10	

Position	Item description and code	M	Counts C	P	Source and notes
89	Does sample person have a Medicaid card?				FQ D-8
	1 Yes	530	104	1144	
	2 No	6872	1232	1647	
	8 Blank but applicable	39	15	33	
	9 Don't know	0	0	0	
	Blank	21	6	10	
90	Status of sample person's Medicaid card?				FQ D-9
	1 Medicaid card seen - current	382	84	832	
	2 Medicaid card seen - expired	7	0	12	
	3 No card seen	128	17	274	
	4 Other card seen	0	0	0	
	5 Other card seen (specify)	5	0	2	
	8 Blank but applicable	47	18	57	
	Blank	6893	1238	1657	
91	Is sample person now covered by any other public assistance program that pays for health care?				FQ D-11
	1 Yes	54	2	29	
	2 No	7376	1348	2780	
	8 Blank but applicable	11	1	15	
	9 Don't know	0	0	0	
	Blank	21	6	10	
92	Does sample person now receive military retirement payments from any branch of the Armed Forces or a pension from the Veteran's Administration? Do not include VA disability compensation.				FQ D-13
	1 Yes	56	4	9	
	2 No	7373	1346	2806	
	8 Blank but applicable	12	1	9	
	9 Don't know	0	0	0	
	Blank	21	6	10	
93	Which does sample person receive; the Armed Forces retirement, the VA pension, or both?				FQ D-14
	1 Armed Forces	16	0	2	
	2 Veteran's Administration	30	0	5	
	3 Both	4	4	1	
	8 Blank but applicable	18	1	10	
	Blank	7394	1352	2816	
94	Is sample person now covered by CHAMP-VA, which is medical insurance for dependents or survivors of disabled veterans?				FQ D-16
	1 Yes	45	4	10	
	2 No	7388	1346	2808	
	8 Blank but applicable	8	1	6	
	9 Don't know	0	0	0	
	Blank	21	6	10	
95	Is sample person now covered by any other program that provides health care for military dependents or survivors of military persons?				FQ D-18
	1 Yes	41	4	8	
	2 No	7387	1346	2804	
	8 Blank but applicable	13	1	12	
	9 Don't know	0	0	0	
	Blank	21	6	10	

Position	Item description and code	M	Counts C	P	Source and notes
96	Is sample person included in the AFDC, "Aid to Families with Dependent Children", assistance payment?				FQ D-2
	1 Yes	394	39	650	
	2 No	7020	1304	2134	
	8 Blank but applicable	27	6	39	
	9 Don't know	0	2	1	
	Blank	21	6	10	
97	Does sample person now receive the "Supplemental Security Income" or "SSI" gold-colored check?				FQ D-4
	1 Yes	131	44	135	
	2 No	7285	1295	2659	
	8 Blank but applicable	25	12	30	
	9 Don't know	0	0	0	
	Blank	21	6	10	
98	Does sample person have a disability related to his or her service in the Armed Forces of the United States?				FQ D-20
	1 Yes	48	2	14	
	2 No	346	20	108	
	8 Blank but applicable	29	8	37	
	Blank	7039	1327	2675	
99	Does sample person now receive compensation for this disability from the Veteran's Administration?				FQ D-21
	1 Yes	31	1	9	
	2 No	17	1	4	
	8 Blank but applicable	29	8	38	
	Blank	7385	1347	2783	

Position	Item description and code	M	Counts C	P	Source and notes
SECTION F. SOCIODEMOGRAPHIC DATA - HEAD OF FAMILY (POS 100-131)					
Source: Family Questionnaire (FQ) Household Screener Questionnaire (HSQ)					
100	Interview and examination status of head of family				See Note 4
	1 Selected as sample person, interviewed on Adult Sample Person Questionnaire, and examined	5523	1076	2098	
	2 Selected as sample person, interviewed on Adult Sample Person Questionnaire, but not examined	338	62	79	
	3 Selected as sample person, not interviewed, and not examined	218	34	23	
	4 Not selected as sample person	1362	179	624	
	Blank	21	6	10	
101	Blank				
	Date of birth				HSQ 2e
102-103	01-12 Month	7413	1348	2830	
	88 Blank but applicable	49	9	4	
104-105	00-86, 89-99 Year	7440	1353	2832	
	88 Blank but applicable	22	4	2	
106-107	Age at interview 17-95 Years	7462	1357	2834	
108	Blank				
109	Sex				FQ B-4
	1 Male	5982	1069	1331	
	2 Female	1460	282	1493	
	Blank	20	6	10	
110	Observed race				FQ B-5 See Note 5
	1 White	7138	1282	2511	
	2 Black	75	27	165	
	3 Other	6	3	58	
	8 Blank but applicable	106	31	59	
	9 Not observed	117	8	31	
	Blank	20	6	10	
111-112	Head of family's national origin or ancestry.				HSQ 2c See Note 6
	01 Mexican/Mexicano	2068	0	3	
	02 Mexican-American	4523	0	0	
	03 Chicano	97	0	0	
	04 Puerto Rican	19	7	2503	
	05 Boricuan	0	0	29	
	06 Cuban	6	1197	46	
	07 Cuban-American	0	85	2	
	08 Hispano - specify	147	20	37	
	09 Other Latin-American or other Spanish - specify	54	17	39	
	00 Other - specify	513	31	175	
	10 Spanish-American	17	0	0	
	11 Spanish (Spain)	18	0	0	

Position	Item description and code	Counts			Source and notes
		M	C	P	
113-115	In what state or foreign country was head of family born?				FQ B-6 See Note 7
	001-118 State/country code	7362	1331	2762	
	888 Blank but applicable	80	20	62	
	Blank *	20	6	10	
116-117	What is the highest grade or year of regular school head of family has ever attended?				FQ B-7
	00 Never attended or kindergarten only	250	7	35	
	01-08 Elementary grade	2959	511	889	
	09-12 High school grade	2896	411	1445	
	13-16 College	1002	336	363	
	17 Graduate school	170	57	41	
	88 Blank but applicable	165	29	51	
	Blank	20	6	10	
118	Did head of family finish that grade/year?				FQ B-8
	1 Yes	5710	1171	2210	
	2 No	1316	137	492	
	8 Blank but applicable	166	36	87	
	Blank	270	13	45	
119	Is the head of family now married, widowed, divorced, separated or has he or she never been married?				FQ B-9
	0 Under 14	0	0	0	
	1 Married - spouse in household	5706	1059	1295	
	2 Married - spouse not in household	129	9	129	
	3 Widowed	333	48	133	
	4 Divorced	492	136	376	
	5 Separated	388	28	452	
	6 Never married	320	56	418	
	8 Blank but applicable	74	15	21	
	Blank	20	6	10	
120	Did head of family ever serve in the Armed Forces of the United States?				FQ B-11
	1 Yes	1478	64	383	
	2 No	5883	1265	2400	
	8 Blank but applicable	81	22	41	
	Blank	20	6	10	
121	During the past 2 weeks, did head of family work at any time at a job or business, not counting work around the house?				FQ B-12
	1 Yes	5443	1019	1283	
	2 No	1923	305	1504	
	8 Blank but applicable	76	27	37	
	Blank	20	6	10	
122	Even though head of family did not work during those 2 weeks, did he or she have a job or business?				FQ B-13
	1 Yes	101	19	28	
	2 No	1822	286	1476	
	8 Blank but applicable	76	27	37	
	Blank	5463	1025	1293	

Position	Item description and code	M	Counts C	P	Source and notes
123	Was head of family looking for work or on layoff from a job?				FQ B-14
	1 Yes	510	61	118	
	2 No	1413	244	1384	
	8 Blank but applicable	76	27	39	
	Blank	5463	1025	1293	
124	Which, looking for work or on layoff from a job or both?				FQ B-15
	1 Looking	270	43	69	
	2 Layoff	151	12	26	
	3 Both	85	3	17	
	8 Blank but applicable	80	30	45	
	Blank	6876	1269	2677	
125-127	What kind of business or industry does head of family work for?				FQ B-19 See Note 9
	010-932 Industry code	5980	1080	1395	
	990 Blank but applicable	118	28	62	
	Blank	1364	249	1377	
128-130	What kind of work was head of family doing?				FQ B-20 See Note 9
	003-889 Occupation code	5988	1080	1391	
	999 Blank but applicable	110	28	66	
	Blank	1364	249	1377	
131	Class of worker				FQ B-22
	1 Employee of a private company, business or individual for wages, salary, or commission	4702	842	1058	
	2 A Federal government employee	219	4	45	
	3 A State government employee	246	12	54	
	4 A Local government employee	359	22	169	
	5 Self-employed in own incorporated business or professional practice	49	25	14	
	6 Self-employed in own unincorporated business, professional practice, or farm	420	171	56	
	7 Working without pay in family business or farm	0	0	0	
	8 Blank but applicable	99	32	60	
	0 Never worked or never worked at a full-time civilian job lasting 2 weeks or more	4	0	1	
	Blank	1364	249	1377	

Position	Item description and code	Counts			Source and notes
		M	C	P	
SECTION G. FAMILY COMPOSITION AND INCOME DATA (POS 132-162)					
Source: Family Questionnaire (FQ)					
132-133	Number of persons in family (computed) 01-18 Persons	7462	1357	2834	
134-135	Number of sample persons in family (computed) 01-13 Persons	7462	1357	2834	
136	Was the total combined family income during the past 12 months more or less than \$20,000? Include money from jobs, Social Security, retirement income, unemployment payments, public assistance, and so forth. Also include income net from interest, dividends, income from business, farm or rent, and any other money income received.				FQ E-10
	1 \$20,000 or more	2353	536	578	
	2 Less than \$20,000	4856	795	2193	
	7 Refused information	31	1	7	
	8 Blank but applicable	202	19	46	
	Blank	20	6	10	
137-138	Of those income groups, which best represents the total combined family income during the past 12 months? Include wages, salaries, and other items we just talked about. (in dollars)				FQ E-11
	01 Less than 1,000	40	8	7	
	02 1,000 - 1,999	107	10	33	
	03 2,000 - 2,999	143	25	68	
	04 3,000 - 3,999	182	28	132	
	05 4,000 - 4,999	184	34	250	
	06 5,000 - 5,999	234	45	202	
	07 6,000 - 6,999	312	35	213	
	08 7,000 - 7,999	314	46	169	
	09 8,000 - 8,999	284	42	106	
	10 9,000 - 9,999	263	52	125	
	11 10,000 - 10,999	282	72	139	
	12 11,000 - 11,999	250	47	75	
	13 12,000 - 12,999	296	54	100	
	14 13,000 - 13,999	186	32	64	
	15 14,000 - 14,999	254	25	66	
	16 15,000 - 15,999	208	36	77	
	17 16,000 - 16,999	209	34	51	
	18 17,000 - 17,999	231	37	66	
	19 18,000 - 18,999	333	28	82	
	20 19,000 - 19,999	240	55	79	
	21 20,000 - 24,999	694	148	152	
	22 25,000 - 29,999	585	83	124	
	23 30,000 - 34,999	358	78	92	
	24 35,000 - 39,999	257	64	43	
	25 40,000 - 44,999	192	48	36	
	26 45,000 - 49,999	84	43	30	
	27 50,000 and over	107	55	54	
	77 Refused information	76	10	43	
	88 Blank but applicable	537	77	146	
	Blank	20	6	10	

Position	Item description and code	M	Counts C	P	Source and notes
139-143	Per capita income (computed)				See Note 11
	00083-50000 Dollars	6829	1264	2636	
	88888 Blank but applicable	613	87	189	
	Blank	20	6	9	
144-146	Poverty index (computed)				See Note 12
	Decimal not shown on tape.				
	0.04-9.78	6829	1264	2636	
	999 Blank but applicable	613	87	189	
	Blank	20	6	9	
147	Did any member of this family receive any Government food stamps in any of the past 12 months?				FQ E-12
	1 Yes	1651	234	1344	
	2 No	5783	1115	1474	
	8 Blank but applicable	8	2	6	
	Blank	20	6	10	
148-149	In how many months of the past 12 months did any member of this family receive food stamps?				FQ E-13
	01-12 Months	1631	234	1335	
	88 Blank but applicable	28	2	15	
	Blank	5803	1121	1484	
150	Did this family receive any government food stamps last month?				FQ E-14
	1 Yes	1345	187	1290	
	2 No	303	47	50	
	8 Blank but applicable	11	2	10	
	Blank	5803	1121	1484	
151-152	In which month did any member of this family last receive food stamps?				FQ E-15
	01-12 Month	298	47	50	
	88 Blank but applicable	16	2	10	
	Blank	7148	1308	2774	
153-154	For how many persons were those food stamps authorized?				FQ E-16
	01-13 Persons	1641	234	1337	
	88 Blank but applicable	18	2	13	
	Blank	5803	1121	1484	
155-157	What was the total face value of those food stamps received by this family in that month?				FQ E-17
	010-520 Dollars	1567	230	1325	
	888 Blank but applicable	92	6	25	
	Blank	5803	1121	1484	
158	Did this family spend more for food in that month than the value of your food stamps?				FQ E-18
	1 Yes	1405	194	1279	
	2 No	231	40	64	
	8 Blank but applicable	23	2	7	
	Blank	5803	1121	1484	

Position	Item description and code	M	Counts C	P	Source and notes
159-161	How much more?				FQ E-19
	003-880 Dollars	1314	182	1258	
	888 Blank but applicable.	114	14	28	
	Blank	6034	1161	1548	
162	Is your family receiving food stamps at the present time?				FQ E-20
	1 Yes	1273	175	1269	
	2 No	6153	1171	1542	
	8 Blank but applicable	16	5	13	
	Blank	20	6	10	

Position	Item description and code	M	Counts C	P	Source and notes
SECTION H. RESIDENCE AND HOUSEHOLD DATA (POS 163-183)					
Source: Family Questionnaire (FQ)					
Household Screener Questionnaire (HSQ)					
163	Size of place				See Note 13
	1 1 million or more	1049	0	2070	
	2 500,000 - 999,999	844	0	0	
	3 250,000 - 499,999	884	467	0	
	4 100,000 - 249,999	203	364	368	
	5 50,000 - 99,999	1277	70	76	
	6 25,000 - 49,999	785	205	216	
	7 10,000 - 24,999	746	120	79	
	8 200 - 9,999	1003	88	24	
	9 Not in a place	671	43	1	
164	Standard Metropolitan Statistical Area				See Note 13
	1 In SMSA, in central city	3707	467	2465	
	2 In SMSA, not in central city	2854	890	369	
	4 Not in SMSA	901	0	0	
165-166	Number of persons in household				HSQ 1a
	01-18 Persons	7462	1357	2834	
167-168	Number of sample persons in household (computed)				
	01-13 Persons	7462	1357	2834	
169-170	How many rooms are in this home? Count the kitchen, but not the bathroom.				FQ E-1
	01-14 Rooms	7433	1350	2816	
	88 Blank but applicable	9	1	8	
	Blank	20	6	10	
171	Do you have access to complete kitchen facilities in this home; that is, a kitchen sink with piped water, a refrigerator and a range or cookstove?				FQ E-2
	1 Yes	7136	1315	2548	
	2 No	83	10	18	
	8 Blank but applicable	223	26	258	
	Blank	20	6	10	
172-173	What is the main fuel used for heating this home?				FQ E-3 See Note 14
	00 No fuel used	538	231	16	
	01 Oil	4	0	1988	
	02 Natural gas	5955	78	718	
	03 Electricity	604	1027	37	
	04 Bottled gas (propane)	174	2	0	
	05 Kerosene	13	3	0	
	06 Wood	98	3	0	
	07 Coal	0	0	14	
	08 Other, not specified	0	0	2	
	09 Other, specified	11	0	8	
	88 Blank but applicable	45	7	41	
	Blank	20	6	10	

Position	Item description and code	M	Counts C	P	Source and notes
174-175	What is the main heating equipment for this home?				FQ E-4 See Note 14
	00 No heating equipment used	538	231	20	
	01 Steam or hot water with radiators or convectors	44	5	1450	
	02 Central warm air furnace with ducts to individual rooms, or central heat pump	2677	542	180	
	03 Built-in electric units (permanently installed in wall, ceiling, or baseboard)	474	323	63	
	04 Floor, wall or pipeless furnace	1598	46	21	
	05 Room heaters <u>with</u> flue or vent, burning oil, gas, or kerosene	805	17	596	
	06 Room heaters <u>without</u> flue or vent, burning oil, gas, or kerosene	847	6	425	
	07 Heating stove burning wood, coal or coke	88	0	9	
	08 Fireplace(s)	91	4	0	
	09 Portable electric heater(s)	139	137	4	
	10 Other, not specified	0	0	0	
	11 Other, specified	114	35	16	
	88 Blank but applicable	1	5	23	
	99 Don't know	26	0	17	
	Blank	20	6	10	
176-177	Are any other types of equipment used for heating this home?				FQ E-5 See Note 14
	00 No other heating equipment used	6057	1073	2350	
	01 Steam or hot water with radiators or convectors	0	0	13	
	02 Central warm air furnace with ducts to individual rooms, or central heat pump	11	15	7	
	03 Built-in electric units (permanently installed in wall, ceiling, or baseboard)	24	0	2	
	04 Floor, wall or pipeless furnace	11	0	0	
	05 Room heaters <u>with</u> flue or vent, burning oil, gas, or kerosene	22	0	3	
	06 Room heaters <u>without</u> flue or vent, burning oil, gas, or kerosene	22	1	29	
	07 Heating stove burning wood, coal or coke	70	0	8	
	08 Fireplace(s)	449	8	9	
	09 Portable electric heater(s)	186	18	351	
	10 Other, not specified	4	2	3	
	11 Other, specified	18	2	4	
	88 Blank but applicable	30	1	25	
	Blank	558	237	30	
178-179	What is the main fuel used by this additional equipment?				FQ E-6 See Note 14
	00 No fuel used	2	0	2	
	01 Oil	0	0	20	
	02 Natural gas	96	2	27	
	03 Electricity	214	35	345	
	04 Bottled gas (propane)	9	0	1	
	05 Kerosene	2	0	25	
	06 Wood	471	8	11	
	07 Coal	2	0	0	
	08 Other, not specified	0	0	0	
	09 Other, specified	7	0	0	
	88 Blank but applicable	44	2	23	
	Blank	6615	1310	2380	

Position	Item description and code	Counts			Source and notes
		M	C	P	
180-181	What is the main fuel used for cooking in this home?				FQ E-7
	00 No fuel used	21	4	4	
	01 Oil	14	0	31	
	02 Natural gas	5899	253	2603	
	03 Electricity	1295	1083	148	
	04 Bottled gas (propane)	182	8	12	
	05 Kerosene	0	0	3	
	06 Wood	0	0	0	
	07 Coal	0	0	0	
	08 Other, not specified	0	0	0	
	09 Other, specified	14	1	0	
	88 Blank but applicable	17	2	23	
	Blank	20	6	10	
182	Do you have air-conditioning - either individual room units, a central system or evaporative cooling?				FQ E-8
	1 Yes	3583	1254	653	
	2 No	3845	96	2153	
	8 Blank but applicable	14	1	18	
	Blank	20	6	10	
183	Which do you have?				FQ E-9
	1 Individual room unit	1625	583	613	
	2 Central air-conditioning	1233	660	22	
	3 Evaporative cooling	719	6	10	
	8 Blank but applicable	20	6	26	
	Blank	3865	102	2163	

Position	Item description and code	M	Counts C	P	Source and notes
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SECTION I. SAMPLE WEIGHTS (POS 184-217)

184-189	Examined final weight				
	000439-002711	7462	-	-	
	000223-000891	-	1357	-	
	000177-002000	-	-	2834	
190-195	Interview final weight				
	000447-002096	7462	-	-	
	000176-000604	-	1357	-	
	000175-001220	-	-	2834	

GTT/ULTRASOUND, AUDIOMETRY/VISION, PESTICIDE WEIGHTS

By design, only some of the persons in the sample were included in the GTT/ultrasound, audiometry/vision, and pesticide components of the survey. Tape positions for those persons not part of these subsamples are BLANK.

196-201	GTT/ultrasound weight				
	000843-005302	1777	-	-	
	000469-001685	-	449	-	
	000349-003110	-	-	667	
	Blank	5685	908	2167	
202-207	Audiometry/vision weight				
	000507-006283	4431	-	-	
	000223-001600	-	804	-	
	000264-003123	-	-	1759	
	Blank	3031	553	1075	
208-213	Pesticide weight				
	000872-005584	2465	-	-	
	000441-001600	-	568	-	
	000343-003117	-	-	1012	
	Blank	4997	789	1822	
214-215	Strata code				
	01-08	7462	1357	2834	
216-217	Pseudo PSU code				
	01-02	7462	1357	2834	

Position	Item description and code	M	Counts C	P	Source and notes
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SECTION J. FAMILY RELATIONSHIPS (POS 218-400)

Source: Adult Sample Person Questionnaire
Family Questionnaire

218-400 **Blank**
Data not yet available.

Position	Item description and code	M	Counts C	P	Source and notes
SECTION K. MEDICAL HISTORY DATA - VISION (POS 401-444)					
Source: Child Sample Person Questionnaire (CSPQ)					
Source: Adult Sample Person Questionnaire (ASPQ)					
POSITIONS 404-423 CONTAIN SELECTED INTERVIEW DATA ON CHILDREN 6 THROUGH 11 YEARS. THIS DATA IS ALSO FOUND ON HHANES DATA-TAPE NUMBER 6522 (CHILD HISTORY QUESTIONNAIRE)					
401-402	Blank	7462	1357	2834	
403	Subsample Indicator				
	0 Ages 6 months - 5 years	1254	104	408	
	1 Ages 6-11 years	1296	133	437	
	Blank Ages 12-74 years	4912	1120	1989	
404	Was the sample person born with any physical or mental problem or birth defect?				CSPQ A-11
	1 Yes	184	14	92	
	2 No	2364	223	751	
	8 Blank but applicable	2	0	2	
	Blank	4912	1120	1989	
405	Did the sample person's problem or defect involve his or her eyes?				CSPQ A-12
	1 Yes	13	0	3	
	2 No	169	13	86	
	8 Blank but applicable	3	0	4	
	9 Don't know	1	1	1	
	Blank	7276	1343	2740	
406	Has the sample person <u>ever</u> had trouble seeing with one or both eyes when <u>not</u> wearing glasses or contact lenses?				CSPQ D-1 See Note 15
	1 Yes	227	28	131	
	2 No	2320	209	712	
	8 Blank but applicable	3	0	2	
	Blank	4912	1120	1989	
407	How old was the sample person when he or she first began having trouble seeing?				CSPQ D-2
	1 Under 1 year old	15	3	12	
	2 1-4 years old	22	4	23	
	3 5-11 years old	190	21	96	
	8 Blank but applicable	3	0	2	
	Blank	7232	1329	2701	
408	Did the sample person <u>ever</u> see a doctor about it?				CSPQ D-3
	1 Yes	168	27	113	
	2 No	59	1	18	
	8 Blank but applicable	3	0	2	
	Blank	7232	1329	2701	
409	Does the sample person wear glasses or contact lenses?				CSPQ D-4
	1 Yes	106	18	85	
	2 No	121	10	46	
	8 Blank but applicable	3	0	2	
	Blank	7232	1329	2701	

Position	Item description and code	M	Counts C	P	Source and notes
410	Does the sample person have trouble with his or her vision even when wearing glasses or contact lenses?				CSPQ D-5
	1 Yes	23	2	13	
	2 No	82	16	70	
	8 Blank but applicable	4	0	4	
	Blank	7353	1339	2747	
411	Has the sample person ever worn glasses or contact lenses? (Does not include glasses that are worn for purposes other than improving or correcting vision.)				CSPQ D-6 See Note 16
	1 Yes	15	3	11	
	2 No	106	7	35	
	8 Blank but applicable	3	0	2	
	Blank	7338	1347	2786	
	Reason sample person stopped wearing glasses or contact lenses (Positions 412-415. More than one reason may apply)				CSPQ D-7 See Note 17
412	1 No longer needed them	5	3	5	
	8 Blank but applicable	3	0	2	
	Blank	7454	1354	2827	
413	1 Didn't seem to help	3	0	1	
	8 Blank but applicable	3	0	2	
	Blank	7456	1357	2831	
414	1 Inconvenient	2	0	0	
	8 Blank but applicable	3	0	2	
	Blank	7457	1357	2832	
415	1 Other - not specified	0	0	0	
	2 Other - specified	1	0	4	
	3 Other specified: glasses lost or broken	4	0	1	
	8 Blank but applicable	3	0	2	
	Blank	7454	1357	2827	
	Purpose for which sample person's glasses or contact lenses were prescribed (Positions 416-418. More than one purpose may apply)				CSPQ D-8 See Note 17
416	1 Reading/close work	60	15	63	
	8 Blank but applicable	5	0	3	
	Blank	7397	1352	2768	
417	1 Seeing distant objects	66	12	47	
	8 Blank but applicable	5	0	3	
	Blank	7391	1345	2784	
418	1 Other - not specified	1	0	0	
	2 Other - specified	12	7	9	
	3 Other specified: astigmatism	2	0	0	
	8 Blank but applicable	5	0	3	
	Blank	7442	1350	2822	

Position	Item description and code	Counts			Source and notes
		M	C	P	
419	How often (does/did) the sample person use his or her glasses or contact lenses: all of the time, most of the time, hardly ever, or never?				CSPQ D-9
	1 All of the time	48	12	29	
	2 Most of the time	39	4	37	
	3 Hardly ever	29	4	23	
	4 Never	9	0	6	
	8 Blank but applicable	5	1	3	
	Blank	7338	1336	2736	
420	Age of the sample child and school status.				CSPQ D-10
	1 Under 5 years old	1029	93	347	
	2 5+ years old, goes to school	1458	142	475	
	3 5+ years old, doesn't go to school	63	2	22	
	8 Blank but applicable	0	0	1	
	Blank	4912	1120	1989	
421	Is the sample person able to read from the blackboard from the back of the classroom (when wearing glasses or contact lenses)? (Asked only of children five years of age and over who go to school)				CSPQ D-11 See Note 15
	1 Yes	1253	130	373	
	2 No	105	9	57	
	8 Blank but applicable	2	1	15	
	9 Don't know	98	2	31	
	Blank	6004	1215	2358	
422	Were you ever told by a doctor that the sample person had learning or developmental problems related to his or her vision? (Asked only of children five years of age and over)				CSPQ D-12
	1 Yes	47	5	22	
	2 No	1467	138	467	
	8 Blank but applicable	0	1	5	
	9 Don't know	7	0	4	
	Blank	5941	1213	2336	
423	When was the last time the sample person had his or her vision tested? (Asked all children)				CSPQ D-13 See Note 18
	1 6 months ago or less	567	81	278	
	2 Over 6 months to 12 months	436	33	159	
	3 Over 12 months to 2 years	260	15	87	
	4 Over 2 years to 5 years	122	11	29	
	5 More than 5 years	14	2	3	
	6 Never	1075	91	268	
	8 Blank but applicable	0	1	0	
	9 Don't know	76	3	21	
	Blank	4912	1120	1989	

Position	Item description and code	M	Counts C	P	Source and notes
POSITIONS 426-444 CONTAIN SELECTED INTERVIEW DATA FOR ADOLESCENTS AND ADULTS AGES 12 THROUGH 74 YEARS. THIS DATA IS ALSO FOUND ON HHANES DATA TAPE NUMBER 6521 (ADOLESCENT AND ADULT HISTORY QUESTIONNAIRE)					
424	Adult Sample Person Questionnaire Data Missing?				See Note 19
	1 Yes	1	0	1	
	2 No	4911	1120	1988	
	Blank	2550	237	845	
425	Subsample Indicator				
	1 Ages 12-74 years	4912	1120	1989	
	Blank Ages 6 months-11 years	2550	237	845	
426	Have you <u>ever</u> had trouble seeing with one or both eyes when <u>not</u> wearing glasses or contact lenses?				ASPQ D-1
	1 Yes	2590	702	1170	
	2 No	2321	418	818	
	8 Blank but applicable	0	0	0	
	Blank	2551	237	846	
427-428	How old were you when you first began having trouble seeing?				ASPQ D-2
	01 0-4 years old	56	22	41	
	02 5-9 years old	289	50	170	
	03 10-19 years old	847	133	350	
	04 20-29 years old	316	56	110	
	05 30-39 years old	259	115	127	
	06 40-49 years old	505	246	258	
	07 50-59 years old	241	61	90	
	08 60-64 years old	46	10	15	
	09 65 years old or older	19	8	4	
	88 Blank but applicable	12	1	5	
	Blank	4872	655	1664	
429	Did you <u>ever</u> see a doctor about it?				ASPQ D-3
	1 Yes	2240	661	1084	
	2 No	350	41	85	
	8 Blank but applicable	0	0	1	
	Blank	4872	655	1664	
430	Do you wear glasses or contact lenses?				ASPQ D-4
	1 Yes	1930	621	923	
	2 No	660	81	247	
	8 Blank but applicable	0	0	0	
	Blank	4872	655	1664	
431	Do you have trouble with your vision even when wearing glasses or contact lenses?				ASPQ D-5
	1 Yes	411	91	224	
	2 No	1518	529	696	
	8 Blank but applicable	1	1	3	
	Blank	5532	736	1911	
432	Have you ever worn glasses or contact lenses?				ASPQ D-6
	1 Yes	232	37	123	
	2 No	428	44	124	
	8 Blank but applicable	0	0	0	
	Blank	6802	1276	2587	

Position	Item description and code	M	Counts C	P	Source and notes
	Why did you stop wearing them? (Pos. 433-438) (MARK ALL THAT APPLY)				ASPQ D-7 See Notes 17, 20
433	1 No longer need them	67	8	37	
	8 Blank but applicable	1	2	0	
	Blank	7394	1347	2797	
434	1 Didn't seem to help	28	4	12	
	8 Blank but applicable	1	2	0	
	Blank	7433	1351	2822	
435	1 Inconvenient	67	14	28	
	8 Blank but applicable	1	2	0	
	Blank	7394	1341	2806	
436	1 Broken, lost or stolen	40	5	29	
	8 Blank but applicable	1	2	0	
	Blank	7421	1350	2805	
437	1 Too expensive	25	1	2	
	8 Blank but applicable	1	2	0	
	Blank	7436	1354	2832	
438	1 Other, not specified	2	0	1	
	2 Other, specified	19	5	20	
	8 Blank but applicable	1	2	0	
	Blank	7440	1350	2813	
	What (are/were) your glasses or contact lenses prescribed for? (Pos. 439-444) (More than one purpose may apply)				ASPQ D-8 See Notes 17, 20
439	1 Reading/close work	1309	504	761	
	8 Blank but applicable	12	5	4	
	Blank	6141	848	2069	
440	1 Seeing distant objects	1142	331	536	
	8 Blank but applicable	12	5	4	
	Blank	6308	1021	2294	
441	1 Astigmatism	47	17	12	
	8 Blank but applicable	12	5	4	
	Blank	7403	1335	2818	
442	1 Other, not specified	20	1	1	
	2 Other, specified	115	24	53	
	8 Blank but applicable	12	5	4	
	Blank	7315	1327	2776	
443	How often (do/did) you use your glasses or contacts: All of the time, most of the time, hardly ever, or never?				ASPQ D-9
	1 All of the time	920	276	358	
	2 Most of the time	604	165	365	
	3 Hardly ever	548	192	270	
	4 Never	82	18	48	
	8 Blank but applicable	8	7	5	
	Blank	5300	699	1788	

Position	Item description and code	M	Counts C	P	Source and notes
444	When was the last time you had your vision tested?				ASPQ D-10
	1 6 mos. ago or less	986	281	558	
	2 Over 6 mos. through 12 mos.	898	245	442	
	3 Over 12 mos. through 2 years	892	209	386	
	4 Over 2 years through 5 years	1021	223	317	
	5 More than 5 years	569	91	165	
	6 Never	486	67	84	
	8 Blank but applicable	2	1	1	
	9 Don't know	57	3	35	
	Blank	2551	237	846	

Position	Item description and code	Counts			Source and notes
		M	C	P	

SECTION L. PHYSICAL FINDINGS - EYES (POS 445-479)

Source: Physician's Examination

445	Physician's examination form blank?				See Note 21
	1 No physician's examination data were taken. Positions 446-479 are blank.	135	12	70	
	2 Physician's examination data are present.	7327	1345	2764	
446	Eyes-strabismus				
	1 Yes	733	14	42	
	4 No	6587	1327	2718	
	8 Blank but applicable	7	4	4	
	Blank	135	12	70	
447	Eyes-conjunctival injection				
	1 Yes	84	9	9	
	4 No	7240	1332	2753	
	8 Blank but applicable	3	4	2	
	Blank	135	12	70	
448	Eyes-pale conjunctiva				
	1 Yes	14	0	4	
	4 No	7309	1341	2758	
	8 Blank but applicable	4	4	2	
	Blank	135	12	70	
449	Eyes-xerophthalmia				
	1 Yes	0	0	0	
	4 No	7323	1341	2762	
	8 Blank but applicable	4	4	2	
	Blank	135	12	70	
450	Eyes-keratomalacia				
	1 Yes	0	0	0	
	4 No	7323	1341	2762	
	8 Blank but applicable	4	4	2	
	Blank	135	12	70	
451	Eyes-pterygium				
	1 Yes	267	32	48	
	4 No	7056	1309	2714	
	8 Blank but applicable	4	4	2	
	Blank	135	12	70	
452	Right eye-corneal lesion(s)				
	1 Yes	23	5	1	
	4 No	7243	1337	2756	
	8 Blank but applicable	56	3	7	
	Blank	140	12	70	
453	Left eye-corneal lesion(s)				
	1 Yes	23	3	4	
	4 No	7243	1338	2751	
	8 Blank but applicable	56	3	7	
	Blank	140	13	72	

Position	Item description and code	M	Counts C	P	Source and notes
454	Eyes-pupils				
	1 Right larger	18	4	12	
	2 Left larger	13	6	3	
	4 Equal	7281	1331	2738	
	8 Blank but applicable	5	3	9	
	Blank	145	13	72	
455	Eyes-pupillary light reflex				
	1 Abnormal	32	13	20	
	4 Normal	7293	1328	2734	
	8 Blank but applicable	2	4	10	
	Blank	135	12	70	
456	Right eye-globe absent				See Note 22
	1 Absent	5	0	0	
	Blank- Present or exam not given	7457	1357	2834	
457	Left eye-globe absent				See Note 22
	1 Absent	5	1	2	
	Blank- Present or exam not given	7457	1356	2832	
458	Right eye-ocular fundus-red reflex				
	1 Abnormal	15	3	8	
	4 Normal	7261	1314	2734	
	8 Blank but applicable	46	28	22	
	Blank	140	12	70	
459	Left eye-ocular fundus-red reflex				
	1 Abnormal	12	0	8	
	4 Normal	7266	1317	2732	
	8 Blank but applicable	44	27	22	
	Blank	140	13	72	
460	Right eye-lens opacities				
	1 Yes	58	16	18	
	4 No	7203	1301	2724	
	8 Blank but applicable	61	28	22	
	Blank	140	12	70	
461	Left eye-lens opacities				
	1 Yes	58	19	23	
	4 No	7207	1299	2717	
	8 Blank but applicable	57	26	22	
	Blank	140	13	72	
462	Right eye-fundus visualization				See Note 23
	1 Not visualized	254	66	219	
	Blank Visualized	7165	1277	2596	
	8 Blank but applicable	43	14	19	
463	Left eye-fundus visualization				See Note 23
	1 Not visualized	276	69	231	
	Blank Visualized	7144	1276	2584	
	8 Blank but applicable	42	12	19	

Position	Item description and code	M	Counts C	P	Source and notes
464	Right eye-ocular fundus-narrow arterioles				
	1 Yes	110	2	6	
	4 No	6892	1263	2512	
	8 Blank but applicable	66	14	27	
	Blank	394	78	289	
465	Left eye-ocular fundus-narrow arterioles				
	1 Yes	149	11	32	
	4 No	6834	1252	2471	
	8 Blank but applicable	63	12	28	
	Blank	416	82	303	
466	Right eye-ocular fundus-tortuous arterioles				
	1 Yes	42	2	5	
	4 No	6952	1263	2513	
	8 Blank but applicable	74	14	27	
	Blank	394	78	289	
467	Left eye-ocular fundus-tortuous arterioles				
	1 Yes	41	1	5	
	4 No	6934	1262	2499	
	8 Blank but applicable	71	12	27	
	Blank	416	82	303	
468	Right eye-ocular fundus-AV compression				
	1 Yes	25	0	11	
	4 No	6964	1265	2507	
	8 Blank but applicable	79	14	27	
	Blank	394	78	289	
469	Left eye-ocular fundus-AV compression				
	1 Yes	27	0	15	
	4 No	6943	1263	2489	
	8 Blank but applicable	76	12	27	
	Blank	416	82	303	
470	Right eye-ocular fundus-hemorrhage				
	1 Yes	4	0	0	
	4 No	6986	1265	2518	
	8 Blank but applicable	78	14	27	
	Blank	394	78	289	
471	Left eye-ocular fundus-hemorrhage				
	1 Yes	4	0	0	
	4 No	6967	1263	2504	
	8 Blank but applicable	75	12	27	
	Blank	416	82	303	

Position	Item description and code	M	Counts C	P	Source and notes
472	Right eye-ocular fundus-exudate				
	1 Yes	5	0	4	
	4 No	6983	1265	2515	
	8 Blank but applicable	80	14	26	
	Blank	394	78	289	
473	Left eye-ocular fundus-exudate				
	1 Yes	3	0	6	
	4 No	6966	1263	2499	
	8 Blank but applicable	77	12	26	
	Blank	416	82	303	
474	Right eye-ocular fundus-venous engorgement				
	1 Yes	1	0	0	
	4 No	6987	1264	2519	
	8 Blank but applicable	80	15	26	
	Blank	394	78	289	
475	Left eye-ocular fundus-venous engorgement				
	1 Yes	2	0	0	
	4 No	6967	1262	2505	
	8 Blank but applicable	77	13	26	
	Blank	416	82	303	
476	Right eye-ocular fundus-papilledema				
	1 Yes	0	0	1	
	4 No	6988	1265	2523	
	8 Blank but applicable	80	14	21	
	Blank	394	78	289	
477	Left eye-ocular fundus-papilledema				
	1 Yes	0	0	1	
	4 No	6969	1263	2509	
	8 Blank but applicable	77	12	21	
	Blank	416	82	303	
478	Right eye-ocular fundus-disc abnormal				
	1 Yes	3	1	10	
	4 No	6985	1264	2514	
	8 Blank but applicable	80	14	21	
	Blank	394	78	289	
479	Left eye-ocular fundus-disc abnormal				
	1 Yes	3	2	7	
	4 No	6966	1261	2503	
	8 Blank but applicable	77	12	21	
	Blank	416	82	303	
480-500	Blank	7462	1357	2834	

Position	Item description and code	Counts			Source and notes
		M	C	P	

SECTION M. VISION TEST DATA - (POS 501-531)

Source: Vision Examination

Numbers in this column other than notes reflect the preprinted circled number shown on source document (Appendix 1)

501-504	Tape number 6507	7462	1357	2834	
505	Vision exam blank 1 Yes 2 No	3114 4348	571 786	1118 1716	See Note 24
506-508	Examiner number 105 - 557 888 Blank	4327 21 3114	786 0 571	1713 3 1118	VTF 102
509	Optotype 1 Sloan letters 2 Landolt rings 8 Blank but applicable Blank	4237 72 39 3114	778 5 3 571	1164 27 525 1118	VTF 104
DISTANCE VISION (POS 510-522)					
510	Correction Worn 1 Wears glasses for test 2 Wears contact lenses for test 3 Forgot (glasses, contact lenses) 4 Does not wear either glasses or contact lenses for distance vision 8 Blank but applicable Blank	737 56 190 3343 22 3114	204 19 41 517 5 571	324 18 115 1200 59 1118	VTF 105
Visual Acuity					
511-513	Both eyes without correction 000 Not applicable 015-160 Visual acuity equivalent at 20 feet 200 20/200 or worse 888 Blank but applicable Blank	56 4114 128 50 3114	19 741 23 3 571	18 1622 56 20 1118	VTF 107 See Notes 25, 26
514-516	Left eye with correction if worn 015-160 Visual acuity equivalent at 20 feet 200 20/200 or worse 777 Missing eye or prosthesis 888 Blank but applicable Blank	4264 51 4 29 3114	778 5 0 3 571	1666 19 5 26 1118	VTF 109 See Note 26

Position	Item description and code	M	Counts C	P	Source and notes
517-519	Right eye with correction if worn				VTF 111
	015-160 Visual acuity equivalent at 20 feet	4270	781	1665	See Note 26
	200 20/200 or Worse	47	2	20	
	777 Missing eye or prosthesis	2	0	1	
	888 Blank but applicable	29	3	30	
	Blank	3114	571	1118	
520-522	Both eyes with correction				VTF 113
	000 Not applicable	3533	558	1315	See Notes 25, 26
	015-160 Visual acuity equivalent at 20 feet	745	218	306	
	200 20/200 or Worse	4	1	0	
	888 Blank but applicable	66	9	95	
	Blank	3114	571	1118	
BINOCULAR VISION (POS 523-524)					
523	50 cm				VTF 114
	1 Pass	3876	680	1527	
	2 Fail	387	101	145	
	8 Blank but applicable	85	5	44	
	Blank	3114	571	1118	
524	100 cm				VTF 115
	1 Pass	3675	639	1480	
	2 Fail	504	142	188	
	8 Blank but applicable	169	5	48	
	Blank	3114	571	1118	
NEAR VISION (POS 525-549)					
525	Correction Worn				VTF 116
	1 Wears glasses for test	803	250	325	
	2 Wears contact lenses for test	55	18	20	
	3 Forgot (glasses, contact lenses)	239	63	110	
	4 Does not wear either glasses or contact lenses for near vision	3205	454	1200	
	8 Blank but applicable	46	1	61	
	Blank	3114	571	1118	
Visual Acuity: Both eyes without correction					
526-528	40 cm				VTF 118
	000 Not applicable	55	18	20	See Note 25
	016-250 Visual acuity equivalent at 20 feet	4065	739	1617	
	333 20/333 or worse	30	25	23	
	888 Blank but applicable	198	4	56	
	Blank	3114	571	1118	
Visual Acuity: Both eyes with correction					
529-531	40 cm				VTF 122
	000 Not applicable	3444	517	1310	See Note 25
	016-167 Visual acuity equivalent at 20 feet	818	267	337	
	333 20/333 or worse	0	1	0	
	888 Blank but applicable	86	1	69	
	Blank	3114	571	1118	
532-600	Blank				

SECTION N. NOTES

1. Family Questionnaire Missing

A Family Questionnaire was to be completed for each eligible family in a household with sample persons. However, a few Family Questionnaires are missing. Data records for sample persons in families with missing questionnaires are flagged with a code = 1, and all family data are blank. Data records for sample persons in families with a Family Questionnaire are flagged with a code = 2.

During the Mexican-American portion of the HHANES survey, a Family Questionnaire continuation booklet containing sample person information was lost for one sample person. Therefore, the sociodemographic data for this sample person are missing. The reference person, family composition, income, residence, and household data for this person were obtained from another person in the household.

2. Examination Status

Not all sample persons consented to come to a Mobile Examination Center to participate in the examination phase of the survey. In certain rare instances (less than 0.1%), sample persons who came to the Mobile Examination Centers did not participate in sufficient components of the examination to be considered as "examined." This data field contains code = 1 for those persons who participated fully in the examination phase, and code = 2 for those who did not come to the examination center or who did not satisfactorily complete the examination.

3. Family Number

In HHANES, all household members who were related by blood, marriage, or adoption were considered to be one "family." All sample persons in the same family unit have the same computer-generated family unit code.

4. Head of Family

Relationship of Sample Person to Head of Family (Pos. 44-45)

Each family containing sample persons has a designated "head of family," and the relationship of each sample person to the head of his or her family is coded in tape positions 44-45. The first three categories of this variable describe the "head" of three different kinds of families.

- o Code '01' identifies sample persons who lived alone (i.e., "head" of one-person families, no unrelated individuals living in the household).
- o Code '02' identifies sample persons who lived only with unrelated persons.
- o Code '03' identifies sample persons who were "heads" of families containing at least one other person (whether or not the household included additional families unrelated to the sample person).

Sociodemographic Data (Pos. 100-131)

This data tape includes some sociodemographic data about the head of each sample person's family (Section F). Because there can only be one "head" per family, the data in this section (positions 100-131) are the same for all sample persons in the same family (i.e., with the same family number codes in positions 39-43). If the sample person is the head of his or her family, the data in positions 100-131 are the same as in the corresponding positions in Section E.

5. Observed Race

"Race" was observed by the interviewer for all sample persons actually seen. Rules for classification of observed race were consistent with those used in the NHANES II and the National Health Interview Survey at that time. The categories were coded as follows:

White Includes Spanish origin persons unless they are definitely Black, Indian or other nonwhite.
Black Black or Negro.
Other Race other than White or Black, including Japanese, Chinese, American Indian, Korean, Eskimo.

6. National Origin or Ancestry

The value for national origin or ancestry is based on Item 2c in the Household Screener Questionnaire and was reported by the household respondent for all household members. In the Mexican-American portion of the survey, if "other Latin-American or other Spanish" (code 9) or "Other" (code 0) was recorded and the specified origin was "Spanish-American" or "Spanish (Spain)", a code of 10 or 11, respectively, was assigned. In all three portions of the survey, if more than one category was reported, the first appropriate "Hispanic" code, if any, was assigned (codes 1, 2, 3, 8, 10, or 11 in the Mexican-American portion; codes 6 or 7 in the Cuban-American portion; codes 4 or 5 in the Puerto Rican portion). If none of these codes was recorded, the first category entered was coded.

7. Codes for States and Foreign Countries

Code	State or Foreign Country
001	Alabama
002	Alaska
004	Arizona
005	Arkansas
006	California
008	Colorado
009	Connecticut
010	Delaware
011	District of Columbia
012	Florida
013	Georgia
015	Hawaii
016	Idaho
017	Illinois
018	Indiana
019	Iowa
020	Kansas
021	Kentucky
022	Louisiana
023	Maine
024	Maryland

Codes for States and Foreign Countries (continued)

Code	State or Foreign Country
025	Massachusetts
026	Michigan
027	Minnesota
028	Mississippi
029	Missouri
030	Montana
031	Nebraska
032	Nevada
033	New Hampshire
034	New Jersey
035	New Mexico
036	New York
037	North Carolina
038	North Dakota
039	Ohio
040	Oklahoma
041	Oregon
042	Pennsylvania
044	Rhode Island
045	South Carolina
046	South Dakota
047	Tennessee
048	Texas
049	Utah
050	Vermont
051	Virginia
053	Washington
054	West Virginia
055	Wisconsin
056	Wyoming
060	American Samoa
093	Canada
061	Canal Zone
062	Canton and Enderbury Islands
091	Central America
095	Costa Rica
063	Cuba
064	Dominican Republic
065	El Salvador
062	Enderbury Islands
087	Germany
066	Guam
068	Guatemala
069	Haiti
088	Honduras
070	Jamaica
090	Japan
067	Johnston Atoll
080	Mexico
071	Midway Islands
081	Nicaragua
096	Palestine
097	Austria
098	Lebanon
099	Chile
100	Philippines

Codes for States and Foreign Countries (continued)

Code	State or Foreign Country
101	Brazil
102	Holland
103	Colombia
082	Panama
072	Puerto Rico
092	Saudi Arabia
083	Spain
094	Taiwan
089	Turkey
084	Uruguay
085	Venezuela
073	Ryukyu Islands, Southern
074	Swan Islands
075	Trust Territories of the Pacific Islands (includes Caroline, Mariana and Marshall Island groups)
076	U. S. miscellaneous Caribbean Islands (includes Navassa Islands, Quito Sueno Bank, Roncador Cay, Serrana Bank and Serranilla Bank)
077	U. S. miscellaneous Pacific Islands (includes Kingman Reef, Howland, Baker & Jarvis Islands, and Palmyra Atoll)
086	United States
078	Virgin Islands
079	Wake Island
104	Azores
105	Peru
106	England
107	Vietnam
108	Italy
109	Ecuador
110	North America
111	Surinam
112	Argentina
113	Portugal
114	Trinidad
115	Egypt
116	Sudan
117	British Honduras
118	China
888	Blank but applicable

8. National origin recode

In the HHANES, if any household member was identified as "Hispanic" (as defined below), all household members, regardless of origin, were eligible to be selected as sample persons. The national origin recode specifies whether a sample person is considered to be "Hispanic" or "not Hispanic" for purposes of analysis. "Hispanic" is defined as:

Mexican-American residing in selected counties of Texas, Colorado, New Mexico, Arizona, and California;
 Cuban-American, residing in Dade County (Miami), Florida; or
 Puerto Rican, residing in the New York City area, including parts of New Jersey and Connecticut.

The recode was assigned as follows:

A. Southwest portion

- 1) If the original national origin or ancestry code on the Household Screener Questionnaire was 1, 2, 3, 8, 10, or 11, then National origin recode = 1;
- 2) If national origin or ancestry was 4, 5, 6, 7, 9, or 0 but the person specified Mexican/Mexicano, Chicano, or Mexican-American self-identification on the Adult Sample Person Questionnaire (question M10), or the person was the biological child of a household member with Recode equal to 1 (as determined by questions A-1/A-11 on the Family Questionnaire), then National origin recode = 1;
- 3) In all other cases, National origin recode = 2.

B. Dade County, Florida portion

- 1) If the original national origin or ancestry code was 6 or 7, then National origin recode = 1;
- 2) In all other cases, National origin recode = 2;

C. New York City area portion

- 1) If the original national origin or ancestry code was 4 or 5, then National origin recode = 1;
- 2) If national origin or ancestry was 1, 2, 3, 6, 7, 8, 9, or 0 but the person specified Boricuan or Puerto Rican self-identification on the Adult Sample Person Questionnaire (question M10), or the person was the biological child of a household member with Recode equal to 1 (as determined by questions A-1/A-11 on the Family Questionnaire), then National origin recode = 1;
- 3) In all other cases, National origin recode = 2;

The national origin recode may be used in analysis in one of two ways:

- a. Selecting on Recode = 1 will restrict analysis to "Hispanics" only. In this case, in the Southwest portion of the survey, the weighted estimates by age and sex will approximately equal U.S. Bureau of Census population estimates of the number of Mexican Americans and a small proportion of other Hispanics assumed to be Hispano in the five Southwest States (Arizona, California, Colorado, New Mexico, and Texas) at the midpoint of the Mexican-American portion of HHANES - March 1983. The weighted estimates of Cuban Americans represents an independent estimate of the number of Cuban Americans in Dade County at the midpoint, February 1984. The weighted estimates of Puerto Ricans represents an independent estimate of the number of Puerto Ricans in the sample counties in New York, New Jersey, and Connecticut at the midpoint of the Puerto Rican portion - September 1984.

- b. Using Recode greater than 0, that is, all sample persons, will include "Hispanic" and "not Hispanic" persons and the Southwest weighted estimates by age and sex will overestimate the U.S. Bureau of the Census population estimates of Mexican Americans and other Hispanics by about 4.5 percent. In Dade County, using recode greater than 0 will increase the weighted estimates by about 5.3 percent over that for Cuban Americans only, using recode greater than 0 for the New York area will increase the weighted estimates by about 9.2 percent over that for Puerto Ricans only.

9. Industry and Occupation Code

Family Questionnaire questions B-12 through B-15 (see page 117 or 139 of Ref. No. 1 in Section C) identified sample persons 17 years old or older who were in the labor force working for pay at a job or business or who worked without pay in a family business or farm operated by a related member of the household without receiving wages or salary for work performed.

Questions B-17 through B-22 provided a full description of sample persons' current or most recent job or business. The detail asked for in these questions was necessary to properly and accurately code each occupation and industry. Interviewers were trained to define a job as a definite arrangement for regular work for pay every week or every month. This included arrangements for either regular part-time or regular full-time work. If a sample person was absent from his or her regular job, worked at more than one job, was on layoff from a job or was looking for work during the two week reference period, interviewers were trained to use the following criteria to determine the job described:

- a. If a sample person worked at more than one job during the two week reference period or operated a farm or business and also worked for someone else, the job at which he or she worked the most hours was described. If the sample person worked the same number of hours at all jobs, the job at which he or she had been employed the longest was entered. If the sample person was employed at all jobs the same length of time, the job the sample person considered the main job was entered.
- b. If a sample person was absent from his or her regular job all of the two week reference period, but worked temporarily at another job, the job at which the sample person actually worked was described, not the job from which he or she was absent.
- c. If a sample person had a job but did not work at all during the two week reference period, the job he or she held was described.
- d. If a sample person was on layoff during the two week reference period, the job from which he or she was laid off, regardless of whether a full-time or part-time job, was described.
- e. If a sample person was looking for work or waiting to begin a new job within 30 days of the interview, the last full-time civilian job which lasted two consecutive weeks or more was described.

The 1980 census of population Alphabetical Index of Industries and Occupations was used in the coding of both industry and occupation. This book has Library of Congress Number 80-18360, and is for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 for \$3.00. Its Stock Number is 003024049-2.

10. Health Insurance

- a. In the Health Insurance section of the Family Questionnaire, up to three separate health insurance plans could be reported for a family. Each sample person could have been covered by any combination of the three, or by none at all. In order to simplify the health insurance coverage data, the information on all reported plans was combined to a single variable for each sample person, i.e., whether or not the person is covered by any plan (position 74). For all persons covered by at least one plan, information on the type of coverage is then indicated: position 75 specifies whether any of the sample person's plans pays hospital expenses and position 76 specifies whether any of the sample person's plans pays doctor's or surgeon's bills.
- b. For all sample persons who were not covered by Medicare or any health insurance plan, the reasons for not being covered were ascertained. Positions 77-78 contain the main or only reason reported. For persons with one or more additional reasons, the first (lowest) code entered on the questionnaire was coded in positions 79-80.

11. Per Capita Income

Per capita income was computed by dividing the total combined family income by the number of people in the family.

12. Poverty Index

The poverty index is a ratio of two components. The numerator is the midpoint of the income bracket reported for each family in the Family Questionnaire (E-11). Respondents were asked to report total combined family income during the 12 months preceding the interview. The denominator is a poverty threshold which varied with the number of persons in the family, the adult/child composition of the family, the age of the reference person, and the month and the year in which the family was interviewed.

(Note 12 continues on next page)

Poverty thresholds published in Bureau of the Census reports* are based on calendar years and were adjusted to reflect differences caused by inflation between calendar years and 12 month income reference periods to which question E-11 referred. Average Consumer Price Indexes for all Urban Consumers (CPI-U) for the calendar year for which the poverty thresholds were published (see table below) and for the 12 months representing the income reference period for the respondent were calculated. The percentage difference between these two numbers represents the inflation between these two periods and was applied to the poverty threshold appropriate for the family (based on the characteristics listed above). For example, for a family interviewed in November, 1983, the 1982 poverty threshold was updated to reflect inflation by multiplying by the percent change in the average CPI-U for the 12 month reference period, which would have been November, 1982 through October, 1983, over the calendar year January through December, 1982, in this example. To compute poverty indexes, the midpoint of the total combined family income bracket was divided by the updated poverty threshold.

Average Consumer Price Index, all Urban consumers (CPI-U),
U. S. city average, 1981-84

Month	Year			
	1981	1982	1983	1984
January	260.5	282.5	293.1	305.2
February	263.2	283.4	293.2	306.6
March	265.1	283.1	293.4	307.3
April	266.8	284.3	295.5	308.8
May	269.0	287.1	297.1	309.7
June	271.3	290.6	298.1	310.7
July	274.4	292.2	299.3	311.7
August	276.5	292.8	300.3	313.0
September	279.3	293.3	301.8	
October	279.9	294.1	302.6	
November	280.7	293.6	303.1	
December	281.5	292.4	303.5	
Average	272.4	289.1	298.4	

Source: U.S. Department of Labor, Bureau of Labor
Statistics

* U.S. Bureau of the Census, Current Population Reports, Series P-60, No. 138, "Characteristics of the Population Below the Poverty Level: 1981", U.S. Government Printing Office, Washington, D.C., March 1983.

U.S. Bureau of the Census, Current Population Reports, Series P-60, No. 144, "Characteristics of the Population Below the Poverty Level: 1982", U.S. Government Printing Office, Washington, D.C., March 1984.

Members of families with incomes equal to or greater than poverty thresholds have poverty indexes equal to or greater than 1.0 and can be described as "at or above poverty"; those with incomes less than the poverty threshold have indexes less than 1.0 and can be described as "below poverty".

Poverty thresholds used were computed on a national basis only. No attempt was made to adjust these thresholds for regional, State, or other variations in the cost of living. None of the noncash public welfare benefits such as food stamp bonuses were included in the income of the low income families receiving these benefits.

13. Size of Place and SMSA

Codes for size of place and SMSA were obtained from Bureau of Census summary tape files (STF1B).

A place is a concentration of population. Most places are incorporated as cities, towns, villages or boroughs, but others are defined by the Bureau of the Census around definite residential nuclei with dense, city-type street patterns, with, ideally, at least 1,000 persons per square mile. The boundaries of Census defined places may not coincide with civil divisions.

A Standard Metropolitan Statistical Area (SMSA) is a large population nucleus and nearby communities which have a high degree of economic and social integration with that nucleus. Generally, an SMSA includes one or more central cities, all urbanized areas around the city or cities, and the remainder of the county or counties in which the urbanized areas are located. SMSAs are designated by the Office of Management and Budget.

The same place size and SMSA codes were assigned to all persons in the same segment (for the definition of segments see Ref. No. 1 in Section C). In a few cases segments were divided by place boundaries. In these cases codes were assigned after inspecting segment maps. If the segment was predominantly in one place, then the place code for that place was used. If the segment was approximately evenly divided, the code for the larger place was used.

14. Home Heating

Questions E-3 through E-6, pertaining to the main fuel and equipment used for heating the home, appear to have codes which are inconsistent. It has been verified that these are the codes that were recorded on the original document; that is, codes that appear inconsistent were not incorrectly keyed.

15. Ability to Read Blackboard from Back of Room

D1, D11: For some individuals there is an inconsistency between D1 and D11. These were persons who were reported to have never had trouble seeing with one or both eyes when not wearing glasses or contact lenses but were reported as being unable to read the blackboard from the back of the classroom. These records were looked up on microfilm and verified and not changed.

16. Use of Glasses or Contact Lenses

D6: Sunglasses, safety glasses or other kinds of lenses that were used for purposes other than improving or correcting vision were not included.

17. Responses specified in open-ended response categories

Some of the "other" or "specify" responses to this question were recoded to existing categories, if possible. For responses that could not be recoded, new code categories were created if the information was deemed analytically useful. Caution should be used in interpreting the data from these new categories because there is no way of knowing which other respondents would have selected one of the new categories if given the option.

18. Vision Test

D13: This includes any test in which the child was asked to read numbers or letters from a chart or through a machine. It may or may not have included a complete eye examination or have been part of a general check-up.

No change was made to correct an inconsistency between the demographic age and the length of time since the vision was tested.

19. Adult Sample Person Questionnaire Data Missing

In a few instances, data are not available from the ASPQ form because of technical problems such as lost questionnaires, incorrect forms administered, or forms filled out so inadequately that data were later judged to be unreliable. For these two cases, tape positions 426-444 are all blanks.

20. Multiple Responses

D7, D8: The interviewer was instructed to mark all responses that apply. As a result, each respondent may have more than one answer to this question.

21. Blank Records

In this field a "1" indicates respondents who were included in the sample, but did not receive a physical exam. Although positions 446-479 are blank, demographic data are available for these respondents.

22. Eye

The blank code has one of two meanings:

- 1) the respondent did not undergo a physical exam and consequently all fields 446-479 are blank (see note 21); or
- 2) the eye was present.

23. Fundus

The fundus was not visualized either due to physical reasons or lack of patient cooperation.

24. Vision Exam Missing

Not all sample persons who came to the mobile examination center to participate in the examination phase of the survey were given a vision examination. Reasons for noninclusion in the examination included insufficient time for the examination, child crying or misbehaving, and sample person having to leave. This data field contains code = '1' for those persons who did not have a vision examination, and code = '2' for those who were given a vision examination.

25. Vision Exam Not Applicable

As explained in Section B, not all examinees were eligible for selected portions of the vision examination. Contact lens wearers were not tested without correction (VTF 107, 117, 118, 119, 120). Examinees who had no corrective lenses, and those who forgot to bring them to the examination center, could not be tested with correction (VTF 113, 121, 122, 123, 124). These data fields were coded "000" for "Not applicable."

26. Distance Visual Acuity Range of Testing

Distance visual acuity was tested to 20/400 in the first 13 stands and to 20/200 in subsequent stands. For comparability, distance visual acuity equal to or poorer than 20/200 was recoded to 20/200 for all stands.

Form PHS 5214 7
9 8 82

Vision Test Examination Form

OMB No. 0937-0078
Approval Expires 12/84

Department of Health and Human Services
Public Health Service
Office of Health Research, Statistics, and Technology
National Center for Health Statistics

NOTICE — Information contained on this form which would permit identification of any individual or establishment has been collected with a guarantee that it will be held in strict confidence, will be used only for purposes stated for this study, and will not be disclosed or released to others without the consent of the individual or the establishment in accordance with section 308(d) of the Public Health Service Act (42 USC 242m).

VISION TEST (507)
(AGES 6 - 74 YEARS)

HISPANIC HEALTH AND NUTRITION EXAMINATION SURVEY

a. Age — — Yrs.	b. Sex <input type="checkbox"/> M <input type="checkbox"/> F	c. Examiner No. (102) — — —
--------------------	--	--------------------------------

CHECK ITEM A: (101) Sloan Letters Used
2 Landolt Rings Used

I. DISTANCE VISION

CHECK (105) Wears glasses for test
ITEM B: 2 Wears contact lenses for test
3 Forgot (glasses, contact lenses)
4 Does not wear either glasses or contact lenses for distance vision

VISUAL ACUITY

Both eyes without correction (106) 20/ — — —

START HERE IF SAMPLE NUMBER IS ODD:

2. Left eye with correction if worn (109) 20/ — — —

START HERE IF SAMPLE NUMBER IS EVEN:

3. Right eye with correction if worn (111) 20/ — — —

4. Both eyes with correction (113) 20/ — — —

(continued)

II. BINOCULAR VISION

Test using Random Dot E with both eyes and with glasses/contact lenses (if examinee wears glasses/contact lenses).

Distance cm	Pass/Fail	
50 cm	(119) 1 <input type="checkbox"/> P	2 <input type="checkbox"/> F
100 cm	(119) 1 <input type="checkbox"/> P	2 <input type="checkbox"/> F

III. NEAR VISION

- CHECK ITEM C:
- (116) 1 Wears glasses for test
 - 2 Wears contact lenses for test
 - 3 Forgot (glasses, contact lenses)
 - 4 Does not wear either glasses or contact lenses for near vision

VISUAL ACUITY

	30 cm	40 cm	50 cm	60 cm
1. Both eyes without correction	(117) 20/— — —	(118) 20/— — —	(119) 20/— — —	(120) 20/— — —
2. Both eyes with correction	(121) 20/— — —	(122) 20/— — —	(123) 20/— — —	(124) 20/— — —

Appendix 2

VISION EXAMINATION EQUIPMENT AND PROCEDURES

Chapters 1, 2, 3, 4B and 5 are excerpted from Instruction Manual Part 15d, Dental Examiner's Manual for the Hispanic Health and Nutrition Examination Survey, 1982-84. Hyattsville, Maryland, 1986. Note that the referenced figures were unavailable for reproduction. However, they can be obtained upon request at the address given at the front of this documentation.

Chapter 1

INTRODUCTION

Immediately after the dental examination is completed, the dentist will administer the vision test to those scheduled to get it and record the findings of the test on the vision test form. The dentist will then edit the form for consistency and completeness. She/he will also fill out the vision section of the Report of Findings I.

The vision test form is a two-page form consisting of three sections. The top of the first page of the form contains space for identifying information about the SP such as age and sex. The SP number will be stamped at the bottom of each page of the form. In most cases the Coordinator will have filled in Items a and b at the top of page one; however, if this has not been done, the dentist will have to fill in these items. Items a and b can be obtained from the Control Record. The dentist must record his/her examiner's number in Item c. Check Item A indicates whether Sloan Letters Vision Charts or Landolt Ring Vision Charts have been used for the exam. Sloan Letters Charts contain alphabetic characters and should be used for literate SPs. Landolt Ring Charts contain symbols and are used with illiterate SPs. Check the Sample Person Questionnaire (Medical History) to determine whether the SP is literate. Remember, some people will say they can read when they cannot. This is especially true for young children. If you begin the exam using the Sloan Letters and find the SP can't read, you will have to switch to the Landolt Ring Charts. Review of medical histories should be done before the arrival of the SPs for the session. The physician will have the questionnaires. Be sure to check the appropriate box in Check Item A.

The vision test parts should be done in the following order. First, test near vision, then test binocularity of vision, and finally test far vision. This order is important for two reasons. It minimizes the amount the SP has to move around the dental room, which is very small, and it minimizes the changes in lighting in the room to which the SP's eyes must adjust.

Before beginning the vision exam, explain to the SP that you are going to be testing her/his vision for reading, seeing distances and focusing. Explain that the tests will take about ten minutes.

Chapter 2

NEAR VISION TEST

General

The near vision test involves determining visual acuity at up to four fixed distances from 30 to 60 centimeters by having the SP read lines of letters on the Sloan or Landolt charts for near vision. The near vision test will be administered to all examinees ages 6-19 years and half the examinees ages 20-74 (those not in the glucose tolerance test subsample).

Equipment

In order to perform the near vision test you will need the following equipment:

- Sloan letters acuity card for near vision
- Landolt rings acuity card for near vision
- Near vision test bar

Before discussing the procedures for administering the test, it is important for the examiner to familiarize herself/himself with the equipment. The near vision test bar is about 65 centimeters long with distances marked along its side. It also has a sliding metal frame which holds the near vision test card. There is a chin rest at one end of the bar. The SP places his/her chin against this rest. When positioning the bar, make sure the SP's eyes are on a vertical line with the zero mark on the distance bar. Also, remember to have the SP place one hand on the bar to prevent the slide from moving and hitting him/her. The bar provides a means of conducting the test at standard distances.

The near vision test card contains the letters to be read by the SP. Notice the distances listed along the left hand column of the card. Also note the distance equivalents in terms of visual acuity on the right side of the card.

The first four lines of the card (lines 620 through 310) have between five and ten letters in sequence across the card. If the SP reads these lines she/he should try to read the entire line. The next three lines, 250-160, also have ten letters but have a break in the middle. The entire line should also be read if these lines are attempted by the SP. The remainder of the card, lines 125 through 30, consists of 3 columns of five letters. If an SP is being tested without correction, she/he should start on the left side of the card and read the first ten letters (columns 1 and 2) on the line. If the SP is being tested with correction, she/he should read the second 10 letters on the line (columns 2 and 3). This prevents the SP from memorizing the letters the first time through.

Finally, look at the near vision test recording form. Check Item C at the top of the form contains information that will be used in analysis about whether or not the SP wears glasses. We are only interested in glasses or contact lenses worn to improve near vision in this part of the vision test. If the SP wears glasses for near vision for the test, check the appropriate box on the form.

The near vision form is actually divided into two main sections. Line number one of the form contains space to record test results without correction. The next line contains space to record test results with corrective lenses worn. The layout of the form is similar for both sections. There are four spaces to record visual acuity at four different distance readings on the near vision test bar.

Before the Test

1. Make sure the lights in the dental room are turned on for the near vision exam.
2. Have the examinee get in a comfortable position for administering the test. She/he should be seated on the dental chair.
3. Ask the examinee whether she/he wears glasses or contact lenses for near vision. Mark the response in the appropriate answer box on the near vision form.
4. Explain to the examinee that the purpose of the test is to see how good her/his eyesight is for reading letters. Tell her/him to do her/his best in reading each letter on a given line, and even if she/he cannot identify all of the letters, she/he should read the ones that she/he can.
5. If an SP wears glasses for near vision, test her/him with and without correction. Test without correction first. Ask the SP to remove her/his glasses for this first part of the test. (If an SP wears contact lenses, she/he should not remove them. If the contacts are for near vision, the SP will only be tested once rather than twice.) Once the SP has been tested without correction, ask her/him to put on her/his glasses. Repeat the test with corrective lenses. If the SP is being tested without correction, you would record the results on the line marked "Both eyes without correction." If the SP is being tested with correction, you would fill out the second line of the form.

Administering the Test

1. Place the test card at a distance of 40 centimeters by moving the metal slide on the near vision test bar (NVTB) to the 40 mark. Ask the SP to rest her/his chin against the chin rest and hold the NVTB with one hand.
2. Start the test by asking the SP to read the 20/20 line on the card.
 - a. Situation A, SP reads line correctly

If the SP reads the line with 3 or fewer errors, she/he has read the line correctly. The SP is allowed to make a specified number of errors in reading a line and still is considered to have read the line correctly. Next ask the SP to try to read the 20/16 line (one line down). This will determine whether the SP's near vision acuity is better than 20/20. If the SP can read this line, record this on the near vision test recording form in the column headed 40 cm. If she/he fails to read the 20/16 line correctly, then her/his visual acuity is 20/20. Record this on the recording form. If the SP can read the 20/20 line (or better) at 40 centimeters, go on to test the SP with correction, if appropriate. If the SP does not wear corrective lenses, or had to be tested only with corrective lenses (wears contacts for near vision), the near vision test is completed with the SP.

b. Situation B, SP cannot read line correctly

If the SP cannot read the 20/20 line at 40 centimeters, point to the 20/30 line (2 lines up) and ask the SP to read it. If the SP reads this correctly (getting all letters correct or within the acceptable number of errors), move down one line to see if the SP's near vision acuity is better than 20/30 but not as good as 20/20. If the SP fails to read the 20/30 line correctly, move up 2 more lines to the 20/50 line and repeat the process. Record the smallest line read correctly at 40 centimeters on the data form in the column headed 40 cm. For example, if an SP fails the 20/20 line and the 20/30 line, but reads the 20/50 line, you would ask him/her to read the 20/40 line. If the SP reads this line correctly, this would be recorded on the form.

3. Data are recorded on the recording form by locating, across the top of the form, the distance from the SP the card is being held. Thus far, we have been talking about 40 centimeters. This is the second column in this section. Simply write in the visual acuity on the first line for both eyes without correction. Use lead zeros if necessary. For example, if the SP's visual acuity is 20/40, it should be recorded as 20/040. If the SP's visual acuity is 20/100, no lead zero is necessary.
4. All SPs who cannot read the 20/20 line at 40 centimeters will also be tested at 60, 50, and 30 centimeters. Begin by moving the metal slide out to 60 centimeters. Ask the SP to read the 20/20 line. Follow the procedures for administering and recording the test at 40 centimeters. Repeat for 50, 30 centimeters.
5. Once the SP has been tested without correction, repeat the test with correction (wearing glasses). Begin at 40 centimeters and follow the procedures outlined above.

Chapter 3

RANDOM DOT E TEST

Purpose

The Random Dot E (RDE) is used to test for binocularity of vision. It is particularly useful for determining the presence of amblyopia and for measuring stereoacuity thresholds, although it produces underestimates of actual thresholds. All SPs who are eligible for the vision exam will be given the RDE Test.

Materials

In order to perform the RDE Test, you will need to use the following materials:

- Polarized glasses
- Random Dot E test card with an E in stereo depth
- Stereo blank card with no E, just a dotted background
- A Model E card to be used during the explanation of the test
- A dark shade that can be pulled down behind the SP to prevent glare on the surface of the cards.

Introduction to the Test

To better understand what is involved in the use of the RDE, put on the polarized glasses and view the RDE card which is labeled on the back with "RAISED" toward one edge of the card and "RECESSED" upside-down toward the opposite edge of the card.

The cards are called stereograms. It is important to hold the stereogram so that the long sides of the card are horizontal and the word "RAISED" is at the top of the card. If the long sides of the card are held vertically, the E may not be seen. If you have normal stereopsis, you will see the letter E in stereo depth on the card. The E should appear to be raised up off the test card. If you rotate the RDE card, so the word "RECESSED" is at the top, the E will appear to sink into the background, making an E shaped hole. During test administration, the RDE card should only be used with the word "RAISED" at the top of the card.

Now look at the card labeled "STEREO BLANK" through the polarized glasses. No E is seen, only the dotted background. To understand how the test would work for someone who has a problem with binocular vision, hold the RDE and STEREO BLANK cards side by side. Look at them through the polarized glasses while you close one eye. The E should disappear and both cards will look the same.

Instructions for Administering the RDE Test

1. Turn on the lights in the dental exam room for the test. Pull down the dark shade on the wall behind the SP. This will prevent any glare or light reflections on the card. The SP should be sitting on the dental chair.
2. Place the polarized glasses on the SP. If the SP wears prescription glasses, do not have her/him remove them for the test. If you are testing a child who is hesitant about putting on the glasses because she/he doesn't wear glasses, try creating a game. Tell her/him that they are "like sunglasses", or "special or magic glasses" and that she/he has to wear them to see magic pictures. Make sure the glasses are back on the SPs nose. If they slip forward, binocular vision may be impaired. Similarly, the SP should keep her/his head straight as tilting to one side will also interfere with the test.
3. Explain the test to the SP and let her/him practice until you are sure she/he understands. Hold the Model E card up to the SP and ask the SP what the figure is. If the SP cannot name it, tell her/him that it is an E and ask if she/he can see it. Hold the RDE card next to the STEREO BLANK card and ask the SP to tell you which card has the E. If the SP cannot tell you which card has the E, repeat the explanation process, put the cards behind your back and hold them out of sight (underneath the back of the dental chair is a good place) and shuffle them. Ask the SP to tell you on which card the E is this time. Once the SP understands the process continue with the test. Some SPs may not be completely literate. We have found that children sometimes have trouble naming the letter. If the SP appears to have a problem, simply tell her/him to indicate with her/his hand which card contains the E or to tell you on which card the three-legged table appears.
4. Perform the RDE test at two distances from the SP, 50 and 100 centimeters. In order to standardize the distance, we will be placing tape marks on the dental chair or on the wall to show you where to hold the cards from a fixed place on the dental chair. Ask the SP to sit back against the far arm of the chair with her/his back touching the counter in the dental room so that she/he is in the correct position. Check to see that the chair is in the correct position on the floor. There will be tape marks on the floor as guides. Hold the RDE and STEREO BLANK cards side by side at about 50 centimeters from the SP and ask on which card the E appears. Shuffle the cards as described above. Show the cards to the SP and ask again where the E is located.
5. Repeat this process two more times at 50 centimeters. The SP should be tested four times at each distance so you can identify guessing. Once the process has been understood, the answer should be correct every time if the SP has normal binocular vision.
6. Now hold the cards out at the 100 centimeter mark from the SP. Perform the test at that distance 4 times. Remember to shuffle the cards out of sight between each test administration. When you shuffle the cards, be careful not to use any consistent pattern since the SP may learn the pattern quickly and guess the correct answer.

Recording the Results

The space for recording the results of the binocular vision (RDE) test can be found on page 2 of the vision test form. You will record whether the SP passed or failed the test at 50 and 100 centimeters. In order to pass, the SP must answer correctly all 4 times at a particular distance. If she/he answers incorrectly even one time at a specified distance, she/he has failed the test at that distance. Simply place a check in the appropriate box. Only one box may be checked for each distance.

Criteria for Referral

If the SP cannot distinguish the E in the RDE card at all or if she/he can only see it when the card is 50 centimeters or closer, the SP should be referred to an eye doctor for further testing. Use the procedure described in Chapter 5 for this process.

Chapter 4 A

The Distance Vision Test

NOTE: This chapter documents the distance vision test procedures and equipment for the first 13 stand locations of the Mexican-American portion of the survey.

Introduction

The distance vision test determines visual acuity at a fixed distance of either one or four meters by having the SP read lines of either the Sloan Letters or Landolt Rings charts. The distance vision test is administered to all SPs ages 6-74 years.

Materials and Equipment

You will need the following materials to perform the distance vision exam.

- o Illuminated wall charts with Sloan Letters (SL) I and II, wall charts with Landolt Rings (LR)
- o Distance vision recording form
- o Eye cover (paddle)
- o A dark shade that can be pulled down over the window

The illuminated wall charts which the SPs will read during the distance vision test are located in two places in the dental room. Chart I, the chart that will be used the most, is located on the wall (Wall A) to the left as one enters the room. Chart II is located on the wall (Wall D) which separates the room from the hallway, (the inside wall) next to the door. See Exhibit 4-1. Chart I is viewed at a distance of four meters. Chart II is viewed at a distance of one meter. Exhibit 4-2 depicts Chart II, the one meter chart. Chart I is similar, only viewed at a farther distance.

The recording form for distance vision has space to record visual acuity for four categories, (1) both eyes without correction, (2) the left eye with correction (if applicable), (3) the right eye with correction and (4) both eyes with correction (See Exhibit 4-11). Within each of these four categories, the distance vision recording form is divided into two parts. The left side of the form is used for recording when the SP reads Chart II, the one meter chart. The right side of the form is used when the SP reads Chart I, the four meter chart. The right and left sides of the form are completed in the same way. If the SP reads Chart I, there is no need to have her/him read Chart II, and the left side of the form will be blank. The letters in column one on the recording form correspond to the letters on the charts. Column two on the form lists the visual acuity, for example, 20/400, 20/320, 20/240. Column three on the form lists the acceptable number of errors for the line. For example, if the SP were reading the one meter chart - line three (SRDVC OZKNH) she/he could read the line with three errors and still read the line "correctly" since line three allows three errors. Column four on the form provides boxes for you to check the smallest line the SP reads correctly (within the acceptable number of errors). The boxes are preceded by codes that will be used when the data are computerized. You need not concern yourself with them.

Eye covers (paddles) are to be used when testing the right and left eyes separately. The SP uses the paddle to cover the eye not being tested. It is important to remind each SP not to push against his/her eye with the paddle. This will temporarily blur her/his vision in the covered eye.

Before Conducting the Distance Vision Exam

- o Have the SP sit on the dentist's stool. Notice that there are marks on the far wall (Wall B, Exhibit 4-1) of the dental exam room towards the left corner. The stool should be positioned between these marks. You will also notice that there is a mark on the wall indicating about where the top of the SPs head should be. You will need to raise or lower the examining stool so that the SP is at the correct height.
- o The SP will be facing the mirror located above the sink on wall C. Chart I will be behind the SP on wall A. The SP will read the reflection of the letters in Chart I in the mirror, not the chart itself. This arrangement provides the distance needed for this test.
- o Chart II will be to the right of the SP on wall D. If the SP needs to read this chart, she/he will actually read the chart, not a reflection.
- o Determine whether you should be using the Sloan Letters (SP literate) or Landolt Rings (SP illiterate). Generally, you should keep the Sloan Letters Charts in the light box since you will be using these the most. If the SP is illiterate, slide the Sloan Chart out of the light box and replace them with the Landolt Rings Charts.
- o Turn off the lights in the dental exam room and pull the shade down over the window.
- o Turn the light on in Charts box.
- o Ask the SP if she/he wears glasses for distance vision. If she/he does and has them available for the test, check #1 in Check Item B on the form. If the SP wears contact lenses for distance vision, check #2. You would not ask the SP to remove her/his contacts for the test. You would only test the SP with corrective lenses in this case.

Procedures for Conducting the Distance Vision Exam

- o The distance vision exam should be conducted in the following order:
 - For SPs with glasses
Both eyes uncorrected
Each eye (separately) corrected
Both eyes corrected
 - For SPs without glasses/contacts
Each eye (separately-uncorrected)
Both eyes uncorrected
 - For SPs with contact lenses (for distance vision)
Each eye (separately) corrected
Both eyes corrected

- o Point to the 20/30 line on the eye Chart I and ask the SP to read it. To the left of the letters on the eye chart are three numbers. The first number tells you the visual acuity for the line at four meters. In order to calculate the acuity for a line, multiply this number by 20. The bottom line on the chart is 20/15 ($.75 \times 20$), the next line up is 20/20 (1×20), the third line up is 20/24 (1.2×20), and so on. Notice when you get to 20/40 (lines five and six from the bottom) the SP must read two lines. This is true for the remainder of the chart, except for the top line. The number of acceptable errors is based on the number of letters in the line. For the 20/40 through 20/80 lines, this is two lines of five letters each. Consequently, it is important for the SP to attempt all the appropriate letters for the line.
- o If the SP reads the 20/30 line correctly (within the acceptable number of errors) have her/him read down successive lines on the chart until she/he fails to read a line correctly. The acuity for the smallest line read correctly should be recorded. For example, if the SP reads the 20/30 line correctly, the 20/24 line and the 20/20 line but fails to read the 20/15 line, you would record 20/20 as the SP's visual acuity.
- o If the SP initially fails to read the 20/30 line correctly, point to the 20/60 line and have her/him try to read it. If she/he reads that line correctly, move down successive lines until the SP fails to read a line correctly. Record the visual acuity for the smallest line read correctly. If she/he cannot read the 20/60 line, have her/him try the 20/100 line. If she/he can read the 20/100 line move down until the SP fails to read a line correctly and record the visual acuity for smallest line read correctly. After recording acuity, move on to test the right or left eye. If the SP cannot read the 20/100 line or reads the 20/100 but not the 20/80 line correctly, go to the one meter chart.
- o The one meter chart is the same as the four meter chart except the letters appear in a different order on each line. Also, the difference in distance viewed changes the acuity readings for each line. In order to calculate the acuity for a line, take the number that appears in the third column of numbers to the left of the letters and multiply by 20. For example, the visual acuity for the bottom line at one meter is 20/60 (20×3). If the SP must switch to the one meter chart, the right side of the distance vision form will be blank and you will record on the left side.
- o If the SP reads the 20/100 line on the one meter chart correctly, have him/her move down a line. Record the acuity for the smallest line read correctly.
- o If the SP cannot read the 20/100 line, have her/him try to read the 20/100 line on the one meter chart. Repeat the process until you determine the smallest line which can be read correctly and record the acuity for that line.

- o Recording--You will record the same way whether you are using the one meter or four meter chart. Once you have determined the smallest line the SP can read correctly, find this on the recording form. You can use either the first column on the form, the column showing the letters as they appear on the chart, or column 2, the acuity level (20/20, 20/60, etc.) to identify the appropriate line on the recording form. Once you identify the line, place a check () in the box in column 4 across from the appropriate letters or acuity level. You should have only one mark on the section of the form for recording acuity for both eyes (uncorrected), one mark for the left eye, one for the right eye and one for both eyes (corrected). As you administer the test, place a horizontal line through any letters or groups of letters that the SP misses or does not attempt. Also draw a horizontal line directly below the smallest line attempted.
- o After testing both eyes without correction, test the right and left eyes separately with correction, if applicable. The right and left eyes should be tested separately regardless of whether the SP wears corrective lenses. Ask the SP to put her/his glasses back on. If the SP's number is odd, begin with the left eye, if it is even, begin with the right eye. Alternating whether the SP begins with the right or left eye is important since the SP will be learning the order of the letters each time she/he reads them. Alternating insures that the reported acuity in one or the other eye will not systematically be better. Follow the testing and recording procedures described above.
- o Finally, test both the SP's eyes with corrective lenses, if applicable. Use the same testing and recording procedures described above. If the SP does not wear corrective lenses, the distance vision testing is completed.
- o Exhibit 4-3 is an example of how to record the following test results for SP number 34622:
 - Both eyes - without correction - 20/24
 - Errors in 20/30 line - C,D
 - Errors in 20/24 line - C,O,D
 - Errors in 20/20 line - O,S,D,C

Editing the Form

Near vision section

- o Check to see that Check Item C is completed.
- o If 1 is checked in Check Item C, both the right and left side of the form should be completed.
- o If 2 is checked in Check Item C, only the right side of the form should be checked.
- o If 3 or 4 is checked in check Item C, only the left side of the form should be completed.

- o Check each line with acuity recorded. The acceptable number of errors should equal the number of letters with horizontal lines through them.
- o If 40 centimeter distance = 20/20 or better, no other checkmarks should appear on the form.
- o If 40 centimeters = 20/25 or worse, results should also be recorded for 30,50, and 60 centimeters.

Random Dot E Test (Binocular Vision)

- o Check to see that only one box is marked for each distance.

Distance Vision Test

- o Check to see that a, b, and c at the top of the form is completed.
- o Make sure Check Items A and B are completed.
- o If 1 is checked in Check Item B, acuity should be recorded for both eyes, with and without correction and for the right and left eye with correction.
- o If 2 is checked, acuity should be recorded for both eyes with correction, right and left eye with correction.
- o If 3 or 4 is checked, acuity should be recorded for both eyes without correction, right and left eye without correction.
- o Within the recording tables, either the one meter or four meter chart should be used. Only one acuity should be recorded.
- o Check the line with acuity recorded, the acceptable number of errors should equal the number of letters with horizontal lines through them.

Chapter 4 B

DISTANCE VISION TEST

NOTE: This chapter documents the distance vision test procedures and equipment for the total survey with the exception of the first 13 stand locations of the Mexican-American portion of the survey.

Introduction

The distance vision test determines visual acuity at a fixed distance of 4 meters by having the SP read lines of either the Sloan Letters or Landolt Rings Charts. The distance vision test is administered to all examinees ages 6-19 years and half the examinees ages 20-74 years (those not in the glucose tolerance test subsample).

Materials and Equipment

You will need the following materials to perform the distance vision exam.

Illuminated wall charts with Sloan Letters (SL) I, II, and III; wall charts with Landolt Rings (LR) I, II, and III; and wall charts with Sloan Letters reversed (SLR) I, II, and III

Eye cover (paddle)

Dark shade that can be pulled down over the window

Usually when vision is tested, individuals move closer or farther away to read the far vision test charts. However, the exam room in the Medical Examination Center does not have enough space to allow SPs to move the appropriate distances from the chart. Consequently, charts with different size letters will be used at a fixed distance, 4 meters. This should approximate having the SP move closer or farther from the charts.

The Sloan Letters Reversed (SLR) Charts are the primary measurement device. As in the case of near vision testing, the Landolt Rings Charts are used with illiterate respondents. Both the SLR and Landolt Rings Charts are used with the light box. The Sloan Letters Charts (SL) are used with a small subsample of the SPs in an experiment designed to examine the effect of using the mirror on the visual acuity data. The experiment, which will be conducted in the x-ray room, is discussed in more detail at the end of this section.

Each set of charts consists of three separate pages (charts), for example, SLR I, II, and III. Begin the test with SLR I. This chart will test visual acuity up to 20/100. If the respondent has to read the 20/100 line on this chart, you will have to remove SLR I from the light box and replace it in the light box with SLR II. The letters on this chart are bigger than those on SLR I. This chart tests visual acuity up to 20/160. SLR III tests acuity at 20/200 and must be slipped into the light box if the SP cannot read SLR II. If the SP can read the SLR I, there is no need to have her/him read SLR II or III. The illuminated wall charts which the SPs will read during the distance vision test are located in two places in the dental exam room. SLR I, the chart that will be used the most, is located on the wall to the left as one enters the room. SLR II and III, as well as LR I, II and III

are located in a packet in the dental room. SL I is also in the x-ray room vision chart box and SL II and III and located in a packet in the x-ray room. All charts are viewed at a distance of four meters either as a linear distance or via a mirror.

The recording form for distance vision has space to record visual acuity for four categories, (1) both eyes without correction, (2) the left eye with correction (if applicable), (3) the right eye with correction (if applicable), and (4) both eyes with correction. The form provides space to enter the visual acuity, for example, 20/200, 20/100, 20/60, depending on the smallest line the SP can read given the allowable number of errors. The allowable number of errors an SP can make and still read the line correctly is determined by the number of letters in the line. Each line (which may consist of one or two rows on the chart) has either 6, 8, or 10 letters. If there are 10 letters, the SP is allowed 3 errors. If there are 8 letters, the SP is allowed 2 errors and with 6 letters the SP is allowed 1 error. For example, if the SP were reading SL I, line 3 (SRDVC OZKNH), she/he could make 3 errors and still read the line "correctly" since line 3 allows 3 errors. The lines on the data form are preceded by codes that will be used when the data are computerized. You need not concern yourself with them.

Eye covers (paddles) are to be used when testing the right and left eye separately. The SP uses the paddle to cover the eye not being tested. It is important to remind each SP not to push against her/his eye with the paddle. This will temporarily blur his/her vision in the covered eye.

Before Conducting the Distance Vision Test

1. Have the SP sit on the dentist's stool. Notice that there are marks on the far wall of the dental exam room towards the left corner. The stool should be positioned between these marks. You will also notice that there is a mark on the wall indicating about where the top of the SP's head should be. You will need to raise or lower the examining stool so that the SP is at the correct height.
2. The SP will be facing the mirror located above the sink. SLR I will be on the wall behind the SP. The SP will read the reflection of the letters in the mirror, not on the chart itself. This arrangement provides the distance needed for this test.
3. SLR II and III and LR I, II, and III are to be read in the same manner as SLR I.
4. Determine whether you should be using the Sloan Letters (SP literate) or Landolt Rings (SP illiterate). Generally, you should keep SLR I in the light box since you will be using it the most. If the SP is illiterate, slide the Sloan Chart out of the light box and replace it with LR I.
5. Turn off the lights in the dental exam room and pull the shade down over the window.
6. Turn the light on in the chart box.
7. Ask the SP if she/he wears glasses for distance vision. If she/he does and has them available for the test, check Box 1 in Check Item B on the form. If the SP wears contact lenses for distance vision, check Box 2. You would not ask the SP to remove his/her contacts for the test. You would only test the SP with corrective lenses in this case.

Procedures for Conducting the Distance Vision Test

1. The distance vision exam should be conducted in the following order:
 - a. For SPs with glasses
Both eyes uncorrected
Each eye (separately) corrected
Both eyes corrected
 - b. For SPs without glasses or contact lenses
Each eye (separately-uncorrected)
Both eyes (uncorrected)
 - c. For SPs with contact lenses (for distance vision)
Each eye (separately) corrected
Both eyes corrected
2. Point to the 20/30 line on SLR I and ask the SP to read it. To the left of the letters on the eye chart are three numbers. The first number tells you the visual acuity for that line at 4 meters. In order to calculate the acuity for a line, multiply this number by 20. The bottom line on the chart is 20/15 (.75 x 20), the next line up is 20/20 (1 x 20), the third line up is 20/24 (1.2 x 20), and so on. The other two numbers that precede the lines of letters are used to calculate visual acuity at other distances. Since we will only be using one distance, 4 meters, these other numbers should be disregarded. Notice when you get to 20/40 (lines 5 and 6 from the bottom) the SP must read 2 lines. This is true for the remainder of the chart, except for the top line. If the SP fails to read the 20/80 line correctly, move to SLR II since the top line on SLR I is not a complete line. The number of acceptable errors is based on the number of letters in the line. For the 20/40 through 20/80 lines, this is two lines of five letters each. Consequently, it is important for the SP to attempt all the appropriate letters for the line.
3. If the SP reads the 20/30 line correctly (within the acceptable number of errors) have her/him read down successive lines on the chart until she/he fails to read a line correctly. The acuity for the smallest line read correctly should be recorded. For example, if the SP reads the 20/30 line correctly, the 20/24 line and the 20/20 line but fails to read the 20/15 line, you would record 20/20 as the SPs visual acuity.
4. If the SP initially fails to read the 20/30 line correctly, point to the 20/60 line and have him/her try to read it. If she/he reads that line correctly, move down successive lines until the SP fails to read a line correctly. Record the visual acuity for the smallest line read correctly. If she/he cannot read the 20/60 line, have her/him try to read the 20/80 line. If she/he can read this line correctly, move down the chart until the SP fails to read a line correctly and record visual acuity. If she/he cannot read the 20/80 line correctly, remove SLR I from the light box and replace it with SLR II. Have the respondent try the 20/100 line on SLR II. Record the visual acuity for the smallest line read correctly.
5. At no time is the top line of SLR I (20/100) considered a complete line. It has only three letters. The bottom line of SLR II must be used to test 20/100 vision.

6. Notice that each line on SLR II consists of two rows of three letters each. The visual acuity for the line at 4 meters appears to the left of the letters on the chart, 20/160, 20/120, and 20/100.
7. SLR III tests for 20/200 visual acuity. If the SP cannot read the 20/160 line (top of SLR II) have him/her try SLR III (20/200).
8. Record findings the same way no matter what charts you are using. Once you have determined the smallest line the SP can read correctly, record the correct visual acuity for the line. You should have only one entry on the line of the form for recording acuity for both eyes (uncorrected), one entry for the left eye, one for the right eye and one for both eyes (corrected). Record the values by right-justifying the entries: that is, use a zero in the first space when vision is better than 20/100, e.g. "20/020". If a line is not used, for example, when the SP is wearing contact lenses there is no value in the first line, fill in the spaces with zeroes. This also applies when the SP does not wear corrective lenses and the bottom line is not used.
9. The right and left eyes should be tested separately regardless of whether the SP wears corrective lenses. If the SP's number is odd, begin with the left eye, if it is even, begin with the right eye. Alternating whether the SP begins with the right or left eye is important since the SP will be learning the order of the letters each time she/he reads them. Alternating insures that the reported acuity in one or the other eye will not systematically be better. Follow the testing and recording procedures described above.
10. Finally, test both the SP's eyes with corrective lenses, if applicable or uncorrected for persons who do not wear glasses. Use the same testing and recording procedures described above.
11. Use the same testing and recording procedures for the SL and Landolt Ring Charts as for the SLR charts.

Conducting the Distance Vision Experiment

The procedure involving the use of a mirror to approximate the 4-meter distance needed to conduct the vision exam was designed by NCHS staff in conjunction with representatives from the American Association of Optometrists. The accuracy of the procedure has not been tested. Consequently NCHS is interested in conducting an experiment to determine whether or not the use of the mirror distorts vision and thus effects visual acuity in any way.

The experiment will be conducted in the x-ray room. A light box will be placed in the room and the floor will be marked off at 4 meters. The Sloan Letters (SL) or Landolt Ring (LR) Charts will be used to conduct this test.

One person who is eligible for the vision test will be randomly selected from each exam session to participate in the distance vision experiment. After SPs have arrived at the Medical Examination Center take the daily list of SPs and number all eligible SPs. Use the random number table to randomly select an SP. The random number table is made up of rows and columns of numbers ordered randomly on the page. Enter the table randomly as discussed in training and identify the entry point.

Your start point will be a one-digit number if fewer than ten SPs are eligible, or a two-digit number if ten or more SPs are eligible. Move vertically down the table number by number until you hit a number that represents an eligible respondent. This SP will participate in the vision test experiment.

Conduct the regular vision exam first. The SP should participate in at least one other exam component before the distance vision experiment is conducted. The experiment will need to be coordinated with the x-ray techs since the x-ray room will be in use. The SP should stand at the 4 meter line and attempt to read the SL I (or Landolt I) chart. The procedures for testing distance vision, using the chart and recording visual acuity are the same as those described for the SLR charts used in the regular vision exam. If the SP cannot read the SL I (or Landolt I) chart, replace it in the light box with the SL II (or Landolt II) chart. Use the SL III (or Landolt III) chart the same way. Always begin with Chart I even if the SP needed to read Chart II or III during the regular exam.

Record the results for the distance experiment on a second vision exam form. Be sure to mark the top of the distance vision experiment form.

Chapter 5

OTHER RESPONSIBILITIES

Editing the Form

1. Near vision section
 - a. Check to see that Check Item C is completed.
 - b. If 1 is checked in Check Item C, be sure both lines 1 and 2 are completed.
 - c. If 2 is checked in Check Item C, be sure only line 2 is completed.
 - d. If 3 or 4 is checked in Check Item C, be sure only line 1 is completed.
 - e. If vision at the 40-centimeter distance is 20/20 or better, be sure no other entries appear in this section.
 - f. If at 40 centimeters, vision is 20/25 or worse, see that results are also recorded for 30, 50, and 60 centimeters.
2. Random Dot E test (binocular vision)

Check to see that only one box is marked for each distance.
3. Distance vision section
 - a. Check to see that a, b, and c at the top of the form are completed.
 - b. Make sure Check Items A and B are completed.
 - c. If Box 1 is checked in Check Item B, be sure acuity is recorded for both eyes, with and without correction, and for the right and left eye with correction.
 - d. If 2 is checked, be sure acuity is recorded for both eyes with correction, and right and left eye with correction.
 - e. If 3 or 4 is checked, be sure acuity is recorded for both eyes without correction, right and left eye without correction.
 - f. Check to see that for each of the four entry lines, an entry exists. If the SP did not wear glasses, zero-fill the space marked both eyes with correction. If the SP wore contact lenses, zero-fill the space marked both eyes without correction.
 - g. Check to see that all entries are righthand justified using a zero to fill in the entry when the acuity is better than 20/100, for example, 20/80.

Using the Landolt Ring Charts

Landolt Ring Charts (symbols) are used to test illiterate SPs. Use these charts in exactly the same way you use the Sloan Letter Charts. Use the Landolt Rings to test near and distance vision; they are not applicable for testing binocular vision. The Landolt Ring Charts contain the symbol "C" instead of letters.

There are four types of rings, those with the opening pointing left, and those with the opening pointing right, up and down. The rings are randomly ordered on each line on the charts for distance and near vision testing.

To use the Landolt Rings you will need to have the SP look at the Landolt Charts instead of those with the Sloan Letters. Using the "mask" you will screen out all the symbols except the one you want the SP to "read". Simply ask the SP to point in the direction the opening of the ring is pointing. You will have to let the SP practice once or twice in order for her/him to become familiar with the procedure. Use the recording form and determine visual acuity exactly the same way you would if the Sloan Letters are used.

Completing the Report of Findings

After conducting the vision test, fill in the sections of the Report of Findings that apply. Record acuity for the right eye and left eye separately. Check whether the test results were obtained with the SP wearing corrective lenses or not.

Next complete the section of the form for near vision test results. Report results for acuity at 40 centimeters distance only, corrected if applicable.

Referral

The Report of Findings which contains information about the results of the near and far vision tests will be sent to the SPs health care provider 4 to 6 weeks after the exam. Furthermore, the physician will report any conditions of the eye on the Report of Findings that she/he observes. The physician will also be referring SPs who require eye care within 4 weeks of the exam using special referral procedures. Consequently, it is unnecessary for you to refer any SPs who have near or distance vision disorders for eye care. The only exception to this is if an SP does not pass the Random Dot E Test and has a problem with binocular vision. In that case, you should notify the physician of the problem and ask him/her to prepare a Type II Referral Letter which describes the problem and asks the SPs regular care giver to refer the SP to a local ophthalmologist.

Unusual Situations

If the SP is blind in both eyes, write this on the top of the vision exam form and return it to the Coordinator.

If the SP is blind in one eye, but has vision in the other, place a large X through the sections of the form that are inappropriate but administer the tests for near and far vision for the eye with sight, following the instructions that pertain to the test.

Completing the Dental/Vision Log and Control Record

As you may recall, you are required to complete the required information in the Dental/Vision Log for both the dental and vision exams. Fill in your initials under vision test form for each completed exam and your initials under Report of Physical Findings when you complete the appropriate section of the report form. If you do not conduct the vision exam on a SP or a problem arises during the exam, document this in the comments column.

You will also need to fill in the time in and out and your initials on the Control Record.

Appendix 3

Spectacle Readings Equipment and Procedures

Purpose

There were two objectives in collecting the lensmeter data during the Cuban-American and Puerto Rican portions of the survey. First, the lensmeter data could be used to validate the acuity data at near and at distance. Second, the lensmeter data could also be used to determine the prevalence of myopia, hyperopia, and astigmatism for those people wearing glasses and achieving 20/20 acuity.

Materials

The following was used to perform the lensmeter test:

TOPCON Digital Projection Lensmeter, Model LM-P5.

Procedure

Immediately after the other three portions of the vision exam were completed, the dentist administered the lensmeter test to all examinees with glasses. Glasses were placed into the lensmeter machine and a digital display indicated the power of the lenses. The dentists had to turn dials to focus images and then record the data from the lensmeter display screen onto the Spectacle Reading recording form (see Appendix 1). The data was recorded for the sphere, cylinder and axis of the lenses.

Training and Monitoring

A manual was provided to the dentists to practice and understand the use of the lensmeter test. The HHANES vision examination consultant, Dr. John Whitener of the American Optometric Association, made a field site visit to make sure the dentist-examiners were administering the test properly.