## Public Use Data Tape Documentation

## Physical Measurements <br> I Tape Number 1003

National Health Examination Survey, 1959-62
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES - Public Health Service - Office of Health Research, Statistics, and Technology - National Center for Health Statistics


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Office of Health Research, Statistics, and Technology
National Center for Health Statistics
Hyattsville, Maryland
May 1981

## FILE CHARACTERISTICS

| TITLE: | User Data Set \#3 - Physical Measurement |
| :---: | :---: |
| CONTENT: | Physical Measurement Data by File Sequence Number |
| CASE COUNT: | 6672 |
| RECORD COUINT: | 6672 |
| RECORDING MODE: | FB |
| RECORD LENGTH: | 132 Characters |
| RECS/BLOCK: | 20 records |
| DENSITY: | 1600-BPI |
| CHANMEL: | 9-trk |
| LOCATION: | North Carolina DP Facility |
| CREATED BY: | DHES/NCHS/HSMHA |
| DATA SET NAME: | HE003001. BODYMEAS |
| REEL $\operatorname{NUMBER(S):~}$ | 008274 |
| COMMENTS : | Copy of tape with same Dsname on Reel \#003930 |

## Introduction

The overall plan of the Health Examination Survey (HES) was to conduct successive, separate cycles of examinations in specific segments of the national population. The data in this report refers to the survey for cycle 1.

The first cycle of the HES was the examination of a sample of adults. It was directed toward the collection of statistics on the medically defined prevalence of certain chronic diseases and of a particular set of dental findings and physical and physiological measurements. The probability sample consisted of 7,710 of all non-institutional civilian adults in the age range 18-79 years in the United States. Altogether, 6,672 persons were examined during the period from ertujer 1959 to December 1962.

The tape contains data from the cycle I survey relating to the physical measurements of each examined person. There are 6,672 records of 132 characters each. The first 117 characters are coded numeric and represent forty-eight separate data items. The remaining 15 characters are filled with zeroes.

## 1. File Description

2. Detailed Description of Data Items
3. Appendix A: Special Case Coding Corrections
4. Appendix B: Glossary of Selected Terms $\equiv$

File Description and Codes


| ITES 1 | FRO:1 | T0 | $\begin{array}{\|c} \text { TUFERE } \\ \text { OF } \\ \text { POSITIONS } \\ \hline \end{array}$ | ITEM DESCRIPTION \& CODES | CONTROLS COUNTS | SOURCE | TAPE TOSIIIO:A |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 18 | 55 | 57 | 3 | Popliteal Height XX.X inches |  | HES-207 \#14 | 944-946 |
| 19 | 58 | 60 | 3 | Thigh Clearance Height XX.X inches |  | HES-207 \#15 | 947-949 |
| 20 | 61 | 63 | 3 | Buttock - Knee Length $X X . X$ inches |  | HES-207 \#16 | 950-952 |
| :1 | 64 | 66 | 3 | Buttock - Popliteal Length XX.X inches |  | HES-207 \#17 | 953-955 |
| 22 | 67 | 69 | 3 | Seat Breadth (across hips) XX.X inches |  | HES-207 \#18 | 956-958 |
| $\because$ | 70 | 72 | 3 | Elbow to Elbow Breadth XX.X inches |  | HES-207 \#19 | 959-961 |
| 4 | 73 | 75 | 3 | Elbow Rest Height $X X . X$ inches |  | HES-207 \#20 | 962-964 |
| . 5 | 76 | 78 | 3 | Sitting Erect Height/Stature X.XX <br> PHYSICAL MEASUREMENTS OF EXAMINED PERSON (RECODED) |  |  | 965-967 |
| 20 | 79 | 80 | 2 | Height Recode <br> Code $01=46.3-48.6 \mathrm{in}$. | 1 | recode of pos. | 1285-1286 |
|  |  |  |  | $\begin{aligned} & 02=48.7-51.0 \mathrm{in} . \\ & 03=51.1-53.4 \mathrm{in} . \\ & 04=53.5-55.8 \mathrm{in} . \\ & 05=55.9-58.2 \mathrm{in} . \\ & 06=58.3-60.6 \mathrm{in} . \\ & 07=60.7-63.0 \mathrm{in} . \\ & 08=63.1-65.4 \mathrm{in} . \\ & 09=65.5-67.8 \mathrm{in} . \\ & 10=67.9-70.2 \mathrm{in} . \\ & 11=70.3-72.6 \mathrm{in} . \\ & 12=72.7-75.0 \mathrm{in} . \\ & 13=75.1-7.4 \mathrm{in} . \\ & 14=77.5-79.8 \mathrm{in} . \end{aligned}$ | $\begin{array}{r} 0 \\ 2 \\ 100 \\ 102 \\ 553 \\ 1226 \\ 1553 \\ 1377 \\ 1162 \\ 524 \\ 145 \\ 111 \\ 6 \end{array}$ | $13-15$ | 1285-1286 |







| S | $\mathrm{CO}$ |  | $\begin{gathered} \text { TUB:UER } \\ \text { OF } \\ \text { POSITIONS } \end{gathered}$ | ITEM DESCRIPTION \& CODES | COMTROLS COUHTS | SOURCE | $\begin{aligned} & \text { SRI } \\ & \text { ThiPE } \\ & \text { POSITID:I } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | FRO: | T0 |  |  |  |  |  |
| 9 | 103 | 104 | 2 | Sitting Erect Height Recode Code $01=17.0-18.9 \mathrm{in}$. $02=19.0-20.9 \mathrm{in}$. $03=21.0-22.9 \mathrm{in}$. $04=23.0-24.9 \mathrm{in}$. $05=25.0-26.9 \mathrm{in}$. $06=27.0-28.9 \mathrm{in}$. $07=29.0-30.9 \mathrm{in}$. $08=31.0-32 \cdot 9 \mathrm{in}$. $09=33.0-34.9 \mathrm{in}$. $10=35.0-36.9 \mathrm{in}$. $11=37.0-38.9 \mathrm{in}$. $12=39.0-40.9 \mathrm{in}$. | $\begin{array}{r} 1 \\ 0 \\ 0 \\ 0 \\ 3 \\ 17 \\ 166 \\ 1262 \\ 2696 \\ 1946 \\ 561 \\ 20 \end{array}$ | recode of pos. 48-50 | 1303-1304 |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
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|  |  |  |  |  |  |  |  |
| ) | 105 | 106 | 2 | Knee Height Recode$\begin{aligned} 0 \text { ode } & =15.0-15.9 \mathrm{in} . \\ 02 & =16.0-16.9 \mathrm{in} . \\ 03 & =17.0-17.9 \mathrm{in} . \\ 04 & =18.0-18.9 \mathrm{in} . \\ 05 & =19.0-19.9 \mathrm{in} . \\ 06 & =20.0-20.9 \mathrm{in} . \\ 07 & =21.0-21.9 \mathrm{in} . \\ 09 & =22.0-22.9 \mathrm{in} . \\ 09 & =23.0-23.9 \mathrm{in} . \\ 10 & =24.0-24.9 \mathrm{in} . \\ 11 & =25.0-25.9 \mathrm{in} . \\ 12 & =26.0-26.9 \mathrm{in} . \end{aligned}$ | 3 | recode of pos. 51-53 | 1305-1306 |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  | 13 |  |  |
|  |  |  |  |  | 213 |  |  |
|  |  |  |  |  | 846 |  |  |
|  |  |  |  |  | 1619 |  |  |
|  |  |  |  |  | 1735 |  |  |
|  |  |  |  |  | 1316 |  |  |
|  |  |  |  |  | 687 |  |  |
|  |  |  |  |  | 203 |  |  |
|  |  |  |  |  | 29 |  |  |
|  |  |  |  |  | 4 |  |  |
|  |  |  |  |  | 4 |  |  |
|  | 117 | 108 | 2 | Popliteal Height Recode |  |  |  |
|  | 117 |  | 2 | Code $01=09.0-09.9 \mathrm{in}$. | 1 | recode of pos. $54-56$ | 1307-1308 |
|  |  |  |  | $02=10.0-10.9 \mathrm{in}$. | 1 |  |  |
|  |  |  |  | $03=11.0-11.9 \mathrm{in}$. | 1 |  |  |
|  |  |  |  | $04=12.0-12.9 \mathrm{in}$. | 10 |  |  |
|  |  |  |  | $05=13.0-13.9 \mathrm{in}$. | 168 |  |  |
|  |  |  |  | $06=14.0-14.9 \mathrm{in}$. | 811 |  |  |
|  |  |  |  | $07=15.0-15.9 \mathrm{in}$. | 1369 |  |  |
|  |  |  |  | $08=16.0-16.9 \mathrm{in}$. | 2023 |  |  |
|  |  |  |  | $09=17.0-17.9 \mathrm{in}$. | 1513 |  |  |
|  |  |  |  | $10=18.0-18.9 \mathrm{in}$. | 544 |  |  |
|  |  |  |  | $11=19.0-19.9 \mathrm{in}$. | 199 |  |  |
|  |  |  |  | $12=20.0-20.9 \mathrm{in}$. | 29 |  |  |
|  |  |  |  | $13=21.0-21.9 \mathrm{in}$. | 3. |  |  |




DETAILED DESCRIPTION
OF DATA ITEMS ON
THE PHYSICAL MEASUREMENT TAPE

Eighteen measurements of body size were taken and recorded on form HES-207, the Health Exanination Survey Physical Measurement Data Sheet. These measurements include biacromial diameter, right arm girth, chest girth, waist girth, right arm skinfold, right infrascapular skinfold, height, weight, sitting normal height, sitting erect height, knee height, popliteal height, thigh clearance height, buttock-knee length, buttockpopliteal length, seat breadth (across hips), elbow-to-elbow breadth and elbow rest height. These body dimensions other than weight are the scale readings recorded to the nearest millimeter. When the body dimensions were measured with the upper sections of the anthropometer, the length of the base section which was not used was later subtracted mechanically. The base section length was subtracted from the normal sitting height, erect sitting height, knee height, popliteal neight and thigh clearance height measurements. All linear measurements, other than skinfolds, were converted from centimeters to inches.

All measurements were made with the examinee stripped to the waist and without shoes, but wearing paper slippers and a lightweight kneelength examining gown.

## Detail Note $\frac{1}{\pi} 1$

## File Sequence Number

This five digit code represents two identifying numbers. The first is the number 'two' which is given to every record. This number identifies the tape as being a physical measurements tape. The last four digits sequentially number all of the records (from 0001 to 6672) on the tape.

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Detail Note \#3
```


## Final Estimate Weight

This data item is the final weighting factor that will adjust the sampled person to the PSU selection technique and to the post-stratification by age and sex for the final national estimates. In addition this number was adjusted so that the biasing effect of non-response would be minimized.

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Detail Note #}
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## Height

The examinee stood erect on a horizontal platform with his back against a vertical measuring scale 3 inches wide, looking straight ahead with his head in the Frankfort horizontal plane. A 1 1/2 inch wide horizontal measuring bar was brought down snugly on top of his head. An adhesive strip with the examinee's case number was attached to the scale's pointer support and the position of the pointer on the scale was photographed. For examinees too tall to be photographed (over 75 inches) height was measured with an anthropometer. The anthropometer was held perpendicular to the floor in the midline of the examinee's back and the movable bar was brought to:n into firm contact with the top of the head. Height was recorded in millimeters and then converted mechanically to measurements in tenths of an inch.

Weight
The examinee stood without support on the platform of an automatic balancing scale. His weight was immediately reproduced on his record which was inserted in the scale's automatic printer. The value was then read off the record to the nearest half pound. A small study of representative clothing showed the weight of men's clothing worn in the examination to be slightly over two pounds and that of women's clothing to be slightly less than two pounds. The values for weight were not corrected for clothing.

## Biacromial Diameter

The observer stood behind the examinee who was standing without support, placed his hands on the examinee's shoulder, asked him to roll his shoulders slightly forward, and assisted him in doing so. The observer located the outermost edges of the acromion by following the scapular spines laterally and forward. The location of the acromial process was marked with a balipoint pen or skin-masking pencil without distorting the position of the skin over the acromion. The measurement was taken with the bars of the anthropometer held short, fingers at the tips of the bars, and palms on the rod. The movable bar was adjusted to measure the width betueen the most lateral surfaces of the acromion with firm contact. The reading was taken at the inner edge of the movable bar, without changing the position of the movable bar, on the scale that increased downward from the fixed bar.

## Right Arm Girth

The examinee stood and held his right forearm at a right angle to the upper arm. The observer measured the distance from the acromion (at the shoulder) to the olecranon (at the elbow) on the outer side of the arm using a steel tape. The midpoint of the acromion-olecranon distance was marked with a ballpoint pen or skinmarking pencil on both sides of the tape. The biceps circumference was measured at this level, while the arm was extended, with a steel tape held in contact without deforming the contours of the arm.

## Detail Note \#8 \& \#30

## Chest Girth

This measurement was taken while the examinee was standing relaxed, breathing normally, with his arms slightly raised. On men, a steel centimeter tape was applied without deforming the skin contours, in the horizontal plane around the chest at the nipple line. The women were measured without a brassiere. A steel centimeter tape was applied in the horizontal plane at the uppermost part of the axillary fold, without deforming the skin contours.

## Waist Girth

The steel tape was applied horizontally at the natural indentation of the waistline or at a level midway between the jliac crests and the lower edge of the rib cage, if no identation was present.

## Detail Note 華10 \& \#34

## Sum of Skinfolds

The measurement is the sum of the right upper arm skinfold and the right infrascapular skinfold. The skinfolds were measured with the standard caliper developed by Oscar Lange of the University of Kentucky in Lexington, Kentucky, manufactured by the Cambridge Scientific Instruments, Cambridge, Maryland. When a skinfold was difficult to measure an indication of "tight skin" was recorded next to the measurement to be taken into consideration when analyzing the data. Refer to the detailed descriptions of Upper arm skinfold (Item 32) and Infrascapular skinfold (Item 33).

## Detailed Note \#11

(Weight) $^{1 / 3}$
Refer to the detailed description of Weight (Item 4).

## Detailed Note 쓰N12 \& \# \#35

Height/(Weight) $\quad$ /3
This measurement is defined as the ponderal index. Refer to the detailed descriptions of Height (Item 3) and Weight (Item 4).

## Chest Circumference/Stature

Refer to the detailed descriptions of Chest Girth (Item 7) and Height (Item 3).

Detailed Note \#14 \& \#37

Biacromial Diameter/Stature
Refer to the detailed descriptions of Biacromial diameter (Item 5) and Height (Item 3).

## Sitting Nornal Height

The examinee sat normally relaxed, hands in lap, looking straight ahead with head in the Frankfort horizontal plane. The anthropometer was held vertically along the middle of the back, and the measuring bar was brought down into firm contact with the top of the head, in the midline.

## Detailed Note \#16 \& \#39

## Sitting Erect Height

The examinee sat erect, looking straight ahead, head in the Frankfort horizontal plane, knees together, elbows at sides, forearms at right angles, hands open, palms facing each other. The anthropometer was held vertically along the middle of the back, and the measuring bar was brought down into firm contact with the top of the head, in the midline.

## Knee Height

The examinee sat erect, heels and knees together. The anthropometer was held veitically and the measurement was made from the top of the footboard to the top of the right knee just in back of the knee cap, with the horizontal bar in light contact with the leg.

## Detailed Note \#18 \& \#41

## Popliteal Height

The examinee sat relaxed. The measurement was made with an anthropometer from the top of the footboard to the top of the sitting surface on the examinee's right side.

## Detailed Note \#19 \& \#42

## Thigh Clearance Height

The examinee sat erect, knees together, heels together, right hand on left shoulder. The measurement was made with an anthropometer, from the top of the sitting surface to the junction of the abdomen and thigh on the right side with the crossbar in firm contact to compress the clothing.

## Detailed Note $\frac{4}{\pi} 20 \& \frac{4}{\Pi} 43$

## Buttock-Knee Length

The examinee sat erect, knees together, hands in lap, popliteal fossae at the front edge of the sitting board. The measurement was made between the bars of the anthropometer, from the most posterior protrusion of the sacral area to the foremost edge of the patella on the examinee's right side.

Buttock-popliteal lensth
The examinee sat erect, hands on knees, popliteal fossae at the edge of the sitting board. The measurement was made with an anthropometer from the inner edge of a backboard, which was held in light contact with the examinee's back at right angles to the sitting board, to the front edge of the sitting surface' on the right side.

## Seat Breadth

The examinee sat erect, knees together, hands on knees. The measurement was made with an anthropometer, across the greatest lateral protrusion on eac' side of the buttocks, using light but sure contact to compress the clothing but not the body.

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Detailed Note #23 & #46
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## Elbow-to-Elbow Breadth

The examinee sat erect, knees together, forearns at right angles, hands open, palms facing each other, and elbows held as tightly as possible to the sides. The measurenent was made with an anthropometer, across the lateral projections of the elbows with firm pressure.

## Elbow Rest Height

The examinee sat erect, shoulders relaxed, both elbows at right angles, fingers straight. The measurement was made with an anthropometer held vertically from the sitting surface to the lowest portion of the elbow, on the right side, using light contact only.

## Detailed Note 425 \& \#48

Sitting Erect Height/Stature
Refer to detailed descriptions of Sitting Erect Height (Item 16) and Height (Item 4).

## Detailed Note \#32

## Right Arm Skinfold

The upper arm skinfold was measured over the back of the right arm, parallel to the long axis of the arm and 1 centimeter over the midpoint mark where the arm girth measurement was taken.

## Detailed Note ${ }_{\pi}^{n 33}$

Infrascapular Skinfold
The infrascapular skinfold measurement was taken 1 centimeter below the tip of the right scapula. The skinfold was angled about 45 degrees from the horizontal, going medially upward and laterally downward.

## APPENDIX A <br> Special Case Coding Corrections

The following seventeen cases were coded as Male in the Girdle worn category, SRT position 350, and as Female in the Sex category, SRT position 880. Therefore, the code was changed from '4' (Male) to '3' (other) in the girdle worn category.

Case Numbers

| 01165 | 26085 |
| :--- | :--- |
| 02136 | 28075 |
| 03072 | 31061 |
| 03132 | 31097 |
| 04117 | 34076 |
| 10180 | 38019 |
| 14165 | 29131 |
| 14166 | 92088 |
| 23190 |  |

