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# Vital and Health Statistics

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## Serum Lipids and Lipoproteins of Hispanics, 1982–1984

Series 11:  
Data From the National Health  
Examination Survey and  
the National Health and Nutrition  
Examination Survey  
No. 240

This report presents descriptive data for serum lipids and lipoproteins by age, sex, and selected socioeconomic variables. This information is from the Hispanic Health and Nutrition Examination Survey, a sample survey of selected groups of civilian noninstitutionalized Hispanic persons residing in selected areas of the United States, that was conducted during the period 1982–84.

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### Symbols

- - - Data not available
  - . . . Category not applicable
  - Quantity zero
  - 0.0 Quantity more than zero but less than 0.05
  - Z Quantity more than zero but less than 500 where numbers are rounded to thousands
  - \* Figure does not meet standard of reliability or precision
-

# Serum Lipids and Lipoproteins of Hispanics, 1982-84

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## Introduction

Serum cholesterol and lipoproteins are associated with the development of coronary heart disease (CHD) (1-3). Epidemiologic studies have demonstrated that total serum cholesterol (TC) and low-density lipoprotein cholesterol (LDL-C) are directly related to CHD but that high-density lipoprotein cholesterol (HDL-C) is inversely related to this disease (4,5). Serum triglycerides, although directly associated with cardiovascular diseases, has not been shown to be an independent risk factor in CHD (6).

At the present time, little is known about the distribution of serum lipids and lipoproteins among Hispanic Americans. A better understanding of the distribution of these risk factors in the Hispanic population may help to elucidate differences in CHD morbidity and mortality among subgroups.

This report presents basic reference data on TC, HDL-C, the ratio of serum cholesterol to HDL-C, serum triglycerides, and calculated values of LDL-C of Hispanic Americans, including distributions of total serum cholesterol and LDL cholesterol by the cutpoints recommended by the Adult Treatment Panel (ATP) of the National Cholesterol Education Program (NCEP) for the classification of adults. The data were obtained in the Hispanic Health and Nutrition Examination Survey (HHANES). This survey, conducted by the National Center for Health Statistics (NCHS) during the years 1982-84, focused on three Hispanic subgroups: Mexican Americans, Cubans, and Puerto Ricans.

From 1960 through 1980 the National Center for Health Statistics (NCHS) conducted five population-based, national health examination surveys (tables A and 7-9). A major objective of these surveys has been to record a variety of laboratory and clinical measurements including total serum cholesterol. In addition, other data were collected in each survey, using a medical history, a physical examination, and a variety of body measurements. These questionnaire and medical examination components have been designed to support analyses of data on certain

**Table A. Health Examination Surveys conducted by the National Center for Health Statistics, by years of survey and ages of persons examined, 1960-80**

Survey	Date	Ages
First National Health Examination Survey (NHES I)	1960-62	18-79 years
Second National Health Examination Survey (NHES II)	1963-65	6-11 years
Third National Health Examination Survey (NHES III)	1966-70	12-17 years
First National Health and Nutrition Examination Survey (NHANES I)	1971-74	1-74 years
Second National Health and Nutrition Examination Survey (NHANES II)	1976-80	6 months-74 years

targeted conditions such as diabetes, hypertension, and iron deficiency anemia.

Beginning with the first National Health and Nutrition Examination Survey (NHANES I) (10), a major nutritional assessment component was added to the health examination surveys to obtain information on overall nutritional status and dietary practices. This component was designed to enhance the quality and quantity of biochemical, clinical, anthropometric, and dietary data as they pertain to nutritional status.

Both the NHANES I and its successor, the NHANES II (11), conducted from 1976 through 1980, focused on a national sample of the U.S. population. The numbers of Hispanic and other ethnic groups in these samples, however, were insufficient to enable adequate estimation of their health and nutritional status. Therefore, from 1982 through 1984, a Hispanic Health and Nutrition Examination Survey (HHANES) was conducted to obtain data on the health and nutritional status of the three largest Hispanic subgroups residing in households in distinct geographic areas of the United States: Mexican Americans in selected counties in five Southwest States—Texas, Colorado, New Mexico, Arizona, and California; Cubans from Dade County (Miami), Florida; and Puerto Ricans from the New York City area, including parts of New York, New

Jersey, and Connecticut (12). Although HHANES was not intended to be a national probability sample, it is the first large-scale study of the health examination surveys covering the health and nutritional status of the three Hispanic subgroups.

The survey design of HHANES was a stratified, multi-stage, probability cluster sample of civilian noninstitutionalized persons ages 6 months through 74 years residing in households in three defined geographic areas of the United States. Even though HHANES was not designed as a national Hispanic survey, and no national estimates for the Hispanic population can be made, the three HHANES universes include approximately 76 percent of the 1980 Hispanic-origin population in the United States. More detail on the sample design and conduct of the survey is presented in appendix I.

Total serum cholesterol has been determined from sera collected in each health examination survey, except for the second National Health Examination Survey. During NHANES II, NCHS and the National Heart, Lung, and Blood Institute (NHLBI) for the first time collected and analytically processed serum specimens for HDL-C and serum triglyceride in addition to TC. Values for LDL-C were calculated using the equation of Friedewald, et al. (13). The serum lipid data from NHANES II have been published (14–16). During HHANES, TC, HDL-C, and serum triglyceride were also determined from sera and serum specimens collected during that survey. Values of LDL-C were also calculated by the Friedewald equation (13).

Data for TC, HDL-C, LDL-C, and serum triglycerides were determined only for adults ages 20–74 years in HHANES. TC and HDL-C were scheduled to be measured in all Hispanic adults ages 20–74 years examined in HHANES, but serum triglycerides were scheduled to be measured only in that half of the examined adults ages 20–74 years who were to receive the oral glucose tolerance test. This “half sample” was also designed to be representative of Hispanics in the designated areas. Persons in the half sample were asked to fast overnight for 10–16 hours. No fasting instructions were given to those in the other half sample.

The health examinations, including the collection of serum for conducting lipid analysis, were conducted by highly trained teams of health personnel in specially equipped mobile examination centers (MEC's). Lipid analyses were performed at the Johns Hopkins University Lipid Research Clinic according to the protocol described by the Lipid Research Clinic (LRC) program. The blood determinations have undergone numerous quality control and editing procedures in both the data collection and data processing phases of the survey. All unusual values have been checked and verified by the laboratory.

Although TC was scheduled to be measured on all adults examined in HHANES, and serum triglyceride on all adults in the fasting sample, a small percent have missing lipid determinations (see appendix I).

Estimates of the mean, the standard error of the mean, and selected percentiles are presented for serum lipid and lipoprotein determinations by sex and age for each Hispanic subgroup. These include TC, HDL-C, and serum triglyceride. In addition, calculated values of the ratio of total serum cholesterol to HDL cholesterol and calculated values of LDL-C (13) are included. The ratio of serum cholesterol to HDL-C was found in the Framingham Study to be a useful summary of the joint contribution of these lipids to CHD risk (17). Estimates of TC, HDL-C, and the ratio of TC to HDL-C are presented for all examined persons 20–74 years of age, whereas estimates of serum triglyceride and LDL-C are presented for examined adults fasting 12 hours or more prior to the examination.

Cumulative percent distributions for these variables are also presented by Hispanic origin, sex, and age. Selected results from these tables are highlighted in tables showing the percent distributions by selected cutpoints that are of importance with regard to CHD. These results include

- The percents with a serum cholesterol level of less than 200 milligrams per deciliter (mg/dl), 200–239 mg/dl, and 240 mg/dl or more (2).
- The percent with an HDL-C level of less than 35 mg/dl (2).
- The percent with a ratio of TC to HDL-C greater than or equal to 4.5 (18).
- The percents with an LDL-C level of less than 130 mg/dl, 130–159 mg/dl, and 160 mg/dl or more (2).

The percent of Hispanic persons with a serum triglyceride level between 250 and 500 mg/dl and the percent with a serum triglyceride level of 500 mg/dl or more (6) are not highlighted in a special table. However, these percents can be obtained from the tables showing cumulative percents (see determination of percents in the Analytical issues section). Finally, estimates of the mean and the standard error of the mean for TC, HDL-C, and the ratio of TC to HDL-C are presented by poverty status and years of education (appendix II).

The purpose of this report is to present baseline data of serum lipids and lipoproteins of Hispanics rather than to compare the data from HHANES with data from previous studies. Such comparisons will be presented in other publications.

Sample sizes for most Hispanic subgroups are large enough to meet NCHS requirements for the presentation of statistically reliable results (see appendix III). In most instances where these requirements are not satisfied, an asterisk (\*) is shown in place of these estimates. In some instances an asterisk is placed beside the mean or percent.

The lipid data from this survey have been coded and edited. These data will be released soon. Persons interested in more detailed analyses will be able to purchase this tape from the National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22151.

# Sources of data and analytical issues

## Sources

The Hispanic Health and Nutrition Examination Survey (HHANES), conducted from July 1982 through December 1984, is the most recent in a series of health examination surveys conducted by NCHS. The major difference between HHANES and the previous health examination 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. The target population for HHANES ideally would have included all households with at least one member of Hispanic origin. However, the United States includes States and counties with very small numbers or proportions of Hispanic persons. Therefore, HHANES was restricted to those counties in the three target areas of the country that had a sufficient number or proportion of Hispanic persons to permit the efficient operation of the survey. Thus 97 percent of the 1980 Mexican-American population in the five Southwest States, 96 percent of the Cuban population in the Dade County area, and 90 percent of the Puerto Rican population in the New York City area were eligible for inclusion in HHANES.

Selected households were screened to identify eligible Hispanic families and to select sample persons from these families to be interviewed and examined. Eligibility for the survey was determined by the family unit. A family was considered eligible if at least one family member's reported national origin or ancestry met the criteria for eligibility appropriate to the survey location. These criteria were as follows:

<i>Survey area</i>	<i>National origin or ancestry</i>
Southwest area . . . . .	Mexican or Mexicano, Mexican-American, Chicano, Hispano, Spanish-American, or Spanish (when no other country of origin was mentioned)
Dade County, Fla., area . . . . .	Cuban or Cuban-American
New York City area . . . . .	Puerto Rican or Boricuan

In cases where multiple origins were reported for the same individual on different questionnaires, the person was

considered eligible if any one of the reported origins met these criteria.

If a family was eligible for the survey, all members of that family were eligible to be selected for the interview and examination components. Therefore, some non-Hispanic persons residing in Hispanic households and some Hispanic persons not meeting the above criteria were selected and examined in each of the three geographic areas. For this report, however, all findings are based on the examined persons within the households who were defined as being of Mexican origin or ancestry in the Southwest, of Cuban origin or ancestry in Dade County, Florida, and of Puerto Rican origin or ancestry in the New York City area. This report, therefore, excludes persons in the total sample who were non-Hispanic or of an origin that did not meet the eligibility criteria. Appendix II presents a more detailed description of how the Hispanic-origin recode used for this report was determined.

Tables B and C show the sample sizes and response rates for each of the three survey areas in HHANES. In table B, the results are presented for both the total sample (including non-Hispanic persons) and for the specific-origin sample. Table C shows the sample sizes and response rates for Hispanic adults in the fasting sample.

HHANES, like previous examination surveys, consisted of two major components. Household interviews formed the first component; the second consisted of physical examinations and additional interviews in examination

**Table B. Sample size and response rates for persons of specified Hispanic origin 20-74 years of age, by survey area: Hispanic Health and Nutrition Examination Survey, 1982-84**

<i>Survey area and Hispanic origin</i>	<i>Sample size</i>	<i>Interviewed</i>		<i>Examined</i>	
		<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Percent</i>
<b>Southwest area</b>					
All persons . . . . .	5,113	4,218	82.5	3,555	69.5
Mexican-American . . . . .	4,735	3,935	83.1	3,326	70.2
<b>Dade County, Fla., area</b>					
All persons . . . . .	1,562	1,193	76.4	907	58.1
Cuban . . . . .	1,481	1,134	76.6	865	58.4
<b>New York City area</b>					
All persons . . . . .	1,961	1,689	86.1	1,353	69.0
Puerto Rican . . . . .	1,764	1,519	86.1	1,220	69.2



**Table C. Sample size and response rates for Hispanic persons 20–74 years of age in the fasting sample, by survey area and specified Hispanic origin: Hispanic Health and Nutrition Examination Survey, 1982–84**

Survey area and Hispanic origin	Sample size	Interviewed		Examined	
		Number	Percent	Number	Percent
Southwest area					
Mexican-American . . . . .	2,360	1,969	83.4	1,655	70.1
Dade County, Florida area					
Cuban . . . . .	741	565	76.2	426	57.5
New York City area					
Puerto Rican . . . . .	881	751	85.2	596	67.7

centers. All interviews, examinations, tests, procedures, and laboratory determinations were performed following standardized protocols.

The household interview component involved collecting socioeconomic and demographic information from the family and sample persons within the family and completing a medical history questionnaire for sample persons. Interviewers employed by the contract agency conducting the HHANES performed the initial household interviews and aided in the scheduling of appointments for examination.

The examination component was performed in mobile examination centers specially designed for this study. The examination environment and equipment were standardized to minimize differences in findings among sample locations. The full-time examination teams were specifically trained to follow the study protocols, which provided for standardization, quality control, and evaluation of team members' performance. The examination consisted of a series of standardized tests and procedures that included the following:

- General medical examination and screening by a physician, including additional medical history information.
- Laboratory tests on whole blood, serum, and urine specimens.
- Body measurements.
- Dietary interview.
- Selected diagnostic tests such as electrocardiograms, x rays, hearing, and diagnostic ultrasound for detection of gallstones.

Thus, HHANES provided the opportunity to assess key aspects of the Hispanic population's health and nutritional status during a 2½-year period and to collect baseline data that could be used to assess changes over time in selected Hispanic subgroups living in the United States.

As mentioned previously, not all Hispanic adults had known lipid determinations. The number of adults with known lipid determinations is shown in table D.

**Table D. Number of Hispanic persons 20–74 years of age with known serum lipid determinations, by specified Hispanic origin: Hispanic Health and Nutrition Examination Survey, 1982–84**

Lipid determination	Mexican-	Cuban	Puerto
	American		Rican
TC . . . . .	3,204	826	1,138
HDL-C . . . . .	3,158	814	1,127
TC/HDL-C . . . . .	3,158	814	1,127
Serum triglyceride . . . . .	733	126	170
LDL-C . . . . .	713	120	167

NOTE: Valid values for serum triglyceride and LDL-C were determined for Hispanic adults fasting 12 hours or more. Valid LDL-C values exclude values of serum triglyceride over 400 mg/dl.

## Methods of measurement

HHANES was staffed with two highly trained examination teams and equipped with three mobile examination centers, which could be moved to a central location in each of the primary sampling units. Selected sample persons for whom appointments could be made were brought into the examination centers. There, examinees changed from their street clothing into disposable paper examination gowns and foam rubber slippers designed to facilitate and standardize various elements of the examination.

The various instruments were checked and calibrated at the beginning of each survey location and preventive maintenance was performed as scheduled, with results recorded in an instrument log book. Technicians participated in the Centers for Disease Control (CDC) proficiency testing program four times a year.

Blood samples were obtained by venipuncture from both fasting and nonfasting subjects. The blood was allowed to clot for 30–40 minutes at room temperature, and the samples were then centrifuged. An aliquot of serum was transferred to a plastic, screw-capped vial, then placed in a –20°C freezer within 3 hours after collection. At approximately 2-week intervals, serum specimens collected over the preceding period were placed in a styrofoam shipping container containing dry ice and shipped to The Johns Hopkins University Lipid Research Clinic Laboratory for analysis of TC, triglyceride, and HDL-C. Samples received in the laboratory were placed in a freezer at –20°C until they were analyzed, usually within 2 weeks after receipt. Specimens were allowed to thaw at room temperature and then mixed thoroughly on a blood rotator for 30 minutes before the sample vials were opened. All measurements were performed according to the protocol described for the Lipid Research Clinic program (19).

## Total serum cholesterol and triglycerides

Analyses were performed in zeolite-treated isopropanol extracts of serum using an Auto-Analyzer II (AAII—Technicon Instruments, Tarrytown, N.Y.), using the Liberman-Burchard reaction for cholesterol measurement and the fluorimetric method of Kessler and Lederer (19,20) for triglyceride measurement. Isopropanol solutions

of purified cholesterol and triolein standards were provided by the Clinical Chemistry Standardization Section of CDC. A serum calibrator was also provided by CDC and was used to correct the cholesterol measurement to reference values (21).

Day-to-day quality control was maintained using two serum control pools, one with normal and one with elevated concentrations of cholesterol and triglycerides. These pools were provided by CDC and analyzed in quadruplicate with each analytical run (19).

## HDL-C

HDL-C was measured following the precipitation of apo B-containing lipoprotein, with heparin and manganese chloride final concentrations of 1.3 mg/dl and 0.046 M, respectively (19). The precipitate was sedimented by centrifugation for 30 minutes at  $1,500 \times g$ . An aliquot of the clear supernatant was extracted with isopropanol; the extract was treated with a zeolite-containing mixture to remove interfering substances, and cholesterol measured as described above.

## Quality control

All of the cholesterol, triglyceride, and HDL cholesterol values were taken from analytical runs that were "in control," and the laboratory was standardized for the measurements according to the CDC-NHLBI criteria for cholesterol, triglyceride, and HDL cholesterol standardization (22).

## Ratio of TC to HDL-C

For each sample person 20–74 years of age for whom TC and HDL-C were determined, the ratio was obtained by dividing the TC by the HDL-C.

## Low-density lipoprotein cholesterol

For persons fasting 12 hours or more prior to venipuncture, serum LDL was calculated using the Friedewald equation (13) as follows:

$$\text{LDL-C} = \text{TC} - (\text{HDL-C} + \text{serum triglyceride}/5),$$

where all values are expressed in mg/dl.

Furthermore, LDL-C was not calculated for individuals with a serum triglyceride value greater than 400 mg/dl, because the equation is not accurate beyond this value (13).

## Analytical issues

### Weighting procedures

The estimates presented in this report were weighted for the three separate target populations. The sample weights take into account the different sampling probabilities and adjustments for nonresponse and noncoverage. As a result of these adjustments, the population estimates closely approximate the targeted population at the midpoint of the respective survey period.

Estimates of TC, HDL-C, and the ratio of TC to HDL-C are based on the final examined weight. The final examined weight is the product of the reciprocal of the probability that an individual is in the sample times an adjustment for nonresponse, times an adjustment for noncoverage, and times a poststratification adjustment (used only for Mexican Americans). Estimates of serum triglyceride and LDL-C are based on special sample weights (OGTT weights) which were calculated by multiplying the reciprocal of the probability that an examined person is in the fasting sample by his final examined weight (see appendix I).

## Determining percents from the cumulative tables

The percent of Hispanic persons with a serum triglyceride level between 250 and 500 mg/dl and the percent with a serum triglyceride level of 500 mg/dl or more may be obtained from tables 15–17 showing cumulative percent distributions for this lipid variable. For example, the percent of Mexican-American men ages 20–74 years with serum triglyceride levels between 250 and 500 mg/dl, 9.4, may be obtained from table 15 by subtracting the percent with a serum triglyceride level of less than 250 mg/dl, 89.6, from the percent with a serum triglyceride level of less than 500 mg/dl, 99.0. The percent of Mexican Americans ages 20–74 years with a serum triglyceride level of 500 mg/dl or more (1 percent) may be obtained from the same table by subtracting the percent with a serum triglyceride level of less than 500 mg/dl, 99, from 100.

## Population estimates

Population estimates by age and sex for the three Hispanic subgroups in three distinct geographic regions—Mexican Americans in the Southwest United States, Puerto Ricans in the New York City area, and Cubans in Dade County, Florida—are presented in the detailed tables showing prevalence estimates and in appendix I. The prevalence estimates shown in the detailed tables can be applied to the corresponding population size estimates to obtain the appropriate estimates. For example, the percent of Mexican-American women ages 45–54 years with a TC of less than 260 mg/dl is 87 (table 7). Therefore, the percent of Mexican-American women in the Southwest with a TC of 260 mg/dl or more is 13 percent ( $100 - 87$ ). The number of Mexican-American women ages 45–54 years in the five Southwest States with a TC of 260 mg/dl or more is therefore 47,000, the product of 0.13 and 359,000 (from table V of appendix I).

## Determination of mean serum lipid and lipoprotein levels for both sexes

The mean serum lipid levels for persons of a given age group without regard to sex may be obtained from the data shown in the first five detailed tables and from table V of appendix I. For example, to obtain the mean TC for Mexican Americans ages 20–74 years, one would first obtain the weighted sum of TC for Mexican-American men

and women ages 20–74 years and divide it by the total number of Mexican-American men and women in the population. The weighted sum of TC for Mexican-American men and women is obtained by taking the sum of the mean TC level for men, 203 (from table 1) times the number of men ages 20–74 years in the population, 2,583,000 (from table V of appendix I) and the mean TC level of women ages 20–74 years, 202 (from table 2) times the number of Mexican-American women in the population (2,549,000 from table V of appendix I) or 1,039,247,000. The total number of men and women in the population is 5,132,000 (2,583,000 + 2,549,000). Therefore, the mean TC level for Mexican Americans ages 20–74 years in the Southwest is

$$202 = (1,039,247,000/5,132,000).$$

### Reliability of estimates

Estimates of percents, means, standard errors, and nine selected percentiles (5th, 10th, 15th, 25th, 50th, 75th, 85th, 90th, and 95th) are presented for each lipid variable. These estimates are stable only if the sample size is sufficiently large. The sample size was sufficiently large for most subgroups; exceptions are indicated with an asterisk. The numbers of Cubans and Puerto Ricans 20–74 years of age fasting 12 hours or more are too small to present age- and sex-specific distributions for serum triglyceride and LDL-C levels. Also the numbers for these Hispanic origin groups are too small to present age- and sex-specific distributions for TC, HDL-C and the ratio of TC to HDL-C by poverty income ratio and educational level. Instead, only unadjusted and age-adjusted means and percents are presented by sex (tables 4, 5, and 24–36). See appendix II for a discussion of data presentation and reliability.

The reliability of the estimated mean or percent depends not only on the sample size but also on its relative standard error, defined as the ratio of the standard error of the estimate to the estimate times 100. The larger the relative standard error of the estimated mean (or percent), the less reliable the estimate. In some instances, an estimate, although based on a “sufficiently large” number of examined persons, may have a “large” relative standard error.

In practice, NCHS has used 25–30 percent as the range for an upper limit for an acceptable relative standard error of an estimate. All estimates of means presented in the detailed tables of this report have relative standard errors of less than 25 percent. However, the relative standard errors for some of the percents that estimate the prevalence of a “rare” event exceed this criterion. In these instances, the estimated standard error of the percent is large in comparison with the estimated percent. For example, the estimated prevalence of HDL-C levels of less than 35 mg/dl for Cuban women ages 20–24 years is 2.7 percent, and its standard error is 3.2. Therefore, the relative standard error in this case is 118 percent  $((3.2/2.7) \times 100)$ .

### Cross-sectional nature of data

The cross-sectional data on lipids were obtained from persons of different ages who represent different birth cohorts. The age trends show the lipid values for successive birth cohorts of persons who were of different ages when examined and may reflect the effect of different environmental as well as hereditary influences. The limitations of cross-sectional data in contrast to longitudinal data must be recognized when considering changes with age.

### Age of examinee

The chronologic age at the time of interview was the age criterion for inclusion in the sample. The value used as a label for each age group in the tables is the integer referring to age at last birthday at the time of interview. Hence, “20–24 years” means all adults 20.00 through 24.99, years with an approximate mean value of 22.50 years.

### Poverty status

Poverty status is defined using the poverty income ratio (PIR) (see appendix IV). A PIR of less than 1 indicates an income below poverty level; a PIR of 1 or more indicates an income at or above poverty level.

### Education level

Education is defined in terms of years of school attended (see appendix IV). The education groupings are 0–8 years, 9–11 years, and 12 years or more.

## Selected findings

Some important findings on serum lipids and lipoproteins by demographic (age and sex) and socioeconomic (poverty income ratio and years of education) variables for specific groups of Hispanic adults are summarized below. Statistically significant differences (appendix I) in mean serum lipid and lipoprotein levels and in the percents are presented. A nonsignificant result does not necessarily mean that a real difference does not exist. For a given difference, the probability of detecting a difference when it exists is directly related to the sample size. Thus, if the sample size is small, one is less likely to detect a difference when it exists. Observed differences (which may be of interest even though they are not statistically significant) as well as descriptive statements about the distributions are also presented. Estimates of means and percents of Cubans and Puerto Ricans are based on relatively smaller numbers of observations than estimates of Mexican Americans (see appendix I). This is particularly true of the mean serum triglyceride levels (table 4); mean LDL-C levels (table 5); and percents with LDL-C less than 130 mg/dl, 130–159 mg/dl, and greater than or equal to 160 mg/dl (table 24). In these tables only an unadjusted and an age-adjusted estimate are presented for Cubans and Puerto Ricans 20–74 years of age. These estimates are presented solely to give a general profile for these Hispanic-origin groups, and comparisons should be made with caution. Smaller sample sizes generally lead to larger sampling variability. Therefore, differences among these subgroups may be due to chance. However, at the present time there is no way of estimating the standard errors of age-adjusted estimates for Hispanics, and therefore no way of determining whether age-adjusted differences are due to chance.

These findings do not constitute an exhaustive attempt to describe all of the tables included in this report. Rather, they are intended to highlight the data.

The following statements highlight the findings for Mexican-American, Cuban, and Puerto Rican adults residing in each of the three major geographic areas studied. The figures are based on Hispanic population estimates at the midpoint of the survey in the three distinct geographic areas: Southwest area (selected counties in Arizona, California, Colorado, New Mexico, and Texas); New York City area (parts of New York, New Jersey, and Connecticut); and Miami (Dade County, Florida).

### Serum cholesterol

- Approximately 852,000 (16.6 percent) Mexican Americans in the Southwest United States, 429,000 men (16.6 percent) and 421,000 women (16.5 percent), have a high serum cholesterol level (240 mg/dl or more) (table 21).
- Approximately 60,000 (18.3 percent) Cubans in Dade County, Florida, 26,000 men (17.5 percent) and 34,000 women (18.8 percent), have a high serum cholesterol level (table 21).
- Approximately 112,000 (17.7 percent) Puerto Ricans in the New York metropolitan area, 40,000 men (16.8 percent) and 72,000 women (18.2 percent), have a high serum cholesterol level (table 21).

Approximately 27 percent of all adults 20–74 years of age in the United States, 27 percent of white adults and 24 percent of black adults, have serum cholesterol levels of 240 mg/dl or more (16).

- In general, there were no significant sex or Hispanic-origin differences in the percents with a high TC level by age group (table 21).
- The mean TC level of Hispanics differs by age within sex and Hispanic-origin subgroups (table 1).
- The age-adjusted mean serum cholesterol levels of Mexican-American, Cuban, and Puerto Rican men ages 20–74 years are 207, 205, and 203 mg/dl, respectively. For women, the corresponding values are 207, 199, and 209 mg/dl (table 1).

### HDL-C

- The mean age-adjusted HDL-C levels of Mexican-American, Cuban, and Puerto Rican men are 47.1, 43.4, and 42.3 mg/dl, respectively. For women the corresponding values are 52.5, 52.2, and 48.7 mg/dl, respectively (table 2).
- An estimated 503,000 Mexican Americans (9.8 percent)—341,000 men (13.2 percent) and 163,000 women (6.4 percent)—have HDL-C levels of less than 35 mg/dl (table 22).
- An estimated 38,000 Cubans (11.5 percent)—28,000 men (19.0 percent), and 10,000 women (5.3 percent)—have HDL-C levels of less than 35 mg/dl (table 22).

- An estimated 141,000 Puerto Ricans (22.2 percent)—77,000 men (32.3 percent) and 63,000 women (15.9 percent)—have HDL-C levels less than 35 mg/dl (table 22).
- In general, the mean HDL-C levels of Hispanic men and women are independent of age (table 2).
- Hispanic men have consistently higher percents with HDL-C levels of less than 35 mg/dl and consistently lower mean HDL-C levels than do women of the same Hispanic origin and age (table 22 and table 2).

### **Ratio of serum cholesterol to HDL-C**

- The age-adjusted mean ratios of TC to HDL-C for Mexican-American, Cuban, and Puerto Rican men are 4.70, 5.09, and 5.40, respectively. For women, the corresponding values are 4.17, 4.01, and 4.73 (table 3).
- An estimated 1.97 million Mexican Americans (38.4 percent)—1.2 million men (46.3 percent) and 775,000 women (30.4 percent)—have ratios of TC to HDL-C greater than or equal to 4.5 (table 23).
- An estimated 133,500 Cubans (40.6 percent)—83,000 men (56.6 percent) and 50,000 women (27.4 percent)—have ratios of TC to HDL-C greater than or equal to 4.5 (table 23).
- An estimated 311,000 Puerto Ricans (49.1 percent)—138,400 men (58.4 percent) and 171,500 women (43.2 percent)—have ratios of TC to HDL-C greater than or equal to 4.5 (table 23).
- Hispanic men have consistently higher percents with ratios of TC to HDL-C greater than or equal to 4.5 and consistently higher mean ratios of TC to HDL-C than do Hispanic women. These results are statistically significant in most instances (table 23 and table 3).
- Puerto Rican women tend to have higher percents with ratios of TC to HDL-C of 4.5 or more and higher mean ratios of TC to HDL-C than do Mexican-American or Cuban women of the same age group (tables 3 and 23).

### **Serum triglyceride**

- The age-adjusted mean serum triglyceride levels of Mexican-American, Cuban, and Puerto Rican men fasting 12 hours or more are 156, 135, and 120 mg/dl, respectively. For women, the corresponding values are 140, 104, and 119 mg/dl (table 4).
- Fewer than 3 percent of Mexican-American, Cuban, and Puerto Rican men and women ages 20–74 years have serum triglyceride values of 500 mg/dl or more, and fewer than 11 percent have serum triglyceride values of at least 250–500 mg/dl (table 15).

### **Low-density lipoprotein cholesterol**

- The age-adjusted mean LDL-C levels of Mexican-American, Cuban, and Puerto Rican men fasting 12 hours or more are 127, 137, and 145 mg/dl, respectively. For women, the corresponding values are 128, 129, and 132 mg/dl (table 5).
- An estimated 749,000 Mexican Americans (14.6 percent)—369,000 men (14.3 percent) and 374,000 women (14.7 percent)—have an LDL-C level of 160 mg/dl or more (table 24).
- Between 20 and 35 percent of Cuban and Puerto Rican men and women have an LDL-C level of 160 mg/dl or more (table 24).

### **Socioeconomic status**

- Poverty status (income below poverty level vs. income at or above poverty level) has no significant effect on mean serum cholesterol, HDL-C level, or ratio of TC to HDL-C of Mexican Americans (tables 25–30).
- There were no significant differences in mean total serum cholesterol or HDL-C level or ratio of TC to HDL-C between Mexican Americans with less than 9 years of education and those with 12 years of education or more (tables 31–36).

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**Table 1. Total serum cholesterol levels in milligrams per deciliter for persons 20–74 years of age, number of examined persons, mean, standard error of the mean, and selected percentiles, by sex, specified Hispanic origin, and age: Hispanic Health and Nutrition Examination Survey, 1982–84**

Sex, Hispanic origin, and age	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
<b>Male</b>												
<b>Mexican-American:</b>												
20–74 years	1,407	203	1.2	146	155	162	176	202	228	243	254	269
20–74 years, age adjusted	...	207	...	...	...	...	...	...	...	...	...	...
20–24 years	213	181	3.4	126	139	148	157	179	202	215	224	238
25–34 years	417	200	2.0	147	158	163	176	199	222	236	245	260
35–44 years	243	213	2.8	158	166	174	188	212	236	252	260	275
45–54 years	263	223	2.1	161	174	184	200	221	247	264	276	287
55–64 years	192	216	2.5	159	170	175	188	214	236	252	265	284
65–74 years	79	214	4.4	*	171	175	192	216	234	254	265	*
<b>Cuban:</b>												
20–74 years	366	209	2.3	143	157	169	181	205	232	248	268	294
20–74 years, age adjusted	...	205	...	...	...	...	...	...	...	...	...	...
20–24 years	24	*	*	*	*	*	140	180	188	*	*	*
25–34 years	59	190	5.2	*	146	154	167	189	205	216	231	*
35–44 years	51	212	7.2	*	167	179	186	206	236	241	266	*
45–54 years	112	220	3.8	152	167	177	192	218	237	271	279	296
55–64 years	79	220	4.2	*	174	181	194	213	236	264	276	*
65–74 years	41	*221	5.3	*	*	180	196	224	242	261	*	*
<b>Puerto Rican:</b>												
20–74 years	422	201	2.8	137	147	158	171	196	224	244	257	284
20–74 years, age adjusted	...	203	...	...	...	...	...	...	...	...	...	...
20–24 years	53	172	6.7	*	131	137	149	169	191	203	210	*
25–34 years	102	191	6.1	136	145	155	166	185	208	227	235	255
35–44 years	71	200	7.1	*	143	153	173	195	223	241	264	*
45–54 years	97	232	5.2	*	177	191	200	228	255	273	280	*
55–64 years	76	218	4.7	*	175	180	187	212	241	260	267	*
65–74 years	23	*	*	*	*	*	196	218	230	*	*	*
<b>Female</b>												
<b>Mexican-American:</b>												
20–74 years	1,797	202	1.0	142	153	161	172	198	226	244	257	276
20–74 years, age adjusted	...	207	...	...	...	...	...	...	...	...	...	...
20–24 years	268	187	2.7	131	145	149	158	183	208	222	235	255
25–34 years	522	189	1.7	138	148	155	166	185	208	223	234	257
35–44 years	330	203	2.4	149	161	168	177	196	222	240	251	274
45–54 years	344	219	1.9	162	173	178	192	217	237	255	265	285
55–64 years	219	229	2.5	168	177	190	202	227	251	265	271	301
65–74 years	114	236	4.0	163	181	189	202	232	272	281	293	316
<b>Cuban:</b>												
20–74 years	460	202	2.0	143	155	161	172	197	227	247	257	277
20–74 years, age adjusted	...	199	...	...	...	...	...	...	...	...	...	...
20–24 years	33	*176	5.8	*	*	*	155	174	197	*	*	*
25–34 years	70	176	4.2	*	139	141	156	172	195	207	222	*
35–44 years	89	190	3.4	*	158	163	167	189	203	215	233	*
45–54 years	116	214	3.2	161	170	180	185	210	235	249	267	283
55–64 years	95	234	4.4	*	171	182	207	234	257	277	287	*
65–74 years	57	227	5.1	*	160	177	200	232	256	274	276	*
<b>Puerto Rican:</b>												
20–74 years	716	203	2.4	137	150	155	168	194	226	248	265	294
20–74 years, age adjusted	...	209	...	...	...	...	...	...	...	...	...	...
20–24 years	104	185	8.0	128	137	140	154	173	199	217	236	286
25–34 years	160	189	4.5	134	145	150	159	182	209	227	241	259
35–44 years	143	204	6.1	148	152	158	168	193	223	243	265	293
45–54 years	165	218	3.2	163	173	179	188	214	239	254	265	290
55–64 years	95	239	4.5	*	183	200	209	232	266	298	315	*
65–74 years	49	242	6.5	*	*	186	210	246	265	271	*	*

Note: To convert the estimated mean or percentile to millimoles per liter, multiply the estimate by 0.02583.

**Table 2. High-density lipoprotein cholesterol levels in milligrams per deciliter for persons 20-74 years of age, number of examined persons, mean, standard error of the mean, and selected percentiles, by sex, specified Hispanic origin, and age: Hispanic Health and Nutrition Examination Survey, 1982-84**

Sex, Hispanic origin, and age	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
<b>Male</b>												
<b>Mexican-American:</b>												
20-74 years	1,381	47.1	0.5	30.0	33.0	36.0	39.0	46.0	53.1	58.0	63.0	72.0
20-74 years, age adjusted	...	47.1	...	...	...	...	...	...	...	...	...	...
20-24 years	210	47.2	1.3	32.0	34.0	37.0	40.0	46.0	53.0	56.1	62.0	70.1
25-34 years	408	47.1	1.0	31.0	33.0	35.1	39.0	46.0	54.0	58.1	63.0	72.0
35-44 years	239	46.8	1.2	27.0	32.0	35.0	38.0	47.0	53.0	57.1	63.1	69.1
45-54 years	256	47.8	1.1	29.0	32.1	35.0	37.0	45.0	55.1	60.0	64.1	79.0
55-64 years	189	46.2	1.2	30.0	33.1	35.1	38.0	42.1	53.0	57.1	65.0	71.1
65-74 years	79	47.7	2.2	*	33.0	35.0	39.0	45.0	55.0	58.0	62.0	*
<b>Cuban:</b>												
20-74 years	359	43.6	0.6	27.0	31.0	33.0	36.0	42.0	50.0	55.0	59.0	65.0
20-74 years, age adjusted	...	43.4	...	...	...	...	...	...	...	...	...	...
20-24 years	24	*	*	*	*	*	36.0	42.0	47.0	*	*	*
25-34 years	59	42.8	1.8	*	27.0	30.0	34.0	42.1	50.1	58.0	58.1	*
35-44 years	51	42.7	2.0	*	29.0	30.0	35.0	42.0	50.0	52.1	60.0	*
45-54 years	108	43.8	1.1	29.0	32.0	34.0	36.0	42.0	50.0	56.0	60.0	65.1
55-64 years	77	45.8	1.4	*	33.0	34.1	37.0	45.0	52.0	57.0	66.0	*
65-74 years	40	*45.0	1.4	*	*	34.0	37.0	44.0	53.1	55.0	*	*
<b>Puerto Rican:</b>												
20-74 years	419	42.2	0.7	23.0	26.0	29.0	32.0	41.0	50.0	56.1	62.0	69.0
20-74 years, age adjusted	...	42.3	...	...	...	...	...	...	...	...	...	...
20-24 years	53	41.3	2.0	*	28.0	30.0	34.0	40.1	46.0	47.1	60.0	*
25-34 years	101	42.4	1.6	22.0	25.0	29.0	32.1	42.0	51.0	57.0	59.0	65.1
35-44 years	71	39.1	2.2	*	25.0	28.0	30.0	35.0	46.0	54.1	56.1	*
45-54 years	96	45.6	1.4	*	24.0	30.0	38.0	43.1	54.0	61.0	64.0	*
55-64 years	75	44.1	1.4	*	29.0	32.0	35.0	41.0	51.0	58.0	64.1	*
65-74 years	23	*	*	*	*	*	24.0	43.0	50.0	*	*	*
<b>Female</b>												
<b>Mexican-American:</b>												
20-74 years	1,777	52.6	0.4	34.0	37.0	39.1	43.0	51.0	60.1	66.1	70.1	78.0
20-74 years, age adjusted	...	52.5	...	...	...	...	...	...	...	...	...	...
20-24 years	267	53.5	1.1	35.1	38.0	41.0	44.1	51.1	62.0	66.1	71.1	79.0
25-34 years	521	52.6	0.8	34.0	37.0	39.1	43.0	51.0	60.0	67.0	70.1	76.1
35-44 years	325	51.6	1.0	32.0	36.0	38.0	42.1	50.0	58.1	66.1	70.0	75.1
45-54 years	339	52.3	0.8	34.0	37.0	39.0	42.0	50.0	61.0	67.0	71.1	79.0
55-64 years	211	52.6	1.2	32.0	36.0	38.0	43.0	51.0	59.0	66.0	71.1	83.0
65-74 years	114	52.8	1.5	34.0	37.0	39.0	43.0	51.0	63.0	66.1	69.1	76.1
<b>Cuban:</b>												
20-74 years	455	52.4	0.6	34.0	37.1	40.0	43.0	51.0	60.0	65.1	69.0	77.1
20-74 years, age adjusted	...	52.2	...	...	...	...	...	...	...	...	...	...
20-24 years	32	*52.7	2.7	*	*	*	43.0	52.0	60.0	*	*	*
25-34 years	69	49.6	1.4	*	37.1	41.0	43.0	48.1	56.1	60.0	63.0	*
35-44 years	89	51.9	1.6	*	37.1	39.0	42.0	51.0	59.0	65.1	68.1	*
45-54 years	115	53.0	1.2	34.0	38.0	40.0	44.0	51.0	61.1	66.1	69.1	77.1
55-64 years	94	54.3	1.2	*	40.0	43.0	47.0	54.0	60.0	66.1	71.0	*
65-74 years	56	54.1	1.8	*	39.1	40.0	42.0	50.1	64.1	72.1	76.1	*
<b>Puerto Rican:</b>												
20-74 years	708	48.3	0.6	27.0	32.0	34.0	39.0	47.0	56.0	62.0	69.0	76.1
20-74 years, age adjusted	...	48.7	...	...	...	...	...	...	...	...	...	...
20-24 years	103	48.7	1.7	30.0	33.0	36.0	39.1	46.0	55.0	61.0	68.1	78.0
25-34 years	160	48.4	1.4	28.0	32.0	34.0	39.0	45.1	56.0	66.1	70.0	74.1
35-44 years	139	46.2	1.4	26.0	30.0	32.0	36.1	46.0	53.0	58.0	61.1	70.1
45-54 years	162	48.4	1.1	28.0	32.0	35.0	38.1	47.0	55.1	60.0	65.1	79.1
55-64 years	95	54.6	1.3	*	37.0	40.0	46.1	51.1	64.0	74.0	75.1	*
65-74 years	49	48.1	1.9	*	*	28.0	38.0	44.0	56.0	64.1	*	*

Note: To convert the estimated mean or percentile to millimoles per liter, multiply the estimate by 0.02596.

Table 3. Ratio of total serum cholesterol to high-density lipoprotein cholesterol for persons 20-74 years of age, number of examined persons, mean, standard error of the mean, and selected percentiles, by sex, specified Hispanic origin, and age: Hispanic Health and Nutrition Examination Survey, 1982-84

Sex, Hispanic origin, and age	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
Male												
Mexican-American:												
20-74 years	1,381	4.61	0.06	2.65	2.93	3.18	3.56	4.37	5.42	6.01	6.50	7.30
20-74 years, age adjusted	...	4.70	...	...	...	...	...	...	...	...	...	...
20-24 years	210	4.02	0.14	2.49	2.79	2.91	3.16	3.79	4.48	5.31	5.53	6.62
25-34 years	408	4.54	0.12	2.73	2.90	3.21	3.57	4.27	5.31	5.74	6.16	7.29
35-44 years	239	4.88	0.15	2.83	3.15	3.34	3.70	4.65	5.81	6.24	6.84	7.92
45-54 years	256	5.04	0.12	2.87	3.18	3.39	4.05	4.77	5.88	6.51	6.90	7.55
55-64 years	189	5.00	0.13	2.62	3.14	3.42	4.05	4.91	5.83	6.37	6.86	7.74
65-74 years	79	4.79	0.20	*	3.09	3.21	3.71	4.58	5.89	6.24	6.63	*
Cuban:												
20-74 years	359	5.18	0.12	2.90	3.26	3.44	3.81	4.84	6.01	6.86	7.44	8.46
20-74 years, age adjusted	...	5.09	...	...	...	...	...	...	...	...	...	...
20-24 years	24	*	*	*	*	*	3.55	3.93	5.19	*	*	*
25-34 years	59	4.86	0.30	*	2.93	3.11	3.61	4.35	5.68	6.22	7.25	*
35-44 years	51	5.35	0.31	*	3.29	3.41	4.06	5.25	6.64	7.17	7.51	*
45-54 years	108	5.54	0.27	2.90	3.27	3.59	3.97	5.11	6.38	7.27	7.67	8.46
55-64 years	77	5.21	0.21	*	3.35	3.50	3.96	4.89	5.95	6.72	7.19	*
65-74 years	40	*5.05	0.16	*	*	3.98	4.27	4.84	5.55	6.54	*	*
Puerto Rican:												
20-74 years	419	5.33	0.13	2.65	3.11	3.32	3.62	4.84	6.33	7.36	8.22	9.61
20-74 years, age adjusted	...	5.40	...	...	...	...	...	...	...	...	...	...
20-24 years	53	4.54	0.30	*	2.91	2.94	3.28	4.28	5.37	6.00	6.46	*
25-34 years	101	5.07	0.30	2.67	3.11	3.23	3.43	4.30	6.06	7.58	8.64	9.10
35-44 years	71	5.67	0.29	*	3.33	3.61	4.05	5.51	6.93	7.57	7.96	*
45-54 years	96	5.83	0.27	*	3.16	3.56	3.95	4.83	6.60	8.26	9.81	*
55-64 years	75	5.41	0.21	*	3.52	3.61	3.75	5.08	6.27	6.82	7.56	*
65-74 years	23	*	*	*	*	*	4.45	5.41	8.91	*	*	*
Female												
Mexican-American:												
20-74 years	1,777	4.06	0.04	2.41	2.66	2.84	3.12	3.87	4.71	5.33	5.78	6.46
20-74 years, age adjusted	...	4.17	...	...	...	...	...	...	...	...	...	...
20-24 years	267	3.66	0.09	2.30	2.51	2.70	2.90	3.40	4.26	4.59	4.98	6.00
25-34 years	521	3.79	0.06	2.37	2.54	2.71	3.02	3.63	4.32	4.92	5.20	5.83
35-44 years	325	4.15	0.08	2.46	2.71	2.96	3.25	3.98	4.83	5.35	5.64	6.37
45-54 years	339	4.45	0.08	2.68	2.91	3.03	3.30	4.30	5.13	5.83	6.24	7.06
55-64 years	211	4.61	0.10	2.64	2.81	3.23	3.65	4.46	5.44	6.09	6.37	6.98
65-74 years	114	4.75	0.16	3.01	3.21	3.31	3.51	4.44	5.81	6.25	6.85	7.77
Cuban:												
20-74 years	455	4.08	0.06	2.51	2.75	2.91	3.14	3.84	4.59	5.26	5.94	6.53
20-74 years, age adjusted	...	4.01	...	...	...	...	...	...	...	...	...	...
20-24 years	32	*3.53	0.19	*	*	*	2.63	3.20	4.11	*	*	*
25-34 years	69	3.68	0.12	*	2.81	2.87	3.05	3.38	4.28	4.57	5.12	*
35-44 years	89	3.90	0.13	*	2.63	2.81	3.09	3.82	4.38	5.04	5.26	*
45-54 years	115	4.29	0.12	2.64	2.88	3.01	3.29	4.05	4.85	5.80	6.39	7.35
55-64 years	94	4.56	0.16	*	2.93	3.24	3.61	4.20	5.20	5.97	6.12	*
65-74 years	56	4.49	0.18	*	2.95	3.10	3.28	4.11	5.60	6.12	6.53	*
Puerto Rican:												
20-74 years	708	4.62	0.08	2.43	2.74	2.93	3.29	4.20	5.34	6.30	6.83	8.09
20-74 years, age adjusted	...	4.73	...	...	...	...	...	...	...	...	...	...
20-24 years	103	4.14	0.22	2.06	2.62	2.70	2.83	3.64	4.62	5.83	6.76	7.36
25-34 years	160	4.29	0.17	2.30	2.59	2.66	3.00	3.94	4.98	5.79	6.25	7.23
35-44 years	139	4.85	0.21	2.51	2.97	3.08	3.48	4.65	5.35	6.37	6.89	7.95
45-54 years	162	4.93	0.14	2.88	3.20	3.38	3.66	4.62	5.63	6.31	6.81	8.57
55-64 years	95	4.71	0.14	*	3.14	3.24	3.42	4.27	5.90	6.50	6.78	*
65-74 years	49	6.07	0.38	*	*	3.33	3.65	5.63	7.82	9.13	*	*

**Table 4. Serum triglyceride levels in milligrams per deciliter for persons 20-74 years of age fasting 12 hours or more, number of examined persons, mean, standard error of the mean, and selected percentiles, by sex, specified Hispanic origin, and age: Hispanic Health and Nutrition Examination Survey, 1982-84**

Sex, Hispanic origin, and age	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
<b>Male</b>												
<b>Mexican-American:</b>												
20-74 years	302	155	6.3	56	63	73	90	134	189	224	255	356
20-74 years, age adjusted	...	156	...	...	...	...	...	...	...	...	...	...
20-24 years	29	*109	12.2	*	*	*	69	102	143	*	*	*
25-34 years	78	148	13.1	*	63	72	91	129	181	211	234	*
35-44 years	55	165	17.3	*	65	73	80	134	206	285	328	*
45-54 years	59	173	9.7	*	86	89	124	158	222	250	275	*
55-64 years	55	181	15.2	*	83	89	111	155	203	246	274	*
65-74 years	26	*166	23.3	*	*	*	101	139	199	*	*	*
<b>Cuban:</b>												
20-74 years	59	142	...	*	64	70	90	112	163	175	222	*
20-74 years, age adjusted	...	135	...	...	...	...	...	...	...	...	...	...
<b>Puerto Rican:</b>												
20-74 years	53	122	...	*	59	65	79	101	158	167	180	*
20-74 years, age adjusted	...	120	...	...	...	...	...	...	...	...	...	...
<b>Female</b>												
<b>Mexican-American:</b>												
20-74 years	431	133	4.0	52	60	68	82	115	163	206	232	271
20-74 years, age adjusted	...	140	...	...	...	...	...	...	...	...	...	...
20-24 years	68	108	8.5	*	51	52	67	92	130	159	189	*
25-34 years	118	116	6.4	57	60	65	71	104	138	163	203	249
35-44 years	81	139	11.4	*	68	74	82	107	152	216	231	*
45-54 years	76	153	6.5	*	86	94	105	151	191	218	239	*
55-64 years	62	165	9.5	*	88	97	110	158	198	240	253	*
65-74 years	26	*187	24.7	*	*	*	114	144	232	*	*	*
<b>Cuban:</b>												
20-74 years	67	110	...	*	52	55	62	82	142	172	203	*
20-74 years, age adjusted	...	104	...	...	...	...	...	...	...	...	...	...
<b>Puerto Rican:</b>												
20-74 years	117	116	...	47	51	58	73	93	145	163	194	227
20-74 years, age adjusted	...	119	...	...	...	...	...	...	...	...	...	...

Note: To convert the estimated mean or percentile to millimoles per liter, multiply the estimate by 0.01129.

**Table 5. Calculated levels of low-density lipoprotein cholesterol in milligrams per deciliter for persons 20–74 years of age fasting 12 hours or more, number of examined persons, mean, standard error of the mean, and selected percentiles, by sex, specified Hispanic origin, and age: Hispanic Health and Nutrition Examination Survey, 1982–84**

Sex, Hispanic origin, and age	Number of examined persons	Mean	Standard error of the mean	Percentile								
				5th	10th	15th	25th	50th	75th	85th	90th	95th
<b>Male</b>												
<b>Mexican-American:</b>												
20–74 years . . . . .	289	126	2.2	69	82	92	104	126	148	159	168	184
20–74 years, age adjusted . . . . .	...	127	...	...	...	...	...	...	...	...	...	...
20–24 years . . . . .	28	*108	8.4	*	*	*	82	111	137	*	*	*
25–34 years . . . . .	75	120	4.3	*	85	92	99	121	136	142	150	*
35–44 years . . . . .	52	134	5.0	*	96	99	117	136	158	162	173	*
45–54 years . . . . .	58	135	4.1	*	97	104	113	139	150	160	179	*
55–64 years . . . . .	52	135	4.6	*	83	103	115	135	155	170	182	*
65–74 years . . . . .	24	*	*	*	*	*	102	141	166	*	*	*
<b>Cuban:</b>												
20–74 years . . . . .	54	142	...	*	98	107	115	135	162	175	191	*
20–74 years, age adjusted . . . . .	...	137	...	...	...	...	...	...	...	...	...	...
<b>Puerto Rican:</b>												
20–74 years . . . . .	53	146	...	*	87	89	108	134	171	190	210	*
20–74 years, age adjusted . . . . .	...	145	...	...	...	...	...	...	...	...	...	...
<b>Female</b>												
<b>Mexican-American:</b>												
20–74 years . . . . .	424	124	1.7	73	82	89	100	122	147	158	167	182
20–74 years, age adjusted . . . . .	...	128	...	...	...	...	...	...	...	...	...	...
20–24 years . . . . .	68	110	4.3	*	73	80	91	107	133	140	147	*
25–34 years . . . . .	118	116	3.1	71	79	84	91	111	145	152	156	173
35–44 years . . . . .	78	123	3.1	*	94	98	102	120	143	151	161	*
45–54 years . . . . .	76	144	3.8	*	105	116	123	137	164	176	187	*
55–64 years . . . . .	59	139	3.6	*	91	106	121	140	158	175	178	*
65–74 years . . . . .	25	*149	8.6	*	*	*	126	158	176	*	*	*
<b>Cuban:</b>												
20–74 years . . . . .	66	132	...	*	89	93	103	126	156	171	184	*
20–74 years, age adjusted . . . . .	...	129	...	...	...	...	...	...	...	...	...	...
<b>Puerto Rican:</b>												
20–74 years . . . . .	114	130	...	72	83	89	100	114	152	181	202	226
20–74 years, age adjusted . . . . .	...	132	...	...	...	...	...	...	...	...	...	...

NOTES: Serum LDL cholesterol = total serum cholesterol – HDL cholesterol – triglyceride/5 (Friedewald WT, et al. Clin Chem (18):499–502. 1972). Persons with a serum triglyceride value greater than 400 mg/dl were excluded. To convert the estimated mean or percentile to millimoles per liter, multiply the estimate by 0.02586.

Table 6. Total serum cholesterol levels in milligrams per deciliter for persons 20-74 years of age and number of examined persons, by specified Hispanic origin and sex: Hispanic Health and Nutrition Examination Survey, 1982-84

Hispanic origin and selected cholesterol level cutoff	Both sexes		Male		Female	
	Number of examined persons	Cumulative percent	Number of examined persons	Cumulative percent	Number of examined persons	Cumulative percent
<b>Mexican-American</b>						
Total . . . . .	3,204	100.0	1,407	100.0	1,797	100.0
Less than 120 . . . . .	26	1.0	16	1.3	10	0.6
Less than 130 . . . . .	61	2.1	25	2.1	36	2.1
Less than 140 . . . . .	112	3.9	44	3.7	68	4.0
Less than 150 . . . . .	218	7.6	84	7.2	134	8.0
Less than 160 . . . . .	380	13.2	153	12.6	227	13.9
Less than 170 . . . . .	606	20.9	236	19.2	370	22.5
Less than 180 . . . . .	875	29.6	345	27.5	530	31.9
Less than 190 . . . . .	1,189	40.1	483	37.8	706	42.3
Less than 200 . . . . .	1,493	49.7	609	46.9	884	52.5
Less than 210 . . . . .	1,826	59.9	769	57.9	1,057	62.0
Less than 220 . . . . .	2,128	69.2	913	67.9	1,215	70.4
Less than 230 . . . . .	2,392	77.1	1,043	76.8	1,349	77.5
Less than 240 . . . . .	2,608	83.4	1,142	83.4	1,466	83.5
Less than 250 . . . . .	2,756	87.7	1,217	88.3	1,539	87.1
Less than 260 . . . . .	2,889	91.5	1,278	92.1	1,611	90.9
Less than 270 . . . . .	2,995	94.5	1,324	95.1	1,671	93.9
Less than 280 . . . . .	3,054	96.2	1,348	96.6	1,706	95.7
Less than 290 . . . . .	3,096	97.2	1,371	97.9	1,725	96.5
Less than 300 . . . . .	3,133	98.1	1,387	98.8	1,746	97.5
Less than 325 . . . . .	3,172	99.2	1,403	99.7	1,769	98.6
Less than 350 . . . . .	3,189	99.6	1,405	99.9	1,784	99.3
Less than 700 . . . . .	3,204	100.0	1,407	100.0	1,797	100.0
<b>Cuban</b>						
Total . . . . .	826	100.0	366	100.0	460	100.0
Less than 120 . . . . .	2	0.4	1	0.5	1	0.2
Less than 130 . . . . .	10	1.5	5	1.8	5	1.3
Less than 140 . . . . .	27	3.8	12	4.0	15	3.7
Less than 150 . . . . .	57	7.7	27	8.4	30	7.2
Less than 160 . . . . .	89	11.7	35	10.3	54	12.9
Less than 170 . . . . .	146	19.3	53	15.2	93	22.6
Less than 180 . . . . .	222	29.3	83	24.2	139	33.4
Less than 190 . . . . .	302	39.6	122	35.7	180	42.8
Less than 200 . . . . .	377	49.2	152	44.1	225	53.4
Less than 210 . . . . .	455	59.0	193	56.3	262	61.2
Less than 220 . . . . .	531	67.7	229	65.4	302	69.6
Less than 230 . . . . .	593	74.7	260	72.8	333	76.2
Less than 240 . . . . .	656	81.7	297	82.5	359	81.2
Less than 250 . . . . .	693	86.0	307	85.1	386	86.7
Less than 260 . . . . .	725	89.2	316	87.3	409	90.8
Less than 270 . . . . .	746	91.4	329	90.4	417	92.2
Less than 280 . . . . .	775	94.5	340	93.2	435	95.6
Less than 290 . . . . .	790	96.0	345	94.3	445	97.3
Less than 300 . . . . .	804	97.5	354	96.6	450	98.3
Less than 325 . . . . .	817	98.9	360	98.3	457	99.5
Less than 350 . . . . .	822	99.6	365	99.8	457	99.5
Less than 700 . . . . .	826	100.0	366	100.0	460	100.0
<b>Puerto Rican</b>						
Total . . . . .	1,138	100.0	422	100.0	716	100.0
Less than 120 . . . . .	13	1.5	6	1.7	7	1.3
Less than 130 . . . . .	28	3.1	9	3.0	19	3.2
Less than 140 . . . . .	53	5.7	18	5.6	35	5.8
Less than 150 . . . . .	99	10.4	37	11.4	62	9.7
Less than 160 . . . . .	167	17.2	55	16.0	112	18.0
Less than 170 . . . . .	251	25.7	86	23.8	165	26.9
Less than 180 . . . . .	353	35.0	126	33.8	227	35.7
Less than 190 . . . . .	468	45.6	164	43.0	304	47.2
Less than 200 . . . . .	565	53.8	210	53.7	355	53.8
Less than 210 . . . . .	669	62.9	253	64.0	416	62.1
Less than 220 . . . . .	768	70.8	293	72.8	475	69.6
Less than 230 . . . . .	846	77.7	317	78.8	529	77.0
Less than 240 . . . . .	911	82.3	340	83.2	571	81.8
Less than 250 . . . . .	965	86.5	359	87.3	606	86.1
Less than 260 . . . . .	1,004	89.2	375	90.3	629	88.6
Less than 270 . . . . .	1,034	91.6	386	92.5	648	91.0
Less than 280 . . . . .	1,063	93.7	396	94.5	667	93.2
Less than 290 . . . . .	1,081	95.1	406	96.6	675	94.2
Less than 300 . . . . .	1,096	96.6	412	97.8	684	95.9
Less than 325 . . . . .	1,118	98.1	417	98.8	701	97.7
Less than 350 . . . . .	1,122	98.4	418	98.9	704	98.0
Less than 700 . . . . .	1,138	100.0	422	100.0	716	100.0

Note: To convert the values in the stub to millimoles per liter, multiply the values by 0.02586.



**Table 7. Total serum cholesterol levels in milligrams per deciliter for males 20–74 years of age and number of examined persons, by specified Hispanic origin and age: Hispanic Health and Nutrition Examination Survey, 1982–84**

<i>Hispanic origin and selected cholesterol level cutoff</i>	<i>20–24 years</i>		<i>25–34 years</i>		<i>35–44 years</i>	
	<i>Number of examined persons</i>	<i>Cumulative percent</i>	<i>Number of examined persons</i>	<i>Cumulative percent</i>	<i>Number of examined persons</i>	<i>Cumulative percent</i>
<b>Mexican-American</b>						
Total . . . . .	213	100.0	417	100.0	243	100.0
Less than 120 . . . . .	8	3.9	3	0.7	1	0.5
Less than 130 . . . . .	13	6.3	5	1.1	2	0.9
Less than 140 . . . . .	21	10.0	9	2.2	5	2.2
Less than 150 . . . . .	36	16.7	28	7.1	7	3.1
Less than 160 . . . . .	64	29.7	47	11.6	14	6.2
Less than 170 . . . . .	86	39.8	79	19.2	28	11.9
Less than 180 . . . . .	108	50.5	116	28.0	44	18.9
Less than 190 . . . . .	139	65.0	166	39.8	64	27.1
Less than 200 . . . . .	154	71.9	213	51.0	88	37.0
Less than 210 . . . . .	172	80.2	267	64.1	112	46.1
Less than 220 . . . . .	189	88.4	307	73.8	137	56.4
Less than 230 . . . . .	198	92.6	339	81.8	167	68.6
Less than 240 . . . . .	204	95.6	359	86.8	190	78.3
Less than 250 . . . . .	207	97.1	382	91.9	202	83.4
Less than 260 . . . . .	209	98.1	396	95.0	218	89.7
Less than 270 . . . . .	210	98.6	407	97.5	229	94.5
Less than 280 . . . . .	210	98.6	413	99.0	233	96.0
Less than 290 . . . . .	211	99.0	413	99.0	235	96.9
Less than 300 . . . . .	211	99.0	414	99.2	239	98.4
Less than 325 . . . . .	212	99.5	416	99.8	243	100.0
Less than 350 . . . . .	212	99.5	417	100.0	243	100.0
Less than 700 . . . . .	213	100.0	417	100.0	243	100.0
<b>Cuban</b>						
Total . . . . .	24	100.0	59	100.0	51	100.0
Less than 120 . . . . .	*	*	—	—	1	2.8
Less than 130 . . . . .	*	*	2	3.4	2	4.3
Less than 140 . . . . .	*	*	3	4.8	2	4.3
Less than 150 . . . . .	*	*	9	14.0	3	6.6
Less than 160 . . . . .	*	*	10	15.7	3	6.6
Less than 170 . . . . .	*	*	18	27.1	5	10.7
Less than 180 . . . . .	*	*	27	43.6	7	15.4
Less than 190 . . . . .	*	*	32	51.7	16	32.1
Less than 200 . . . . .	*	*	37	60.7	22	45.2
Less than 210 . . . . .	*	*	48	80.9	29	56.7
Less than 220 . . . . .	*	*	51	86.0	32	63.8
Less than 230 . . . . .	*	*	53	89.7	34	67.6
Less than 240 . . . . .	*	*	56	94.3	41	81.0
Less than 250 . . . . .	*	*	57	96.3	43	85.1
Less than 260 . . . . .	*	*	57	96.3	45	88.2
Less than 270 . . . . .	*	*	58	97.7	46	90.1
Less than 280 . . . . .	*	*	58	97.7	47	92.3
Less than 290 . . . . .	*	*	58	97.7	47	92.3
Less than 300 . . . . .	*	*	58	97.7	49	96.0
Less than 325 . . . . .	*	*	59	100.0	50	98.0
Less than 350 . . . . .	*	*	59	100.0	51	100.0
Less than 700 . . . . .	*	*	59	100.0	51	100.0
<b>Puerto Rican</b>						
Total . . . . .	53	100.0	102	100.0	71	100.0
Less than 120 . . . . .	4	7.5	2	1.9	—	—
Less than 130 . . . . .	5	9.1	3	2.5	1	3.5
Less than 140 . . . . .	9	17.0	6	5.9	2	4.8
Less than 150 . . . . .	14	25.3	14	13.1	6	13.7
Less than 160 . . . . .	20	37.8	20	18.1	9	16.9
Less than 170 . . . . .	27	51.2	30	28.3	14	23.1
Less than 180 . . . . .	34	63.6	46	43.7	19	28.7
Less than 190 . . . . .	40	74.7	57	53.3	28	40.4
Less than 200 . . . . .	45	84.0	70	66.0	37	52.3
Less than 210 . . . . .	47	88.8	78	75.9	43	62.0
Less than 220 . . . . .	49	92.8	84	81.8	52	74.2
Less than 230 . . . . .	50	94.5	89	87.9	56	80.9
Less than 240 . . . . .	51	96.2	94	92.0	58	83.4
Less than 250 . . . . .	52	98.3	95	93.0	61	87.4
Less than 260 . . . . .	52	98.3	98	96.1	63	89.9
Less than 270 . . . . .	52	98.3	99	97.0	65	92.4
Less than 280 . . . . .	52	98.3	99	97.0	66	93.6
Less than 290 . . . . .	52	98.3	100	98.0	69	97.8
Less than 300 . . . . .	52	98.3	100	98.0	71	100.0
Less than 325 . . . . .	53	100.0	101	99.0	71	100.0
Less than 350 . . . . .	53	100.0	101	99.0	71	100.0
Less than 700 . . . . .	53	100.0	102	100.0	71	100.0

**Table 7. Total serum cholesterol levels in milligrams per deciliter for males 20–74 years of age and number of examined persons, by specified Hispanic origin and age: Hispanic Health and Nutrition Examination Survey, 1982–84—Con.**

<i>Hispanic origin and selected cholesterol level cutoff</i>	<i>45–54 years</i>		<i>55–64 years</i>		<i>65–74 years</i>	
	<i>Number of examined persons</i>	<i>Cumulative percent</i>	<i>Number of examined persons</i>	<i>Cumulative percent</i>	<i>Number of examined persons</i>	<i>Cumulative percent</i>
<b>Mexican-American</b>						
Total . . . . .	263	100.0	192	100.0	79	100.0
Less than 120 . . . . .	2	0.7	1	0.6	1	1.3
Less than 130 . . . . .	2	0.7	1	0.6	2	2.8
Less than 140 . . . . .	2	0.7	4	2.0	3	3.9
Less than 150 . . . . .	4	1.7	4	2.0	5	6.3
Less than 160 . . . . .	11	3.9	12	6.0	5	6.3
Less than 170 . . . . .	21	8.0	14	7.7	8	9.8
Less than 180 . . . . .	31	11.5	31	17.2	15	18.6
Less than 190 . . . . .	49	18.5	47	25.7	18	21.8
Less than 200 . . . . .	65	24.3	60	31.7	29	36.9
Less than 210 . . . . .	99	37.2	85	44.6	34	42.6
Less than 220 . . . . .	131	49.5	104	54.1	45	57.2
Less than 230 . . . . .	154	58.9	130	67.8	55	69.3
Less than 240 . . . . .	184	69.8	145	75.9	60	76.8
Less than 250 . . . . .	203	77.4	158	82.3	65	83.1
Less than 260 . . . . .	218	83.4	169	87.7	68	86.6
Less than 270 . . . . .	231	88.0	175	90.9	72	91.4
Less than 280 . . . . .	238	90.9	179	93.2	75	95.4
Less than 290 . . . . .	249	95.1	184	95.7	79	100.0
Less than 300 . . . . .	256	97.6	188	97.9	79	100.0
Less than 325 . . . . .	262	99.7	191	99.5	79	100.0
Less than 350 . . . . .	262	99.7	192	100.0	79	100.0
Less than 700 . . . . .	263	100.0	192	100.0	79	100.0
<b>Cuban</b>						
Total . . . . .	112	100.0	79	100.0	41	100.0
Less than 120 . . . . .	—	—	—	—	—	—
Less than 130 . . . . .	1	1.0	—	—	—	—
Less than 140 . . . . .	3	2.5	—	—	—	—
Less than 150 . . . . .	5	4.0	1	1.0	1	2.5
Less than 160 . . . . .	8	6.5	3	3.4	2	4.8
Less than 170 . . . . .	13	10.8	5	5.9	2	4.8
Less than 180 . . . . .	20	17.3	12	14.3	5	12.6
Less than 190 . . . . .	28	24.7	19	22.7	8	20.3
Less than 200 . . . . .	34	30.1	28	33.8	12	29.6
Less than 210 . . . . .	42	37.5	38	47.7	15	37.2
Less than 220 . . . . .	61	54.2	45	57.0	19	47.0
Less than 230 . . . . .	74	65.9	53	66.4	24	58.7
Less than 240 . . . . .	87	77.9	62	77.8	29	71.3
Less than 250 . . . . .	90	80.4	63	78.8	32	79.1
Less than 260 . . . . .	91	81.2	66	82.7	34	83.6
Less than 270 . . . . .	94	84.2	71	88.9	37	90.5
Less than 280 . . . . .	101	90.6	72	90.7	39	95.5
Less than 290 . . . . .	103	92.1	75	95.0	39	95.5
Less than 300 . . . . .	107	95.8	77	97.3	40	97.8
Less than 325 . . . . .	109	97.4	78	98.7	41	100.0
Less than 350 . . . . .	112	100.0	78	98.7	41	100.0
Less than 700 . . . . .	112	100.0	79	100.0	41	100.0
<b>Puerto Rican</b>						
Total . . . . .	97	100.0	76	100.0	23	100.0
Less than 120 . . . . .	—	—	—	—	*	*
Less than 130 . . . . .	—	—	—	—	*	*
Less than 140 . . . . .	—	—	1	1.0	*	*
Less than 150 . . . . .	1	1.0	2	2.2	*	*
Less than 160 . . . . .	4	3.3	2	2.2	*	*
Less than 170 . . . . .	7	6.0	6	6.7	*	*
Less than 180 . . . . .	13	11.7	11	13.9	*	*
Less than 190 . . . . .	16	13.8	19	25.8	*	*
Less than 200 . . . . .	28	24.6	23	30.5	*	*
Less than 210 . . . . .	39	36.5	36	47.8	*	*
Less than 220 . . . . .	47	44.9	48	63.6	*	*
Less than 230 . . . . .	54	51.2	53	69.0	*	*
Less than 240 . . . . .	63	60.6	56	72.6	*	*
Less than 250 . . . . .	73	73.0	60	77.9	*	*
Less than 260 . . . . .	80	79.1	63	81.4	*	*
Less than 270 . . . . .	82	80.5	68	90.8	*	*
Less than 280 . . . . .	89	89.9	70	92.8	*	*
Less than 290 . . . . .	91	91.6	73	96.5	*	*
Less than 300 . . . . .	94	95.4	74	97.6	*	*
Less than 325 . . . . .	95	96.1	75	98.9	*	*
Less than 350 . . . . .	95	96.1	75	98.9	*	*
Less than 700 . . . . .	97	100.0	76	100.0	*	*

Note: To convert the values in the stub to millimoles per liter, multiply the values by 0.02586.

**Table 8. Total serum cholesterol levels in milligrams per deciliter for females 20–74 years of age and number of examined persons, by specified Hispanic origin and age: Hispanic Health and Nutrition Examination Survey, 1982–84**

Hispanic origin and selected cholesterol level cutoff	20–24 years		25–34 years		35–44 years	
	Number of examined persons	Cumulative percent	Number of examined persons	Cumulative percent	Number of examined persons	Cumulative percent
<b>Mexican-American</b>						
Total . . . . .	268	100.0	522	100.0	330	100.0
Less than 120 . . . . .	2	0.9	5	1.0	2	0.5
Less than 130 . . . . .	11	4.0	17	3.1	4	1.1
Less than 140 . . . . .	21	7.5	32	5.9	9	2.4
Less than 150 . . . . .	41	15.4	58	10.8	19	5.1
Less than 160 . . . . .	73	27.8	97	18.0	33	9.7
Less than 170 . . . . .	106	39.9	155	30.0	62	17.8
Less than 180 . . . . .	124	46.5	222	43.2	94	27.8
Less than 190 . . . . .	153	57.5	287	55.9	141	42.7
Less than 200 . . . . .	178	66.6	348	67.7	177	53.6
Less than 210 . . . . .	205	76.8	395	76.0	215	64.4
Less than 220 . . . . .	221	82.8	431	82.8	240	72.4
Less than 230 . . . . .	235	88.2	459	87.9	264	79.5
Less than 240 . . . . .	245	91.8	479	92.2	281	84.6
Less than 250 . . . . .	248	93.0	485	93.1	295	89.1
Less than 260 . . . . .	257	96.2	498	95.6	306	92.4
Less than 270 . . . . .	261	97.5	509	97.6	312	94.6
Less than 280 . . . . .	262	97.9	513	98.4	317	96.0
Less than 290 . . . . .	263	98.2	514	98.6	317	96.0
Less than 300 . . . . .	265	99.0	515	98.8	321	97.3
Less than 325 . . . . .	266	99.4	518	99.3	325	98.4
Less than 350 . . . . .	267	99.7	520	99.6	326	98.7
Less than 700 . . . . .	268	100.0	522	100.0	330	100.0
<b>Cuban</b>						
Total . . . . .	33	100.0	70	100.0	89	100.0
Less than 120 . . . . .	1	2.8	—	—	—	—
Less than 130 . . . . .	3	8.7	2	3.0	—	—
Less than 140 . . . . .	4	11.2	8	11.1	1	1.0
Less than 150 . . . . .	7	20.0	13	17.5	4	4.5
Less than 160 . . . . .	10	28.5	21	27.7	10	11.9
Less than 170 . . . . .	14	40.7	33	44.7	23	27.0
Less than 180 . . . . .	19	55.8	47	64.9	33	37.5
Less than 190 . . . . .	23	67.6	51	71.3	46	51.8
Less than 200 . . . . .	26	76.8	59	82.7	61	68.9
Less than 210 . . . . .	27	79.9	61	85.1	71	80.6
Less than 220 . . . . .	32	95.9	63	88.4	76	86.0
Less than 230 . . . . .	33	100.0	68	96.4	79	89.0
Less than 240 . . . . .	33	100.0	68	96.4	82	91.9
Less than 250 . . . . .	33	100.0	69	98.1	85	95.8
Less than 260 . . . . .	33	100.0	69	98.1	87	97.8
Less than 270 . . . . .	33	100.0	69	98.1	88	99.0
Less than 280 . . . . .	33	100.0	70	100.0	88	99.0
Less than 290 . . . . .	33	100.0	70	100.0	89	100.0
Less than 300 . . . . .	33	100.0	70	100.0	89	100.0
Less than 325 . . . . .	33	100.0	70	100.0	89	100.0
Less than 350 . . . . .	33	100.0	70	100.0	89	100.0
Less than 700 . . . . .	33	100.0	70	100.0	89	100.0
<b>Puerto Rican</b>						
Total . . . . .	104	100.0	160	100.0	143	100.0
Less than 120 . . . . .	3	2.7	1	0.6	2	2.2
Less than 130 . . . . .	7	5.9	7	4.2	4	3.4
Less than 140 . . . . .	16	14.4	12	6.8	5	4.1
Less than 150 . . . . .	24	21.2	24	13.6	9	6.4
Less than 160 . . . . .	34	30.1	45	26.2	22	16.6
Less than 170 . . . . .	49	46.2	61	35.5	36	26.7
Less than 180 . . . . .	62	59.1	77	45.2	48	34.4
Less than 190 . . . . .	75	71.2	102	60.6	62	43.5
Less than 200 . . . . .	80	75.2	112	66.8	79	54.1
Less than 210 . . . . .	88	82.4	126	76.9	89	60.7
Less than 220 . . . . .	92	86.4	136	82.7	104	69.9
Less than 230 . . . . .	94	89.1	141	85.5	119	81.8
Less than 240 . . . . .	95	90.1	146	89.1	122	84.0
Less than 250 . . . . .	96	90.9	149	92.8	129	88.2
Less than 260 . . . . .	96	90.9	153	95.0	131	89.7
Less than 270 . . . . .	98	92.5	154	95.6	133	91.8
Less than 280 . . . . .	100	94.8	156	96.6	134	92.7
Less than 290 . . . . .	101	95.7	157	97.1	135	93.9
Less than 300 . . . . .	103	97.3	158	98.4	137	96.0
Less than 325 . . . . .	103	97.3	159	99.0	139	97.0
Less than 350 . . . . .	103	97.3	159	99.0	140	97.6
Less than 700 . . . . .	104	100.0	160	100.0	143	100.0

**Table 8. Total serum cholesterol levels in milligrams per deciliter for females 20–74 years of age and number of examined persons, by specified Hispanic origin and age: Hispanic Health and Nutrition Examination Survey, 1982–84—Con.**

Hispanic origin and selected cholesterol level cutoff	45–54 years		55–64 years		65–74 years	
	Number of examined persons	Cumulative percent	Number of examined persons	Cumulative percent	Number of examined persons	Cumulative percent
<b>Mexican-American</b>						
Total . . . . .	344	100.0	219	100.0	114	100.0
Less than 120 . . . . .	—	—	1	0.3	—	—
Less than 130 . . . . .	3	0.8	1	0.3	—	—
Less than 140 . . . . .	4	1.2	1	0.3	1	0.9
Less than 150 . . . . .	9	2.4	5	2.2	2	1.4
Less than 160 . . . . .	14	3.8	6	2.8	4	3.2
Less than 170 . . . . .	28	8.2	12	5.2	7	5.8
Less than 180 . . . . .	54	16.0	24	10.8	12	9.9
Less than 190 . . . . .	75	21.5	33	14.7	17	15.1
Less than 200 . . . . .	105	30.3	50	23.2	26	23.2
Less than 210 . . . . .	138	41.0	69	32.5	35	30.5
Less than 220 . . . . .	181	53.6	92	42.7	50	43.9
Less than 230 . . . . .	222	65.5	113	52.7	56	49.8
Less than 240 . . . . .	261	76.6	137	63.2	63	56.0
Less than 250 . . . . .	282	82.7	159	73.5	70	61.8
Less than 260 . . . . .	298	87.0	175	81.6	77	68.0
Less than 270 . . . . .	312	91.3	194	89.6	83	73.1
Less than 280 . . . . .	317	92.5	201	92.8	96	84.4
Less than 290 . . . . .	327	95.5	204	93.9	100	88.1
Less than 300 . . . . .	332	96.7	207	94.9	106	92.9
Less than 325 . . . . .	337	98.1	212	97.1	111	97.2
Less than 350 . . . . .	342	99.5	216	98.8	113	98.6
Less than 700 . . . . .	344	100.0	219	100.0	114	100.0
<b>Cuban</b>						
Total . . . . .	116	100.0	95	100.0	57	100.0
Less than 120 . . . . .	—	—	—	—	—	—
Less than 130 . . . . .	—	—	—	—	—	—
Less than 140 . . . . .	—	—	1	1.1	1	1.7
Less than 150 . . . . .	2	1.5	2	2.1	2	3.3
Less than 160 . . . . .	5	3.9	3	3.2	5	8.6
Less than 170 . . . . .	12	9.8	4	4.2	7	12.2
Less than 180 . . . . .	17	14.7	14	14.9	9	15.6
Less than 190 . . . . .	31	27.1	18	19.4	11	18.9
Less than 200 . . . . .	44	38.6	21	22.6	14	24.1
Less than 210 . . . . .	57	49.6	25	26.9	21	35.7
Less than 220 . . . . .	74	64.2	33	34.9	24	41.6
Less than 230 . . . . .	82	71.3	44	46.7	27	47.0
Less than 240 . . . . .	90	78.5	53	55.9	33	58.0
Less than 250 . . . . .	97	85.2	64	67.8	38	66.9
Less than 260 . . . . .	102	89.0	74	78.2	44	76.9
Less than 270 . . . . .	104	90.4	77	81.1	46	80.3
Less than 280 . . . . .	108	93.6	83	87.4	53	93.0
Less than 290 . . . . .	112	96.7	86	90.5	55	96.5
Less than 300 . . . . .	114	98.5	89	93.8	55	96.5
Less than 325 . . . . .	115	99.1	93	97.9	57	100.0
Less than 350 . . . . .	115	99.1	93	97.9	57	100.0
Less than 700 . . . . .	116	100.0	95	100.0	57	100.0
<b>Puerto Rican</b>						
Total . . . . .	165	100.0	95	100.0	49	100.0
Less than 120 . . . . .	1	0.6	—	—	—	—
Less than 130 . . . . .	1	0.6	—	—	—	—
Less than 140 . . . . .	2	1.1	—	—	—	—
Less than 150 . . . . .	4	2.0	1	0.9	—	—
Less than 160 . . . . .	9	4.8	2	1.9	—	—
Less than 170 . . . . .	14	8.3	4	3.9	1	1.5
Less than 180 . . . . .	29	16.3	9	9.1	2	3.2
Less than 190 . . . . .	44	27.1	13	12.6	8	18.0
Less than 200 . . . . .	60	35.3	15	14.4	9	19.6
Less than 210 . . . . .	74	43.5	27	26.2	12	24.6
Less than 220 . . . . .	93	55.5	36	35.8	14	28.0
Less than 230 . . . . .	111	67.0	47	46.6	17	36.4
Less than 240 . . . . .	124	77.2	60	58.4	24	47.6
Less than 250 . . . . .	135	83.6	70	68.1	27	52.6
Less than 260 . . . . .	142	87.4	74	74.7	33	62.5
Less than 270 . . . . .	149	90.9	75	75.7	39	80.0
Less than 280 . . . . .	154	93.5	80	80.6	43	90.6
Less than 290 . . . . .	156	94.5	82	82.3	44	92.1
Less than 300 . . . . .	157	95.0	84	86.2	45	93.8
Less than 325 . . . . .	162	98.2	92	97.1	46	95.3
Less than 350 . . . . .	162	98.2	94	99.1	46	95.3
Less than 700 . . . . .	165	100.0	95	100.0	49	100.0

Note: To convert the values in the stub to millimoles per liter, multiply the values by 0.02586.

**Table 9. High-density lipoprotein cholesterol levels in milligrams per deciliter for persons 20–74 years of age and number of examined persons, by specified Hispanic origin and sex: Hispanic Health and Nutrition Examination Survey, 1982–84**

<i>Hispanic origin and selected high-density lipoprotein cholesterol cutoff</i>	<i>Both sexes</i>		<i>Male</i>		<i>Female</i>	
	<i>Number of examined persons</i>	<i>Cumulative percent</i>	<i>Number of examined persons</i>	<i>Cumulative percent</i>	<i>Number of examined persons</i>	<i>Cumulative percent</i>
<b>Mexican-American</b>						
Total . . . . .	3,158	100.0	1,381	100.0	1,777	100.0
Less than 30 . . . . .	75	2.5	59	4.2	16	0.9
Less than 35 . . . . .	288	9.8	180	13.2	108	6.4
Less than 37 . . . . .	414	13.8	250	18.0	164	9.5
Less than 40 . . . . .	652	21.4	381	27.4	271	15.4
Less than 42 . . . . .	840	27.6	484	34.9	356	20.3
Less than 44 . . . . .	1,065	34.6	592	42.6	473	26.5
Less than 46 . . . . .	1,304	42.0	694	50.0	610	34.0
Less than 48 . . . . .	1,522	49.0	795	57.2	727	40.8
Less than 50 . . . . .	1,735	55.8	887	64.1	848	47.5
Less than 52 . . . . .	1,895	61.1	961	69.8	934	52.4
Less than 54 . . . . .	2,075	66.9	1,033	75.3	1,042	58.4
Less than 56 . . . . .	2,243	72.2	1,108	80.9	1,135	63.6
Less than 58 . . . . .	2,377	76.3	1,152	83.9	1,225	68.7
Less than 60 . . . . .	2,491	79.9	1,193	86.8	1,298	73.0
Less than 62 . . . . .	2,585	82.7	1,219	88.5	1,366	76.8
Less than 64 . . . . .	2,675	85.4	1,245	90.4	1,430	80.4
Less than 69 . . . . .	2,842	90.5	1,289	93.6	1,553	87.4
Less than 74 . . . . .	2,972	94.3	1,322	96.0	1,650	92.7
Less than 80 . . . . .	3,048	96.7	1,343	97.5	1,705	95.9
Less than 84 . . . . .	3,090	98.0	1,358	98.5	1,732	97.4
Less than 90 . . . . .	3,124	99.0	1,370	99.4	1,754	98.6
Less than 95 . . . . .	3,135	99.4	1,372	99.5	1,763	99.2
Less than 140 . . . . .	3,158	100.0	1,381	100.0	1,777	100.0
<b>Cuban</b>						
Total . . . . .	814	100.0	359	100.0	455	100.0
Less than 30 . . . . .	33	4.4	26	8.1	7	1.3
Less than 35 . . . . .	90	11.5	65	19.0	25	5.3
Less than 37 . . . . .	136	17.3	101	29.4	35	7.3
Less than 40 . . . . .	198	25.0	138	39.2	60	13.4
Less than 42 . . . . .	245	30.7	160	45.1	85	18.9
Less than 44 . . . . .	309	38.9	194	54.7	115	26.0
Less than 46 . . . . .	364	45.7	220	61.9	144	32.4
Less than 48 . . . . .	424	53.1	239	67.7	185	41.2
Less than 50 . . . . .	466	58.1	257	72.7	209	46.1
Less than 52 . . . . .	511	63.6	278	78.6	233	51.2
Less than 54 . . . . .	555	68.8	294	82.4	261	57.6
Less than 56 . . . . .	587	72.8	305	85.5	282	62.4
Less than 58 . . . . .	624	77.3	316	88.1	308	68.4
Less than 60 . . . . .	657	81.4	325	90.9	332	73.5
Less than 62 . . . . .	686	85.0	331	92.5	355	78.9
Less than 64 . . . . .	708	87.8	337	94.1	371	82.6
Less than 69 . . . . .	756	93.2	350	97.6	406	89.7
Less than 74 . . . . .	779	95.8	354	98.5	425	93.6
Less than 80 . . . . .	793	97.6	356	99.2	437	96.2
Less than 84 . . . . .	802	98.6	357	99.5	445	97.9
Less than 90 . . . . .	809	99.5	358	99.7	451	99.3
Less than 95 . . . . .	813	99.9	359	100.0	454	99.8
Less than 140 . . . . .	814	100.0	359	100.0	455	100.0

**Table 9. High-density lipoprotein cholesterol levels in milligrams per deciliter for persons 20–74 years of age and number of examined persons, by specified Hispanic origin and sex: Hispanic Health and Nutrition Examination Survey, 1982–84—Con.**

<i>Hispanic origin and high-density lipoprotein cholesterol level cutoff</i>	<i>Both sexes</i>		<i>Male</i>		<i>Female</i>	
	<i>Number of examined persons</i>	<i>Cumulative percent</i>	<i>Number of examined persons</i>	<i>Cumulative percent</i>	<i>Number of examined persons</i>	<i>Cumulative percent</i>
<b>Puerto Rican</b>						
Total . . . . .	1,127	100.0	419	100.0	708	100.0
Less than 30 . . . . .	116	10.7	63	16.1	53	7.3
Less than 35 . . . . .	236	22.2	128	32.3	108	15.9
Less than 37 . . . . .	288	27.1	155	39.4	133	19.4
Less than 40 . . . . .	387	35.5	192	47.4	195	28.1
Less than 42 . . . . .	462	42.1	216	52.2	246	35.7
Less than 44 . . . . .	536	49.0	249	60.0	287	42.1
Less than 46 . . . . .	596	54.3	268	64.6	328	47.8
Less than 48 . . . . .	657	59.2	298	70.7	359	51.9
Less than 50 . . . . .	720	64.6	313	74.8	407	58.2
Less than 52 . . . . .	779	69.7	330	78.6	449	64.2
Less than 54 . . . . .	831	73.9	343	81.4	488	69.3
Less than 56 . . . . .	880	78.2	354	83.9	526	74.6
Less than 58 . . . . .	924	82.4	363	87.0	561	79.5
Less than 60 . . . . .	954	84.9	372	89.3	582	82.1
Less than 62 . . . . .	978	86.6	376	89.9	602	84.5
Less than 64 . . . . .	999	88.3	383	91.8	616	86.1
Less than 69 . . . . .	1,039	91.7	396	94.7	643	89.9
Less than 74 . . . . .	1,065	94.6	404	97.0	661	93.0
Less than 80 . . . . .	1,097	97.7	408	98.1	689	97.6
Less than 84 . . . . .	1,103	98.2	411	98.6	692	97.9
Less than 90 . . . . .	1,113	98.8	416	99.5	697	98.4
Less than 95 . . . . .	1,118	99.3	417	99.6	701	99.2
Less than 140 . . . . .	1,127	100.0	419	100.0	708	100.0

Note: To convert the values in the stub to millimoles per liter, multiply the values by 0.02586.

**Table 10. High-density lipoprotein cholesterol levels in milligrams per deciliter for males 20–74 years of age, and number of examined persons, by specified Hispanic origin and age: Hispanic Health and Nutrition Examination Survey, 1982–84**

Hispanic origin and selected high-density lipoprotein cholesterol level cutoff	20–24 years		25–34 years		35–44 years	
	Number of examined persons	Cumulative percent	Number of examined persons	Cumulative percent	Number of examined persons	Cumulative percent
<b>Mexican-American</b>						
Total . . . . .	210	100.0	408	100.0	239	100.0
Less than 30 . . . . .	5	2.4	14	3.5	14	5.9
Less than 35 . . . . .	22	10.9	53	13.5	32	13.6
Less than 37 . . . . .	30	14.8	71	18.1	43	18.5
Less than 40 . . . . .	45	22.3	111	27.5	67	28.7
Less than 42 . . . . .	65	31.8	137	34.2	80	34.4
Less than 44 . . . . .	86	41.4	165	41.2	96	40.9
Less than 46 . . . . .	103	49.3	198	48.9	110	46.9
Less than 48 . . . . .	118	56.1	232	57.0	129	54.5
Less than 50 . . . . .	133	63.7	257	63.1	152	63.8
Less than 52 . . . . .	148	70.8	281	69.3	167	70.3
Less than 54 . . . . .	159	75.9	305	74.9	184	77.9
Less than 56 . . . . .	172	81.8	332	81.4	196	82.8
Less than 58 . . . . .	181	85.9	340	83.6	202	85.0
Less than 60 . . . . .	186	88.4	350	86.0	209	87.8
Less than 62 . . . . .	187	88.9	361	88.6	211	88.6
Less than 64 . . . . .	190	90.5	371	91.0	215	90.1
Less than 69 . . . . .	199	94.7	382	93.5	225	94.2
Less than 74 . . . . .	202	96.2	392	96.1	232	97.1
Less than 80 . . . . .	206	98.2	400	98.1	233	97.6
Less than 84 . . . . .	207	98.5	404	99.0	236	98.8
Less than 90 . . . . .	210	100.0	407	99.7	238	99.6
Less than 95 . . . . .	210	100.0	407	99.7	238	99.6
Less than 140 . . . . .	210	100.0	408	100.0	239	100.0
<b>Cuban</b>						
Total . . . . .	24	100.0	59	100.0	51	100.0
Less than 30 . . . . .	*	*	6	12.0	6	12.3
Less than 35 . . . . .	*	*	14	26.4	12	22.4
Less than 37 . . . . .	*	*	18	34.0	18	33.4
Less than 40 . . . . .	*	*	23	42.3	21	38.5
Less than 42 . . . . .	*	*	24	43.6	26	48.1
Less than 44 . . . . .	*	*	30	53.3	30	56.2
Less than 46 . . . . .	*	*	33	57.8	34	65.8
Less than 48 . . . . .	*	*	41	70.2	35	68.7
Less than 50 . . . . .	*	*	42	72.0	37	72.3
Less than 52 . . . . .	*	*	45	76.8	42	82.7
Less than 54 . . . . .	*	*	46	78.2	43	85.4
Less than 56 . . . . .	*	*	48	81.3	44	88.0
Less than 58 . . . . .	*	*	49	83.3	45	89.6
Less than 60 . . . . .	*	*	54	91.8	45	89.6
Less than 62 . . . . .	*	*	54	91.8	47	92.6
Less than 64 . . . . .	*	*	56	95.3	47	92.6
Less than 69 . . . . .	*	*	59	100.0	50	97.2
Less than 74 . . . . .	*	*	59	100.0	50	97.2
Less than 80 . . . . .	*	*	59	100.0	51	100.0
Less than 84 . . . . .	*	*	59	100.0	51	100.0
Less than 90 . . . . .	*	*	59	100.0	51	100.0
Less than 95 . . . . .	*	*	59	100.0	51	100.0
Less than 140 . . . . .	*	*	59	100.0	51	100.0
<b>Puerto Rican</b>						
Total . . . . .	53	100.0	101	100.0	71	100.0
Less than 30 . . . . .	6	12.1	16	15.8	13	21.2
Less than 35 . . . . .	13	25.9	35	32.8	33	47.5
Less than 37 . . . . .	18	35.0	42	39.6	40	58.6
Less than 40 . . . . .	24	45.8	48	45.2	46	65.7
Less than 42 . . . . .	30	56.7	50	47.3	49	69.4
Less than 44 . . . . .	36	68.5	55	53.0	51	71.7
Less than 46 . . . . .	38	72.2	60	59.1	53	74.3
Less than 48 . . . . .	45	85.2	65	63.5	54	75.6
Less than 50 . . . . .	45	85.2	72	70.9	58	80.5
Less than 52 . . . . .	46	86.9	77	76.0	60	82.9
Less than 54 . . . . .	47	89.0	82	81.0	60	82.9
Less than 56 . . . . .	47	89.0	85	83.9	62	86.2
Less than 58 . . . . .	47	89.0	87	87.7	63	90.1
Less than 60 . . . . .	47	89.0	91	91.6	64	91.3
Less than 62 . . . . .	48	90.6	91	91.6	64	91.3
Less than 64 . . . . .	49	92.1	93	93.3	65	92.6
Less than 69 . . . . .	51	95.4	98	97.3	67	95.3
Less than 74 . . . . .	52	98.3	99	98.2	68	96.4
Less than 80 . . . . .	52	98.3	99	98.2	70	98.8
Less than 84 . . . . .	52	98.3	100	99.1	70	98.8
Less than 90 . . . . .	53	100.0	101	100.0	70	98.8
Less than 95 . . . . .	53	100.0	101	100.0	70	98.8
Less than 140 . . . . .	53	100.0	101	100.0	71	100.0

Table 10. High-density lipoprotein cholesterol levels in milligrams per deciliter for males 20-74 years of age, and number of examined persons, by specified Hispanic origin and age: Hispanic Health and Nutrition Examination Survey, 1982-84--Con.

Hispanic origin and selected high-density lipoprotein cholesterol level cutoff	45-54 years		55-64 years		65-74 years	
	Number of examined persons	Cumulative percent	Number of examined persons	Cumulative percent	Number of examined persons	Cumulative percent
<b>Mexican-American</b>						
Total . . . . .	256	100.0	189	100.0	79	100.0
Less than 30 . . . . .	13	5.5	9	4.5	4	5.3
Less than 35 . . . . .	38	14.8	24	13.2	11	14.4
Less than 37 . . . . .	56	22.0	36	19.2	14	17.7
Less than 40 . . . . .	77	30.3	59	31.6	22	27.4
Less than 42 . . . . .	92	36.0	85	45.9	25	31.4
Less than 44 . . . . .	112	44.3	101	54.0	32	40.7
Less than 46 . . . . .	126	50.2	116	60.9	41	51.4
Less than 48 . . . . .	144	57.4	123	64.7	49	61.0
Less than 50 . . . . .	158	62.5	134	71.1	53	65.9
Less than 52 . . . . .	170	66.5	139	73.5	56	69.8
Less than 54 . . . . .	180	70.8	146	77.3	59	73.2
Less than 56 . . . . .	191	75.2	154	81.5	63	78.2
Less than 58 . . . . .	201	78.9	161	85.1	67	83.6
Less than 60 . . . . .	212	83.4	165	87.2	71	88.9
Less than 62 . . . . .	222	87.2	167	88.5	71	88.9
Less than 64 . . . . .	228	89.6	169	89.3	72	90.9
Less than 69 . . . . .	234	91.5	174	92.0	75	94.8
Less than 74 . . . . .	239	93.3	182	96.4	75	94.8
Less than 80 . . . . .	245	95.5	183	96.7	76	96.3
Less than 84 . . . . .	251	98.0	184	97.4	76	96.3
Less than 90 . . . . .	254	99.3	185	98.0	76	96.3
Less than 95 . . . . .	254	99.3	187	99.2	76	96.3
Less than 140 . . . . .	256	100.0	189	100.0	79	100.0
<b>Cuban</b>						
Total . . . . .	108	100.0	77	100.0	40	100.0
Less than 30 . . . . .	7	6.3	4	4.9	1	2.4
Less than 35 . . . . .	17	15.5	12	15.1	7	17.9
Less than 37 . . . . .	30	27.5	19	24.4	9	23.3
Less than 40 . . . . .	41	37.9	28	35.7	15	37.9
Less than 42 . . . . .	48	45.1	34	43.3	17	42.9
Less than 44 . . . . .	63	59.6	36	45.8	19	47.5
Less than 46 . . . . .	69	64.9	43	54.6	23	57.6
Less than 48 . . . . .	72	67.6	49	63.5	23	57.6
Less than 50 . . . . .	79	73.7	53	68.6	24	60.4
Less than 52 . . . . .	85	78.8	58	74.8	25	63.1
Less than 54 . . . . .	90	83.1	62	79.9	30	75.1
Less than 56 . . . . .	92	84.8	64	82.9	34	85.9
Less than 58 . . . . .	95	87.2	67	86.9	37	93.0
Less than 60 . . . . .	97	89.2	67	86.9	38	95.3
Less than 62 . . . . .	101	93.0	67	86.9	38	95.3
Less than 64 . . . . .	102	94.1	68	88.3	40	100.0
Less than 69 . . . . .	105	96.6	72	93.6	40	100.0
Less than 74 . . . . .	107	98.7	74	96.0	40	100.0
Less than 80 . . . . .	107	98.7	75	97.2	40	100.0
Less than 84 . . . . .	107	98.7	76	98.8	40	100.0
Less than 90 . . . . .	107	98.7	77	100.0	40	100.0
Less than 95 . . . . .	108	100.0	77	100.0	40	100.0
Less than 140 . . . . .	108	100.0	77	100.0	40	100.0
<b>Puerto Rican</b>						
Total . . . . .	96	100.0	75	100.0	23	100.0
Less than 30 . . . . .	14	14.8	10	10.9	*	*
Less than 35 . . . . .	22	22.1	19	23.1	*	*
Less than 37 . . . . .	22	22.1	24	29.3	*	*
Less than 40 . . . . .	30	29.0	34	44.2	*	*
Less than 42 . . . . .	36	34.1	41	52.2	*	*
Less than 44 . . . . .	49	50.6	45	57.6	*	*
Less than 46 . . . . .	53	55.4	48	61.3	*	*
Less than 48 . . . . .	61	62.5	56	72.6	*	*
Less than 50 . . . . .	65	67.1	56	72.6	*	*
Less than 52 . . . . .	69	71.2	59	75.8	*	*
Less than 54 . . . . .	72	73.8	62	79.5	*	*
Less than 56 . . . . .	76	77.5	64	82.1	*	*
Less than 58 . . . . .	79	81.4	65	83.3	*	*
Less than 60 . . . . .	82	84.1	66	86.3	*	*
Less than 62 . . . . .	84	85.5	67	87.3	*	*
Less than 64 . . . . .	86	89.8	68	88.5	*	*
Less than 69 . . . . .	88	91.7	70	91.0	*	*
Less than 74 . . . . .	90	95.1	73	97.9	*	*
Less than 80 . . . . .	91	95.9	73	97.9	*	*
Less than 84 . . . . .	93	97.5	73	97.9	*	*
Less than 90 . . . . .	95	99.0	74	99.0	*	*
Less than 95 . . . . .	95	99.0	75	100.0	*	*
Less than 140 . . . . .	96	100.0	75	100.0	*	*

Note: To convert the values in the stub to millimoles per liter, multiply the values by 0.02586.



**Table 11. High-density lipoprotein cholesterol levels in milligrams per deciliter for females 20–74 years of age and number of examined persons, by specified Hispanic origin and age: Hispanic Health and Nutrition Examination Survey, 1982–84**

<i>Hispanic origin and selected high-density lipoprotein cholesterol level cutoff</i>	<i>20–24 years</i>		<i>25–34 years</i>		<i>35–44 years</i>	
	<i>Number of examined persons</i>	<i>Cumulative percent</i>	<i>Number of examined persons</i>	<i>Cumulative percent</i>	<i>Number of examined persons</i>	<i>Cumulative percent</i>
<b>Mexican-American</b>						
Total . . . . .	267	100.0	521	100.0	325	100.0
Less than 30 . . . . .	1	0.4	3	0.8	4	1.2
Less than 35 . . . . .	10	3.8	27	6.0	26	7.8
Less than 37 . . . . .	19	7.2	46	9.3	39	12.0
Less than 40 . . . . .	34	13.0	75	15.0	55	16.6
Less than 42 . . . . .	43	16.5	101	20.4	73	22.2
Less than 44 . . . . .	56	21.0	135	26.5	94	28.5
Less than 46 . . . . .	73	29.5	173	33.4	119	36.4
Less than 48 . . . . .	99	37.3	208	40.3	143	43.4
Less than 50 . . . . .	117	43.8	247	47.7	162	49.6
Less than 52 . . . . .	133	50.4	268	51.6	181	55.4
Less than 54 . . . . .	146	55.3	306	58.8	198	60.5
Less than 56 . . . . .	157	59.3	339	64.8	217	66.2
Less than 58 . . . . .	174	65.5	360	68.8	237	72.2
Less than 60 . . . . .	184	69.1	382	73.4	256	78.5
Less than 62 . . . . .	198	74.4	400	76.9	263	80.7
Less than 64 . . . . .	209	78.8	420	80.3	270	82.7
Less than 69 . . . . .	234	87.8	452	86.8	287	88.3
Less than 74 . . . . .	245	91.7	488	93.3	306	93.9
Less than 80 . . . . .	257	95.9	502	96.3	313	95.9
Less than 84 . . . . .	261	97.7	509	97.6	316	97.1
Less than 90 . . . . .	265	99.0	513	98.4	322	98.9
Less than 95 . . . . .	267	100.0	515	98.8	323	99.3
Less than 140 . . . . .	267	100.0	521	100.0	325	100.0
<b>Cuban</b>						
Total . . . . .	32	100.0	69	100.0	89	100.0
Less than 30 . . . . .	–	–	1	1.2	1	0.9
Less than 35 . . . . .	1	2.7	4	6.2	5	5.3
Less than 37 . . . . .	3	8.9	5	7.6	5	5.3
Less than 40 . . . . .	6	18.1	8	12.0	14	16.1
Less than 42 . . . . .	7	21.3	11	16.2	21	23.8
Less than 44 . . . . .	9	27.3	19	28.8	29	32.5
Less than 46 . . . . .	11	33.7	25	37.2	35	39.0
Less than 48 . . . . .	12	36.9	32	46.4	40	45.0
Less than 50 . . . . .	16	48.4	35	50.6	41	45.9
Less than 52 . . . . .	16	48.4	41	59.1	46	51.5
Less than 54 . . . . .	17	51.3	48	68.5	54	60.2
Less than 56 . . . . .	20	62.2	49	69.8	60	66.8
Less than 58 . . . . .	23	71.0	54	76.9	65	71.7
Less than 60 . . . . .	23	71.0	57	81.5	69	76.9
Less than 62 . . . . .	26	79.5	62	89.9	70	78.0
Less than 64 . . . . .	27	82.4	64	93.3	75	83.4
Less than 69 . . . . .	28	86.6	66	95.9	81	90.4
Less than 74 . . . . .	30	92.7	68	98.8	82	91.7
Less than 80 . . . . .	30	92.7	69	100.0	85	95.2
Less than 84 . . . . .	31	95.8	69	100.0	87	97.7
Less than 90 . . . . .	32	100.0	69	100.0	88	99.1
Less than 95 . . . . .	32	100.0	69	100.0	89	100.0
Less than 140 . . . . .	32	100.0	69	100.0	89	100.0
<b>Puerto Rican</b>						
Total . . . . .	103	100.0	160	100.0	139	100.0
Less than 30 . . . . .	5	4.2	10	5.9	12	10.0
Less than 35 . . . . .	15	13.8	29	16.6	21	19.3
Less than 37 . . . . .	18	17.3	32	18.0	29	25.4
Less than 40 . . . . .	28	26.0	48	28.2	40	33.2
Less than 42 . . . . .	37	36.0	64	39.4	45	36.3
Less than 44 . . . . .	43	43.4	73	44.1	54	42.7
Less than 46 . . . . .	49	48.8	84	50.5	64	49.6
Less than 48 . . . . .	53	52.0	91	55.1	72	54.5
Less than 50 . . . . .	62	59.9	99	59.2	81	60.4
Less than 52 . . . . .	65	62.5	105	64.5	93	69.5
Less than 54 . . . . .	71	68.5	111	68.1	103	75.6
Less than 56 . . . . .	81	78.1	121	74.7	106	77.5
Less than 58 . . . . .	84	80.9	129	79.0	116	84.7
Less than 60 . . . . .	85	82.1	134	81.7	121	87.9
Less than 62 . . . . .	90	86.5	134	81.7	124	90.2
Less than 64 . . . . .	90	86.5	136	82.9	125	91.8
Less than 69 . . . . .	94	90.3	141	86.8	129	94.2
Less than 74 . . . . .	96	91.8	150	94.0	133	96.5
Less than 80 . . . . .	101	96.5	157	98.3	137	98.9
Less than 84 . . . . .	101	96.5	158	98.9	137	98.9
Less than 90 . . . . .	101	96.5	158	98.9	137	98.9
Less than 95 . . . . .	102	99.2	159	99.4	137	98.9
Less than 140 . . . . .	103	100.0	160	100.0	139	100.0

Table 11. High-density lipoprotein cholesterol levels in milligrams per deciliter for females 20-74 years of age and number of examined persons, by specified Hispanic origin and age: Hispanic Health and Nutrition Examination Survey, 1982-84—Con.

Hispanic origin and selected high-density lipoprotein cholesterol cutoff	45-54 years		55-64 years		65-74 years	
	Number of examined persons	Cumulative percent	Number of examined persons	Cumulative percent	Number of examined persons	Cumulative percent
<b>Mexican-American</b>						
Total . . . . .	339	100.0	211	100.0	114	100.0
Less than 30 . . . . .	3	0.9	2	0.6	3	2.8
Less than 35 . . . . .	19	6.6	19	9.3	7	6.6
Less than 37 . . . . .	26	8.7	25	12.2	9	8.3
Less than 40 . . . . .	56	17.6	33	15.6	18	15.7
Less than 42 . . . . .	74	23.1	43	20.8	22	18.9
Less than 44 . . . . .	100	30.5	57	27.3	31	27.0
Less than 46 . . . . .	124	36.4	80	37.7	36	31.4
Less than 48 . . . . .	141	41.3	91	42.9	45	40.4
Less than 50 . . . . .	165	48.3	103	48.2	54	47.6
Less than 52 . . . . .	183	53.4	111	51.8	58	50.9
Less than 54 . . . . .	200	58.3	129	60.5	63	55.4
Less than 56 . . . . .	214	62.3	140	66.5	68	59.6
Less than 58 . . . . .	228	66.6	152	72.4	74	65.2
Less than 60 . . . . .	238	69.6	160	76.0	78	68.3
Less than 62 . . . . .	259	75.8	164	78.2	82	71.5
Less than 64 . . . . .	273	80.3	170	81.1	88	77.7
Less than 69 . . . . .	296	87.2	183	86.7	101	88.6
Less than 74 . . . . .	313	92.2	191	90.9	107	93.5
Less than 80 . . . . .	326	96.1	197	93.8	110	96.3
Less than 84 . . . . .	334	98.7	201	95.3	111	97.2
Less than 90 . . . . .	338	99.8	203	96.1	113	99.1
Less than 95 . . . . .	339	100.0	206	97.7	113	99.1
Less than 140 . . . . .	339	100.0	211	100.0	114	100.0
<b>Cuban</b>						
Total . . . . .	115	100.0	94	100.0	56	100.0
Less than 30 . . . . .	1	0.8	2	2.1	2	3.4
Less than 35 . . . . .	8	6.3	5	5.5	2	3.4
Less than 37 . . . . .	12	9.5	8	8.5	2	3.4
Less than 40 . . . . .	17	14.4	9	9.5	6	10.0
Less than 42 . . . . .	20	17.1	13	13.7	13	22.8
Less than 44 . . . . .	27	22.6	15	15.7	16	27.9
Less than 46 . . . . .	35	29.2	20	21.3	18	31.5
Less than 48 . . . . .	47	40.0	30	31.8	24	43.5
Less than 50 . . . . .	56	47.7	35	37.1	26	47.2
Less than 52 . . . . .	62	52.2	39	41.2	29	52.3
Less than 54 . . . . .	67	56.7	45	47.5	30	54.0
Less than 56 . . . . .	70	59.3	50	53.3	33	59.4
Less than 58 . . . . .	76	65.8	57	61.0	33	59.4
Less than 60 . . . . .	81	69.9	68	72.7	34	61.3
Less than 62 . . . . .	86	75.2	72	77.4	39	69.8
Less than 64 . . . . .	91	79.8	74	79.4	40	71.6
Less than 69 . . . . .	102	88.7	84	89.7	45	80.6
Less than 74 . . . . .	108	94.1	88	93.9	49	87.9
Less than 80 . . . . .	109	95.2	90	95.9	54	96.8
Less than 84 . . . . .	112	97.7	92	98.0	54	96.8
Less than 90 . . . . .	114	99.1	93	99.1	55	98.5
Less than 95 . . . . .	114	99.1	94	100.0	56	100.0
Less than 140 . . . . .	115	100.0	94	100.0	56	100.0
<b>Puerto Rican</b>						
Total . . . . .	162	100.0	95	100.0	49	100.0
Less than 30 . . . . .	13	6.5	5	4.5	8	22.0
Less than 35 . . . . .	27	14.3	7	6.3	9	24.1
Less than 37 . . . . .	35	18.7	10	9.2	9	24.1
Less than 40 . . . . .	51	29.0	16	14.7	12	28.8
Less than 42 . . . . .	63	36.3	19	17.4	18	39.2
Less than 44 . . . . .	73	45.5	22	20.4	22	49.5
Less than 46 . . . . .	79	49.2	26	24.2	26	55.7
Less than 48 . . . . .	84	51.7	31	29.6	28	58.9
Less than 50 . . . . .	94	58.5	42	42.3	29	60.4
Less than 52 . . . . .	103	63.3	50	50.2	33	67.5
Less than 54 . . . . .	115	70.0	54	54.1	34	69.0
Less than 56 . . . . .	125	75.2	57	57.0	36	73.0
Less than 58 . . . . .	134	81.8	59	59.0	39	78.0
Less than 60 . . . . .	137	83.4	64	63.8	41	81.6
Less than 62 . . . . .	141	85.8	71	70.2	42	83.1
Less than 64 . . . . .	147	89.2	76	74.9	42	83.1
Less than 69 . . . . .	150	91.5	84	83.4	45	88.9
Less than 74 . . . . .	151	92.1	85	84.3	46	90.7
Less than 80 . . . . .	155	95.6	90	95.3	49	100.0
Less than 84 . . . . .	156	96.2	91	96.3	49	100.0
Less than 90 . . . . .	159	98.3	93	98.2	49	100.0
Less than 95 . . . . .	160	98.8	94	99.1	49	100.0
Less than 140 . . . . .	162	100.0	95	100.0	49	100.0

Note: To convert the values in the stub to millimoles per liter, multiply the values by 0.02586.

**Table 12. Ratio of total serum cholesterol to high-density lipoprotein cholesterol for persons 20–74 years of age and number of examined persons, by specified Hispanic origin and sex: Hispanic Health and Nutrition Examination Survey, 1982–84**

<i>Hispanic origin and selected ratio cutoff</i>	<i>Both sexes</i>		<i>Male</i>		<i>Female</i>	
	<i>Number of examined persons</i>	<i>Cumulative percent</i>	<i>Number of examined persons</i>	<i>Cumulative percent</i>	<i>Number of examined persons</i>	<i>Cumulative percent</i>
<b>Mexican-American</b>						
Total . . . . .	3,158	100.0	1,381	100.0	1,777	100.0
Less than 2 . . . . .	23	0.8	15	1.0	8	0.5
Less than 2.5 . . . . .	155	5.0	50	3.6	105	6.4
Less than 3 . . . . .	474	15.2	139	10.5	335	19.8
Less than 3.25 . . . . .	717	23.1	224	17.2	493	29.0
Less than 3.5 . . . . .	954	30.9	304	23.5	650	38.3
Less than 4 . . . . .	1,418	46.4	513	39.8	905	53.1
Less than 4.25 . . . . .	1,677	54.6	605	46.7	1,072	62.5
Less than 4.5 . . . . .	1,903	61.6	704	53.7	1,199	69.6
Less than 4.75 . . . . .	2,118	68.0	804	60.2	1,314	75.8
Less than 5 . . . . .	2,277	72.7	888	65.8	1,389	79.6
Less than 5.25 . . . . .	2,436	77.6	962	71.2	1,474	84.1
Less than 5.5 . . . . .	2,572	82.1	1,041	77.0	1,531	87.2
Less than 6 . . . . .	2,769	88.1	1,152	84.7	1,617	91.6
Less than 7 . . . . .	3,016	95.7	1,293	94.2	1,723	97.2
Less than 8 . . . . .	3,091	97.9	1,336	97.0	1,755	98.9
Less than 20.0 . . . . .	3,158	100.0	1,381	100.0	1,777	100.0
<b>Cuban</b>						
Total . . . . .	814	100.0	359	100.0	455	100.0
Less than 2 . . . . .	2	0.3	—	—	2	0.5
Less than 2.5 . . . . .	26	3.3	6	1.6	20	4.7
Less than 3 . . . . .	105	13.6	21	6.1	84	19.8
Less than 3.25 . . . . .	161	20.9	33	9.9	128	30.1
Less than 3.5 . . . . .	224	28.8	55	16.3	169	39.1
Less than 4 . . . . .	341	43.0	102	29.4	239	54.3
Less than 4.25 . . . . .	413	51.7	128	36.4	285	64.3
Less than 4.5 . . . . .	474	59.4	153	43.4	321	72.6
Less than 4.75 . . . . .	507	63.2	169	47.4	338	76.2
Less than 5 . . . . .	547	68.1	195	54.8	352	79.1
Less than 5.25 . . . . .	605	75.3	227	63.7	378	84.8
Less than 5.5 . . . . .	628	78.1	239	67.0	389	87.1
Less than 6 . . . . .	672	83.3	266	74.6	406	90.5
Less than 7 . . . . .	748	92.0	310	86.1	438	96.9
Less than 8 . . . . .	791	97.0	340	94.2	451	99.3
Less than 20.0 . . . . .	814	100.0	359	100.0	455	100.0
<b>Puerto Rican</b>						
Total . . . . .	1,127	100.0	419	100.0	708	100.0
Less than 2 . . . . .	14	1.4	6	1.3	8	1.4
Less than 2.5 . . . . .	51	4.8	16	3.6	35	5.6
Less than 3 . . . . .	146	13.8	39	8.9	107	16.8
Less than 3.25 . . . . .	207	19.5	54	12.9	153	23.6
Less than 3.5 . . . . .	288	26.9	79	20.0	209	31.3
Less than 4 . . . . .	432	40.6	129	33.9	303	44.7
Less than 4.25 . . . . .	503	46.3	151	38.6	352	51.1
Less than 4.5 . . . . .	564	50.9	167	41.6	397	56.8
Less than 4.75 . . . . .	635	57.1	193	48.2	442	62.6
Less than 5 . . . . .	691	62.3	209	51.8	482	68.9
Less than 5.25 . . . . .	744	67.0	233	56.9	511	73.3
Less than 5.5 . . . . .	793	71.3	258	62.3	535	76.9
Less than 6 . . . . .	862	76.9	289	68.9	573	82.0
Less than 7 . . . . .	991	87.9	348	82.8	643	91.1
Less than 8 . . . . .	1,045	92.7	375	89.3	670	94.8
Less than 20.0 . . . . .	1,127	100.0	419	100.0	708	100.0

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Table 13. Ratio of total serum cholesterol to high-density lipoprotein cholesterol for males 20-74 years of age and number of examined persons, by specified Hispanic origin and age: Hispanic Health and Nutrition Examination Survey, 1982-84

Hispanic origin and selected ratio cutoff	20-24 years		25-34 years		35-44 years	
	Number of examined persons	Cumulative percent	Number of examined persons	Cumulative percent	Number of examined persons	Cumulative percent
<b>Mexican-American</b>						
Total . . . . .	210	100.0	408	100.0	239	100.0
Less than 2 . . . . .	2	1.1	4	1.0	1	0.4
Less than 2.5 . . . . .	12	5.6	13	3.1	6	2.7
Less than 3 . . . . .	36	16.7	44	10.7	18	7.6
Less than 3.25 . . . . .	59	27.9	67	16.4	32	13.3
Less than 3.5 . . . . .	80	38.1	93	22.8	44	18.3
Less than 4 . . . . .	128	60.3	172	41.7	80	33.6
Less than 4.25 . . . . .	144	67.6	205	50.0	94	39.2
Less than 4.5 . . . . .	160	75.5	230	56.4	108	44.9
Less than 4.75 . . . . .	166	78.3	258	62.9	126	52.4
Less than 5 . . . . .	171	80.4	278	68.0	143	59.4
Less than 5.25 . . . . .	178	83.9	302	73.8	157	65.5
Less than 5.5 . . . . .	188	89.1	325	79.5	170	71.0
Less than 6 . . . . .	195	92.5	359	87.6	192	80.1
Less than 7 . . . . .	205	97.5	385	94.4	220	92.0
Less than 8 . . . . .	208	98.9	397	97.3	228	95.3
Less than 20.0 . . . . .	210	100.0	408	100.0	239	100.0
<b>Cuban</b>						
Total . . . . .	24	100.0	59	100.0	51	100.0
Less than 2.5 . . . . .	*	*	2	2.8	-	-
Less than 3 . . . . .	*	*	8	12.4	1	2.8
Less than 3.25 . . . . .	*	*	11	17.0	4	9.6
Less than 3.5 . . . . .	*	*	14	21.7	9	19.3
Less than 4 . . . . .	*	*	24	38.2	12	24.3
Less than 4.25 . . . . .	*	*	28	44.9	15	30.1
Less than 4.5 . . . . .	*	*	35	55.3	17	34.6
Less than 4.75 . . . . .	*	*	37	58.7	19	38.2
Less than 5 . . . . .	*	*	41	66.2	23	46.7
Less than 5.25 . . . . .	*	*	44	72.8	26	52.5
Less than 5.5 . . . . .	*	*	44	72.8	29	59.3
Less than 6 . . . . .	*	*	49	81.2	34	68.7
Less than 7 . . . . .	*	*	53	87.9	41	81.6
Less than 8 . . . . .	*	*	55	91.3	50	98.1
Less than 20.0 . . . . .	*	*	59	100.0	51	100.0
<b>Puerto Rican</b>						
Total . . . . .	53	100.0	101	100.0	71	100.0
Less than 2 . . . . .	1	1.6	2	1.8	1	1.2
Less than 2.5 . . . . .	2	3.3	3	2.7	5	5.7
Less than 3 . . . . .	10	18.4	10	8.9	6	6.8
Less than 3.25 . . . . .	13	24.2	17	15.8	6	6.8
Less than 3.5 . . . . .	17	31.5	29	29.0	9	11.1
Less than 4 . . . . .	24	45.0	44	43.7	15	24.0
Less than 4.25 . . . . .	27	49.4	50	49.8	17	26.2
Less than 4.5 . . . . .	31	56.5	52	51.4	17	26.2
Less than 4.75 . . . . .	35	64.7	57	57.5	21	31.4
Less than 5 . . . . .	36	66.1	61	61.6	24	34.8
Less than 5.25 . . . . .	37	67.9	67	67.4	29	41.0
Less than 5.5 . . . . .	40	75.1	71	70.6	35	48.9
Less than 6 . . . . .	45	84.9	74	73.2	41	56.7
Less than 7 . . . . .	50	94.5	84	82.5	55	75.7
Less than 8 . . . . .	51	96.9	90	88.0	65	90.1
Less than 20.0 . . . . .	53	100.0	101	100.0	71	100.0

Table 13. Ratio of total serum cholesterol to high-density lipoprotein cholesterol for males 20-74 years of age and number of examined persons, by specified Hispanic origin and age: Hispanic Health and Nutrition Examination Survey, 1982-84--Con.

Hispanic origin and selected ratio cutoff	45-54 years		55-64 years		65-74 years	
	Number of examined persons	Cumulative percent	Number of examined persons	Cumulative percent	Number of examined persons	Cumulative percent
<b>Mexican-American</b>						
Total . . . . .	256	100.0	189	100.0	79	100.0
Less than 2 . . . . .	3	1.2	4	2.3	1	1.3
Less than 2.5 . . . . .	10	3.7	7	3.5	2	2.3
Less than 3 . . . . .	20	7.0	14	7.0	7	9.0
Less than 3.25 . . . . .	31	11.4	24	12.5	11	15.0
Less than 3.5 . . . . .	45	16.8	29	15.2	13	17.8
Less than 4 . . . . .	62	23.3	46	24.5	25	33.0
Less than 4.25 . . . . .	77	30.0	56	29.5	29	37.8
Less than 4.5 . . . . .	100	38.2	70	36.4	36	46.3
Less than 4.75 . . . . .	124	47.4	88	45.8	42	52.9
Less than 5 . . . . .	148	57.3	101	53.0	47	58.9
Less than 5.25 . . . . .	160	62.0	113	59.6	52	64.5
Less than 5.5 . . . . .	176	68.7	127	67.2	55	69.5
Less than 6 . . . . .	195	76.1	148	79.1	63	80.1
Less than 7 . . . . .	237	92.8	170	90.7	76	96.6
Less than 8 . . . . .	246	96.4	181	96.2	76	96.6
Less than 20.0 . . . . .	256	100.0	189	100.0	79	100.0
<b>Cuban</b>						
Total . . . . .	108	100.0	77	100.0	40	100.0
Less than 2.5 . . . . .	2	2.0	1	1.2	-	-
Less than 3 . . . . .	7	6.8	3	3.5	-	-
Less than 3.25 . . . . .	9	8.4	6	7.7	-	-
Less than 3.5 . . . . .	15	13.9	11	14.5	1	2.3
Less than 4 . . . . .	27	25.0	20	25.7	7	17.1
Less than 4.25 . . . . .	37	34.0	24	30.4	9	22.2
Less than 4.5 . . . . .	40	36.9	29	38.1	16	40.1
Less than 4.75 . . . . .	46	42.0	32	41.9	19	47.5
Less than 5 . . . . .	51	46.9	40	51.8	23	57.9
Less than 5.25 . . . . .	62	57.4	49	64.2	27	67.9
Less than 5.5 . . . . .	66	61.3	52	67.7	29	72.9
Less than 6 . . . . .	73	68.1	58	75.6	32	80.1
Less than 7 . . . . .	91	84.5	67	87.2	37	92.4
Less than 8 . . . . .	101	93.5	72	93.0	40	100.0
Less than 20.0 . . . . .	108	100.0	77	100.0	40	100.0
<b>Puerto Rican</b>						
Total . . . . .	96	100.0	75	100.0	23	100.0
Less than 2 . . . . .	2	1.6	-	-	*	*
Less than 2.5 . . . . .	4	3.3	1	1.1	*	*
Less than 3 . . . . .	9	7.2	3	3.2	*	*
Less than 3.25 . . . . .	12	11.0	5	5.6	*	*
Less than 3.5 . . . . .	15	13.9	8	9.4	*	*
Less than 4 . . . . .	25	26.6	17	26.7	*	*
Less than 4.25 . . . . .	33	34.3	19	29.1	*	*
Less than 4.5 . . . . .	39	39.7	22	32.4	*	*
Less than 4.75 . . . . .	45	46.7	28	42.0	*	*
Less than 5 . . . . .	49	51.3	32	46.7	*	*
Less than 5.25 . . . . .	54	55.3	36	51.2	*	*
Less than 5.5 . . . . .	57	58.0	42	58.0	*	*
Less than 6 . . . . .	61	61.7	52	71.9	*	*
Less than 7 . . . . .	75	79.9	65	88.7	*	*
Less than 8 . . . . .	81	84.6	69	93.2	*	*
Less than 20.0 . . . . .	96	100.0	75	100.0	*	*

Table 14. Ratio of total serum cholesterol to high-density lipoprotein cholesterol for females 20–74 years of age and number of examined persons, by specified Hispanic origin and age: Hispanic Health and Nutrition Examination Survey, 1982–84

Hispanic origin and selected ratio cutoff	20–24 years		25–34 years		35–44 years	
	Number of examined persons	Cumulative percent	Number of examined persons	Cumulative percent	Number of examined persons	Cumulative percent
<b>Mexican-American</b>						
Total . . . . .	267	100.0	521	100.0	325	100.0
Less than 2 . . . . .	1	0.5	5	1.0	—	—
Less than 2.5 . . . . .	26	9.6	46	9.0	16	5.1
Less than 3 . . . . .	79	29.3	124	23.8	54	16.8
Less than 3.25 . . . . .	108	40.0	185	35.5	81	24.9
Less than 3.5 . . . . .	142	53.1	228	44.1	105	32.7
Less than 4 . . . . .	175	65.5	326	62.6	162	50.3
Less than 4.25 . . . . .	198	74.4	381	72.9	189	58.3
Less than 4.5 . . . . .	220	82.4	410	78.5	218	67.1
Less than 4.75 . . . . .	238	89.2	434	83.1	239	72.9
Less than 5 . . . . .	240	90.1	449	85.8	255	78.0
Less than 5.25 . . . . .	243	91.2	473	90.7	271	82.7
Less than 5.5 . . . . .	247	92.7	485	92.8	289	88.2
Less than 6 . . . . .	253	94.8	500	95.7	303	93.2
Less than 7 . . . . .	264	98.8	515	99.0	316	97.1
Less than 8 . . . . .	267	100.0	517	99.3	322	99.0
Less than 20.0 . . . . .	267	100.0	521	100.0	325	100.0
<b>Cuban</b>						
Total . . . . .	32	100.0	69	100.0	89	100.0
Less than 2 . . . . .	—	—	—	—	1	1.5
Less than 2.5 . . . . .	3	9.5	3	4.1	6	7.5
Less than 3 . . . . .	13	41.4	16	22.1	21	24.8
Less than 3.25 . . . . .	16	50.1	30	41.4	28	32.8
Less than 3.5 . . . . .	17	52.7	40	55.7	37	41.7
Less than 4 . . . . .	22	70.0	49	68.2	49	55.7
Less than 4.25 . . . . .	25	78.7	53	74.7	61	69.5
Less than 4.5 . . . . .	28	87.6	59	84.3	71	79.8
Less than 4.75 . . . . .	29	90.5	60	86.3	72	81.1
Less than 5 . . . . .	29	90.5	61	87.5	75	84.4
Less than 5.25 . . . . .	30	93.7	65	93.4	80	89.9
Less than 5.5 . . . . .	30	93.7	66	95.4	82	91.8
Less than 6 . . . . .	31	96.9	68	98.8	82	91.8
Less than 7 . . . . .	32	100.0	68	98.8	87	98.0
Less than 8 . . . . .	32	100.0	69	100.0	89	100.0
Less than 20.0 . . . . .	32	100.0	69	100.0	89	100.0
<b>Puerto Rican</b>						
Total . . . . .	103	100.0	160	100.0	139	100.0
Less than 2 . . . . .	3	4.4	2	1.1	1	0.6
Less than 2.5 . . . . .	8	8.5	14	8.2	8	4.8
Less than 3 . . . . .	29	28.1	40	24.5	17	10.5
Less than 3.25 . . . . .	37	35.9	48	30.0	31	20.1
Less than 3.5 . . . . .	46	45.3	57	36.2	41	26.0
Less than 4 . . . . .	66	63.4	81	50.9	57	36.5
Less than 4.25 . . . . .	70	66.9	93	57.7	68	43.3
Less than 4.5 . . . . .	77	72.9	104	64.1	73	47.2
Less than 4.75 . . . . .	81	76.6	113	69.1	82	54.4
Less than 5 . . . . .	82	77.3	121	75.1	96	65.8
Less than 5.25 . . . . .	86	81.4	128	79.5	103	71.0
Less than 5.5 . . . . .	87	82.4	132	82.5	110	76.9
Less than 6 . . . . .	91	86.6	141	86.7	114	79.3
Less than 7 . . . . .	96	92.5	147	91.7	128	91.7
Less than 8 . . . . .	100	95.6	155	96.9	133	95.2
Less than 20.0 . . . . .	103	100.0	160	100.0	139	100.0

Table 14. Ratio of total serum cholesterol to high-density lipoprotein cholesterol for females 20-74 years of age and number of examined persons, by specified Hispanic origin and age: Hispanic Health and Nutrition Examination Survey, 1982-84--Con.

Hispanic origin and selected ratio cutoff	45-54 years		55-64 years		65-74 years	
	Number of examined persons	Cumulative percent	Number of examined persons	Cumulative percent	Number of examined persons	Cumulative percent
<b>Mexican-American</b>						
Total . . . . .	339	100.0	211	100.0	114	100.0
Less than 2 . . . . .	-	-	1	0.6	1	0.9
Less than 2.5 . . . . .	10	2.9	5	2.0	2	1.7
Less than 3 . . . . .	48	14.1	25	12.1	5	4.4
Less than 3.25 . . . . .	74	21.7	32	15.5	13	11.2
Less than 3.5 . . . . .	102	30.6	45	21.2	28	24.9
Less than 4 . . . . .	135	40.5	68	32.3	39	34.1
Less than 4.25 . . . . .	160	48.0	91	43.8	53	47.2
Less than 4.5 . . . . .	184	55.4	109	52.0	58	51.0
Less than 4.75 . . . . .	211	62.9	125	60.6	67	58.6
Less than 5 . . . . .	239	70.8	135	65.1	71	62.2
Less than 5.25 . . . . .	263	77.5	147	70.6	77	67.8
Less than 5.5 . . . . .	270	79.7	158	75.6	82	72.0
Less than 6 . . . . .	295	86.6	177	84.2	89	77.6
Less than 7 . . . . .	323	94.7	200	95.1	105	91.9
Less than 8 . . . . .	332	97.9	208	98.8	109	95.0
Less than 20.0 . . . . .	339	100.0	211	100.0	114	100.0
<b>Cuban</b>						
Total . . . . .	115	100.0	94	100.0	56	100.0
Less than 2 . . . . .	1	0.9	-	-	-	-
Less than 2.5 . . . . .	5	3.8	2	2.0	1	1.7
Less than 3 . . . . .	17	14.7	10	10.4	7	12.3
Less than 3.25 . . . . .	26	23.7	15	15.8	13	22.5
Less than 3.5 . . . . .	35	31.6	22	23.5	18	31.6
Less than 4 . . . . .	55	48.8	39	41.3	25	44.3
Less than 4.25 . . . . .	64	56.4	49	51.8	33	57.9
Less than 4.5 . . . . .	72	63.6	57	60.6	34	59.9
Less than 4.75 . . . . .	81	71.4	60	63.8	36	64.0
Less than 5 . . . . .	88	77.7	61	64.8	38	67.4
Less than 5.25 . . . . .	91	80.5	72	77.0	40	70.9
Less than 5.5 . . . . .	93	82.1	76	81.5	42	74.6
Less than 6 . . . . .	98	86.3	81	86.5	46	82.1
Less than 7 . . . . .	106	93.0	92	97.9	53	94.8
Less than 8 . . . . .	114	99.2	92	97.9	55	98.3
Less than 20.0 . . . . .	115	100.0	94	100.0	56	100.0
<b>Puerto Rican</b>						
Total . . . . .	162	100.0	95	100.0	49	100.0
Less than 2 . . . . .	2	1.1	-	-	-	-
Less than 2.5 . . . . .	4	2.7	1	0.9	-	-
Less than 3 . . . . .	11	8.1	9	9.0	1	2.1
Less than 3.25 . . . . .	17	11.2	16	15.9	4	9.9
Less than 3.5 . . . . .	30	18.9	26	28.6	9	21.1
Less than 4 . . . . .	51	33.2	34	36.8	14	29.9
Less than 4.25 . . . . .	63	40.5	43	47.8	15	31.0
Less than 4.5 . . . . .	74	46.6	51	56.0	18	35.7
Less than 4.75 . . . . .	87	53.9	56	60.8	23	44.3
Less than 5 . . . . .	98	61.0	61	65.4	24	46.2
Less than 5.25 . . . . .	105	66.1	64	68.9	25	47.8
Less than 5.5 . . . . .	113	71.1	68	72.4	25	47.8
Less than 6 . . . . .	127	80.6	72	75.9	28	52.6
Less than 7 . . . . .	147	91.6	88	93.5	37	71.3
Less than 8 . . . . .	151	94.1	91	96.2	40	76.0
Less than 20.0 . . . . .	162	100.0	95	100.0	49	100.0



**Table 15. Levels of serum triglycerides in milligrams per deciliter for persons 20–74 years of age fasting 12 hours or more and number of examined persons, by specified Hispanic origin and sex: Hispanic Health and Nutrition Examination Survey, 1982–84**

<i>Hispanic origin and selected serum triglyceride cutoff</i>	<i>Both sexes</i>		<i>Male</i>		<i>Female</i>	
	<i>Number of examined persons</i>	<i>Cumulative percent</i>	<i>Number of examined persons</i>	<i>Cumulative percent</i>	<i>Number of examined persons</i>	<i>Cumulative percent</i>
<b>Mexican-American</b>						
Total . . . . .	733	100.0	302	100.0	431	100.0
Less than 60 . . . . .	51	7.9	17	6.8	34	8.8
Less than 80 . . . . .	149	21.5	54	19.5	95	23.1
Less than 90 . . . . .	199	28.6	71	25.0	128	31.4
Less than 100 . . . . .	246	35.1	87	30.2	159	38.8
Less than 110 . . . . .	298	42.7	107	37.8	191	46.4
Less than 120 . . . . .	337	48.1	116	40.6	221	53.8
Less than 130 . . . . .	383	54.3	133	45.9	250	60.6
Less than 140 . . . . .	424	59.8	155	53.4	269	64.7
Less than 150 . . . . .	450	63.5	163	56.1	287	69.2
Less than 160 . . . . .	492	68.9	182	61.8	310	74.2
Less than 180 . . . . .	549	76.4	211	71.8	338	80.0
Less than 200 . . . . .	590	81.5	232	78.3	358	84.0
Less than 230 . . . . .	639	88.1	256	86.2	383	89.6
Less than 250 . . . . .	667	91.5	268	89.6	399	92.9
Less than 270 . . . . .	683	93.3	275	91.5	408	94.8
Less than 290 . . . . .	695	94.9	281	93.3	414	96.2
Less than 300 . . . . .	701	95.6	283	93.7	418	97.1
Less than 500 . . . . .	727	99.2	299	99.0	428	99.4
Less than 1000 . . . . .	733	100.0	302	100.0	431	100.0
Less than 3000 . . . . .	733	100.0	302	100.0	431	100.0
<b>Cuban</b>						
Total . . . . .	126	100.0	59	100.0	67	100.0
Less than 60 . . . . .	16	13.0	4	5.4	12	20.6
Less than 80 . . . . .	39	32.0	11	17.5	28	46.6
Less than 90 . . . . .	50	40.7	15	24.2	35	57.3
Less than 100 . . . . .	61	49.9	23	37.9	38	61.9
Less than 110 . . . . .	66	55.6	28	49.3	38	61.9
Less than 120 . . . . .	71	59.1	30	52.9	41	65.2
Less than 130 . . . . .	79	65.9	35	62.3	44	69.4
Less than 140 . . . . .	81	67.7	36	64.0	45	71.4
Less than 150 . . . . .	88	73.0	39	69.1	49	76.8
Less than 160 . . . . .	95	78.1	41	72.3	54	84.0
Less than 180 . . . . .	107	87.1	50	86.9	57	87.3
Less than 200 . . . . .	110	89.0	51	88.4	59	89.6
Less than 230 . . . . .	114	92.5	53	92.0	61	92.9
Less than 250 . . . . .	116	93.6	54	93.3	62	93.9
Less than 270 . . . . .	118	94.8	55	94.6	63	95.0
Less than 290 . . . . .	119	95.4	55	94.6	64	96.2
Less than 300 . . . . .	120	96.0	55	94.6	65	97.3
Less than 500 . . . . .	124	98.5	57	97.1	67	100.0
Less than 1000 . . . . .	126	100.0	59	100.0	67	100.0
Less than 3000 . . . . .	126	100.0	59	100.0	67	100.0
<b>Puerto Rican</b>						
Total . . . . .	170	100.0	53	100.0	117	100.0
Less than 60 . . . . .	21	14.3	5	11.7	16	15.6
Less than 80 . . . . .	47	29.8	14	28.6	33	30.4
Less than 90 . . . . .	70	45.8	19	39.2	51	49.1
Less than 100 . . . . .	87	55.8	25	48.4	62	59.4
Less than 110 . . . . .	96	61.3	28	53.9	68	64.9
Less than 120 . . . . .	106	66.1	31	59.3	75	69.4
Less than 130 . . . . .	111	68.0	33	61.8	78	71.1
Less than 140 . . . . .	119	71.9	37	68.1	82	73.9
Less than 150 . . . . .	127	75.1	40	72.0	87	76.6
Less than 160 . . . . .	133	81.1	42	76.5	91	83.4
Less than 180 . . . . .	145	87.1	47	86.9	98	87.2
Less than 200 . . . . .	151	90.6	48	90.6	103	90.6
Less than 230 . . . . .	159	94.1	49	91.9	110	95.2
Less than 250 . . . . .	160	94.9	50	94.2	110	95.2
Less than 270 . . . . .	161	95.2	50	94.2	111	95.7
Less than 290 . . . . .	163	96.0	50	94.2	113	96.9
Less than 300 . . . . .	164	96.6	51	95.7	113	96.9
Less than 500 . . . . .	169	99.6	53	100.0	116	99.4
Less than 1000 . . . . .	170	100.0	53	100.0	117	100.0
Less than 3000 . . . . .	170	100.0	53	100.0	117	100.0

Note: To convert the values in the stub to millimoles per liter, multiply the values by 0.01129.

**Table 16. Levels of serum triglycerides in milligrams per deciliter for Mexican-American males 20-74 years of age fasting 12 hours or more and number of examined persons, by age: Hispanic Health and Nutrition Examination Survey, 1982-84**

<i>Hispanic origin and selected serum triglyceride cutoff</i>	<i>20-24 years</i>		<i>25-34 years</i>		<i>35-44 years</i>	
	<i>Number of examined persons</i>	<i>Cumulative percent</i>	<i>Number of examined persons</i>	<i>Cumulative percent</i>	<i>Number of examined persons</i>	<i>Cumulative percent</i>
<b>Mexican-American</b>						
Total . . . . .	29	100.0	78	100.0	55	100.0
Less than 60 . . . . .	5	18.7	5	6.2	2	3.9
Less than 80 . . . . .	10	33.3	15	19.8	13	23.5
Less than 90 . . . . .	12	40.9	19	25.0	14	25.9
Less than 100 . . . . .	12	40.9	25	33.1	18	33.2
Less than 110 . . . . .	17	59.7	33	42.6	21	38.4
Less than 120 . . . . .	17	59.7	35	44.9	23	42.1
Less than 130 . . . . .	18	62.7	39	50.1	26	47.1
Less than 140 . . . . .	21	72.3	46	58.4	30	54.1
Less than 150 . . . . .	22	75.8	49	61.6	31	56.5
Less than 160 . . . . .	24	82.9	51	64.1	33	59.8
Less than 180 . . . . .	27	93.6	58	73.2	38	69.6
Less than 200 . . . . .	27	93.6	65	82.6	40	72.7
Less than 230 . . . . .	28	97.3	70	89.9	44	80.3
Less than 250 . . . . .	29	100.0	72	92.4	46	83.2
Less than 270 . . . . .	29	100.0	73	93.6	47	84.9
Less than 290 . . . . .	29	100.0	74	94.9	49	88.6
Less than 300 . . . . .	29	100.0	74	94.9	50	89.6
Less than 500 . . . . .	29	100.0	77	98.7	55	100.0
Less than 1000 . . . . .	29	100.0	78	100.0	55	100.0
Less than 3000 . . . . .	29	100.0	78	100.0	55	100.0

<i>Hispanic origin and selected serum triglyceride cutoff</i>	<i>45-54 years</i>		<i>55-64 years</i>		<i>65-74 years</i>	
	<i>Number of examined persons</i>	<i>Cumulative percent</i>	<i>Number of examined persons</i>	<i>Cumulative percent</i>	<i>Number of examined persons</i>	<i>Cumulative percent</i>
<b>Mexican-American</b>						
Total . . . . .	59	100.0	55	100.0	26	100.0
Less than 60 . . . . .	1	1.7	2	3.6	2	9.6
Less than 80 . . . . .	7	9.9	4	6.7	5	20.5
Less than 90 . . . . .	10	15.8	10	16.5	6	24.1
Less than 100 . . . . .	12	18.8	14	23.1	6	24.1
Less than 110 . . . . .	13	20.4	15	24.6	8	31.6
Less than 120 . . . . .	14	21.9	18	30.4	9	35.8
Less than 130 . . . . .	16	25.3	24	42.7	10	39.4
Less than 140 . . . . .	18	29.8	27	47.6	13	50.5
Less than 150 . . . . .	21	35.0	27	47.6	13	50.5
Less than 160 . . . . .	30	50.6	30	52.6	14	55.8
Less than 180 . . . . .	39	66.1	33	58.0	16	64.4
Less than 200 . . . . .	41	69.1	40	72.1	19	75.3
Less than 230 . . . . .	47	79.8	45	80.7	22	88.1
Less than 250 . . . . .	50	84.9	48	86.6	23	90.5
Less than 270 . . . . .	53	89.7	49	88.5	24	93.0
Less than 290 . . . . .	55	92.9	50	90.2	24	93.0
Less than 300 . . . . .	56	94.5	50	90.2	24	93.0
Less than 500 . . . . .	59	100.0	54	97.4	25	96.4
Less than 1000 . . . . .	59	100.0	55	100.0	26	100.0
Less than 3000 . . . . .	59	100.0	55	100.0	26	100.0

Note: To convert the values in the stub to millimoles per liter, multiply the values by 0.01129.

Table 17. Levels of serum triglycerides in milligrams per deciliter for Mexican-American females 20-74 years of age fasting 12 hours or more and number of examined persons, by age: Hispanic Health and Nutrition Examination Survey, 1982-84

Hispanic origin and selected serum triglyceride cutoff	20-24 years		25-34 years		35-44 years	
	Number of examined persons	Cumulative percent	Number of examined persons	Cumulative percent	Number of examined persons	Cumulative percent
Total	68	100.0	118	100.0	81	100.0
Less than 60	15	22.1	11	9.1	3	3.8
Less than 80	25	36.4	37	31.0	19	21.3
Less than 90	31	46.0	48	40.6	29	34.5
Less than 100	38	55.7	54	46.0	36	42.6
Less than 110	41	60.2	67	57.4	42	50.4
Less than 120	44	64.6	77	65.8	46	56.0
Less than 130	50	74.5	85	72.2	51	61.4
Less than 140	51	75.7	92	77.3	55	66.2
Less than 150	53	78.8	97	82.0	61	73.8
Less than 160	58	85.7	98	82.6	63	76.4
Less than 180	60	88.7	104	88.1	64	77.5
Less than 200	62	92.0	105	88.8	66	79.4
Less than 230	65	96.0	109	92.4	73	89.4
Less than 250	65	96.0	112	95.3	76	92.3
Less than 270	67	98.5	113	95.9	76	92.3
Less than 290	67	98.5	115	97.3	77	93.8
Less than 300	68	100.0	117	98.8	77	93.8
Less than 500	68	100.0	118	100.0	80	98.6
Less than 1000	68	100.0	118	100.0	81	100.0
Less than 3000	68	100.0	118	100.0	81	100.0

Hispanic origin and selected serum triglyceride cutoff	45-54 years		55-64 years		65-74 years	
	Number of examined persons	Cumulative percent	Number of examined persons	Cumulative percent	Number of examined persons	Cumulative percent
Total	76	100.0	62	100.0	26	100.0
Less than 60	4	4.7	1	1.5	-	-
Less than 80	7	8.4	6	8.4	1	4.5
Less than 90	10	11.9	9	12.8	1	4.5
Less than 100	17	21.6	11	15.7	3	13.8
Less than 110	21	26.7	16	24.1	4	17.1
Less than 120	25	33.2	21	34.6	8	32.4
Less than 130	28	36.3	26	43.3	10	39.7
Less than 140	32	42.1	27	44.9	12	47.3
Less than 150	35	46.3	28	46.2	13	50.9
Less than 160	45	60.2	32	53.9	14	54.8
Less than 180	53	70.5	42	69.6	15	58.9
Less than 200	60	79.4	47	77.5	18	70.2
Less than 230	65	85.7	52	84.4	19	73.9
Less than 250	71	94.5	55	89.2	20	76.5
Less than 270	74	98.0	57	93.2	21	80.6
Less than 290	74	98.0	58	94.7	23	89.1
Less than 300	75	99.0	58	94.7	23	89.1
Less than 500	76	100.0	61	98.3	25	96.8
Less than 1000	76	100.0	62	100.0	26	100.0
Less than 3000	76	100.0	62	100.0	26	100.0

Note: To convert the values in the stub to millimoles per liter, multiply the values by 0.0129.

**Table 18. Calculated values of low-density lipoprotein cholesterol in milligrams per deciliter for persons 20–74 years of age fasting 12 hours or more and number of examined persons, by specified Hispanic origin and sex: Hispanic Health and Nutrition Examination Survey, 1982–84**

Hispanic origin and selected low-density lipoprotein cholesterol cutoff	Both sexes		Male		Female	
	Number of examined persons	Cumulative percent	Number of examined persons	Cumulative percent	Number of examined persons	Cumulative percent
<b>Mexican-American</b>						
Total	713	100.0	289	100.0	424	100.0
Less than 60	16	2.7	9	3.8	7	1.9
Less than 70	26	4.1	13	5.4	13	3.1
Less than 80	50	7.9	22	8.4	28	7.4
Less than 90	94	14.4	35	13.2	59	15.2
Less than 100	150	23.1	56	21.1	94	24.6
Less than 110	224	33.6	80	29.6	144	36.6
Less than 120	295	43.9	110	40.3	185	46.6
Less than 125	344	50.7	132	48.7	212	52.3
Less than 130	380	55.7	147	53.8	233	57.1
Less than 140	459	66.4	182	65.9	277	66.8
Less than 150	545	77.7	213	76.1	332	78.8
Less than 160	601	85.4	243	85.7	358	85.3
Less than 170	639	90.7	258	90.6	381	90.8
Less than 180	668	94.4	270	94.2	398	94.6
Less than 190	683	96.2	276	95.6	407	96.6
Less than 200	697	98.0	281	97.3	416	98.5
Less than 400	713	100.0	289	100.0	424	100.0
<b>Cuban</b>						
Total	120	100.0	54	100.0	66	100.0
Less than 60	1	1.0	1	2.0	—	—
Less than 70	1	1.0	1	2.0	—	—
Less than 80	2	1.5	1	2.0	1	1.0
Less than 90	12	10.2	4	6.7	8	13.4
Less than 100	19	16.3	7	11.5	12	20.8
Less than 110	31	27.0	10	16.6	21	36.8
Less than 120	40	35.2	18	31.5	22	38.7
Less than 125	48	43.0	21	37.8	27	47.9
Less than 130	58	51.2	24	44.2	34	57.8
Less than 140	69	59.8	31	56.8	38	62.6
Less than 150	77	66.6	37	67.9	40	65.4
Less than 160	86	74.8	38	71.7	48	77.7
Less than 170	96	82.8	44	82.7	52	82.9
Less than 180	104	88.8	48	89.6	56	88.0
Less than 190	107	90.7	48	89.6	59	91.7
Less than 200	110	92.7	49	91.4	61	94.0
Less than 400	120	100.0	54	100.0	66	100.0
<b>Puerto Rican</b>						
Total	167	100.0	53	100.0	114	100.0
Less than 60	3	1.6	—	—	3	2.4
Less than 70	5	3.6	2	5.8	3	2.4
Less than 80	14	8.9	3	7.0	11	9.9
Less than 90	25	17.2	8	17.8	17	16.8
Less than 100	35	23.1	10	21.2	25	24.0
Less than 110	52	36.0	12	26.2	40	41.0
Less than 120	73	48.5	17	35.5	56	55.2
Less than 125	78	52.3	18	37.7	60	59.8
Less than 130	83	55.6	23	47.2	60	59.8
Less than 140	99	62.9	27	53.8	72	67.5
Less than 150	109	67.2	32	61.2	77	70.3
Less than 160	124	75.0	36	66.7	88	79.3
Less than 170	134	80.7	39	74.0	95	84.1
Less than 180	139	82.9	43	79.7	96	84.5
Less than 190	144	84.8	45	82.4	99	86.1
Less than 200	148	89.1	46	87.6	102	89.9
Less than 400	167	100.0	53	100.0	114	100.0

NOTES: Serum LDL cholesterol = total serum cholesterol – HDL cholesterol – triglyceride/5 (Friedewald WT, et al. Clin Chem (19):499–502, 1972). Persons with a serum triglyceride value greater than 400 mg/dl were excluded. To convert the estimated mean or percentile to millimoles per liter, multiply the estimate by 0.02596.

**Table 19. Calculated values of low density lipoprotein cholesterol in milligrams per deciliter for Mexican-American males 20-74 years of age fasting 12 hours or more and number of examined persons, by age: Hispanic Health and Nutrition Examination Survey, 1982-84**

<i>Hispanic origin and selected low-density lipoprotein cholesterol cutoff</i>	<i>20-24 years</i>		<i>25-34 years</i>		<i>35-44 years</i>	
	<i>Number of examined persons</i>	<i>Cumulative percent</i>	<i>Number of examined persons</i>	<i>Cumulative percent</i>	<i>Number of examined persons</i>	<i>Cumulative percent</i>
<b>Mexican-American</b>						
Total . . . . .	28	100.0	75	100.0	52	100.0
Less than 60 . . . . .	3	11.9	2	2.9	1	2.3
Less than 70 . . . . .	5	17.8	2	2.9	2	4.7
Less than 80 . . . . .	6	21.9	5	7.0	2	4.7
Less than 90 . . . . .	8	28.1	9	13.3	5	10.0
Less than 100 . . . . .	10	33.7	18	25.2	8	17.1
Less than 110 . . . . .	14	48.5	25	34.2	9	19.4
Less than 120 . . . . .	16	56.4	35	47.0	15	32.1
Less than 125 . . . . .	20	70.0	45	61.0	17	35.4
Less than 130 . . . . .	20	70.0	49	66.4	22	44.7
Less than 140 . . . . .	23	81.6	58	78.8	29	56.9
Less than 150 . . . . .	25	89.5	66	89.2	33	63.4
Less than 160 . . . . .	26	93.2	69	92.8	41	80.0
Less than 170 . . . . .	28	100.0	69	92.8	46	89.1
Less than 180 . . . . .	28	100.0	71	95.2	49	94.5
Less than 190 . . . . .	28	100.0	72	96.2	49	94.5
Less than 200 . . . . .	28	100.0	73	97.4	50	96.2
Less than 400 . . . . .	28	100.0	75	100.0	52	100.0

<i>Hispanic origin and selected low-density lipoprotein cholesterol cutoff</i>	<i>45-54 years</i>		<i>55-64 years</i>		<i>65-74 years</i>	
	<i>Number of examined persons</i>	<i>Cumulative percent</i>	<i>Number of examined persons</i>	<i>Cumulative percent</i>	<i>Number of examined persons</i>	<i>Cumulative percent</i>
<b>Mexican-American</b>						
Total . . . . .	58	100.0	52	100.0	24	100.0
Less than 60 . . . . .	2	3.3	1	1.8	*	*
Less than 70 . . . . .	2	3.3	1	1.8	*	*
Less than 80 . . . . .	2	3.3	5	9.5	*	*
Less than 90 . . . . .	5	8.0	6	11.0	*	*
Less than 100 . . . . .	7	11.3	8	14.6	*	*
Less than 110 . . . . .	11	18.4	13	23.8	*	*
Less than 120 . . . . .	19	32.4	16	28.4	*	*
Less than 125 . . . . .	21	35.4	19	35.1	*	*
Less than 130 . . . . .	23	38.8	22	41.5	*	*
Less than 140 . . . . .	30	51.1	31	60.3	*	*
Less than 150 . . . . .	39	67.7	36	69.7	*	*
Less than 160 . . . . .	48	83.5	41	78.6	*	*
Less than 170 . . . . .	51	88.6	44	83.3	*	*
Less than 180 . . . . .	54	93.7	47	89.0	*	*
Less than 190 . . . . .	56	96.9	50	94.6	*	*
Less than 200 . . . . .	57	98.5	51	97.6	*	*
Less than 400 . . . . .	58	100.0	52	100.0	*	*

NOTES: Serum LDL cholesterol = total serum cholesterol - HDL cholesterol - triglyceride/5 (Friedewald WT, et al. Clin Chem (18):499-502. 1972). Persons with a serum triglyceride value greater than 400 mg/dl were excluded. To convert the estimated mean or percentile to millimoles per liter, multiply the estimate by 0.02586.

**Table 20. Calculated values of low-density lipoprotein cholesterol in milligrams per deciliter for Mexican-American females 20–74 years of age fasting 12 hours or more and number of examined persons, by age: Hispanic Health and Nutrition Examination Survey, 1982–84**

<i>Hispanic origin and selected low-density lipoprotein cholesterol cutoff</i>	<i>20–24 years</i>		<i>25–34 years</i>		<i>35–44 years</i>	
	<i>Number of examined persons</i>	<i>Cumulative percent</i>	<i>Number of examined persons</i>	<i>Cumulative percent</i>	<i>Number of examined persons</i>	<i>Cumulative percent</i>
Total . . . . .	68	100.0	118	100.0	78	100.0
Less than 60 . . . . .	2	3.2	3	2.7	–	–
Less than 70 . . . . .	3	4.4	5	4.2	1	0.9
Less than 80 . . . . .	9	14.1	12	10.5	3	3.1
Less than 90 . . . . .	15	23.8	23	20.1	8	9.9
Less than 100 . . . . .	26	40.2	37	32.9	15	19.1
Less than 110 . . . . .	36	54.3	55	47.7	29	37.1
Less than 120 . . . . .	42	63.9	69	58.9	38	49.1
Less than 125 . . . . .	43	65.2	76	64.7	44	56.2
Less than 130 . . . . .	46	68.8	78	66.3	49	62.7
Less than 140 . . . . .	55	81.2	86	72.4	56	71.2
Less than 150 . . . . .	63	92.7	100	83.8	64	81.8
Less than 160 . . . . .	65	95.6	110	92.9	69	88.6
Less than 170 . . . . .	67	98.9	112	94.9	73	93.9
Less than 180 . . . . .	67	98.9	115	97.6	76	97.2
Less than 190 . . . . .	67	98.9	116	98.5	78	100.0
Less than 200 . . . . .	67	98.9	117	99.3	78	100.0
Less than 400 . . . . .	68	100.0	118	100.0	78	100.0

<i>Hispanic origin and selected low-density lipoprotein cholesterol cutoff</i>	<i>45–54 years</i>		<i>55–64 years</i>		<i>65–74 years</i>	
	<i>Number of examined persons</i>	<i>Cumulative percent</i>	<i>Number of examined persons</i>	<i>Cumulative percent</i>	<i>Number of examined persons</i>	<i>Cumulative percent</i>
Total . . . . .	76	100.0	59	100.0	25	100.0
Less than 60 . . . . .	–	–	1	1.1	1	4.1
Less than 70 . . . . .	1	0.5	1	1.1	2	8.3
Less than 80 . . . . .	1	0.5	1	1.1	2	8.3
Less than 90 . . . . .	5	6.0	6	9.2	2	8.3
Less than 100 . . . . .	6	7.0	8	11.9	2	8.3
Less than 110 . . . . .	11	13.3	11	15.9	2	8.3
Less than 120 . . . . .	16	19.9	15	23.4	5	19.3
Less than 125 . . . . .	24	30.2	19	29.4	6	23.3
Less than 130 . . . . .	32	42.4	20	31.1	8	31.5
Less than 140 . . . . .	40	53.1	30	47.4	10	40.9
Less than 150 . . . . .	50	64.8	44	71.1	11	44.3
Less than 160 . . . . .	54	70.0	47	76.6	13	53.0
Less than 170 . . . . .	63	83.5	50	82.6	16	65.6
Less than 180 . . . . .	67	87.9	54	91.3	19	79.1
Less than 190 . . . . .	70	91.9	56	95.1	20	82.9
Less than 200 . . . . .	72	94.8	58	98.6	24	96.6
Less than 400 . . . . .	76	100.0	59	100.0	25	100.0

NOTES: Serum LDL cholesterol = total serum cholesterol – HDL cholesterol – triglyceride/5 (Friedewald WT, et al. Clin Chem (18):499–502, 1972). Persons with a serum triglyceride value greater than 400 mg/dl were excluded. To convert the estimated mean or percentile to millimoles per liter, multiply the estimate by 0.02586.

Table 21. Serum cholesterol levels for persons 20-74 years of age by selected cutpoints, number of examined persons, estimated population in thousands, percent, and standard error of the percent, by sex, specified Hispanic origin, and age: Hispanic Health and Nutrition Examination Survey, 1982-84

Specified Hispanic origin and age	Number of examined persons	Estimated population in thousands	Less than 200 milligrams per deciliter		200-239 milligrams per deciliter		240 milligrams per deciliter or more	
			Percent	Standard error of the percent	Percent	Standard error of the percent	Percent	Standard error of the percent
<b>Both sexes</b>								
<b>Mexican-American:</b>								
20-74 years	3,204	5,132	49.7	0.9	33.7	0.9	16.6	0.7
20-74 years, age adjusted	...	...	45.1	...	35.3	...	19.5	...
20-24 years	481	1,012	69.4	2.4	24.3	2.4	6.2	1.4
25-34 years	939	1,699	59.1	1.7	30.3	1.7	10.6	1.2
35-44 years	573	998	45.2	2.2	36.2	2.2	18.5	1.9
45-54 years	607	675	27.5	1.5	45.9	1.8	26.6	1.7
55-64 years	411	474	27.2	1.9	41.9	2.2	30.9	2.2
65-74 years	193	275	29.5	3.1	36.0	3.4	34.4	3.6
<b>Cuban:</b>								
20-74 years	826	329	49.2	1.7	32.5	1.7	18.3	1.4
20-74 years, age adjusted	...	...	53.1	...	30.4	...	16.5	...
20-24 years	57	31	77.5	6.2	18.4	5.9	4.1	3.1
25-34 years	129	68	72.3	4.5	23.2	4.3	4.6	2.2
35-44 years	140	70	59.5	4.7	28.1	4.4	12.4	3.3
45-54 years	228	74	34.4	2.9	43.8	3.1	21.8	2.6
55-64 years	174	54	27.8	3.1	38.2	3.4	34.0	3.4
65-74 years	98	32	26.5	4.0	37.2	4.5	36.3	4.6
<b>Puerto Rican:</b>								
20-74 years	1,138	633	53.8	1.7	28.5	1.5	17.7	1.4
20-74 years, age adjusted	...	...	48.9	...	30.2	...	20.8	...
20-24 years	157	111	78.1	4.2	14.0	3.5	7.9	3.0
25-34 years	262	183	66.4	3.7	23.9	3.4	9.7	2.6
35-44 years	214	156	53.4	4.4	30.3	4.1	16.2	3.7
45-54 years	262	98	31.1	2.6	39.6	2.8	29.3	2.9
55-64 years	171	58	22.0	2.8	43.1	3.4	34.9	3.7
65-74 years	72	27	23.4	4.6	35.9	5.2	40.7	5.9
<b>Male</b>								
<b>Mexican-American:</b>								
20-74 years	1,407	2,583	46.9	1.4	36.5	1.4	16.6	1.2
20-74 years, age adjusted	...	...	42.9	...	38.2	...	18.8	...
20-24 years	213	536	71.9	3.9	23.6	3.8	4.4	2.0
25-34 years	417	881	51.0	2.8	35.8	2.8	13.2	2.1
35-44 years	243	502	37.0	3.6	41.4	3.8	21.7	3.4
45-54 years	263	316	24.3	2.3	45.5	2.8	30.2	2.8
55-64 years	192	221	31.7	2.9	44.1	3.2	24.1	3.0
65-74 years	79	126	36.9	5.5	39.8	5.8	23.2	5.4
<b>Cuban:</b>								
20-74 years	366	147	44.1	2.6	38.3	2.6	17.5	2.1
20-74 years, age adjusted	...	...	48.3	...	35.6	...	16.1	...
20-24 years	24	14	*	*	*	*	*	*
25-34 years	59	32	60.7	7.4	33.6	7.3	5.7	3.7
35-44 years	51	27	45.2	8.3	35.8	8.1	19.0	6.9
45-54 years	112	36	30.1	4.0	47.8	4.4	22.1	3.8
55-64 years	79	24	33.8	4.8	44.0	5.2	22.2	4.5
65-74 years	41	13	*29.6	6.6	*41.7	7.3	*28.7	6.9
<b>Puerto Rican:</b>								
20-74 years	422	237	53.7	2.8	29.5	2.6	16.8	2.3
20-74 years, age adjusted	...	...	50.5	...	31.7	...	17.7	...
20-24 years	53	35	84.0	6.4	12.3	5.7	3.8	3.7
25-34 years	102	75	66.0	6.2	26.0	5.8	8.0	3.9
35-44 years	71	53	52.3	8.0	31.1	7.4	16.6	6.6
45-54 years	97	38	24.6	4.2	36.0	4.7	39.4	5.3
55-64 years	76	28	30.5	4.9	42.1	5.3	27.4	5.3
65-74 years	23	9	*	*	*	*	*	*

**Table 21. Serum cholesterol levels for persons 20–74 years of age by selected cutpoints, number of examined persons, estimated population in thousands, percent, and standard error of the percent, by sex, specified Hispanic origin, and age: Hispanic Health and Nutrition Examination Survey, 1982–84—Con.**

Specified Hispanic origin and age	Number of examined persons	Estimated population in thousands	Less than 200 milligrams per deciliter		200–239 milligrams per deciliter		240 milligrams per deciliter or more	
			Percent	Standard error of the percent	Percent	Standard error of the percent	Percent	Standard error of the percent
<b>Female</b>								
<b>Mexican-American:</b>								
20–74 years . . . . .	1,797	2,549	52.5	1.1	31.0	1.1	16.5	0.9
20–74 years, age adjusted . . . . .	...	...	47.6	...	32.4	...	20.0	...
20–24 years . . . . .	268	475	66.6	3.1	25.2	2.9	8.2	2.0
25–34 years . . . . .	522	817	67.7	2.0	24.5	2.0	7.8	1.3
35–44 years . . . . .	330	495	53.6	2.7	31.1	2.6	15.4	2.2
45–54 years . . . . .	344	359	30.3	2.0	46.3	2.3	23.4	2.1
55–64 years . . . . .	219	253	23.2	2.5	40.0	3.0	36.8	3.2
65–74 years . . . . .	114	149	23.2	3.6	32.8	4.2	44.0	4.7
<b>Cuban:</b>								
20–74 years . . . . .	460	182	53.4	2.3	27.7	2.1	18.8	1.9
20–74 years, age adjusted . . . . .	...	...	57.0	...	26.1	...	16.9	...
20–24 years . . . . .	33	17	*76.8	8.1	*23.2	8.2	*0.0	0.0
25–34 years . . . . .	70	35	82.7	5.1	13.8	4.7	3.6	2.6
35–44 years . . . . .	89	43	68.9	5.4	23.0	5.0	8.1	3.3
45–54 years . . . . .	116	38	38.6	4.2	40.0	4.3	21.5	3.7
55–64 years . . . . .	95	29	22.6	3.8	33.3	4.4	44.1	4.8
65–74 years . . . . .	57	19	24.1	5.1	33.9	5.8	42.0	6.2
<b>Puerto Rican:</b>								
20–74 years . . . . .	716	397	53.8	2.1	27.9	1.9	18.2	1.8
20–74 years, age adjusted . . . . .	...	...	47.8	...	26.5	...	22.7	...
20–24 years . . . . .	104	76	75.2	5.4	14.9	4.5	9.9	4.1
25–34 years . . . . .	160	108	66.8	4.6	22.3	4.1	10.9	3.4
35–44 years . . . . .	143	104	54.1	5.4	29.9	5.0	16.0	4.4
45–54 years . . . . .	165	60	35.3	3.4	41.9	3.5	22.8	3.3
55–64 years . . . . .	95	31	14.4	3.2	43.9	4.5	41.6	5.0
65–74 years . . . . .	49	18	19.6	5.2	28.0	5.9	52.4	7.3

NOTE: 200 mg/dl = 5.17 millimoles per liter. 240 mg/dl = 6.21 millimoles per liter.



Table 22. Percent of persons 20-74 years of age with high-density lipoprotein cholesterol levels of less than 35 milligrams per deciliter, number of examined persons, estimated population in thousands, percent, and standard error of the percent, by specified Hispanic origin, sex, and age: Hispanic Health and Nutrition Examination Survey, 1982-84

Hispanic origin and age	Both sexes				Male				Female			
	Number of Examined persons	Estimated population in thousands	Percent	Standard error of the percent	Number of Examined persons	Estimated population in thousands	Percent	Standard error of the percent	Number of Examined persons	Estimated population in thousands	Percent	Standard error of the percent
<b>Mexican-American</b>												
20-74 years	3,158	5,132	9.8	0.7	1,381	2,583	13.2	1.2	1,777	2,549	6.4	0.7
20-74 years, age adjusted	...	...	10.0	...	...	...	13.4	...	...	...	6.6	...
20-24 years	477	1,012	7.6	1.7	210	536	10.9	3.3	267	475	3.8	1.5
25-34 years	929	1,699	9.8	1.3	408	881	13.5	2.4	521	817	6.0	1.3
35-44 years	564	998	10.7	1.7	239	502	13.6	3.1	325	495	7.8	1.8
45-54 years	595	675	10.4	1.3	256	316	14.8	2.4	339	359	6.6	1.3
55-64 years	400	474	11.1	1.7	189	221	13.2	2.6	211	253	9.3	2.1
65-74 years	193	275	10.2	2.5	79	126	14.4	4.9	114	149	6.6	2.6
<b>Cuban</b>												
20-74 years	814	329	11.5	1.1	359	147	19.0	2.1	455	182	5.3	1.1
20-74 years, age adjusted	...	...	11.5	...	...	...	19.3	...	...	...	5.1	...
20-24 years	56	31	7.3	4.0	24	14	*	*	32	17	*2.7	3.2
25-34 years	128	68	15.8	3.7	59	32	26.4	6.7	69	35	6.2	3.3
35-44 years	140	70	12.1	3.1	51	27	22.4	7.0	89	43	5.3	2.6
45-54 years	223	74	10.7	1.9	108	36	15.5	3.2	115	38	6.3	2.1
55-64 years	171	54	9.9	2.1	77	24	15.1	3.7	94	29	5.5	2.1
65-74 years	96	32	9.6	2.8	40	13	*17.9	5.7	56	19	3.4	2.2
<b>Puerto Rican</b>												
20-74 years	1,127	633	22.2	2.1	419	237	32.3	2.6	708	397	15.9	1.5
20-74 years, age adjusted	...	...	21.7	...	...	...	31.3	...	...	...	15.6	...
20-24 years	156	111	17.9	3.8	53	35	25.9	7.4	103	76	13.8	4.2
25-34 years	261	183	23.3	3.2	101	75	32.8	6.0	160	108	16.6	3.6
35-44 years	210	156	29.4	4.0	71	53	47.5	7.7	139	104	19.3	4.2
45-54 years	258	98	17.4	2.1	96	38	22.1	3.9	162	60	14.3	2.4
55-64 years	170	58	14.1	2.3	75	28	23.1	4.4	95	31	6.3	2.1
65-74 years	72	27	27.2	4.7	23	9	*	*	49	18	24.1	5.4

NOTE: 35 mg/dl = 0.91 millimoles per liter.

Table 23. Percent of persons 20–74 years of age with ratio of total serum cholesterol to high-density lipoprotein cholesterol greater than or equal to 4.5, by specified Hispanic origin, sex, and age: Hispanic Health and Nutrition Examination Survey, 1982–84

Hispanic origin and age	Both sexes				Male				Female			
	Number of Examined persons	Estimated population in thousands	Percent	Standard error of the percent	Number of Examined persons	Estimated population in thousands	Percent	Standard error of the percent	Number of Examined persons	Estimated population in thousands	Percent	Standard error of the percent
<b>Mexican-American</b>												
20–74 years	3,158	5,132	38.4	1.0	1,381	2,583	46.3	1.6	1,777	2,549	30.4	1.2
20–74 years, age adjusted	...	...	41.6	...	...	...	49.8	...	...	...	33.6	...
20–24 years	477	1,012	21.2	2.4	210	536	24.5	4.2	267	475	17.6	2.8
25–34 years	929	1,699	32.8	1.8	408	881	43.6	3.2	521	817	21.5	2.0
35–44 years	564	998	44.1	2.5	239	502	55.1	4.1	325	495	32.9	2.9
45–54 years	595	675	52.7	1.9	256	316	61.8	3.0	339	359	44.6	2.5
55–64 years	400	474	55.4	2.4	189	221	63.6	3.4	211	253	48.0	3.3
65–74 years	193	275	51.1	3.8	79	126	53.7	6.3	114	149	49.0	4.8
<b>Cuban</b>												
20–74 years	814	329	40.6	1.7	359	147	56.6	2.6	455	182	27.4	2.1
20–74 years, age adjusted	...	...	38.2	...	...	...	54.0	...	...	...	25.5	...
20–24 years	56	31	22.4	6.3	24	14	*	*	32	17	*12.4	6.4
25–34 years	128	68	29.5	4.6	59	32	44.7	7.5	69	35	15.7	4.9
35–44 years	140	70	38.2	4.6	51	27	65.4	7.9	89	43	20.2	4.7
45–54 years	223	74	49.2	3.1	108	36	63.1	4.3	115	38	36.4	4.1
55–64 years	171	54	49.7	3.4	77	24	61.9	5.0	94	29	39.4	4.5
65–74 years	96	32	48.6	4.6	40	13	*59.9	7.2	56	19	40.1	5.9
<b>Puerto Rican</b>												
20–74 years	1,127	633	49.1	1.7	419	237	58.4	2.6	708	397	43.2	1.9
20–74 years, age adjusted	...	...	50.5	...	...	...	59.5	...	...	...	44.7	...
20–24 years	156	111	32.6	4.4	53	35	43.5	8.0	103	76	27.1	5.1
25–34 years	261	183	41.1	3.6	101	75	48.6	6.1	160	108	35.9	4.4
35–44 years	210	156	60.3	4.1	71	53	73.8	6.5	139	104	52.8	5.0
45–54 years	258	98	56.1	2.7	96	38	60.3	4.4	162	60	53.4	3.3
55–64 years	170	58	55.0	3.2	75	28	67.6	4.7	95	31	44.0	4.2
65–74 years	72	27	66.8	4.7	23	9	*	*	49	18	64.3	5.8

**Table 24. Calculated levels of low-density lipoprotein cholesterol by selected cutpoints for persons 20–74 years of age fasting 12 hours or more, number of examined persons, estimated population in thousands, percent, and standard error of the percent, by sex, specified Hispanic origin and age: Hispanic Health and Nutrition Examination Survey, 1982–84**

Hispanic origin and age	Number of examined persons	Estimated population in thousands	Less than 130 milligrams per deciliter		130–159 milligrams per deciliter		160 milligrams per deciliter or more	
			Percent	Standard error of the percent	Percent	Standard error of the percent	Percent	Standard error of the percent
<b>Both sexes</b>								
<b>Mexican-American:</b>								
20–74 years	713	5,132	55.7	2.0	29.7	1.8	14.6	1.3
20–74 years, age adjusted	...	...	53.0	...	30.4	...	16.6	...
20–24 years	96	1,012	69.2	5.9	25.7	5.4	5.2	2.7
25–34 years	193	1,699	66.4	3.9	26.5	3.6	7.2	2.0
35–44 years	130	997	54.6	4.9	30.2	4.4	15.2	3.3
45–54 years	134	675	40.8	4.0	35.1	3.8	24.1	3.3
55–64 years	111	474	36.1	4.1	41.5	4.1	22.4	3.3
65–74 years	49	275	38.0	7.6	24.1	6.5	37.9	7.2
<b>Cuban:</b>								
20–74 years	120	328	51.2	...	23.5	...	25.2	...
20–74 years, age adjusted	...	...	55.2	...	24.0	...	20.7	...
<b>Puerto Rican:</b>								
20–74 years	167	627	55.6	...	19.5	...	25.0	...
20–74 years, age adjusted	...	...	53.0	...	20.9	...	26.1	...
<b>Male</b>								
<b>Mexican-American:</b>								
20–74 years	289	2,583	53.8	3.2	31.8	3.0	14.3	2.2
20–74 years, age adjusted	...	...	52.7	...	32.1	...	15.2	...
20–24 years	28	536	*70.0	11.8	*23.2	10.5	*6.8	6.1
25–34 years	75	881	66.4	6.7	26.4	6.0	7.2	3.4
35–44 years	52	502	44.7	8.2	35.3	7.7	20.0	6.2
45–54 years	58	316	38.8	6.1	44.7	6.1	16.5	4.4
55–64 years	52	221	41.5	6.2	37.1	5.9	21.4	4.9
65–74 years	24	126	*	*	*	*	*	9.2
<b>Cuban:</b>								
20–74 years	54	145	44.2	...	27.5	...	28.3	...
20–74 years, age adjusted	...	...	48.8	...	27.1	...	24.1	...
<b>Puerto Rican:</b>								
20–74 years	53	231	47.2	...	19.5	...	33.3	...
20–74 years, age adjusted	...	...	48.0	...	19.4	...	32.6	...
<b>Female</b>								
<b>Mexican-American:</b>								
20–74 years	424	2,549	57.1	2.6	28.1	2.3	14.7	1.7
20–74 years, age adjusted	...	...	53.2	...	29.0	...	17.8	...
20–24 years	68	475	68.8	6.9	26.9	6.4	4.4	2.9
25–34 years	118	817	66.3	4.9	26.5	4.4	7.1	2.5
35–44 years	78	495	62.7	5.9	26.0	5.2	11.4	3.6
45–54 years	76	359	42.4	5.4	27.7	4.7	30.0	4.7
55–64 years	59	253	31.1	5.3	45.5	5.6	23.4	4.6
65–74 years	25	149	*31.5	10.7	*21.5	9.2	*47.0	10.8
<b>Cuban:</b>								
20–74 years	66	183	57.8	...	19.8	...	22.3	...
20–74 years, age adjusted	...	...	61.8	...	20.3	...	17.9	...
<b>Puerto Rican:</b>								
20–74 years	114	396	59.8	...	19.5	...	20.7	...
20–74 years, age adjusted	...	...	55.5	...	21.4	...	23.1	...

NOTES: Serum LDL cholesterol = total serum cholesterol – HDL cholesterol – triglyceride/5. (Friedewald WT, et al. Clin Chem (18):499–502. 1972). Persons with a serum triglyceride value greater than 400 mg/dl were excluded. 130 mg/dl = 3.36 millimoles per liter. 160 mg/dl = 4.14 millimoles per liter.

**Table 25. Total serum cholesterol levels in milligrams per deciliter for males 20-74 years of age, number of examined persons, mean, and standard error of the mean, by poverty status, specified Hispanic origin, and age: Hispanic Health and Nutrition Examination Survey, 1982-84**

<i>Hispanic origin and age</i>	<i>Income below poverty level</i>			<i>Income at or above poverty level</i>		
	<i>Number of examined persons</i>	<i>Mean</i>	<i>Standard error of the mean</i>	<i>Number of examined persons</i>	<i>Mean</i>	<i>Standard error of the mean</i>
<b>Mexican-American</b>						
20-74 years . . . . .	310	199	2.4	981	205	1.4
20-74 years, age adjusted . . . . .	...	204	...	...	208	...
20-24 years . . . . .	55	176	5.6	136	182	4.4
25-34 years . . . . .	82	194	4.1	308	201	2.4
35-44 years . . . . .	41	*211	5.5	186	214	3.3
45-54 years . . . . .	54	222	5.5	188	224	2.4
55-64 years . . . . .	47	218	4.4	122	216	3.1
65-74 years . . . . .	31	*210	6.9	41	*217	6.5
<b>Cuban</b>						
20-74 years . . . . .	56	206	...	288	208	...
20-74 years, age adjusted . . . . .	...	200	...	...	205	...
<b>Puerto Rican</b>						
20-74 years . . . . .	128	193	...	273	204	...
20-74 years, age adjusted . . . . .	...	196	...	...	206	...

NOTES: Values for persons with unknown poverty status are excluded. To convert the estimated mean to millimoles per liter, multiply the estimate by 0.02586.

**Table 26. Total serum cholesterol levels in milligrams per deciliter for females 20-74 years of age, number of examined persons, mean, and standard error of the mean, by poverty status, specified Hispanic origin, and age: Hispanic Health and Nutrition Examination Survey, 1982-84**

<i>Hispanic origin and age</i>	<i>Income below poverty level</i>			<i>Income at or above poverty level</i>		
	<i>Number of examined persons</i>	<i>Mean</i>	<i>Standard error of the mean</i>	<i>Number of examined persons</i>	<i>Mean</i>	<i>Standard error of the mean</i>
<b>Mexican-American</b>						
20-74 years . . . . .	550	200	1.7	1,078	203	1.3
20-74 years, age adjusted . . . . .	...	203	...	...	209	...
20-24 years . . . . .	93	182	4.2	155	191	3.6
25-34 years . . . . .	138	190	2.9	348	189	2.1
35-44 years . . . . .	93	199	3.9	206	207	3.2
45-54 years . . . . .	98	213	3.3	202	222	2.6
55-64 years . . . . .	69	217	3.8	125	233	3.4
65-74 years . . . . .	59	238	5.4	42	*238	7.5
<b>Cuban</b>						
20-74 years . . . . .	97	198	...	324	203	...
20-74 years, age adjusted . . . . .	...	194	...	...	201	...
<b>Puerto Rican</b>						
20-74 years . . . . .	339	201	...	331	205	...
20-74 years, age adjusted . . . . .	...	205	...	...	212	...

NOTES: Values for persons with unknown poverty status are excluded. To convert the estimated mean to millimoles per liter, multiply the estimate by 0.02586.

**Table 27. High-density lipoprotein cholesterol levels in milligrams per deciliter for males 20–74 years of age, number of examined persons, mean, and standard error of the mean, by poverty status, specified Hispanic origin, and age: Hispanic Health and Nutrition Examination Survey, 1982–84**

<i>Hispanic origin and age</i>	<i>Income below poverty level</i>			<i>Income at or above poverty level</i>		
	<i>Number of examined persons</i>	<i>Mean</i>	<i>Standard error of the mean</i>	<i>Number of examined persons</i>	<i>Mean</i>	<i>Standard error of the mean</i>
<b>Mexican-American</b>						
20–74 years	308	47.5	1.2	960	47.0	0.6
20–74 years, age adjusted	...	47.7	...	...	46.9	...
20–24 years	55	47.2	2.7	134	46.7	1.6
25–34 years	80	46.6	2.2	301	47.1	1.0
35–44 years	41	*45.1	3.3	182	47.3	1.4
45–54 years	54	51.3	3.1	183	47.7	1.2
55–64 years	47	48.3	2.6	119	45.8	1.4
65–74 years	31	*49.2	4.2	41	*46.7	2.6
<b>Cuban</b>						
20–74 years	55	46.2	...	282	42.7	...
20–74 years, age adjusted	...	46.2	...	...	42.8	...
<b>Puerto Rican</b>						
20–74 years	127	42.7	...	271	42.0	...
20–74 years, age adjusted	...	42.8	...	...	42.3	...

NOTES: Values for persons with unknown poverty status are excluded. To convert the estimated mean to millimoles per liter, multiply the estimate by 0.02586.

**Table 28. High-density lipoprotein cholesterol levels in milligrams per deciliter for females 20–74 years of age, number of examined persons, mean, and standard error of the mean, by poverty status, specified Hispanic origin, and age: Hispanic Health and Nutrition Examination Survey, 1982–84**

<i>Hispanic origin and age</i>	<i>Income below poverty level</i>			<i>Income at or above poverty level</i>		
	<i>Number of examined persons</i>	<i>Mean</i>	<i>Standard error of the mean</i>	<i>Number of examined persons</i>	<i>Mean</i>	<i>Standard error of the mean</i>
<b>Mexican-American</b>						
20–74 years	547	52.4	0.7	1,064	52.8	0.5
20–74 years, age adjusted	...	52.2	...	...	52.9	...
20–24 years	93	53.0	1.8	154	53.9	1.5
25–34 years	138	53.0	1.5	347	52.3	1.0
35–44 years	92	51.1	1.9	202	52.4	1.2
45–54 years	98	52.4	1.4	198	52.7	1.0
55–64 years	67	51.0	2.3	121	53.4	1.5
65–74 years	59	52.7	2.0	42	*53.3	3.0
<b>Cuban</b>						
20–74 years	96	51.5	...	320	52.4	...
20–74 years, age adjusted	...	50.9	...	...	52.3	...
<b>Puerto Rican</b>						
20–74 years	338	47.4	...	326	49.3	...
20–74 years, age adjusted	...	47.7	...	...	50.1	...

NOTES: Values for persons with unknown poverty status are excluded. To convert the estimated mean to millimoles per liter, multiply the estimate by 0.02586.

**Table 29. Ratio of total serum cholesterol to high-density lipoprotein cholesterol for males 20–74 years of age, number of examined persons, mean, and standard error of the mean, by poverty status, specified Hispanic origin, and age: Hispanic Health and Nutrition Examination Survey, 1982–84**

<i>Hispanic origin and age</i>	<i>Income below poverty level</i>			<i>Income at or above poverty level</i>		
	<i>Number of examined persons</i>	<i>Mean</i>	<i>Standard error of the mean</i>	<i>Number of examined persons</i>	<i>Mean</i>	<i>Standard error of the mean</i>
<b>Mexican-American</b>						
20–74 years	308	4.54	0.14	960	4.63	0.07
20–74 years, age adjusted	...	4.66	...	...	4.72	...
20–24 years	55	3.91	0.23	134	4.11	0.19
25–34 years	80	4.58	0.34	301	4.54	0.12
35–44 years	41	*5.08	0.34	182	4.83	0.17
45–54 years	54	4.94	0.37	183	5.00	0.13
55–64 years	47	4.80	0.19	119	5.04	0.16
65–74 years	31	*4.59	0.29	41	*4.96	0.30
<b>Cuban</b>						
20–74 years	55	4.57	...	282	5.30	...
20–74 years, age adjusted	...	4.43	...	...	5.21	...
<b>Puerto Rican</b>						
20–74 years	127	5.16	...	271	5.43	...
20–74 years, age adjusted	...	5.21	...	...	5.45	...

NOTE: Values for persons with unknown poverty status are excluded.

**Table 30. Ratio of total serum cholesterol to high-density lipoprotein cholesterol for females 20–74 years of age, number of examined persons, mean, and standard error of the mean, by poverty status, specified Hispanic origin, and age: Hispanic Health and Nutrition Examination Survey, 1982–84**

<i>Hispanic origin and age</i>	<i>Income below poverty level</i>			<i>Income at or above poverty level</i>		
	<i>Number of examined persons</i>	<i>Mean</i>	<i>Standard error of the mean</i>	<i>Number of examined persons</i>	<i>Mean</i>	<i>Standard error of the mean</i>
<b>Mexican-American</b>						
20–74 years	547	4.05	0.07	1,064	4.06	0.05
20–74 years, age adjusted	...	4.13	...	...	4.19	...
20–24 years	93	3.57	0.15	154	3.72	0.11
25–34 years	138	3.78	0.12	347	3.81	0.07
35–44 years	92	4.12	0.16	202	4.14	0.11
45–54 years	98	4.29	0.13	198	4.49	0.11
55–64 years	67	4.61	0.19	121	4.58	0.13
65–74 years	59	4.79	0.24	42	*4.83	0.26
<b>Cuban</b>						
20–74 years	96	4.05	...	320	4.10	...
20–74 years, age adjusted	...	4.02	...	...	4.04	...
<b>Puerto Rican</b>						
20–74 years	338	4.71	...	326	4.54	...
20–74 years, age adjusted	...	4.76	...	...	4.64	...

NOTE: Values for persons with unknown poverty status are excluded.

**Table 31. Total serum cholesterol levels in milligrams per deciliter for males 20-74 years of age, number of examined persons, mean, and standard error of the mean, by educational level, specified Hispanic origin, and age: Hispanic Health and Nutrition Examination Survey, 1982-84**

<i>Hispanic origin and age</i>	<i>Less than 9 years</i>			<i>9-11 years</i>			<i>12 years or more</i>		
	<i>Number of examined persons</i>	<i>Mean</i>	<i>Standard error of the mean</i>	<i>Number of examined persons</i>	<i>Mean</i>	<i>Standard error of the mean</i>	<i>Number of examined persons</i>	<i>Mean</i>	<i>Standard error of the mean</i>
<b>Mexican-American</b>									
20-74 years . . . . .	577	205	1.8	246	198	2.7	560	204	1.9
20-74 years, age adjusted . . . . .	...	204	...	...	204	...	...	209	...
20-24 years . . . . .	42	*171	6.9	48	172	6.6	119	188	4.5
25-34 years . . . . .	125	199	3.8	80	197	4.1	207	201	2.8
35-44 years . . . . .	103	207	3.9	31	*219	7.1	108	217	4.5
45-54 years . . . . .	127	220	3.3	54	224	4.0	75	226	4.1
55-64 years . . . . .	118	218	3.3	27	*214	6.5	41	*213	5.4
65-74 years . . . . .	62	214	5.3	6	*	*	10	*	*
<b>Cuban</b>									
20-74 years . . . . .	147	216	...	39	*197	...	176	206	...
20-74 years, age adjusted . . . . .	...	207	...	...	*198	...	...	207	...
<b>Puerto Rican</b>									
20-74 years . . . . .	142	211	...	104	199	...	169	196	...
20-74 years, age adjusted . . . . .	...	205	...	...	201	...	...	201	...

NOTES: Educational level is given in terms of the highest grade attended in a regular public or private school. To convert the estimated mean to millimoles per liter, multiply the estimate by 0.02586.

**Table 32. Total serum cholesterol levels in milligrams per deciliter for females 20-74 years of age, number of examined persons, mean, and standard error of the mean, by educational level, specified Hispanic origin, and age: Hispanic Health and Nutrition Examination Survey, 1982-84**

<i>Hispanic origin and age</i>	<i>Less than 9 years</i>			<i>9-11 years</i>			<i>12 years or more</i>		
	<i>Number of examined persons</i>	<i>Mean</i>	<i>Standard error of the mean</i>	<i>Number of examined persons</i>	<i>Mean</i>	<i>Standard error of the mean</i>	<i>Number of examined persons</i>	<i>Mean</i>	<i>Standard error of the mean</i>
<b>Mexican American</b>									
20-74 years . . . . .	790	208	1.5	324	199	2.3	653	199	1.7
20-74 years, age adjusted . . . . .	...	205	...	...	208	...	...	210	...
20-24 years . . . . .	54	186	7.9	69	186	4.9	140	188	3.1
25-34 years . . . . .	159	190	2.7	111	190	3.9	247	188	2.4
35-44 years . . . . .	140	199	3.3	62	200	4.1	124	210	4.5
45-54 years . . . . .	188	215	2.2	50	228	4.7	96	224	4.4
55-64 years . . . . .	151	226	3.1	25	*233	8.0	38	*239	6.1
65-74 years . . . . .	98	236	4.7	7	*	*	8	*	*
<b>Cuban</b>									
20-74 years . . . . .	182	213	...	40	*199	...	234	195	...
20-74 years, age adjusted . . . . .	...	200	...	...	*194	...	...	200	...
<b>Puerto Rican</b>									
20-74 years . . . . .	260	215	...	170	204	...	277	195	...
20-74 years, age adjusted . . . . .	...	210	...	...	214	...	...	209	...

NOTES: Educational level is given in terms of the highest grade attended in a regular public or private school. To convert the estimated mean to millimoles per liter, multiply the estimate by 0.02586.

**Table 33. High-density lipoprotein cholesterol levels in milligrams per deciliter for males 20–74 years of age, number of examined persons, mean and standard error of the mean, by educational level, specified Hispanic origin, and age: Hispanic Health and Nutrition Examination Survey, 1982–84**

Hispanic origin and age	Less than 9 years			9–11 years			12 years or more		
	Number of examined persons	Mean	Standard error of the mean	Number of examined persons	Mean	Standard error of the mean	Number of examined persons	Mean	Standard error of the mean
<b>Mexican-American</b>									
20–74 years . . . . .	567	47.4	0.8	241	47.5	1.3	550	47.0	0.7
20–74 years, age adjusted . . . . .	...	47.5	...	...	47.2	...	...	46.5	...
20–24 years . . . . .	41	*48.3	2.8	48	48.6	2.7	117	46.7	1.8
25–34 years . . . . .	122	46.9	1.5	79	46.5	2.8	202	47.5	1.3
35–44 years . . . . .	100	45.6	2.1	31	*49.6	3.5	107	47.2	1.7
45–54 years . . . . .	125	49.8	1.8	51	46.2	2.2	74	46.5	1.7
55–64 years . . . . .	117	46.7	1.5	26	*46.8	3.9	40	*46.0	2.5
65–74 years . . . . .	62	48.4	2.8	6	*	*	10	*	*
<b>Cuban</b>									
20–74 years . . . . .	141	45.8	...	39	*41.7	...	175	42.5	...
20–74 years, age adjusted . . . . .	...	47.7	...	...	*41.8	...	...	42.6	...
<b>Puerto Rican</b>									
20–74 years . . . . .	141	41.1	...	102	42.3	...	169	42.9	...
20–74 years, age adjusted . . . . .	...	40.0	...	...	41.8	...	...	43.8	...

NOTES: Educational level is given in terms of the highest grade attended in a regular public or private school. To convert the estimated mean to millimoles per liter, multiply the estimate by 0.02586.

**Table 34. High-density lipoprotein cholesterol levels in milligrams per deciliter for females 20–74 years of age, number of examined persons, mean and standard error of the mean, by educational level, specified Hispanic origin, and age: Hispanic Health and Nutrition Examination Survey, 1982–84**

Hispanic origin and age	Less than 9 years			9–11 years			12 years or more		
	Number of examined persons	Mean	Standard error of the mean	Number of examined persons	Mean	Standard error of the mean	Number of examined persons	Mean	Standard error of the mean
<b>Mexican-American</b>									
20–74 years . . . . .	781	51.5	0.6	322	51.6	0.9	644	54.1	0.7
20–74 years, age adjusted . . . . .	...	51.4	...	...	52.1	...	...	55.0	...
20–24 years . . . . .	54	50.8	2.7	69	50.9	1.9	139	55.8	1.5
25–34 years . . . . .	159	52.4	1.5	110	52.0	1.8	247	53.1	1.1
35–44 years . . . . .	138	49.4	1.4	62	51.6	2.2	121	53.5	1.7
45–54 years . . . . .	186	51.8	1.1	50	51.0	1.9	93	53.7	1.5
55–64 years . . . . .	146	52.2	1.6	24	*	*	36	*55.7	2.2
65–74 years . . . . .	98	51.9	1.7	7	*	*	8	*	*
<b>Cuban</b>									
20–74 years . . . . .	179	52.0	...	40	*53.8	...	232	52.3	...
20–74 years, age adjusted . . . . .	...	50.7	...	...	*53.2	...	...	52.6	...
<b>Puerto Rican</b>									
20–74 years . . . . .	259	48.2	...	169	48.7	...	271	48.2	...
20–74 years, age adjusted . . . . .	...	47.7	...	...	51.1	...	...	48.5	...

NOTES: Educational level is given in terms of the highest grade attended in a regular public or private school. To convert the estimated mean to millimoles per liter, multiply the estimate by 0.02586.



**Table 35. Ratio of total serum cholesterol to high-density lipoprotein cholesterol for males 20–74 years of age, number of examined persons, mean, and standard error of the mean, by educational level, specified Hispanic origin, and age: Hispanic Health and Nutrition Examination Survey, 1982–84**

<i>Hispanic origin and age</i>	<i>Less than 9 years</i>			<i>9–11 years</i>			<i>12 years or more</i>		
	<i>Number of examined persons</i>	<i>Mean</i>	<i>Standard error of the mean</i>	<i>Number of examined persons</i>	<i>Mean</i>	<i>Standard error of the mean</i>	<i>Number of examined persons</i>	<i>Mean</i>	<i>Standard error of the mean</i>
<b>Mexican-American</b>									
20–74 years . . . . .	567	4.66	0.09	241	4.52	0.17	550	4.60	0.09
20–74 years, age adjusted . . . . .	...	4.60	...	...	4.66	...	...	4.76	...
20–24 years . . . . .	41	*3.65	0.25	48	3.67	0.21	117	4.27	0.20
25–34 years . . . . .	122	4.47	0.17	79	4.72	0.36	202	4.52	0.15
35–44 years . . . . .	100	4.96	0.27	31	*4.71	0.36	107	4.86	0.20
45–54 years . . . . .	125	4.80	0.17	51	5.33	0.38	74	5.11	0.16
55–64 years . . . . .	117	5.04	0.18	26	*4.79	0.28	40	*4.93	0.25
65–74 years . . . . .	62	4.77	0.25	6	*	*	10	*	*
<b>Cuban</b>									
20–74 years . . . . .	141	5.06	...	39	*5.09	...	175	5.29	...
20–74 years, age adjusted . . . . .	...	4.65	...	...	*5.08	...	...	5.27	...
<b>Puerto Rican</b>									
20–74 years . . . . .	141	5.89	...	102	5.31	...	169	5.02	...
20–74 years, age adjusted . . . . .	...	5.84	...	...	5.43	...	...	5.03	...

NOTES: Educational level is given in terms of the highest grade attended in a regular public or private school. To convert the estimated mean to millimoles per liter, multiply the estimate by 0.02586.

**Table 36. Ratio of total serum cholesterol to high-density lipoprotein cholesterol for females 20–74 years of age, number of examined persons, mean, and standard error of the mean, by educational level, specified Hispanic origin, and age: Hispanic Health and Nutrition Examination Survey, 1982–84**

<i>Hispanic origin and age</i>	<i>Less than 9 years</i>			<i>9–11 years</i>			<i>12 years or more</i>		
	<i>Number of examined persons</i>	<i>Mean</i>	<i>Standard error of the mean</i>	<i>Number of examined persons</i>	<i>Mean</i>	<i>Standard error of the mean</i>	<i>Number of examined persons</i>	<i>Mean</i>	<i>Standard error of the mean</i>
<b>Mexican-American</b>									
20–74 years . . . . .	781	4.27	0.06	322	4.07	0.09	644	3.85	0.06
20–74 years, age adjusted . . . . .	...	4.22	...	...	4.24	...	...	3.99	...
20–24 years . . . . .	54	3.85	0.24	69	3.80	0.17	139	3.54	0.11
25–34 years . . . . .	159	3.84	0.11	110	3.86	0.14	247	3.72	0.08
35–44 years . . . . .	138	4.21	0.13	62	4.17	0.21	121	4.09	0.14
45–54 years . . . . .	186	4.38	0.09	50	4.73	0.22	93	4.48	0.17
55–64 years . . . . .	146	4.65	0.14	24	*	*	36	*4.35	0.17
65–74 years . . . . .	98	4.85	0.18	7	*	*	8	*	*
<b>Cuban</b>									
20–74 years . . . . .	179	4.35	...	40	*3.84	...	232	3.95	...
20–74 years, age adjusted . . . . .	...	4.18	...	...	*3.80	...	...	4.00	...
<b>Puerto Rican</b>									
20–74 years . . . . .	259	4.96	...	169	4.63	...	271	4.41	...
20–74 years, age adjusted . . . . .	...	4.93	...	...	4.57	...	...	4.71	...

NOTES: Educational level is given in terms of the highest grade attended in a regular public or private school. To convert the estimated mean to millimoles per liter, multiply the estimate by 0.02586.

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# Appendix I

## Statistical notes

### Survey design

The sample design of the Hispanic Health and Nutrition Examination Survey (HHANES) was similar to that of the previous National Health and Nutrition Examination Surveys. These studies have used complex, multistage, stratified, probability cluster samples of civilian noninstitutionalized persons residing in households in the United States. In hierarchical order, the stages of selection were as follows: Primary sampling unit (PSU), which is a county or a small group of contiguous counties; census enumeration district (ED); segment (a cluster of households); household; and sample person.

The major difference between HHANES and the previous national 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. Even though HHANES was not designed as a survey representative of all Hispanic persons residing in the United States and national estimates cannot be made, the three HHANES universes included approximately 76 percent of the 1980 Hispanic-origin population in the United States.

The three subgroups and three areas covered by HHANES were as follows:

- Mexican-American, selected counties in five Southwest States (Arizona, California, Colorado, New Mexico, and Texas).
- Cuban, Dade County, Florida (Miami).
- Puerto Rican, New York City area (New York, New Jersey, and Connecticut).

There were 229 counties with a 1980 Hispanic population of at least 1,000 that were identified and grouped into 210 PSU's, each representing a single county or a small group of counties.

The HHANES Mexican-origin universe for the Southwest consisted of 193 PSU's; for Puerto Rican-origin, 16 PSU's; and for Cuban-origin, 1 PSU.

The 1980 census information for the Mexican-origin population in the Southwest PSU's was unavailable prior to stratification; therefore, information based on Hispanics of all origins was used for the stratification process. The characteristics of the PSU's in the Southwest area that were used as stratification variables were:

1. Number of Hispanics.
2. Percent Hispanic.

3. Ratio of the 1980 to the 1970 Hispanic population.
4. Median income.
5. Percent urban.

For the New York City area component of HHANES, the corresponding stratification variables were in terms of the number of Puerto Ricans. Stratification was not required for the Miami area component of HHANES because only one PSU, Dade County, was sampled.

A critical sample design requirement for HHANES was that each stratum in the Southwest area consist of approximately equal Hispanic population size, and that each stratum in the New York City area consist of approximately equal Puerto Rican population size. Equal-size strata generally minimize sampling variances and, at the same time, permit roughly the same number of sample interviews and examinations at each survey location. This requirement was satisfied by forming equal-size strata (clusters), and then applying the same sampling fraction to each stratum.

As mentioned previously, for the Miami area, Dade County was the only PSU selected. For the New York City area, one PSU per stratum was selected with probability proportional to size (PPS). The Southwest area and the New York City area universes of PSU's were stratified according to the five demographic characteristics presented earlier.

Moreover, it was deemed desirable to maximize the probability that the proportion of sample PSU's in each of the five Southwest States would correspond to the proportion of the eligible population in each State. Therefore, during PSU selection for the Southwest area, a slightly modified version of a procedure introduced by Goodman and Kish (23)—and summarized in Kish (24)—was employed to obtain a balanced sample with respect to State while retaining a true probability sample design. A detailed description of this controlled selection process and its application to health examination surveys is given in other NCHS reports (25,11).

The selection of the households within a PSU was based on the probability selection. The first stage of sampling the in-scope population consisted of all households and residents of group quarters (noninstitutional) containing one or more eligible Hispanic persons. Other living quarters such as military installations and Indian reservations were considered out of scope. The minimum numbers of eligible Hispanic persons per block group (BG) or enumeration district (ED) were as follows: 50–100 persons

in the Southwest area; 6–100 persons in the New York City area; and about 100 persons in the Miami area.

The main purpose of selecting the households was to identify eligible Hispanic families and to select sample persons from these families to be interviewed and examined. If the family was eligible for the survey, all members of that family were eligible to be selected. To ensure a sufficient sample size in the desired estimation cells, sample persons were selected according to the sampling rates shown in table I.

The HHANES sample size and response data by age and sex are shown in tables II–IV. These tables exclude persons who were non-Hispanic or of an origin that did not meet the eligibility criteria. Of the 4,735 Mexican-American persons 20–74 years of age included in HHANES in the Southwest area sample, 3,935 (83 percent) were interviewed and 3,326 (70 percent) were interviewed and examined (table II). Among the 1,481 Cuban persons 20–74 years of age sampled in the Miami area,

Table I. Within-household sampling rates, by survey area and age: Hispanic Health and Nutrition Examination Survey, 1982–84

Survey area and age	Sampling rate
Southwest and New York City areas	
6 months–19 years . . . . .	3/4
20–44 years . . . . .	1/2
45–74 years . . . . .	1
Miami (Dade County)	
6 months–19 years . . . . .	1
20–44 years . . . . .	3/4
45–74 years . . . . .	1

Table II. Sample size and response rates for Mexican Americans 20–74 years of age, by sex and age: Hispanic Health and Nutrition Examination Survey, 1982–84

Sex and age	Sample size	Interviewed		Examined	
		Number	Percent	Number	Percent
Both sexes					
Total . . . . .	4,735	3,935	83.1	3,326	70.2
20–24 years . . . . .	708	600	84.7	499	70.5
25–34 years . . . . .	1,323	1,154	87.2	979	74.0
35–44 years . . . . .	797	683	85.7	593	74.4
45–54 years . . . . .	960	745	77.6	631	65.7
55–64 years . . . . .	650	506	77.8	422	64.9
65–74 years . . . . .	297	247	83.2	202	68.0
Male					
Total . . . . .	2,248	1,797	79.9	1,461	65.0
20–24 years . . . . .	343	285	83.1	221	64.4
25–34 years . . . . .	642	550	85.7	438	68.2
35–44 years . . . . .	379	303	79.9	252	66.5
45–54 years . . . . .	441	323	73.2	270	61.2
55–64 years . . . . .	313	233	74.4	197	62.9
65–74 years . . . . .	130	103	79.2	83	63.8
Female					
Total . . . . .	2,487	2,138	86.0	1,865	75.0
20–24 years . . . . .	365	315	86.3	278	76.2
25–34 years . . . . .	681	604	88.7	541	79.4
35–44 years . . . . .	418	380	90.9	341	81.6
45–54 years . . . . .	519	422	81.3	361	69.5
55–64 years . . . . .	337	273	81.0	225	66.8
65–74 years . . . . .	167	144	86.2	119	71.3

NOTE: Data are for Mexican Americans residing in the Southwest area (selected counties in Arizona, California, Colorado, New Mexico, and Texas).

1,134 (77 percent) were interviewed and 865 (58 percent) were interviewed and examined (table III). Among the 1,764 Puerto Rican persons 20–74 years of age sampled in the New York City area, 1,519 (86 percent) were interviewed and 1,220 (69 percent) were interviewed and examined (table IV).

For each Hispanic subgroup, the numbers of examined males and females and the estimated populations they represent are given in table V. For a complete description of the sample survey design, see NCHS (12).

## Estimation procedures

Because the design of HHANES is a complex multistage probability sample, the estimates are derived through a multistage estimation procedure. The procedure consisted of four components:

1. Inflation of sample person observations by the product of the reciprocals of the probabilities of selection at each stage of the design (PSU, segment, household, and sample person).
2. Adjustment for nonresponse within homogeneous sociodemographic cells to reduce the potential bias attributable to nonresponse, under the assumption that within cells the characteristics of the respondents are similar to those of the nonrespondents.
3. Adjustment for noncoverage within the PSU to reduce the potential bias due to the exclusion of BG's and ED's with few Hispanic residents.
4. Poststratified ratio adjustment by age and sex to make the final estimates of the population correspond to U.S.

**Table III. Sample size and response rates for Cubans 20-74 years of age, by sex and age: Hispanic Health and Nutrition Examination Survey, 1982-84**

Sex and age	Sample size	Interviewed		Examined	
		Number	Percent	Number	Percent
<b>Both sexes</b>					
Total . . . . .	1,481	1,134	76.6	865	58.4
20-24 years . . . . .	131	91	69.5	65	49.6
25-34 years . . . . .	239	181	75.7	139	58.2
35-44 years . . . . .	240	197	82.1	147	61.3
45-54 years . . . . .	381	286	75.1	233	61.2
55-64 years . . . . .	300	240	80.0	176	58.7
65-74 years . . . . .	190	139	73.2	105	55.3
<b>Male</b>					
Total . . . . .	663	504	76.0	377	56.9
20-24 years . . . . .	56	37	66.1	27	48.2
25-34 years . . . . .	111	83	74.7	64	57.7
35-44 years . . . . .	100	82	82.0	52	52.0
45-54 years . . . . .	188	140	74.5	114	60.6
55-64 years . . . . .	137	106	77.4	79	57.7
65-74 years . . . . .	71	56	78.9	41	57.7
<b>Female</b>					
Total . . . . .	818	630	77.0	488	59.7
20-24 years . . . . .	75	54	72.0	38	50.7
25-34 years . . . . .	128	98	76.6	75	58.6
35-44 years . . . . .	140	115	82.1	95	67.9
45-54 years . . . . .	193	146	75.6	119	61.7
55-64 years . . . . .	163	134	82.2	97	59.5
65-74 years . . . . .	119	83	69.7	64	53.8

NOTE: Data are for Cubans residing in the Miami area (Dade County, Florida).

**Table IV. Sample size and response rates for Puerto Ricans 20-74 years of age, by sex and age: Hispanic Health and Nutrition Examination Survey, 1982-84**

Sex and age	Sample size	Interviewed		Examined	
		Number	Percent	Number	Percent
<b>Both sexes</b>					
Total . . . . .	1,764	1,519	86.1	1,220	69.2
20-24 years . . . . .	260	219	84.2	173	66.5
25-34 years . . . . .	389	336	86.4	279	71.7
35-44 years . . . . .	321	277	86.3	229	81.3
45-54 years . . . . .	396	346	87.4	281	71.0
55-64 years . . . . .	261	224	85.8	179	68.6
65-74 years . . . . .	137	117	85.4	79	57.7
<b>Male</b>					
Total . . . . .	691	580	83.9	445	64.4
20-24 years . . . . .	97	79	81.4	55	56.7
25-34 years . . . . .	163	135	82.8	107	65.6
35-44 years . . . . .	118	97	82.2	73	61.9
45-54 years . . . . .	153	133	86.9	104	68.0
55-64 years . . . . .	114	97	85.1	81	71.1
65-74 years . . . . .	46	39	84.8	25	54.3
<b>Female</b>					
Total . . . . .	1,073	939	87.5	775	72.2
20-24 years . . . . .	163	140	85.9	118	72.4
25-34 years . . . . .	226	201	88.9	172	76.1
35-44 years . . . . .	203	180	88.7	156	76.8
45-54 years . . . . .	243	213	87.7	177	72.8
55-64 years . . . . .	147	127	86.4	98	66.7
65-74 years . . . . .	91	78	85.7	54	59.3

NOTE: Data are for Puerto Ricans residing in the New York City area (New York, New Jersey, and Connecticut).

**Table V. Number of examined persons 20–74 years of age and estimated population, by specified Hispanic origin, sex, and age of examinee: Hispanic Health and Nutrition Examination Survey: 1982–84**

<i>Hispanic origin, sex, and age</i>	<i>Total sample</i>		<i>Fasting sample</i>	
	<i>Number of examined persons</i>	<i>Estimated population in thousands</i>	<i>Number of examined persons</i>	<i>Estimated population in thousands</i>
<b>Mexican-American</b>				
Both sexes, 20–74 years . . . . .	3,326	5,132	1,655	5,132
20–24 years . . . . .	499	1,012	244	1,012
25–34 years . . . . .	979	1,699	486	1,699
35–44 years . . . . .	593	998	310	997
45–54 years . . . . .	631	675	295	675
55–64 years . . . . .	422	474	228	474
65–74 years . . . . .	202	275	92	275
Male, 20–74 years . . . . .	1,461	2,583	771	2,583
20–24 years . . . . .	221	536	116	536
25–34 years . . . . .	438	881	231	881
35–44 years . . . . .	252	502	137	502
45–54 years . . . . .	270	316	136	316
55–64 years . . . . .	197	221	105	221
65–74 years . . . . .	83	126	46	126
Female, 20–74 years . . . . .	1,865	2,549	884	2,549
20–24 years . . . . .	278	475	128	475
25–34 years . . . . .	541	817	255	817
35–44 years . . . . .	341	495	173	495
45–54 years . . . . .	361	359	159	359
55–64 years . . . . .	225	253	123	253
65–74 years . . . . .	119	149	46	149
<b>Cuban</b>				
Both sexes, 20–74 years . . . . .	865	329	426	328
20–24 years . . . . .	65	31	34	33
25–34 years . . . . .	139	68	65	65
35–44 years . . . . .	147	70	76	71
45–54 years . . . . .	233	74	114	74
55–64 years . . . . .	176	54	84	52
65–74 years . . . . .	105	32	53	32
Male, 20–74 years . . . . .	377	147	171	145
20–24 years . . . . .	27	14	14	15
25–34 years . . . . .	64	32	31	34
35–44 years . . . . .	52	27	22	25
45–54 years . . . . .	114	36	53	38
55–64 years . . . . .	79	24	35	24
65–74 years . . . . .	41	13	16	11
Female, 20–74 years . . . . .	488	182	255	183
20–24 years . . . . .	38	17	20	17
25–34 years . . . . .	75	35	34	32
35–44 years . . . . .	95	43	54	47
45–54 years . . . . .	119	38	61	37
55–64 years . . . . .	97	29	49	28
65–74 years . . . . .	64	19	37	22
<b>Puerto Rican</b>				
Both sexes, 20–74 years . . . . .	1,220	633	596	627
20–24 years . . . . .	173	111	79	104
25–34 years . . . . .	279	183	138	181
35–44 years . . . . .	229	156	121	163
45–54 years . . . . .	281	98	133	91
55–64 years . . . . .	179	58	88	58
65–74 years . . . . .	79	27	37	29
Male, 20–74 years . . . . .	445	237	202	231
20–24 years . . . . .	55	35	22	30
25–34 years . . . . .	107	75	53	77
35–44 years . . . . .	73	53	35	52
45–54 years . . . . .	104	38	42	34
55–64 years . . . . .	81	28	39	28
65–74 years . . . . .	25	9	11	10
Female, 20–74 years . . . . .	775	397	394	396
20–24 years . . . . .	118	76	57	73
25–34 years . . . . .	172	108	85	104
35–44 years . . . . .	156	104	86	112
45–54 years . . . . .	177	60	91	57
55–64 years . . . . .	98	31	49	31
65–74 years . . . . .	54	18	26	19

Bureau of the Census estimates of the civilian noninstitutionalized target population (used only for Mexican Americans). The percent distributions of the nonresponse adjustment factors for interviewed and examined Mexican-American, Cuban, and Puerto Rican persons are shown in tables VI–VIII.

Oral Glucose Tolerance Test (OGTT) sample weights were calculated for examined persons in the fasting sample, as follows:

1. Within each of the three survey areas, all of the examined persons (non-Hispanic as well as Hispanic) were classified into four subgroups by age (20–44 years and 45–74 years) and sex.
2. For each of the 12 age, sex, and survey area subgroups thus formed, the sum of the final examined sample weights for the total number of sample persons (non-Hispanic as well as Hispanic) and the sum of the final examined sample weights for all examined persons in the fasting sample (non-Hispanic as well as Hispanic) were calculated.

**Table VI. Percent distribution of nonresponse adjustment factors for interviewed and examined persons in the Southwest area: Hispanic Health and Nutrition Examination Survey, 1982–84**

<i>Size of factor</i>	<i>Interviewed</i>	<i>Examined</i>
	Percent distribution	
Total . . . . .	100.0	100.0
1.00–1.24 . . . . .	82.5	87.1
1.25–1.49 . . . . .	14.0	11.1
1.50–1.74 . . . . .	2.2	1.2
1.75–1.99 . . . . .	1.1	0.3
2.00–2.50 . . . . .	0.2	0.2

**Table VII. Percent distribution of nonresponse adjustment factors for interviewed and examined persons in the Dade County area: Hispanic Health and Nutrition Examination Survey, 1982–84**

<i>Size of factor</i>	<i>Interviewed</i>	<i>Examined</i>
	Percent distribution	
Total . . . . .	100.0	100.0
1.00–1.24 . . . . .	20.3	38.0
1.25–1.49 . . . . .	77.6	57.6
1.50–1.60 . . . . .	2.1	4.4

**Table VIII. Percent distribution of nonresponse adjustment factors for interviewed and examined persons in the New York City area: Hispanic Health and Nutrition Examination Survey, 1982–84**

<i>Survey status and size of factor</i>	<i>Percent distribution</i>
Interviewed	
Total . . . . .	100.0
<1.10 . . . . .	57.5
1.10–1.19 . . . . .	24.2
≥1.20 . . . . .	18.2
Examined	
Total . . . . .	100.0
<1.20 . . . . .	62.6
1.20–1.49 . . . . .	35.4
≥1.50 . . . . .	2.1

3. The ratio of the sum of the sample weights for all examined persons for a given survey area, age, and sex subgroup to the corresponding sum of the sample weights for all examined persons in the fasting sample was then multiplied by the final examined weight for a sample person in the given survey area, sex, and age subgroup to determine his or her OGTT sample weight.

## Nonresponse bias

In any health examination survey such as HHANES, there exists the potential for three levels of nonresponse: household interview nonresponse, examination nonresponse, and item nonresponse. Household interview nonresponse occurs when the household medical history questionnaire is not completed. Examination nonresponse occurs when those sample persons who respond to the household questions do not come to the examination center for the examination. Item nonresponse results when sample persons, interviewers, or examiners do not complete some portion of either the household interview questionnaire or the examination protocol.

The potential effect of any nonresponse bias is greater when response rates are low. Therefore, intense efforts were undertaken during HHANES to develop and implement procedures and inducements that would reduce all types of nonresponse and thereby reduce the potential for bias in the survey estimates.

It is difficult to determine the effect of nonresponse bias. However, rough estimates of bias can be made for an interview and examination survey such as HHANES by comparing the household interview data from sample persons who were examined with interview data from those who were not examined. Because the interview response rate is substantially higher than the examination response rate, nonresponse bias with respect to selected health characteristics may be estimated from the large amount of medical history data available on nonexamined sample persons.

Because the examination was considered the most important analytic component of the survey, a survey “respondent” was defined as a person who had completed the examination as well as all interview components. A “nonrespondent,” then, was a sample person who was not examined, regardless of whether any interview data had been obtained. In the three Hispanic subgroups, 29.8 percent of the Mexican Americans 20–74 years of age, 41.6 percent of the Cubans 20–74 years of age, and 30.8 percent of the Puerto Ricans 20–74 years of age did not complete the examination. They can be divided into three groups:

1. Those for whom medical and demographic interview data were collected.
2. Those for whom only demographic information is available.
3. Those about whom nothing is known.



A comparison of the interview data from these first two groups and the examined group may provide some understanding of the extent of bias due to nonresponse to the examination. The group for whom incomplete data are available accounts for roughly 10 percent of the original sample and remains a potential source of unmeasurable error. It is possible that these persons differ substantially from those who were located and who agreed to participate. Several reports have been published on the health examination survey issues of nonresponse bias (26–28) and participation factors (26,29–33).

Examination of selected characteristics of Mexican Americans who were interviewed but not examined versus characteristics of those who were interviewed and examined revealed no substantial differences with respect to these characteristics (34,35).

For this report, Hispanic examinees with known lipid determinations were compared with those with unknown lipid determinations with respect to selected health characteristics. No substantial differences were found.

### Missing data

Examination surveys lose information not only through failure to examine all sample persons, but also from failure to obtain and record all items of information for examined persons. Age, sex, and national origin were known for every examined person. However, for a number of examinees one or more of the lipid determinations were not available. The extent of these missing measurements is shown in table IX.

**Table IX. Number of Hispanic persons with missing serum lipid and lipoprotein determination: Hispanic Health and Nutrition Examination Survey, 1982–84**

<i>Lipid determination</i>	<i>Mexican American</i>	<i>Cuban</i>	<i>Puerto Rican</i>
Serum cholesterol . . . . .	122	39	82
High density lipoprotein cholesterol . . . . .	168	51	93
Ratio of total cholesterol to high density lipoprotein cholesterol . . . . .	168	51	93
Serum triglyceride fasting 12 hours or more . . . . .	19	5	8
Low density lipoprotein cholesterol fasting 12 hours or more . . . . .	39	11	11

### Measures of variability

Because the statistics presented in this report are based on a sample, they may differ from the figures that would have been obtained if a complete census had been taken using the same survey instruments, instructions, interview and examination personnel, and procedures. The probability design of this survey permits the estimation of standard errors and variances although the techniques must take the highly clustered, multistage probability sample design into account.

#### Standard error of the mean or percent

The standard error of the mean or percent is primarily a measure of the extent to which an estimate derived from many different samples generated by the sample design would vary from sample to sample. As estimated in this

report, it also reflects part of the variation that arises in the measurement process. The possible bias of the estimate is not included. The reader should be aware that estimates of standard errors (and therefore variances) derived from a complex sample are different from and generally larger than those calculated under the assumption of simple random sampling.

#### Variance

The variance is the square of the standard error of the mean or percent.

### Approach for data analysis

There are two aspects of the HHANES design that must be taken into account in analysis—the sample weight and the complex sample design. Weights are needed to estimate means, medians, and other descriptive statistics. Each person in the sample represents a large number of people in the target Hispanic population. The sample weights, which incorporate the selection probabilities, a nonresponse and noncoverage adjustment, and poststratification (Mexican Americans only), must be used to produce the correct population estimates.

The strata and PSU from the sample design as well as sample weights are needed to estimate the standard errors of the means and percents and to test statistical hypotheses. The stability of the estimated standard error for a particular sex, age, and Hispanic origin group is directly related to the sample size and the number of PSU's that contain at least one sample person. The larger the number of sample persons and number of PSU's upon which the estimated standard error is based, the more stable the estimated standard error.

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 for the Cuban and Puerto Rican samples. Examples include Cuban females 20–24 years of age and Puerto Rican females 65–74 years of age.

#### Sample design and variance estimation

The need for incorporation of the sample design is not as readily apparent as the need for incorporating weights. Most of the methods of statistical analysis taught in classes depend on the assumption of simple random sampling. In surveys with complex sample designs, the assumption of simple random sampling is seldom appropriate. It usually leads to estimating smaller variances than those estimated taking the complex sample design into account. The smaller variances lead to finding more statistically significant differences than would be found using the complex sample design. A design effect is often used to show the impact of the complex sample design variances:

$$\text{Design effect} = \frac{\text{Variance}_{\text{CS}}}{\text{Variance}_{\text{SRS}}}$$

where CS = complex sample and SRS = simple random sample.

Preliminary analysis of various health-related variables from HHANES indicated a large variability of design effects for sex- and age-specific subgroups (36). Therefore, design effects for Hispanic subgroups were averaged in the following manner:

1. Design effects were run for each lipid variable by age and sex and were then averaged over these subgroups.
2. Design effects were run for each lipid variable by age and poverty status (below poverty and above poverty—see appendix III) and were then averaged over these subgroups.
3. Design effects were run for each lipid variable by age and alcohol consumption (maximum consumption of beer, wine, or liquor: seldom or never versus weekly or daily, from the HHANES dietary frequency data tape) (37) and were then averaged over these subgroups.

The average design effects obtained in items 1 and 2 and the average design effects from items 1, 2, and 3 were then calculated for each lipid variable and the results compared. Because there was no appreciable difference between the two results, the former method was used. These design effects are shown in table X.

If the design effect is near 1, the complex sample design has little effect on the variances and one could consider assuming simple random sampling for the analysis.

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.
3. Exclude all estimates where the proportion of the subpopulation with the specific characteristics or condition was zero percent or 100 percent.

Design effects tend to be larger when age groups are combined, just as they are when the sexes are combined. (38)

To obtain the complex sample estimates of variance, the average design effects shown in table X were multiplied by the the simple random sample estimates of variance. The simple random sample estimate of variance used was the weighted scaled estimate of variance obtained by multiplying each observation of its normalized weight where

$$\text{Normalized weight} = \frac{\text{Size of analytic sample}}{\text{Sum of weights for analytic sample}} \times \text{sample weight}$$

The standard errors shown in the detailed tables were then obtained by taking the square root of the estimates of the complex sample variances.

The computer program SESUDAAN (39) was used to compute the age-specific design effects that are the basis for the average design effects. Estimates for large age ranges, such as “all ages combined” or “all adults,” are not included in these averages.

The statistical approach used for computing the complex sample variances in SESUDAAN is a first-order Tay-

**Table X. Average design effects for lipid determinations of Hispanics 20–74 years of age, by specified Hispanic origin: Hispanic Health and Nutrition Examination Survey, 1982–84**

Lipid determination	Mean or proportion	Mexican American	Cuban	Puerto Rican
Total serum cholesterol . . . . .	$\bar{X}$	1.08	1.05	1.53
HDL cholesterol . . . . .	$\bar{X}$	1.78	1.05	1.10
Ratio of total serum cholesterol to HDL-C . . . . .	$\bar{X}$	1.60	1.00	1.15
Serum triglyceride . . . . .	$\bar{X}$	1.20	—	—
LDL cholesterol . . . . .	$\bar{X}$	1.08	—	—
Serum cholesterol less than 200 mg/dl . . . . .	$\hat{p}$	1.02	1.00	1.20
Serum cholesterol 200–239 mg/dl . . . . .	$\hat{p}$	1.10	1.05	1.30
Serum cholesterol 240 mg/dl or more . . . . .	$\hat{p}$	1.28	1.10	1.60
HDL cholesterol less than 35 mg/dl . . . . .	$\hat{p}$	1.52	1.02	1.10
Ratio of total cholesterol to HDL-C 4.5 or higher . . . . .	$\hat{p}$	1.28	1.00	1.00
LDL cholesterol less than 130 mg/dl . . . . .	$\hat{p}$	1.18	—	—
LDL cholesterol 130–159 mg/dl . . . . .	$\hat{p}$	1.00	—	—
LDL cholesterol 160 mg/dl or more . . . . .	$\hat{p}$	1.05	—	—

lor approximation of the deviations of estimates from their expected values. This method for obtaining approximations of complex sample variances in large samples is well known. Kendall and Stuart (40) and Woodruff (41) presented applications of this technique to sample surveys.

## Testing statistical hypotheses

In this report, in testing the equality of means or percents (denoted by  $\theta$ )—that is, in testing hypotheses of the form

$$H_0: \theta_1 = \theta_2$$

against the alternative

$$H_1: \theta_1 \neq \theta_2$$

the statistic

$$T = \frac{\hat{\theta}_1 - \hat{\theta}_2}{\sqrt{\text{VAR}(\hat{\theta}_1 - \hat{\theta}_2)}} \quad (1)$$

was used, where  $\hat{\theta}_1$  denotes the estimated mean or percent of subgroup 1 (for example, Mexican-American men ages 20–24 years);  $\hat{\theta}_2$  denotes the estimated mean or percent of subgroup 2 (for example, Mexican-American women ages 20–24 years); and  $\sqrt{\text{VAR}(\hat{\theta}_1 - \hat{\theta}_2)}$ , denotes the standard error of the difference between  $\hat{\theta}_1$  and  $\hat{\theta}_2$ .

$\text{VAR}(\hat{\theta}_1 - \hat{\theta}_2)$ , the square of the denominator of (1), was estimated by

$$\begin{aligned} \text{VAR}(\hat{\theta}_1 - \hat{\theta}_2) &= \text{Var}(\hat{\theta}_1 + \text{VAR}(\hat{\theta}_1)) \\ &= (\text{S.E.}(\hat{\theta}_1))^2 + (\text{S.E.}(\hat{\theta}_2))^2 \end{aligned} \quad (2)$$

where S.E. ( $\hat{\theta}_1$ ) represents the standard error of the mean or percent for subgroup 1 and S.E. ( $\hat{\theta}_2$ ) represents the standard error of the mean or percent for subgroup 2, both

estimated by the design effect approach, which takes into consideration the complex sample design.

The covariance is assumed to be zero. This leads to a slight overestimate of VAR ( $\hat{\theta}_1 - \hat{\theta}_2$ ), because the covariance term in general is positive. Thus in borderline cases, the null hypothesis would be less likely to be rejected (42).

The statistic given in equation 1 is assumed to have Student's *t* distribution with degrees of freedom equal to the number of strata with observations in both paired PSU's. The maximum number of degrees of freedom for this statistic in HHANES is 8. In testing hypotheses concerning the means of total serum cholesterol, HDL-C, and the ratio of serum cholesterol to HDL-C without regard to poverty status or education and in testing hypotheses concerning percents, this statistic was assumed to have 8 degrees of freedom. However, in testing hypotheses concerning mean serum triglycerides and LDL cholesterol and in testing hypotheses concerning the effects of poverty and education on total cholesterol, HDL-C, and ratio, the degrees of freedom for this statistic were sometimes less than 8. The numbers of degrees of freedom that is the number of strata with observations in both paired PSU's for the Student's *t* statistic are given in tables XI–XIV.

In testing statistical hypotheses in this report, an  $\alpha$  level (probability of rejecting the null hypothesis when it is true) of 0.05 was assumed.

When means or percents among ethnic groups are compared within a given sex and age group (for example, Mexican-American, Cuban, or Puerto Rican women 45–54

**Table XI. Number of strata with observations in both paired PSU's for Mexican Americans 20–74 years of age with known serum cholesterol determinations by poverty status, sex, and age: Hispanic Health and Nutrition Examination Survey, 1982–84**

Age	Below poverty level		At or above poverty level	
	Males	Females	Males	Females
20–24 years . . . . .	6	7	8	8
25–34 years . . . . .	7	8	8	8
35–44 years . . . . .	7	7	8	8
45–54 years . . . . .	7	8	8	8
55–64 years . . . . .	6	8	8	8
65–74 years . . . . .	4	5	6	5

**Table XII. Number of strata with observations in both paired PSU's for Mexican Americans 20–74 years of age with known HDL-C and ratio of serum cholesterol to HDL-C determinations by poverty status, sex, and age: Hispanic Health and Nutrition Examination Survey, 1982–84**

Age	Below poverty level		At or above poverty level	
	Males	Females	Males	Females
20–24 years . . . . .	6	7	8	8
25–34 years . . . . .	7	8	8	8
35–44 years . . . . .	7	7	8	8
45–54 years . . . . .	7	8	8	8
55–64 years . . . . .	6	8	8	8
65–74 years . . . . .	4	5	6	5

**Table XIII. Number of strata with observations in both paired PSU's for Mexican Americans 20–74 years of age with known serum cholesterol determinations by educational level, sex, and age: Hispanic Health and Nutrition Examination Survey: 1982–84**

Age	Males			Females		
	0–8	9–11	12+	0–8	9–11	12+
20–24 years . . . . .	5	8	8	5	7	8
25–34 years . . . . .	6	8	8	7	8	8
35–44 years . . . . .	7	6	8	8	8	8
45–54 years . . . . .	8	6	6	8	7	8
55–64 years . . . . .	8	5	7	8	5	5
65–74 years . . . . .	8	*	*	8	*	*

**Table XIV. Number of strata with observations in both paired PSU's for Mexican Americans 20–74 years with known HDL-C and ratio of serum cholesterol to HDL-C determinations by educational level, sex and age: Hispanic Health and Nutrition Examination Survey, 1982–84**

Age	Males			Females		
	0–8	9–11	12+	0–8	9–11	12+
20–24 years . . . . .	5	8	8	5	7	8
25–34 years . . . . .	6	8	8	7	8	8
35–44 years . . . . .	7	6	8	8	8	8
45–54 years . . . . .	8	6	6	8	7	8
55–64 years . . . . .	8	5	7	8	*	5
65–74 years . . . . .	8	*	*	8	*	*

years of age), the Bonforoni method was used to adjust for multiple comparisons. In this report there were three implied comparisons: Mexican Americans versus Cubans, Mexican Americans versus Puerto Ricans, and Cubans versus Puerto Ricans. Therefore, to apply the Bonforoni method, the overall  $\alpha$  level of 0.05 was divided by 3 to obtain the probability of rejecting the null hypothesis concerning a given implied comparison when it is true. If the probability of rejecting the null hypothesis when it is true for a given comparison  $P(A_i)$ ,  $i = 1, 2, 3$  is less than  $0.05/3 = 0.0167$ , the Bonforoni inequality

$$P\left(\bigcup_{i=1}^3 A_i\right) <= \sum_{i=1}^3 P(A_i) \quad (3)$$

guarantees that the overall  $\alpha$  level for the null hypothesis concerning all three ethnic groups is less than 0.05.

## Age adjustment

The age-adjusted means and percents presented in this report were calculated by the direct method and were adjusted to the age distribution of the civilian noninstitutionalized 1980 census population. Because age distributions differ by sex and specified Hispanic origin, comparisons should be made using age-adjusted values. Age-adjusted data for sex and specified Hispanic origin groups can be compared directly, as the values assume identical age distributions for all subgroups. These adjusted or standardized values are meaningful only when comparing subgroups of the population to control for confounding by age.

## Appendix II

### National origin recode

In the Hispanic Health and Nutrition Examination Survey (HHANES), if any family member was identified as being an eligible Hispanic person (as defined below), all members of that person's family, regardless of origin, were eligible to be selected as sample persons (NCHS, 1985). Thus, it was possible to include sample persons in the total sample who were either non-Hispanic or Hispanic, but not of the appropriate origin for inclusion in the analysis of a specified subgroup in a given portion of the survey. The national origin recode specifies whether a sample person was considered to be "Hispanic" (recode 1), "non-eligible Hispanic" (recode 2), or "non-Hispanic" (recode 2) for purposes of analysis. "Hispanic" is defined as

*Mexican-American*, residing in the Southwest area;  
*Cuban*, residing in Dade County, Florida; or  
*Puerto Rican*, residing in the New York City area.

The recode was assigned as follows (see table XIV for original codes):

#### Southwest area

If the original national origin or ancestry response code (from the Household Screener Questionnaire) was 1, 2, 3, 8, 10, or 11, then *National origin recode* = 1.

If the original national origin or ancestry was 4, 5, 6, 7, 9, or 0 but the person specified Mexican/Mexicano, Chicano, or Mexican-American on the adult sample person questionnaire, or if 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.

In all other cases, *National origin recode* = 2.

Table XV. Number of sample persons in specified Hispanic group, by response codes obtained from self-identification of national origin or ancestry during household questionnaire: Hispanic Health and Nutrition Examination Survey, 1982-84

Response code	Mexican American	Cuban	Puerto Rican
0 Other—specify . . . . .	276	30	114
1 Mexican/Mexicano . . . . .	1,641	1	1
2 Mexican-American . . . . .	5,202	—	—
3 Chicano . . . . .	102	—	—
4 Puerto Rican . . . . .	7	3	2,596
5 Boricuan . . . . .	—	—	36
6 Cuban . . . . .	4	1,039	20
7 Cuban-American . . . . .	—	222	—
8 Hispaño—specify . . . . .	150	14	26
9 Other Latin-American or other Spanish . . . . .	37	18	41
10 Spanish-American . . . . .	22	—	—
11 Spanish (Spain) . . . . .	21	—	—

#### Dade County, Florida, area

If the original national origin or ancestry code was 6 or 7, then *National origin recode* = 1.

In all other cases, *National origin recode* = 2.

#### New York City area

If the original national origin or ancestry code was 4 or 5, then *National origin recode* = 1.

If national origin or ancestry was 1, 2, 3, 6, 7, 8, 9, or 0 but the person specified Boricuan or Puerto Rican on the adult sample person questionnaire (question M10), or if 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.

In all other cases, *National origin recode* = 2.

#### Use of recode

The national origin recode may be used in analysis in one of two ways. First, selecting on *recode* = 1 (as has been done for this report) will restrict analysis to "Hispanics" only. In this case, in the Southwest area of the survey, the weighted estimates by age and sex will approximately equal U.S. Bureau of the Census population estimates of the number of Mexican Americans and a small proportion of other Hispanics assumed to be Hispaño in the Southwest area (selected counties in Arizona, California, Colorado, New Mexico, and Texas) at the midpoint of the Mexican American portion of HHANES—March 1983. The weighted estimates for Cubans represent an independent estimate of the number of Cubans in Dade County at the midpoint—February 1984. The weighted estimates of Puerto Ricans represent 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.

Second, using *recode* greater than 0, that is, all sample persons, will include "Hispanic" and "non-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; and using *recode* greater than 0 for the New York City area will increase the weighted estimates by about 9.2 percent over that for Puerto Ricans only.

# Appendix III

## Data presentation and reliability

The estimates in this report numerically describe the distribution of serum lipids and lipoproteins in certain population groups. Among the descriptive measures are means, percentiles, percents, percent distributions, and standard errors of the means or percents.

The mean value for a population group is the sum of each value times its weight in the group divided by the sum of the weights for that group. It is a measure of central tendency; that is, it indicates where the center of the distribution of observations for a given subgroup is located. The prevalence rate for a population is the proportion of persons believed to be at risk for a particular condition or disease in the population or who exhibit the condition, disease, or risk characteristic at a given time. It is estimated using the percent of persons in the sample with that characteristic. Age-adjusted means and percents assume that each group has the same age distribution, thus adjusting for the effect of age and allowing comparison of combined mean values among population groups.

A percentile is a value that indicates the percent of people in a population with a value less than or equal to the percentile value. Of particular interest is the 50th percentile or median, which has the property that half of the observations are less than or equal to it and half are greater than it. This measure is used instead of the mean as a measure of central tendency in instances where the distribution of observations is highly skewed.

The standard error of the mean or percent is a statistic used in constructing confidence intervals and in testing statistical hypotheses. The accuracy of the estimate is directly related to its standard error. The estimates with smaller standard errors are generally more accurate than those with larger standard errors. Standard errors estimated from complex sample designs have a  $\chi$  distribution, with degrees of freedom equal to the number of strata with observations in both paired PSU's. For further discussion of these measures, see appendix I.

The statistical guidelines used in this report for reporting means, standard errors, and percentiles are as follows.

### Means and percents:

- If the sample size in the cell was less than 25, the estimated sample mean or percent is not reported.
- If the sample size was 25–44, the sample mean or percent is reported with an asterisk (\*) beside it to indicate that the statistic does not meet the reliability standard.
- If the sample size was 45 or more, the sample mean or percent is presented without caveat.

### Standard error of the mean or percent:

- If the sample size in the cell was less than 25, no estimated values for the standard error are presented.

### Percentiles:

- The following minimum sample sizes were required for the presentation of percentile estimates given in this report:

<i>Sample size</i>	<i>Percentile</i>
10 .....	50th
20 .....	25th and 75th
35 .....	15th and 85th
50 .....	10th and 90th
100 .....	5th and 95th

- If these minimum sample sizes were not met, there is an asterisk in the cell.

### Cumulative percent distributions

If the sample size is less than 25, the cumulative percent distribution is not presented. Even though cumulative percent distributions are presented when the sample size is between 25 and 44, percents less than specified cutpoints are unstable and therefore should be applied with caution. If the sample size is less than 50 or between 50 and 100, percents of less than specified cutpoints at the tails of the distribution are unstable.

# Appendix IV

## Definitions of demographic and socioeconomic terms

### Poverty level

The poverty levels used in this report are based on the poverty income ratio (PIR). Poverty statistics published in the U.S. Bureau of the Census reports (43) are based on the poverty index developed by the Social Security Administration in 1961. For a detailed discussion of the Administration poverty standards, see Orshansky (44,45). Modifications in the definition of poverty were adopted in 1969 (46). The standard data series in poverty for statistical use by all executive departments and establishments has been set (47).

The two components of the PIR are the total income of the household 12 months prior to interview, adjusted for family characteristics (numerator) and the total income necessary to maintain a family with the given characteristics on a nutritionally adequate food plan (denominator).

The denominator, or poverty income cut off, varies 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 year in which the family was interviewed.

Poverty thresholds published in Bureau of Census reports (43) 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 the numerator of the PIR refers. (For a more detailed explanation of this adjustment, see pages 68 and 69 of reference 37.)

The annual income considered to be the poverty level increases as the family increases. If a family with any combination of characteristics has been designated as having a PIR or poverty level of 1.0, then the same family with twice the income would have a PIR of 2.0. Ratios of less than 1.0 can be described as "below poverty," ratios greater than or equal to 1.0 as "at or above poverty."

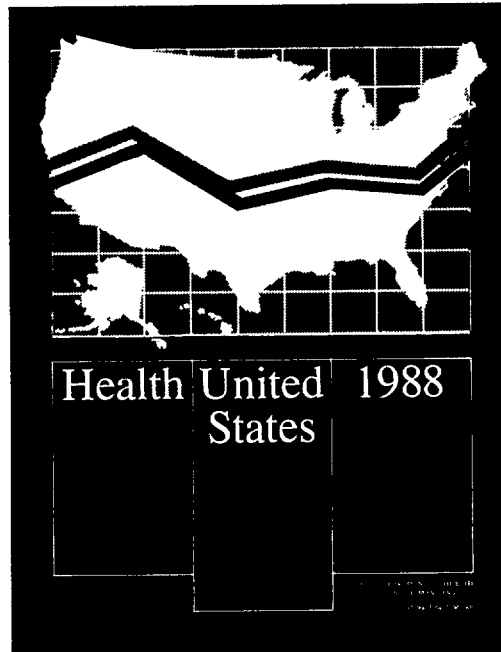
Poverty thresholds are computed on a national basis only. No attempt has been made to adjust these thresholds for regional, State, or other variations in the cost of living. Noncash public welfare benefits, such as food stamp bonuses, are not included in the income of low-income families receiving these benefits. A more detailed explanation of the calculation of PIR has been presented elsewhere (37).

### Educational level

Educational level is defined as the highest grade attended in a regular public or private school giving formal education during the day or night, on either a full-time or a part-time basis. A "regular" school advances a person toward an elementary or high school diploma or a college, university, or professional school degree. Education received in vocational, trade, or business schools outside the regular school system was not counted in determining the highest grade completed. For those who attended school in a foreign country, at an ungraded school, under a tutor, or under other special circumstances, the nearest equivalent of the highest grade attended was obtained.

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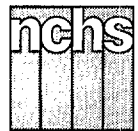


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