# VITALand EIEATTE STATISTICS DATA FROM THE NATIONAL HEALTH SURVEY 

## characteristics of Persons With Diabetes

United States - July 1964 - June 1965


#### Abstract

Statistics on the prevalence of diabetes as reported in interviews, the socioeconomic and health characteristics of diabetics, their disability from diabetes and from all chronic conditions, and type of medical and home care. Based on data collected in household interviews during the period July 1964June 1965.




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## COOPERATION OF THE BUREAU OF THE CENSUS

Under the legislation establishing the National Health Survey, the Public Health Service is authorized to use, insofar as possible, the services or facilities of other Federal, State, or private agencies.

In accordance with specifications established by the National Health Survey, the Bureau of the Census, under a contractual arrangement, participates in most aspects of survey planning, selects the sample, collects the data, and carries out certain parts of the statistical processing.

[^0]
## FOREWORD

A special supplement to the health interview was administered to persons reporting diabetes in the basic interview during the period July 1964-June 1965 in order to obtain specific information about the health and characteristics of the diabetic population. In the development of this supplement, extensive explorations were conducted by staff members of the Diabetes and Arthritis Control Program and the Division of Health Interview Statistics to determine the feasibility of collecting the data and to determine the appropriateness of items for inclusion in the supplement.

This report is a product of very close collaboration of the two agencies over a period of several years, and hopefully it provides a set of valuable data for those working in the varied diabetes programs at many levels.

Special credit for the initial suggestions and for the extensive staff work for this project-reaching into all phases of data collection, processing, and review-should be extended to Dr. Glen W. McDonald, Chief of the Diabetes and Arthritis Control Program, and his staff members Mrs. Gail Fisher and Miss Mildred Kaufman.

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IN THIS REPORT statistics are presented on the prevalence of diabetes as reported in household interviews during the period July 1964June 1965, the socioeconomic characteristics of the diabetic population, and their health status in terms of number of chronic conditions, disability days, and limitation of activity.

The purpose of the report is to provide supplemental information about the health of diabetics in addition to the information regularly collected on all chronic conditions; for example, data on medical and home care, medication, and diet.

An estimated 1.3 percent of the civilian, noninstitutional population of the United States was reported to be diabetic. The prevalence of diabetes increased with age. The majority of diabetics had at least one chronic condition in addition to diabetes, and the rates of disability from all conditions were higher than those of the total population.

## SYMBOLS


Category not applicable--------------------- .
Quantity zero------------------------------- -
Quantity more than 0 but less than $0.05-$--- 0.0
Figure does not meet standards of


# CHARACTERISTICS OF PERSONS WITH DIABETES 

Mary Lou Bauer, Division of Health Interview Statistics

## INTRODUCTION

Diabetes ranks eighth among the leading causes of death, accounting for over 32,000 deaths annually. Despite significant advances in the treatment of the disease, it continues to be a major health problem. In addition to the 2.4 million known diabetics, ${ }^{\text {a }}$ there are estimated to be over 1.6 million persons who have diabetes but are not aware that they have the condition. ${ }^{1}$

Although there is no known cure for diabetes, prognosis for diagnosed diabetics is much improved, and life expectancy for these persons is steadily increasing. Since the introduction of insulin in 1922, the duration of life after diagnosis of diabetes has increased threefold. In addition to the influence of insulin, the better understanding of diabetic dietary treatment as well as advances in treatment of infections and surgical complications have been important factors. When age at onset is considered, the progress is even more impressive as evidenced by the tenfold increase in the duration of life of persons who develop diabetes as children. ${ }^{2}$

This report will present information on the prevalence of diabetes, the socioeconomic characteristics of the diabetic population, and their health status in terms of number of chronic conditions, disability days, and limitation of activity from diabetes and from all chronic conditions.

[^1]It will also describe their medical and home care, medication, and diet.

## SELECTED FINDINGS

During the period July 1964-June 1965, an estimated 1.3 percent of the civilian, noninstitutional population of the United States were reported to be diabetic. About 58 percent of these persons were female. The prevalence of diabetes did not differ by region or residence. For both males and females the prevalence increased with age, with a peak in the age group 65-74 years. The majority of diabetics reported that the condition had been diagnosed after they had reached age 45.

Persons with diabetes were older than the general population-their median age being more than twice as high. The majority of diabetics had at least one other chronic condition. The rates of disability for diabetics were roughly three times those for the total population, but much of the disability was attributed to conditions other than diabetes.

Most of the diabetics had seen a doctor in the past year for treatment of their diabetes. About three-fourths of them were taking medication, either insulin or oral drugs. About half of the diabetics followed a diet, and a similar proportion used more than one of the dietetic foods. Insulin injections and meal preparation were taken care of by the diabetics themselves or by a spouse or relative. Few persons reported other assistance.

## SOURCE AND LIMITATIONS OF DATA

The data on which this report is based were collected as part of the 1964-65 Health Interview Survey (HIS), which is a continuous, nationwide survey conducted by household interview. Each week a representative sample of households is interviewed to obtain information relating to the health characteristics of each member of the household. During the period July 1964-June 1965, interviews were conducted in approximately 42,000 households comprising 134,000 persons. The data from these interviews were then weighted to make the sample representative of the total population by age, sex, color, and residence.

The HIS questionnaire provided data on personal and social characteristics, chronic and acute conditions, hospitalization, disability, and other health items. For those persons who reported diabetes, a detailed supplement was completed. This supplement investigated the diabetic history of the respondent, the family history of diabetes, diagnosis and medical treatment, and practice of self-care.

Data from the HIS questionnaire produced an estimate of $2,385,000$ persons with diabetes for the period July 1964-June 1965. Supplemental questionnaires were obtained for $2,300,000$ of these persons. This report is based on the 2.3 million diabetics with supplements.

For the HIS questionnaire, a household respondent often provided the information on the diabetic. For the supplement, however, 82 percent of the respondents were self-respondents. A proxy respondent was used only when a diabetic was not an eligible respondent, was unable to respond for himself because of disability or illness, or was not available for interview at any time during the interview week. Proxy respondents answered 14 percent of the supplements. No supplements were available for the remaining 4 percent of the persons who had been identified as having diabetes in the HIS questionnaire. Included in this number would be persons who reported "high blood sugar" or "sugar in blood." Such persons were not given supplements since the questions asked on the supplement would not be applicable to persons who did not know that they were diabetic.

The diabetics without supplements who wert excluded from the report did not differ from the reporting group in any of the following characteristics: age, race, marital status, restricted activ.. ity, bed disability, geographic region, residence, or education of the head of the family. However, there were differences in family income and education of the individual. With respect to both income and education, the diabetics without supplements had a somewhat higher proportion of cases falling in the middle range of each variable and a higher proportion with unknown education or unknown income than did diabetics with supplements. However, the percentage variation was sufficiently small to indicate that both groups came from essentially the same population.

The Health Interview Survey is limited to the civilian, noninstitutional population of the United States. The universe sampled does not include members of the Armed Forces, U.S. nationals living in foreign countries, crews of vessels, or persons residing in institutions. These exclusions should not affect the data appreciably.

A description of the design of the survey, the methods of estimation, and the general qualifications of survey data is presented in Appendix I. The estimates shown in this report are based on a sample of the population and are therefore subject to sampling error. Although most of these errors are of relatively low magnitude, where an estimated number or the numerator or denominator of a rate or percentage is small, the sampling error may be high. For this reason attention should be directed to the section in Appendix I entitled "Reliability of Estimates." Charts of relative sampling errors and instructions for their use are also presented in Appendix I.

Although it is not general policy to publish figures which do not meet the usual standards of reliability, an exception is made in the case of reports based on supplements. In order to use these data to full advantage and to show trends which are considered logical and important, it is sometimes necessary to show smaller figures. Special attention is called to these figures by asterisks.

Certain terms used in the report are defined in Appendix II. The questionnaire used by the Health Interview Survey during the period July 1964-June 1965 is illustrated in Appendix IV.

## PREVALENCE OF DIABETES

During the period July 1964 to June 1965, the number of persons reported in the Health Interview Survey to be diabetic was $2,385,000$, or 1.3 percent of the total U.S. population. This prevalence compares with other estimates of known diabetes based on interview data or medical histories. For example, the Health Examination Survey in 1960-62 on the basis of medical histories of examinees reported 1.8 percent of a nationwide probability sample of persons aged 18-79 years to he diabetic."

Based on the supplement, the number of diabetics reported for the period July 1964June 1965 was 12.2 per 1,000 population. The prevalence of diabetes is essentially the same in all regions and residential areas (table A). In addition, the percent distribution of diabetics by region and by residence parallels the distribution of the total U.S. population (table B).

The prevalence of diabetes in both males and females increases with age (table $C$ ) as does the ratio of females to males. The highest prevallence for both sexes occurs in the age group $65-74$ years (fig. 1). For females, there is a substantial decrease after age 75 , but for males

Table A. Prevalence of diabetes, by geographic region and area: United States, July 1964-June 1965


Table B. Percent distribution of diabetics and of the total population, by geographic region and area: United States, July 1964-June 1965

| Region and area | Diabetics | Total population |
| :---: | :---: | :---: |
|  | Percent distribution |  |
| All regions- | 100.0 | 100.0 |
| Northeast--------- | 26.7 | 24.8 |
| North Central----- | 28.2 | 28.6 |
| South------------- | 30.2 | 30.3 |
| West------------- | 14.9 | 16.3 |
| All areas--- | 100.0 | 100.0 |
| SMSA--- | 63.3 | 64.1 |
| Outside SMSA: |  |  |
| Nonfarm--------- | 31.5 | 29.8 |
| Farm----------- | 5.3 | 6.1 |

the prevalence shows no change. Females not only have higher prevalence than males in each age group after 45 years but the differences between adjacent age groups are greater.

Table C. Prevalence of diabetes, by sex, age, and ratio of females to males: United States, July 1964-June 1965

| Age in years | Both sexes | Male | Female | $\begin{gathered} \text { Ratio } \\ \text { of } \\ \text { females } \\ \text { to } \\ \text { males } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| All ages- | Prevalence per 1,000 population |  |  |  |
|  | 12.2 | 10.5 | 13.8 | 1.4 |
| Undex 25-- | 1.3 | 1.2 | 1.3 | 1.1 |
| 25-44----- | 6.2 | 6.2 | 6.2 | 1.1 |
| 45-54----- | 17.8 | 15.4 | 20.0 | 1.4 |
| 55-64----- | 36.9 | 32.0 | 41.4 | 1.4 |
| 65-74----- | 54.5 | 47.1 | 60.6 | 1.6 |
| 75+------- | 49.2 | 47.0 | 50.8 | 1.5 |



Figure 1. Number of diabetics per 1,000 population, by sex and age.

## THE DIABETIC POPULATION

## Socioeconomic Characteristics

Of the $2,300,000$ persons with diabetes, 58 percent were female. Males and females differed in all socioeconomic characteristics shown in table 1 except age.

Two-thirds of the diabetics were over 55 years of age. There were relatively few juvenile diabetics; only 5 percent of the diabetic population was under age 25.

The diabetics as a group were considerably older than the general population. The median age for male diabetics was 60.2 , for females, 61.8. For each sex the median age of diabetics was more than twice that of the general population.

Sex | Total |
| :---: |
| population | Diabetics

Median age

| Male | 26.8 | 60.2 |
| :--- | :--- | :--- |
| Female | 28.9 | 61.8 |

The majority of diabetics wore white ( 8 ; percent), which approximates the color composition of the total population. A higher proportion of females than males were nonwhite.

With respect to marital status, both sexis differed from the total population of which approximately two-thirds of each sex were married. Among diabetics approximately 80 percent of the males were married as were about 54 percent of the females. Comparing male and female diabetics, relatively more males were married, whereas relatively more females were widowed, divorced, or separated. A higher proportion of married persons might be expected among di:ibetics because of the higher median age. However, one would not expect the differential by sex.

The family income of male diabetics wis substantially higher than that of females, the median being $\$ 5,572$ and $\$ 4,035$, respectively. The difference probably reflects the higher proportion of females who were widowed, divorcel, or separated, as well as the higher proportion who were nonwhite. The usual income differential by sex was minimized since the inconte reported was family rather than individual income. Neither was age a factor. As noted earlier, males and females were similarly distributed by age.

The median education of male diabetics wis higher than that of females, 9.4 years comparc d with 8.7 years. The median education of the her d of the family was essentially the same as that of individuals: 9.5 years for males and 8.9 years for females.

## Family History of Diabetes

The inherited predisposition to diabetes has been well established as shown by the higher prevalence among blood relatives of diabetics,
by the almost simultaneous development of diabetes in identical twins, and by the incidence of diabetes according to Mendelian patterns. ${ }^{4}$ Studies of diabetics and nondiabetic controls have shown that diabetics had family histories of diabetes 2 to 10 times as often as the nondiabetic controls. ${ }^{5}$

The majority of diabetics reporting in the survey were first- or second-generation diabetics. Approximately 17 percent of diabetics had diabetic mothers, and about 8 percent had diabetic fathers. About one-fourth of those with siblings reported diabetic siblings, and 7 percent of parents reported diabetic children. Only 1 percent of the study population represented three generations of diabetics.

The proportion of persons with diabetic siblings and diabetic children increased with age. Persons aged 25-54 had the highest proportion of diabetic parents.

Males and females had very similar family histories of diabetes.

## Age at Diagnosis

Age at onset of diabetes is an important factor in the severity of the disease, the natural course which it follows, and the treatment required. In general, persons who develop diabetes in childhood are the most severely affected, not only by the diabetes itself but by other conditions which may develop concomitantly. They usually require insulin for treatment and their diabetes is more difficult to control than that of persons who develop diabetes later in life. On the other hand, persons who develop diabetes as adults generally have milder cases than those who have had diabetes since childhood, and some can be treated by diet alone.

It is difficult to determine onset of diabetes since it is not possible to ascertain how long diabetes has been present before the diagnosis is made. However, the diagnosis is most often made in the fifth and sixth decades. 5

Half of the diabetics were diagnosed between the ages of 45 and 64 (table D), about 21.8 percent between 25 and 44 years of age, and another 20.0 percent at ages 65 years or later. Only
7.7 percent of the diabetics were diagnosed before their 25 th birthday and 4.1 percent before age 15 .

Although the small number of nonwhite diabetics precludes detailed analysis by color, the trends indicate that diabetes among nonwhite persons of both sexes was more often diagnosed in middle age (table 2). Consequently, relatively fewer nonwhite diabetics reported diagnosis before age 25 or after age 65 (table D). Two factors may account for this difference. First, in the population surveyed, the age distribution by color was different-a higher proportion of nonwhite persons being 25-64 years of age. Since these ages included the years of peak incidence, a higher proportion of the nonwhite population was at risk. Second, there is in general less medical care among the nonwhite population than among the white. Therefore, the less frequent diagnosis before age 25 may well reflect not differential incidence but delayed medical attention, which would result in more severe diabetes, a larger number of associated conditions, and a higher mortality rate. Evidence of delayed diagnosis is shown by the substantially higher proportion of nonwhite persons in all age groups through age 54 who reported diagnosis in the past 10 years.

Table D. Percent distribution of diabetics, by age at diagnosis of diabetes according to color: United States, July 1964-June 1965

| Age at diagnosis | Total | White | Nonwhite |
| :---: | :---: | :---: | :---: |
|  | Percent distribution |  |  |
| A11 ages-- | 100.0 | 100.0 | 100.0 |
| Under 25 years-- | 7.7 | 8.3 | *3.4 |
| 25-44 years----- | 21.8 | 21.1 | 26.9 |
| 45-64 years----- | 49.8 | 49.3 | 53.5 |
| 65 years and over- | 20.0 | 20.6 | 15.8 |
| Unknown--------- | *0.7 | *0.7 | *0.3 |

# HEALTH STATUS OF DIABETICS 

## Chronic Conditions of Diabetics

The majority of diabetics (80.1 percent) had two or more chronic conditions, i.e., at least one chronic condition in addition to diabetes. Over half of them ( 57.9 percent) reported three or more chronic conditions (table E).

Females had more chronic conditions than males. About 62.3 percent of female diabetics reported three or more chronic conditions contrasted with 51.9 percent of males.

From all chronic conditions reported in the survey, 17 conditions were selected for detailed analysis because of their frequent occurrence among diabetics. These conditions are listed in table F according to frequency of reporting. (For a complete description of the conditions, including ICD numbers, see Appendix III.) Those reported most often were heart conditions (21.1 percent), hypertension ( 16.8 percent), and impaired vision (10.3 percent). However, if the two condition groups, impaired vision and blind in both eyes, were combined to represent all visual impairments, this category would then have the second highest frequency of reporting ( 16.9 perceni).

Table E. Percent distribution and cumula: tive percent of diabetics, by number of: chronic conditions according to sex: United States, July 1964-June 1965

| Number of chronic conditions ${ }^{1}$ | Both sexes | Male | Female |
| :---: | :---: | :---: | :---: |
| All diabetics- <br> $\frac{1}{2}$ (diabetes only)- | Percent distribution |  |  |
|  | 100.0 | 100.0 | 100.0 |
|  | 19.9 | 25.1 | 16.2 |
|  | 22.2 | 23.2 | 21.5 |
|  | 57.9 | 51.9 | 62.3 |
|  | Cumulative percent |  |  |
| $3+$ | 57.9 | 51.9 | 62.3 |
|  | 80.1 | 74.9 | 83.8 |
| 1+---------------- | 100.0 | 100.0 | 100.0 |

${ }^{1}$ Includes diabetes.

Most of the conditions were overrepresented among females, in most cases by a ratio of at least two to one. Three of the conditions, however, were clearly characteristic of male diabetics. the absence of fingers or toes, the absence of major extremities, and tuberculosis.

Table $F$. Number and percent of diabetics with selected chronic conditions and percent of diabetics with chronic conditions who are female, by condition: United States,July 1964-June 1965

| Chronic condition | Number of diabetics with chronic condition in thousands | Percent of total diabetics ( $\mathrm{N}=2.3$ million) | Percent of diabetics with chronic conditions who are female |
| :---: | :---: | :---: | :---: |
| Heart conditions | 485 | 21.1 | 61.9 |
| Hypertension without heart involvement--------- | 387 | 16.8 | 73.9 |
|  | 238 | 10.3 | 70.6 |
| Genitourinary disorders | 190 | 8.3 | 63.7 |
| Blind, both eyes- | 151 | 6.6 | 66.2 |
| Cataracts------- | 93 | 4.0 | 68.8 |
|  | 84 | 3.7 | 89.3 |
| Vascular lesions, CNS | 76 | 3.3 | 47.4 |
| Skin disorders | 75 | 3.3 | 69.3 |
|  | 71 | 3.1 | 81.7 |
|  | 51 | 2.2 | 23.5 |
| Paralysis, complete or partial---------------- | 50 | 2.2 | 48.0 |
| Glaucoma----- | 36 | 1.6 | 66.7 |
| Gout, tuberculosis, or senility----------------1-1 | 35 | 1.5 | 54.3 |
|  | 33 | 1.4 | 36.4 |

The percent of diabetics reporting these conditions who were male were, respectively, 76.5, 6.3.6, and 72.7 percent. Two other conditions, paralysis and vascular lesions of the central nervous system, were reported about equally by each sex (part of the apparent variation was due to rounding).

It should be pointed out that there are more female than male diabetics, but this does not account for the differential. If the conditions were not to some extent sex-related, the distribution of each condition could be expected to approximate the sex distribution of 58 percent female and 42 percent male.

## Disability Days From All Conditions

The diabetics averaged 54.0 days of restricted activity per person per year from all reported chronic conditions and 23.3 days of bed disability (table G). Females had substantially more days of disability per person than did males, approximately 10 more days of disability per year. Females reported 58.2 days of restricted activity contrasted with 48.1 days for males, and 27.2 days of bed disability versus 17.8 days for males.

The higher level of disability among females occurred at all ages except 75 years and over.

Table G. Number of disability days per diabetic per year from all conditions and from diabetes, by sex and age: United States, July 1964-June 1965

| Sex and age | Restricted activity |  | Bed disability |  |
| :---: | :---: | :---: | :---: | :---: |
|  | From all conditions | From diabetes | From all conditions | From diabetes |
| Both sexes | Disability days per diabetic per year |  |  |  |
| A11 ages | 54.0 | 17.3 | 23.3 | 8.2 |
| Under 45 years | 33.4 | 9.7 | 15.9 | 5.2 |
| 45-54 years--- | 40.4 | 13.0 | 19.4 | 3.3 |
| 55-64 years- | 67.9 | 24.4 | 28.4 | 7.8 |
| 65-74 years- | 56.9 | 16.7 | 23.3 | 11.1 |
| 75 years and over | 63.9 | 19.8 | 27.6 | 13.3 |
| A11 ages | 48.1 | 15.8 | 17.8 | 6.0 |
| Under 45 years- | 25.7 | 9.5 | 9.2 | 5.0 |
| 45-54 years | 31.3 | 9.7 | 16.6 | 0.2 |
| 55-64 years | 65.9 | 20.4 | 19.7 | 0.9 |
| 65-74 years- | 55.7 | 16.0 | 14.6 | 8.2 |
| 75 years and over | 53.3 | 23.5 | 35.1 | 21.6 |
| Female |  |  |  |  |
| All ages | 58.2 | 18.4 | 27.2 | 9.8 |
| Under 45 years | 40.6 | 9.9 | 22.1 | 5.4 |
| 45-54 years---- | 47.2 | 15.4 | 21.4 | 5.5 |
| 55-64 years- | 69.3 | 27.2 | 34.5 | 12.7 |
| 65-74 years- | 57.7 | 17.1 | 28.9 | 12.9 |
| 75 years and over | 71.1 | 17.3 | 22.6 | 7.8 |

Male diabetics in this age group averaged more days of bed disability than did females, although days of restricted activity remained lower than the female level.

## Disability Days From Diabetes

The rate of disability days from diabetes was approximately one-third that from all conditions, or an average of 17.3 days of restricted activity and 8.2 days of bed disability per diabetic per year. Females reported more disability days per person than did males: 18.4 days of restricted activity contrasted with 15.8 days for males and 9.8 days of bed disability contrasted with 6.0 days for males. The difference between males and females was considerably greater in number of days of bed disability than in number of days of restricted activity. The higher rates of bed disability as well as restricted activity for females occurred at all ages except 75 years and over (fig. 2).

It should be noted that the majority of diabetics ( 83.7 percent) reported no bed disability due to diabetes (table H). A higher proportion of males than of females had no beddays: 86.7 percent contrasted with 81.6 percent.


Figure 2. Number of bed-days due to diabetes per diabetic per year, by sex and age.

Table H. Percent of diabetics in each age group who have no bed-days due to diabetes, by sex: United States, July 1964June 1965

| Age | Both sexes | Male | Female |
| :---: | :---: | :---: | :---: |
|  | Percent |  |  |
| A11 ages----- | 83.7 | 86.7 | 81.6 |
| Under 25 years----- | 73.2 | 74.1 | 75.0 |
| 25-44 years-------- | 81.9 | 85.9 | 76.9 |
| 45-54 years-------- | 83.6 | 90.7 | 78.9 |
| 55-64 years-------- | 84.6 | 86.6 | 83.2 |
| 65 years and over-- | 84.9 | 86.9 | 83.5 |

The older the diabetics, the more often they reported no bed-days due to diabetes, possibly because older diabetics would be more likely to have other chronic conditions to which beddays could be attributed. However, among those who did report bed disability, the number of bed-days per person increased with age.

## Disability of Diabetics and Total Population

The rates of restricted activity, bed disability, and work loss from all conditions among diabetics were roughly three times those of the total civilian, noninstitutional population (table J).

However, it should be remembered that diabetics more often than the total population had multiple chronic conditions and that the majority of disability days of diabetics were attributed to conditions other than diabetes. In addition, the diabetics were older than the general population, .but the difference in age is considered less a factor with respect to disability days than is the number of conditions. The age-specific rates of disability for diabetics 45 years and older remain two to three times those of the general population.

Diabetics also had higher rates of hospitalization than the general population, though relatively little of it was attributed to diabetes.

## Limitation of Activity and Mobility

About 53.0 percent of diabetics reported limitation of activity from all conditions and 15.7 percent limitation of mobility (table K). Limi-

Table J. Number of disability days from all conditions per person per year for diabetics and for the total population, by sex: United States, July 1964-June 1965

| Disability days | Both sexes |  | Male |  | Female |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Diabetics | Total population | Diabetics | Total population | Diabetics | Total population |
|  | Days per person per year |  |  |  |  |  |
| Restricted activity- | 54.023.315.45.4 | $\begin{array}{r} 16.4 \\ 6.2 \\ 5.7 \\ 1.0 \end{array}$ | $\begin{array}{r} 48.1 \\ 17.8 \\ 16.2 \\ 7.6 \end{array}$ | $\begin{array}{r} 14.7 \\ 5.3 \\ 5.7 \\ 1.0 \end{array}$ | 58.227.213.73.9 | $\begin{array}{r} 18.0 \\ 7.0 \\ 5.6 \\ 1.0 \end{array}$ |
| Bed disability |  |  |  |  |  |  |
| Work loss1---- |  |  |  |  |  |  |
| Hospital days----- |  |  |  |  |  |  |

${ }^{1}$ Number of work-loss days are based on the number of currently employed persons.
tation of activity from diabetes was reported by 24.9 percent of the diabetics and limitation of mobility by 5.0 percent. Females more often than males reported limitation of each type.

Relatively more of the total limitation of activity than of the total limitation of mobility was due to diabetes. Limitation of activity from diabetes accounted for about half of the limitation of activity from all conditions, whereas limitation of mobility from diabetes accounted for only about one-third of the total limitation of mobility.

Table K. Percent of diabetics with limitation of activity and limitation of mobility from all conditions and from diabetes, by sex: United States, July 1964-June 1965

| Condition and sex | Limitation of- |  |
| :---: | :---: | :---: |
|  | Activity | Mobility |
| All conditions | Percent |  |
| Both sexes----- | 53.0 | 15.7 |
|  | 49.9 | 11.6 |
| Diabetes |  |  |
| Both sexes----- | 24.9 | 5.0 |
| Male-n--------------- | 24.2 | *3.8 |
| Female--------------- | 25.4 | 5.8 |

## Diabetic Symptoms

About half of the diabetics reported having had diabetic symptoms during the month prior to interview. The proportion of diabetics reporting symptoms was higher among females ( 55.7 percent) than males ( 46.3 percent) and increased with age.

The most frequently reported symptoms, as shown in table L, were extreme tiredness (26.5 percent), leg pain (22.5 percent), and eye trouble ( 20.1 percent). Females more often than males reported each of the diabetic symptoms. For both sexes, reporting individual symptoms increased with age (table 3). Females also more often than males reported multiple symp-

Table L. Percent of diabetics who had selected diabetic symptoms in the month preceding interview, by sex: United States, July 1964-June 1965

| Diabetic symptom | Both sexes | Male | Female |
| :---: | :---: | :---: | :---: |
|  | Percent |  |  |
| Extreme tiredness-- | 26.5 | 21.7 | 29.8 |
| Leg pain- | 22.5 | 18.2 | 25.6 |
| Eye trouble | 20.1 | 15.6 | 23.3 |
| Sudden weakness--- | 18.6 | 14.1 | 21.8 |
| Frequent urination- | 18.0 | 16.2 | 19.4 |
| Thirst------------ | 14.3 | 11.5 | 16.2 |
| Itching | 14.0 | 9.7 | 17.1 |
| Loss of weight----- | 9.0 | 6.9 | 10.5 |
| Larger appetite---- | 8.9 | 7.4 | 10.0 |
| Smaller appetite--- | 7.4 | 5.7 | 8. |

Table M. Percent distribution of diabetics, by number of diabetic symptons during month preceding interview according to sex: United States, July 1964-June 1965

| Number of symptoms | Both sexes | Male | Female |
| :---: | :---: | :---: | :---: |
| All diabetics- | Percent distribution |  |  |
|  | 100.0 | 100.0 | 100.0 |
| None- | 48.2 | 53.7 | 44.3 |
| 1 symptom--------- | 14.6 | 17.0 | 12.9 |
| 2-3 symptoms------ | 18.4 | 14.4 | 21.3 |
| 4-5 symptoms------ | 11.2 | 9.5 | 12.4 |
| 6 symptoms or more | 7.5 | 5.4 | 9.1 |

toms (table M). The reporting of multiple symptoms increased with age for both sexes.

## HEALTH CARE

## Medical Care

Virtually all of the diabetics (99.8 percent) had at some time seen a doctor about their diabetes, and most of them ( 84.6 percent) had seen a doctor in the past year for treatment (table 4). About three-fourths of the diabetics ( 72.5 percent) went to a doctor's office for treatment, rather than to a clinic or some other place.

Seeing a doctor for treatment was not consistently related to either sex or age. Although a slightly higher proportion of females than males had seen a doctor in the past year, the differential occurred only for ages under 25 and over 65 years. Males between 45 and 64 somewhat more often than those of other ages had seen a doctor. The female pattern by age was erratic.

About 10.6 percent of the diabetics had visited a foot doctor in the past year and about 57.4 percent had had their eyes examined during the past 2 years. Relatively more females than males visited the foot doctor ( 12.2 percent and 8.4 percent, respectively), but the sexes equally often had their eyes examined.

## Medication

About three-fourths of the diabetics reported that at the time of the survey they were taking some medication for diabetes. The largest proportion, 48.4 percent, were taking oral drugs; 25.7 percent were taking insulin (table N ). Another 2.0 percent were taking both oral drugs and insulin. The remaining 24.0 percent took neither.

Table N. Percent of diabetics in each age group, by medication at the time of the survey: United States, July 1964-June 1965

| Age | ```Mnsulin``` | Oral drugs only | Neither |
| :---: | :---: | :---: | :---: |
|  | Percent |  |  |
| All ages-- | 25.7 | 48.4 | 24.0 |
| Under 25 years-- | 67.6 | 7.2 | 23.4 |
| 25-44 years----- | 30.2 | 31.3 | 35.9 |
| 45-54 years----- | 24.9 | 48.8 | 23.9 |
| 55-64 years----- | 21.1 | 55.7 | 21.2 |
| 65-74 years----- | 23.4 | 53.1 | 21.6 |
| 75 years and over- | 20.7 | 54.7 | 23.0 |

There was considerable variation by age in type of medication taken, reflecting the known differences in treatment of adult and juvenile diabetics. (Insulin is prescribed for the majority of juvenile diabetics, whereas oral drugs are prescribed primarily for adults.) A very high proportion of persons under 25 years of age ( 67.6 percent) took insulin-two to three times the proportion in any other age group. Persons 45 years and older most often took oral drugs. Diabetics between 25 and 44 years of age equally often took oral drugs and insulin. They were somewhat overly represented among those taking neither.

There were no substantial differences between males and females with respect to medication.

## Home Care

The responsibility for major items of home care, such as injecting insulin and preparing meals, was taken by the diabetics themselves
or by a spouse or relative (tables $O$ and $P$ ). Few persons reported outside assistance such as the aid of a visiting nurse. Only 3.3 percent of the diabetics had ever been visited by a visiting nurse. Less than half of these persons reported having been visited in the past 12 months.

Table 0. Percent distribution of diabetics who take insulin, by who injects insulin according to sex: United States, July 1964-June 1965

| Who injects insulin | Both sexes | Male | Female |
| :---: | :---: | :---: | :---: |
| Total diabetics- | Percent distribution |  |  |
|  | 100.0 | 100.0 | 100.0 |
| Se1f----- | 77.5 | 77.3 | 77.4 |
| Spouse or |  |  |  |
| Other--------------- | 2.5 | 20.3 2.0 | 2.6 |

There was no variation by sex with respect to insulin injection. About 77.5 percent of diabetics reported that they injected the insulin themselves, while another 20.0 percent reported that a spouse or relative injected the insulin. There was variation, as one would expect, in preparation of meals. The majority of women (79.0 percent) reported that they prepared the meals themselves whereas most men ( 83.2 per-

Table P. Percent distribution of diabetics, by who prepares meals according to sex: United States, July 1964-June 1965

| Who prepares meals | Both sexes | Male | Female |
| :---: | :---: | :---: | :---: |
| Total diabetics- | Percent distribution |  |  |
|  | 100.0 | 100.0 | 100.0 |
| Self--------------- | 50.2 | 10.2 | 79.0 |
| Spouse or $\qquad$ | 45.0 | 83.2 | 17.7 |
| Other------------- | 4.6 | 6.4 | 3.2 |

cent) reported that a spouse or relative prepared the meals.

## Diet

Diet therapy is considered important for all diabetics in order to maintain normal weight and the proper insulin balance ${ }^{4}$ as well as to delay or prevent development of other conditions such as nephropathy and retinitis which are more likely to result when the diabetes is not adequately controlled. ${ }^{2}$

Approximately 77.1 percent of diabetics reported that they had been given a diet for diabetes, but only 52.7 percent said that they followed one (table Q ). In all age groups, females more often than males were given diets and more often followed them. The greatest attention to diet was reported by persons between 55 and 64 years of age.

About 82.1 percent of the diabetics reported having used at least one of the dietetic foods in the week prior to interview. Over half of them ( 55.7 percent) reported using more than one, and about one-third ( 35.3 percent) used special recipes (table R). On the other hand, over half of the diabetics ( 53.7 percent) reported that in the past 30 days they had eaten pastry, a third (34.7 percent) had eaten candy, and a fourth (26.9 percent) had eaten both pastry and candy.

Food usage did not differ by sex. About the same proportion of males and females appeared in each category.

However, when the food habits were analyzed according to who prepared most of the meals, several patterns emerged. Males were most likely to use special recipes and dietetic foods if their meals were prepared by a spouse or relative. Females most often followed these practices when some other person than a spouse or relative prepared their meals. They were least likely to use special recipes or dietetic foods when the spouse prepared meals. For both sexes the second highest overall usage was reported by those who prepared their own meals.

Comparison of the differential usage by sex of each of the diet items according to who prepared meals showed that, with the exception of the spouse as the preparer, females in all

Table Q. Percent of diabetics in each age group who were given a diet and who follow diet, by sex: United States, July 1964-June 1965

| Age | Given diet |  |  | Follow diet |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Both sexes | Male | Female | Both sexes | Male | Female |
|  | Percent |  |  |  |  |  |
| All ages | 77.1 | 72.8 | 80.3 | 52.7 | 48.5 | 55.9 |
| Under 25 years | 70.3 | 61.1 | 78.9 | 47.7 | 38.9 | 56.1 |
| 25-44 years | 78.3 | 77.0 | 78.2 | 51.6 | 49.6 | 53.1 |
| 45-54 years | 76.9 | 71.4 | 81.2 | 52.5 | 53.4 | 51.6 |
| 55-64 years- | 82.8 | 78.0 | 86.0 | 58.8 | 53.1 | 62.8 |
| 65-74 years | 77.9 | 72.2 | 81.5 | 52.5 | 45.6 | 56.8 |
| 75 years and over | 66.0 | 64.5 | 67.0 | 44.7 | 41.3 | 46.9 |

other preparation groups more often than males used special recipes or dietetic foods.

Within each food preparation category, there was differential usage of the diet and food items by sex. When the spouse prepared meals, rela-
tively more males than females used specia! diets and dietetic foods as well as pastries and candies. For all other preparation groups, females generally exceeded males in proportions using: each of the diet items.

Table R. Percent of diabetics who use selected diet items: United States, July 1964-June 1965

| Diet item | Percent of diabetics who use diet items |
| :---: | :---: |
| Special recipes-------------- | 35.3 |
| Dietetic foods: |  |
| Soft drinks only------------ | 5.7 |
| Canned fruits only----m-m-- | 2.0 |
| Artificial sweeteners only- | 18.7 |
| More than one------ | 55.7 |
| No special recipes or |  |
| dietetic foods-m-------m-n-m | 14.1 |
| Pastry------------------------ | 53.7 |
| Candy-------------------------- | 34.7 |
| Pastry and candy------------- | 26.9 |

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## DETAILED TABLES

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Table 1. Number and percent distribution of diabetics, by sex and socioeconomic characteristics: United States, July 1964-June 1965
[Data are based on household interviews of the civilian, noninstitutional population. The survey design, general qualifications, and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II]


Table 2. Percent distribution of diabetics, by age at diagnosis of diabetes according to sex and color: United States, July 1964-June 1965
[Data are based on household interviews of the civilian, noninstitutional population. The survey design, general qualifications, and information on the reliability of the ostimates are given in Appendix I. Definitions of terms are given in Appendix II

|  | Color and age at diagnosis | Both sexes | Male | Female |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Percent distribution |  |  |
|  |  | 100.0 | 100.0 | 100.0 |
| Under 15 years.. |  | 4.1 | *5.1 | *3.4 |
| Under 25 years-- |  | 7.7 | 9.1 | 6.5 |
| 25-44 years----- |  | 21.8 49.8 | 23.0 | 21.0 50.6 |
| 65 years and ove |  | 20.0 | 18.6 | 21.1 |
| Unknown--.- |  | *0.7 | *0.7 | *0.7 |
| White |  |  |  |  |
| Under 15 years- |  | 4.6 | *5.6 | *3.9 |
| Under 25 years. |  | 8.3 | 9.4 | 7.4 |
| 25-44 years.-... |  | 21.1 | 22.6 | 20.0 |
| $45-64$ years------ 65 years and over |  | 49.3 20.6 | 48.3 18.9 | 50.0 22.0 |
| Unknown---.---... |  | *0.7 | -0.8 | *0.7 |
| Nonwhite |  |  |  |  |
| Under 15 years. |  | *0.3 | * | *0.5 |
| Under 25 years. |  | *3.4 | $\stackrel{*}{*} .6$ | *2.4 |
| 25-44 years-n- |  | 26.9 | *28.1 | 26.4 |
| 45-64 years 65 ...... |  | 53.5 | +51.7 | 54.3 $* 15.9$ |
| 65 years and over |  | 15.8 $* 0.3$ | *15.7 | * ${ }_{*} \mathbf{0} .5$ |

Table 3. Percent of diabetics in each age group who had selected diabetic symptoms in month preceding interview, by sex: United States, July 1964-June 1965
(See headnote on table 2)

| Sex and age | Extreme tiredness | Leg pain | $\begin{gathered} \text { Eye } \\ \text { trouble } \end{gathered}$ | Sudden weakness | Frequent urination | Thirst | Itching | Loss of weight | Largex appetite | Smaller <br> appetite |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Both sexes | Percent |  |  |  |  |  |  |  |  |  |
| All ages---. | 26.5 | 22.5 | 20.1 | 18.6 | 18.0 | 14.3 | 14.0 | 9.0 | 8.9 | 7.4 |
| Under 45 years---- | 23.7 | 11.2 | 14.8 | 17.6 | 11.5 | 13.7 | 11.2 | 5.3 | 8.1 | 3.3 |
| 45-64 years------- | 26.1 | 22.7 | 19.1 | 18.6 | 17.1 | 14.5 | 14.6 | 7.8 | 9.3 | 6.5 |
| 65 years and over- | 28.1 | 27.1 | 23.5 | 19.0 | 22.1 | 14.1 | 14.6 | 11.9 | 8.8 | 10.2 |
| All ages-m- | 21.7 | 18.2 | 15.6 | 14.1 | 16.2 | 11.5 | 9.7 | 6.9 | 7.4 | 5.7 |
| Under 45 years-..-- | 17.5 | 8.5 | 10.6 | 12.7 | *7.4 | 11.6 | $\cdots 4.2$ | *2.6 | *6. 9 | * 4.2 |
| 45-64 years------- | 23.1 | 19.0 | 15.7 | 15.7 | 15.7 | 10.6 | 11.1 | 5.8 | 7.0 | 5.8 |
| 65 years and over- | 22.3 | 22.1 | 18.2 | 13.4 | 21.5 | 12.6 | 10.9 | 10.3 | 8.1 | 6.4 |
| Female |  |  |  |  |  |  |  |  |  |  |
| All ages--m- | 29.8 | 25.6 | 23.3 | 21.8 | 19.4 | 16.2 | 17.1 | 10.5 | 10.0 | 8.6 |
| Under 45 years---- | 29.4 | 13.7 | 18.1 | 22.5 | 15.2 | 15.7 | 17.2 | 7.4 | 9.3 | *2.5 |
| 45-64 years------- | 28.0 | 25.3 | 21.5 | 20.6 | 18.0 | 17.5 | 17.2 | 9.3 | 10.8 | 6.9 |
| 65 years and over- | 31.9 | 30.3 | 27.0 | 22.8 | 22.5 | 15.0 | 17.0 | 12.9 | 9.4 | 12.7 |

Table 4. Percent of diabetics reporting selected items of medical care, by sex and age: United States, July 1964-June 1965
[Data are based on household interviews of the civilian, noninstitutional population. The survey design, general cualifications, and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II]

| Sex and age | Total diabetics in thousands | Treatment of diabetes |  | Have had eyes examined in last 2 years |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Have seen doctor in past year | ```Usual1y go to doctor's office for treatment``` |  |
| Both sexes |  | Percent |  |  |
| All ages | 2,300 | 84.6 | 72.5 | 57.4 |
| Under 25 years-- | 111 | 89.2 | 73.9 | 61.3 |
| 25-44 years---- | 281 | 81.9 | 70.5 | 54.8 |
| 45-54 years--- | 385 | 85.2 | 74.0 | 64.9 |
| 55-64 years- | 612 | 84.6 | 74.3 | 56.0 |
| 65-74 years | 610 | 86.7 | 74.3 | 59.5 |
| 75 years and over- | 300 | 81.0 | 64.7 | 47.3 |
| Male |  |  |  |  |
| All ages | 962 | 83.6 | 72.5 | 57.3 |
| Under 25 years | 54 | 83.3 | 70.4 | 55.6 |
| 25-44 years--. | 135 | 84.4 | 75.6 | 50.4 |
| 45-54 years | 161 | 85.7 | 71.4 | 70.8 |
| 55-64 years | 254 | 86.2 | 78.7 | 61.0 |
| 65-74 years---- | 237 | 81.9 | 68.8 | 58.2 |
| 75 years and over- | 121 | 78.5 | 64.5 | 38.0 |
| Female |  |  |  |  |
| All ages | 1,337 | 85.4 | 72.6 | 57.5 |
| Under 25 years--- | 57 | 94.7 | 77.2 | 66.7 |
| 25-44 years-..--- | 147 | 78.2 | 65.3 | 59.2 |
| 45-54 years.-.--- | 223 | 85.2 | 76.2 | 61.0 |
| 55-64 years--.- | 358 | 83.5 | 71.2 | 52.5 |
| 65-74 years-.-. | 373 | 90.1 | 77.5 | 60.3 |
| 75 years and over--- | 179 | 82.7 | 64.8 | 53.6 |

Table 5. Population used in computing rates shown in this publication, by sex and age: United States, July 1964-June 1965
(See headnote on table 4)

| Age | Both sexes |  | Male |  | Female |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Diabetics | Total | Diabetics | Total | Diabetics |
|  | Population in thousands |  |  |  |  |  |
| All ages | 188,430 | 2,300 | 91,311 | 962 | 97,119 | 1,337 |
| Under 25 years | 87,643 | 111 | 43,688 | 54 | 43,955 | 57 |
| 25-44 years--- | 45,299 | 281 | 21,613 | 135 | 23,686 | 147 |
| 45-54 years- | 21,602 | 385 | 10,464 | 161 | 11,138 | 223 |
| 55-64 years | 16,593 | 612 | 7,936 | 254 | 8,657 | 358 |
| 65-74 years-- | 11,191 | 610 | 5,032 | 237 | 6,158 | 373 |
| 75 years and over | 6,102 | 300 | 2,577 | 121 | 3,525 | 179 |

NOTE: For official population estimates for more general use, see Bureau of the Census reports on the civilian population of the United States, in Gurrent Population Reports: Series P-20, P-25, and $P-60$.

## APPENDIX 1

## TECHNICAL NOTES ON METHODS

## Background of This Report

This report is one of a series of statistical reports prepared by the National Health Survey. It is based on information collected in a continuing nationwide sample of households in the Health Interview Survey, a major part of the program.

The Health Interview Survey utilizes a questionnaire which, in addition to personal and demographic characteristics, obtains information on illnesses, injuries, chronic conditions and impairments, and other health topics. As data relating to each of these various broad topics are tabulated and analyzed, separate reports are issued which cover one or more of the specific topics. The present report is based on the consolidated sample for 52 weeks of interviewing ending June 1965.

The population covered by the sample for the Health Interview Survey is the civilian, noninstitutional population of the United States living at the time of the interview. The sample does not include members of the Armed Forces, U.S. nationals living in foreign countries, or crews of vessels.

## Statistical Design of the

Health Interview Survey
General plan. - The sampling plan of the survey follows a multistage probability design which permits a continuous sampling of the civilian population of the United States. The first stage of this design consists of drawing a sample of 357 from about 1,900 geographically defined primary sampling units (PSU's) into which the United States has been divided. A PSU is a county, a group of contiguous counties, or a standard metropolitan statistical area.

With no loss in general understanding, the remaining stages can be combined and treated in this discussion as an ultimate stage. Within PSU's, then, ultimate stage units called segments are defined in such a manner that each segment contains an expected ninehouseholds. A segment consists of a cluster of neighboring households or addresses. Two general types of seg-
ments are used: (1) area segments which are defined geographically, and (2) B segments which are defined from a list of addresses from the Decennial Census and Survey of Construction. Each week a random sample of about 90 segments is drawn. In the approximately 800 households in these segments, household members are interviewed concerning factors related to health.

Since the household members interviewed each week are a representative sample of the population, samples for successive weeks can be combined intolarger samples. Thus the design permits both continuous measurement of characteristics of high incidence or prevalence in the population and, through the larger consolidated samples, more detailed analysis of less common characteristics and smaller categories. The continuous collection has administrative and operational advantages as well as technical assets since it permits field work to be handled with an experienced, stable staff.

Sample size and geographic detail. - The national sample plan for the 12 -month period ending in June included about 134,000 persons from 42,000 households in about 4,700 segments.

The overall sample was designed in such a fashion that tabulations can be provided for each of the major geographic regions of the United States.

Collection of data. - Field operations for the household survey are performed by the Bureau of the Census under specifications established by the National Center for Health Statistics. In accordance with these specifications the Bureau of the Census selects the sample, conducts the field interviewing as an agent of the Center, and performs a manual editing and coding of the questionnaires. The Health Interview Survey, using Center electronic computers, carries out further editing and tabulates the edited data.

Estimating methods. - Each statistic produced by the survey-for example, the number of bed-disability days occurring in a specified period-is the result of two stages of ratio estimation. In the first of these, the control factor is the ratio of the 1960 decennial population count to the 1960 estimated population in the Na tional Health Survey's first-stage sample of PSU's.

These factors are applied for some 25 color-residence classes.

Later, ratios of sample-produced estimates of the population to official Bureau of the Census figures for current population in about 60 age-sex-color classes are computed and serve as second-stage factors for ratio estimating.

The effect of the ratio-estimating process is to make the sample more closely representative of the population by age, sex, color, and residence, thus reducing sampling variance.

As noted, each week's sample represents the population living during that week and characteristics of this population. Consolidation of samples over a time period, say a calendar quarter, produces estimates of average characteristics of the U.S. population for that calendar quarter. Similarly, population data for a year are averages of the four quarterly figures.

For statistics measuring the number of occurrences during a specified time period, such as the number of bed-disability days, a similar computational procedure is used, but the statistics are interpreted differently. For these items, the questionnaire asks for the respondent's experience over the 2 calendar weeks prior to the week of interview. In such instances the estimated quarterly total for the statistic is simply 6.5 times the average 2 -week estimate produced by the 13 successive samples taken during the period. The annual total is the sum of the four quarters. Thus, the experience of persons interviewed during a year-experience which actually occurred for each person in a 2-calendar-week interval prior to week of interview-is treated as though it measured the total of such experience during the year. Such interpretation leads to no significant bias.

## General Qualifications

Nonresponse. -Data from the basic questionnaire were adjusted for nonresponse by a procedure which imputes to persons in a household which was not interviewed the characteristics of persons in households in the same segment which were interviewed. The total noninterview rate was 5 percent-1 percent was refusal, and the remainder was primarily due to the failure to find any eligible household respondent after repeated trials.

The intervieu process.-The statistics presented are based on replies secured in interviews of persons in the sampled households. Each person 19 years of age and over, available at the time of interview, responded for himself. Proxy respondents within the household were employed for children and for adults notavailable at the time of the interview, provided the respondent was closely related to the person about whom information was being obtained.

There are limitations to the accuracy of diagnostic and other information collected in household interviews.

For diagnostic information, the household respondent can, at best, pass on to the interviewer only the information the physician has given the family. For conditions not medically attended, diagnostic information is often no more than a description of symptoms. However, other facts, such as the number of disability days caused by the condition, can be obtained more accurately from household members than from any other source since only the persons concerned are in a position to report this information.

Rounding of numbers. - The original tabulations on which the data in this report are based show all estimates to the nearest whole unit. All consolidations were made from the original tabulations using the estimates to the nearest unit. In the final published tables the figures are rounded to the nearest thousand, although these are not necessarily accurate to that detail. Devised statistics, such as rates and percent distributions, are computed after the estimates on which they are based have been rounded to the nearest thousand.

Population figures. -Some of the published tables include population figures for specified categories. Except for certain overall totals by age and sex, which are adjusted to independent estimates, these figures are based on the sample of households in the National Health Survey. These are given primarily to provide denominators for rate computation and for this purpose are more appropriate for use with the accompanying measures of health characteristics than other population data that may be available. In some instances these will permit users to recombine published data into classes more suitable to their specific needs. With the exception of the overall totals by age and sex mentioned above, the population figures differ from corresponding figures (which are derived from different sources) published in reports of the Bureau of the Census. For population data for general use, see the official estimates presented in Bureau of the Census reports in the $\mathrm{P}-20, \mathrm{P}-25$. and $P-60$ series.

## Reliability of Estimates

Since the estimates are based on a sample, they will differ somewhat from the figures that would have been obtained if a complete census had beentaken using the same schedules, instructions, and interviewing personnel and procedures. As in any survey, the results are also subject to measurement error.

The standard error is primarily a measure of sampling variability, that is, the variations that might occur by chance because only a sample of the population is surveyed. As calculated for this report, the standiard error also reflects part of the variation which arises in the measurement process. It does not include estimates of any biases which might lie in the data. The chances are about 68 out of 100 that an estimate from the sample would differ from a complete census by less than the standard error. The chances are about 95 out of 100 that the difference would be less than twice the
standard error and about 99 out of 100 that it would be luss than 2'2 times as large.

The relative standard error of an estimate is obtained by dividing the standard error of the estimate by the estimate itself and is expressed as a percentage of the estimate. Included in this appendix are charts from which the relative standard errors can be determined for estimates shown in the report. In order to derive rolative errors which would be applicable to a wide variety of health statistics and which could be prepared at a moderate cost, a number of approximations were required. As a result, the charts provide an estimate of the approximate relative standard error rather than the precise error for any specific aggregate or percentage.

Three classes of statistics for the health survey are identified for purposes of estimating variances.

Narrou range. - This class consists of (1) statistics which estimate a population attribute, e.g., the number of persons in a particular income group, and (2) statistics for which the measure for a single individual or the period of reference is usually either 0 or 1 , on occasion may take on the value 2 , and very rarely 3 .

Medium range. -This class consists of other statistics for which the measure for a single individual for the period of reference will rarely lie outside the range $1)$ to 5 .

Wide range. -This class consists of statistics for which the measure for a single individual for the period of reference frequently will range from 0 to a number in excess of 5. e.g., the number of days of bed disability experienced during the year.

In addition to classifying variables according to whether they are narrow-, medium-, or wide-range, statistics in the survey are further defined as:

Type A.—Statistics on prevalence and incidence data for which the period of reference in the questionnaire is 12 months.
TVPC B.-Incidence-type statistics for which the period of reference in the questionnaire is 2 weeks.
Type C.-Statistics for which the reference period is 6 months.
Only the charts on sampling error applicable to data contained in this report are presented.

General rules for determining relative sampling irrors. --The "guide" on page 20, together with the following rules, will enable the reader to determine approximate relative standard errors from the charts for extimates presented in this report.

Rule 1. Estimates of aggregates:Approximate relative standard errors for estimates of aggregates such as the number of persons with a given characteristic are obtained from appropriate curves on page 21. The number of persons in the total U.S. population or in an age-sex class of the total population is adjusted to official Bu-
reau of the Census figures and is not subject to sampling error.
Rule 2. Estimates of percentages in a percent distribution: Relative standard errors for percentages in a percent distribution of a total are obtained from appropriate curves on pages 22 and 23 . For values which do not fall on one of the curves presented in the chart, visual interpolation will provide a satisfactory approximation.
Rule 3. Estimates of rates where the numerator is a subclass of the denominator: This rule applies for prevalence rates or where a unit of the numerator occurs, with few exceptions, only once in the year for any one unit in the denominator. For example. in computing the prevalence of diabetes per 1,000 population, the numerator consisting of persons with diabetes is a subclass of the denominator which includes all persons in the population. Such rates if converted to rates per 100 may be treated as though they were percentages, and the relative standard errors obtained from the chart on page 22. Rates per 1,000 , or on any other base, must first be converted to rates per 100; then the percentage chart will provide the relative standard error per 100.
Rule 4. Estimates of rates where the mumerator is not a subclass of the denominator: This rule applies where a unit of the numerator often occurs more than once for any one unit in the denominator. For example, in the computation of the number of disability days per person per year, it is possible that a person in the denominator could have had more than 1 of the days included in the numerator. Approximate relative standard errors for rates of this kind may be computed as follows:
(a) Where the denominator is the total U.S. population or includes all persons in one or more of the age-sex groups of the total population, the relative error of the rate is equivalent to the relative error of the numerator which can be obtained directly from the appropriate chart.
(b) In other cases, obtain the relative standard error of the numerator and of the denominator from the appropriate curve. Square each of these relative errors, add the resulting values, and extract the square root of the sum. This procedure will result in an upper bound and often will overstate the error.

## Guide to Use of Relative Standard Error Charts

The code shown below identifies the appropriate curve to be used in estimating the relative standard error of the statistic described. The four components of each code describe the statistic as follows: (1)
$A=$ aggregate, $P=$ percentage; (2) the number of calendar quarters of data collection; (3) the type of the statistic as described on page 19; and (4) the range of the statistic as described on page 19.

| Statistic | Use: |  |  |
| :---: | :---: | :---: | :---: |
|  | Rule | Code on | page |
| Persons: |  |  |  |
| Number of |  |  |  |
| persons in the U.S. population; or total number |  |  |  |
|  | Not subject to sampling error |  | 21 |
| Number of persons in any other population group----- | 1 A4AN |  | 21 |
| Disability days: |  |  |  |
|  | 1 | A4BW | 21 |
| Number of disability days per person in the total U.S. population or in any age-sex group of the | 4(a) | A4BW | 21 |
| Number of disability days per person in any other | 4(a) |  | 21 |
| population group per year- | 4(b) | Numer. : A 4 BW <br> Denom.: \}A4AN | 21 21 |
| Percentage distribution of: |  |  |  |
| Persons-------------------1 | 2 | P4AN-M | 22 |
|  | 2 | P4BW | 23 |
| Prevalence rates per 1,000 persons in any population group | 3 | P4AN-M | 22 |

Relative standard errors for aggregates based on four quarters of data collection for data of all types and ranges


Example of use of chart: An aggregate of 2,000,000 (on scale at bottom of chart) for a Narrow range Type A statistic (code: A4AN) has a relative standard error of 3.6 percent, (read from scale at left side of chart), or a standard error of 72,000 ( 3.6 percent of 2,000,000). For a Wide range Type B statistic (code: A4BW), an aggregate of $6,000,000$ has a relative error of 16.0 percent or a standard error of 960,000 (16 percent of $6,000,000$ ).

Relative standard errors for percentages based on four quarters of data collection for type A data, Narrow and Medium range
(Base of percentage shown on curves in millions)


Estimated percentage
Example of use of chart: An estimate of 20 percent (on scale at bottom of chart) based on an estimate of $10,000,000$ has a relative standard error of 3.2 percent (read from the scale at the left side of the chart), the point at which the curve for a base of $10,000,000$ intersects the vertical line for 20 percent. The standard error in percentage points is equal to 20 percent $X 3.2$ percent or 0.64 percentage points.

Relative standard errors for percentages based on four quarters of data collection for type $B$ data, Wide range
(Base of percentage shown on curves in millions)


Estimated percentage

Example of use of chart: An estimate of 20 percent (on scale at bottom of chart) based on an estimate of $10,000,000$ has a relative standard error of 24.5 percent (read from scale at the left side of the chart), the point at which the curve for a base of $10,000,000$ intersects the vextical line for 20 percent. The standard error in percentage points is equal to 20 percent $X 24.5$ percent or 4.9 percentage points.

## APPENDIX II

## DEFINITIONS OF CERTAIN TERMS USED IN THIS REPORT

## Terms Relating to Diabetes

Diabetes.-Diabetes as used in this report refers to diabetes mellitus which is classified in the International Classification of Diseases, 1955 Revision, as category number 260 .

Diabetes mellitus.-A metabolic disorder in which there is inadequate secretion or utilization of insulin for normal metabolism.

Insulin.-Insulin is a protein pancreatic hormone, normally secreted by the islets of Langerhans, which is used in the treatment and control of diabetes mellitus.

Control of diabetes.-Control of diabetes refers to efforts to maintain chemical and metabolic elements in a physiologic balance, i.e., to maintain the normal status which existed before diabetes developed.

Diabetic coma.-Diabetic coma is an extreme degree of uncontrolled diabetes which is characterized by an accumulation of glucose in the blood and an overproduction of acidic substances. The marked acidity of the blood causes unconsciousness.

## Terms Relating to Chronic Conditions

Condition.-A morbidity condition, or simply a condition, is any entry on the questionnaire which describes a departure from a state of physical or mental well-being. It results from a positive response to one of a series of "illness-recall" questions. In the coding and tabulating process conditions are selected or classified according to a number of different criteria, such as whether they were medically attended; whether they resulted in disability; whether they were acute or chronic; or according to the type of disease, injury, impairment, or symptom reported. For the purposes of each published report or set of tables, only those conditions recorded on the questionnaire which satisfy certain stated criteria are included.

Conditions, except impairments, are coded by type according to the International Classification of Diseases
with certain modifications adopted to make the code more suitable for a household interview survey.

Chronic condition.-A condition is considered to be chronic if (1) it is described by the respondent in terms of one of the chronic diseases on the "Check List of Chronic Conditions" or in terms of one of the types of impairments on the "Check List of Impairments," or (2) the condition is described by the respondent as having been first noticed more than 3 months before the week of the interview.

## Chronic Conditions

Asthma
Hay fever
Tuberculosis
Chronic bronchitis
Repeated attacks of sinus trouble
Rheumatic fever
Hardening of the arteries
High blood pressure
Heart trouble
Stroke
Trouble with varicose veins Hemorrhoids or piles Tumor, cyst, or growth Chronic gallbladder or liver trouble

Stomach ulcer
Any other chronic
stomach trouble
Kidney stones or chronic
kidney trouble
Arthritis or rheumatism
Mental illness
Diabetes
Thyroid trouble or goiter
Any allergy
Epilepsy
Chronic nervous trouble
Cancer
Chronic skin trouble
Hernia or rupture
Prostate trouble
Impairments

Deafness or serious
trouble with hearing
Serious trouble with see-
ing, even when wearing glasses
Cleft palate
Any speech defect
Missing fingers, hand, or arm-toes, foot, or leg
Palsy

Paralysis of any kind Repeated trouble with back or spine Club foot
Permanent stiffness or deformity of the foot, leg, fingers, arm, or back
Condition present since birth

Impairments.-Impairments are chronic or permanent defects, usually static in nature, resulting from discase, injury, or congenital malformation. They represent decrease or loss of ability to perform various functions, particularly those of the musculoskeletal system and the sense organs. All impairments are classified by means of a special supplementary code for impairments. Hence, code numbers for impairments in the International Classification of Diseases are not used. In the Supplementary Code, impairments are grouped according to type of functional impairment and etiology.

Persons with cluronic conditions. - The estimated number of persons with chronic conditions is based on the number of persons who at the time of the interview were reported to have one or more chronic conditions.

Prevalence of conditions. - In general, prevalence of conditions is the estimated number of conditions of il specifled type existing at a specified time or the average number existing during a specified interval of time. The prevalence of chronic conditions is defined as the number of chronic cases reported to be present or assumed to be present at the time of the interview; those assumed to be present at the time of the interview are cases described by the respondent in terms of one of the chronic diseases on the "Check List of Chronic Conditions" and reported to have been present at some time during the 12 -month period prior to the interview.

Onset of condition.-A condition is considered to have had its onset when it was first noticed. This could be the time the person first felt sick or became injured, or it could be the time when the person or his family was first told by a physician that he had a condition of which he was previously unaware.

Incidence of conditions. - The incidence of conditions is the estimated number of conditions having their onset in a specified time period.

Medically attended condition.-A condition is considered medically attended if a physician has been consulted about it either at its onset or at any time thereafter. Medical attention includes consultation either in person or by telephone for treatment or advice. Advice from the physician transmitted to the patient through the nurse is counted as well as visits to physicians in clinics or hospitals. If during the course of a single visit the physician is consulted about more than one condition for each of several patients, each condition of each patient is counted as medically attended.

Discussions of a child's condition by the physician and a responsible member of the household are considered as medical attention even if the child was not seen at that time.

For the purpose of this definition, the term "physician" includes doctors of medicine and osteopathic physicians.

## Terms Relating to Disability

Disability.-Disability is the general term used to described any temporary or long-term reduction of a person's activity as a result of an acute or chronic condition.

Disability days are classified according to whether they are days of restricted activity, bed-days, hospital days, work-loss days, or school-loss days. All hospital days are, by definition, days of bed disability; all days of bed disability are, by definition, days of restricted activity. The converse form of these statements is, of course, not true. Days lost from work and days lost from school are also days of restricted activity for the working and school-age populations. Hence, restricted activity is the most inclusive term used in describing disability days.

Condition-days of restricted activity, bed disability, etc. -Condition-days of restricted activity, bed disability, and so forth are days of the various forms of disability associated with any one condition. Since any particular day of disability may be associated with more than one condition, the sum of days for all conditions adds to more than the total number of persondays of disability.

Restricted-activity day.-A day of restricted activity is one on which a person substantially reduces the amount of activity normal for that day because of a specific illness or injury. The type of reduction varies with the age and occupation of the individual as well as with the day of the week or season of the year. Restricted activity covers the range from substantial reduction to complete inactivity for the entire day.

Bed-disability day.-A day of bed disability is one on which a person stays in bed for all or most of the day because of a specific illness or injury. It is considered to be a day only if the period of bed disability includes more than half of the daylight hours. All hospital days for inpatients are considered to be days of bed disability even if the patient was not actually in bed at the hospital.

Work-loss day.-A day lost from work is a normal working day on which a person did not work at his job or business because of a specific illness or injury. If the person's regular work day is less than a whole day and the entire work day was lost, it would be counted as a whole work day lost. The number of days lost from work is determined only for persons 17 years of age or over who reported that at any time during the 2 -week period covered by the interview they either worked at or had a job or business (see "Currently employed persons'').

School-loss day. - A day lost from school is a normal school day on which a child did not attend school because of a specific illness or injury. The number of days lost from school is determined only for children 6-16 years of age.

Person-days of restricted activity, bed disability, etc.-Person-days of restrictedactivity, bed disability, and so forth are days of the various forms of disability experienced by any one person. The sum of days for all persons in a group represents an unduplicated count of all days of disability for the group.

Hospital day. - A hospital day is a day on which a person is confined to a hospital as an inpatient for 1 night or more, except the period of stay of a well, newborn infant. For purposes of this report, hospital days reported during the 2 -week period prior to interview have been used as the basis for estimate.

Hospital. - For this survey a hospital is defined as any institution meeting one of the following criteria: (1) named in the listing of hospitals in the current Guide Issue of Hospitals, the Journal of the American Hospital Association; (2) named in the listing of hospitals in the Directories of the American Osteopathic Hospital Association; or (3) named in the annual inventory of hospitals and related facilities submitted by the States to the Division of Hospital and Medical Facilities of the U.S. Public Health Service in conjunction with the Hill-Burton program.

Short-stay hospital.-A short-stay hospical is one for which the type of service is general; maternity; eye, ear, nose, and throat; children's; osteopathic hospital; or hospital department of institution.

## Demographic Terms

Age. - The age recorded for each person is the age at last birthday. Age is recorded in single years and grouped in a variety of distributions depending upon the purpose of the table.

Color. - In this report, the population has been subdivided into two groups according to "white" and "nonwhite." "Nonwhite" includes Negro, American Indian, Chinese, Japanese, and so forth. Mexican persons are included with "white" unless definitely known to be Indian or of another nonwhite race.

Marital status. - Marital status is recorded only for persons 17 years of age or older. The marital status categories in this report are as follows:

Under 17 includes all persons aged 0-16, regardless of their marital status.

Married includes all married persons not separated from their spouses. Persons with commonlaw marriages are considered to be married.
Never married includes persons who were never married and persons whose only marriage was annulled.

Separated includes married persons who have legally separated or who have parted because of other reasons. This does not include persons separated from their spouses because of circumstances of employment or because of service in
the Armed Forces; these persons are considered married.

Widowed and divorced include, respectively, all persons who reported that they were either widowed or legally divorced.

Income offamily or of unrelated individuals. - Each member of a family is classified according to the total income of the family of which he is a member. Within the household all persons related to each other by blood, marriage, or adoption constitute a family. Unrelated individuals are classified according to their own income.

The income recorded is the total of all income received by members of the family in the 12 -month period preceding the week of interview. Income from all sources is included, e.g., wages, salaries, rents from property, pensions, and help from relarives.

Currently employed persons.-Currently employed persons are all persons 17 years of age or over who reported that at any time during the 2 -week period covered by the interview they either worked at or had a job or business. Current employment includes paid work as an employee of someone else, self-employment in business, farming, or professional practice, and unpaid work in a family business or farm. Persons who were temporarily absent from their job or business because of a temporary illness, vacation, strike, or bad weather are considered as currently employed if they expected to work as soon as the particular event causing their absence no longer existed.

Free-lance workers are considered as currently employed if they had a definite arrangement with one or more employers to work for pay according to a weekly or monthly schedule, either full time or part time. Excluded from the currently employed are such persons who have no definite employment schedule but work only when their services are needed.

Also excluded from the currently employed population are (1) persons receiving revenue from an enterprise in whose operation they did not participate, (2) persons doing housework or charity work for which they receive no pay, and (3) seasonal workers during the portion of the year in which they were not working.

The number of currently employed persons estimated by the National Health Survey (NHS) will differ from the estimates prepared by the Current Population Survey (CPS), Bureau of the Census, for several reasons. In addition to sampling variablity there are three primary conceptual differences, nan ey: (1) NHS estimates are for persons 17 years of age or over and CPS estimates are for persons 14 years of age or over; (2) NHS uses a 2-week-reference period, while CPS uses a 1 -week-reference period; (3)NHS is a continuing survey with separate samples taken weekly, while CPS is a monthly sample taken for the survey week which includes the 12 th of the month.

Education.-The categories of educational status show the highest grade of school completed. Only grades completed in regular schools, where persons are given a formal education, are included. A "regular" school is one which advances a person toward an elementary or high school diploma or a college, university, or professional school degree. Thus, education in vocational, trade, or business schools outside the regular school system is not counted in determining the highest grade of school completed.

Residence. - The place of residence of a member of the civilian, noninstitutional population is classified as being inside a standard metropolitan statistical area (SMSA) or outside an SMSA, according to farm or nonfirm residence.

Standard metropolitan statistical areas. -The definitions and titles of SMSA's are established by the U.S. Bureau of the Budget with the advice of the Federal Committee on Standard Metropolitan Statistical Areas. There were 212 SMSA's defined for the 1960 Decennial Census for which data may be provided by place of residence in the Health Interview Survey.

The definition of an individual SMSA involves two considerations: first, a city or cities of specified population which constitute the central city and identify the county in which it is located as the central county; and, second, economic and social relationships with contiguous counties (except in New England) which are metropolitan in character, so that the periphery of the specific metropolitan area may be determined. SMSA's are not limited by State boundaries.

Farm aid nonfarm residence. - The population residing outside SMSA's is subdivided into the farm populittion, which comprises all non-SMSA residents living on farms, and the nonfarm population, which comprises the remaining non-SMSA population. The farm population includes. persons living on places of 10 acres or more from which sales of farm products amounted to $\$ 50$ or more during the previous 12 months or on places
of less than 10 acres from which sales of farm products amounted to $\$ 250$ or more during the preceding 12 months. Other persons living in non-SMSA territory were classified as nonfarm if their household paid rent for the house but their rent did not include any land used for farming.

Sales of farm products refer to the gross receipts from the sale of field crops, vegetables, fruits, nuts, livestock and livestock products (milk, wool, etc.), poultry and poultry products, and nursery and forest products produced on the place and sold at any time during the preceding 12 months.

Region.-For the purpose of classifying the population by geographic area, the States are grouped into four regions. These regions, which correspond to those used by the Bureau of the Census, are as follows:

Region States Included

| Northe | Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania |
| :---: | :---: |
| North Cent | Michigan, Ohio, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas |
| S | Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, Texas |
|  | Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Alaska, Washington, Oregon, California, Hawaii |

## APPENDIX III

## SELECTED CHRONIC CONDITIONS AND IMPAIRMENTS

The following conditions and impairments, which appear in table $F$, were classified according to the International Classification of Diseases (ICD), 1955 Revision, with certain modifications adopted to make the code more suitable for a household interview survey. The full detail of all modifications of the ICD is shown in Appendix III of the Medical Coding Manual. The modifications which directly affect the conditions used in this report are as follows:

1. The letter " $S$ " following a number indicates a special number devised for survey purposes which is not to be found in the ICD.
2. Certain ICD numbers are recoded to other locations; these recoded ICD numbers are shown in parentheses.
3. The abbreviations 'NOS" and 'NEC" represent, respectively, "not otherwise specified" and "not elsewhere classified."

Impairments and their causes as reported by the household members are coded directly to the X-codes according to a system that differs considerably from the ICD method. A complete description of the Classification of Impairments (X-Code) is given in Appendix I of the Medical Coding Manual.

| Chronic conditions | Conditions included | ICD numbers, as modified by NHS, and impairment codes |
| :---: | :---: | :---: |
| Absence of fingers, toes------- | Absence, loss, fingers and/or thumbs only, one or both hands <br> Absence, loss, toe(s) only, one or both feet <br> Absence, loss, fingers and/or thumbs, and toe(s) | $\begin{aligned} & \mathrm{X} 25 \\ & \mathrm{X} 31 \\ & \mathrm{X} 34 \end{aligned}$ |
| Absence of major extremities---- | Absence, loss, arm NOS, NEC <br> Absence, loss, arm, below elbow and above wrist <br> Absence, loss, arms, both <br> Absence, loss, hand, except fingers or thumbs only <br> Absence, loss, hands, both, except fingers or thumbs only <br> Absence, loss, leg, NOS, NEC <br> Absence, loss, leg, below knee and above ankle <br> Absence, loss, legs, both <br> Absence, loss, foot, except toe(s) only <br> Absence, loss, feet, both <br> Absence, loss, one upper (arm or hand) with one lower (leg or foot), except digits only <br> Absence, loss, three or more members (arm, hand, leg, foot) except digits only | $\begin{aligned} & \mathrm{x} 20 \\ & \mathrm{X} 21 \\ & \mathrm{X} 22 \\ & \mathrm{x} 23 \\ & \mathrm{X} 24 \\ & \mathrm{X} 26 \\ & \mathrm{X} 27 \\ & \mathrm{X} 28 \\ & \mathrm{X} 29 \\ & \mathrm{X} 30 \\ & \\ & \mathrm{X} 32 \end{aligned}$ <br> X33 |
| Blind both eyes------------------- | Visual impairment: Inability to read ordinary newspaper print with glasses, and impairment indicating no useful vision in either eye | X00 |
| Cataract-------------------------- | Cataract, all forms | 385 (753.0) |
| Gallbladder------------------------ | Specified diseases of gallbladder Gallbladder trouble, NOS | $\begin{aligned} & 584,585,586.1-\mathrm{S} \\ & 586.0-\mathrm{S} \end{aligned}$ |


| Chronic conditions | Conditions included | ICD numbers, as modified by NHS, and impairment codes |
| :---: | :---: | :---: |
| Genitourinary disorders--------- | Nephritis (acute) (chronic), NEC <br> Calculi of kidney and ureter <br> Calculi of other parts of urinary system <br> Kidney trouble, NOS or ill-defined <br> Other diseases of kidney and ureter, NEC <br> Diseases of prostate <br> Other diseases of male genital organs <br> Diseases of male breast <br> Diseases of female breast <br> Diseases of ovary, fallopian tube and parametrium <br> Diseases of uterus, NEC <br> Other diseases of female genital organs, NEC <br> Female trouble, NOS: vaginal bleeding, NOS <br> Diseases of the urinary system, NEC Genitourinary symptoms; abnormal urinary constituents | $\begin{aligned} & 590-594 \\ & 602 \\ & 604 \\ & 603.3-\mathrm{S} \\ & 600,601,603.0-\mathrm{S} \\ & 603.1-\mathrm{S} \\ & 610-612 \\ & 613-617 \\ & 620,621 \text { (males) } \\ & 620,621 \text { (females) } \\ & 622-626 \\ & 630-633 \\ & 636,637.0,637.1 \\ & 637.2-\mathrm{s} \\ & 605-609 \\ & 786,789 \end{aligned}$ |
| Glaucoma- | Glaucoma, all forms | 387 |
| Goiter and thyroid--------------- | ```Goiter, all forms Thyroid trouble, NOS Other specified diseases of thyroid gland``` | $\begin{aligned} & 250-252 \\ & 254.0-\mathrm{S} \\ & 253,254.1-\mathrm{S} \end{aligned}$ |
| Gout | Gout | 288 |
| Heart conditions--- | Chronic rheumatic heart disease Arteriosclerotic heart disease, including coronary disease <br> Heart murmur (functional), cause unspecified <br> Heart trouble, NOS, or ill-defined <br> Other specified diseases of heart, NEC <br> Hypertensive heart disease, NEC | $\begin{aligned} & 410-416 \\ & 420 \\ & 435-S \\ & 434.4(782.4) \\ & 421,422,430-433, \\ & 434.0-434.3(782.1, \\ & 782.2) \\ & 440-443 \end{aligned}$ |
| Hypertension without <br> heart involvement | Other hypertensive disease, NEC | 444-447 |
|  | Blind in one eye, with impairment as in X03 <br> Blind in one eye, with impairment as in X 05 <br> Visual impairment: Inability to recognize a friend walking on the other side of the street and other visual difficulty, but not as in X00-X02 <br> Impaired vision except as in X 00 (blind both eyes) - X03 | X01 <br> X02 <br> X03 <br> X05 |
| Paralysis, complete or partial-- | Upper extremity, one, except fingers only <br> Upper extremities, both <br> Finger (s) only <br> Lower extremity, one, any part <br> except toes only <br> Lower extremities, both (paraplegia) <br> Toes only <br> Lower extremities, both, with bladder or anal sphincter involvement | X40 <br> X41 <br> X42 <br> X43 <br> X44 <br> X45 <br> X46 |


| Chronic conditions | Conditions included | ICD numbers, as modified by NHS, and impairment codes |
| :---: | :---: | :---: |
| Paralysis, complete or partial-Con. | Hemiplegia <br> Three or more major members; quadriplegia <br> Other sites of extremities or trunk; site unspecified <br> Cerebral palsy <br> Partial paralysis, arms or fingers <br> Partial paralysis, leg(s), any part(s) <br> Partial paralysis, one side of body (hemiparesis) <br> Partial paralysis, other sites of extremities or trunk <br> Partial paralysis, palsy, paresis, site unspecified <br> Paralysis, complete or partial, face <br> Paralysis, complete or partial, bladder or anal sphincter, extremities not mentioned <br> Paralysis, complete or partial, sites not of extremities, trunk, nor affecting special senses or speech | $\begin{aligned} & \mathrm{X} 47 \\ & \mathrm{X} 48 \\ & \mathrm{X} 49 \\ & \times 50 \\ & \mathrm{X} 51 \\ & \mathrm{X} 52 \\ & \mathrm{x} 53 \\ & \times 54 \\ & \mathrm{x} 59 \\ & \mathrm{X} 60 \\ & \mathrm{X} 61 \\ & \mathrm{X} 69 \end{aligned}$ |
| Senility | Senility | 794 |
| Skin disorders | Boil and carbuncle, NEC <br> Cellulitis (with lymphangitis) NEC Dermatitis due to plants (allergic) <br> Other dermatitis, and eczema, nonallergic <br> Other nonallergic diseases of skin, NEC | $\begin{aligned} & 690 \\ & 691-693 \\ & 702.0,703.0 \\ & 700,701,702.1- \\ & 702.6,703.1-703.7 \\ & 694-698,704-716 \end{aligned}$ |
| Tuberculosis---- | Tuberculosis, pulmonary or unspecified <br> Other respiratory tuberculosis Tuberculosis, other specified sites Tuberculosis (pulmonary) arrested or inactive | $\begin{aligned} & 002 \text { (008) } \\ & 001,003-007 \\ & 010-012,014-019 \\ & 009-\mathrm{S} \end{aligned}$ |
| Vascular lesions, CNS--- | Vascular lesions of the central nervous system | $330-334$ |



## APPENDIX IV. QUESTIONNAIRE

The items below show the exact content and wording of the insic ruestionnaire used in the nationwide household survey of the U.S. National Horlth Survoy. The actual questionnaire is designed for a houschold as a unit and includes additional spaces for reports on more than one person, condition, accident, or hospitalization. Such repetitive spaces are omitted in this illustration.




Tum to Card J, and ask;
17. a. LAST WEEK OR THE WEEK BEFORE, did anyone in the family buy or obtain ony medicine NOT
preseribed by a doctor? This (Show Card J) is a list of SOME of tho items in which we ore inferested.
■_YesNo Co to Q. 18

If 'Yes," ask:
b. What is the name of the madicine? (Enter name or kind of medicine in column (a) of Table NP.)
c. LAST WEEK OR THE WEEK BEFORE, did anyone buy or obrain any OTHER medicine NOT preseribed by a doctor?
$\square$ Yes (Ke-atk O. 17b)$\square$ No (Fill remalning columns of Table NP for ach medicine reportod)

## INTERVIEWER:

"Impairments" or "conditions" on Card A reported in question 16 or 17 , should be carried back to Table I if they do not already appear there.



\begin{tabular}{|c|c|c|c|}
\hline \multicolumn{4}{|c|}{Table A - ACCIDENTS AND INJURIES} \\
\hline \multirow[t]{2}{*}{Line No. from Table 1} \& 1. When did the aceident happen? \& 2. At the time of the accidens, what part of the body was hurt? \& What kind of injury was it? Anything olse? \\
\hline \& Year \& Part(s) of body \& Kind of injury (injuries) \\
\hline \multirow[t]{2}{*}{\begin{tabular}{l}
Accident \\
happened \\
last week \\
or week \\
before \\
(Go to Q. 3)
\end{tabular}} \& \[
\begin{aligned}
\& \text { (If 1963, 1964, or } 1965 \text { also } \\
\& \text { enter month): }
\end{aligned}
\] \& \& \\
\hline \& Month \& \& \\
\hline \multicolumn{4}{|l|}{\begin{tabular}{l}
3. a. Was a car, truck, bus or other motor vehicle involved in the accident in any way? Yes No (Go to Q.4) \\
b. Was more thon one motor vehicle involved? \(\qquad\)
Yes (More than one) No \\
c. Was it (either ane) moving of the time? . \(\square\) Yes No
\end{tabular}} \\
\hline \begin{tabular}{l}
4. a. Where
\(\square\) \\
\(1 \square\) \\
If "Some \\
b. What \(k\) \\
3 \(\square\) \\
4 \(\square\) \\
5 
\end{tabular} \& \begin{tabular}{l}
e occident happen - at home or me (inside house) \\
place," ask: \\
place was it? \\
and highway (includes roadway) \\
trial place (includes premises)
\end{tabular} \& \begin{tabular}{l}
other place? \\
2 \(\square\) At home (adjacent premises) \\
6 \(\square\) School (includes school premises)

$\square$ Place of recreation and sports, except at scho <br>
8 $\square$ Other (Specify the place where accident happ

 \& 

Some other place <br>
ol <br>
ned) $\qquad$
\end{tabular} <br>

\hline 5. Here you

$\square$ Yes INTERVIE \& | $k$ ot your iob or business when the $2 \square$ $\square$ No |
| :--- |
| Recurn to Table I and complete the | \& | cident happeried? $\square$ |
| :--- |
| $3 \square$ While in Armed Services |
| rest of this line. | \& Under 17 at time of accident <br>

\hline
\end{tabular}





| $\begin{aligned} & \text { FORM NHSHIS-1(d) (FY-1965) } \\ & (4-27-64) \end{aligned}$ | BUDGET BUREAU NO. 68-R620.10 APPROVAL EXPIRES JULY 15, 1965 |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| U.S. DEPARTMENT OF COMMERCE BUREAU OF THE CENSUS ACTING AS COLLECTING AGENT FOR THE U.S. PUBLIC HEALTH SERVICE | PSU | Segment | Serial No. | Sample <br> B |
| NATIONAL HEALTH SURVEY | Name of person with diaberes |  |  | Age |
| DIABETES SUPPLEMENT |  |  |  |  |

## RESPONDENT RULES FOR DIABETES SUPPLEMENT

If the person for whom the Diaberes Supplement is to be completed is an eligible respondent according to the regular eligible respondent rules, he is to respond for himself. If he is not ar home or otherwise not available, make arrangements for a return call to interview him. (Two additional calls to contact him may be made.)
If the person is not an eligible respondent, or is unable to respond for himself because of disability or illness, complete the interview with the respondent who knows most about the person's diaberes.

If the person is not going to be available for interview at any time during interview week, complete the interview with the respondent who knows most about his condition. In either case, explain in a footnote the reason for the use of the proxy respondent.


CONFIDENTIAL - This information is collected for the U.S. Public Health Service under authority of Public Law 652 of the 84 th Congress ( 70 Sat. 489 ; 42 U.S.C. 305). All information which would permit identification of the individual will be held strictly confidential, will be used only by persons engaged in and for the purposes of the survey, and will nor be disclosed or released to others for any other purposes (22 FR 1687).


| QUESTIONS | DEFINITIONS |
| :---: | :---: |
| (Ask only if "No' in question 4a) <br> 5. At the time your diabetes was first discovered, were you sent to the hospital for regulation of your diabetes? Yes No | As an inpatient |
| Ba. (Not counting that first time) Have you ever been hospitalized because of your diabetes? <br> b. About how many times? <br> Number $\qquad$ <br> c. Have you ever been haspitalized-- (Ask all 4 parts) <br> - for diabetic coma? $\qquad$ Yes No <br> .. for insulin reaction? $\square$ Yes No <br> - . for gangrene? $\qquad$ $\square$ Yes No <br> .- for regulation?. $\square$ Yes $\square$ No | Estimate acceptable. <br> Several reasons may be given for any single hospital stay. |
| 7a. Have you ever had a nurse come to your home to help you in taking care of your diabetes? Yes No (Go to question 7c) |  |
| b. About how many times has she visited you during the past 12 months? <br> Number $\qquad$ $\square$ None |  |
| c. Where do you usually go for care of your diabetes -- <br> a clinic; a dortar's office; or some other place? Clinic Doctor's office Some other place (Specify) |  |
| d. Does the doctor you go to for your diabetos SPECIALIZE in the freatment of diabetes? $\square$ Yes $\square$ No |  |
| e. How long have you been going to him for your diabeles? $\qquad$ Less than <br> Years one year |  |
| 8a. How many brothers and sisters have you had-- oither living or dead? <br> Number $\qquad$ $\square$ None (Go to question 8c) |  |
| b. Did any of these brothers or sisters have diabetes? <br> Number $\qquad$ None |  |
| c. Did your mother have diabetes? $\square$ Yes $\square$ No |  |
| d. Did your father have diabetes? $\square$ Yes $\square$ No |  |
| (If "ever marricd," ask)- <br> 9a. How many children have you ever had? <br> Number $\qquad$ None (Go to question $10_{\mathrm{a}}$ ) | Exclude stepchildren, adopted children, and foster children |
| (If number entered in question 9a, ask) - $\qquad$ 4. 7. <br> b. How much did each of your children woigh at birth - -starting with the oldest? $\qquad$ 5. <br> 8. <br> 3. $\qquad$ <br> 6. <br> 9. | Accept estimate, enter answer in pounds and ounces. <br> If pounds only are given, this is acceptable |
| (If '1"' or more in question 9a, ask) - <br> e. Did any of your children have diabetes? <br> Number $\qquad$ $\square$ None |  |





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[^0]:    Public Health Service Publication No. 1000 -Series $10-$ No. 40
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[^1]:    nee page 2, paragraph 3, for explanation of total estimates of known diabeties presented in this publication.

[^2]:    FORM NHS-HIS-1(d) (FY-1965) (4-27-64)

