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Clinical Chemistry Profile Data for Hispanics, 1982–84

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This report presents descriptive data for clinical chemistry profiles by age and sex. This information is from the Hispanic Health and Nutrition Examination Survey, a sample survey of selected groups of civilian noninstitutionalized Hispanic persons residing in the United States. The survey was conducted during 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

Clinical Chemistry Profile Data for Hispanics, 1982–84

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Introduction

This report presents standard reference data for analytes included in the Clinical Chemistry Profile that was performed on a sample of civilian, noninstitutionalized Hispanics in the continental United States. Seventeen serum analytes were included in the Clinical Chemistry Profile: sodium, potassium, chloride, total CO₂, calcium, inorganic phosphorus, uric acid, glucose, blood urea nitrogen (BUN), bilirubin, creatinine, aspartate aminotransferase (AST), alanine aminotransferase (ALT), lactate dehydrogenase (LDH), alkaline phosphatase, total protein, and albumin. The data were obtained from the Hispanic Health and Nutrition Examination Survey (HHANES), conducted during 1982–84 on the three largest Hispanic groups in the United States: Mexican-Americans, Cubans, and Puerto Ricans. Reference data for these analytes have previously not been available by Hispanic subgroup. These data may be useful in interpreting test results for Hispanics because reference data for non-Hispanics may not be applicable.

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 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.

Although HHANES sampled persons 6 months–74 years old, the tests in the Clinical Chemistry Profile battery were run only on serum drawn from persons 20–74 years old. A small percent of adults scheduled to have a clinical chemistry profile are missing clinical chemistry data (see appendix I).

Serum was collected by teams of health personnel during the health examination, which was held in specially equipped mobile examination centers (MEC's). Using a Union Carbide Centrifichem 500 analyzer, the Clinical Chemistry Profile analysis was performed at the Primate Research Institute of the New Mexico State University. 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 were checked and verified by the laboratory.

Estimates of the mean, the standard error of the mean, and selected percentiles are presented for each of the 17 Clinical Chemistry Profile analytes by ethnic group, sex, and age. Sample sizes for most Hispanic subgroups are large enough to meet NCHS requirements for presenting statistically reliable results (see appendix III).

This report presents baseline data of the Clinical Chemistry Profiles for Hispanics. HHANES was the first of the health examination surveys (table A) (1-6) to measure each of these 17 analytes in serum. Some of the same analytes were measured for the general population during NHANES I, but the results were not published.

Little is currently known about the distribution of these analytes among Hispanics. A better understanding of the distribution of these risk factors in these three Hispanic subpopulations may help to elucidate differences in kidney and chronic liver disease morbidity and mortality among subgroups. Comparisons of HHANES Clinical Chemistry Profile data with those from other studies will be presented in future publications.

The Clinical Chemistry Profile data from this survey have been coded and edited and 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.

Table A. Health Examination Surveys conducted by the National Center for Health Statistics, by years of survey and age of persons examined, 1960-84

<i>Survey</i>	<i>Date</i>	<i>Age</i>
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
Hispanic Health and Nutrition Examination Survey (HHANES)	1982-84	6 months-74 years ¹

¹Mexican-Americans, Cubans, and Puerto Ricans.

Source of data and analytical issues

Sources of data

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.

Table B shows 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. Clinical chemistry profile data are available for 2,999 Mexican-Americans, 820 Cubans, and 1,026 Puerto Ricans. Pregnant women, excluded from this report, include 53 Mexican-Americans, 2 Cubans, and 12 Puerto Ricans.

HHANES, like previous examination surveys, consisted of two major components. Household interviews

Table B. Sample size and response rates for persons 20-74 years of age by survey area and Hispanic origin: 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>
Southwest area					
All persons	5,113	4,218	82.5	3,555	69.5
Mexican American	4,735	3,935	83.1	3,326	70.2
Dade County, Fla., area					
All persons	1,562	1,193	76.4	907	58.1
Cuban	1,481	1,134	76.6	865	58.4
New York City area					
All persons	1,961	1,689	86.1	1,353	69.0
Puerto Rican	1,764	1,519	86.1	1,220	69.2

formed the first component; the second consisted of physical examinations and additional interviews in examination 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.
- Body measurements.
- Dietary interview.
- Selected diagnostic tests such as electrocardiograms, x rays, hearing, and diagnostic ultrasound for detection of gallstones.
- Laboratory tests on whole blood, serum, and urine specimens.

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.

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 Primate Research Institute of New Mexico State University. Upon receipt, the serum specimens were placed in a temperature monitored, –70°C Revco freezer equipped with an emergency power supply backup. The samples were thawed at room temperature on the day of analysis to ensure that no biochemical parameters were compromised by exposure to high temperatures through rapid thawing or by prolonged exposure to room temperature before analysis.

The following tests were performed on a Union Carbide Centrifichem 500 analyzer:

- Albumin was performed on the Centrifichem using the Bromcresol Green Method (7–9).
- Total protein by the Biuret Method (10–12).
- Alkaline phosphatase by the Modified Bessey-Lowry-Brock Technique (13–14).
- LDH by the Lactate-Pyruvate Technique (15–17).
- AST by the NADH Oxidation (18–20).
- Inorganic phosphorus by the Daly and Ertingshausen Technique (21–23).
- Uric acid by the Uricase Method (24–26).
- Total bilirubin by the Diazo Method (27–29).
- Glucose by the Hexokinase Method (30–32).
- Calcium by the Alizarin Sulfonate Method (33–34).
- Blood urea nitrogen (BUN) by the Urease Method (35–37).
- Creatinine by the Jaffe Reaction (38–40).
- Total CO₂ by the Phosphoenol Pyruvate Carboxyase Method (41–43).
- Chloride by the Mercuric Thiocyanate Method (44–46).
- ALT by the NADH Oxidation Method (47–49).
- Sodium and Potassium tests performed on an IL343 Flame Photometer (50).

Quality Control

All samples with values falling outside normal ranges (Manufacturer's recommended ranges are shown in table C) were repeated immediately and quality control values were verified on the instrument. If the repeated value was still outside the normal range, a note was placed in the comment field of the data tape.

Serum samples were assessed for lipemia, hemolysis, and ictericia. Values for the few specimens with extreme lipemia or hemolysis were excluded from these analyses.

Two other problems were also noted. Some specimens might have leaked during shipping and might, therefore, have been contaminated. This potential contamination would have been most likely to affect sodium, potassium,

Table C. Manufacturer's recommended ranges for clinical chemistry profile analytes

<i>Tests</i>	<i>Manufacturer's normal range</i>
Sodium	133–148 mEq/L
Potassium	3.5–5.6 mEq/L
Chloride	96–106 mEq/L
Total carbon dioxide	25–32 mEq/L
Calcium	4.5–5.75 mmol/L
Inorganic phosphorus	0.81–1.45 mmol/L
Uric acid	0.15–0.48 mmol/L
Glucose	3.14–6.06 mmol/L
Blood urea nitrogen (BUN)	1.33–3.66 mmol/L
Total bilirubin	1.71–22.23 μ mol/L
Creatinine	0.04–0.11 mmol/L
Aspartate aminotransferase (AST)	6–22 IU/L
Alanine aminotransferase (ALT)	0–21 IU/L
Lactate dehydrogenase (LDH)	0–110 IU/L
Alkaline phosphatase	25–80 IU/L
Total protein	60.0–80.0 g/L
Albumin	34.0–49.0 g/L

NOTE: mEq/L is milliequivalents per liter, IU/L is International Units per liter, mmol/L is millimoles per liter, μ mol/L is micromoles per liter, g/L is grams per liter

and chloride values. Also, some specimens arrived in the laboratory after a prolonged shipping period. Values of AST, ALT, LDH and alkaline phosphatase might have been affected by the prolonged shipping. Because deletion of specimens with these problems did not affect the distribution of these analytes, they have been included in these analyses.

In addition to comparing the values with the manufacturer's recommended ranges, the laboratory participated in both the CDC Proficiency Testing Program and in a computerized quality control program developed by Fisher Scientific. Additional quality control was added to the enzyme runs: AST, ALT, LDH, and Alkaline Phosphatase were monitored using the Hyland Omega Critical Value Assayed Control Sera. In addition to these quality control parameters, the concentration factors on each run on the Centrifichem 500 were monitored and compared.

Inter- and intra-laboratory comparison of techniques and methodologies was accomplished by using the Fisher Scientific Quality Control Program. This included examination of Youden Plots, monthly and comprehensive means, standard deviation ranges, and coefficients of variation. Day-to-day monitoring was achieved by using Levy-Jenning histograms.

The Fisher SeraChem Quality Control Program was used through December 1983. Normal and abnormal controls with known values were analyzed with each batch of samples. Batch runs were accepted if one level of control was within 2-SD of the known value or if one level of control was within 2-SD and the other level was within 3-SD of the known range. Runs were rejected if both levels were outside the 2-SD range or if any level was outside the 3-SD range. Rejected runs were repeated and accepted if they met the above criteria. If the runs again failed acceptance criteria, a complete system check was performed and the test was validated using Ortho-assayed

controls. Following test validation, the batch was analyzed again.

Since January 1984, the Beckman Triad Span Program (administered by the College of American Pathologists) was used. The Beckman program provided three levels of controls to provide normal, abnormal, and mid-range coverage. Batch runs were accepted if all three controls read within 2-SD of their known range or if two of the three controls were within their 2-SD ranges and the third level was within 3-SD of its known range. The batch run was rejected and repeated if two or more controls were outside the 2-SD range, if any level of control fell outside the 3-SD range, or if any level of control was outside the 2-SD range on two successive runs. If the repeat run was also rejected, a complete system maintenance check was performed and the test was validated with assayed controls before the batch was rerun.

Analytical issues

Weighting procedures

The estimates 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. Therefore, the population estimates closely approximate the targeted population at the midpoint of the respective survey period.

Population estimates

Population estimates by age and sex for the three Hispanic subgroups in the three distinct geographic regions—the Mexican Americans in the Southwest United States, the Puerto Ricans in the New York City area, and the Cubans in Dade County, Florida—are shown in appendix I.

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 data 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. 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.

Cross-sectional nature of data

The cross-sectional Clinical Chemistry Profile data were obtained from persons of different ages who represent different birth cohorts. The age trends show the data values for successive birth cohorts of persons who were of different ages when examined and may reflect the effect of different environment 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 chronological 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 old with an approximate mean value of 22.50 years.

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Table 1. Sodium levels 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
Both sexes												
Sodium in milliequivalents per liter (mEq/L)												
Mexican-American:												
20–74 years	2,946	139.54	0.14	135.07	136.12	137.08	138.07	140.01	141.21	142.22	143.18	144.21
20–24 years	436	139.47	0.37	135.23	136.23	137.11	138.08	139.22	141.16	142.14	143.07	144.10
25–34 years	855	139.54	0.27	135.13	136.20	137.12	138.09	139.25	141.19	142.19	143.11	144.17
35–44 years	521	139.39	0.36	134.16	135.22	137.01	138.01	139.24	141.21	142.23	143.16	144.20
45–54 years	569	139.80	0.27	135.09	136.14	137.10	138.11	140.05	142.02	143.10	144.06	144.24
55–64 years	380	139.54	0.36	135.01	136.06	137.04	138.08	140.04	141.24	143.02	143.23	144.24
65–74 years	185	139.69	0.64	134.02	135.19	136.13	138.04	140.09	142.11	144.02	144.20	145.18
Cuban:												
20–74 years	818	139.28	0.06	135.17	136.12	137.03	138.01	139.18	141.11	142.12	143.04	144.06
20–24 years	56	138.85	0.22	*	136.08	136.20	138.02	139.09	140.22	141.16	142.06	*
25–34 years	130	139.26	0.14	136.05	136.17	137.03	137.22	139.20	141.11	142.08	142.17	143.13
35–44 years	140	138.88	0.15	135.05	136.02	137.00	137.24	139.04	140.22	142.01	142.20	143.13
45–54 years	227	139.71	0.11	135.20	137.00	137.10	138.05	140.04	142.03	143.09	143.23	144.20
55–64 years	169	139.32	0.11	136.01	136.15	137.03	137.24	139.21	141.07	142.02	142.22	144.13
65–74 years	96	139.47	0.18	*	135.20	136.15	137.21	139.22	141.23	143.06	144.07	*
Puerto Rican:												
20–74 years	1,014	138.66	0.11	134.07	135.22	136.23	137.23	139.11	140.25	142.02	142.19	143.22
20–24 years	132	138.54	0.47	134.06	136.05	137.06	138.06	139.16	140.24	142.12	143.02	144.05
25–34 years	228	138.46	0.23	134.20	136.03	136.24	137.19	139.03	140.15	141.09	141.24	143.06
35–44 years	196	138.46	0.28	134.05	135.13	136.12	137.15	139.01	140.21	141.23	142.18	143.17
45–54 years	239	139.08	0.19	133.23	136.02	136.23	138.03	140.03	141.14	142.13	142.24	145.05
55–64 years	153	139.22	0.22	133.19	135.20	136.23	138.10	140.03	141.19	142.15	143.05	145.01
65–74 years	66	138.96	0.24	*	136.03	136.22	138.01	139.07	141.11	142.03	142.16	*
Male												
Mexican-American:												
20–74 years	1,320	139.84	0.22	135.17	136.22	137.16	138.15	140.09	142.02	143.02	143.23	144.23
20–24 years	203	139.69	0.60	135.19	136.21	137.17	138.13	140.06	141.23	142.19	143.15	144.14
25–34 years	391	140.03	0.42	136.10	137.13	138.03	138.21	140.12	142.03	143.00	143.20	145.04
35–44 years	220	139.81	0.60	135.06	136.15	137.13	138.17	140.11	142.04	143.05	143.21	145.06
45–54 years	250	140.06	0.41	136.00	137.00	137.15	138.16	140.10	142.10	143.21	144.11	144.24
55–64 years	179	139.50	0.50	134.22	136.02	136.22	137.24	140.04	141.23	142.22	143.15	144.18
65–74 years	77	139.27	0.93	*	135.20	136.08	137.12	139.22	141.17	143.11	144.05	*
Cuban:												
20–74 years	361	139.44	0.08	135.23	136.20	137.10	138.07	140.01	141.13	142.12	143.04	143.23
20–24 years	23	*	*	*	*	*	138.22	140.10	141.15	*	*	*
25–34 years	60	139.55	0.19	*	137.08	137.24	138.18	140.02	141.10	142.06	142.16	*
35–44 years	52	139.53	0.24	*	137.03	137.24	138.10	140.01	141.09	142.13	143.06	*
45–54 years	111	139.51	0.15	135.15	137.03	137.11	138.02	140.00	141.19	143.02	143.19	144.18
55–64 years	75	139.00	0.16	*	136.04	136.15	137.14	139.17	140.24	141.20	142.15	*
65–74 years	40	*139.45	0.26	*	*	136.19	137.14	140.11	142.03	142.22	*	*

Puerto Rican:												
20-74 years	385	139.03	0.20	134.12	135.23	137.06	138.07	139.22	141.15	142.14	143.01	144.13
20-24 years	49	138.56	1.09	*	*	138.00	138.17	140.06	142.06	143.04	*	*
25-34 years	91	138.93	0.42	*	135.22	137.09	138.07	139.19	141.01	142.03	142.24	*
35-44 years	63	139.07	0.37	*	135.23	137.04	138.01	139.14	141.13	142.07	142.22	*
45-54 years	92	139.40	0.27	*	135.21	136.18	137.25	140.07	142.01	142.18	143.03	*
55-64 years	70	139.20	0.30	*	136.09	136.25	138.09	139.19	141.23	142.14	142.21	*
65-74 years	20	*	*	*	*	*	138.02	140.05	141.17	*	*	*
Female												
Mexican-American:												
20-74 years	1,626	139.23	0.18	134.23	136.03	137.02	138.00	139.18	141.14	142.16	143.12	144.17
20-24 years	233	139.20	0.45	136.02	137.00	137.09	138.01	139.14	141.05	141.25	142.24	143.23
25-34 years	464	138.99	0.34	135.01	136.01	136.23	137.22	139.11	141.06	142.08	142.24	143.23
35-44 years	301	138.97	0.45	134.07	135.10	136.09	137.14	139.14	141.12	142.15	143.09	144.11
45-54 years	319	139.56	0.35	135.00	136.01	137.04	138.07	140.02	141.21	142.23	143.22	144.25
55-64 years	201	139.58	0.53	135.04	136.12	137.13	138.15	140.04	141.25	143.09	144.06	145.03
65-74 years	108	140.05	0.86	132.20	135.16	137.00	138.14	140.21	142.23	144.15	145.07	145.24
Cuban:												
20-74 years	457	139.14	0.08	135.13	136.08	136.22	137.19	139.12	141.10	142.13	143.05	144.11
20-24 years	33	*138.22	0.26	*	*	*	137.01	138.16	140.04	*	*	*
25-34 years	70	139.00	0.21	*	136.11	136.19	137.08	139.04	141.13	142.10	142.18	*
35-44 years	88	138.45	0.18	*	135.11	136.04	137.12	138.20	140.13	141.18	142.12	*
45-54 years	116	139.89	0.15	136.00	136.20	137.10	138.08	140.08	142.13	143.14	144.02	144.20
55-64 years	94	139.59	0.14	*	137.02	137.12	138.06	139.24	141.13	142.10	143.01	*
65-74 years	56	139.48	0.25	*	135.15	136.11	138.08	139.18	141.18	144.02	144.19	*
Puerto Rican:												
20-74 years	629	138.43	0.13	134.02	135.22	136.18	137.17	139.02	140.18	141.17	142.11	143.15
20-24 years	83	138.53	0.40	*	136.11	137.04	138.01	139.09	140.16	141.21	142.14	*
25-34 years	137	138.12	0.25	135.02	136.04	136.17	137.12	138.17	140.05	140.22	141.09	142.01
35-44 years	133	138.14	0.37	134.02	135.11	136.03	137.11	138.19	140.12	141.15	142.15	143.18
45-54 years	147	138.87	0.26	132.23	136.05	136.25	138.04	140.01	141.07	142.06	142.22	144.13
55-64 years	83	139.25	0.31	*	134.18	136.17	138.13	140.10	141.18	142.20	143.19	*
65-74 years	46	138.77	0.30	*	*	136.13	138.01	138.22	141.07	142.00	*	*

NOTE: Excludes pregnant women.

Table 2. Potassium levels 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
Both sexes												
Potassium in milliequivalents per liter (mEq/L)												
Mexican-American:												
20–74 years	2,946	4.18	0.02	3.60	3.70	3.80	3.90	4.20	4.40	4.51	4.60	4.80
20–24 years	436	4.14	0.04	3.60	3.70	3.80	3.90	4.10	4.40	4.50	4.60	4.70
25–34 years	855	4.17	0.03	3.60	3.70	3.80	3.90	4.20	4.40	4.51	4.60	4.70
35–44 years	521	4.21	0.04	3.70	3.80	3.90	4.00	4.20	4.40	4.60	4.60	4.80
45–54 years	569	4.19	0.03	3.60	3.70	3.80	4.00	4.20	4.41	4.60	4.70	4.80
55–64 years	380	4.18	0.04	3.50	3.70	3.80	3.90	4.20	4.41	4.51	4.70	4.80
65–74 years	185	4.23	0.07	3.50	3.60	3.70	3.90	4.20	4.51	4.70	4.80	5.01
Cuban:												
20–74 years	818	4.17	0.01	3.70	3.80	3.90	4.00	4.20	4.40	4.50	4.60	4.70
20–24 years	56	4.08	0.02	*	3.90	3.90	3.90	4.01	4.20	4.30	4.40	*
25–34 years	130	4.16	0.02	3.70	3.80	3.90	4.00	4.10	4.30	4.41	4.59	4.70
35–44 years	140	4.16	0.02	3.70	3.80	3.90	4.00	4.20	4.30	4.41	4.51	4.70
45–54 years	227	4.17	0.01	3.70	3.80	3.90	4.00	4.20	4.30	4.50	4.60	4.80
55–64 years	169	4.21	0.02	3.60	3.70	3.90	4.00	4.30	4.40	4.51	4.60	4.70
65–74 years	96	4.26	0.02	*	3.80	3.90	4.09	4.30	4.50	4.60	4.70	*
Puerto Rican:												
20–74 years	1,014	4.09	0.01	3.60	3.70	3.80	3.90	4.10	4.30	4.40	4.50	4.60
20–24 years	132	4.09	0.03	3.60	3.70	3.80	3.90	4.10	4.30	4.40	4.50	4.60
25–34 years	228	4.08	0.02	3.60	3.70	3.80	3.90	4.10	4.30	4.40	4.41	4.60
35–44 years	196	4.05	0.03	3.60	3.60	3.80	3.90	4.09	4.30	4.40	4.40	4.60
45–54 years	239	4.13	0.02	3.60	3.70	3.80	3.90	4.10	4.30	4.50	4.59	4.60
55–64 years	153	4.12	0.03	3.40	3.60	3.70	3.90	4.10	4.40	4.51	4.70	4.80
65–74 years	66	4.17	0.04	*	3.60	3.80	3.90	4.20	4.40	4.51	4.70	*
Mexican American:												
20–74 years	1,320	4.22	0.03	3.70	3.70	3.80	4.00	4.20	4.50	4.60	4.70	4.80
20–24 years	203	4.14	0.07	3.60	3.70	3.80	3.90	4.10	4.40	4.50	4.60	4.70
25–34 years	391	4.22	0.05	3.70	3.70	3.90	4.00	4.20	4.50	4.60	4.70	4.80
35–44 years	220	4.27	0.06	3.80	3.80	3.90	4.01	4.30	4.50	4.60	4.70	4.90
45–54 years	250	4.22	0.05	3.60	3.80	3.80	4.00	4.20	4.50	4.60	4.70	4.80
55–64 years	179	4.25	0.06	3.60	3.70	3.80	4.00	4.20	4.50	4.70	4.80	5.00
65–74 years	77	4.30	0.12	*	3.70	3.90	4.10	4.30	4.51	4.70	4.90	*
Cuban:												
20–74 years	361	4.23	0.01	3.70	3.80	3.90	4.00	4.20	4.40	4.60	4.70	4.80
20–24 years	23	*	*	*	*	*	4.00	4.10	4.30	*	*	*
25–34 years	60	4.19	0.03	*	3.80	3.80	4.00	4.20	4.30	4.51	4.60	*
35–44 years	52	4.24	0.04	*	3.80	3.90	4.00	4.20	4.40	4.60	4.70	*
45–54 years	111	4.22	0.02	3.60	3.80	3.80	4.00	4.20	4.50	4.70	4.80	4.80
55–64 years	75	4.26	0.02	*	3.80	3.90	4.01	4.30	4.50	4.60	4.70	*
65–74 years	40	*4.31	0.04	*	*	4.00	4.01	4.30	4.51	4.70	*	*

Puerto Rican:												
20-74 years	385	4.14	0.02	3.60	3.70	3.80	3.90	4.20	4.40	4.50	4.60	4.70
20-24 years	49	4.14	0.05	*	*	3.80	3.90	4.20	4.30	4.50	*	*
25-34 years	91	4.12	0.04	*	3.60	3.80	3.90	4.10	4.30	4.40	4.60	*
35-44 years	63	4.12	0.06	*	3.60	3.70	3.80	4.20	4.30	4.40	4.51	*
45-54 years	92	4.20	0.03	*	3.70	3.80	3.90	4.20	4.50	4.60	4.60	*
55-64 years	70	4.15	0.04	*	3.80	3.80	3.90	4.10	4.40	4.51	4.70	*
65-74 years	20	*	*	*	*	*	3.90	4.30	4.40	*	*	*
Female												
Mexican-American:												
20-74 years	1,626	4.13	0.02	3.60	3.70	3.80	3.90	4.10	4.40	4.50	4.60	4.70
20-24 years	233	4.14	0.05	3.70	3.70	3.80	3.90	4.10	4.30	4.41	4.51	4.70
25-34 years	464	4.11	0.03	3.60	3.70	3.80	3.90	4.10	4.30	4.41	4.51	4.70
35-44 years	301	4.14	0.05	3.60	3.70	3.80	3.90	4.10	4.40	4.50	4.60	4.80
45-54 years	319	4.16	0.04	3.60	3.70	3.80	3.90	4.20	4.40	4.51	4.60	4.70
55-64 years	201	4.13	0.06	3.40	3.60	3.80	3.90	4.20	4.40	4.50	4.51	4.70
65-74 years	108	4.16	0.09	3.50	3.60	3.70	3.80	4.20	4.50	4.60	4.80	5.00
Cuban:												
20-74 years	457	4.12	0.01	3.60	3.80	3.90	3.90	4.10	4.30	4.40	4.50	4.60
20-24 years	33	*4.01	0.02	*	*	*	3.90	4.00	4.10	*	*	*
25-34 years	70	4.13	0.02	*	3.70	3.90	4.00	4.10	4.30	4.40	4.50	*
35-44 years	88	4.11	0.02	*	3.80	3.80	3.90	4.10	4.30	4.30	4.41	*
45-54 years	116	4.11	0.01	3.70	3.80	3.90	4.00	4.10	4.30	4.40	4.40	4.50
55-64 years	94	4.17	0.02	*	3.70	3.70	3.90	4.20	4.40	4.50	4.60	*
65-74 years	56	4.21	0.03	*	3.70	3.90	4.09	4.30	4.41	4.59	4.60	*
Puerto Rican:												
20-74 years	629	4.05	0.01	3.60	3.70	3.80	3.90	4.01	4.30	4.40	4.40	4.51
20-24 years	83	4.06	0.04	*	3.70	3.80	3.90	4.00	4.30	4.40	4.41	*
25-34 years	137	4.04	0.03	3.60	3.70	3.70	3.90	4.01	4.30	4.40	4.40	4.50
35-44 years	133	4.02	0.03	3.60	3.60	3.80	3.90	4.00	4.20	4.30	4.40	4.41
45-54 years	147	4.08	0.02	3.50	3.70	3.80	3.90	4.10	4.30	4.40	4.50	4.59
55-64 years	83	4.09	0.04	*	3.60	3.60	3.90	4.10	4.40	4.50	4.70	*
65-74 years	46	4.18	0.05	*	*	3.90	4.00	4.10	4.40	4.51	*	*

NOTE: Excludes pregnant women.

Table 3. Chloride levels 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
Both sexes												
Chloride in milliequivalents per liter (mEq/L)												
Mexican American:												
20–74 years	2,946	103.59	0.24	97.10	99.03	100.04	101.11	104.02	106.05	107.07	108.06	109.12
20–24 years	436	103.49	0.68	97.11	99.06	100.05	101.08	104.02	106.01	107.00	108.04	110.00
25–34 years	855	103.66	0.45	98.02	99.05	100.07	102.01	104.04	106.05	107.06	108.04	109.09
35–44 years	521	103.80	0.58	97.12	99.05	100.05	102.01	104.06	106.09	107.10	108.09	110.01
45–54 years	569	103.67	0.49	97.11	99.04	100.05	101.11	103.12	106.09	107.11	108.10	110.03
55–64 years	380	103.27	0.64	96.09	98.02	99.07	101.03	103.10	106.01	107.08	108.06	109.12
65–74 years	185	103.14	0.88	97.01	98.05	99.02	101.01	103.12	106.03	107.03	108.04	109.09
Cuban:												
20–74 years	818	103.04	0.06	99.06	100.06	101.02	102.00	103.07	105.03	105.12	106.07	107.05
20–24 years	56	103.61	0.23	*	100.12	101.06	102.07	104.03	105.10	106.06	106.10	*
25–34 years	130	102.93	0.17	99.05	100.05	101.01	101.12	103.05	105.02	105.11	106.06	107.07
35–44 years	140	103.21	0.15	99.12	100.09	101.04	102.03	103.10	105.03	105.12	106.06	107.02
45–54 years	227	103.16	0.10	99.06	100.12	101.06	102.03	103.07	105.03	106.03	106.10	107.08
55–64 years	169	102.86	0.11	99.03	100.05	101.01	101.12	103.05	105.00	105.09	106.01	107.02
65–74 years	96	102.44	0.17	*	99.08	100.04	101.02	103.02	104.09	105.11	106.07	*
Puerto Rican:												
20–74 years	1,014	101.35	0.09	96.08	97.11	98.09	100.00	102.02	103.12	104.11	105.07	106.05
20–24 years	132	101.54	0.33	95.12	98.04	99.03	100.04	102.07	104.04	105.02	105.08	106.04
25–34 years	228	101.31	0.20	97.04	98.05	99.01	100.02	101.12	103.09	104.06	104.11	105.12
35–44 years	196	101.71	0.24	97.01	98.02	98.11	100.03	102.06	104.05	105.06	105.12	106.09
45–54 years	239	101.21	0.16	96.05	97.04	98.04	99.11	102.01	103.09	104.08	105.05	106.05
55–64 years	153	100.86	0.20	96.00	97.02	97.09	99.03	101.07	103.08	104.11	105.06	106.03
65–74 years	66	100.31	0.30	*	96.09	97.03	98.03	100.07	103.05	104.03	104.12	*
Male												
Mexican American:												
20–74 years	1,320	103.38	0.39	97.07	99.00	100.01	101.06	103.12	106.03	107.06	108.05	109.10
20–24 years	203	102.94	1.12	97.06	98.12	99.10	100.11	103.05	105.08	106.10	108.01	109.10
25–34 years	391	103.42	0.73	98.01	99.00	100.04	101.11	103.12	106.03	107.03	108.01	109.02
35–44 years	220	103.56	0.98	97.06	99.02	100.01	101.10	104.03	106.08	107.09	108.09	109.11
45–54 years	250	103.98	0.83	98.00	99.05	100.07	102.00	104.03	107.01	107.12	109.04	111.04
55–64 years	179	103.24	0.98	96.09	98.02	99.09	101.02	103.09	105.10	107.05	108.07	109.11
65–74 years	77	102.98	1.45	*	98.05	99.01	100.11	103.09	106.02	106.12	108.06	*
Cuban:												
20–74 years	361	102.76	0.09	99.02	100.04	100.11	101.09	103.03	105.00	105.11	106.05	106.12
20–24 years	23	*	*	*	*	*	102.03	104.08	105.12	*	*	*
25–34 years	60	102.42	0.27	*	100.00	100.05	101.02	102.12	104.09	105.09	106.04	*
35–44 years	52	102.64	0.25	*	100.07	101.01	101.09	103.02	104.09	105.06	105.11	*
45–54 years	111	102.84	0.14	98.11	100.04	101.02	101.12	103.03	105.00	105.12	106.06	107.01
55–64 years	75	102.99	0.17	*	100.06	101.02	102.02	103.05	105.03	105.11	106.07	*
65–74 years	40	*102.35	0.24	*	*	100.05	101.02	103.00	104.07	105.05	*	*

Puerto Rican:												
20-74 years	385	100.80	0.16	96.04	97.06	98.02	99.04	101.09	103.06	104.04	104.10	105.09
20-24 years	49	100.21	0.65	*	*	97.07	99.03	101.09	103.04	103.11	*	*
25-34 years	91	101.04	0.34	*	97.10	98.05	99.06	101.10	103.09	104.05	104.10	*
35-44 years	63	100.72	0.43	*	97.04	97.12	98.10	101.06	103.03	104.06	105.00	*
45-54 years	92	101.21	0.20	*	98.04	98.12	100.02	101.11	103.05	104.01	104.08	*
55-64 years	70	100.94	0.26	*	97.09	98.04	99.06	101.09	103.03	104.05	105.02	*
65-74 years	20	*	*	*	*	*	97.04	99.05	102.05	*	*	*
Female												
Mexican-American:												
20-74 years	1,626	103.81	0.29	98.00	99.07	100.08	102.03	104.06	106.07	107.09	108.07	110.01
20-24 years	233	104.16	0.79	98.12	100.08	101.07	102.09	104.10	106.06	107.06	108.07	110.02
25-34 years	464	103.93	0.56	98.05	99.09	101.00	102.04	104.08	106.07	107.09	108.08	109.12
35-44 years	301	104.04	0.70	98.05	99.08	100.11	102.05	104.09	106.10	107.11	108.08	110.04
45-54 years	319	103.38	0.57	97.10	99.03	100.03	101.10	103.10	106.05	107.08	108.06	109.09
55-64 years	201	103.31	0.83	96.08	98.02	99.06	101.05	103.11	106.09	107.10	108.06	110.00
65-74 years	108	103.28	1.10	97.03	98.04	99.03	101.03	104.03	106.04	107.05	108.02	109.09
Cuban:												
20-74 years	457	103.28	0.08	99.09	100.10	101.05	102.04	103.10	105.04	106.02	106.09	107.09
20-24 years	33	*103.55	0.29	*	*	*	102.11	103.12	105.08	*	*	*
25-34 years	70	103.40	0.20	*	101.05	101.12	102.06	103.10	105.05	105.12	106.07	*
35-44 years	88	103.59	0.18	*	100.12	101.08	102.08	104.03	105.07	106.04	106.09	*
45-54 years	116	103.48	0.13	99.12	101.03	101.10	102.08	103.09	105.06	106.06	107.03	108.02
55-64 years	94	102.75	0.15	*	100.04	101.00	101.10	103.06	104.11	105.07	105.11	*
65-74 years	56	102.51	0.24	*	98.12	100.04	101.02	103.02	105.01	106.04	106.11	*
Puerto Rican:												
20-74 years	629	101.70	0.12	96.11	98.04	99.03	100.05	102.06	104.04	105.04	105.11	106.09
20-24 years	83	102.32	0.33	*	99.05	100.02	100.10	103.01	104.11	105.08	106.01	*
25-34 years	137	101.51	0.23	98.01	99.00	99.07	100.06	101.12	103.10	104.07	105.00	105.12
35-44 years	133	102.22	0.28	97.09	99.00	99.09	100.11	103.02	104.12	105.09	106.03	107.00
45-54 years	147	101.21	0.23	96.01	96.10	97.08	99.08	102.04	103.11	105.02	105.11	106.09
55-64 years	83	100.80	0.30	*	96.08	97.03	98.08	101.05	104.01	105.02	105.11	*
65-74 years	46	100.76	0.35	*	*	97.08	99.02	101.01	103.07	104.04	*	*

NOTE: Excludes pregnant women.

Table 4. Total carbon dioxide levels (CO²) 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
Both sexes												
Total CO ² in milliequivalents per liter (mEq/L)												
Mexican-American:												
20–74 years	2,946	27.66	0.14	22.02	23.03	24.02	25.02	28.00	30.02	31.02	32.03	33.04
20–24 years	436	27.61	0.40	22.03	23.02	24.02	25.02	28.01	30.02	31.02	32.01	33.02
25–34 years	855	27.53	0.28	22.01	23.02	24.01	25.02	27.03	30.02	31.03	32.04	33.05
35–44 years	521	27.76	0.32	23.01	24.00	24.02	25.03	28.01	30.02	31.02	32.01	33.02
45–54 years	569	27.79	0.27	22.02	23.03	24.02	25.02	28.01	30.03	32.01	32.05	33.04
55–64 years	380	27.71	0.32	22.02	23.02	24.01	25.03	28.01	30.03	31.02	32.03	33.02
65–74 years	185	27.78	0.55	22.01	24.00	24.03	25.02	28.01	30.03	31.03	32.04	33.05
Cuban:												
20–74 years	818	25.62	0.08	20.03	21.03	22.02	23.03	25.02	28.01	29.03	30.03	32.00
20–24 years	56	24.37	0.30	*	21.01	21.03	22.02	24.01	26.01	28.02	29.02	*
25–34 years	130	25.24	0.21	20.02	21.02	22.02	23.02	25.02	27.02	29.01	29.03	31.01
35–44 years	140	25.24	0.20	21.00	21.02	22.01	23.02	25.01	27.02	28.03	30.01	31.02
45–54 years	227	25.85	0.14	20.03	22.00	22.03	23.03	25.03	28.02	29.03	31.01	32.04
55–64 years	169	26.29	0.15	21.01	22.02	23.02	24.01	26.02	29.00	30.02	31.02	32.03
65–74 years	96	26.65	0.22	*	22.03	23.02	24.02	26.03	29.03	31.01	31.03	*
Puerto Rican:												
20–74 years	1,014	26.33	0.10	21.01	22.01	23.00	24.01	26.02	29.02	30.03	31.02	32.04
20–24 years	132	25.75	0.32	20.03	21.02	22.01	23.02	26.01	28.02	30.01	31.00	31.03
25–34 years	228	25.99	0.26	20.02	21.03	22.02	23.02	26.01	29.01	30.02	31.01	32.01
35–44 years	196	26.35	0.26	21.02	22.03	23.02	24.02	26.01	29.01	30.02	31.02	32.04
45–54 years	239	26.54	0.18	21.00	22.01	23.00	24.01	26.02	30.00	31.01	31.03	32.04
55–64 years	153	27.31	0.21	22.01	23.00	23.02	24.03	27.02	30.02	31.03	32.03	33.02
65–74 years	66	27.89	0.28	*	24.01	25.02	26.02	27.03	30.01	31.03	32.03	*
Male												
Mexican-American:												
20–74 years	1,320	28.07	0.21	23.01	24.02	25.01	26.01	28.02	30.03	31.03	32.04	33.04
20–24 years	203	28.21	0.60	23.02	24.02	25.01	26.01	28.03	31.00	31.03	32.03	33.02
25–34 years	391	28.00	0.43	22.03	24.01	25.00	26.00	28.01	30.03	32.01	32.05	33.05
35–44 years	220	28.26	0.50	24.00	25.00	25.02	26.02	28.03	30.03	31.02	32.01	33.02
45–54 years	250	28.04	0.39	23.01	24.02	25.01	26.00	28.01	30.03	32.01	32.05	33.05
55–64 years	179	27.75	0.48	22.03	23.02	24.01	25.02	28.01	30.03	31.03	32.04	33.04
65–74 years	77	27.91	0.85	*	24.01	25.00	25.03	28.03	31.00	31.03	32.03	*
Cuban:												
20–74 years	361	26.24	0.11	21.02	23.00	23.02	24.02	26.01	28.03	30.01	31.00	32.00
20–24 years	23	*	*	*	*	*	23.02	25.02	28.02	*	*	*
25–34 years	60	26.02	0.27	*	23.01	23.02	24.02	26.01	28.02	29.02	29.03	*
35–44 years	52	26.08	0.32	*	23.00	23.02	24.02	25.03	28.01	30.01	31.00	*
45–54 years	111	26.45	0.19	21.02	23.00	23.02	24.02	26.01	29.00	30.02	31.01	32.06
55–64 years	75	26.50	0.24	*	22.02	23.01	24.01	26.02	30.00	30.03	31.02	*
65–74 years	40	*26.76	0.32	*	*	23.02	24.02	27.01	29.03	30.02	*	*

Puerto Rican:												
20-74 years	385	26.81	0.17	22.00	23.01	23.03	25.00	27.00	30.00	31.01	31.03	32.05
20-24 years	49	26.41	0.61	*	*	22.02	24.00	27.00	30.01	31.01	*	*
25-34 years	91	26.85	0.39	*	23.01	23.03	25.00	26.03	29.03	31.01	31.02	*
35-44 years	63	26.39	0.45	*	23.01	23.03	24.03	26.01	28.02	30.03	31.02	*
45-54 years	92	26.93	0.27	*	23.01	23.03	25.00	27.01	29.03	31.01	31.03	*
55-64 years	70	27.66	0.30	*	23.02	24.01	25.02	27.03	31.00	32.00	32.04	*
65-74 years	20	*	*	*	*	*	26.01	27.02	29.03	*	*	*
Female												
Mexican-American:												
20-74 years	1,626	27.22	0.18	22.01	23.01	23.03	25.01	27.02	30.01	31.02	32.02	33.03
20-24 years	233	26.87	0.52	21.03	23.00	23.02	24.03	27.01	29.03	31.00	31.03	33.01
25-34 years	464	27.00	0.36	22.01	23.00	23.03	25.00	27.01	29.03	31.01	32.02	33.06
35-44 years	301	27.26	0.42	22.02	23.01	24.00	25.00	27.03	30.00	31.01	32.01	33.02
45-54 years	319	27.57	0.36	22.01	23.01	24.00	25.01	27.03	30.03	31.03	32.04	33.04
55-64 years	201	27.68	0.44	22.01	23.02	24.02	25.03	28.00	30.03	31.02	32.02	32.06
65-74 years	108	27.67	0.71	22.01	23.02	24.02	25.02	27.03	30.03	32.01	32.05	34.01
Cuban:												
20-74 years	457	25.10	0.11	20.01	21.01	22.00	23.01	25.01	27.02	29.01	30.02	31.03
20-24 years	33	*23.51	0.33	*	*	*	22.01	23.02	25.01	*	*	*
25-34 years	70	24.52	0.31	*	20.03	21.01	22.02	24.02	26.02	28.02	29.02	*
35-44 years	88	24.67	0.25	*	21.01	21.02	22.02	25.00	26.03	27.03	29.03	*
45-54 years	116	25.27	0.20	20.02	21.01	22.01	23.01	25.01	28.00	29.02	30.02	32.01
55-64 years	94	26.12	0.20	*	22.03	23.03	24.02	26.02	28.02	30.00	31.00	*
65-74 years	56	26.56	0.30	*	22.01	23.02	24.01	26.02	29.03	31.02	32.01	*
Puerto Rican:												
20-74 years	629	26.03	0.13	20.03	21.03	22.02	23.03	26.01	29.01	30.02	31.01	32.02
20-24 years	83	25.37	0.36	*	21.02	22.01	23.02	25.03	27.03	29.00	30.00	*
25-34 years	137	25.35	0.33	20.00	21.01	22.00	22.03	25.03	28.02	30.01	30.03	31.03
35-44 years	133	26.32	0.31	21.02	22.02	23.01	24.01	26.01	29.02	30.02	31.01	32.04
45-54 years	147	26.28	0.24	20.02	21.02	22.02	23.03	26.02	30.01	31.01	31.03	32.03
55-64 years	83	26.98	0.29	*	22.02	23.01	24.01	27.01	30.01	31.02	32.02	*
65-74 years	46	27.98	0.36	*	*	25.00	26.02	27.03	30.02	32.01	*	*

NOTE: Excludes pregnant women.

Table 5. Calcium levels 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
Both sexes												
Calcium in millimoles per liter (mmol/L) ¹												
Mexican-American:												
20–74 years	2,946	5.19	0.01	4.70	4.80	4.90	5.00	5.20	5.40	5.50	5.59	5.70
20–24 years	436	5.22	0.03	4.75	4.84	4.90	5.05	5.20	5.40	5.51	5.60	5.70
25–34 years	855	5.18	0.02	4.70	4.80	4.90	5.00	5.16	5.35	5.45	5.55	5.66
35–44 years	521	5.16	0.03	4.70	4.80	4.84	4.95	5.15	5.40	5.50	5.55	5.65
45–54 years	569	5.20	0.02	4.70	4.84	4.90	5.00	5.20	5.40	5.51	5.59	5.75
55–64 years	380	5.24	0.03	4.70	4.85	4.95	5.05	5.25	5.40	5.55	5.60	5.75
65–74 years	185	5.18	0.04	4.65	4.80	4.85	5.00	5.15	5.40	5.55	5.60	5.75
Cuban:												
20–74 years	818	5.09	0.01	4.60	4.70	4.75	4.85	5.05	5.30	5.40	5.55	5.70
20–24 years	56	5.10	0.03	*	4.80	4.84	4.90	5.10	5.26	5.40	5.50	*
25–34 years	130	5.12	0.02	4.65	4.70	4.75	4.85	5.05	5.35	5.55	5.60	5.75
35–44 years	140	5.08	0.02	4.65	4.70	4.76	4.90	5.05	5.26	5.35	5.50	5.65
45–54 years	227	5.07	0.01	4.60	4.66	4.75	4.84	5.10	5.30	5.35	5.50	5.65
55–64 years	169	5.08	0.02	4.65	4.70	4.75	4.85	5.05	5.30	5.40	5.50	5.65
65–74 years	96	5.07	0.02	*	4.55	4.75	4.90	5.05	5.26	5.45	5.60	*
Puerto Rican:												
20–74 years	1,014	4.90	0.01	4.45	4.51	4.60	4.70	4.85	5.10	5.25	5.30	5.55
20–24 years	132	4.90	0.03	4.20	4.50	4.55	4.70	4.90	5.15	5.25	5.35	5.50
25–34 years	228	4.88	0.02	4.45	4.55	4.65	4.70	4.85	5.05	5.20	5.26	5.35
35–44 years	196	4.91	0.03	4.45	4.51	4.60	4.66	4.85	5.10	5.30	5.45	5.60
45–54 years	239	4.91	0.02	4.45	4.55	4.60	4.70	4.90	5.05	5.25	5.34	5.55
55–64 years	153	4.91	0.02	4.40	4.55	4.60	4.75	4.90	5.10	5.20	5.26	5.41
65–74 years	66	4.93	0.03	*	4.55	4.65	4.70	4.90	5.05	5.30	5.45	*
Male												
Mexican-American:												
20–74 years	1,320	5.24	0.02	4.75	4.85	4.95	5.05	5.25	5.45	5.55	5.60	5.75
20–24 years	203	5.29	0.05	4.80	4.91	5.00	5.10	5.26	5.45	5.60	5.65	5.75
25–34 years	391	5.24	0.03	4.75	4.85	4.95	5.05	5.25	5.45	5.51	5.60	5.75
35–44 years	220	5.21	0.04	4.75	4.84	4.90	5.05	5.20	5.40	5.55	5.60	5.70
45–54 years	250	5.21	0.03	4.70	4.84	4.90	5.00	5.20	5.41	5.51	5.60	5.75
55–64 years	179	5.25	0.04	4.70	4.85	4.95	5.05	5.25	5.41	5.55	5.60	5.70
65–74 years	77	5.16	0.07	*	4.85	4.90	5.00	5.10	5.35	5.50	5.55	*
Cuban:												
20–74 years	361	5.13	0.01	4.65	4.70	4.80	4.90	5.10	5.35	5.50	5.55	5.70
20–24 years	23	*	*	*	*	*	4.91	5.10	5.35	*	*	*
25–34 years	60	5.18	0.03	*	4.75	4.85	4.95	5.15	5.40	5.59	5.65	*
35–44 years	52	5.18	0.03	*	4.85	4.90	5.00	5.10	5.35	5.45	5.65	*
45–54 years	111	5.08	0.02	4.55	4.66	4.75	4.85	5.10	5.30	5.45	5.51	5.65
55–64 years	75	5.07	0.02	*	4.70	4.75	4.85	5.05	5.30	5.35	5.50	*
65–74 years	40	*5.10	0.04	*	*	4.80	4.90	5.05	5.35	5.55	*	*

Puerto Rican:												
20-74 years	385	4.92	0.02	4.45	4.55	4.65	4.75	4.90	5.10	5.25	5.30	5.55
20-24 years	49	4.95	0.06	*	*	4.60	4.75	4.90	5.25	5.35	*	*
25-34 years	91	4.96	0.03	*	4.65	4.70	4.80	4.95	5.10	5.25	5.30	*
35-44 years	63	4.87	0.05	*	4.50	4.55	4.70	4.80	5.05	5.20	5.40	*
45-54 years	92	4.90	0.02	*	4.55	4.65	4.70	4.90	5.05	5.20	5.30	*
55-64 years	70	4.92	0.03	*	4.55	4.55	4.75	4.90	5.10	5.20	5.30	*
65-74 years	20	*	*	*	*	*	4.70	4.85	4.95	*	*	*
Female												
Mexican-American:												
20-74 years	1,626	5.14	0.01	4.66	4.76	4.85	4.95	5.15	5.35	5.45	5.51	5.65
20-24 years	233	5.14	0.04	4.66	4.80	4.84	4.95	5.15	5.30	5.45	5.50	5.60
25-34 years	464	5.10	0.02	4.65	4.75	4.84	4.95	5.09	5.30	5.40	5.45	5.59
35-44 years	301	5.11	0.03	4.65	4.75	4.80	4.85	5.09	5.35	5.41	5.50	5.60
45-54 years	319	5.19	0.03	4.75	4.84	4.90	4.95	5.16	5.35	5.50	5.55	5.75
55-64 years	201	5.24	0.03	4.75	4.90	4.95	5.05	5.25	5.40	5.55	5.65	5.75
65-74 years	108	5.19	0.06	4.60	4.70	4.80	5.00	5.20	5.50	5.60	5.65	5.80
Cuban:												
20-74 years	457	5.06	0.01	4.59	4.70	4.75	4.84	5.05	5.25	5.40	5.50	5.65
20-24 years	33	*5.07	0.03	*	*	*	4.90	5.01	5.15	*	*	*
25-34 years	70	5.06	0.03	*	4.65	4.70	4.76	4.95	5.35	5.55	5.60	*
35-44 years	88	5.02	0.02	*	4.65	4.75	4.80	5.01	5.20	5.30	5.35	*
45-54 years	116	5.07	0.02	4.60	4.65	4.75	4.80	5.10	5.30	5.35	5.40	5.70
55-64 years	94	5.08	0.02	*	4.75	4.76	4.85	5.10	5.30	5.40	5.51	*
65-74 years	56	5.06	0.03	*	4.60	4.70	4.85	5.00	5.20	5.40	5.45	*
Puerto Rican:												
20-74 years	629	4.89	0.01	4.45	4.51	4.60	4.70	4.85	5.05	5.20	5.30	5.55
20-24 years	83	4.88	0.04	*	4.45	4.55	4.65	4.90	5.10	5.20	5.26	*
25-34 years	137	4.83	0.02	4.40	4.50	4.60	4.70	4.80	5.00	5.10	5.16	5.40
35-44 years	133	4.93	0.03	4.45	4.55	4.60	4.65	4.85	5.15	5.30	5.50	5.65
45-54 years	147	4.92	0.02	4.45	4.55	4.60	4.70	4.85	5.10	5.30	5.40	5.55
55-64 years	83	4.90	0.02	*	4.51	4.65	4.75	4.91	5.05	5.20	5.25	*
65-74 years	46	4.96	0.04	*	*	4.65	4.75	4.90	5.10	5.35	*	*

¹To convert to milligrams per deciliter (mg/dl) multiply by 2.

NOTE: Excludes pregnant women.

Table 6. Inorganic phosphorus levels for persons 20–74 years of age, number 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
Both sexes												
Inorganic phosphorus in millimoles per liter (mmol/L) ¹												
Mexican-American:												
20–74 years	2,946	1.11	0.01	0.81	0.87	0.94	1.00	1.10	1.23	1.29	1.32	1.42
20–24 years	436	1.15	0.02	0.87	0.94	0.97	1.03	1.13	1.26	1.36	1.39	1.45
25–34 years	855	1.11	0.01	0.81	0.90	0.94	1.00	1.10	1.23	1.29	1.32	1.42
35–44 years	521	1.08	0.01	0.81	0.87	0.90	0.97	1.07	1.19	1.26	1.29	1.39
45–54 years	569	1.09	0.01	0.78	0.87	0.90	0.97	1.10	1.19	1.26	1.32	1.39
55–64 years	380	1.10	0.01	0.81	0.87	0.90	1.00	1.10	1.23	1.29	1.32	1.36
65–74 years	185	1.08	0.02	0.81	0.84	0.87	0.94	1.07	1.23	1.29	1.32	1.39
Cuban:												
20–74 years	818	1.11	0.004	0.84	0.87	0.94	1.00	1.13	1.23	1.29	1.32	1.39
20–24 years	56	1.17	0.02	*	0.87	1.00	1.07	1.19	1.29	1.36	1.36	*
25–34 years	130	1.12	0.01	0.87	0.90	0.97	1.03	1.13	1.23	1.26	1.29	1.32
35–44 years	140	1.11	0.01	0.84	0.90	0.94	1.00	1.10	1.20	1.26	1.32	1.39
45–54 years	227	1.10	0.01	0.81	0.87	0.90	0.97	1.10	1.23	1.29	1.32	1.36
55–64 years	169	1.11	0.01	0.84	0.87	0.90	1.00	1.13	1.23	1.29	1.32	1.42
65–74 years	96	1.08	0.01	*	0.84	0.90	0.97	1.10	1.19	1.23	1.26	*
Puerto Rican:												
20–74 years	1,014	1.10	0.004	0.81	0.87	0.94	0.97	1.10	1.23	1.29	1.32	1.42
20–24 years	132	1.16	0.01	0.84	0.94	0.97	1.06	1.16	1.29	1.32	1.36	1.45
25–34 years	228	1.09	0.01	0.81	0.87	0.90	0.97	1.10	1.20	1.29	1.32	1.39
35–44 years	196	1.08	0.01	0.81	0.87	0.90	0.97	1.07	1.19	1.26	1.29	1.39
45–54 years	239	1.10	0.01	0.81	0.90	0.94	0.97	1.07	1.23	1.29	1.32	1.42
55–64 years	153	1.07	0.01	0.81	0.84	0.90	0.97	1.07	1.16	1.23	1.26	1.39
65–74 years	66	1.06	0.01	*	0.87	0.87	0.94	1.03	1.16	1.23	1.29	*
Male												
Mexican-American:												
20–74 years	1,320	1.09	0.01	0.78	0.87	0.90	0.97	1.10	1.19	1.26	1.32	1.39
20–24 years	203	1.15	0.02	0.84	0.94	0.97	1.03	1.13	1.26	1.32	1.39	1.45
25–34 years	391	1.09	0.02	0.81	0.87	0.94	0.97	1.10	1.23	1.29	1.32	1.39
35–44 years	220	1.06	0.02	0.81	0.84	0.87	0.94	1.06	1.16	1.23	1.26	1.32
45–54 years	250	1.04	0.02	0.74	0.81	0.87	0.94	1.03	1.13	1.23	1.26	1.32
55–64 years	179	1.05	0.02	0.68	0.84	0.87	0.90	1.03	1.16	1.23	1.29	1.36
65–74 years	77	1.04	0.03	*	0.84	0.84	0.90	1.03	1.19	1.26	1.29	*
Cuban:												
20–74 years	361	1.08	0.01	0.78	0.84	0.87	0.97	1.07	1.20	1.26	1.32	1.36
20–24 years	23	*	*	*	*	*	1.13	1.19	1.29	*	*	*
25–34 years	60	1.11	0.01	*	0.90	1.00	1.03	1.13	1.23	1.26	1.29	*
35–44 years	52	1.12	0.02	*	0.90	0.94	1.00	1.10	1.23	1.29	1.32	*
45–54 years	111	1.06	0.01	0.81	0.81	0.84	0.94	1.03	1.19	1.29	1.32	1.36
55–64 years	75	1.03	0.01	*	0.84	0.87	0.90	1.07	1.16	1.23	1.23	*
65–74 years	40	*1.00	0.02	*	*	0.78	0.87	0.97	1.13	1.16	*	*

Puerto Rican:												
20-74 years	385	1.07	0.01	0.81	0.87	0.90	0.94	1.03	1.19	1.26	1.32	1.42
20-24 years	49	1.14	0.02	*	*	0.94	1.00	1.13	1.29	1.36	*	*
25-34 years	91	1.07	0.02	*	0.87	0.90	0.94	1.03	1.16	1.23	1.29	*
35-44 years	63	1.07	0.02	*	0.84	0.90	0.94	1.03	1.23	1.29	1.32	*
45-54 years	92	1.05	0.01	*	0.84	0.90	0.97	1.04	1.13	1.23	1.29	*
55-64 years	70	1.03	0.01	*	0.81	0.84	0.90	1.00	1.13	1.19	1.23	*
65-74 years	20	*	*	*	*	*	0.90	0.94	1.07	*	*	*
Female												
Mexican-American:												
20-74 years	1,626	1.13	0.01	0.84	0.90	0.94	1.00	1.13	1.23	1.29	1.36	1.42
20-24 years	233	1.16	0.02	0.90	0.94	1.00	1.03	1.13	1.29	1.36	1.39	1.45
25-34 years	464	1.12	0.01	0.84	0.90	0.94	1.00	1.13	1.23	1.29	1.36	1.42
35-44 years	301	1.09	0.02	0.84	0.90	0.94	0.97	1.07	1.19	1.26	1.32	1.39
45-54 years	319	1.13	0.01	0.84	0.90	0.97	1.03	1.13	1.23	1.29	1.36	1.42
55-64 years	201	1.15	0.02	0.87	0.94	0.97	1.03	1.16	1.26	1.32	1.36	1.39
65-74 years	108	1.11	0.02	0.84	0.87	0.94	0.97	1.13	1.26	1.29	1.36	1.39
Cuban:												
20-74 years	457	1.14	0.01	0.87	0.94	0.97	1.03	1.13	1.23	1.29	1.32	1.39
20-24 years	33	*1.17	0.02	*	*	*	1.07	1.13	1.26	*	*	*
25-34 years	70	1.13	0.01	*	0.94	0.97	1.03	1.16	1.23	1.26	1.29	*
35-44 years	88	1.10	0.01	*	0.87	0.94	1.00	1.13	1.19	1.26	1.29	*
45-54 years	116	1.13	0.01	0.87	0.90	0.97	1.00	1.13	1.26	1.29	1.32	1.36
55-64 years	94	1.17	0.01	*	0.97	1.00	1.07	1.16	1.29	1.32	1.39	*
65-74 years	56	1.14	0.01	*	0.97	1.00	1.06	1.13	1.23	1.26	1.26	*
Puerto Rican:												
20-74 years	629	1.11	0.01	0.84	0.90	0.94	1.00	1.13	1.23	1.29	1.32	1.39
20-24 years	83	1.17	0.02	*	0.97	1.03	1.10	1.16	1.29	1.32	1.36	*
25-34 years	137	1.11	0.01	0.87	0.90	0.90	1.00	1.13	1.26	1.29	1.32	1.36
35-44 years	133	1.08	0.01	0.84	0.87	0.90	0.97	1.07	1.16	1.23	1.29	1.36
45-54 years	147	1.13	0.01	0.87	0.94	0.94	0.97	1.10	1.26	1.32	1.39	1.49
55-64 years	83	1.10	0.01	*	0.94	0.94	1.00	1.10	1.16	1.26	1.29	*
65-74 years	46	1.10	0.01	*	*	0.94	0.97	1.10	1.23	1.26	*	*

¹To convert to milligrams per deciliter (mg/dl) multiply by 3.097.

NOTE: Excludes pregnant women.

Table 7. Uric acid levels 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
Both sexes												
Uric acid in millimoles per liter (mmol/L) ¹												
Mexican-American:												
20–74 years	2,946	0.31	0.003	0.17	0.20	0.21	0.24	0.30	0.37	0.40	0.43	0.47
20–24 years	436	0.30	0.01	0.17	0.20	0.21	0.24	0.30	0.36	0.39	0.41	0.45
25–34 years	855	0.31	0.01	0.16	0.19	0.21	0.24	0.30	0.37	0.41	0.44	0.47
35–44 years	521	0.31	0.01	0.17	0.19	0.21	0.24	0.30	0.37	0.40	0.43	0.47
45–54 years	569	0.31	0.01	0.17	0.20	0.21	0.24	0.31	0.37	0.41	0.43	0.46
55–64 years	380	0.31	0.01	0.18	0.20	0.21	0.24	0.30	0.37	0.42	0.44	0.47
65–74 years	185	0.34	0.01	0.20	0.23	0.24	0.26	0.32	0.40	0.44	0.47	0.51
Cuban:												
20–74 years	818	0.31	0.002	0.17	0.20	0.21	0.24	0.30	0.37	0.40	0.43	0.46
20–24 years	56	0.29	0.01	*	0.21	0.23	0.23	0.29	0.36	0.38	0.40	*
25–34 years	130	0.30	0.01	0.17	0.20	0.21	0.23	0.29	0.37	0.40	0.41	0.45
35–44 years	140	0.29	0.01	0.15	0.18	0.18	0.23	0.29	0.35	0.39	0.40	0.44
45–54 years	227	0.31	0.004	0.18	0.20	0.22	0.24	0.30	0.37	0.40	0.43	0.46
55–64 years	169	0.32	0.004	0.18	0.21	0.23	0.26	0.32	0.37	0.43	0.45	0.48
65–74 years	96	0.33	0.01	*	0.21	0.24	0.26	0.33	0.40	0.45	0.48	*
Puerto Rican:												
20–74 years	1,014	0.29	0.002	0.16	0.18	0.20	0.22	0.28	0.34	0.37	0.40	0.44
20–24 years	132	0.26	0.01	0.16	0.18	0.20	0.21	0.26	0.31	0.34	0.36	0.38
25–34 years	228	0.28	0.01	0.15	0.17	0.20	0.21	0.27	0.33	0.36	0.39	0.43
35–44 years	196	0.28	0.01	0.15	0.18	0.20	0.23	0.28	0.34	0.37	0.39	0.45
45–54 years	239	0.29	0.04	0.17	0.19	0.20	0.23	0.28	0.36	0.39	0.41	0.45
55–64 years	153	0.32	0.005	0.17	0.21	0.22	0.26	0.32	0.37	0.40	0.43	0.48
65–74 years	66	0.34	0.01	*	0.24	0.27	0.29	0.33	0.40	0.43	0.45	*
Male												
Mexican-American												
20–74 years	1,320	0.36	0.004	0.24	0.27	0.28	0.30	0.35	0.41	0.45	0.46	0.49
20–24 years	203	0.35	0.01	0.26	0.27	0.28	0.31	0.35	0.39	0.42	0.43	0.46
25–34 years	391	0.36	0.01	0.25	0.27	0.27	0.30	0.36	0.42	0.45	0.46	0.50
35–44 years	220	0.36	0.01	0.23	0.27	0.28	0.30	0.35	0.41	0.45	0.47	0.50
45–54 years	250	0.36	0.01	0.23	0.26	0.27	0.30	0.36	0.41	0.45	0.46	0.49
55–64 years	179	0.35	0.01	0.21	0.24	0.27	0.29	0.33	0.42	0.45	0.46	0.49
65–74 years	77	0.36	0.02	*	0.24	0.26	0.29	0.34	0.43	0.47	0.48	*
Cuban:												
20–74 years	361	0.36	0.003	0.24	0.27	0.29	0.30	0.36	0.40	0.44	0.46	0.49
20–24 years	23	*	*	*	*	*	0.31	0.36	0.39	*	*	*
25–34 years	60	0.35	0.01	*	0.24	0.26	0.30	0.37	0.40	0.42	0.45	*
35–44 years	52	0.36	0.01	*	0.29	0.29	0.30	0.36	0.40	0.43	0.45	*
45–54 years	111	0.36	0.004	0.24	0.27	0.29	0.30	0.35	0.41	0.45	0.46	0.51
55–64 years	75	0.36	0.01	*	0.27	0.29	0.31	0.35	0.43	0.46	0.48	*
65–74 years	40	*0.37	0.01	*	*	0.30	0.32	0.37	0.42	0.45	*	*

Puerto Rican:												
20-74 years	385	0.33	0.003	0.22	0.24	0.26	0.29	0.33	0.38	0.42	0.44	0.47
20-24 years	49	0.30	0.01	*	*	0.23	0.26	0.29	0.36	0.38	*	*
25-34 years	91	0.33	0.01	*	0.24	0.26	0.29	0.33	0.37	0.40	0.43	*
35-44 years	63	0.34	0.01	*	0.26	0.29	0.30	0.33	0.37	0.42	0.45	*
45-54 years	92	0.34	0.01	*	0.24	0.26	0.28	0.35	0.40	0.42	0.45	*
55-64 years	70	0.34	0.01	*	0.24	0.26	0.28	0.33	0.38	0.44	0.47	*
65-74 years	20	*	*	*	*	*	0.31	0.34	0.40	*	*	*
Female												
Mexican-American:												
20-74 years	1,626	0.26	0.003	0.15	0.17	0.18	0.21	0.25	0.30	0.33	0.35	0.39
20-24 years	233	0.24	0.01	0.15	0.17	0.18	0.20	0.24	0.27	0.30	0.31	0.34
25-34 years	464	0.24	0.005	0.15	0.16	0.17	0.20	0.24	0.27	0.31	0.32	0.36
35-44 years	301	0.25	0.01	0.15	0.17	0.18	0.20	0.25	0.29	0.33	0.34	0.37
45-54 years	319	0.27	0.01	0.15	0.17	0.19	0.21	0.27	0.33	0.35	0.37	0.40
55-64 years	201	0.28	0.01	0.16	0.18	0.20	0.22	0.27	0.33	0.36	0.40	0.43
65-74 years	108	0.32	0.01	0.19	0.23	0.24	0.26	0.31	0.38	0.42	0.43	0.46
Cuban:												
20-74 years	457	0.26	0.002	0.15	0.17	0.18	0.21	0.25	0.30	0.33	0.36	0.41
20-24 years	33	*0.25	0.01	*	*	*	0.23	0.24	0.26	*	*	*
25-34 years	70	0.25	0.01	*	0.17	0.18	0.20	0.24	0.27	0.30	0.32	*
35-44 years	88	0.24	0.01	*	0.16	0.17	0.18	0.24	0.28	0.30	0.33	*
45-54 years	116	0.26	0.004	0.16	0.18	0.20	0.21	0.26	0.31	0.34	0.36	0.39
55-64 years	94	0.29	0.004	*	0.20	0.21	0.23	0.27	0.33	0.36	0.39	*
65-74 years	56	0.31	0.01	*	0.20	0.21	0.24	0.27	0.36	0.43	0.46	*
Puerto Rican:												
20-74 years	629	0.25	0.003	0.15	0.17	0.18	0.20	0.24	0.30	0.34	0.36	0.39
20-24 years	83	0.23	0.01	*	0.16	0.18	0.20	0.22	0.27	0.30	0.32	*
25-34 years	137	0.24	0.01	0.14	0.15	0.17	0.20	0.24	0.29	0.32	0.34	0.36
35-44 years	133	0.25	0.01	0.15	0.17	0.18	0.21	0.25	0.29	0.34	0.37	0.39
45-54 years	147	0.26	0.004	0.16	0.18	0.19	0.21	0.25	0.29	0.33	0.37	0.40
55-64 years	83	0.29	0.01	*	0.18	0.21	0.24	0.30	0.35	0.37	0.40	*
65-74 years	46	0.33	0.01	*	*	0.25	0.28	0.32	0.40	0.45	*	*

¹To convert to milligrams per deciliter (mg/dl) multiply by 16.81.

NOTE: Excludes pregnant women.

Table 8. Glucose levels 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
Both sexes												
Glucose in millimoles per liter (mmol/L) ¹												
Mexican-American:												
20–74 years	2,946	5.59	0.06	4.19	4.41	4.57	4.74	5.12	5.62	6.01	6.51	8.26
20–24 years	436	4.98	0.07	4.07	4.25	4.41	4.57	4.85	5.24	5.41	5.62	6.34
25–34 years	855	5.18	0.06	4.08	4.41	4.52	4.68	5.01	5.35	5.62	5.84	6.34
35–44 years	521	5.59	0.16	4.36	4.47	4.63	4.79	5.12	5.62	5.89	6.29	7.16
45–54 years	569	6.08	0.13	4.41	4.63	4.73	4.95	5.35	6.11	6.78	8.15	11.46
55–64 years	380	6.96	0.23	4.46	4.74	4.90	5.12	5.62	6.72	8.43	11.46	15.87
65–74 years	185	6.61	0.27	4.30	4.58	4.80	5.12	5.68	6.51	8.60	10.42	13.62
Cuban:												
20–74 years	818	5.51	0.04	4.30	4.52	4.63	4.85	5.24	5.68	6.11	6.40	7.55
20–24 years	56	4.86	0.06	*	4.25	4.30	4.52	4.85	5.18	5.34	5.62	*
25–34 years	130	5.00	0.04	3.86	4.41	4.52	4.63	5.01	5.30	5.57	5.73	5.95
35–44 years	140	5.26	0.04	4.46	4.57	4.63	4.90	5.24	5.67	5.89	6.11	6.34
45–54 years	227	5.73	0.07	4.46	4.63	4.74	4.96	5.40	5.90	6.45	7.10	7.88
55–64 years	169	6.04	0.09	4.52	4.80	4.95	5.12	5.52	6.16	6.61	7.55	9.76
65–74 years	96	6.28	0.17	*	4.74	4.95	5.17	5.62	6.34	7.21	7.93	*
Puerto Rican:												
20–74 years	1,014	5.59	0.04	4.19	4.47	4.57	4.74	5.17	5.73	6.23	6.78	8.04
20–24 years	132	4.90	0.05	3.75	3.91	4.35	4.57	4.85	5.24	5.56	5.73	6.06
25–34 years	228	5.15	0.06	4.24	4.46	4.52	4.68	5.01	5.35	5.68	5.90	6.34
35–44 years	196	5.45	0.07	4.19	4.46	4.57	4.80	5.24	5.68	6.22	6.45	7.44
45–54 years	239	6.22	0.10	4.46	4.63	4.85	5.01	5.51	6.34	7.16	8.26	10.86
55–64 years	153	6.57	0.12	4.68	4.74	4.85	5.07	5.73	7.10	8.04	9.91	11.74
65–74 years	66	7.60	0.29	*	4.90	5.01	5.12	5.95	7.99	11.35	13.34	*
Male												
Mexican-American:												
20–74 years	1,320	5.52	0.08	4.24	4.47	4.63	4.79	5.17	5.62	6.00	6.45	7.77
20–24 years	203	5.03	0.09	4.13	4.25	4.46	4.63	4.96	5.29	5.51	5.78	6.45
25–34 years	391	5.19	0.09	4.13	4.52	4.63	4.74	5.07	5.40	5.67	5.84	6.17
35–44 years	220	5.53	0.21	4.41	4.57	4.73	4.90	5.24	5.62	5.84	6.29	6.99
45–54 years	250	5.90	0.14	4.36	4.63	4.74	4.96	5.40	6.11	6.72	7.98	9.26
55–64 years	179	6.81	0.31	4.41	4.74	4.85	5.12	5.57	6.67	8.10	10.81	15.71
65–74 years	77	6.54	0.43	*	4.68	4.90	5.12	5.67	6.50	8.49	10.41	*
Cuban:												
20–74 years	361	5.67	0.06	4.30	4.57	4.74	4.95	5.35	5.84	6.29	6.72	7.88
20–24 years	23	*	*	*	*	*	4.52	4.96	5.29	*	*	*
25–34 years	60	5.11	0.07	*	4.41	4.47	4.74	5.12	5.45	5.73	5.78	*
35–44 years	52	5.38	0.06	*	4.74	4.79	4.90	5.35	5.73	6.06	6.17	*
45–54 years	111	5.80	0.08	4.52	4.74	4.79	5.07	5.46	6.11	6.77	7.11	7.88
55–64 years	75	6.47	0.19	*	4.58	4.84	5.07	5.62	6.50	7.99	9.76	*
65–74 years	40	*6.39	0.25	*	*	5.01	5.18	5.68	6.34	7.77	*	*

Puerto Rican:												
20-74 years	385	5.61	0.05	4.13	4.46	4.57	4.84	5.29	5.90	6.39	7.05	7.94
20-24 years	49	5.04	0.10	*	*	4.24	4.52	4.90	5.67	6.00	*	*
25-34 years	91	5.25	0.07	*	4.52	4.57	4.79	5.12	5.62	5.89	6.06	*
35-44 years	63	5.74	0.17	*	4.25	4.74	4.90	5.41	6.28	6.56	7.44	*
45-54 years	92	5.83	0.10	*	4.52	4.74	5.06	5.51	6.22	6.67	7.16	*
55-64 years	70	6.54	0.16	*	4.74	5.01	5.23	5.78	7.11	7.94	9.97	*
65-74 years	20	*	*	*	*	*	5.24	5.95	6.73	*	*	*
Female												
Mexican-American:												
20-74 years	1,626	5.66	0.08	4.13	4.41	4.52	4.68	5.06	5.62	6.11	6.67	8.97
20-24 years	233	4.92	0.09	4.07	4.19	4.36	4.52	4.80	5.07	5.34	5.51	5.73
25-34 years	464	5.16	0.09	4.07	4.30	4.46	4.63	4.91	5.24	5.57	5.84	6.50
35-44 years	301	5.66	0.24	4.35	4.46	4.57	4.74	5.06	5.67	5.90	6.29	7.34
45-54 years	319	6.25	0.20	4.41	4.63	4.69	4.90	5.29	6.11	6.83	8.26	13.01
55-64 years	201	7.10	0.34	4.47	4.74	4.96	5.17	5.68	6.73	8.98	11.96	16.79
65-74 years	108	6.67	0.36	4.30	4.58	4.79	5.01	5.68	6.94	8.61	11.52	13.62
Cuban:												
20-74 years	457	5.30	0.04	4.25	4.52	4.58	4.79	5.17	5.62	5.90	6.22	6.99
20-24 years	33	*4.75	0.07	*	*	*	4.46	4.74	5.01	*	*	*
25-34 years	70	4.90	0.05	*	4.41	4.52	4.58	4.85	5.18	5.34	5.57	*
35-44 years	88	5.18	0.05	*	4.57	4.58	4.69	5.12	5.46	5.78	5.90	*
45-54 years	116	5.67	0.10	4.30	4.52	4.74	4.90	5.29	5.68	6.28	6.99	7.77
55-64 years	94	5.68	0.06	*	4.90	4.96	5.12	5.46	5.84	6.34	6.56	*
65-74 years	56	6.20	0.24	*	4.58	4.85	5.17	5.46	6.29	6.67	7.27	*
Puerto Rican:												
20-74 years	629	5.58	0.06	4.19	4.47	4.57	4.74	5.12	5.57	6.06	6.67	8.22
20-24 years	83	4.81	0.05	*	3.97	4.41	4.57	4.74	5.12	5.35	5.45	*
25-34 years	137	5.08	0.08	4.20	4.36	4.52	4.63	4.90	5.24	5.51	5.67	5.95
35-44 years	133	5.30	0.07	4.19	4.47	4.57	4.79	5.18	5.56	5.90	6.22	6.78
45-54 years	147	6.47	0.15	4.58	4.68	4.90	4.96	5.51	6.40	7.88	9.31	12.83
55-64 years	83	6.60	0.18	*	4.74	4.74	5.01	5.57	7.10	8.22	9.59	*
65-74 years	46	8.11	0.41	*	*	4.96	5.07	5.90	8.76	13.34	*	*

¹To convert to milligrams per deciliter (mg/dl) multiply by 18.02.

NOTE: Excludes pregnant women.

Table 9. Blood urea nitrogen (BUN) levels for persons 20–74 years of age, number 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
Both sexes				BUN in millimoles per liter (mmol/L) ¹								
Mexican-American:												
20–74 years	2,946	2.43	0.02	1.33	1.50	1.67	2.00	2.33	2.83	3.16	3.33	3.66
20–24 years	436	2.24	0.05	1.33	1.50	1.66	1.83	2.17	2.66	2.83	3.00	3.33
25–34 years	855	2.31	0.03	1.33	1.50	1.66	1.83	2.17	2.66	3.00	3.16	3.50
35–44 years	521	2.40	0.04	1.50	1.66	1.67	1.83	2.33	2.83	3.00	3.16	3.66
45–54 years	569	2.53	0.03	1.50	1.67	1.83	2.00	2.50	3.00	3.16	3.50	3.83
55–64 years	380	2.70	0.05	1.50	1.67	1.83	2.17	2.66	3.16	3.50	3.83	4.16
65–74 years	185	3.24	0.13	1.83	2.00	2.17	2.33	2.83	3.83	4.49	5.00	5.99
Cuban:												
20–74 years	818	2.70	0.02	1.50	1.83	2.00	2.17	2.66	3.16	3.50	3.66	4.16
20–24 years	56	2.46	0.07	*	1.66	1.83	2.16	2.33	2.66	3.16	3.33	*
25–34 years	130	2.41	0.04	1.50	1.83	1.83	2.00	2.33	2.83	3.00	3.16	3.33
35–44 years	140	2.53	0.05	1.33	1.66	1.83	2.00	2.50	3.00	3.33	3.33	3.66
45–54 years	227	2.78	0.03	1.67	1.83	2.00	2.33	2.66	3.16	3.66	3.66	4.00
55–64 years	169	2.93	0.04	1.67	2.00	2.17	2.33	2.83	3.33	3.83	4.00	4.66
65–74 years	96	3.28	0.07	*	2.00	2.33	2.50	3.00	3.83	4.16	4.66	*
Puerto Rican:												
20–74 years	1,014	2.41	0.02	1.33	1.50	1.67	2.00	2.33	2.83	3.16	3.33	3.66
20–24 years	132	2.21	0.05	1.33	1.33	1.66	1.83	2.17	2.50	2.83	3.00	3.33
25–34 years	228	2.24	0.03	1.33	1.50	1.66	1.83	2.17	2.66	2.83	3.00	3.33
35–44 years	196	2.42	0.05	1.33	1.50	1.66	1.83	2.33	3.00	3.33	3.50	3.66
45–54 years	239	2.59	0.03	1.50	1.67	1.83	2.17	2.50	3.16	3.33	3.50	3.83
55–64 years	153	2.71	0.03	1.50	1.83	2.00	2.33	2.66	3.16	3.33	3.66	3.83
65–74 years	66	3.01	0.06	*	2.17	2.33	2.50	3.00	3.33	3.66	3.83	*
Male												
Mexican-American:												
20–74 years	1,320	2.61	0.03	1.66	1.83	2.00	2.17	2.50	3.00	3.33	3.50	3.83
20–24 years	203	2.44	0.07	1.50	1.83	2.00	2.00	2.50	2.83	3.00	3.16	3.33
25–34 years	391	2.54	0.05	1.66	1.67	1.83	2.16	2.50	3.00	3.16	3.50	3.66
35–44 years	220	2.64	0.07	1.67	1.83	2.00	2.33	2.66	3.00	3.16	3.50	3.66
45–54 years	250	2.71	0.06	1.83	2.00	2.00	2.17	2.66	3.16	3.33	3.66	3.99
55–64 years	179	2.70	0.08	1.33	1.66	1.83	2.17	2.66	3.16	3.50	3.83	4.16
65–74 years	77	3.25	0.22	*	2.00	2.17	2.33	3.00	3.50	4.33	5.16	*
Cuban:												
20–74 years	361	2.90	0.03	1.83	2.00	2.17	2.33	2.83	3.33	3.66	3.83	4.33
20–24 years	23	*	*	*	*	*	2.17	2.66	3.00	*	*	*
25–34 years	60	2.62	0.06	*	2.00	2.16	2.17	2.50	2.83	3.16	3.16	*
35–44 years	52	2.84	0.07	*	2.17	2.33	2.50	2.83	3.16	3.50	3.50	*
45–54 years	111	3.00	0.05	1.83	1.83	2.17	2.50	3.00	3.66	3.83	3.99	4.33
55–64 years	75	3.05	0.06	*	2.16	2.17	2.50	2.83	3.50	3.83	4.33	*
65–74 years	40	*3.30	0.09	*	*	2.33	2.83	3.33	3.83	4.16	*	*

Puerto Rican:												
20-74 years	385	2.61	0.03	1.50	1.83	1.83	2.17	2.50	3.00	3.33	3.50	3.83
20-24 years	49	2.39	0.08	*	*	1.67	1.83	2.33	2.66	3.16	*	*
25-34 years	91	2.40	0.05	*	1.67	1.83	2.00	2.33	2.83	3.00	3.16	*
35-44 years	63	2.76	0.08	*	1.83	2.00	2.33	2.66	3.33	3.50	3.83	*
45-54 years	92	2.78	0.05	*	1.83	2.17	2.33	2.83	3.16	3.33	3.50	*
55-64 years	70	2.74	0.05	*	2.00	2.17	2.33	2.66	3.33	3.33	3.66	*
65-74 years	20	*	*	*	*	*	2.66	3.00	3.66	*	*	*
Female												
Mexican-American:												
20-74 years	1,626	2.25	0.03	1.33	1.50	1.50	1.67	2.17	2.66	2.83	3.16	3.66
20-24 years	233	2.00	0.06	1.16	1.33	1.33	1.66	2.00	2.33	2.50	2.83	3.16
25-34 years	464	2.06	0.04	1.17	1.50	1.50	1.66	2.00	2.33	2.66	2.83	3.16
35-44 years	301	2.16	0.05	1.33	1.50	1.50	1.67	2.00	2.50	2.83	3.00	3.16
45-54 years	319	2.36	0.04	1.50	1.66	1.67	1.83	2.33	2.83	3.00	3.16	3.66
55-64 years	201	2.69	0.07	1.50	1.83	1.83	2.17	2.50	3.16	3.50	3.66	4.49
65-74 years	108	3.23	0.16	1.66	2.00	2.17	2.33	2.83	3.83	4.50	4.99	5.82
Cuban:												
20-74 years	457	2.53	0.03	1.50	1.67	1.83	2.00	2.50	2.83	3.16	3.50	3.83
20-24 years	33	*2.26	0.06	*	*	*	2.00	2.17	2.50	*	*	*
25-34 years	70	2.22	0.06	*	1.50	1.67	1.83	2.16	2.50	2.83	3.00	*
35-44 years	88	2.31	0.06	*	1.50	1.66	1.83	2.33	2.66	2.83	3.33	*
45-54 years	116	2.57	0.04	1.66	1.83	2.00	2.17	2.50	2.83	3.33	3.33	3.66
55-64 years	94	2.84	0.05	*	2.00	2.00	2.33	2.83	3.16	3.66	3.83	*
65-74 years	56	3.26	0.11	*	2.17	2.33	2.50	3.00	3.83	4.16	4.83	*
Puerto Rican:												
20-74 years	629	2.29	0.02	1.33	1.50	1.66	1.83	2.17	2.66	3.00	3.16	3.50
20-24 years	83	2.10	0.06	*	1.33	1.33	1.67	2.00	2.50	2.66	3.00	*
25-34 years	137	2.13	0.04	1.33	1.50	1.66	1.67	2.00	2.50	2.66	2.83	3.33
35-44 years	133	2.24	0.05	1.33	1.33	1.50	1.67	2.17	2.66	3.00	3.16	3.50
45-54 years	147	2.47	0.04	1.33	1.66	1.83	2.00	2.33	3.00	3.16	3.33	3.66
55-64 years	83	2.68	0.05	*	1.83	2.00	2.33	2.66	3.16	3.33	3.83	*
65-74 years	46	2.96	0.07	*	*	2.33	2.50	2.83	3.33	3.50	*	*

¹ To convert to milligrams per deciliter (mg/dl) multiply by 6.006.

NOTE: Excludes pregnant women.

Table 10. Total bilirubin levels for persons 20–74 years of age, number 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
Both sexes												
Total bilirubin in micromoles per liter ($\mu\text{mol/L}$) ¹												
Mexican-American:												
20–74 years	2,946	12.21	0.16	6.84	6.84	8.55	8.56	10.27	13.68	17.10	18.79	22.24
20–24 years	436	12.40	0.56	6.84	6.84	8.55	8.56	10.26	13.69	17.10	18.80	23.94
25–34 years	855	12.10	0.31	6.84	6.84	8.55	8.56	10.26	13.68	17.10	18.79	22.22
35–44 years	521	12.05	0.38	5.13	6.84	6.84	8.56	11.97	13.68	15.39	18.79	22.24
45–54 years	569	12.18	0.30	6.84	6.84	8.55	8.56	10.27	13.68	17.10	18.79	22.24
55–64 years	380	12.76	0.42	6.84	8.55	8.55	8.56	11.97	13.69	17.11	18.80	22.25
65–74 years	185	11.93	0.62	6.84	6.84	6.84	8.55	10.26	13.68	15.39	18.79	20.51
Cuban:												
20–74 years	818	12.74	0.12	6.84	8.55	8.55	8.56	11.97	13.69	17.11	18.80	23.94
20–24 years	56	13.55	0.53	*	8.55	8.56	10.26	11.98	15.38	20.50	23.94	*
25–34 years	130	13.29	0.34	8.55	8.55	8.56	10.25	11.98	15.39	18.79	18.81	22.25
35–44 years	140	11.72	0.28	6.84	6.84	8.55	8.55	10.26	13.68	15.38	17.10	23.94
45–54 years	227	12.79	0.20	6.84	8.55	8.55	10.25	11.98	15.38	17.11	18.80	22.23
55–64 years	169	13.11	0.26	6.84	6.84	8.55	10.25	11.98	15.38	17.11	18.80	22.24
65–74 years	96	12.41	0.28	*	8.55	8.55	10.25	11.97	13.68	15.39	17.12	*
Puerto Rican:												
20–74 years	1,014	10.72	0.10	5.13	6.84	6.84	8.55	10.25	11.98	13.69	15.39	18.78
20–24 years	132	10.74	0.38	5.13	5.13	6.84	6.84	8.56	11.98	15.39	17.11	22.23
25–34 years	228	11.19	0.28	5.13	6.84	6.84	8.55	10.26	13.68	15.38	17.10	18.80
35–44 years	196	9.94	0.21	5.13	6.84	6.84	6.84	8.56	11.98	13.68	15.38	17.10
45–54 years	239	10.54	0.14	6.84	6.84	6.84	8.55	10.26	11.98	13.68	15.38	15.39
55–64 years	153	11.64	0.25	6.84	6.84	6.84	8.55	10.26	13.67	15.38	17.11	20.52
65–74 years	66	10.83	0.26	*	6.84	6.84	8.55	10.26	11.98	13.68	15.39	*
Male												
Mexican-American:												
20–74 years	1,320	13.79	0.29	6.84	8.55	8.56	10.26	11.98	15.39	18.79	20.52	23.97
20–24 years	203	14.28	1.01	6.84	8.55	10.25	10.26	11.98	15.39	18.81	22.24	30.76
25–34 years	391	13.80	0.53	8.55	8.55	8.56	10.26	11.98	15.39	18.79	20.52	23.96
35–44 years	220	13.40	0.64	6.84	8.55	8.56	10.26	11.98	15.38	17.12	18.81	23.95
45–54 years	250	13.49	0.50	6.84	8.55	8.56	10.25	11.98	15.39	18.78	20.52	25.63
55–64 years	179	13.86	0.63	8.55	8.55	8.56	10.26	11.98	15.39	18.79	20.52	23.96
65–74 years	77	13.82	1.19	*	8.55	8.55	10.25	11.98	15.39	18.80	18.81	*
Cuban:												
20–74 years	361	14.94	0.20	8.55	8.56	10.25	10.27	13.68	17.12	20.51	22.25	25.65
20–24 years	23	*	*	*	*	*	11.97	13.68	20.52	*	*	*
25–34 years	60	15.80	0.57	*	10.25	10.26	11.97	13.68	18.80	20.52	22.24	*
35–44 years	52	13.67	0.57	*	8.56	10.25	10.26	13.67	15.38	17.12	23.94	*
45–54 years	111	14.64	0.32	6.84	8.56	10.25	10.26	13.68	17.11	18.81	22.22	25.64
55–64 years	75	15.25	0.45	*	8.56	10.26	11.97	13.68	17.11	18.81	22.22	*
65–74 years	40	*14.58	0.52	*	*	10.25	10.26	13.67	17.10	23.94	*	*

Puerto Rican:												
20-74 years	385	12.17	0.17	6.84	8.55	8.55	8.56	11.97	13.69	15.39	17.11	18.81
20-24 years	49	12.14	0.65	*	*	6.84	8.55	10.26	15.38	17.11	*	*
25-34 years	91	12.69	0.37	*	8.55	8.56	10.25	11.98	15.38	17.10	18.79	*
35-44 years	63	11.00	0.36	*	6.84	6.84	8.56	10.26	13.68	15.38	15.39	*
45-54 years	92	12.05	0.22	*	8.55	8.56	10.25	11.97	13.68	15.38	15.39	*
55-64 years	70	13.11	0.43	*	8.55	8.56	10.25	11.98	15.38	17.12	20.50	*
65-74 years	20	*	*	*	*	*	10.25	11.97	15.38	*	*	*
Female												
Mexican-American:												
20-74 years	1,626	10.56	0.16	5.13	6.84	6.84	8.55	10.25	11.98	13.68	15.38	18.80
20-24 years	233	10.10	0.44	5.13	6.84	6.84	8.56	8.56	11.98	13.68	15.38	17.12
25-34 years	464	10.21	0.28	5.13	6.84	6.84	8.55	10.25	11.98	13.68	13.69	17.12
35-44 years	301	10.70	0.43	5.13	6.84	6.84	8.55	10.25	11.98	13.68	15.39	20.52
45-54 years	319	10.99	0.33	5.13	6.84	6.84	8.55	10.26	11.98	13.69	15.39	20.50
55-64 years	201	11.79	0.54	6.84	6.84	8.55	8.56	10.26	13.68	15.38	17.11	20.52
65-74 years	108	10.29	0.53	5.13	6.84	6.84	8.55	10.26	11.98	13.68	13.69	15.39
Cuban:												
20-74 years	457	10.92	0.11	6.84	6.84	8.55	8.55	10.26	11.98	13.68	15.38	17.10
20-24 years	33	*11.29	0.44	*	*	*	8.56	10.26	13.67	*	*	*
25-34 years	70	10.97	0.27	*	8.55	8.55	8.56	10.26	13.67	13.69	15.38	*
35-44 years	88	10.40	0.26	*	6.84	6.84	8.55	8.56	11.98	13.68	13.68	*
45-54 years	116	11.03	0.19	6.84	6.84	8.55	8.56	10.26	11.98	13.69	15.38	17.11
55-64 years	94	11.35	0.25	*	6.84	6.84	8.55	10.26	13.68	15.38	15.39	*
65-74 years	56	10.79	0.23	*	8.55	8.55	8.56	10.26	11.98	13.68	13.68	*
Puerto Rican:												
20-74 years	629	9.80	0.13	5.13	6.84	6.84	6.84	8.56	11.97	13.67	13.69	17.10
20-24 years	83	9.92	0.45	*	5.13	6.84	6.84	8.56	11.97	13.68	15.38	*
25-34 years	137	10.09	0.38	5.13	5.13	6.84	6.84	8.56	11.98	13.68	13.69	17.11
35-44 years	133	9.39	0.25	5.13	6.84	6.84	6.84	8.56	10.26	11.98	13.68	15.39
45-54 years	147	9.56	0.16	5.13	6.84	6.84	6.84	8.56	11.97	11.98	11.98	15.38
55-64 years	83	10.28	0.26	*	6.84	6.84	6.84	10.25	11.98	11.98	15.38	*
65-74 years	46	10.17	0.30	*	*	6.84	8.55	8.56	11.98	13.68	*	*

¹To convert to milligrams per deciliter (mg/dl) multiply by 0.05847.

NOTE: Excludes pregnant women.

Table 11. Creatinine levels 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
Both sexes				Creatinine in millimoles per liter (mmol/L) ¹								
Mexican-American:												
20–74 years	2,946	0.08	0.001	0.05	0.06	0.06	0.07	0.08	0.09	0.10	0.11	0.11
20–24 years	436	0.08	0.002	0.05	0.06	0.06	0.07	0.08	0.09	0.10	0.10	0.11
25–34 years	855	0.08	0.001	0.05	0.06	0.06	0.07	0.08	0.09	0.10	0.10	0.11
35–44 years	521	0.08	0.001	0.06	0.06	0.06	0.07	0.08	0.09	0.10	0.10	0.11
45–54 years	569	0.08	0.001	0.05	0.06	0.06	0.07	0.08	0.09	0.10	0.11	0.11
55–64 years	380	0.08	0.002	0.05	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.11
65–74 years	185	0.09	0.006	0.05	0.06	0.07	0.07	0.09	0.11	0.11	0.12	0.15
Cuban:												
20–74 years	818	0.09	0.0005	0.06	0.07	0.07	0.08	0.09	0.10	0.11	0.11	0.12
20–24 years	56	0.09	0.002	*	0.07	0.07	0.08	0.09	0.10	0.11	0.11	*
25–34 years	130	0.09	0.001	0.06	0.07	0.07	0.08	0.09	0.10	0.11	0.11	0.11
35–44 years	140	0.09	0.001	0.06	0.06	0.07	0.08	0.09	0.10	0.11	0.11	0.12
45–54 years	227	0.09	0.009	0.06	0.06	0.07	0.08	0.09	0.10	0.11	0.11	0.11
55–64 years	169	0.09	0.001	0.06	0.07	0.07	0.08	0.09	0.11	0.11	0.11	0.13
65–74 years	96	0.10	0.002	*	0.07	0.08	0.08	0.10	0.11	0.12	0.13	*
Puerto Rican:												
20–74 years	1,014	0.08	0.0006	0.06	0.06	0.06	0.07	0.08	0.09	0.10	0.10	0.11
20–24 years	132	0.08	0.001	0.05	0.06	0.06	0.07	0.08	0.09	0.09	0.09	0.11
25–34 years	228	0.08	0.001	0.06	0.06	0.06	0.07	0.08	0.09	0.10	0.10	0.11
35–44 years	196	0.08	0.001	0.06	0.06	0.06	0.07	0.08	0.09	0.10	0.10	0.11
45–54 years	239	0.08	0.002	0.05	0.06	0.07	0.07	0.08	0.09	0.10	0.10	0.11
55–64 years	153	0.09	0.001	0.06	0.06	0.06	0.07	0.09	0.10	0.11	0.11	0.11
65–74 years	66	0.08	0.001	*	0.07	0.07	0.07	0.08	0.10	0.10	0.11	*
Male												
Mexican-American:												
20–74 years	1,318	0.09	0.001	0.06	0.07	0.07	0.08	0.09	0.10	0.11	0.11	0.11
20–24 years	203	0.09	0.002	0.06	0.07	0.08	0.08	0.09	0.10	0.10	0.11	0.11
25–34 years	390	0.09	0.002	0.06	0.07	0.07	0.08	0.09	0.10	0.11	0.11	0.11
35–44 years	219	0.09	0.002	0.06	0.07	0.08	0.08	0.09	0.10	0.11	0.11	0.11
45–54 years	250	0.09	0.002	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.11	0.11
55–64 years	179	0.09	0.002	0.05	0.07	0.07	0.08	0.09	0.10	0.11	0.11	0.11
65–74 years	77	0.10	0.008	*	0.07	0.08	0.08	0.10	0.11	0.12	0.13	*
Cuban:												
20–74 years	361	0.10	0.001	0.07	0.08	0.08	0.09	0.10	0.11	0.11	0.12	0.13
20–24 years	23	*	*	*	*	*	0.09	0.11	0.11	*	*	*
25–34 years	60	0.10	0.002	*	0.08	0.08	0.08	0.10	0.11	0.11	0.11	*
35–44 years	52	0.10	0.002	*	0.07	0.08	0.09	0.10	0.11	0.11	0.12	*
45–54 years	110	0.10	0.001	0.06	0.08	0.08	0.09	0.10	0.11	0.11	0.11	0.12
55–64 years	75	0.10	0.002	*	0.08	0.09	0.09	0.11	0.11	0.11	0.14	*
65–74 years	40	*0.11	0.002	*	*	0.10	0.10	0.11	0.12	0.13	*	*

Puerto Rican:												
20-74 years	385	0.09	0.001	0.06	0.07	0.08	0.08	0.09	0.10	0.11	0.11	0.11
20-24 years	49	0.09	0.001	*	*	0.08	0.08	0.09	0.09	0.11	*	*
25-34 years	91	0.09	0.002	*	0.07	0.08	0.08	0.09	0.10	0.11	0.11	*
35-44 years	62	0.09	0.002	*	0.07	0.08	0.08	0.09	0.10	0.11	0.11	*
45-54 years	92	0.10	0.005	*	0.07	0.08	0.08	0.09	0.10	0.11	0.11	*
55-64 years	70	0.09	0.001	*	0.07	0.07	0.08	0.09	0.10	0.11	0.11	*
65-74 years	20	*	*	*	*	*	0.07	0.09	0.10	*	*	*
Female												
Mexican-American:												
20-74 years	1,626	0.07	0.001	0.05	0.06	0.06	0.06	0.07	0.08	0.09	0.09	0.10
20-24 years	233	0.07	0.001	0.05	0.06	0.06	0.06	0.07	0.08	0.08	0.09	0.09
25-34 years	464	0.07	0.001	0.05	0.06	0.06	0.06	0.07	0.08	0.08	0.09	0.09
35-44 years	301	0.07	0.001	0.05	0.06	0.06	0.06	0.07	0.08	0.08	0.09	0.09
45-54 years	319	0.07	0.001	0.05	0.05	0.06	0.06	0.07	0.08	0.09	0.09	0.10
55-64 years	201	0.07	0.002	0.04	0.05	0.05	0.06	0.07	0.08	0.09	0.09	0.10
65-74 years	108	0.09	0.007	0.04	0.06	0.06	0.07	0.08	0.09	0.11	0.11	0.12
Cuban:												
20-74 years	457	0.08	0.001	0.06	0.06	0.07	0.07	0.08	0.09	0.10	0.10	0.11
20-24 years	33	*0.08	0.002	*	*	*	0.07	0.08	0.09	*	*	*
25-34 years	70	0.08	0.001	*	0.06	0.07	0.07	0.08	0.09	0.10	0.10	*
35-44 years	88	0.08	0.001	*	0.06	0.07	0.07	0.08	0.09	0.09	0.10	*
45-54 years	116	0.08	0.001	0.06	0.06	0.07	0.07	0.08	0.09	0.10	0.10	0.11
55-64 years	94	0.08	0.001	*	0.07	0.07	0.07	0.09	0.10	0.11	0.11	*
65-74 years	56	0.10	0.004	*	0.07	0.07	0.08	0.09	0.10	0.11	0.12	*
Puerto Rican:												
20-74 years	629	0.07	0.0004	0.05	0.06	0.06	0.07	0.07	0.08	0.09	0.09	0.10
20-24 years	83	0.07	0.001	*	0.06	0.06	0.06	0.07	0.08	0.08	0.08	*
25-34 years	137	0.07	0.001	0.06	0.06	0.06	0.07	0.07	0.08	0.08	0.09	0.09
35-44 years	133	0.07	0.001	0.06	0.06	0.06	0.07	0.07	0.08	0.09	0.09	0.09
45-54 years	147	0.07	0.001	0.05	0.06	0.06	0.07	0.07	0.08	0.09	0.09	0.10
55-64 years	83	0.08	0.001	*	0.06	0.06	0.07	0.08	0.09	0.10	0.10	*
65-74 years	46	0.08	0.002	*	*	0.07	0.07	0.08	0.09	0.10	*	*

¹To convert to milligrams per deciliter (mg/dl) multiply by 11.31.

NOTE: Excludes pregnant women.

Table 12. Aspartate aminotransferase (AST) levels 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
Both sexes												
AST in International Units per liter (IU/L)												
Mexican-American:												
20–74 years	2,946	20.42	0.39	10.01	12.00	12.01	15.00	18.02	23.01	26.00	30.01	38.04
20–24 years	436	19.25	0.92	10.00	11.00	12.01	15.00	18.01	20.03	25.00	28.03	36.02
25–34 years	855	20.61	0.81	10.01	12.00	12.01	14.01	18.01	23.01	25.03	30.01	41.01
35–44 years	521	20.85	1.12	10.01	12.00	12.01	15.00	18.02	23.02	28.00	30.01	41.06
45–54 years	569	21.29	0.85	10.01	12.00	12.01	15.00	18.02	23.03	28.01	30.02	42.01
55–64 years	380	20.49	0.79	10.01	12.00	12.01	15.00	18.02	23.02	28.01	30.02	36.05
65–74 years	185	19.79	1.05	10.01	12.00	12.01	15.00	18.02	23.02	28.01	30.01	35.05
Cuban:												
20–74 years	818	20.56	0.22	12.01	13.01	14.01	15.01	19.01	23.02	26.01	28.02	31.03
20–24 years	56	20.45	0.84	*	14.00	14.01	15.00	19.01	23.02	27.03	29.03	*
25–34 years	130	19.38	0.42	11.02	13.00	14.00	15.00	18.02	22.02	25.02	29.00	32.04
35–44 years	140	19.99	0.45	12.01	13.01	14.01	16.00	19.00	24.00	26.00	27.01	30.01
45–54 years	227	20.26	0.28	12.01	14.00	14.01	15.01	19.02	23.03	27.00	29.01	30.02
55–64 years	169	22.37	0.65	13.01	14.01	15.01	16.02	20.00	24.02	27.01	29.02	36.00
65–74 years	96	22.09	0.94	*	14.00	14.01	17.00	20.02	23.01	25.02	28.01	*
Puerto Rican:												
20–74 years	1,014	19.58	0.52	10.01	12.00	13.00	14.01	17.01	22.01	24.03	26.02	30.01
20–24 years	132	17.59	0.43	11.00	12.01	13.01	14.01	16.03	21.00	23.00	24.02	26.02
25–34 years	228	18.70	0.61	10.01	12.00	12.01	13.01	16.03	22.01	25.00	27.02	30.02
35–44 years	196	21.01	2.40	10.01	11.01	13.00	14.01	17.01	22.03	25.00	26.01	29.01
45–54 years	239	20.05	0.64	11.01	12.01	13.01	14.01	17.02	22.01	24.00	25.03	36.05
55–64 years	153	20.59	0.95	11.00	11.01	13.00	14.01	18.01	22.02	25.02	28.01	34.04
65–74 years	66	20.45	0.53	*	13.01	14.00	16.01	19.03	24.02	26.03	27.03	*
Male												
Mexican-American:												
20–74 years	1,320	22.94	0.69	12.00	12.01	14.01	15.01	20.01	25.01	29.03	33.06	46.04
20–24 years	203	21.68	1.75	10.01	12.01	13.01	15.01	20.00	23.03	28.01	32.02	40.01
25–34 years	391	23.74	1.54	12.00	12.01	15.00	15.01	20.01	25.02	30.01	36.05	50.05
35–44 years	220	23.10	1.48	12.00	12.01	15.00	15.01	20.02	25.03	29.02	36.02	46.03
45–54 years	250	24.22	1.69	12.00	12.01	13.00	15.01	20.00	25.02	30.00	33.05	48.06
55–64 years	179	22.71	1.32	12.00	12.01	15.00	15.01	20.00	25.01	30.02	33.06	48.04
65–74 years	77	19.33	1.13	*	12.01	12.01	15.01	20.00	23.01	25.01	28.01	*
Cuban:												
20–74 years	361	22.45	0.39	13.01	14.01	15.01	17.01	20.02	25.01	28.00	30.01	36.02
20–24 years	23	*	*	*	*	*	15.01	19.02	24.02	*	*	*
25–34 years	60	21.77	0.69	*	14.01	15.01	17.02	20.01	25.01	29.00	32.01	*
35–44 years	52	23.00	0.97	*	15.01	16.01	17.01	22.01	26.01	28.02	30.02	*
45–54 years	111	21.47	0.45	13.01	15.00	15.01	18.00	20.02	24.02	27.02	29.01	30.02
55–64 years	75	25.02	1.34	*	15.00	16.00	17.01	20.01	26.02	30.00	32.06	*
65–74 years	40	*21.88	1.25	*	*	14.00	16.02	20.02	23.02	25.03	*	*

Puerto Rican:												
20-74 years	385	22.87	1.28	11.01	12.01	13.02	15.01	19.02	24.02	27.01	29.01	38.03
20-24 years	49	20.30	0.78	*	*	14.01	16.00	20.01	24.00	25.03	*	*
25-34 years	91	21.94	1.27	*	13.01	13.01	15.00	19.03	24.03	28.01	30.02	*
35-44 years	63	27.79	7.17	*	12.00	13.01	15.01	21.01	26.00	26.03	29.01	*
45-54 years	92	20.88	0.82	*	12.01	13.01	15.01	19.00	23.02	25.02	29.01	*
55-64 years	70	22.60	1.98	*	11.01	12.01	15.00	18.01	24.01	27.03	30.01	*
65-74 years	20	*	*	*	*	*	15.00	20.03	26.01	*	*	*
Female												
Mexican-American:												
20-74 years	1,626	17.80	0.42	10.00	10.01	12.00	12.01	15.01	20.01	23.02	25.02	30.02
20-24 years	233	16.29	0.68	7.01	10.01	10.02	12.01	15.01	20.00	20.02	23.02	28.03
25-34 years	464	17.11	0.66	10.00	10.01	12.00	12.01	15.01	20.00	23.01	25.01	30.00
35-44 years	301	18.59	1.58	10.00	10.01	12.00	12.01	15.01	20.01	23.01	25.02	33.02
45-54 years	319	18.63	0.69	10.00	10.01	12.00	12.01	16.02	20.03	25.00	28.01	36.03
55-64 years	201	18.53	0.88	10.00	10.01	12.00	12.01	18.01	23.00	25.01	28.00	30.02
65-74 years	108	20.18	1.62	10.00	12.00	12.01	12.02	18.02	23.02	28.03	30.02	36.04
Cuban:												
20-74 years	457	19.01	0.24	12.00	13.01	14.00	15.00	18.01	22.01	24.02	26.01	29.03
20-24 years	33	*19.74	1.13	*	*	*	14.01	18.03	22.03	*	*	*
25-34 years	70	17.17	0.42	*	12.00	13.00	13.01	16.01	20.02	22.02	23.03	*
35-44 years	88	17.95	0.35	*	13.00	13.01	14.01	17.03	21.01	24.01	25.01	*
45-54 years	116	19.10	0.34	11.01	13.01	14.00	15.00	18.01	23.02	26.01	28.03	30.02
55-64 years	94	20.19	0.45	*	14.01	15.00	16.00	19.02	23.00	25.01	27.01	*
65-74 years	56	22.25	1.34	*	14.01	14.01	17.01	20.02	22.03	25.00	28.02	*
Puerto Rican:												
20-74 years	629	17.48	0.32	10.01	11.01	12.01	14.00	16.01	19.03	22.03	24.01	27.00
20-24 years	83	16.01	0.43	*	12.00	13.00	14.00	15.01	18.03	20.02	21.02	*
25-34 years	137	16.31	0.49	9.01	10.01	12.00	13.00	15.01	18.03	22.01	24.00	27.01
35-44 years	133	17.54	0.92	9.01	11.01	12.01	14.00	16.02	20.00	23.00	24.02	26.00
45-54 years	147	19.51	0.91	11.01	12.01	13.01	14.01	16.02	21.01	23.00	23.03	33.04
55-64 years	83	18.73	0.49	*	12.01	13.01	14.01	17.03	22.00	24.03	25.03	*
65-74 years	46	20.32	0.62	*	*	14.00	16.01	19.02	24.01	27.00	*	*

NOTE: Excludes pregnant women.

Table 13. Alanine aminotransferase (ALT) levels 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
Both sexes				ALT in International Units per liter (IU/L)								
Mexican-American:												
20–74 years	2,946	16.09	0.41	5.00	7.00	7.00	9.01	12.01	18.03	23.02	28.01	38.05
20–24 years	436	15.10	0.95	5.00	7.00	7.00	9.00	12.01	18.01	22.03	25.03	41.01
25–34 years	855	17.01	0.90	5.00	7.00	7.00	10.00	12.01	19.03	25.01	30.01	46.01
35–44 years	521	17.59	1.33	5.00	6.01	7.00	9.01	12.01	20.02	25.02	28.02	37.04
45–54 years	569	16.27	0.71	5.00	7.00	7.00	10.00	12.02	18.03	23.03	28.01	36.02
55–64 years	380	13.83	0.53	5.00	7.00	7.00	9.01	12.00	16.02	20.02	23.02	28.03
65–74 years	185	12.23	0.71	4.00	5.00	7.00	7.01	11.00	15.01	18.02	20.02	25.02
Cuban:												
20–74 years	818	14.80	0.24	6.01	8.00	8.01	10.00	13.00	16.03	20.01	23.01	28.02
20–24 years	56	15.20	1.06	*	7.00	8.01	9.01	13.00	17.03	20.02	23.03	*
25–34 years	130	14.52	0.56	6.00	7.00	8.01	9.01	12.01	16.01	22.02	26.00	31.03
35–44 years	140	14.91	0.66	7.00	8.00	9.00	10.00	12.01	17.00	20.02	23.00	28.02
45–54 years	227	14.81	0.38	6.01	8.00	8.01	10.00	13.01	16.03	20.00	22.02	25.03
55–64 years	169	14.97	0.36	7.00	8.01	9.00	10.00	13.01	17.00	20.03	24.01	32.05
65–74 years	96	14.50	1.01	*	7.01	8.00	9.00	12.01	14.01	17.01	18.01	*
Puerto Rican:												
20–74 years	1,014	15.38	0.40	6.00	7.00	8.00	9.01	13.00	17.03	22.01	25.00	30.01
20–24 years	132	14.17	0.62	7.00	7.00	8.00	9.01	12.01	17.02	22.01	23.02	28.02
25–34 years	228	15.46	0.99	6.00	7.00	7.00	9.00	12.01	18.00	22.03	27.01	32.03
35–44 years	196	15.73	1.34	6.00	7.01	8.01	9.01	12.02	18.01	22.00	23.03	29.02
45–54 years	239	16.12	0.69	6.01	8.00	8.01	10.01	13.02	18.01	21.02	24.01	28.03
55–64 years	153	14.99	0.60	6.01	7.01	8.01	9.01	13.00	17.02	22.03	25.01	29.01
65–74 years	66	15.54	0.77	*	8.01	9.01	10.01	14.00	18.01	22.01	25.00	*
Male												
Mexican-American:												
20–24 years	1,320	19.49	0.74	7.00	7.01	9.01	10.01	15.01	23.01	28.01	33.05	46.06
20–24 years	203	18.36	1.80	7.00	7.01	9.01	10.01	14.02	20.03	27.03	37.00	45.04
25–34 years	391	21.13	1.68	7.00	9.00	10.00	11.00	15.01	25.00	30.01	41.03	51.05
35–44 years	220	21.46	2.23	7.00	7.01	9.01	12.00	18.01	23.03	28.02	32.03	47.06
45–54 years	250	19.45	1.31	7.00	7.01	9.01	11.00	15.01	23.01	28.03	32.06	46.02
55–64 years	179	15.81	0.88	7.00	7.01	9.00	10.01	13.01	18.03	23.02	25.02	35.04
65–74 years	77	12.14	1.07	*	5.01	7.00	7.01	11.00	15.01	18.00	20.00	*
Cuban:												
20–74 years	361	17.05	0.42	8.00	9.00	9.01	11.01	14.01	20.00	24.00	26.03	33.01
20–24 years	23	*	*	*	*	*	11.01	13.01	18.02	*	*	*
25–34 years	60	17.99	0.99	*	9.00	9.01	12.00	14.01	22.02	26.01	31.02	*
35–44 years	52	18.48	1.59	*	9.00	10.00	11.01	14.00	20.02	26.01	28.02	*
45–54 years	111	16.34	0.61	8.00	9.00	10.00	11.01	14.01	18.01	22.02	24.02	27.01
55–64 years	75	16.94	0.60	*	9.01	10.00	11.00	15.00	20.02	25.02	28.03	*
65–74 years	40	*14.95	1.71	*	*	7.01	8.01	11.01	16.02	17.02	*	*

Puerto Rican:												
20-74 years	385	19.10	0.86	7.00	8.01	10.00	11.01	16.00	22.02	26.02	29.02	36.04
20-24 years	49	17.73	1.22	*	*	11.00	12.00	16.01	22.03	27.02	*	*
25-34 years	91	19.61	2.02	*	8.00	10.01	11.01	15.01	23.00	28.00	31.01	*
35-44 years	63	22.82	3.88	*	8.01	10.01	14.00	17.03	23.01	29.01	33.03	*
45-54 years	92	16.81	0.80	*	8.00	9.00	12.00	14.01	21.00	24.01	25.02	*
55-64 years	70	16.48	1.08	*	8.01	9.00	10.01	14.01	19.01	23.00	25.02	*
65-74 years	20	*	*	*	*	*	12.01	14.01	17.02	*	*	*
Female												
Mexican-American:												
20-74 years	1,626	12.54	0.41	4.00	5.00	6.00	7.00	10.01	15.01	18.02	20.02	28.00
20-24 years	233	11.14	0.65	4.00	5.00	5.01	7.00	10.01	13.01	18.00	18.03	23.01
25-34 years	464	12.42	0.73	4.00	5.00	5.01	7.00	10.01	15.00	18.02	20.02	28.01
35-44 years	301	13.70	1.57	4.00	5.00	5.01	7.00	10.01	15.01	18.03	21.01	28.03
45-54 years	319	13.37	0.70	4.01	6.00	7.00	7.01	11.01	16.03	19.02	23.01	25.02
55-64 years	201	12.08	0.58	5.00	5.01	7.00	7.01	10.01	15.01	18.01	20.02	25.00
65-74 years	108	12.31	0.96	3.00	5.00	6.01	7.01	10.01	15.01	18.03	20.02	28.02
Cuban:												
20-74 years	457	12.95	0.26	6.00	7.00	8.00	9.00	12.00	15.01	17.02	19.02	23.01
20-24 years	33	*14.64	1.56	*	*	*	8.01	11.01	17.02	*	*	*
25-34 years	70	11.31	0.44	*	6.00	6.01	8.01	11.00	13.01	15.00	17.01	*
35-44 years	88	12.51	0.36	*	7.00	8.01	9.01	12.00	15.01	17.01	19.01	*
45-54 years	116	13.36	0.46	6.00	7.00	8.00	9.00	13.00	16.00	19.00	20.00	21.02
55-64 years	94	13.36	0.42	*	8.00	8.01	9.01	12.00	16.00	17.01	18.03	*
65-74 years	56	14.16	1.24	*	8.00	8.01	10.00	12.01	14.01	16.02	17.03	*
Puerto Rican:												
20-74 years	629	13.01	0.34	6.00	7.00	7.01	8.01	11.01	15.01	18.01	20.03	24.02
20-24 years	83	12.08	0.56	*	7.00	7.01	8.01	11.01	14.01	17.02	18.01	*
25-34 years	137	12.39	0.86	4.01	6.00	7.00	8.00	10.01	14.01	17.00	20.01	26.01
35-44 years	133	12.09	0.46	6.00	7.00	7.01	9.00	11.01	15.00	17.02	19.02	22.03
45-54 years	147	15.67	1.00	6.01	7.01	8.01	9.01	13.01	17.00	19.01	21.01	26.02
55-64 years	83	13.61	0.63	*	7.00	7.01	8.02	11.01	16.01	22.02	24.01	*
65-74 years	46	15.50	1.01	*	*	9.00	10.01	14.00	19.01	22.01	*	*

NOTE: Excludes pregnant women.

Table 14. Lactate dehydrogenase (LDH) levels 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
Both sexes												
LDH in International Units per liter (IU/L)												
Mexican-American:												
20–74 years	2,946	79.42	1.06	49.06	54.01	59.03	65.05	79.03	92.06	98.09	105.05	112.09
20–24 years	436	76.82	2.77	46.05	52.03	59.00	65.00	78.03	92.01	98.04	100.07	112.03
25–34 years	855	77.98	2.02	46.04	52.03	59.00	65.02	79.02	92.04	98.05	105.01	112.03
35–44 years	521	79.46	2.20	52.05	59.02	59.06	65.09	79.04	92.03	98.05	105.01	112.06
45–54 years	569	82.01	2.62	52.01	54.03	59.03	65.05	79.06	93.06	105.01	105.12	118.10
55–64 years	380	82.84	2.62	52.04	59.02	63.06	65.11	79.09	98.01	105.06	112.03	118.09
65–74 years	185	84.97	4.29	56.06	59.05	65.02	68.11	79.07	98.06	105.07	112.07	134.20
Cuban:												
20–74 years	818	75.42	0.45	49.01	55.02	59.00	63.04	75.06	87.05	93.06	97.08	105.07
20–24 years	56	69.39	1.71	*	51.05	55.02	59.01	68.05	80.00	86.04	87.08	*
25–34 years	130	73.85	1.29	49.04	54.02	57.02	61.02	73.04	86.09	93.06	96.07	105.06
35–44 years	140	72.83	1.18	48.00	54.02	59.01	62.04	72.11	82.11	87.09	94.05	105.02
45–54 years	227	76.89	0.78	48.02	56.05	61.00	68.02	77.04	87.11	92.12	98.09	106.12
55–64 years	169	78.85	0.95	48.05	57.00	59.06	66.12	78.10	92.03	97.05	100.11	106.09
65–74 years	96	80.43	1.14	*	59.01	64.07	69.03	81.10	92.00	98.04	100.06	*
Puerto Rican:												
20–74 years	1,014	72.44	0.54	45.01	51.05	54.03	59.05	70.12	85.04	92.00	97.03	105.08
20–24 years	132	70.24	1.33	40.05	52.01	55.02	61.06	70.07	82.01	85.05	88.12	96.02
25–34 years	228	69.18	1.24	41.04	48.04	52.01	56.02	67.11	81.02	87.10	96.01	104.10
35–44 years	196	72.25	1.43	46.06	51.05	54.02	60.03	70.07	85.03	92.07	96.03	105.04
45–54 years	239	77.58	0.98	50.02	54.04	58.02	61.05	77.03	92.06	101.02	104.10	108.10
55–64 years	153	76.22	1.10	49.02	56.04	59.00	63.03	75.06	87.09	91.12	99.11	107.07
65–74 years	66	76.46	1.99	*	49.03	53.04	57.03	74.05	91.04	100.12	106.04	*
Male												
Mexican-American:												
20–74 years	1,320	80.82	1.80	50.05	54.01	59.03	65.08	79.08	92.10	98.12	105.09	112.12
20–24 years	203	79.29	4.51	46.06	52.04	59.01	65.05	79.08	92.12	98.10	105.05	112.05
25–34 years	391	80.46	3.41	46.04	52.03	59.01	65.07	79.09	92.10	98.10	105.08	112.11
35–44 years	220	81.65	3.54	57.01	59.04	65.01	68.03	79.11	92.08	98.10	105.06	112.10
45–54 years	250	82.32	5.14	48.06	52.05	59.00	63.01	79.03	92.12	105.02	106.04	124.07
55–64 years	179	80.91	4.23	52.02	54.03	59.04	65.07	79.03	92.06	105.05	112.02	118.04
65–74 years	77	82.64	6.29	*	59.02	59.05	69.05	79.05	95.12	105.04	105.11	*
Cuban:												
20–74 years	361	76.12	0.71	49.03	54.06	59.00	64.03	77.02	87.05	94.08	98.09	108.01
20–24 years	23	*	*	*	*	*	56.03	73.03	80.09	*	*	*
25–34 years	60	74.36	1.93	*	52.01	58.00	61.02	76.06	87.07	95.06	96.08	*
35–44 years	52	77.44	2.27	*	54.05	60.01	64.04	77.04	87.10	97.06	105.05	*
45–54 years	111	77.04	1.07	55.02	60.04	62.04	68.05	77.01	86.10	92.12	99.08	111.02
55–64 years	75	76.89	1.58	*	54.02	58.02	63.04	75.09	88.02	97.06	101.06	*
65–74 years	40	*79.68	1.71	*	*	65.11	70.11	80.06	88.12	93.12	*	*

Puerto Rican:												
20-74 years	385	73.19	0.93	42.06	51.03	54.03	59.05	72.02	85.10	92.09	100.02	108.01
20-24 years	49	69.26	2.10	*	*	53.05	60.00	70.03	76.12	85.10	*	*
25-34 years	91	72.29	2.08	*	51.03	54.00	59.01	72.04	85.05	91.05	101.10	*
35-44 years	63	74.48	3.10	*	50.04	54.04	61.01	71.11	86.01	94.03	100.12	*
45-54 years	92	75.65	1.68	*	50.04	54.04	59.04	73.04	91.03	99.10	105.02	*
55-64 years	70	74.46	1.87	*	55.01	58.05	61.03	72.07	86.04	97.04	99.11	*
65-74 years	20	*	*	*	*	*	66.05	73.03	85.07	*	*	*
Female												
Mexican-American:												
20-74 years	1,626	77.97	1.23	49.05	54.02	59.02	65.04	77.08	92.02	98.05	105.01	112.06
20-24 years	233	73.81	3.31	46.04	52.03	57.03	59.05	72.09	85.07	92.06	98.04	105.07
25-34 years	464	75.21	2.34	46.04	52.03	56.05	63.02	72.11	86.10	94.03	98.07	105.06
35-44 years	301	77.27	2.76	52.02	56.05	59.03	65.04	75.02	85.11	92.12	98.10	112.02
45-54 years	319	81.73	2.39	52.03	57.03	59.06	65.08	79.09	93.11	104.11	105.12	118.02
55-64 years	201	84.55	3.21	56.01	59.05	65.03	70.03	84.05	98.07	105.07	112.06	118.11
65-74 years	108	87.00	5.81	59.02	65.02	65.06	68.06	79.12	98.09	105.11	112.11	138.25
Cuban:												
20-74 years	457	74.84	0.59	49.00	55.03	59.00	63.03	73.12	87.05	92.06	96.11	104.02
20-24 years	33	*69.43	2.14	*	*	*	62.06	67.05	76.09	*	*	*
25-34 years	70	73.38	1.74	*	54.06	57.02	61.03	71.06	86.03	91.00	96.01	*
35-44 years	88	69.71	1.25	*	53.03	57.01	61.04	70.06	79.12	82.10	83.12	*
45-54 years	116	76.74	1.13	47.01	55.01	59.01	66.08	77.07	88.07	92.11	98.05	103.10
55-64 years	94	80.47	1.14	*	58.05	63.01	69.11	81.09	93.07	97.03	100.04	*
65-74 years	56	80.99	1.53	*	59.04	63.02	69.00	83.12	93.10	99.03	102.06	*
Puerto Rican:												
20-74 years	629	71.96	0.65	45.04	52.00	54.04	59.04	70.02	84.05	91.11	96.08	104.00
20-24 years	83	70.81	1.72	*	52.05	59.00	62.01	71.01	82.06	84.12	89.09	*
25-34 years	137	66.89	1.52	41.04	47.04	51.01	55.02	64.03	77.11	86.09	95.06	97.11
35-44 years	133	71.10	1.52	47.04	51.06	54.01	59.06	69.06	82.11	89.11	95.07	101.06
45-54 years	147	78.85	1.19	54.01	56.04	59.05	63.03	77.09	92.12	101.03	102.12	108.02
55-64 years	83	77.85	1.28	*	57.04	59.01	65.11	81.02	88.05	91.09	95.11	*
65-74 years	46	77.26	2.55	*	*	53.04	56.01	78.01	91.11	103.01	*	*

Excludes pregnant women.

Table 15. Alkaline phosphatase levels 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
Both sexes												
Alkaline phosphatase in International Units per liter (IU/L)												
Mexican-American:												
20–74 years	2,946	55.49	0.51	33.00	36.03	39.03	43.02	52.05	64.06	72.06	78.08	88.03
20–24 years	436	55.61	1.54	33.03	36.03	39.01	42.06	52.03	64.10	72.10	81.12	93.01
25–34 years	855	51.65	0.94	30.01	34.01	36.04	40.06	49.03	60.02	67.07	71.01	81.02
35–44 years	521	53.39	1.09	31.01	36.02	39.03	43.01	52.01	61.02	69.09	76.05	82.09
45–54 years	569	59.61	0.97	35.03	39.03	42.03	46.02	58.00	69.06	76.08	82.08	91.12
55–64 years	380	62.10	1.51	39.03	41.01	43.04	49.01	60.01	70.06	79.06	85.04	91.11
65–74 years	185	63.92	2.15	36.05	41.06	46.01	51.02	60.05	73.07	85.00	91.10	104.02
Cuban:												
20–74 years	818	50.08	0.36	30.00	33.04	36.01	39.05	47.05	59.01	65.10	71.05	77.12
20–24 years	56	47.91	1.88	*	30.02	34.02	38.05	44.04	51.05	59.05	66.03	*
25–34 years	130	46.45	0.82	27.02	32.02	35.01	37.05	44.05	54.05	60.05	63.01	76.03
35–44 years	140	45.24	0.72	29.02	31.02	33.04	37.05	44.02	51.05	56.03	59.03	71.01
45–54 years	227	50.58	0.55	30.01	34.02	37.00	41.02	48.03	61.01	67.07	71.10	75.10
55–64 years	169	57.02	0.84	34.03	37.03	39.05	45.00	55.03	66.06	73.05	78.06	86.07
65–74 years	96	57.47	1.18	*	36.06	38.06	42.02	53.05	70.08	76.02	78.11	*
Puerto Rican:												
20–74 years	1,014	52.99	0.38	31.01	34.05	37.02	41.04	51.05	62.06	69.07	74.05	82.01
20–24 years	132	52.46	1.15	29.02	35.05	37.02	41.05	52.02	59.06	68.07	74.05	80.03
25–34 years	228	48.38	0.81	30.01	32.04	34.06	38.01	47.02	56.02	64.02	68.08	75.09
35–44 years	196	52.57	0.94	30.02	33.05	36.05	41.03	51.06	63.03	70.00	74.03	78.12
45–54 years	239	57.43	0.74	32.05	37.00	41.01	45.02	56.03	65.01	73.10	80.06	90.05
55–64 years	153	58.87	0.85	35.06	40.04	43.05	47.05	55.01	69.01	74.10	82.10	89.09
65–74 years	66	59.18	1.04	*	46.01	47.05	49.05	57.00	66.11	74.02	78.08	*
Male												
Mexican-American:												
20–74 years	1,320	57.53	0.71	36.01	40.00	42.05	46.03	55.03	66.08	73.03	79.03	87.05
20–24 years	203	60.31	2.19	37.06	42.02	44.03	49.00	58.01	69.03	78.10	84.11	93.06
25–34 years	391	54.99	1.27	34.02	37.06	41.04	45.03	53.01	63.04	69.11	73.04	82.09
35–44 years	220	57.47	1.84	34.06	40.03	43.04	46.06	55.01	66.05	73.08	79.06	87.00
45–54 years	250	58.16	1.23	36.01	39.02	42.02	47.05	57.05	67.02	75.09	78.07	84.08
55–64 years	179	58.40	1.55	39.01	40.04	42.05	46.05	57.02	66.04	73.12	79.01	87.08
65–74 years	77	60.25	3.64	*	39.00	42.02	46.04	55.04	70.01	78.07	88.04	*
Cuban:												
20–74 years	361	51.28	0.54	32.05	35.06	38.00	41.03	48.04	59.04	65.05	70.07	78.00
20–24 years	23	*	*	*	*	*	43.05	47.03	59.03	*	*	*
25–34 years	60	50.75	1.13	*	38.01	40.00	43.01	48.02	57.02	63.01	67.03	*
35–44 years	52	49.00	1.29	*	33.06	37.03	41.02	47.03	55.06	60.02	62.06	*
45–54 years	111	50.05	0.77	32.01	34.04	36.06	41.00	47.06	59.02	67.00	70.11	77.04
55–64 years	75	53.62	1.44	*	35.01	36.06	39.05	50.04	64.02	68.02	70.07	*
65–74 years	40	*58.00	2.24	*	*	38.06	41.04	50.05	69.02	76.01	*	*

Puerto Rican:												
20-74 years	385	55.45	0.64	34.05	37.03	39.02	44.02	53.04	65.05	72.06	77.03	83.06
20-24 years	49	57.79	1.74	*	*	39.06	48.05	55.03	69.09	75.05	*	*
25-34 years	91	51.79	1.50	*	35.01	37.00	40.01	49.05	60.04	69.04	75.09	*
35-44 years	63	58.25	1.68	*	39.00	43.05	48.03	57.00	69.03	74.12	78.06	*
45-54 years	92	56.25	1.20	*	39.02	41.02	45.06	53.04	64.02	69.04	73.04	*
55-64 years	70	56.28	1.39	*	36.03	38.05	44.06	54.01	65.05	72.06	74.02	*
65-74 years	20	*	*	*	*	*	46.03	50.03	58.02	*	*	*
Female												
Mexican-American:												
20-74 years	1,626	53.36	0.73	30.02	34.00	36.04	40.03	49.03	62.02	70.04	77.02	90.02
20-24 years	233	49.88	2.00	30.02	33.04	35.04	38.02	45.04	58.01	64.05	69.12	90.05
25-34 years	464	47.92	1.32	28.01	31.00	33.04	37.01	44.06	55.02	61.05	69.02	75.11
35-44 years	301	49.31	1.24	28.03	33.02	36.03	40.02	48.01	57.02	63.00	67.04	78.12
45-54 years	319	60.94	1.43	34.05	40.00	42.04	46.00	58.03	70.06	81.08	85.06	102.07
55-64 years	201	65.38	2.46	39.04	43.02	46.05	51.02	61.05	73.10	84.11	88.10	94.10
65-74 years	108	67.12	2.57	37.04	46.05	50.03	54.02	64.00	75.11	91.00	94.01	114.03
Cuban:												
20-74 years	457	49.09	0.48	28.02	31.02	34.04	38.04	47.00	58.02	66.01	72.01	77.10
20-24 years	33	*46.47	2.90	*	*	*	36.03	41.06	50.02	*	*	*
25-34 years	70	42.47	1.08	*	27.03	31.01	35.00	40.03	49.05	57.04	60.01	*
35-44 years	88	42.69	0.80	*	30.01	31.02	35.02	42.01	49.04	52.02	55.05	*
45-54 years	116	51.09	0.78	30.00	32.04	37.02	41.04	48.06	62.05	68.10	72.03	75.03
55-64 years	94	59.82	0.96	*	41.03	44.00	47.01	58.04	70.03	77.00	79.09	*
65-74 years	56	57.08	1.27	*	36.01	38.05	43.03	56.04	72.06	76.03	78.00	*
Puerto Rican:												
20-74 years	629	51.43	0.47	30.01	33.01	35.03	40.02	49.06	60.05	68.00	71.08	80.10
20-24 years	83	49.34	1.44	*	32.00	35.04	39.05	48.01	56.05	62.06	67.10	*
25-34 years	137	45.87	0.87	29.02	32.01	33.04	37.01	45.06	53.05	58.04	63.05	69.01
35-44 years	133	49.66	1.08	29.03	32.00	34.01	38.04	48.01	59.03	66.03	70.07	75.04
45-54 years	147	58.20	0.93	32.05	35.00	41.00	44.06	57.02	66.10	78.02	83.10	92.00
55-64 years	83	61.28	1.03	*	43.05	47.02	49.05	59.00	71.07	81.10	87.04	*
65-74 years	46	61.73	1.29	*	*	49.01	51.03	60.02	69.03	74.11	*	*

NOTE: Excludes pregnant women.

Table 16. Protein levels 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
Both sexes												
Total protein in grams per liter (g/L) ¹												
Mexican-American:												
20–74 years	2,946	71.22	0.14	64.07	66.03	67.03	68.11	71.09	74.09	76.03	77.04	78.12
20–24 years	436	71.84	0.42	65.05	67.00	67.12	69.07	72.06	75.03	76.09	78.00	79.06
25–34 years	855	71.47	0.27	65.05	66.11	67.09	69.03	71.10	74.08	76.04	77.04	78.11
35–44 years	521	70.83	0.34	64.08	65.11	67.00	68.06	71.03	74.03	75.08	76.11	78.08
45–54 years	569	70.80	0.29	63.03	65.04	66.04	68.02	71.07	74.05	76.00	77.03	78.12
55–64 years	380	71.03	0.37	63.06	65.09	66.12	68.08	71.06	74.09	75.12	77.03	78.09
65–74 years	185	70.34	0.64	61.06	64.07	65.07	67.02	71.02	75.01	76.04	77.02	78.05
Cuban:												
20–74 years	818	72.65	0.11	65.06	67.01	68.03	70.01	72.12	76.08	78.03	78.12	80.04
20–24 years	56	75.00	0.45	*	69.11	70.09	71.08	76.02	78.06	80.01	80.06	*
25–34 years	130	73.08	0.30	65.12	67.05	68.10	70.08	73.01	76.12	78.08	79.10	80.07
35–44 years	140	72.19	0.27	65.09	67.03	68.01	69.12	72.08	75.08	77.09	78.06	79.05
45–54 years	227	72.37	0.18	65.10	67.05	68.05	69.10	72.10	75.12	77.10	78.09	80.02
55–64 years	169	72.18	0.22	64.11	66.08	67.06	69.04	72.10	75.12	77.10	78.09	79.08
65–74 years	96	72.24	0.32	*	65.05	66.06	68.09	72.08	76.07	78.04	79.05	*
Puerto Rican:												
20–74 years	1,014	70.14	0.18	60.06	62.06	65.00	67.01	70.10	74.08	76.06	77.08	79.03
20–24 years	132	69.91	0.58	60.05	62.05	65.01	67.03	70.07	74.09	75.10	76.10	78.10
25–34 years	228	70.63	0.39	61.05	64.05	65.10	67.02	71.08	75.01	76.08	77.07	78.10
35–44 years	196	69.31	0.47	60.04	62.01	64.02	66.02	69.12	73.08	75.09	77.05	79.04
45–54 years	239	70.90	0.27	63.00	65.03	66.10	68.05	71.00	74.09	77.02	78.05	79.10
55–64 years	153	70.01	0.38	60.01	62.02	63.05	66.09	70.07	74.09	76.11	78.03	79.03
65–74 years	66	70.22	0.61	*	61.05	62.05	67.05	71.11	74.11	77.07	78.06	*
Male												
Mexican-American:												
20–74 years	1,320	71.71	0.23	65.02	66.07	67.09	69.06	72.04	75.02	76.10	77.11	79.02
20–24 years	203	72.68	0.68	66.01	67.07	68.08	70.04	73.06	76.01	77.10	78.11	79.12
25–34 years	391	72.09	0.43	66.01	67.06	68.09	69.12	72.03	75.04	77.01	78.02	79.03
35–44 years	220	71.23	0.51	65.05	66.10	67.08	68.12	71.08	74.05	75.10	76.11	78.03
45–54 years	250	70.70	0.47	63.02	65.01	65.12	67.09	71.07	74.07	76.02	77.06	78.12
55–64 years	179	71.06	0.51	64.06	65.08	66.11	68.11	71.07	74.09	76.04	77.04	78.05
65–74 years	77	70.57	1.01	*	65.01	65.07	66.12	71.07	75.02	75.12	76.08	*
Cuban:												
20–74 years	361	72.88	0.16	65.08	67.04	68.07	70.04	73.03	76.10	78.06	79.05	80.06
20–24 years	23	*	*	*	*	*	70.10	76.06	78.08	*	*	*
25–34 years	60	73.40	0.45	*	68.11	69.09	71.03	72.11	77.04	79.04	80.02	*
35–44 years	52	73.00	0.43	*	67.09	68.08	71.02	73.05	76.08	78.01	78.09	*
45–54 years	111	72.48	0.26	65.08	67.09	68.07	70.00	73.00	76.02	77.10	78.08	80.02
55–64 years	75	71.94	0.32	*	66.06	67.03	69.02	73.01	75.07	77.03	78.11	*
65–74 years	40	*72.68	0.57	*	*	66.07	68.09	73.02	78.00	79.02	*	*

Puerto Rican:												
20-74 years	385	70.48	0.29	61.04	64.06	66.01	67.09	71.02	74.08	76.05	77.09	79.04
20-24 years	49	70.60	1.06	*	*	65.12	69.03	72.08	74.09	75.08	*	*
25-34 years	91	71.49	0.62	*	66.02	66.10	68.08	72.09	75.05	77.02	77.12	*
35-44 years	63	69.62	0.84	*	64.05	65.06	66.08	70.04	72.11	75.11	77.06	*
45-54 years	92	71.27	0.38	*	66.05	67.06	69.02	71.06	74.05	76.07	77.09	*
55-64 years	70	68.50	0.56	*	62.00	62.04	64.10	68.12	72.06	74.11	77.03	*
65-74 years	20	*	*	*	*	*	67.06	70.10	74.05	*	*	*
Female												
Mexican-American:												
20-74 years	1,626	70.72	0.18	63.06	65.12	66.11	68.04	71.02	74.02	75.08	76.08	78.07
20-24 years	233	70.83	0.48	64.04	66.05	67.04	69.00	71.03	74.01	75.05	76.04	78.01
25-34 years	464	70.78	0.33	64.09	66.05	67.02	68.05	71.02	73.12	75.07	76.05	77.09
35-44 years	301	70.42	0.44	63.05	65.02	66.04	68.00	70.10	73.12	75.06	76.10	79.00
45-54 years	319	70.89	0.35	63.04	65.07	66.10	68.05	71.07	74.04	75.11	76.12	79.00
55-64 years	201	71.01	0.52	63.02	65.12	66.12	68.05	71.05	74.09	75.10	77.02	79.08
65-74 years	108	70.15	0.84	60.05	63.05	65.07	67.02	70.12	74.09	76.08	77.07	79.03
Cuban:												
20-74 years	457	72.46	0.14	65.06	66.12	67.12	69.10	72.10	76.04	78.01	78.09	80.01
20-24 years	33	*75.32	0.53	*	*	*	71.11	75.11	78.04	*	*	*
25-34 years	70	72.77	0.40	*	66.11	67.12	69.09	73.04	76.08	78.03	78.10	*
35-44 years	88	71.64	0.34	*	66.09	67.09	69.04	72.01	74.10	77.05	78.04	*
45-54 years	116	72.27	0.25	65.11	67.01	68.03	69.08	72.07	75.10	77.10	78.12	80.02
55-64 years	94	72.39	0.31	*	66.10	67.07	69.05	72.08	76.03	78.01	78.09	*
65-74 years	56	71.91	0.38	*	65.01	65.12	68.09	71.12	76.04	77.04	78.03	*
Puerto Rican:												
20-74 years	629	69.92	0.22	60.05	62.04	64.06	66.08	70.06	74.09	76.06	77.07	79.03
20-24 years	83	69.51	0.68	*	62.02	64.07	66.06	70.01	74.08	75.12	76.09	*
25-34 years	137	69.99	0.50	61.05	63.05	64.11	66.06	70.11	74.10	76.05	77.01	78.04
35-44 years	133	69.15	0.57	60.04	61.05	62.06	65.05	69.08	73.10	75.08	77.04	79.02
45-54 years	147	70.65	0.37	60.02	64.04	66.01	67.12	70.11	74.12	77.06	79.01	79.11
55-64 years	83	71.42	0.50	*	63.02	65.08	68.09	73.07	75.08	77.11	78.12	*
65-74 years	46	70.50	0.73	*	*	62.04	67.05	71.12	75.07	77.09	*	*

¹ To convert to milligrams per deciliter (mg/dl) multiply by 0.1.

NOTE: Excludes pregnant women.

Table 17. Albumin levels 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
Both sexes												
Albumin in grams per liter (g/L) ¹												
Mexican-American:												
20–74 years	2,946	44.41	0.12	39.02	40.04	41.03	42.05	44.06	47.02	48.03	49.00	49.06
20–24 years	436	45.34	0.36	39.05	41.00	42.01	43.04	46.01	48.02	49.02	49.05	51.02
25–34 years	855	44.90	0.22	40.01	41.02	42.01	43.02	45.04	47.04	48.03	49.01	50.01
35–44 years	521	44.22	0.27	39.04	40.04	41.03	42.04	44.04	46.06	48.01	48.06	49.05
45–54 years	569	43.72	0.21	39.01	40.01	40.06	42.00	44.00	46.03	47.05	48.03	49.04
55–64 years	380	43.37	0.28	38.04	39.04	40.03	41.05	44.01	46.00	47.01	47.06	48.06
65–74 years	185	42.44	0.48	36.04	38.03	39.03	41.01	43.01	45.02	46.04	47.02	48.01
Cuban:												
20–74 years	818	42.93	0.07	38.02	39.03	40.02	41.02	43.02	45.04	46.05	47.04	48.03
20–24 years	56	44.45	0.29	*	41.01	41.05	43.01	45.00	46.05	47.05	48.02	*
25–34 years	130	43.99	0.21	39.01	40.02	40.06	42.03	44.04	46.06	48.00	48.03	48.06
35–44 years	140	43.22	0.19	38.05	40.03	41.01	41.05	43.03	45.04	47.00	47.04	48.03
45–54 years	227	42.48	0.12	38.03	39.02	40.01	40.06	42.05	45.00	45.06	46.05	47.04
55–64 years	169	42.11	0.14	37.04	39.00	39.04	40.04	42.03	44.04	45.06	46.05	47.06
65–74 years	96	41.21	0.19	*	37.05	38.03	39.04	41.05	43.04	44.04	45.03	*
Puerto Rican:												
20–74 years	1,014	41.72	0.09	35.06	37.05	38.04	40.00	42.02	44.04	45.05	46.04	47.05
20–24 years	132	42.30	0.30	35.03	36.06	38.04	40.02	43.03	45.04	46.04	47.02	48.02
25–34 years	228	42.35	0.19	37.01	38.04	39.05	40.05	43.01	44.05	45.06	47.01	47.06
35–44 years	196	41.26	0.23	35.00	37.05	38.03	39.04	41.04	44.01	45.02	46.00	47.02
45–54 years	239	41.52	0.14	37.01	37.05	38.05	40.00	42.01	44.01	45.02	45.05	47.03
55–64 years	153	41.03	0.17	35.03	37.01	38.01	39.03	41.02	44.00	45.02	45.05	47.01
65–74 years	66	40.36	0.32	*	35.01	35.06	38.01	41.01	44.00	45.01	45.06	*
Male												
Mexican-American:												
20–74 years	1,320	45.45	0.18	40.04	41.05	42.04	43.05	46.01	48.01	49.01	49.05	50.06
20–24 years	203	46.57	0.53	41.00	43.00	43.06	45.00	47.03	49.01	49.05	50.05	51.06
25–34 years	391	46.09	0.32	41.05	42.04	43.03	44.05	46.05	48.03	49.02	49.06	51.01
35–44 years	220	45.30	0.42	41.01	42.01	42.04	43.05	45.06	47.05	48.05	49.03	50.02
45–54 years	250	44.43	0.32	40.02	41.01	41.04	42.05	44.05	47.01	48.02	49.01	49.05
55–64 years	179	43.85	0.33	39.03	40.02	41.01	42.03	44.03	46.01	47.01	48.01	49.01
65–74 years	77	42.31	0.75	*	38.02	39.01	41.02	42.06	44.06	45.06	46.06	*
Cuban:												
20–74 years	361	43.84	0.11	39.02	40.02	40.06	42.02	44.03	46.03	47.04	48.01	48.06
20–24 years	23	*	*	*	*	*	44.05	45.06	46.06	*	*	*
25–34 years	60	45.02	0.26	*	42.03	43.02	44.01	45.03	47.03	48.02	48.04	*
35–44 years	52	44.68	0.30	*	41.05	42.02	43.00	44.06	47.02	47.05	48.03	*
45–54 years	111	43.25	0.16	39.01	40.01	40.04	42.00	43.06	45.03	46.04	47.03	48.00
55–64 years	75	42.62	0.22	*	39.04	40.01	40.05	42.04	45.02	46.05	47.06	*
65–74 years	40	*41.64	0.30	*	*	38.06	40.01	41.05	43.05	45.01	*	*

Puerto Rican:												
20-74 years	385	42.41	0.14	37.01	38.04	39.04	40.04	43.02	44.06	46.03	47.02	48.02
20-24 years	49	43.35	0.52	*	*	40.01	42.05	44.04	46.02	47.02	*	*
25-34 years	91	43.34	0.27	*	40.01	40.05	41.06	43.06	45.03	47.02	47.05	*
35-44 years	63	41.79	0.38	*	37.06	39.00	40.02	41.05	44.04	45.05	46.04	*
45-54 years	92	42.02	0.21	*	38.02	39.02	40.04	42.04	44.02	45.02	46.02	*
55-64 years	70	40.61	0.24	*	37.02	38.01	39.02	40.04	42.06	44.03	45.01	*
65-74 years	20	*	*	*	*	*	40.05	43.03	45.04	*	*	*
Female												
Mexican-American:												
20-74 years	1,626	43.33	0.14	38.04	39.05	40.04	41.05	43.06	46.00	47.01	47.05	48.05
20-24 years	233	43.84	0.42	39.01	40.01	40.06	42.01	44.04	46.04	47.04	48.01	49.01
25-34 years	464	43.56	0.26	39.00	40.02	41.00	42.01	44.01	46.01	46.06	47.04	48.04
35-44 years	301	43.13	0.32	38.04	39.05	40.03	41.04	43.04	45.03	46.05	47.05	48.06
45-54 years	319	43.06	0.27	38.03	39.03	40.01	41.02	43.03	45.04	46.06	47.05	48.06
55-64 years	201	42.95	0.42	37.04	38.06	39.05	41.02	43.05	45.06	47.00	47.06	48.04
65-74 years	108	42.55	0.63	35.06	38.05	39.05	40.05	43.02	45.06	47.00	47.03	48.00
Cuban:												
20-74 years	457	42.18	0.09	37.06	38.05	39.04	40.05	42.03	44.03	45.06	46.05	47.05
20-24 years	33	*43.65	0.37	*	*	*	42.01	44.01	46.03	*	*	*
25-34 years	70	43.03	0.30	*	39.03	40.02	41.01	43.01	45.06	47.03	48.02	*
35-44 years	88	42.23	0.21	*	39.01	40.03	41.02	42.05	43.06	45.02	46.01	*
45-54 years	116	41.74	0.16	38.01	38.05	39.03	40.03	41.05	43.05	45.03	46.00	46.06
55-64 years	94	41.69	0.18	*	38.01	39.01	40.02	42.01	44.02	44.06	46.01	*
65-74 years	56	40.88	0.25	*	37.05	38.02	39.02	41.05	43.02	44.02	44.06	*
Puerto Rican:												
20-74 years	629	41.28	0.11	35.02	37.02	38.02	39.04	41.06	44.02	45.03	46.00	47.02
20-24 years	83	41.68	0.36	*	36.02	38.01	39.05	42.02	45.01	46.01	46.05	*
25-34 years	137	41.61	0.25	36.03	37.04	38.04	40.01	42.02	44.03	45.03	45.06	47.03
35-44 years	133	40.99	0.28	33.05	37.04	38.03	39.02	41.03	44.00	45.01	45.05	47.00
45-54 years	147	41.20	0.18	36.05	37.04	38.02	39.04	41.04	43.06	45.01	45.05	46.05
55-64 years	83	41.42	0.25	*	37.00	38.02	39.06	42.01	44.06	45.04	46.01	*
65-74 years	46	39.67	0.36	*	*	35.05	38.00	40.03	43.01	44.02	*	*

¹To convert to milligrams per deciliter (mg/dl) multiply by 0.1.

NOTE: Excludes pregnant women.

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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:

- Number of Hispanics
- Percent of Hispanic

- Ratio of the 1980 to the 1970 Hispanic population
- Median income
- 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, Dade County was the only PSU selected for the Miami area. 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 (51)—and summarized in Kish (52)—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 (53,5).

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 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, 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 2,220 (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 tables V. For a complete description of the sample survey design, see NCHS (6).

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

<i>Survey area and age</i>	<i>Sampling rate</i>
Southwest and New York City areas	
6 months–19 years	¾
20–44 years	½
45–74 years	1
Miami (Dade County)	
6 months–19 years	1
20–44 years	¾
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

<i>Sex and age</i>	<i>Sample size</i>	<i>Interviewed</i>		<i>Examined</i>	
		<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Percent</i>
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).

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

<i>Sex and age</i>	<i>Sample size</i>	<i>Interviewed</i>		<i>Examined</i>	
		<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Percent</i>
Both sexes					
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
Male					
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
Female					
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

<i>Sex and age</i>	<i>Sample size</i>	<i>Interviewed</i>		<i>Examined</i>	
		<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Percent</i>
Both sexes					
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
Male					
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
Female					
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

Hispanic origin, sex, and age	Total sample	
	Number of examined persons	Estimated population in thousands
Mexican-American		
Both sexes, 20–74 years	3,326	5,132
20–24 years	499	1,012
25–34 years	979	1,699
35–44 years	593	998
45–54 years	631	675
55–64 years	422	474
65–74 years	202	275
Male, 20–74 years	1,461	2,583
20–24 years	221	536
25–34 years	438	881
35–44 years	252	502
45–54 years	270	316
55–64 years	197	221
65–74 years	83	126
Female, 20–74 years	1,865	2,549
20–24 years	278	475
25–34 years	541	817
35–44 years	341	495
45–54 years	361	359
55–64 years	225	253
65–74 years	119	149
Cuban		
Both sexes, 20–74 years	865	329
20–24 years	65	31
25–34 years	139	68
35–44 years	147	70
45–54 years	233	74
55–64 years	176	54
65–74 years	105	32
Male, 20–74 years	377	147
20–24 years	27	14
25–34 years	64	32
35–44 years	52	27
45–54 years	114	36
55–64 years	79	24
65–74 years	41	13
Female, 20–74 years	488	182
20–24 years	38	17
25–34 years	75	35
35–44 years	95	43
45–54 years	119	38
55–64 years	97	29
65–74 years	64	19
Puerto Rican		
Both sexes, 20–74 years	1,220	633
20–24 years	173	111
25–34 years	279	183
35–44 years	229	156
45–54 years	281	98
55–64 years	179	58
65–74 years	79	27
Male, 20–74 years	445	237
20–24 years	55	35
25–34 years	107	75
35–44 years	73	53
45–54 years	104	38
55–64 years	81	28
65–74 years	25	9
Female, 20–74 years	775	397
20–24 years	118	76
25–34 years	172	108
35–44 years	156	104
45–54 years	177	60
55–64 years	98	31
65–74 years	54	18

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

Size of factor	Interviewed	Examined
	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

Estimation procedures

Because the design of HHANES is a complex multi-stage 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. 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.

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

Size of factor	Interviewed	Examined
	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

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, 23.8 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 (54-56) and participation factors (54,57-61).

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 (62,63).

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, (260 Mexican-Americans, 26 Cubans, and 136 Puerto Ricans) data for the clinical chemistry profile analytes were not available.

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

The standard error of the mean 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 variations 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.

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 (64).

Table IX. Average design effects used in analysis of Clinical Chemistry Profile data for Hispanics 20–74 years of age, by specified Hispanic origin: Hispanic Health and Nutrition Examination Survey, 1982–84

Test	Mean	Mexican-American		Cuban		Puerto Rican	
		Male	Female	Male	Female	Male	Female
Sodium	x	4.0	4.4	1.0	1.0	1.5	1.7
Potassium	x	3.2	3.4	1.0	1.0	2.1	1.8
Chloride	x	6.9	7.6	1.0	1.4	1.3	2.2
Total CO ₂	x	2.7	3.4	1.1	1.2	1.7	1.6
Calcium	x	2.0	2.4	1.1	1.2	1.3	1.9
Iron Phosphorus	x	1.0	2.0	1.0	1.0	1.0	1.3
Uric Acid	x	1.5	1.7	1.1	1.2	1.0	1.5
Glucose	x	1.0	1.4	1.2	1.0	1.0	1.0
BUN	x	1.6	1.0	1.4	1.0	1.2	1.0
Total Bilirubin	x	1.6	1.9	1.0	1.1	1.1	1.0
Creatinine	x	1.9	2.1	1.5	1.2	1.3	1.0
AST	x	1.3	1.7	1.0	1.0	1.0	1.5
ALT	x	1.4	1.2	1.0	1.0	1.1	2.1
LDH	x	4.0	4.2	1.3	1.6	1.1	2.1
Alkaline Phosphatase	x	1.4	1.3	1.0	1.0	1.1	1.0
Total Protein	x	2.1	1.5	1.2	1.0	1.6	2.2
Albumin	x	2.2	2.1	1.0	1.4	1.0	1.3

NOTE: BUN is blood urea nitrogen, AST is aspartate aminotransferase, ALT is alanine aminotransferase, and LDH is lactate dehydrogenase.

Design effects were run for each analyte by age and sex. These design effects are shown in table IX.

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 (65).

To obtain the complex sample estimates of variance, the average design effects shown in table X were multiplied by 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 (66) was used to compute the age-specific design effects that are the basis

Table X. Number of strata with observations in both paired PSU's for Hispanics 20-74 years of age with Clinical Chemistry Profile data by sex and age: Hispanic Health and Nutrition Examination Survey, 1982-84

Age	Specified Hispanic Origin					
	Mexican-American		Cuban		Puerto Rican	
	Male	Female	Male	Female	Male	Female
20-24 years	8	8	6	7	7	7
25-34 years	8	8	8	8	7	8
35-44 years	8	8	7	8	8	8
45-54 years	8	8	8	8	8	8
55-64 years	8	8	8	8	8	8
65-74 years	8	8	6	7	5	8

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 Taylor 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 (67) and Woodruff (68) presented applications of this technique to sample surveys.

Number of strata

The number of degrees of freedom is the number of strata with observations in both paired PSU's are shown in table X. The maximum number of degrees of freedom in HHANES is 8.

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 XI 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 XI. 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	1,069	20
7	Cuban-American	—	222	—
8	Hispano-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, selected 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 Hispano in the Southwest area (selected counties in Arizona, California, Colorado, New Mexico, and Texas) as 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 for 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 χ 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 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.

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