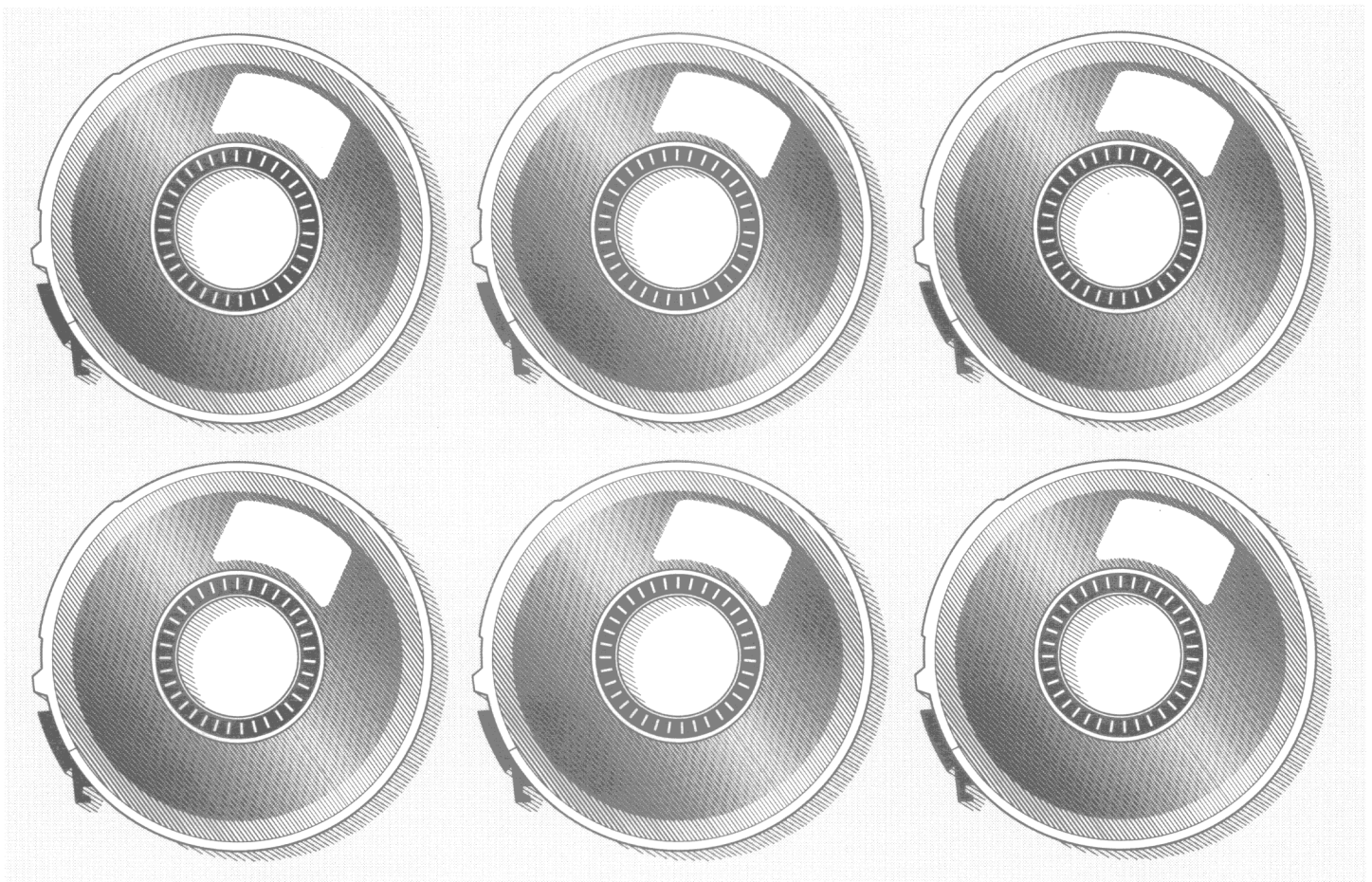


Public Use Data Tape Documentation

Diabetes and OGTT Data, Ages 20 - 74 Years
Tape Number 6506

Version 1, Hispanic Health and Nutrition Examination Survey, 1982-84



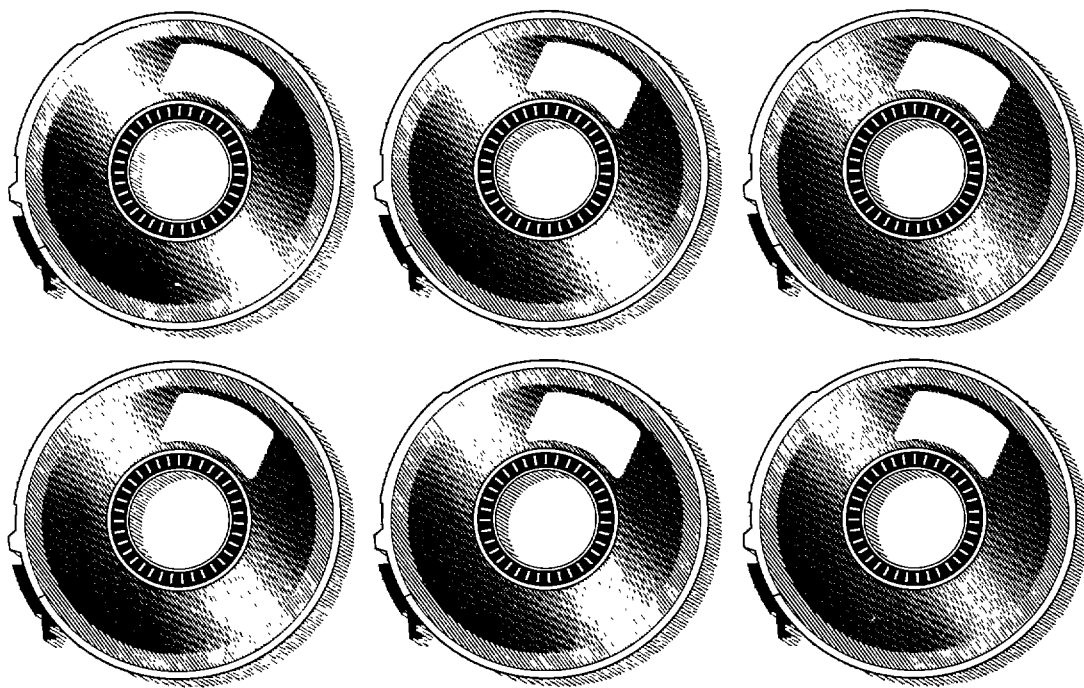
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Centers for Disease Control

CDC
CENTERS FOR DISEASE CONTROL

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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
Reprinted May 1992

Hispanic Health and Nutrition Examination Survey

Mexican Americans
Cuban Americans
Puerto Ricans

Tape Number 6506

DIABETES AND OGTT DATA

Ages 20 Years - 74 Years

Version 1

August 1988

The Hispanic Health and Nutrition Examination Survey (HHANES) was conducted from July 1982 through December 1984. The following information shows the total number of persons ages 6 months to 74 years sampled, interviewed and examined in each of the 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 data on the tape documented here are for all examined persons ages 20 years to 74 years.

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.DU650601
Data set organization: Physical sequential
Record format: Fixed block
Record length: 600
Block size: 24000
Density: 6250 BPI
Number of records: 5815
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. Because the response rates to the glucose tolerance component were under 50 percent, attention to Section B regarding nonresponse bias is strongly urged.

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 (ASQP), 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
Do you have diabetes or sugar diabetes?	p	405	1.0	1.0	1.0
Have you been told by a doctor or health professional that you have borderline diabetes?	p	412	1.1	1.1	1.0
Have you been told by a doctor or health professional that you have potential diabetes?	p	415	1.0	1.0	1.0
Have you ever taken insulin injections?	p	430	1.1	1.0	1.0
Have you ever taken diabetes pills?	p	438	1.0	1.0	1.0
Plasma glucose value from first venipuncture	$\bar{x}$	517-519	1.5	1.3	1.6
Plasma glucose value from third venipuncture	$\bar{x}$	523-525	2.0	1.4	1.7
Interval between last food or drink and first venipuncture	$\bar{x}$	526-529	1.2	1.1	1.0

Source: NCHS, HHANES, 1982-84, Tape Number 6506, Version 1.

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

Variable	Mean or Proportion	Tape Positions	Both Sexes	Male	Female
Do you have diabetes or sugar diabetes?	p	405	1.1	1.0	1.1
Have you been told by a doctor or health professional that you have borderline diabetes?	p	412	1.1	1.2	*
Have you been told by a doctor or health professional that you have potential diabetes?	p	415	1.1	1.2	1.1
Have you ever taken insulin injections?	p	430	1.0	*	*
Have you ever taken diabetes pills?	p	438	1.0	*	*
Plasma glucose value from first venipuncture	$\bar{x}$	517-519	1.0	1.1	1.0
Plasma glucose value from third venipuncture	$\bar{x}$	523-525	1.1	1.3	1.0
Interval between last food or drink and first venipuncture	$\bar{x}$	526-529	1.0	1.0	1.0

Source: NCHS, HHANES, 1982-84, Tape Number 6506, Version 1.

*These are samples of variables where the number of sample persons with a positive response was too small to calculate reliable age-sex specific population estimates, variances of those estimates, and average design effects. For this data tape, there may be many variables (e.g., questions asked only of diabetics) where this is the case.

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

Variable	Mean or Proportion	Tape Positions	Both Sexes	Male	Female
Do you have diabetes or sugar diabetes?	p	405	1.0	1.3	1.2
Have you been told by a doctor or health professional that you have borderline diabetes?	p	412	1.1	*	1.2
Have you been told by a doctor or health professional that you have potential diabetes?	p	415	1.5	1.8	1.0
Have you ever taken insulin injections?	p	430	1.0	*	*
Have you ever taken diabetes pills?	p	438	1.0	*	*
Plasma glucose value from first venipuncture	$\bar{x}$	517-519	1.1	1.1	1.0
Plasma glucose value from third venipuncture	$\bar{x}$	523-525	1.5	1.3	1.3
Interval between last food or drink and first venipuncture	$\bar{x}$	526-529	1.2	1.2	1.0

Source: NCHS, HHANES, 1982-84, Tape Number 6506, Version 1.

*These are samples of variables where the number of sample persons with a positive response was too small to calculate reliable age-sex specific population estimates, variances of those estimates, and average design effects. For this data tape, there may be many variables (e.g., questions asked only of diabetics) where this is the case.

Suppose, for example, that of the 177 Puerto Rican females ages 45-54 years, 11.7 percent reported that they have diabetes or sugar diabetes. Suppose, also, that their mean plasma glucose value at third venipuncture was 134.5.

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,

$$V = \frac{(.117) (.883)}{177}$$

= .00058 = variance for a simple random sample

Then, multiplying by the design effect,

$$= (.00058) (1.2)$$

= .0007 = estimated variance for the complex sample

In a similar way, the complex sample variance of the mean plasma glucose at the third venipuncture is determined by multiplying the simple random sample variance of the mean by the appropriate design effect -- in this example, 1.3.

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

General 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. These interview schedules were administered in sample persons' households. Data presented in Sections L and M were collected in the mobile examination center. Completed interview schedules were reviewed in the Survey's field offices and again at 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 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.

For the adult sample person questionnaires there are three codes for missing information: 7's, 8's, and blanks. In a few questions, 7's were used when the question was not applicable. A code "8", which is labeled as "blank but applicable", is used to indicate that a sample person should have a data value for a particular item but for varying reasons that value is unavailable. Blanks were used to follow skip patterns, i.e., when a question was not supposed to be asked or was not applicable. The "don't know" codes (9, 99, 999) were used only when given as a printed response on the original questionnaire.

Copies of the questionnaires, both in English and in Spanish, can be found in the plan and operation report for HHANES (Ref. No. 1). Detailed information on interviewing procedures is contained in the household interviewer's manual (Ref. No. 12) and the mobile examination center interviewer's manual (Ref. No. 13). These manuals are available upon request from:

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OGTT Procedures and Bias Analysis

The oral glucose tolerance test (OGTT) was administered to a subsample of adults aged 20-74 years who are referred to as the fasting subsample. This subsample was selected by assigning alternative sample persons aged 20-74 years to a one-half subsample who were asked to fast overnight, to attend the examination center in the morning, and, with the exception of diabetics using insulin, to submit to an OGTT. There were 2554 Mexican-Americans, 782 Cuban-Americans, and 979 Puerto Ricans aged 20-74 years in the fasting subsamples.

Oral glucose tolerance tests were administered to this subsample according to the National Diabetes Data Group's (NDDG) recommendations (Ref. No. 14), which require the following: subjects must fast overnight for 10-16 hours; OGTT's are performed in the morning; a fasting blood sample is taken; subjects drink flavored water containing 75 grams of glucose or carbohydrate equivalent; additional blood samples are taken after one hour and two hours. This procedure was utilized in the second National Health and Nutrition Examination Survey (NHANES II), 1976-1980, and has been described in more detail in Ref. No. 15. In that survey, OGTT's that conformed to the NDDG's requirements were obtainable from only 43 percent of persons in the OGTT subsample.

As shown in Table A, the response rates to the OGTT in the HHANES were also low: 39.6 percent for Mexican-American adults, 27.1 percent for Cuban-American adults, and 27.8 percent for Puerto Rican adults in the adult fasting subsample. A large proportion of the non-response occurred from refusals for the overall interview and examination and not the OGTT per se. One should also examine the response rates among the adults in the fasting subsample who were eligible for the OGTT (interviewed, examined, and not a diabetic on insulin). Using the latter as the denominator, the response rates to the OGTT were 58.1 percent (1012/1741), 47.4 percent (212/447), and 42.0 percent (272/647) in the Mexican-American, Cuban-American, and Puerto Rican samples, respectively. The low response rates were primarily explained by failure to meet the examination requirements to fast before the exam and failure to attend the examination center in the morning hours. Although the initial fasting requirements were between 10 and 16 hours before the exam, we extended those limits to 9 and 17 hours for analysis purposes.

In the previous analysis of the non-response to the OGTT in NHANES II, several checks were made to detect non-response bias in the OGTT results (Ref. No. 14). Using the previous approach as a model, we took the following steps to evaluate potential bias from the high non-response to the OGTT:

1. Convened a distinguished panel of experts to advise the Center on the acceptability of the OGTT data, the NCHS Diabetes Working Group. See Table B for names and affiliations.
2. Compared frequency distributions on several demographic, socioeconomic, and medical variables from the completed OGTT sample persons with the entire interviewed sample, the entire examined sample, and the non-completed OGTT sample. These variables are shown in Table C.
3. Computed statistical tests for differences between the completed OGTT sample and the non-completed OGTT sample for the variables examined in Table C.

4. Evaluated some possible effects of non-response on the prevalence estimates of diabetes in the OGTT examined group by computing and comparing observed and expected rates of diabetes and impaired glucose tolerance. The criteria for these diagnoses are shown in Table D. The expected rates were the rates one would expect in the entire OGTT sample if all eligible persons had taken the test. These were computed, using the direct method of standardization, by multiplying the prevalence rates of diabetes for each group of demographic or medical variables in the completed OGTT sample times the population distribution of the entire OGTT sample in each subgroup of the variables examined. Expected rates of diabetes were then computed by adding the rates for each subgroup. An example is shown below:

For the Mexican-American sample, the prevalence rates of the World Health Organization (WHO) diabetes by age times proportion of each age group in entire OGTT sample is:

20 - 44 years, .0215 (prev. rate) X .628 (proportion in OGTT sample) = .0135

45 - 74 years, .1404 (prev. rate) X .372 (proportion in OGTT sample) = +.0522
.0657

Expected rate of diabetes taking age of or 6.57%
 OGTT sample into account

6.57% is similar to the observed rate of diabetes in the OGTT-completed sample (6.79%). (Note: This is not the true rate of diabetes (diagnosed and undiagnosed) in the Mexican-American sample since self-reported diabetics on insulin were not included in the OGTT sample.

5. The observed rates of diabetes were divided by the expected rates of diabetes (O/E) for each demographic and medical variable noted above. If O/E was > 1.1 or $< .9$, the variable was said to be biased. In other words, bias was said to be detected if the rates observed in the completed OGTT sample were 10 percent higher or lower relative to the expected rates based on the entire OGTT sample.

The results of the above analyses were unremarkable. For the Mexican-American sample, there were no significant differences on any of the variables shown in Table C between the completed OGTT and non-completed OGTT sample persons. Likewise, the O/E ratios for WHO diabetes and WHO IGT were all within the limits of acceptability set by the NCHS Diabetes Working Group.

In the Cuban-American analyses, there was only one variable with a significant difference. The completed OGTT sample was more likely to have non-smokers (56.5%) than the non-completed sample (45.3%). Because this effect could have resulted from age, the analyses were rerun controlling for age (45+) and the variables noted in Table C. No significant differences were observed between the completed and non-completed OGTT samples, and all O/E ratios for WHO diabetes and WHO IGT were within the acceptable limits.

For the Puerto Rican analyses, the completed OGTT sample was older (50.0 vs 38.8% over age 45 responding) and in fair or poor self-reported health (54.8 vs 47.8%, respectively) than the non-completed sample. Since there were only two persons with diabetes in the 20-44 age group, the analyses were rerun for persons 45-74 years, wherein the health status difference disappeared. One additional variable appeared as different in this age group when examining O/E ratios; wearing glasses or contacts (greater proportion in completed OGTT sample). However, the statistical test was deemed invalid because of a zero cell. All the diagnosed diabetics in the completed sample wore glasses, thus, no diabetics were free of glasses. Likewise, education became important for IGT in the O/E analysis because all the sample persons diagnosed with IGT were lower educated (less than high school). In summary, there was no discernible bias in the observed rates of WHO diabetes or WHO IGT in the Puerto Rican sample, after taking age and small sample sizes into account.

We should note one final word of caution. There may have been some other variable, not collected in HHANES, that affected the completion rate for the OGTT and that could bias the diabetes rates. For example, in the NHANES II survey (Ref. No. 15), participation in the OGTT was higher among persons with a parent who had had diabetes as compared to those persons who had no parental history of diabetes. Since this question was not asked in HHANES, we cannot say whether or not this factor caused selection bias. We do know, however, that this variable was found to cause a difference of only .4% in the diabetes prevalence estimates for the persons in NHANES II - making it unlikely to affect estimates computed for HHANES (Ref. No. 15) in a major way. Researchers should carefully evaluate the potential nonresponse bias for any analyses they perform with these data.

TABLE A
Response Rates for OGTT

Response Category	<u>Mexican-Americans</u>		<u>Cuban-Americans</u>		<u>Puerto Ricans</u>	
	Number	% of Total	Number	% of Total	Number	% of Total
Total Adult Fasting Sample	2554	100.0	782	100.0	979	100.0
Interviewed Sample	2120	83.0	595	76.1	842	86.0
Examined Sample	1777	69.6	449	57.4	667	68.1
Examined but ineligible for OGTT because of current insulin use	22		2		20	
Three plasma glucose values obtained	1012	39.6	212	27.1	27.2	27.8

TABLE B

Names and affiliations of NCHS panel convened to evaluate HHANES OGTT data:

Name	Affiliation
Maureen I. Harris, Ph.D.	National Diabetes Data Group NIDDK, National Institutes of Health Bethesda, Maryland
Rumaldo Juarez, Ph.D.	Department of Sociology and Social Work Pan American University Edinburg, Texas
William C. Knowler, M.D., Dr.P.H.	Epidemiology and Field Studies Branch NIDDK, National Institutes of Health Phoenix, Arizona
Eliseo J. Perez-Stable, M.D.	Division of General Internal Medicine Department of Medicine University of California San Francisco, California
Michael P. Stern, M.D.	Division of Clinical Epidemiology Department of Medicine University of Texas Health Science Center San Antonio, Texas
National Center for Health Statistics Staff from the Division of Health Examination Statistics	
Trena M. Ezzati, M.S.	Survey Planning and Development Branch
Katherine M. Flegal, Ph.D.	Medical Statistics Branch
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TABLE C
Variables Examined in the HHANES OGTT Bias Analysis

Type of Variable	Variable Name	Questionnaire or Examination*
Sociodemographic	Age	HSQ
	Sex	FQ
	Generation	ASPQ
	Marital Status	FQ
	Education	FQ
	Poverty Index	FQ
	Literacy	ASPQ
	Acculturation (for Mexican-Americans only)	ASPQ
Life-Style Characteristics	Overweight	Anthropometric Exam
	Current Smoker	ASPQ
	Ever Smoked	ASPQ
Health Care	Ever had Routine Exam	ASPQ
	Have a Usual Place of Health Care	ASPQ
	Had Health Care in Previous Years	ASPQ
	Has Health Insurance	ASPQ
	Last Visit to Usual Place of Care	ASPQ
	Last Visit to Any Place of Care	ASPQ
	Wears Glasses or Contacts	ASPQ
Health Status or Conditions	Self-reported Health Status	ASPQ
	Doctor or Health Professional Diagnosed Borderline, Potential, or Pre-diabetes	ASPQ
	Doctor or Health Professional Diagnosed Hypertension	ASPQ
	On Medication for Hypertension	ASPQ
	Doctor ever told:	
	Rheumatic Fever	ASPQ
	Rheumatic Heart Disease	ASPQ
	Heart Murmur	ASPQ
	Heart Failure	ASPQ
	Heart Attack	ASPQ
	Kidney Problems	ASPQ
	Glaucoma	ASPQ
	Cataracts	ASPQ

*HSQ = Household Screener Questionnaire
 FQ = Family Questionnaire
 ASPQ = Adult Sample Person Questionnaire

TABLE D

World Health Organization criteria used to define diabetes or impaired glucose tolerance using results from the OGTT

Fasting and 2-hour Plasma Glucose Concentrations	Diagnosis
Fasting, 140 mg/dl or more	Diabetes
Fasting, less than 140 mg/dl:	
2 hour, 200 mg/dl or more	Diabetes
2 hour, 140-199 mg/dl	Impaired Glucose Tolerance
2 hour, less than 140 mg/dl	Normal

SECTION C. REFERENCES

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15. National Center for Health Statistics: Hadden, W.C. and Harris, M.I.: Prevalence of Diagnosed Diabetes, Undiagnosed Diabetes, and Impaired Glucose Tolerance in Adults. Vital and Health Statistics. Series II, No. 237. DHHS Pub. No. (PHS) 87-1687. Public Health Service. Washington. U. S. Government Printing Office, Feb. 1987.

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
106-108	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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ADULT HISTORY DATA (DIABETES) (SECTION K)

405	Self-Reported Diabetes
406-407	Source of Diabetes Diagnosis
408-411	Age of Diabetes Onset
412-420	Self-reported Borderline, Potential, and Prediabetes
422-424	Tests for Diabetes
425-426	Hospitalization for Diabetes
427-429	Weight at Diagnosis
430-437	Insulin Treatment
438-443	Diabetes Pills
444-445	Diet for Diabetes
446	Identification
447-448	Last and Annual Health Visits

GLUCOSE CHALLENGE QUESTIONNAIRE DATA (SECTION L)

450-453	Tape Number
454	In Fasting Subsample
455	OGTT Completion Status
456-457	Reason for Incomplete OGTT
458	Second Visit Status
459-460	Reason for Second Visit
461-462	On Diabetes Medication
463-467	Last Meal
468-473	Last Anything to Eat
474-479	Last Anything to Drink
480-496	Second Visit Information

PLASMA GLUCOSE VALUES AND COMPUTED TIME INTERVALS (SECTION M)

500-503	Time of First Venipuncture
504-507	Time Glucola Given
508-511	Time of Second Venipuncture
512-515	Time of Third Venipuncture
516	Time Generated
517-525	Plasma Glucose Values
526-569	Computed Time Intervals

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

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	3555 - - -	- 907 -	- - 1353	
6-12	Blank				
13	Portion of survey 1 Mexican-American (M) 2 Cuban-American (C) 3 Puerto Rican (P)	3555 - -	- 907 -	- - 1353	
14	Family Questionnaire missing 1 Yes 2 No	10 3545	4 903	5 1348	See Note 1
15	Version number 1	3555	907	1353	
16	Examination status 1 Examined 2 Not examined	3555 0	907 0	1353 0	See Note 2
17	Language of interview (Pos. 1-400) 1 English 2 Spanish Blank	2127 1418 10	157 746 4	561 787 5	FQ
18-19 20-21	Date of interview 01-12 Month 82-84 Year	3555 3555	907 907	1353 1353	HSQ 4
22-23 24-25	Date of examination From survey control record 01-12 Month 82-84 Year	3555 3555	907 907	1353 1353	
26-27 28-29	Date of birth 01-12 Month 88 Blank but applicable 08-64 Year 88 Blank but applicable	3555 0 3555 0	907 0 907 0	1353 0 1353 0	HSQ 2e
30-31	Age at interview (computed) 20-74 (See next column for units)	3555	907	1353	
32	Age at interview units 1 Years	3555	907	1353	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	20-75 Years	3555	907	1353	
35-36	00-11 Months	3555	907	1353	
37-38	00-30 Days	3555	907	1353	
39-43	Family number				See Note 3
	00002-03527	3555	-	-	
	04005-04922	-	907	-	
	07003-03584	-	-	1353	
44-45	What is sample person's relationship to head of family? Sample person is:				HSQ 2b See Note 4
	01 Head of family living alone (1 family with only 1 member)	143	56	113	
	02 Head of family, with no related persons in household (2+ persons in household)	70	23	23	
	03 Head of family, with related persons in household	1566	368	674	
	04 Wife of head (husband living at home and not in Armed Forces)	1264	297	290	
	05 Wife of head (husband living at home and is in Armed Forces)	5	0	0	
	06 Husband of head (wife living at home and not in Armed Forces)	35	12	37	
	07 Husband of head (wife living at home and is in Armed Forces)	0	0	0	
	08 Child of head or head's spouse	277	76	126	
	09 Grandchild of head or head's spouse	7	0	3	
	10 Parent of head or head's spouse	57	35	33	
	11 Other relative (includes ex-spouse, daughter-in-law, etc.)	131	40	54	
	12 Foster child	0	0	0	
46	Sex				FQ B-4
	1 Male	1572	393	498	
	2 Female	1983	514	855	
47	Observed race				FQ B-5 See Note 5
	1 White	3446	870	1220	
	2 Black	30	13	62	
	3 Other	6	2	27	
	8 Blank but applicable	41	12	28	
	9 Not observed	22	6	11	
	Blank	10	4	5	
48-49	Sample person's national origin or ancestry.				HSQ 2c See Note 6
	01 Mexican/Mexicano	940	1	1	
	02 Mexican-American	2230	0	0	
	03 Chicano	46	0	0	
	04 Puerto Rican	7	3	1202	
	05 Boricuan	0	0	15	
	06 Cuban	3	796	14	
	07 Cuban-American	0	69	0	
	08 Hispano - specify	61	10	20	
	09 Other Latin-American or other Spanish - specify	25	16	25	
	00 Other - specify	217	12	76	
	10 Spanish-American	13	0	0	
	11 Spanish (Spain)	13	0	0	

Position	Item description and code	M	Counts C	P	Source and notes
50-52	In what state or foreign country was sample person born?				FQ B-6
	001-115 State/country code	3528	900	1324	
	888 Blank but applicable	17	3	24	
	Blank	10	4	5	
53	National origin recode				See Note 8
	"Hispanic" = Mexican-American in Southwest, Cuban-American in Florida and Puerto Rican in New York City area.				
	1 "Hispanic"	3326	865	1220	
	2 Not "Hispanic"	229	42	133	
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	141	6	23	
	01-08 Elementary grade	1312	342	435	
	09-12 High school grade	1442	292	666	
	13-16 College	536	228	195	
	17 Graduate school	69	30	14	
	88 Blank but applicable	45	5	15	
	Blank	10	4	5	
56	Did sample person finish that grade/year?				FQ B-8
	1 Yes	2779	779	1055	
	2 No	580	108	236	
	8 Blank but applicable	45	10	34	
	Blank	151	10	28	
57	Is sample person now married, widowed, divorced, separated or has he or she never been married?				FQ B-9
	1 Married - spouse in household	2539	622	647	
	2 Married - spouse not in household	68	17	53	
	3 Widowed	161	50	66	
	4 Divorced	209	92	154	
	5 Separated	149	21	147	
	6 Never married	403	100	275	
	8 Blank but applicable	16	1	6	
	Blank	10	4	5	
58	Did sample person ever serve in the Armed Forces of the United States?				FQ B-11
	1 Yes	413	27	141	
	2 No	3125	874	1198	
	8 Blank but applicable	7	2	9	
	Blank	10	4	5	
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	2028	581	566	
	2 No	1507	317	767	
	8 Blank but applicable	10	5	15	
	Blank	10	4	5	

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	44	12	21	
	2 No	1462	303	743	
	8 Blank but applicable	11	7	18	
	Blank	2038	585	571	
61	Was sample person looking for work or on layoff from a job?				FQ B-14
	1 Yes	200	39	51	
	2 No	1306	276	713	
	8 Blank but applicable	11	7	18	
	Blank	2038	585	571	
62	Which, looking for work or on layoff from a job or both?				FQ B-15
	1 Looking	131	30	35	
	2 Layoff	45	6	8	
	3 Both	22	2	7	
	Blank but applicable	13	8	19	
	Blank	3344	861	1284	
63-65	What kind of business or industry does sample person work for?				FQ B-19 See Note 9
	010-932 Industry code	2238	621	628	
	990 Blank but applicable	31	10	21	
	Blank	1286	276	704	
66-68	What kind of work was sample person doing?				FQ B-20 See Note 9
	003-889 Occupation code	2240	622	628	
	999 Blank but applicable	29	9	21	
	Blank	1286	276	704	
69	Class of worker				FQ B-22
	1 An employee of a private company, business or individual for wages, salary, or commission	1742	502	501	
	2 A Federal government employee	72	6	18	
	3 A State government employee	119	18	17	
	4 A Local government employee	163	16	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	125	66	26	
	7 Working without pay in family business or farm	1	0	0	
	8 Blank but applicable	29	10	23	
	0 Never worked or never worked at a full-time civilian job lasting 2 weeks or more	1	1	1	
	Blank	1286	276	704	
70	Is sample person now covered by Medicare?				FQ C-2
	1 Covered	258	103	109	
	2 Not covered	3279	796	1234	
	8 Blank but applicable	5	3	5	
	9 Don't know	3	1	0	
	Blank	10	4	5	

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	230	96	100	
	2 No	13	4	4	
	8 Blank but applicable	14	3	10	
	9 Don't know	6	3	0	
	Blank	3292	801	1239	
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	227	98	92	
	2 No	14	3	11	
	8 Blank but applicable	14	3	10	
	9 Don't know	8	2	1	
	Blank	3292	801	1239	
73	Type of Medicare coverage As shown on Medicare card				FQ C-5
	2 Medical	2	0	0	
	3 Card not available	3	0	1	
	4 Hospital and medical	5	3	0	
	8 Blank but applicable	14	3	10	
	Blank	3531	901	1342	
	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	2009	556	560	
	2 No	1526	343	779	
	8 Blank but applicable	6	4	9	
	9 Don't know	4	0	0	
	Blank	10	4	5	
75	Is sample person covered by a plan that pays any part of hospital expenses?				FQ C-9
	1 Yes	1979	550	525	
	2 No	3	3	4	
	8 Blank but applicable	27	7	35	
	9 Don't know	6	0	5	
	Blank	1540	347	784	
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	1982	546	523	
	2 No	9	7	17	
	8 Blank but applicable	15	7	20	
	9 Don't know	9	0	9	
	Blank	1540	347	784	

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	Main reason				
	01 Care received through Medicaid or welfare	79	14	289	
	02 Unemployed, or reasons related to unemployment	180	29	68	
	03 Can't obtain insurance because of poor health, illness, or age	17	2	9	
	04 Too expensive, can't afford health insurance	756	163	226	
	05 Dissatisfied with previous insurance	23	2	2	
	06 Don't believe in insurance	14	3	4	
	07 Have been healthy, not much sickness in the family, haven't needed health insurance	94	15	13	
	08 Military dependent, (CHAMPUS), Veteran's benefits	20	1	11	
	09 Some other reason - not specified	1	0	2	
	10 Some other reason - specified	112	19	37	
	88 Blank but applicable	49	23	29	
	Blank	2210	636	663	
79-80	Second reason				
	00 No second reason reported	1102	199	564	
	01 Care received through Medicaid or welfare	25	10	23	
	02 Unemployed, or reasons related to unemployment	46	16	12	
	03 Can't obtain insurance because of poor health, illness, or age	3	1	2	
	04 Too expensive, can't afford health insurance	81	14	56	
	05 Dissatisfied with previous insurance	8	1	2	
	06 Don't believe in insurance	7	1	1	
	07 Have been healthy, not much sickness in the family, haven't needed health insurance	21	4	3	
	08 Military dependent, (CHAMPUS), Veteran's benefits	0	0	0	
	09 Some other reason - not specified	0	0	0	
	10 Some other reason - specified	13	6	2	
	88 Blank but applicable	39	19	25	
	Blank	2210	636	663	
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	195	66	385	
	2 No	3328	832	949	
	8 Blank but applicable	22	5	14	
	9 Don't know	0	0	0	
	Blank	10	4	5	

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	198	67	403	
	2 No	3329	825	931	
	8 Blank but applicable	18	11	14	
	9 Don't know	0	0	0	
	Blank	10	4	5	
90	Status of sample person's Medicaid card?				FQ D-9
	1 Medicaid card seen - current	148	52	285	
	2 Medicaid card seen - expired	2	0	5	
	3 No card seen	43	13	103	
	4 Other card seen	0	0	0	
	5 Other card seen (specify)	3	0	1	
	8 Blank but applicable	20	13	23	
	Blank	3339	829	936	
91	Is sample person now covered by any other public assistance program that pays for health care?				FQ D-11
	1 Yes	12	2	12	
	2 No	3527	900	1331	
	8 Blank but applicable	6	1	5	
	9 Don't know	0	0	0	
	Blank	10	4	5	
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	45	2	9	
	2 No	3492	900	1335	
	8 Blank but applicable	8	1	4	
	9 Don't know	0	0	0	
	Blank	10	4	5	
93	Which does sample person receive; the Armed Forces retirement, the VA pension, or both?				FQ D-14
	1 Armed Forces	12	0	2	
	2 Veteran's Administration	24	0	5	
	3 Both	4	2	1	
	8 Blank but applicable	13	1	5	
	Blank	3502	904	1340	
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	20	2	6	
	2 No	3520	900	1340	
	8 Blank but applicable	5	1	2	
	9 Don't know	0	0	0	
	Blank	10	4	5	
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	20	1	5	
	2 No	3518	901	1336	
	8 Blank but applicable	7	1	7	
	9 Don't know	0	0	0	
	Blank	10	4	5	

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	87	15	182	
	2 No	3448	885	1153	
	8 Blank but applicable	10	2	12	
	9 Don't know	0	1	1	
	Blank	10	4	5	
97	Does sample person now receive the "Supplemental Security Income" or "SSI" gold-colored check?				FQ D-4
	1 Yes	92	43	91	
	2 No	3441	852	1247	
	8 Blank but applicable	12	8	10	
	9 Don't know	0	0	0	
	Blank	10	4	5	
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	343	20	106	
	8 Blank but applicable	29	7	30	
	Blank	3135	878	1203	
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	7	31	
	Blank	3478	898	1309	

Position	Item description and code	M	Counts C	P	Source and notes
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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	3158	764	1266	
	2 Selected as sample person, interviewed on Adult Sample Person Questionnaire, but not examined	120	32	30	
	3 Selected as sample person, not interviewed, and not examined	98	21	5	
	4 Not selected as sample person	169	86	47	
	Blank	10	4	5	
101	Blank				
	Date of birth				HSQ 2e
102-103	01-12 Month	3535	902	1352	
	88 Blank but applicable	20	5	1	
104-105	00-86, 89-99 Year	3545	904	1352	
	88 Blank but applicable	10	3	1	
106-107	Age at interview 18-95 Years	3555	907	1353	
108	Blank				
109	Sex				FQ B-4
	1 Male	2939	719	768	
	2 Female	606	184	580	
	Blank	10	4	5	
110	Observed race				FQ B-5 See Note 5
	1 White	3417	862	1218	
	2 Black	35	17	67	
	3 Other	4	2	22	
	8 Blank but applicable	54	18	29	
	9 Not observed	35	4	12	
	Blank	10	4	5	
111-112	Head of family's national origin or ancestry.				HSQ 2c See Note 6
	01 Mexican/Mexicano	948	0	2	
	02 Mexican-American	2180	0	0	
	03 Chicano	46	0	0	
	04 Puerto Rican	9	5	1198	
	05 Boricuan	0	0	14	
	06 Cuban	4	801	22	
	07 Cuban-American	0	58	0	
	08 Hispano - specify	65	14	16	
	09 Other Latin-American or other Spanish - specify	24	11	16	
	00 Other - specify	254	18	85	
	10 Spanish-American	11	0	0	
	11 Spanish (Spain)	14	0	0	

Position	Item description and code	M	Counts C	P	Source and notes
113-115	In what state or foreign country was head of family born?				FQ B-6 See Note 7
	001-113 State/country code	3509	893	1320	
	888 Blank but applicable	36	10	28	
	Blank	10	4	5	
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	138	4	17	
	01-08 Elementary grade	1406	350	482	
	09-12 High school grade	1323	256	630	
	13-16 College	515	236	175	
	17 Graduate school	88	41	24	
	88 Blank but applicable	75	16	20	
	Blank	10	4	5	
118	Did head of family finish that grade/year?				FQ B-8
	1 Yes	2733	788	1083	
	2 No	603	90	216	
	8 Blank but applicable	71	21	32	
	Blank	148	8	22	
119	Is the head of family now married, widowed, divorced, separated or has he or she never been married?				FQ B-9
	1 Married - spouse in household	2741	694	710	
	2 Married - spouse not in household	56	7	48	
	3 Widowed	179	41	70	
	4 Divorced	198	94	156	
	5 Separated	143	14	178	
	6 Never married	189	46	183	
	8 Blank but applicable	39	7	3	
	Blank	10	4	5	
120	Did head of family ever serve in the Armed Forces of the United States?				FQ B-11
	1 Yes	780	38	239	
	2 No	2730	854	1096	
	8 Blank but applicable	35	11	13	
	Blank	10	4	5	
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	2529	661	699	
	2 No	986	230	638	
	8 Blank but applicable	30	12	11	
	Blank	10	4	5	
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	52	14	15	
	2 No	934	216	623	
	8 Blank but applicable	30	12	11	
	Blank	2539	665	704	

Position	Item description and code	Counts			Source and notes
		M	C	P	
123	Was head of family looking for work or on layoff from a job?				FQ B-14
	1 Yes	220	46	54	
	2 No	766	184	583	
	8 Blank but applicable	30	12	12	
	Blank	2539	665	704	
124	Which, looking for work or on layoff from a job or both?				FQ B-15
	1 Looking	115	31	32	
	2 Layoff	63	9	10	
	3 Both	40	3	9	
	8 Blank but applicable	32	15	15	
	Blank	3305	849	1287	
125-127	What kind of business or industry does head of family work for?				FQ B-19 See Note 9
	010-932 Industry code	2769	705	752	
	990 Blank but applicable	49	15	22	
	Blank	737	187	579	
128-130	What kind of work was head of family doing?				FQ B-20 See Note 9
	003-889 Occupation code	2771	705	750	
	999 Blank but applicable	47	15	24	
	Blank	737	187	579	
131	Class of worker				FQ B-22
	1 Employee of a private company, business or individual for wages, salary, or commission	2155	543	567	
	2 A Federal government employee	98	3	24	
	3 A State government employee	118	11	29	
	4 A Local government employee	180	19	90	
	5 Self-employed in own incorporated business or professional practice	26	19	10	
	6 Self-employed in own unincorporated business, professional practice, or farm	201	108	32	
	7 Working without pay in family business or farm	0	0	0	
	8 Blank but applicable	39	17	21	
	0 Never worked or never worked at a full-time civilian job lasting 2 weeks or more	1	0	1	
	Blank	737	187	579	

Position	Item description and code	M	Counts C	P	Source and notes
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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	3555	907	1353	
134-135	Number of sample persons in family (computed) 01-13 Persons	3555	907	1353	
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, un- employment 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. 1 \$20,000 or more 2 Less than \$20,000 7 Refused information 8 Blank but applicable Blank	1195 2233 18 99 10	361 526 1 15 4	326 1000 5 17 5	FQ E-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) 01 Less than 1,000 02 1,000 - 1,999 03 2,000 - 2,999 04 3,000 - 3,999 05 4,000 - 4,999 06 5,000 - 5,999 07 6,000 - 6,999 08 7,000 - 7,999 09 8,000 - 8,999 10 9,000 - 9,999 11 10,000 - 10,999 12 11,000 - 11,999 13 12,000 - 12,999 14 13,000 - 13,999 15 14,000 - 14,999 16 15,000 - 15,999 17 16,000 - 16,999 18 17,000 - 17,999 19 18,000 - 18,999 20 19,000 - 19,999 21 20,000 - 24,999 22 25,000 - 29,999 23 30,000 - 34,999 24 35,000 - 39,999 25 40,000 - 44,999 26 45,000 - 49,999 27 50,000 and over 77 Refused information 88 Blank but applicable Blank	22 46 51 82 97 117 143 146 118 126 132 109 143 90 111 99 95 104 147 116 336 293 163 145 107 52 54 41 260 10	7 6 14 20 21 32 26 31 26 33 46 31 39 21 17 23 22 21 20 34 101 61 44 48 32 27 34 9 57 4	4 15 34 55 126 75 82 68 45 56 59 33 53 29 32 41 31 32 45 46 79 68 51 31 22 21 31 25 59 5	FQ E-11

Position	Item description and code	M	Counts C	P	Source and notes
139-143	Per capita income (computed)				See Note 11
	00083-50000 Dollars	3244	837	1264	
	88888 Blank but applicable	301	66	84	
	Blank	10	4	5	
144-146	Poverty index (computed)				See Note 12
	Decimal not shown on tape				
	0.04-9.78	3244	837	1264	
	999 Blank but applicable	301	66	84	
	Blank	10	4	5	
147	Did any member of this family receive any Government food stamps in any of the past 12 months?				FQ E-12
	1 Yes	619	149	506	
	2 No	2921	752	840	
	8 Blank but applicable	5	2	2	
	Blank	10	4	5	
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	613	149	504	
	88 Blank but applicable	11	2	4	
	Blank	2931	756	845	
150	Did this family receive any government food stamps last month?				FQ E-14
	1 Yes	502	120	481	
	2 No	116	29	25	
	8 Blank but applicable	6	2	2	
	Blank	2931	756	845	
151-152	In which month did any member of this family last receive food stamps?				FQ E-15
	01-12 Month	114	29	25	
	88 Blank but applicable	8	2	2	
	Blank	3433	876	1326	
153-154	For how many persons were those food stamps authorized?				FQ E-16
	01-13 Persons	614	149	505	
	88 Blank but applicable	10	2	3	
	Blank	2931	756	845	
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	585	147	499	
	888 Blank but applicable	39	4	9	
	Blank	2931	756	845	
158	Did this family spend more for food in that month than the value of your food stamps?				FQ E-18
	1 Yes	539	128	492	
	2 No	74	21	14	
	8 Blank but applicable	11	2	2	
	Blank	2931	756	845	

Position	Item description and code	M	Counts C	P	Source and notes
159-161	How much more?				FQ E-19
	003-880 Dollars	501	120	482	
	888 Blank but applicable	49	10	12	
	Blank	3005	777	859	
162	Is your family receiving food stamps at the present time?				FQ E-20
	1 Yes	474	116	473	
	2 No	3061	783	869	
	8 Blank but applicable	10	4	6	
	Blank	10	4	5	

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

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	484	0	1009	
	2 500,000 - 999,999	423	0	0	
	3 250,000 - 499,999	450	334	0	
	4 100,000 - 249,999	91	235	155	
	5 50,000 - 99,999	568	49	32	
	6 25,000 - 49,999	386	131	98	
	7 10,000 - 24,999	352	76	46	
	8 200 - 9,999	491	52	13	
	9 Not in a place	310	30	0	
164	Standard Metropolitan Statistical Area				See Note 13
	1 In SMSA, in central city	1771	334	1173	
	2 In SMSA, not in central city	1332	573	180	
	4 Not in SMSA	452	0	0	
165-166	Number of persons in household				HSQ 1a
	01-18 Persons	3555	907	1353	
167-168	Number of sample persons in household (computed)				
	01-13 Persons	3555	907	1353	
169-170	How many rooms are in this home? Count the kitchen, but not the bathroom.				FQ E-1
	01-14 Rooms	3541	902	1346	
	88 Blank but applicable	4	1	2	
	Blank	10	4	5	
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	3397	879	1213	
	2 No	40	7	8	
	8 Blank but applicable	108	17	127	
	Blank	10	4	5	
172-173	What is the main fuel used for heating this home?				FQ E-3 See Note 14
	00 No fuel used	214	164	5	
	01 Oil	2	0	940	
	02 Natural gas	2888	45	362	
	03 Electricity	277	682	15	
	04 Bottled gas (propane)	85	2	0	
	05 Kerosene	7	2	0	
	06 Wood	45	3	0	
	07 Coal	0	0	6	
	08 Other, not specified	0	0	1	
	09 Other, specified	6	0	2	
	88 Blank but applicable	21	5	17	
	Blank	10	4	5	

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	214	164	6	
	01 Steam or hot water with radiators or convectors	19	4	686	
	02 Central warm air furnace with ducts to individual rooms, or central heat pump	1296	340	96	
	03 Built-in electric units (permanently installed in wall, ceiling, or baseboard)	219	219	32	
	04 Floor, wall or pipeless furnace	783	30	12	
	05 Room heaters <u>with</u> flue or vent, burning oil, gas, or kerosene	403	12	301	
	06 Room heaters <u>without</u> flue or vent, burning oil, gas, or kerosene	406	4	189	
	07 Heating stove burning wood, coal or coke	37	0	2	
	08 Fireplace(s)	37	4	0	
	09 Portable electric heater(s)	68	95	2	
	10 Other, not specified	0	0	0	
	11 Other, specified	53	26	7	
	88 Blank but applicable	1	5	8	
	99 Don't know	9	0	7	
	Blank	10	4	5	
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	2877	707	1132	
	01 Steam or hot water with radiators or convectors	0	0	3	
	02 Central warm air furnace with ducts to individual rooms, or central heat pump	5	9	5	
	03 Built-in electric units (permanently installed in wall, ceiling, or baseboard)	16	0	1	
	04 Floor, wall or pipeless furnace	5	0	0	
	05 Room heaters <u>with</u> flue or vent, burning oil, gas, or kerosene	12	0	0	
	06 Room heaters <u>without</u> flue or vent, burning oil, gas, or kerosene	15	1	16	
	07 Heating stove burning wood, coal or coke	42	0	5	
	08 Fireplace(s)	239	5	4	
	09 Portable electric heater(s)	95	14	166	
	10 Other, not specified	4	1	0	
	11 Other, specified	10	1	1	
	88 Blank but applicable	15	1	9	
	Blank	224	168	11	
178-179	What is the main fuel used by this additional equipment?				FQ E-6 See Note 14
	00 No fuel used	1	0	1	
	01 Oil	0	0	9	
	02 Natural gas	51	1	10	
	03 Electricity	116	24	162	
	04 Bottled gas (propane)	6	0	1	
	05 Kerosene	2	0	14	
	06 Wood	250	5	6	
	07 Coal	2	0	0	
	08 Other, not specified	0	0	0	
	09 Other, specified	5	0	0	
	88 Blank but applicable	21	2	7	
	Blank	3101	875	1143	

Position	Item description and code	M	Counts C	P	Source and notes
180-181	What is the main fuel used for cooking in this home?				FQ E-7
	00 No fuel used	10	4	2	
	01 Oil	5	0	9	
	02 Natural gas	2789	163	1236	
	03 Electricity	639	726	78	
	04 Bottled gas (propane)	85	7	7	
	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	8	1	0	
	88 Blank but applicable	9	2	13	
	Blank	10	4	5	
182	Do you have air-conditioning - either individual room units, a central system or evaporative cooling?				FQ E-8
	1 Yes	1733	829	347	
	2 No	1806	73	995	
	8 Blank but applicable	6	1	6	
	Blank	10	4	5	
183	Which do you have?				FQ E-9
	1 Individual room unit	779	411	328	
	2 Central air-conditioning	603	410	10	
	3 Evaporative cooling	349	3	4	
	8 Blank but applicable	8	6	11	
	Blank	1816	77	1000	

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	3555	-	-	
	000248-000891	-	907	-	
	000177-002000	-	-	1353	

190-195	Interview final weight				
	000447-002096	3555	-	-	
	000207-000578	-	907	-	
	000175-001220	-	-	1353	

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	1778	458	686	

202-207	Audiometry/vision weight				
	000870-006283	1778	-	-	
	000454-001600	-	458	-	
	000343-003123	-	-	686	
	Blank	1777	449	667	

208-213	Pesticide weight				
	000872-005584	1778	-	-	
	000454-001600	-	458	-	
	000343-003117	-	-	686	
	Blank	1777	449	667	

214-215	Strata code				
	01-08	3555	907	1353	

216-217	Pseudo PSU code				
	01-02	3555	907	1353	

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

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
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SECTION K. ADULT HISTORY DATA (DIABETES) (POS 401-448)

Source: Adult Sample Person Questionnaire (ASPQ)

401-404	Blank				
	Positions 405-448 contain selected interview data for adults 20-74 years. These data are also found on HHANES data tape number 6521 (Adolescent and Adult History Questionnaire).				
405	Do you have diabetes or sugar diabetes?				ASPQ C-1
	1 Yes	233	40	104	
	2 No	3321	867	1248	
	8 Blank but applicable	1	0	0	
	Blank	0	0	1	
406	Did a doctor tell you that you have it?				ASPQ C-2
	1 Yes	230	39	102	
	2 No	3	1	1	
	8 Blank but applicable	1	0	1	
	Blank	3321	867	1249	
407	Did any other health professional, such as a nurse or physician's assistant, tell you that you have it?				ASPQ C-3
	1 Yes	0	0	0	
	2 No	3	1	1	
	8 Blank but applicable	1	0	1	
	Blank	3551	906	1351	
408-409	How long ago did the (doctor/health professional) first tell you that you had diabetes?				ASPQ C-4 See Note 15
	00 Less than 1 year ago	20	7	9	
	01-36 Years	210	32	92	
	88 Blank but applicable	1	0	2	
	Blank	3324	868	1250	
410-411	How old were you then?				ASPQ C-5 See Note 15
	07-73 Years of age	230	39	101	
	88 Blank but applicable	1	0	2	
	Blank	3324	868	1250	
412	Have you ever been told by a doctor or other health professional that you have <u>borderline diabetes</u> ?				ASPQ C-6
	1 Yes	109	11	25	
	2 No	3438	892	1319	
	8 Blank but applicable	8	4	8	
	Blank	0	0	1	
413-414	How old were you then?				ASPQ C-7 See Note 15
	11-69 Years	90	8	24	
	88 Blank but applicable	27	7	9	
	Blank	3438	892	1320	
415	Have you ever been told by a doctor or other health professional that you have <u>potential diabetes</u> ?				ASPQ C-6
	1 Yes	53	11	17	
	2 No	3493	894	1325	
	8 Blank but applicable	9	2	10	
	Blank	0	0	1	
416-417	How old were you then?				ASPQ C-7 See Note 15
	13-71 Years of age	46	7	14	
	88 Blank but applicable	16	6	13	
	Blank	3493	894	1326	

Position	Item description and code	M	Counts C	P	Source and notes
418	Have you ever been told by a doctor or other health professional that you have <u>prediabetes</u> ?				ASPQ C-6
	1 Yes	20	14	10	
	2 No	3526	890	1332	
	8 Blank but applicable	9	3	10	
	Blank	0	0	1	
419-420	How old were you then?				ASPQ C-7
	15-71 Years of age	17	11	8	See Note 15
	88 Blank but applicable	12	6	12	
	Blank	3526	890	1333	
421	Blank				
	When you were first told by a (doctor/health professional) that you had (diabetes/...), were any of the following tests done? (Pos. 422-424)				ASPQ C-9
422	The oral glucose tolerance test, in which you drink a sweet drink and samples of your blood are taken from your arm for a few hours afterwards?				
	1 Yes	172	42	71	
	2 No	130	16	36	
	8 Blank but applicable	2	2	6	
	9 Don't know	15	0	7	
	Blank	3236	847	1233	
423	A test for sugar or glucose in your urine?				
	1 Yes	284	51	101	
	2 No	23	8	11	
	8 Blank but applicable	3	1	6	
	9 Don't know	9	0	2	
	Blank	3236	847	1233	
424	A test for sugar or glucose in your blood?				
	1 Yes	287	55	105	
	2 No	18	3	6	
	8 Blank but applicable	3	2	6	
	9 Don't know	11	0	3	
	Blank	3236	847	1233	
425	Were you a patient in a hospital at the time a (doctor/health professional) first told you that you had (diabetes/...)?				ASPQ C-10
	1 Yes	75	13	35	
	2 No	241	45	79	
	8 Blank but applicable	3	2	6	
	Blank	3236	847	1233	
426	(Not counting that first time) Have you ever been hospitalized because of your diabetes/...)?				ASPQ C-11
	1 Yes	47	7	19	
	2 No	270	51	95	
	8 Blank but applicable	2	2	6	
	Blank	3236	847	1233	
427-429	About how much did you weigh when you were first told you had (diabetes/...)?				ASPQ C-12
	028-350 Pounds	297	54	103	
	888 Blank but applicable	22	6	17	
	Blank	3236	847	1233	

Position	Item description and code	M	Counts C	P	Source and notes
430	Have you ever taken insulin injections?				ASPQ C-13
	1 Yes	89	14	35	
	2 No	229	44	82	
	8 Blank but applicable	1	2	3	
	Blank	3236	847	1233	
431	Have you been taking insulin injections for most of the past 12 months?				ASPQ C-14
	1 Yes	62	6	25	
	2 No	27	8	10	
	8 Blank but applicable	1	2	3	
	Blank	3465	891	1315	
432	Are you now taking insulin injections?				ASPQ C-15
	1 Yes	56	5	27	
	2 No	33	9	8	
	8 Blank but applicable	1	2	3	
	Blank	3465	891	1315	
433-435	About how many units per day do you take?				ASPQ C-16
	010-120 Units per day	56	4	27	
	888 Blank but applicable	1	3	3	
	Blank	3498	900	1323	
436-437	How many years (have you been taking/did you take) insulin injections?				ASPQ C-17 See Note 15
	00 Less than 1 year	27	9	9	
	01-36 Years	62	5	25	
	88 Blank but applicable	1	2	4	
	Blank	3465	891	1315	
438	Have you ever taken diabetes pills?				ASPQ C-18
	1 Yes	183	28	65	
	2 No	135	30	52	
	8 Blank but applicable	1	2	3	
	Blank	3236	847	1233	
439	Have you been taking them most of the past 12 months?				ASPQ C-19
	1 Yes	93	16	31	
	2 No	90	12	34	
	8 Blank but applicable	1	2	3	
	Blank	3371	877	1285	
440	Are you now taking diabetes pills?				ASPQ C-20
	1 Yes	88	18	29	
	2 No	95	10	36	
	8 Blank but applicable	1	2	3	
	Blank	3371	877	1285	
441	What is the name of the medicine you are taking?				ASPQ C-21 See Note 16
	1 Diabinese	57	14	19	
	2 Dymelor	2	0	1	
	3 Orinase (Tolbutamide)	10	1	2	
	4 Tolinase	8	1	2	
	5 Meilitron	1	0	0	
	6 Diabeta/Micronase	1	0	1	
	7 Other specified, non-diabetes medication	2	0	1	
	8 Blank but applicable	8	4	6	
	Blank	3466	887	1321	

Position	Item description and code	Counts			Source and notes
		M	C	P	
442-443	How many years (have you been taking/did you take) diabetes pills?				ASPQ C-22 See Note 15
	00 Less than 1 year	51	7	17	
	01-26 years	129	20	47	
	88 Blank but applicable	3	3	4	
	Blank	3372	877	1285	
444	Has a doctor, nurse, or other health professional ever given you a diet or instructions on what foods to eat for your (diabetes/...)?				ASPQ C-23
	1 Yes	254	46	88	
	2 No	63	12	26	
	8 Blank but applicable	2	2	6	
	Blank	3236	847	1233	
445	Do you now follow the diet or instructions?				ASPQ C-24
	1 Yes	123	25	48	
	2 No	131	21	40	
	8 Blank but applicable	2	2	6	
	Blank	3299	859	1259	
446	Do you carry or wear anything which identifies you as having (diabetes/...)?				ASPQ C-25
	1 Yes	38	4	23	
	2 No	279	54	90	
	8 Blank but applicable	2	2	7	
	Blank	3236	847	1233	
447	When did you last see or talk to a doctor or other health professional about your (diabetes/...)?				ASPQ C-26
	1 During the past 2 weeks	49	7	38	
	2 Over 2 weeks through 6 months	136	25	39	
	3 Over 6 months through 12 months	30	6	13	
	4 Over 12 months through 2 years	40	4	5	
	5 Over 2 years through 5 years	29	11	13	
	6 Over 5 years ago	31	5	5	
	8 Blank but applicable	4	2	7	
	Blank	3236	847	1233	
448	About how many times a year do you see a doctor or other health professional about your (diabetes/...)?				ASPQ C-27
	1 Less than once a year	4	1	4	
	2 Once	15	1	7	
	3 Twice	22	3	3	
	4 3-4 times	32	6	17	
	5 5 or more times	61	14	39	
	6 No regular schedule	67	11	17	
	8 Blank but applicable	18	4	10	
	Blank	3336	867	1256	
449	Blank				

Position	Item description and code	M	Counts C	P	Source and notes
SECTION L. GLUCOSE CHALLENGE QUESTIONNAIRE (POS 450-499)					
450-453	Tape Number 6506	3555	907	1353	
454	Assigned to fasting subsample, designated to take oral glucose tolerance test? (see p. 10)				
	1 Yes	1777	449	667	
	2 No	1778	458	686	
455	Complete oral glucose tolerance test(3 plasma glucose values)				See Note 17
	1 Complete	1012	212	272	
	2 Not complete	765	237	395	
	3 Not in fasting subsample	1778	458	686	
456-457	Reason for incomplete oral glucose tolerance test				See Notes 18,19
	01 Not in fasting subsample	1778	458	686	
	02 Examined in afternoon or evening	508	170	254	
	03 Diabetic currently taking insulin	15	1	9	
	04 Arrived late	11	0	2	
	05 Ill	1	4	4	
	06 Technical error	18	4	9	
	07 Fasted fewer than 10 hours	97	29	59	
	08 Fasted more than 16 hours	21	3	6	
	09 Refused interview	0	2	0	
	10 Refused Glucola	11	8	25	
	11 Refused venipuncture	10	2	8	
	12 Venipuncture unsuccessful	9	3	3	
	13 Became ill during test	10	1	4	
	14 Glucose in urine/glucosuria 2+	12	2	2	
	15 Abnormal EKG	9	1	0	
	16 Refused test because of known diabetes	4	5	4	
	17 Left early/ran out of time	11	2	3	
	18 Plasma specimens thawed	6	0	0	
	19 Specimen not collected	5	0	0	
	20 Other	7	0	3	
	Blank	1012	212	272	
458	Returned for second visit?				See Notes 18,19
	1 Yes	21	6	5	
	2 No	1756	443	662	
	Blank	1778	458	686	
459-460	Reason for second visit (reason that test was not completed on first visit)				See Notes 18,19
	01 Not in fasting subsample	0	0	0	
	02 Examined in afternoon or evening	1	0	0	
	03 Diabetic currently taking insulin	0	0	0	
	04 Arrived late	0	0	0	
	05 Ill	0	0	0	
	06 Technical error	0	0	0	
	07 Fasted fewer than 10 hours	17	4	3	
	08 Fasted more than 16 hours	3	1	0	
	09 Refused interview	0	0	0	
	10 Refused Glucola	0	0	1	
	11 Refused venipuncture	0	0	0	
	12 Venipuncture unsuccessful	0	1	0	
	13 Became ill during test	0	0	0	
	14 Glucose in urine/glucosuria 2+	0	0	0	
	15 Abnormal EKG	0	0	0	
	16 Refused test because of known diabetes	0	0	0	
	17 Left early/ran out of time	0	0	0	
	18 Plasma specimens thawed	0	0	0	
	19 Specimen not collected	0	0	0	
	20 Other	0	0	1	
	Blank	3534	901	1348	

<u>Position</u>	<u>Item description</u> <u>and code</u>	<u>M</u>	<u>Counts</u> <u>C</u>	<u>P</u>	<u>Source</u> <u>and notes</u>
461	Are you currently taking insulin?				
	1 Yes	15	1	9	
	2 No	1254	278	404	
	Blank	2286	628	940	
462	Are you currently taking diabetes pills?				
	1 Yes	25	9	13	
	2 No	1229	269	391	
	Blank	2301	629	949	
463-466	At what time did you finish your last meal?				See Note 20
	0030-2400 (hours:minutes)	1252	278	404	
	8888 Blank but applicable	2	0	0	
	Blank	2301	629	949	
467	Yesterday/today of last meal?				
	1 Yesterday	1192	259	388	
	2 Today	60	19	16	
	8 Blank but applicable	2	0	0	
	Blank	2301	629	949	
468	Have you had anything to eat since your last meal?				
	1 Yes	280	48	116	
	2 No	971	229	288	
	8 Blank but applicable	1	1	0	
	Blank	2303	629	949	
469-472	At what time did you have anything to eat since your last meal?				See Note 20
	(Colon not shown on tape)				
	0030-2400 (hours:minutes)	280	48	116	
	8888 Blank but applicable	0	0	0	
	Blank	3275	859	1237	
473	Yesterday/today for last eat anything at all?				
	1 Yesterday	259	47	104	
	2 Today	21	1	12	
	8 Blank but applicable	0	0	0	
	Blank	3275	859	1237	
474	Have you had anything to drink, other than water, since the last time you had anything to eat? (latest time in Positions 463-466 or 469-472)				
	1 Yes	296	83	110	
	2 No	955	194	294	
	8 Blank but applicable	1	1	0	
	Blank	2303	629	949	
475-478	At what time did you last have anything at all to drink? (Colon not shown on tape)				See Note 20
	0010-2400 (hours:minutes)	296	83	108	
	8888 Blank but applicable	0	0	2	
	Blank	3259	824	1243	

Position	Item description and code	M	Counts C	P	Source and notes
479	Yesterday/today for last anything at all to drink?				
	1 Yesterday	256	67	67	
	2 Today	40	16	41	
	8 Blank but applicable	0	0	2	
	Blank	3259	824	1243	
SECOND VISIT INFORMATION					
	Persons in this section failed to complete the first OGTT and were given the opportunity to take the OGTT a second time.				See Note 19
480-483	At what time did you finish your last meal? 1200-2300 (hours:minutes)	21	6	5	See Note 20
	Blank	3534	901	1348	
484	Yesterday/today of last meal?				
	1 Yesterday	21	6	5	
	2 Today	0	0	0	
	Blank	3534	901	1348	
485	Have you had anything to eat since your last meal?				
	1 Yes	6	0	1	
	2 No	15	6	4	
	Blank	3534	901	1348	
486-489	At what time did you have anything to eat since your last meal? (Colon not shown on tape)				See Note 20
	1800-2245 (hours:minutes)	6	0	1	
	Blank	3549	907	1352	
490	Yesterday/today for last eat anything				
	1 Yesterday	6	0	1	
	2 Today	0	0	0	
	Blank	3549	907	1352	
491	Have you had anything to drink other than water, since the last time you had anything to eat (latest time in Positions 480-483 or 486-489)				
	1 Yes	6	0	0	
	2 No	15	6	5	
	Blank	3534	901	1348	
492-495	At what time did you last have anything to drink? (Colon not shown on tape)				See Note 20
	1700-2330 (hours:minutes)	6	0	0	
	Blank	3549	907	1353	

Position	Item description and code	M	Counts C	P	Source and notes
496	Yesterday/today for last anything to drink?				
	1 Yesterday	6	0	0	
	2 Today	0	0	0	
	Blank	3549	907	1353	
497-499	Blank				

Position	Item description and code	M	Counts C	P	Source and notes
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SECTION M. PLASMA GLUCOSE VALUES AND COMPUTED TIME INTERVALS (POS 500-600)

**ATTENTION: The colon is not shown
on the tape. (Positions 500-515)**

500-503	Time of first venipuncture (fasting specimen)				See Note 20
	0800-1107 (hours:minutes)	1083	227	329	
	8888 Blank but applicable	171	51	75	
	Blank	2301	629	949	
504-507	Time Glucola given				See Note 20
	0805-1110 (hours:minutes)	1059	216	283	
	8888 Blank but applicable	195	62	121	
	Blank	2301	629	949	
508-511	Time of second venipuncture (one-hour specimen)				See Note 20
	0905-1205 (hours:minutes)	1055	215	276	
	8888 Blank but applicable	199	63	128	
	Blank	2301	629	949	
512-515	Time of third venipuncture (two-hour specimen)				See Note 20
	1000-1245 (hours:minutes)	1031	212	274	
	8888 Blank but applicable	223	66	130	
	Blank	2301	629	949	
516	Code indicating imputed time generated for the second venipuncture				
	1 Yes	8	0	1	
	2 No	1047	215	275	
	Blank	2500	692	1077	
	Reasons for blank or missing (888) plasma glucose values are given in Positions 456-457				
517-519	Plasma glucose value (mg/dl) from first venipuncture				See Note 21
	051-407	1068	227	328	
	888 Blank but applicable	186	51	76	
	Blank	2301	629	949	
520-522	Plasma glucose value (mg/dl) from second venipuncture				See Note 21
	037-639	1040	215	275	
	888 Blank but applicable	214	63	129	
	Blank	2301	629	949	
523-525	Plasma glucose value (mg/dl) from third venipuncture				See Note 21
	026-707	1016	212	272	
	888 Blank but applicable	238	66	132	
	Blank	2301	629	949	

Position	Item description and code	M	Counts C	P	Source and notes
	ATTENTION: The colon is not shown on the tape. (Positions 526-569)				
526-529	Interval between last food or drink and first venipuncture (smallest of three times in Positions 530-541).				
	00:50-24:15 (hours:minutes)	1083	227	329	
	8888 Blank but applicable	171	51	75	
	Blank	2301	629	949	
530-533	Interval between last meal and first venipuncture				
	01:20-24:15 (hours:minutes)	1083	227	329	
	8888 Blank but applicable	171	51	75	
	Blank	2301	629	949	
534-537	Interval between last snack and first venipuncture				
	00:50-17:47 (hours:minutes)	250	44	88	
	8888 Blank but applicable	36	2	28	
	Blank	3269	861	1237	
538-541	Interval between last drink and first venipuncture				
	02:05-16:35 (hours:minutes)	248	58	70	
	8888 Blank but applicable	51	22	37	
	Blank	3256	827	1246	
542-545	Interval between first venipuncture and Glucola ingestion				
	00:00-01:25 (hours:minutes)	1059	216	283	
	8888 Blank but applicable	195	62	121	
	Blank	2301	629	949	
546-549	Interval between Glucola ingestion and second venipuncture				
	00:50-01:15 (hours:minutes)	1055	215	276	
	8888 Blank but applicable	199	63	128	
	Blank	2301	629	949	
550-553	Interval between second venipuncture and third venipuncture				
	00:40-01:26 (hours:minutes)	1031	212	274	
	8888 Blank but applicable	223	66	130	
	Blank	2301	629	949	
554-557	Interval between first venipuncture and second venipuncture				
	00:54-02:24 (hours:minutes)	1055	215	276	
	8888 Blank but applicable	199	63	128	
	Blank	2301	629	949	
558-561	Interval between first venipuncture and third venipuncture				
	01:49-03:22 (hours:minutes)	1031	212	274	
	8888 Blank but applicable	223	66	130	
	Blank	2301	629	949	
562-565	Interval between Glucola ingestion and third venipuncture				
	01:41-02:24 (hours:minutes)	1031	212	274	
	8888 Blank but applicable	223	66	130	
	Blank	2301	629	949	
566-569	Interval between last food or drink and Glucola ingestion				
	02:10-19:20 (hours:minutes)	1059	216	283	
	8888 Blank but applicable	195	62	121	
	Blank	2301	629	949	
570-600	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 A1-A11 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 A1-A11 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 B12 through B15 (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 B17 through B22 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 it was 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 doctors' or surgeons' 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 (E11). 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 E11 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 E3 through E6, 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. Illogical or extreme values

The responses for some sample persons for this variable may appear extreme, illogical, or inconsistent with responses in other variables. The data entry was verified through direct review of the collection form or a copy of it. These responses may not represent fact but they are included as they were recorded. The user must determine if these responses should be included in analyses.

16. 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.

17. Complete glucose tolerance test

For this data item, persons for whom three plasma glucose values were available are considered to have a complete glucose tolerance test, regardless of the conditions under which these values were obtained (such as length of fast or elapsed time between venipunctures). However, users may wish to take such conditions into account for analyses of these data.

18. Reasons for incomplete test

Codes 01-03 were supplied in the editing process. Persons not assigned to the fasting subsample (code 01) were not designated to take the glucose tolerance test nor to complete the Glucose Challenge Questionnaire (GCQ). Persons assigned to the fasting subsample who were unable or unwilling to be examined in the morning (Code 02) did not complete the GCQ or receive the test, because the test was only administered in the morning. Persons currently using insulin who were in the fasting subsample and who were examined in the morning (Code 03) were not asked to fast and were not administered the test, per the study protocol. This exclusion was made because it was not considered medically advisable for a person using insulin to fast.

Persons in the fasting subsample who were examined in the morning may have failed to complete the test for reasons noted in GCQ 6A-6J, corresponding to codes 04-13.

Codes 14-19 are recodes of notations on the questionnaire or other information from survey records. Some persons were inappropriately eliminated from the glucose tolerance test by one physician examiner because of glucosuria (code 14), an abnormal EKG (code 15) or known diabetes in a person not taking insulin (code 16). In addition, some persons refused the test because of known diabetes (code 16).

19. Second visit

Persons who did not complete the OGTT at the initial examination were given the opportunity to return for a second visit to take the OGTT on a different day. If the person returned for a second visit, the reason for not completing the OGTT on the first visit is coded in positions 459-460; otherwise positions 459-460 are blank. If the persons did not return for a second visit, the reason for not completing the OGTT on the first visit is coded in positions 456-457.

If the person completed the OGTT on the second visit, positions 456-457 are blank; if the person returned for a second visit but did not complete the OGTT, the reason for not completing the OGTT on the second visit is coded in positions 456-457. Data from the second visit on times of last food and drink are entered in positions 480-496.

20. Time using 24-hour clock

These times are presented using the 24-hour clock system (military time) in which 0100 corresponds to 1 a.m., 1200 corresponds to 12 noon, 1300 corresponds to 1 p.m., and 2400 corresponds to 12 midnight.

21. Plasma glucose determinations

Glucose values were determined at the Centers for Disease Control, Division of Environmental Health Laboratories. Glucose was measured by a micro-adaptation of the National Glucose Reference method (1) on a Gilford System 3500 Computer-Directed Analyzer (2). The determination is based on the enzymatic coupling of hexokinase and glucose-6-phosphate dehydrogenase (G-6-PD), and it has been optimized for D-Glucose. See the Laboratory Procedures for the Hispanic Health and Nutrition Examination Survey (HHANES) 1982-1984 (3) pages 21-24 for exact details of the plasma glucose calculation.

References

1. Neese, J.W., Duncan, P., Bayse, D., Robinson, M., Cooper, T., Steward, C.: Development and evaluation of a hexokinase/glucose-6-phosphate dehydrogenase procedures for use as a national glucose reference method. Atlanta: Centers for Disease Control, 1976. DHEW Publication No. (CDC) 77-8330.
2. Gilford Laboratories, Inc. Instruction manual for the Gilford System 3500 Computer-directed Analyzer. Oberlin, Ohio: Gilford Laboratories, Inc. June 1978.
3. Gunter, E.W. and Miller, D.T.: Laboratory procedures used by the Division of Environmental Health, Laboratory Sciences Center for Environmental Health, Centers for Disease Control for the Hispanic Health and Nutrition Examination Survey (HHANES) 1982-84. Atlanta: Centers for Disease Control, 1986.

