

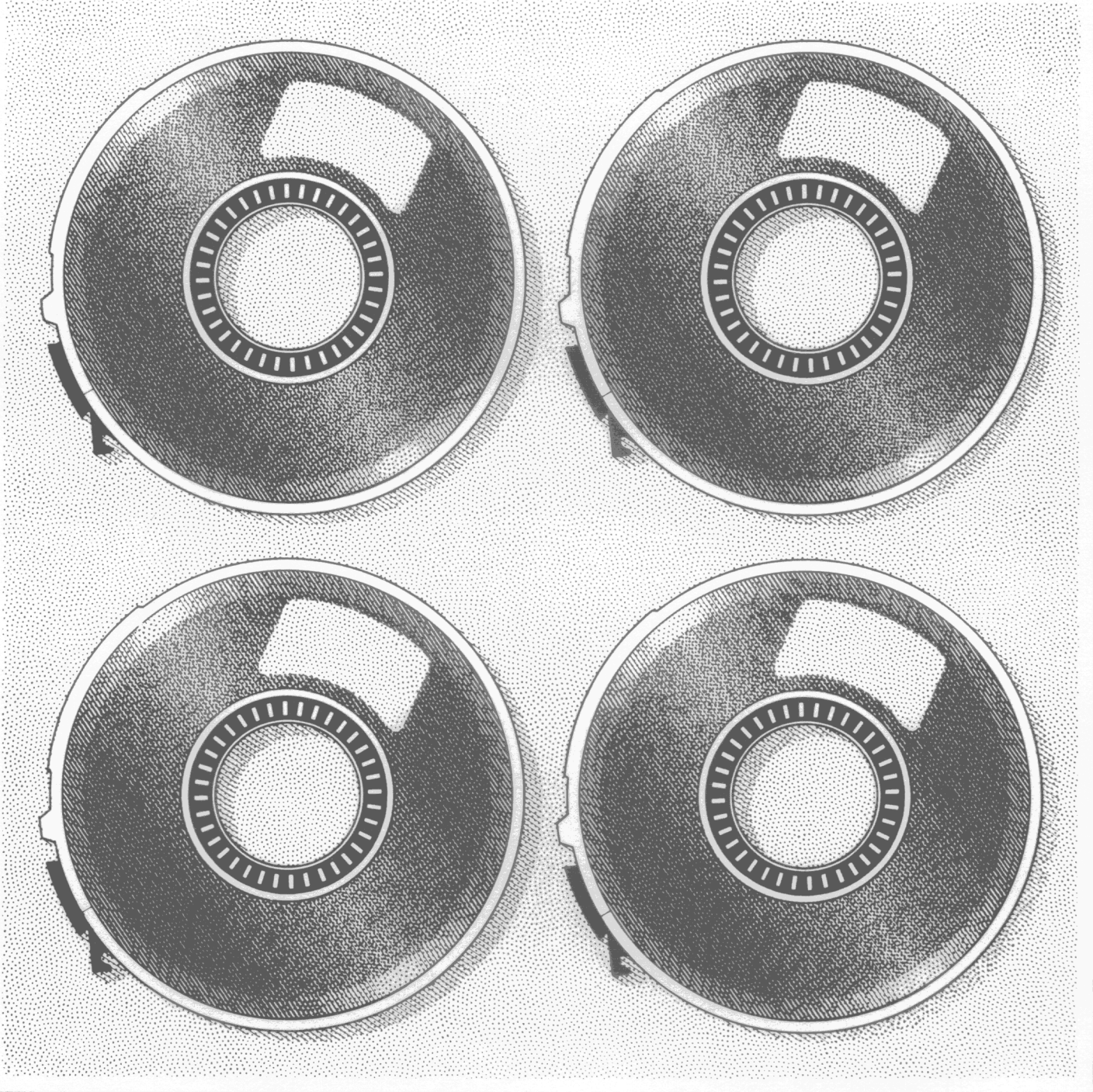


# Public Use Data Tape Documentation

Body Measurements  
Tape Number 6501

Version 2

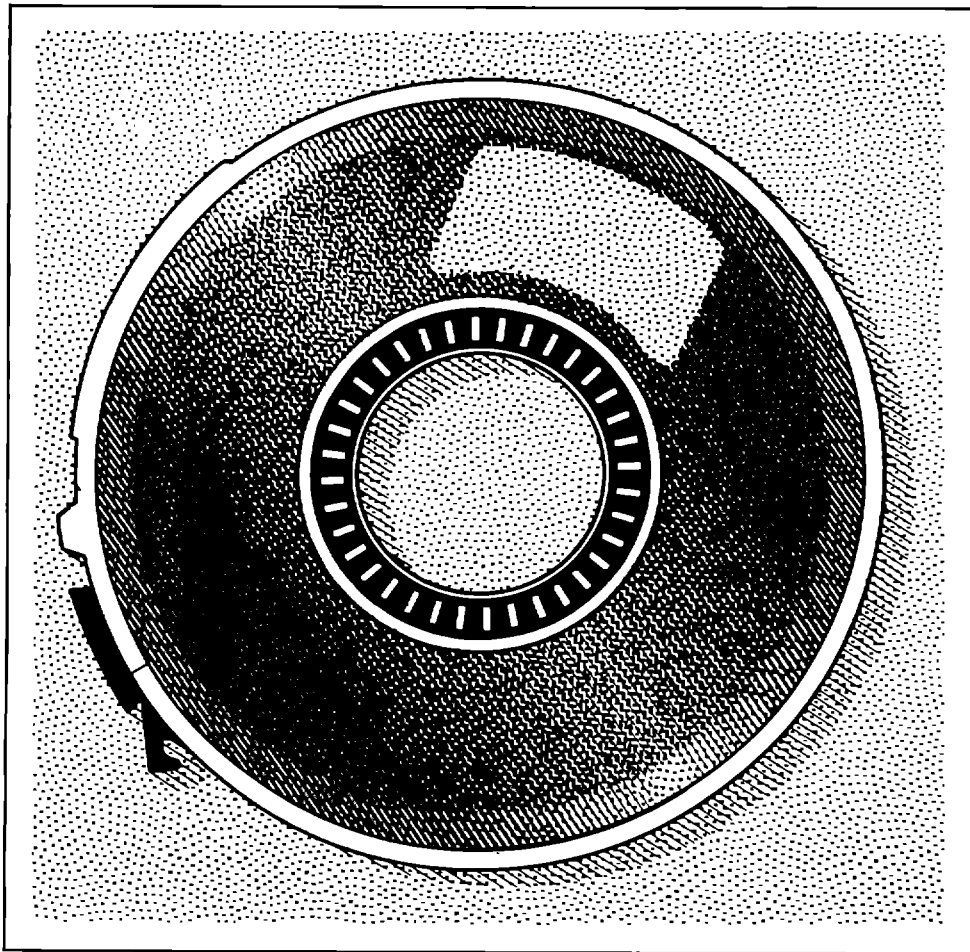
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES • Public Health Service • Centers for Disease Control • National Center for Health Statistics



# Public Use Data Tape Documentation

Body Measurements  
Tape Number 6501

Version 2



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

Hyattsville, Maryland  
November 1987

Hispanic Health and Nutrition Examination Survey

Mexican Americans  
Cuban Americans  
Puerto Ricans

Tape Number 6501

**BODY MEASUREMENTS**

Version 2

January 1987

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

**Mexican Americans**

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

**Cuban Americans**

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

**Puerto Ricans**

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

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

Tape labels: IBM standard  
Data set name: HHANES.DU650102  
Data set organization: Physical sequential  
Record format: Fixed block  
Record length: 500  
Block size: 24500  
Density: 6250 BPI  
Number of records: 11653  
Data code: EBCDIC

## CAUTION

BEFORE USING THIS DATA TAPE,  
PLEASE READ THIS PAGE

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

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

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

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

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

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

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

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## SECTION A. INTRODUCTION AND SURVEY DESCRIPTION

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

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

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

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

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

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

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

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

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



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

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

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

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

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

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

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

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

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

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

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

Body Measurement (means)	Mean or Proportion	Tape Positions	Both Sexes	Male	Female
Biacromial Breadth	$\bar{x}$	412-414	1.8	1.6	1.4
Elbow Breadth	$\bar{x}$	421-423	2.1	1.9	2.1
Triceps Skinfold	$\bar{x}$	427-429	1.1	1.5	1.3
Subscapular Skinfold	$\bar{x}$	433-435	2.1	1.8	1.8
Medial Calf Circumference	$\bar{x}$	451-453	1.3	1.2	1.0
Mid-upper Arm Circumference	$\bar{x}$	466-468	1.1	1.3	1.0
Weight	$\bar{x}$	495-499	1.4	1.3	1.0

Source: NCHS, HHANES, 1982-84, Tape Number 6501, Version 2.

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

Body Measurement (means)	Mean or Proportion	Tape Positions	Both Sexes	Male	Female
Biacromial Breadth	$\bar{x}$	412-414	1.0	1.0	1.0
Elbow Breadth	$\bar{x}$	421-423	1.0	1.2	1.0
Triceps Skinfold	$\bar{x}$	427-429	1.0	1.0	1.0
Subscapular Skinfold	$\bar{x}$	433-435	1.0	1.0	1.0
Medial Calf Circumference	$\bar{x}$	451-453	1.1	1.1	1.0
Mid-upper Arm Circumference	$\bar{x}$	466-468	1.0	1.1	1.0
Weight	$\bar{x}$	495-499	1.3	1.1	1.1

Source: NCHS, HHANES, 1982-84, Tape Number 6501, Version 2.

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

Body Measurement (means)	Mean or Proportion	Tape Positions	Both Sexes	Male	Female
Biacromial Breadth	$\bar{x}$	412-414	1.4	1.5	1.4
Elbow Breadth	$\bar{x}$	421-423	1.9	1.8	1.8
Triceps Skinfold	$\bar{x}$	427-429	1.6	1.5	1.7
Subscapular Skinfold	$\bar{x}$	433-435	1.0	1.0	1.4
Medial Calf Circumference	$\bar{x}$	451-453	1.5	1.6	1.2
Mid-upper Arm Circumference	$\bar{x}$	466-468	1.6	1.6	1.3
Weight	$\bar{x}$	495-499	1.2	1.4	1.2

Source: NCHS, HHANES, 1982-84, Tape Number 6501, Version 2.

Suppose, for example, that the average (mean) weight for 195 Mexican-American males 55-64 years was 168 pounds. Suppose, also, that the simple random sample variance was 5.35.

The complex sample variance is determined by multiplying the simple random sample variance by the design effect (DEFF). In the example above,

$$\begin{aligned}\text{the complex sample variance} &= \text{simple random sample variance} \times \text{DEFF} \\ &= (5.35 \times 1.3) \\ &= (6.95)\end{aligned}$$

In a similar way, the complex sample variance of a percent can be determined. Assuming simple random sampling, the variance for the percent is calculated by converting the percent to a proportion and using the standard formula for the variance of a proportion.

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

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

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

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

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

## SECTION B. DATA COLLECTION AND PROCESSING PROCEDURES

Data presented in Sections E through H and the family relationships data in Section J were collected on the Household Screener and Family Questionnaires. Data presented in Section K including height, weight, skinfold, and other anthropometric measurements were collected by trained technicians using standardized procedures, highly calibrated equipment and multiple measurements. A complete description of measurement procedures and equipment is given in the Appendix. Completed interview and examination forms were reviewed in the Survey's field offices and again at the data processing center of NCHS by clerical editors. The editors checked the forms for completeness, clarity, and compliance with skip patterns, and they coded items such as industry and occupation. At the data processing center the data were keyed and verified on key-to-disk data entry equipment under the control of programs that checked for valid codes and ranges, compliance with skip patterns, and consistency. After being keyed, data were reedited by analysts for reasonableness and consistency and for compliance with instructions for sampling and questionnaire administration.

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

When a skinfold was too tight to be measured, "tight skin" was written in the recording space for that skinfold. These cases are coded as 8's on the data tape. Also, if a skinfold was measured at over 60 mm, it was recorded as "60" (See Appendix).

The examination protocol included training and periodic retraining of examiners by a supervisor and consultant, as well as an ongoing system of quality control procedures to reduce variability introduced by errors of measurement. Despite these efforts to reduce measurement errors, residual errors of a magnitude large enough to warrant concern occur in any anthropometric survey. In the HHANES, systematic examiner differences were observed for triceps, subscapular, iliac crest and medial calf skinfolds and elbow breadth. The range of differences in mean body measurement values between examiners varied from 4 millimeters for elbow breadth to 5-9 millimeters for the skinfold measurements. Preliminary analyses of the data suggest that the differences may be attributable to a drift from standardized techniques associated with the use of multiple trainers for the technician teams. The use of multiple examiners increases the variability of the distribution because of the inclusion of interexaminer errors of measurement while minimizing the effect of an individual examiner bias. Users should be aware that these technician differences do exist and are encouraged to consider this issue before analyzing the elbow breadth and skinfold measures.

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

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

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

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

Copies of the questionnaires and examination forms, both in English and Spanish, can be found in the plan and operation report for HHANES (Ref. No. 1). Detailed information on interviewing and examination procedures is contained in the household interviewer's manual (Ref. No. 12), the mobile examination center interviewer's manual (Ref. No. 13), and the examination staff procedures manual (Ref. No. 14). These manuals are available upon request from:

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

## SECTION C. REFERENCES

1. National Center for Health Statistics: Maurer, K. R. and others: Plan and Operation of the Hispanic Health and Nutrition Examination Survey, 1982-84. Vital and Health Statistics. Series 1, No. 19. DHHS Pub. No. (PHS) 85-1321. Public Health Service. Washington. U.S. Government Printing Office. Sept., 1985.
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11. Freeman, D. H. and Brock, D. B.: The Role of Covariance Matrix Estimation in the Analysis of Complex Sample Survey Data. In N. Krishnan Namboodiri, ed., Survey Sampling and Measurement. Symposium on Survey Sampling, 2d, University of North Carolina. New York, Academic Press, 1978.

12. National Center for Health Statistics: Instruction Manual Part 15h, Household Interviewer's Manual for the Hispanic Health and Nutrition Examination Survey, 1982-84. Hyattsville, MD, 1986.
13. National Center for Health Statistics: Instruction Manual Part 15g, Mobile Examination Center Interviewer's Manual for the Hispanic Health and Nutrition Examination Survey, 1982-84. Hyattsville, MD, 1986.
14. National Center for Health Statistics: Instruction Manual Part 15a, Examination Staff Procedures Manual for the Hispanic Health and Nutrition Examination Survey, 1982-84. Hyattsville, MD, 1986.

## SECTION D. TAPE POSITION INDEX

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

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

### SOCIODEMOGRAPHIC DATA - SAMPLE PERSON (SECTION E)

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

### SOCIODEMOGRAPHIC DATA - HEAD OF FAMILY (SECTION F)

100	Interview and Examination Status
102-105	Date of Birth
106-108	Age at Interview
109	Sex
110	Race
111-112	National Origin or Ancestry
113-115	Birth Place
116-118	Education
119	Marital Status
120	Service in Armed Forces
121-131	Work/Occupation/Employment



FAMILY COMPOSITION AND INCOME DATA (SECTION G)

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

RESIDENCE AND HOUSEHOLD DATA (SECTION H)

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

SAMPLE WEIGHTS (SECTION I)

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

FAMILY RELATIONSHIPS (SECTION J)

218-400	Data not yet available
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BODY MEASUREMENT DATA (SECTION K)

401-404	Tape Number
405	Body Measurement Exam Blank
406-408	Examiner Number
409-411	Recorder Number

## SKELETAL BREADTHS

412-414	Biacromial Breadth
415-417	Biliac Crest Breadth
418-420	Bitrochanteric Breadth
421-423	Elbow Breadth-Right Side
424-426	Elbow Breadth-Left Side

## SKINFOLDS

427-429	Triceps Skinfold-Right Side
430-432	Triceps Skinfold-Left Side
433-435	Subscapular Skinfold-Right Side
436-438	Subscapular Skinfold-Left Side
439-441	Iliac Crest Skinfold-Right Side
442-444	Iliac Crest Skinfold-Left Side
445-447	Medial Calf Skinfold-Right Side
448-450	Medial Calf Skinfold-Left Side

## CIRCUMFERENCES

451-453	Medial Calf Circumference-Right Side
454-456	Medial Calf Circumference-Left Side
457-459	Chest Circumference-Erect
460-462	Chest Circumference-Supine
463-465	Head Circumference
466-468	Mid-upper Arm Circumference-Right Side
469-471	Mid-upper Arm Circumference-Left Side

## HEIGHTS, LENGTHS, and WEIGHT

472-475	Sitting Height
476-479	Standing Height (in centimeters)
480-482	Standing Height (in inches)
483-486	Recumbent Length
487-489	Crown Rump Length
490-494	Weight (in kilograms)
495-499	Weight (in pounds)

## HANDEDNESS

500	Is the Examinee Right or Left Handed?
-----	---------------------------------------

Position	Item description and code	Counts			Source and notes
		M	C	P	
<b>SECTION E. SOCIODEMOGRAPHIC DATA - SAMPLE PERSON (POS 1-99)</b>					
Source: Family Questionnaire (FQ) Household Screener Questionnaire (HSQ)					
1-5	<b>Sample person sequence number</b> 00001-09894 Mexican Americans 10002-12238 Cuban Americans 13001-16785 Puerto Ricans	7462 - -	- 1357 -	- - 2834	
6-12	<b>Blank</b>	7462	1357	2834	
13	<b>Portion of survey</b> 1 Mexican-American (M) 2 Cuban-American (C) 3 Puerto Rican (P)	7462 - -	- 1357 -	- - 2834	
14	<b>Family Questionnaire missing</b> 1 Yes 2 No	21 7441	6 1351	10 2824	See Note 1
15	<b>Version number</b> 2	7462	1357	2834	
16	<b>Examination status</b> 1 Examined 2 Not examined	7462 0	1357 0	2834 0	See Note 2
17	<b>Language of interview (Pos. 1-400)</b> 1 English 2 Spanish Blank	4513 2929 20	244 1107 6	1229 1595 10	FQ
18-19 20-21	<b>Date of interview</b> 01-12 Month 82-84 Year	7462 7462	1357 1357	2834 2834	HSQ 4
22-23 24-25	<b>Date of examination</b> From survey control record 01-12 Month 82-84 Year	7462 7462	1357 1357	2834 2834	
26-27 28-29	<b>Date of birth</b> 01-12 Month 88 Blank but applicable 08-84 Year 88 Blank but applicable	7462 0 7462 0	1357 0 1357 0	2834 0 2834 0	HSQ 2e
30-31	<b>Age at interview (computed)</b> 01-74 (See next column for units)	7462	1357	2834	
32	<b>Age at interview units</b> 1 Years 2 Months	7342 120	1349 8	2796 38	HSQ 2f

Position	Item description and code	M	Counts C	P	Source and notes
	<b>Age at examination (computed)</b> Positions 33-38 are all 0 for non-examined persons.				
33-34	00-75 Years	7462	1357	2834	
35-36	00-11 Months	7462	1357	2834	
37-38	00-30 Days	7462	1357	2834	
39-43	<b>Family number</b> 00002-03529 04005-04922 07001-08584	7462 - -	- 1357 -	- - 2834	See Note 3
44-45	<b>What is sample person's relationship to head of family? Sample person is:</b>				HSQ 2b See Note 4
	01 Head of family living alone (1 family with only 1 member)	145	56	113	
	02 Head of family, with no related persons in household (2+ persons in household)	76	23	24	
	03 Head of family, with related persons in household	1582	368	678	
	04 Wife of head (husband living at home and not in Armed Forces)	1299	300	296	
	05 Wife of head (husband living at home and is in Armed Forces)	5	0	0	
	06 Husband of head (wife living at home and not in Armed Forces)	35	12	37	
	07 Husband of head (wife living at home and is in Armed Forces)	0	0	0	
	08 Child of head or head's spouse	3769	484	1437	
	09 Grandchild of head or head's spouse	217	32	115	
	10 Parent of head or head's spouse	57	35	33	
	11 Other relative (includes ex-spouse, daughter-in-law, etc.)	273	46	101	
	12 Foster child	4	0	0	
46	<b>Sex</b> 1 Male 2 Female	3516 3946	636 721	1237 1597	FQ B-4
47	<b>Observed race</b> 1 White 2 Black 3 Other 8 Blank but applicable 9 Not observed Blank	7213 76 8 72 72 21	1300 15 3 15 18 6	2462 152 73 59 78 10	FQ B-5 See Note 5
48-49	<b>Sample person's national origin or ancestry.</b>				HSQ 2c See Note 6
	01 Mexican/Mexicano	1641	1	1	
	02 Mexican-American	5202	0	0	
	03 Chicano	102	0	0	
	04 Puerto Rican	7	3	2596	
	05 Boricuan	0	0	36	
	06 Cuban	4	1069	20	
	07 Cuban-American	0	222	0	
	08 Hispano - specify	150	14	26	
	09 Other Latin-American or other Spanish - specify	37	18	41	
	00 Other - specify	276	30	114	
	10 Spanish-American	22	0	0	
	11 Spanish (Spain)	21	0	0	

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

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

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

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



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

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

Position	Item description and code	M	Counts C	P	Source and notes
<b>SECTION F. SOCIODEMOGRAPHIC DATA - HEAD OF FAMILY (POS 100-131)</b>					
Source: Family Questionnaire (FQ)					See Note 4
Household Screener Questionnaire (HSQ)					
100	<b>Interview and examination status of head of family</b>				
	1 Selected as sample person, interviewed on Adult Sample Person Questionnaire, and examined	5523	1076	2098	
	2 Selected as sample person, interviewed on Adult Sample Person Questionnaire, but not examined	338	62	79	
	3 Selected as sample person, not interviewed, and not examined	218	34	23	
	4 Not selected as sample person	1362	179	624	
	Blank	21	6	10	
101	Blank				
	<b>Date of birth</b>				HSQ 2e
102-103	01-12 Month	7413	1348	2830	
	88 Blank but applicable	49	9	4	
104-105	00-86, 89-99 Year	7440	1353	2832	
	88 Blank but applicable	22	4	2	
106-107	<b>Age at interview</b> 17-95 Years	7462	1357	2834	
108	Blank				
109	<b>Sex</b>				FQ B-4
	1 Male	5982	1069	1331	
	2 Female	1460	282	1493	
	Blank	20	6	10	
110	<b>Observed race</b>				FQ B-5 See Note 5
	1 White	7198	1282	2511	
	2 Black	75	27	165	
	3 Other	6	3	58	
	8 Blank but applicable	106	31	59	
	9 Not observed	117	8	31	
	Blank	20	6	10	
111-112	<b>Head of family's national origin or ancestry.</b>				HSQ 2c See Note 6
	01 Mexican/Mexicano	2068	0	3	
	02 Mexican-American	4523	0	0	
	03 Chicano	97	0	0	
	04 Puerto Rican	19	7	2503	
	05 Boricuan	0	0	29	
	06 Cuban	6	1197	46	
	07 Cuban-American	0	85	2	
	08 Hispano - specify	147	20	37	
	09 Other Latin-American or other Spanish - specify	54	17	39	
	00 Other - specify	513	31	175	
	10 Spanish-American	17	0	0	
	11 Spanish (Spain)	18	0	0	

Position	Item description and code	Counts			Source and notes
		M	C	P	
113-115	<b>In what state or foreign country was head of family born?</b>				FQ B-6 See Note 7
	001-118 State/country code	7362	1331	2762	
	888 Blank but applicable	80	20	62	
	Blank	20	6	10	
116-117	<b>What is the highest grade or year of regular school head of family has ever attended?</b>				FQ B-7
	00 Never attended or kindergarten only	250	7	35	
	01-08 Elementary grade	2959	511	889	
	09-12 High school grade	2896	411	1445	
	13-16 College	1002	396	363	
	17 Graduate school	170	57	41	
	88 Blank but applicable	165	29	51	
	Blank	20	6	10	
118	<b>Did head of family finish that grade/year?</b>				FQ B-8
	1 Yes	5710	1171	2210	
	2 No	1316	137	492	
	8 Blank but applicable	166	36	87	
	Blank	270	13	45	
119	<b>Is the head of family now married, widowed, divorced, separated or has he or she never been married?</b>				FQ B-9
	0 Under 14	0	0	0	
	1 Married - spouse in household	5706	1059	1295	
	2 Married - spouse not in household	129	9	129	
	3 Widowed	333	48	133	
	4 Divorced	492	136	376	
	5 Separated	388	28	452	
	6 Never married	320	56	418	
	8 Blank but applicable	74	15	21	
	Blank	20	6	10	
120	<b>Did head of family ever serve in the Armed Forces of the United States?</b>				FQ B-11
	1 Yes	1478	64	383	
	2 No	5883	1265	2400	
	8 Blank but applicable	81	22	41	
	Blank	20	6	10	
121	<b>During the past 2 weeks, did head of family work at any time at a job or business, not counting work around the house?</b>				FQ B-12
	1 Yes	5443	1019	1283	
	2 No	1923	305	1504	
	8 Blank but applicable	76	27	37	
	Blank	20	6	10	
122	<b>Even though head of family did not work during those 2 weeks, did he or she have a job or business?</b>				FQ B-13
	1 Yes	101	19	28	
	2 No	1822	286	1476	
	8 Blank but applicable	76	27	37	
	Blank	5463	1025	1293	

Position	Item description and code	M	Counts C	P	Source and notes
123	<b>Was head of family looking for work or on layoff from a job?</b>				FQ B-14
	1 Yes	510	61	118	
	2 No	1413	244	1384	
	8 Blank but applicable	76	27	39	
	Blank	5463	1025	1293	
124	<b>Which, looking for work or on layoff from a job or both?</b>				FQ B-15
	1 Looking	270	43	69	
	2 Layoff	151	12	26	
	3 Both	85	3	17	
	8 Blank but applicable	80	30	45	
	Blank	6876	1269	2677	
125-127	<b>What kind of business or industry does head of family work for?</b>				FQ B-19 See Note 9
	01C-932 Industry code	5980	1080	1395	
	990 Blank but applicable	118	28	62	
	Blank	1364	249	1377	
128-130	<b>What kind of work was head of family doing?</b>				FQ B-20 See Note 9
	003-889 Occupation code	5988	1080	1391	
	999 Blank but applicable	110	28	66	
	Blank	1364	249	1377	
131	<b>Class of worker</b>				FQ B-22
	1 Employee of a private company, business or individual for wages, salary, or commission	4702	842	1058	
	2 A Federal government employee	219	4	45	
	3 A State government employee	246	12	54	
	4 A Local government employee	359	22	169	
	5 Self-employed in own incorporated business or professional practice	49	25	14	
	6 Self-employed in own unincorporated business, professional practice, or farm	420	171	56	
	7 Working without pay in family business or farm	0	0	0	
	8 Blank but applicable	99	32	60	
	0 Never worked or never worked at a full-time civilian job lasting 2 weeks or more	4	0	1	
	Blank	1364	249	1377	

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

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

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



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

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

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

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

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

#### **GTT/ULTRASOUND, AUDIOMETRY/VISION, PESTICIDE WEIGHTS**

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

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

Position	Item description and code	M	Counts C	P	Source and notes
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**SECTION J. FAMILY RELATIONSHIPS (POS 218-400)**Source: Adult Sample Person Questionnaire  
Family Questionnaire218-400 **Blank**  
Data not yet available.

Position	Item description and code	M	Counts C	P	Source and notes
<b>SECTION K. BODY MEASUREMENT DATA (POS 401-500)</b>					
Source: Body Measurement Examination					
401-404	<b>Tape number</b>				
	6501	7462	1357	2834	
405	<b>Body measurement exam blank</b>				See Note 15
	1 Yes	14	3	24	
	2 No	7448	1354	2810	
406-408	<b>Examiner number</b>				
	100-128	7448	1354	2810	
	Blank	14	3	24	
409-411	<b>Recorder number</b>				
	091-906	7448	1354	2810	
	Blank	14	3	24	
<b>ATTENTION: For tape positions 412-499 decimal points are not shown on the tape. Ages are 6 months-74 years unless otherwise indicated.</b>					
<b>SKELETAL BREADTHS</b>					
412-414	<b>Biacromial breadth</b>				
	14.1-54.7 Centimeters	7415	1350	2798	
	888 Blank but applicable	33	4	12	
	Blank	14	3	24	
415-417	<b>Biiliac crest breadth</b>				
	10.6-47.3 Centimeters	7413	1351	2796	
	888 Blank but applicable	35	3	14	
	Blank	14	3	24	
418-420	<b>Bitrochanteric breadth</b>				
	11.7-47.7 Centimeters	7412	1350	2793	
	888 Blank but applicable	36	4	17	
	Blank	14	3	24	
<b>ATTENTION: See Section B for discussion of systematic examiner differences observed in this survey for elbow breadth.</b>					
421-423	<b>Elbow breadth-right side</b>				
	02.5-08.9 Centimeters	7402	1347	2795	
	888 Blank but applicable	46	7	15	
	Blank	14	3	24	
424-426	<b>Elbow breadth-left side</b>				See Note 16
	03.1-08.5 Centimeters	1475	270	534	
	888 Blank but applicable	22	1	13	
	Blank	5965	1086	2287	

Position	Item description and code	M	Counts C	P	Source and notes
<b>SKINFOLDS</b>					
<b>ATTENTION: See Section B for discussion of systematic examiner differences observed in this survey for the four skinfold measures.</b>					
427-429	<b>Triceps skinfold-right side</b> 02.0-60.0 Millimeters 888 Blank but applicable Blank	7415 33 14	1350 4 3	2794 16 24	
430-432	<b>Triceps skinfold-left side</b> 03.0-58.0 Millimeters 888 Blank but applicable Blank	1475 22 5965	269 2 1086	535 12 2287	See Note 16
433-435	<b>Subscapular skinfold-right side</b> 02.0-60.0 Millimeters 888 Blank but applicable Blank	7413 35 14	1347 7 3	2794 16 24	
436-438	<b>Subscapular skinfold-left side</b> 02.5-60.0 Millimeters 888 Blank but applicable Blank	1474 23 5965	269 2 1086	535 12 2287	See Note 16
439-441	<b>Iliac crest skinfold-right side</b> 01.5-60.0 Millimeters 888 Blank but applicable Blank	7415 33 14	1350 4 3	2792 18 24	
442-444	<b>Iliac crest skinfold-left side</b> 02.0-60.0 Millimeters 888 Blank but applicable Blank	1476 21 5965	269 2 1086	535 12 2287	See Note 16
445-447	<b>Medial calf skinfold-right side</b> 01.5-60.0 Millimeters 888 Blank but applicable Blank	7399 49 14	1347 7 3	2787 23 24	
448-450	<b>Medial calf skinfold-left side</b> 02.0-60.0 Millimeters 888 Blank but applicable Blank	1470 27 5965	269 2 1086	533 14 2287	See Note 16

Position	Item description and code	M	Counts C	P	Source and notes
<b>CIRCUMFERENCES</b>					
451-453	<b>Medial calf circumference-right side</b> 10.0-59.8 Centimeters	7410	1348	2794	
	888 Blank but applicable	38	6	16	
	Blank	14	3	24	
454-456	<b>Medial calf circumference-left side</b> 12.5-53.1 Centimeters	1473	270	534	See Note 16
	888 Blank but applicable	24	1	13	
	Blank	5965	1086	2287	
457-459	<b>Chest circumference-erect</b> (Ages 2-7 years) 32.5-88.7, 88.9-94.7 Centimeters	1253	106	417	
	888 Blank but applicable	79	6	24	
	Blank	6130	1245	2393	
460-462	<b>Chest circumference-supine</b> (Ages 6 months-3 years) 39.4-70.53 Centimeters	784	70	238	
	888 Blank but applicable	28	3	15	
	Blank	6650	1284	2581	
463-465	<b>Head circumference</b> (Ages 6 months-7 years) 21.4-59.5 Centimeters	1592	142	517	
	888 Blank but applicable	87	6	28	
	Blank	5783	1209	2289	
466-468	<b>Mid-upper arm circumference-right side</b> (Upper arm girth) 08.5-52.1 Centimeters	7414	1349	2795	
	888 Blank but applicable	34	5	15	
	Blank	14	3	24	
469-471	<b>Mid-upper arm circumference-left side</b> (Upper arm girth) 10.2-52.4 Centimeters	1474	270	534	See Note 16
	888 Blank but applicable	23	1	13	
	Blank	5965	1086	2287	



Position	Item description and code	M	Counts C	P	Source and notes
<b>HEIGHTS, LENGTHS, AND WEIGHT</b>					
472-475	<b>Sitting height</b> (Ages 2-74 years) 046.3-102.8 Centimeters	7048	1304	2691	
	8888 Blank but applicable	52	14	15	
	Blank	362	39	128	
476-479	<b>Standing height-centimeters</b> (Ages 2-74 years) 078.9-192.6 Centimeters	7085	1315	2697	
	8888 Blank but applicable	16	3	9	
	Blank	361	39	128	
480-482	<b>Standing height-inches (computed)</b> (Ages 2-74 years) 31.1-75.8 Inches	7085	1315	2697	
	888 Blank but applicable	16	3	9	
	Blank	361	39	128	
483-486	<b>Recumbent length</b> (Ages 6 months-3 years) 047.1-110.2 Centimeters	786	71	236	
	8888 Blank but applicable	26	2	17	
	Blank	6650	1284	2581	
487-489	<b>Crown rump length</b> (Ages 6 months-3 years) 33.6-79.9 Centimeters	784	71	235	
	888 Blank but applicable	28	2	18	
	Blank	6650	1284	2581	
490-494	<b>Weight-kilograms</b> 006.55-174.40 Kilograms	7440	1353	2802	
	88888 Blank but applicable	8	1	8	
	Blank	14	3	24	
495-499	<b>Weight-pounds (computed)</b> 014.44-384.48 Pounds	7440	1353	2802	
	88888 Blank but applicable	8	1	8	
	Blank	14	3	24	
<b>HANDEDNESS</b>					
500	<b>Is examinee right or left handed?</b>				
	1 Right	6509	1223	2362	
	2 Left	493	80	289	
	3 Both	71	19	57	
	4 Not sure	277	22	89	
	8 Blank but applicable	98	10	13	
	Blank	14	3	24	

## SECTION L. NOTES

### 1. Family Questionnaire Missing

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

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

### 2. Examination Status

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

### 3. Family Number

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

### 4. Head of Family

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

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

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

### Sociodemographic Data (Pos. 100-131)

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

#### 5. Observed Race

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

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

#### 6. National Origin or Ancestry

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

#### 7. Codes for States and Foreign Countries

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

Codes for States and Foreign Countries (continued)

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

Codes for States and Foreign Countries (continued)

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

**8. National origin recode**

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

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

The recode was assigned as follows:

A. Southwest portion

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

B. Dade County, Florida portion

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

C. New York City area portion

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

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

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

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

#### 9. Industry and Occupation Code

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

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

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

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

#### 10. Health Insurance

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

#### 11. Per Capita Income

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

#### 12. Poverty Index

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

(Note 12 continues on next page)



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

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

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

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

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

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

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

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

### 13. Size of Place and SMSA

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

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

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

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

### 14. Home Heating

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

#### 15. Body Measurement Exam

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

#### 16. Left Side Measurements

Left side measurements of the elbow breadth, mid-upper arm circumference, triceps skinfold, subscapular skinfold, iliac crest skinfold, medial calf circumference and medial calf skinfold were systematically done on approximately 20 percent of the examined sample persons. These measures were collected for quality control purposes and are not a representative sample of the U.S. population. Therefore, none of the sample weights are applicable for analyses using these measurements.

## APPENDIX

## BODY MEASUREMENT EQUIPMENT AND PROCEDURES

Excerpted from Instruction Manual Part 15a, Examination Staff  
Procedures Manual for the Hispanic Health and Nutrition Examination Survey  
1982-84. Hyattsville, Maryland, 1985.

Equipment

Anthropometer parts: 2 sets of four sections each, 4 sliding arms, 1 metal base  
Body measurement table  
Footstool  
Bitrochanteric calipers  
Elbow Calipers  
Skinfold calipers  
Steel tape  
Insertion tape  
Special height scale  
Polaroid Land camera with close-up photographic lens  
Special light attachment for camera  
Self-zeroing weight scale  
Toledo 8805 ticket printer  
Toledo keyboard  
Set of weights for calibration of weight scale (one 25-lb weight and five 50-lb weights)  
Infant measuring board

Introduction

Most of the body measurements are taken on all examinees. Some of the measurements are only taken on various subsets of examinees. Two anthropometers are provided; one is to be used for measuring and one is to be calibrated and reserved as a spare. Each anthropometer consists of four sections of rod and two caliper arms. The rod section used for bitrochanteric breadth measurements has one arm fixed to the top end of the instrument and the other arm free to slide. Two other rod sections are used for sitting heights and will be mounted in the metal base. The remaining section can be used as a spare when required.

Measuring and Recording

The anthropometric measurements consist of various heights, breadths, girths, and skinfolds. Certain measurements are routinely taken on the right side. If, because of casts, amputations, or other reasons, any of these particular measurements are taken on the left side, note the reason on the body measurement page and the unusual occurrence form.

All measurements, except skinfolds, should be taken to the nearest tenth of a centimeter. Skinfold measurements are taken to the nearest half of a millimeter. If the digit to the right of the last digit to be recorded appears to be exactly "five", raise the last digit to be recorded one unit if that digit is an odd number or leave it unchanged if it is an even number. This is sometimes known as the "odd up-even down rule."

When the examinee's sample number ends in a "3" or a "6", all skinfold measurements and the elbow breadth, upper arm girth, and medial calf circumference are to be done on the left side as well as on the right side of the body. If any measurement cannot be taken on the left side, write the reason not done on the body measurement and unusual occurrence forms.

If a skinfold is too tight to be measured, "tight skin" should be written in the recording space for that skinfold.

If a skinfold is above the measurable limits of the calipers, "60+" should be written in the recording space for that skinfold.

The original examiner and recorder should complete an examination once it is started.

The examiner takes each measurement and says it to the recorder. The recorder repeats the number, records it in the proper space, and says the name of the next measurement. The examiner should keep the measuring instrument set until the recorder repeats the number. If the anthropometer becomes unset in any way before the measurement is read back, the measurement should be made again. On standing measurements the recorder should see that the examinee stands erect. For the standing height measurement the recorder should check the height photo to be sure of the accuracy of the technician's reading.

The recorder is important because he helps insure the accurate recording of the measurement while also helping the examiner position the examinee correctly. The recorder also assists the examiner by seeing that the steel tape is horizontal with proper tension when girths are measured. The recorder, having had the same training as the examiner, should recognize an error in measurement or in reading from the wrong scale. (The anthropometer has two scales, ascending and descending.) When he does see an error he should call it to the examiner's attention and have the mistake corrected.

#### Procedure for Measuring Examinees Eight Years Old and Over

1. Before and after measuring
  - a. Before starting the measurements, record on the control record the examiner number and the time the procedure begins. Record on the body measurement form the examiner and recorder numbers, and the age and sex of the examinee.
  - b. After finishing the measurements, record the time on the control record; and complete the date, age, sex, height, and weight sections on the Report of Findings to Physician page of the chart.
2. Height
  - a. Have the examinee stand erect with his back and heels against the upright bar of the height scale ("Stand up tall" or "Stand up straight") with feet together and head in the Frankfort horizontal plane ("Look straight ahead"). Grasp the examinee under the mastoid processes and stretch him gently upward.
  - b. While maintaining the examinee's head position with one hand, bring the horizontal bar down snugly to the examinee's head. Lock the bar in place.
  - c. Place one of the sample number labels next to the tape on the upright bar so the label can be read on the height measurement photograph.

- d. Photograph the height measurement being sure that the examinee's hair does not obscure the scale when you take the photograph. Ask the examinee to step aside.
- e. Process the film and stick the sample number label from the height scale on the photo. Do not cover up the scale or the photographed sample number.
- f. Read the standing height measurement from the photograph and record it on the body measurement form in four digits to the nearest millimeter (0.1 of cm) from the metric scale. If there are less than four digits, fill in the blank spaces with zeroes as appropriate. For example, 99.0 should be 099.0. When the measurement is exactly at the half-way point between two millimeter marks, round up if the preceding whole number is odd; and round down if even.

### 3. Weight

- a. Make sure that the electronic digital scale is in the kilogram mode. If it is not, press the LB/KG key on the keyboard face.
- b. Make sure that the digital LED readout shows 000.00. If it does not, press the ZERO key on the keyboard scale to zero the scale.
- c. Have the examinee stand on the center of the weight scale platform.
- d. Insert the body measurement page in the slot of the scale's printer.
- e. Press the PRINT key on the front of the printer to record on the body measurement page the time of day, the date, and the examinee's weight to the nearest twentieth of a kilogram.
- f. Check to be sure that the printed weight is legible and is the same as the weight displayed on the LED.
- g. Record the weight in kilograms on the body measurement form in the space provided. Always record the weight in five digits, filling in the blank spaces with zeroes as needed. For example, 44.5 should be entered as 044.50. The last digit should always be a zero or a five.

### 4. Biacromial breadth

- a. Have the examinee stand facing away from you in the standard erect position with his feet together and his arms hanging freely at his sides.
- b. Place an anthropometer arm on each of the acromial processes.
- c. Compress the soft tissue over the acromial processes as much as possible by applying pressure on the anthropometer arms near where they touch the body (not where they are attached to the anthropometer).
- d. Measure the maximum breadth of the body between the acromial processes to the nearest 0.1 cm. Be sure that the anthropometer arms do not slip off the acromial processes. This is a bone-to-bone measurement taken over the examinee's gown.

#### 5. Biiliac crest breadth

- a. Have the examinee stand facing away from you in the standard erect position with his feet together.
- b. Locate the maximum lateral width of the body between the crests of the ilia. This maximum width is in the anterior superior aspect of the body.
- c. Place an anthropometer arm on each iliac crest. You may need to hold the ends of the anthropometer arms in a slightly declining position.
- d. Compress the soft tissue over the ilia as much as possible by applying pressure on the anthropometer arms near where they touch the body (not where they are attached to the anthropometer).
- e. Measure the maximum breadth of the body between the iliac crests to the nearest 0.1 cm. Be sure that the anthropometer arms do not slip off the bony landmarks. This is a bone-to-bone measurement taken over the examinee's gown.

#### 6. Bitrochanteric breadth

- a. Have the examinee stand with his feet together in the standard erect position.
- b. Place the caliper arms on the protuberances of the greater femoral trochanters.
- c. Compress the soft tissue over the trochanters as much as possible by applying pressure on the caliper arms near where they touch the body (not where the arms are attached to the anthropometer).
- d. With the top section of the anthropometer measure to the nearest 0.1 cm the maximum breadth of the body at the level of the greater femoral trochanters. This is a bone-to-bone measurement taken over the examinee's gown.

#### 7. Elbow breadth

- a. Have the examinee stand with his feet together in the standard erect position and extend his right arm forward until it is perpendicular to his body.
- b. Have him bend his arm so the angle at the elbow forms 90° with his fingers pointing up and the dorsal part of his wrist toward you.
- c. With the sliding calipers in the same plane as the axis of the upper arm, measure to the nearest 0.1 cm the greatest breadth across the elbow joint. This is a bone-to-bone measurement across the epicondyles of the humerus and is usually taken at an oblique angle because the inner condyle is lower than the outer condyle. Be careful that the calipers do not slide off the epicondyles.

**8. Upper arm girth**

- a. Have the examinee stand with his feet together in the standard erect position and with his right arm flexed 90° at the elbow.
- b. Mark the lateral edge of the acromial process. Place the insertion tape along the posterior upper arm so that the same number appears on the tape at the acromial process of the scapula as at the olecranon process of the ulna. Mark the midpoint of the upper arm which is indicated by the zero point (black triangle) on the tape.
- c. Have the recorder mark the examinee's arm at the level of the zero point on the tape. It is of paramount importance to take this measurement accurately since the midpoint of the arm is the level at which both the arm girth and triceps skinfold measurements are taken.
- d. Have the examinee relax his elbow so his arm hangs freely at his side.
- e. Place the steel tape so it encircles the arm at the marked point and measure the circumference to the nearest 0.1 cm. The tape should rest firmly on the skin surface but should not compress the skin.

**9. Triceps skinfold**

- a. Have the examinee stand with his feet together in the standard erect position, relax his shoulder, and let his arm hang freely at his side.
- b. Mark a point on the right midtriceps in the same plane as the midhumeral point used for the upper arm girth and perpendicular to the olecranon process of the ulna.
- c. Grasp a fold of skin and subcutaneous tissue firmly with thumb and forefinger approximately 1 cm above this level, and draw it directly back from the body making sure that no muscle tissue is included in the fold. The crest of the fold should be parallel to the long axis of the arm.
- d. Apply the calipers at the level of the point marked earlier and indented directly below the thumb and forefinger, and measure the fold to the nearest 0.5 mm without releasing the fingers.
- e. Take a second measurement; if the two disagree, continue taking measurements until you get two that agree to within 0.5 mm.

**10. Subscapular skinfold**

- a. Have the examinee stand with his feet together in the standard erect position and relax his shoulders and arms.
- b. Palpate the inferior angle of the scapula. Grasp a fold of skin and subcutaneous tissue directly above the angle firmly with the thumb and forefinger, and draw it straight back from the body making sure that no muscle tissue is included in the fold. The fold should parallel natural cleavage lines of the skin which are often lines about 45° from the horizontal extending medially upward.
- c. Apply the calipers about 1 cm directly below the thumb and forefinger and measure the fold to the nearest 0.5 mm without releasing the fingers.



- d. Take a second measurement; if the two disagree, continue taking measurements until two agree to within 0.5 mm.

11. Iliac crest skinfold

- a. Have the examinee stand with his feet together in the standard erect position.
- b. Palpate the right suprailiac crest and pull a fold of skin and subcutaneous tissue directly above the crest. The fold should follow natural cleavage lines of the skin which are usually at 45° from the horizontal extending medially downward.
- c. Apply the calipers about 1 cm directly below the thumb and forefinger, and measure to the nearest 0.5 mm the thickness of the fold taken over the right crest at the midaxillary line but perpendicular to it.
- d. Take a second measurement; if the two disagree, continue taking measurements until two agree to within 0.5 mm.

12. Medial calf circumference

- a. Have the examinee sit on the measuring table facing the doorway with his leg hanging loosely.
- b. Place the steel tape on a line between the distal process of the femur and the distal process of the tibia, and have the recorder make a vertical line along the edge of the tape at about the middle of the leg.
- c. Encircle the calf of the leg with the steel tape at what appears to be its maximum circumference. Move the tape up and down the leg slightly to confirm that you have the maximum circumference. Have the recorder mark along the top edge of the tape a horizontal line that intersects the vertical line drawn previously.
- d. Keeping the tape taut without compressing the skin, measure the circumference to the nearest 0.1 cm.

13. Medial calf skinfold

- a. Have the examinee sit on the measuring table with his leg hanging loosely.
- b. Grasp a fold of skin and subcutaneous tissue about 1 cm above the intersection of the markings on the leg.
- c. Place the skinfold calipers at the level of the horizontal line and indented directly below the thumb and forefinger, and measure to the nearest 0.5 mm the thickness of the skinfold.
- d. Take a second measurement; if the two disagree, continue taking measurements until two agree to within 0.5 mm.

14. **Handedness**

Ask the examinee whether he is right-handed or left-handed and record his answer by checking the correct box.

15. **Sitting height**

- a. Have the examinee sit as far back on the measuring table as he can so that the backs of his knee joints (popliteal fossae) are at the front edge of the table. Have him sit erectly with his eyes straight ahead and the infraorbital meatal line parallel to the table top (that is, eyes in the horizontal plane looking straight ahead). Check with the recorder on the examinee's position before making the measurement.
- b. Grasp the examinee laterally under the mastoid processes and under the mandible. Lift the examinee gently to a maximal sitting height.
- c. While maintaining the examinee's head position with one hand, bring the caliper arm down firmly against the midline of the examinee's head. You might have to compress some hairstyles.
- d. Take the measurement to the nearest 0.1 cm with your eyes at the same level as the caliper arm. Do not make the reading at an angle. Short technicians should stand on the stool available in the measuring room.

Procedure for Measuring Children Under Eight Years Old

1. **Before and after measuring**

- a. Before starting the measurements, record on the control record the examiner number and the time the procedure begins. Record on the body measurement form the examiner and recorder numbers and the age and sex of the examinee.
- b. After finishing the measurements, record the time on the control record; and complete the date, age, sex, height, and weight sections on the Report of Findings to Physician page of the chart.

2. **Standing height (two through seven years old)**

Use the same procedure as that for older examinees.

3. **Weight**

Use the same procedure as that for older examinees.

4. **Biacromial breadth**

- a. Stand the child on the foot stool (placed in the center of the room) so that you can take the measurements with your eyes at about the same level as the caliper arms.
- b. Otherwise, use the same procedure as that for older examinees.

5. **Iliac crest breadth**

a. Stand the child on the foot stool (placed in the center of the room) so that you can take the measurements with your eyes at about the same level as the caliper arms.

b. Otherwise, use the same procedure as that for older examinees.

6. Bitrochanteric breadth

a. Stand the child on the foot stool (placed in the center of the room) so that you can take the measurements with your eyes at about the same level as the caliper arms.

b. Otherwise, use the same procedure as that for older examinees.

7. Elbow breadth

Use the same procedure as that for older examinees except that the child may be either standing on the footstool or sitting.

8. Upper arm girth

a. Stand the child on the foot stool (placed in the center of the room) so that you can take the measurements with your eyes at about the same level as the caliper arms.

b. Otherwise, use the same procedure as that for older examinees.

9. Triceps skinfold

a. Stand the child on the foot stool (placed in the center of the room) so that you can take the measurements with your eyes at about the same level as the caliper arms.

b. Otherwise, use the same procedure as that for older examinees.

10. Subscapular skinfold

a. Stand the child on the foot stool (placed in the center of the room) so that you can take the measurements with your eyes at about the same level as the caliper arms.

b. Otherwise, use the same procedure as that for older examinees.

11. Iliac crest skinfold

a. Stand the child on the foot stool (placed in the center of the room) so that you can take the measurements with your eyes at about the same level as the caliper arms.

b. Otherwise, use the same procedure as that for older examinees.

12. Medial calf circumference

Use the same procedure as that for older examinees.

13. Medial calf skinfold

Use the same procedure as that for older examinees.

**14. Handedness**

If the child is old enough, ask him whether he is right-handed or left-handed; and record his answer by the checking the correct box. Otherwise, question the child's parent or guardian to obtain the information.

**15. Sitting height (two through seven years old)**

- a. Have the child sit erectly on the measuring table with his eyes directed straight ahead (the eyes should be in a horizontal plane looking straight ahead). The child should sit as far back on the table as he can so that the backs of his knee joints (popliteal fossae) are in contact with the front edge of the table. Check with the recorder on the child's position before making the measurement. Younger children need to be encouraged to sit up straight, and you might have to give support to a younger child. First, straighten out his back by placing your right hand over the upper part of the chest and your left hand over the lumbar area and pushing gently. Then, grasp the child laterally under the mastoid processes and under the mandible. Lift the child to a maximal sitting height. Be sure that the child's hands are placed in his lap to avoid his rendering you any assistance in elevating himself by using them.
- b. After checking the child's position with the recorder and while maintaining head position with one hand, bring the caliper arm firmly against the midline of the examinee's head. You might have to compress some hairstyles.
- c. Take the measurement to the nearest 0.1 cm with your eyes at the same level as the caliper arm.

**16. Chest circumference**

- a. Two through seven years old, standing
  - (1) Have the child stand on the footstool in the standard erect position with his feet together.
  - (2) Pass the steel tape around the chest at the level of the nipple line so that it is at a right angle to the longitudinal axis of the body.
  - (3) Have the recorder see that the tape is against the child's body just below the angles of the scapula.
  - (4) Measure to the nearest 0.1 cm the chest circumference at mid-respiration, with the examinee breathing normally and with his arms relaxed at his sides.
- b. Three years old and under, supine
  - (1) Have the child lie supine on the infant measuring board.
  - (2) Put the tape around the chest at nipple level at a right angle to the longitudinal axis of the body.
  - (3) Take the measurement to the nearest 0.1 cm at normal midrespiration.

17. Head circumference
  - a. Have the child either sit on the footstool or stand for this measurement.
  - b. Steady the child's head and place the steel tape firmly around the frontal bones (forehead) just above but not including the supra-orbital ridges, passing the tape around the head just above the ears on each side, and laying it over the maximum occipital prominence at the back of the head.
  - c. Have the recorder hold the tape on the maximal occipital prominence once the tape has been positioned correctly.
  - d. Pull the tape firmly to compress the hair and underlying soft tissues.
  - e. Measure the head circumference to the nearest 0.1 cm.
18. Recumbent length (three years old and under)
  - a. Have the child lie on his back on the infant measuring board.
  - b. Find another technician to help take this measurement. One technician holds the child's head in the Frankfort plane (that is, eyes straight ahead, in this case straight upward so that the plane they form is parallel to the movable footboard) and applies gentle traction to bring the head into contact with the fixed headboard. The second technician holds the child's legs by placing one hand firmly over the knees. The child's toes should point directly upward. Then, while applying downward pressure to the legs (to prevent the knees from flexing), the second technician brings the movable footboard to rest firmly against the child's heels. You may need a third person to help with restless infants so you can take measurements as quickly as possible and maintain accuracy.
  - c. Read the measurement to the nearest 0.1 cm from the digital counter on the measuring footboard.
19. Crown-rump length (three years old and under)
  - a. Have the child lie on his back on the infant measuring board with his hips bent at a right angle.
  - b. Find another technician to help take this measurement. One technician holds the child's head in the Frankfort plane and applies gentle traction to bring the head into contact with the fixed headboard. The second technician supports the child's legs under the flexed knees and brings the movable footboard to rest against the child's buttocks with firm pressure.
  - c. Read the measurement to the nearest 0.1 cm from the digital counter on the measuring footboard.

### Unusual Occurrence Form

The unusual occurrence form is used to describe the reasons why parts of the examination were not obtained or why they may have been done in a nonstandard way. For instance, it should identify infants on whom data could not be obtained because of uncontrollable behavior, examinees on whom right-side measurements could not be taken, and all refusals. This form should include the sample numbers of all infants (under two years old) on whom height photos were not taken. Conditions affecting the exam should also be listed here, for example: "SP pregnant" or "right side atrophy due to paralysis."

### Field Checks and Calibrations

#### 1. Calipers

##### a. Bitrochanteric calipers

Calibrate the bitrochanteric calipers at the beginning of the stand and once a week during the stand as follows:

- (1) Separate the arms of the calipers to a randomly chosen whole number measurement. Place the steel measuring tape between the inner edges of the caliper arms to measure the distance between them. This measurement should be the same as the numerical measurement indicated on the anthropometer. If it is not, make sure that the two sections of anthropometer rod fit tightly together at the joint. Also, make sure that the fixed caliper arm fits snugly against the top end of the anthropometer. An adjustment can be made by unscrewing the Allen screw in the top of the fixed caliper arm holder and pressing the holder and rod firmly together.
- (2) Check the linearity of the anthropometer's arms by placing the skinfold step wedge tightly between the inner edges at the base of the arms. Holding the arms immobile, move the step wedge toward the arm tips. If the arms are bent a widening or narrowing of the space will be noticed as the step wedge is moved. The separation of the caliper arms should not exceed 1.0 mm. If it does, replace the bent caliper arms with a spare set.

##### b. Skinfold calipers

Calibrate the skinfold calipers before each examining session as follows:

- (1) Make sure the reading on the scale is 0.0 when the caliper arms are in a closed position.
- (2) Place the step wedge standard between the caliper arms at each of the five steps, and check that the reading on the scale corresponds to the standard measurement.
- (3) If the calipers are not accurate, adjust them by pressing firmly on the arms while the caliper arms are in place on the step level that is out of calibration.
- (4) Record the measurement taken at each step on the body measurement calibration log sheet under the appropriate heading.

An identical calibration should be done on the spare set of skinfold calipers and the corresponding measurements also recorded on the calibration log sheet. Be careful to record the calipers' values on the correct device identification line. (The spare is not always the B instrument.)

- (5) If the calipers are 1 mm or more out of calibration at any level, use the other set of calipers and return the faulty set to headquarters.
- (6) If the calipers become too loose, use the spare set of calipers and return the faulty set to headquarters.

c. Elbow breadth calipers

- (1) Calibrate the elbow breadth calipers at the beginning of the stand and once a week during the stand, using the same procedure used for bitrochanteric anthropometer calibration. Be sure to calibrate the "flat" end portion of the calipers (as opposed to the "sharp end" portion).
- (2) If any abnormality is noticed, use the spare set of elbow breadth calipers and notify the chief technician about the condition.

2. Sitting height anthropometer

a. Beginning of stand and weekly during the stand

- (1) Check that the sliding arm is perpendicular to the upright bar and is not bent. If the arm is bent, use the spare caliper arm and notify the chief tech.
- (2) Adjust the caliper arm to a randomly selected whole number measurement. Place the edge of the metal base even with the edge of the sitting height table.
- (3) Using the metal tape, measure from the lower edge of the caliper arm to the top edge of the sitting height table. This measurement should correspond to the anthropometer reading.
- (4) Move the metal base backward on the sitting height table so that the tip end of the caliper arm is at the edge of the table. Again use the metal tape to measure from the lower edge of the caliper arm to the top edge of the sitting height table. This measurement should correspond to the anthropometer reading.
- (5) If either of the tape measurements differs from the anthropometer reading, check that the correct side of the caliper arm holder is being used. If so, exchange the caliper arm for the spare arm; inform the chief tech; and repeat the entire calibration process with the spare caliper arm in place.

b. Daily

- (1) See that the bottom of the anthropometer is perfectly flush with the undersurface of the metal stand. (Do not handle the anthropometer by the rod sections alone; they are apt to be wrenched from the base or become separated at the joint between the two rods.)

- (2) See that the instrument, when properly mounted in the base, stands vertically without support. If it doesn't, check that the metal base screw responsible for holding the metal rod sections upright is screwed tightly against the rod. Check that the rod is sitting flush against the supporting side of the metal base. If these conditions are both met and the anthropometer still does not stand vertically, use the spare anthropometer set and notify the chief tech about this condition.
- (3) See that the anthropometer numbers read in the correct sequence and the movable arms slide freely without slipping.

### 3. Infant measuring board

- a. Check the infant measuring board at the beginning of each stand by placing a steel tape beside the steel tape mounted on the board to check that the steel tape on the board has not been stretched or bent during transit. If it has, inform the chief tech and the biomedical engineer. The tape will need to be repositioned.
- b. At the beginning of the stand and before each examining session, move the footboard of the baby board to some point along its length chosen at random. This point should alternate between high and low numbers from session to session to assure total calibration. Check the digital counter reading against the steel tape reading to make sure they agree. Record the counter reading on the daily calibration log sheet under the appropriate heading. If the two readings do not agree, inform the chief tech who will be responsible for the following correction process.
  - (1) Place the footboard at some randomly chosen whole number.
  - (2) Unscrew and remove the digital counter cover plate from the side of the infant measuring board. Remove the digital counter from its position on the footboard.
  - (3) Using the small gear located on the right side of the counter, rotate the digits until they agree with the location of the footboard.
  - (4) Without allowing the digits on the counter or the footboard to move, gently position the counter back into place on the footboard making sure to mesh the small gear on the counter with the larger gear located on the footboard.
  - (5) Replace the digital counter cover plate.
  - (6) Move the footboard from one end of the infant measuring board to the other, to make sure that the digital counter and the tape measurements agree for the entire length of the board.
- c. Record beginning of stand and all postrepair calibrations in the log book under the correct headings.



#### 4. Height scale

##### a. Beginning of stand checks

- (1) Check that the upright bar and attached tape measure have not been damaged.
- (2) Check that the horizontal bar is firmly attached to the upright sliding section and that the section operates smoothly. If it doesn't, clean the upright bar with white vinegar.
- (3) Check the Polaroid camera and light to see that they produce optimum photos.

##### b. Calibration

Calibrate the height scale at the beginning of each stand before examinations begin and at the end of each stand after all examinations are done as follows:

- (1) Place the sitting height anthropometer at the middle of the height scale base.
- (2) Place the horizontal bar of the height scale firmly against the anthropometer top.
- (3) Take a Polaroid photograph of the height scale tape. The measurement recorded should be 104 cm. If it's not, adjust the sighting window on the height scale until the measurement does agree and rephotograph the scale.
- (4) Record on the back of the photo the stand number, location, technician number, date, and the level set on the sitting height anthropometer for the calibration.
- (5) Give the photo to the chief tech for shipment to the Quality Control Section at headquarters.

#### 5. Weight scale

##### a. Digital weight scale

Calibrate the weight scale at the beginning of each stand before examinations begin and at the end of each stand after all examinations are done as follows:

- (1) Place the electronic digital system in the pound mode by pressing the LB/KG button on the keyboard until the readout is in tenths. If the digital readout does not register "000.0," press the zero key to automatically balance the scale at zero.
- (2) After zeroing the scale properly, print the zero weight on a sheet of 8½" x 11" paper.
- (3) Place calibration weights on the scale in increments of 25 pounds, starting with 25 and continuing to 250.

- (4) Print the weight in pounds at each increment on the calibration paper by pressing the PRINT key on the time/date unit. At 100 pounds, print the weight in pounds and in kilograms to attest to the accuracy of the pound/kilogram conversion.
- (5) If the scale is out of calibration by at least one half-pound at more than three levels, inform the chief tech. Professional servicing will be necessary.
- (6) When a satisfactory calibration is obtained, record the stand number, stand location, date, and tech number on the sheet and give it to the chief tech to send to headquarters.

b. Printer

The printer comprises a bank of numbers and letters that indicate, from left to right, time (AM or PM), date, and weight. To set the time/date function displayed in the LED on the front panel, do the following:

- (1) Plug the power cord into the power outlet.
- (2) Find the two pushbuttons on the rear panel of the printer above the attached power cable. The top one is the "set" button; the bottom one is the "advance" button.
- (3) Press the "set" button to cause the rightmost LED digit to begin blinking. Press the "advance" button to advance the numerals until the correct year designation appears. Press "set" once again to fix that numeral in the LED and cause the second digit from the right to begin blinking.
- (4) Follow the above process through the six-digit field that represents the date and the four-digit field that represents the time. Although the time must be set according to a 24-hour clock, time will appear on the LED and the printout according to a twelve-hour clock, AM and PM.
- (5) When all the digits have been correctly set, press the "set" button twice to start the timing operation.

c. Spare scale

If it is necessary to use the spare scale because the electronic digital scale is out of order, calibrate it before using according to the following instructions:

- (1) Turn the scale lock at the back of the unit to a horizontal position to unlock the spring mechanism.
- (2) Zero the scale if the trailer is not level. Turn the knob on the left side of the scale gently until the scale reads "0.00." A reading of "E.EE" indicates you have adjusted the scale to below zero.
- (3) After zeroing the scale properly, print the zero weight on a sheet of 8½" x 11" paper.

- (4) Place calibration weights on the scale in increments of 25 pounds, starting with 25 and continuing to 250.
- (5) Print the weight in pounds at each increment on the calibration paper.
- (6) If the scale is out of calibration by a constant amount at all increments, correct the error with the adjustment knob on the left side of the scale.
- (7) If the scale is out of calibration by at least a half-pound at more than three weight increments but not out consistently at all stations, call the company for servicing.
- (8) When a satisfactory calibration is obtained, record the stand number, stand location, date, and tech number on the sheet; and give it to the chief tech to send to headquarters.
- (9) When the electronic digital scale has been repaired and the spare scale is no longer needed for data collection, turn the scale lock at the back of the unit to a vertical position.

d. Daily check

- (1) Have the tech responsible for the body measurement station weigh himself daily to roughly check the accuracy of the weight scales.
- (2) If there is any reason to believe the scales are not accurate, do a complete recalibration. The recording of the calibration should be sent to the Quality Control Section at headquarters.

6. Cleaning of equipment

- a. At the beginning of each stand and during the stand as necessary, wipe the anthropometer, calipers, and tape measures with white vinegar to allow their sliding parts to move more freely.
- b. Clean the equipment with alcohol at the end of each examining day.
- c. Clean the camera roller bars periodically according to the following instructions to assure uniform spreading of the photo developing agent.
  - (1) Open the back of the camera by releasing the lever on the bottom panel of the camera.
  - (2) Grasp the roller springs on the top and bottom of the roller assembly and pull them straight outward, thus allowing the roller bars to swing free of the inside camera body.
  - (3) Clean the roller bars thoroughly using alcohol on gauze to remove the chemical residue.
  - (4) Put the roller assembly against the back panel of the camera body, and press firmly at the center of the roller bars to reseat the rollers.
  - (5) Place the back of the camera against the main body of the camera, and press on it firmly to close the camera.

## End of Stand Procedures

1. Pack-up calibration
  - a. Calibrate completely the weight and standing height scales as described earlier in this chapter under Field Checks and Calibrations.
  - b. Give the calibration sheet to the chief tech to send to headquarters. Also send the skinfold daily calibration sheet to headquarters at the end of the stand.
2. Pack-up procedures
  - a. Calipers
    - (1) Dismantle the bitrochanteric and sitting height anthropometer calipers and place each of these and the elbow breadth calipers in the traveling case. Store the case and the sitting height anthropometer base in the body measurement table.
    - (2) Place the skinfold calipers in their protective case, and store it in the body measurement table drawer.
  - b. Weight scale
    - (1) Unplug the power cord, and check that the weight scale is in a vertical position.
    - (2) Move the weight blocks on the front of the scale to the far right side, and tape them in position.
    - (3) Immobilize the scale platform by inserting table paper snugly between the platform and the scale base.
  - c. Printer
    - (1) Unplug the power cord from the wall outlet.
    - (2) Disconnect the input cable to the scale, and tape the cable onto the printer shelf.
    - (3) Put the printer on the floor.
  - d. Height scale
    - (1) Unplug the light from the power outlet.
    - (2) Place the light against the camera-holding bar and tape it into position.
    - (3) Raise the horizontal bar to the top of the upright bar and tape it into position.
    - (4) Be sure that the camera is securely fastened down for transit.
  - e. Body measurement table
    - (1) Close and lock the drawers and cabinet doors.
    - (2) Place the webbing strap around the table and secure the ends to the wall brackets. Be sure the strap is pulled tightly around the table for transit.