# Basic Statistics on the Venereal Disease Problem in the United States 

## VD FACT SHEET 1968

Twenty-Fifth Edition

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## Introduction


#### Abstract

The VD Fact Sheet is intended as a handy source of basic statistics on the venereal diseases in the United States. In this booklet, public health specialists, students, physicians, and other persons interested in medical data will find venereal diseases measured by incidence and prevalence. The general public will find tables showing the costs of uncontrolled venereal disease and the frequency of psychoses and deaths from syphilis. While the results of casefinding are measured in terms of cases reported, the actual amount of casefinding effort is seen in the volume of diagnostic examinations and epidemiologic activity. As there is no agent for immunizing the population, finding and treating cases continues to be the only feasible means of controlling venereal disease.

Facts on these aspects of the venereal disease problem and program are presented in the text and tables which follow. The information is current as of the date of publication, and it supersedes any previously published data. Where no source is cited, the data presented are based on the statistics collected by the Venereal Disease Program of the National Communicable Disease Center, or upon estimates made by the Program. Where data are indicated as being for "fiscal years," the period runs from July 1 of the previous year through June 30 of the year indicated on the table. Rates per 100,000 population shown in this Fact Sheet are based on appropriate population estimates obtained from the Bureau of the Census.


## Incidence and Prevalence

The incidence of syphilis is defined as the number of new cases occurring in a given area within a specified period of time, usually a year.

Since the symptoms of primary and secondary syphilis appear soon after the disease is acquired, the number of primary and secondary cases occurring in the population within a given period of time would be the same as the incidence of syphilis.

Cases of primary and secondary syphilis are reportable by law in all of the 50 States and the District of Columbia. In the fiscal year ending June 30, 1968, physicians and clinics in the United States reported 20,182 cases to State or local departments of health. But the number of cases reported understates actual incidence for two reasons:

1. Not all cases are diagnosed, and
2. Not all diagnosed cases are reported.

The Venereal Disease Program currently estimates that the actual occurrence of syphilis was about 80,000 cases in Fiscal Year 1968 of which 20,182 were diagnosed and reported to health departments.

Cases of syphilis which occur but go untreated cumulate to form a large reservoir of cases needing treatment. This reservoir of cases needing treatment (prevalence), most of which are in the latent stage of disease and are detectable only by means of bloodtests, is currently estimated to number about 636,000.

Gonorrhea is underreported for the same reasons given above for the underreporting of syphilis but the problem of underdiagnosis is more acute in females than males due to the frequent asymptomatic nature of disease in the female. The Venereal Disease Program estimates that at least $1,400,000$ cases of gonorrhea occurred in the United States in Fiscal Year 1968, of which 431,380 were diagnosed and reported to health departments.

## Costs of Uncontrolled Syphilis

The statistics presented in Table 1 (next page) indicate the toll imposed by syphills upon the manpower and economy of the country.

The estimate of man-years of disability for institutionalization of the syphilitic insane is based on the total number of patients in mental institutions and upon the proportion of those diagnosed as having syphilitic psychoses. Patients in State, county, and Veterans Administration hospitals for the permanent care of the insane are included.

The cost of maintenance is based upon the number of patients with syphilitic psychoses in tax supported institutions and upon the average per patient maintenance cost. Approximately three percent of patients with syphilitic psychoses are maintained in private institutions and these have not been included in this report.

Disability attributed to cardiovascular syphilis and to locomotor ataxia is based on conservative estimates of the prevalence of these late manifestations of syphilis.

The loss of life expectancy indicates the loss of future years of life for persons dying of syphilis in 1966. The loss of life expectancy is based on the expected years of life remaining to persons of that age, color and sex. The loss of income is based on projected earnings of these persons for the productive years of life lost to age 65 . The estimated earnings are based on the median total money income rate for adults for 1966.

While disabilities and deaths from syphilis have been diminishing in recent years, costs and losses per case have been rising. As a result, total costs and income losses from syphilitic disabilities and deaths remain high compared to previous estimates.

On the basis of findings of research conducted in Macon County, Alabama, it has been estimated that the life expectancy of a Negro male between the ages of 25 and 60 years, infected with syphilis and receiving no appreciable treatment for his infection, is reduced by about 17 percent.*

[^0]
## ESTIMATED ANNUAL COSTS OF UNCONTROLLED SYPHILIS

UNITED STATES, 1966*
MAN-YEARS OF SYPHILIS DISABILITY PER YEAR
Institutionalization for syphilitic insanity ..... 13,651
Disability from cardiovascular syphilis including aneurysm (est.) ..... 7,000
Disability from syphilitic blindness ..... 5,040
ECONOMIC COSTS OF SYPHILITIC PSYCHOSES AND SYPHILITIC BLINDNESS PER YEAR
Maintenance of patients with syphilitic psychoses ..... $\$ 43,719,000$
Compensation to syphilitic blind ..... $\$ 5,443,000$
LOSS OF LIFE EXPECTANCY FROM DEATHS DUE TO SYPHILIS IN MAN-YEARS
White males ..... 16,231
White females ..... 6,514
Non-white males ..... 5,497
Non-white females ..... 3,942
Total population ..... 32,184
LOSS OF INCOME TO AGE 65 AT 1966 MEDIAN TOTAL MONEY INCOME RATE ..... $\$ 33,335,000$

[^1]
## Reported Mortality and Insanity <br> Due to Syphilis

Mortality statistics are processed and tabulated in the National Center for Health Statistics (NCHS) from microfilm copies of the original certificates filed with State or local registrars. Mortality rates for syphilis are calculated by dividing the number of deaths in a given year by the population for that year and multiplying by 100,000 (rate per 100,000 population).

The infant mortality rate for syphilis for a given year is obtained by dividing the number of deaths due to syphilis among children under one year of age by the number of live births in the year multiplied by 10,000 (rate per 10,000 live births).

Since deaths from syphilis represent casefinding and treatment failures, mortality due to syphilis may be considered an inverse measure of the success of the syphilis control program.

It has been the practice since 1900 to revise the International Lists of Diseases and Causes of Death about every 10 years to keep abreast of medical progress. These revisions have at times affected the continuity of syphilis mortality statistics. "The Sixth Revision of the International Lists of Causes of Death,' which became effective in 1949, reduced reported syphilis deaths by about 26 percent. In "The Seventh Revision of the International Lists of Causes of Death,'" which was published in 1955 and became effective beginning January 1958, an increase of 3.3 percent for syphilis and its sequelae occurred by reason of a change in interpretation of 'aneurysm of the aorta'' reported in a sequence involving arteriosclerosis of sites other than the aorta. It should be noted, however, that the interpretation of such sequences reverted in 1959 to that used with the Sixth Revision. Mortality rates given in this FACT SHEET have been adjusted to the basis of the Seventh Revision. No adjustment was made for infant mortality since it was affected very little by changes in the Seventh Revision.

Insanity due to syphilis is measured by the rate of first admissions to mental hospitals because of syphilis. Excluded are first admissions to psychopathic hospitals which provide only temporary care, and admissions to Veterans Administration facilities. The number of admissions is obtained from "Patients in Mental Institutions" published by the National Institute of Mental Health. Since only first admissions are included in the rate, the figures over a period of years represent a measure of the trend of incidence of syphilitic insanity.

Data on mortality and insanity due to syphilis are presented in Table 2 (next page).

TABLE 2

## REPORTED MORTALITY AND INSANITY DUE TO SYPHILIS <br> UNITED STATES <br> SELECTED YEARS 1940-1967

| Calendar Year | SYPHILIS MORTALITY* |  |  |  | INFANT MORTALITY DUE TO SYPHILIS |  |  |  | FIRST ADMISSIONS TO MENTAL HOSPITALS DUE TO SYPHILIS |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total <br> Number | Rate Per 100,000 Pop. |  |  | Total <br> Number | Rate Per 10,000 Live Births |  |  | Rate/100,000 Pop.** |  |
|  |  | Total | White | Nonwhite |  | Total | White | Nonwhite | Number | Rate |
| 1940 | 14,064 | 10.7 | 7.3 | 40.2 | 1,251 | 5.30 | 2.50 | 25.20 | 7,694 | 6.1 |
| 1945 | 10,406 | 7.9 | 5.6 | 27.3 | 684 | 2.50 | 1.07 | 12.59 | 6,897 | 5.5 |
| 1950 | 7,568 | 5.0 | 3.7 | 16.1 | 201 | . 57 | . 24 | 2.59 | 3,751 | 2.6 |
| 1951 | 6,274 | 4.1 | 3.0 | 13.4 | 129 | . 34 | . 12 | 1.73 | 3,035 | 2.1 |
| 1952 | 5,719 | 3.7 | 2.7 | 11.4 | 92 | . 24 | . 10 | 1.14 | 2,602 | 1.8 |
| 1953 | 5,273 | 3.3 | 2.4 | 10.9 | 56 | . 14 | . 04 | . 77 | 2,360 | 1.5 |
| 1954 | 4,835 | 3.0 | 2.3 | 9.2 | 43 | . 11 | . 03 | . 54 | 2,145 | 1.3 |
| 1955 | 3,834 | 2.4 | 1.7 | 7.9 | 34 | . 08 | . 03 | . 41 | 1,663 | 1.0 |
| 1956 | 3,870 | 2.3 | 1.7 | 7.1 | 30 | . 06 | . 02 | . 31 | 1,373 | . 8 |
| 1957 | 3,825 | 2.2 | 1.7 | 6.9 | 20 | . 06 | . 05 | . 16 | 1,307 | . 8 |
| 1958 | 3,469 | 2.0 | 1.5 | 6.4 | 29 | . 07 | . 02 | . 36 | 1,321 | . 6 |
| 1959 | 3,069 | 1.7 | 1.3 | 4.9 | 19 | . 06 | . 02 | . 23 | 774 | . 4 |
| 1960 | 2,945 | 1.6 | 1.3 | 4.5 | 30 | . 07 | . 04 | . 24 | 742 | . 4 |
| 1961 | 2,850 | 1.6 | 1.2 | 4.5 | 20 | . 05 | . 02 | . 18 | 639 | . 3 |
| 1962 | 2,811 | 1.5 | 1.2 | 3.9 | 29 | . 07 | . 02 | . 33 | 452 | . 2 |
| 1963 | 2,666 | 1.4 | 1.1 | 3.5 | 19 | . 07 | . 01 | . 22 | 312 | . 1 |
| 1964 | 2,619 | 1.4 | 1.1 | 3.2 | 20 | . 05 | . 02 | . 18 | 260 | . 1 |
| 1965 | 2,434 | 1.3 | 1.1 | 2.7 | 25 | . 07 | . 04 | . 22 | 232 | . 1 |
| 1966 | 2,193 | 1.1 | 1.0 | 2.2 | 25 | . 07 | . 03 | . 28 | N.A. | N.A. |
| 1967*** | 2,445 | 1.2 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |

[^2]
## Reported Cases of Venereal Disease

All states require that each case of syphilis and gonorrhea which comes to medical attention be reported to the state or local health officer. The other venereal diseases are also reportable in most states. Every three months, each state submits to the Public Health Service a statistical summary of cases reported during the quarter. All cases not previously reported in the state, regardless of duration of infection or previous treatment status, are to be counted in the statistical report of cases. Reported morbidity, as reported cases are sometimes called, indicates the volume of successful casefinding.

The trend of reported cases or case rates of early syphilis over a period of years may be indicative of incidence trends if no significant changes in casefinding efforts or completeness of case reporting have occurred. Similiarly, the trend of reported cases of syphilis in all stages of disease can be interpreted as indicative of prevalence trends subject to the limitations imposed by changes in casefinding efforts and completeness of case reporting. For these reasons, trends in reported cases and rates mast be interpreted with caution since changes in casefinding efforts and completeness of case reporting are reflected in morbidity data just as much as changes in disease incidence and prevalence.

Reported venereal disease cases and rates are shown in Tables 3 through 8.
Table 4 shows that syphilis in all stages decreased from 575,593 cases in Fiscal Year 1943 to 98,195 cases in 1968. This decrease in cases is interpreted as indicative of a decrease in prevalence over the last 25 years.

The trend of cases in the primary and secondary stage of syphilis, usually interpreted as paralleling the actual occurrence of syphilis, has changed direction four times during the 27 years these data have been available (Table 4). Primary and secondary syphilis increased during and shortly after World War II to a peak of 106,539 cases in Fiscal year 1947; cases then decreased rapidly to a low of 6,251 cases in Fiscal Year 1957. After 1957, cases increased again to a peak of 23,250 in Fiscal Year 1965. Since 1965, small decreases have been reported each year.

The trend of reported cases of gonorrhea in the United States (Table 4) closely followed the trend of early syphilis from Fiscal Year 1941 through Fiscal Year 1965 in direction but not in magnitude of change. Whereas early syphilis cases began to decline in Fiscal Year 1966, gonorrhea cases continued to increase. Reported cases of gonorrhea have increased from 216,476 cases in Fiscal Year 1957 to 431,380 cases in Fiscal Year 1968, an all-time high number for this disease.

Table 5 shows that most of the congenital syphilis which has been reported in recent years is among adults and reflects the high incidence of syphilis 20 or more years ago. Cases diagnosed among infants increased between Fiscal Years 1957 and 1965 in tandem with the increase in acquired (primary and secondary) syphilis but remains at a relatively low level.

Table 6 shows geographic variations in the reported case rates of venereal disease.
Tables 7 and 8 show the age distribution of newly acquired venereal disease. These tables show that the 20-24 year-old age group has the highest risk of acquiring venereal disease; for males, the reported risk of acquiring gonorrhea is higher than for females. The difference between sexes in reported rates of gonorrhea may result from failure to diagnose the disease in females because of the greater frequency of asymptomatic disease in females. The gonorrhea rate for males age $20-24$ in Calendar Year 1967 was 1,830 cases per 100,000 males, or one reported case for every 55 males in this age group.

The difference in reported cases and rates between color groups shown in Tables 7 and 8 may be biased because nonwhites tend toutilize public diagnostic and treatment facilities where reporting is complete and whites tend to seek treatment at private diagnostic facilities where reporting is not complete.

TABLE 3
CASES OF SYPHILIS AND GONORRHEA REPORTED TO THE PUBLIC HEALTH SERVICE
BY STATE HEALTH DEPARTMENTS, AND RATES PER 100,000 POPULATION
A11 Reporting Areas in United States
Fiscal Years 1919-1940

| Fiscal Year | ALL STAGES OF SYPHILIS |  | GONORRHEA |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Cases | Rates | Cases | Rates |
| 1919 | 100,466 | 113.2 | 131,193 | 147.8 |
| 1920 | 142,869 | 145.3 | 172,387 | 175.4 |
| 1921 | 184,090 | 172.3 | 189,927 | 177.7 |
| 1922 | 171,824 | 157.7 | 152,959 | 140.4 |
| 1923 | 172,258 | 156.2 | 156,826 | 142.2 |
| 1924 | 194,936 | 174.2 | 161,676 | 144.5 |
| 1925 | 201,692 | 181.2 | 166,208 | 149.3 |
| 1926 | 205,595 | 196.1 | 164,808 | 157.2 |
| 1927 | 196,457 | 171.9 | 160,793 | 140.7 |
| 1928 | 185,437 | 174.2 | 147,219 | 138.3 |
| 1929 | 195,559 | 169.2 | 156,544 | 135.4 |
| 1930 | 213,309 | 185.4 | 155,875 | 135.5 |
| 1931 | 229,720 | 197.4 | 155,895 | 134.0 |
| 1932 | 242,128 | 208.2 | 154,051 | 132.5 |
| 1933 | 238,656 | 193.4 | 149,823 | 121.4 |
| 1934 | 231,129 | 186.7 | 153,542 | 124.1 |
| 1935 | 255,856 | 205.6 | 162,763 | 130.8 |
| 1936 | 267,717 | 212.6 | 163,465 | 129.8 |
| 1937 | 336,258 | 264.3 | 182,460 | 143.4 |
| 1938 | 480,140 | 372.0 | 198,439 | 153.8 |
| 1939 | 478,738 | 367.1 | 182,314 | 139.8 |
| 1940 | 472,900 | 359.7 | 175,841 | 133.8 |

NOTE: Beginning in 1939, all States are included in the reporting area.

CASES OF VENEREAL DISEASE REPORTED TO THE PUBLIC HEALTH SERVICE BY STATE HEALTH DEPARTMENTS, AND RATES PER 100,000 POPULATION

Fiscal Years 1941-1968
(Known Military Cases Excluded)
United States

| Fiscal <br> Years | S Y P H I L I S |  |  |  |  |  |  |  |  |  | GONORRHEA |  | CHANCROID |  | GRANULOMA INGUINALE |  | LYMPHOGRANULOMA VENEREUM |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | A11 Stages* |  | $\begin{gathered} \text { Primary } \\ \text { and } \\ \text { Secondary } \\ \hline \end{gathered}$ |  | Early Latent |  | Late and Late Latent |  | Congenital |  |  |  |  |  |  |  |  |  |
|  | Cases | Rates | Cases | Rates | Cases | Rates | Cases | Rates | Cases R | Rates | Cases | Rates | Cases | Rates | Cases | Rates | Cases | Rates |
| 1941 | 485,560 | 368.2 | 68,231 | 51.71 | 109,018 | 82.6 | 202,984 | 153.9 | 17,600 | 13.4 | 193,468 | 146.7 | 3,384 | 2.5 | 639 | . 4 | 1,381 | 1.0 |
| 1942 | 479,601 | 363.4 | 75,312 | 57.01 | 116,245 | 88.0 | 202,064 | 153.1 | 16,918 | 12.8 | 212,403 | 160.9 | 5,477 | 4.1 | 1,278 | . 9 | 1,888 | 1.4 |
| 1943 | 575,593 | 447.0 | 82,204 | 63.8 | 149,390 | 116.0 | 251,958 | 195.7 | 16,164 | 12.6 | 275,070 | 213.6 | 8,354 | 6.4 | 1,748 | 1.3 | 2,593 | 2.0 |
| 1944 | 467,755 | 367.9 | 78,443 | 61.6 | 123,038 | 96.7 | 202,848 | 159.6 | 13,578 | 10.7 | 300,676 | 236.5 | 7,878 | 6.1 | 1,759 | 1.3 | 2,858 | 2.2 |
| 1945 | 359,114 | 282.3 | 77,007 | 60.5 | 101,719 | 79.9 | 142,187 | 111.8 | 12,339 | 9.7 | 287,181 | 225.8 | 5,515 | 4.3 | 1,857 | 1.4 | 2,631 | 2.0 |
| 1946 | 363,647 | 271.7 | 94,957 | 70.9 | 107,924 | 80.6 | 125,248 | 93.6 | 12,106 | 9.0 | 368,020 | 275.0 | 7,091 | 5.2 | 2,232 | 1.6 | 2,603 | 1.9 |
| 1947 | 372,963 | 264.6 | 106,539 | 75.6 | 107,767 | 76.4 | 121,980 | 86.5 | 12,271 | 8.7 | 400,639 | 284.2 | 9,039 | 6.4 | 2,403 | 1.7 | 2,688 | 1.9 |
| 1948 | 338,141 | 234.7 | 80,528 | 55.9 | 97,745 | 67.9 | 123, 972 | 86.1 | 13,309 | 9.2 | 363,014 | 252.0 | 8,631 | 6.0 | 2,315 | 1.6 | 2,494 | 1.7 |
| 1949 | 288,736 | 197.3 | 54,248 | 37.1 | 84,331 | 57.6 | 121,931 | 83.3 | 14,295 | 9.8 | 331, 661 | 226.7 | 7,218 | 4.9 | 2,611 | 1.8 | 2,170 | 1.5 |
| 1950 | 229,723 | 154.2 | 32,148 | 21.6 | 64,786 | 43.5 | 112,424 | 75.5 | 13,446 | 9.0 | 303,992 | 204.0 | 5,796 | 3.9 | 2,017 | 1.4 | 1,635 | 1.1 |
| 1951 | 198,640 | 131.8 | 18,211 | 12.1 | 52,309 | 34.7 | 107, 133 | 71.1 | 12,836 | 8.5 | 270,459 | 179.5 | 5,707 | 3.1 | 1,637 | 1.1 | 1,332 | . 9 |
| 1952 | 168,734 | 110.8 | 11,991 | 7.9 | 38,365 | 25.2 | 101,920 | 66.9 | 9,240 | 6.1 | 245,633 | 161.3 | 3,837 | 2.5 | 1,069 | . 7 | 1,235 | . 8 |
| 1953 | 156,099 | 100.8 | 9,551 | 6.2 | 32,287 | 20.8 | 100,195 | 64.7 | 8,021 | 5.2 | 243,857 | 157.4 | 3,490 | 2.3 | 785 | . 5 | 1,103 | . 7 |
| 1954 | 137,876 | 87.5 | 7,688 | 4.9 | 24,999 | 15.9 | 93,601 | 59.4 | 7,234 | 4.6 | 239,661 | 152.0 | 3,294 | 2.1 | 607 | . 4 | 917 | . 6 |
| 1955 | 122,075 | 76.0 | 6,516 | 4.1 | 21,553 | 13.4 | 84,741 | 52.7 | 5,515 | 3.4 | 239,787 | 149.2 | 2,863 | 1.8 | 584 | . 4 | 875 | . 5 |
| 1956 | 126, 219 | 77.1 | 6,757 | 4.1 | 20,014 | 12.2 | 89,851 | 54.8 | 5,535 | 3.4 | 233,333 | 142.4 | 2,322 | 1.4 | 419 | . 3 | 602 | . 4 |
| 1957 | 130,552 | 78.3 | 6,251 | 3.8 | 19,046 | 11.4 | 96,856 | 58.1 | 5,452 | 3.3 | 216,476 | 129.8 | 1,860 | 1.1 | 348 | . 2 | 449 | . 3 |
| 1958 | 116,630 | 68.5 | 6,661 | 3.9 | 16,698 | 9.8 | 85,974 | 50.5 | 4,839 | 2.8 | 220, 191 | 129.3 | 1,574 | . 9 | 332 | . 2 | 436 | . 3 |
| 1959 | 119,981 | 69.3 | 8,178 | 4.7 | 17,592 | 10.2 | 86,776 | 50.1 | 5,215 | 3.0 | 237,318 | 137.1 | 1,604 | . 9 | 282 | . 2 | 485 | . 3 |
| 1960 | 120,249 | 68.0 | 12,471 | 7.1 | 16,829 | 9.5 | 84,195 | 47.6 | 4,593 | 2.6 | 246,697 | 139.6 | 1,555 | . 9 | 273 | . 2 | 800 | . 5 |
| 1961 | 125,262 | 69.7 | 18,781 | 10.4 | 19,146 | 10.7 | 80,942 | 45.0 | 4,388 | 2.4 | 265,665 | 147.8 | 1,595 | . 9 | 296 | . 2 | 842 | . 5 |
| 1962 | 124, 188 | 68.1 | 20,084 | 11.0 | 19,924 | 10.9 | 78, 264 | 42.9 | 4,085 | 2.2 | 260,468 | 142.8 | 1,401 | . 8 | 203 | . 1 | 635 | . 3 |
| 1963 | 128,450 | 69.3 | 22,045 | 11.9 | 18,683 | 10.1 | 81,736 | 44.1 | 4,140 | 2.2 | 270,076 | 145.7 | 1,242 | . 7 | 196 | . 1 | 589 | . 3 |
| 1964 | 118,247 | 62.9 | 22,733 | 12.1 | 18, 104 | 9.6 | 72, 184 | 38.4 | 3,737 | 2.0 | 290,603 | 154.5 | 1,260 | . 7 | 145 | . 1 | 543 | . 3 |
| 1965 | 113,018 | 59.7 | 23,250 | 12.3 | 17,315 | 9.1 | 67,636 | 35.7 | 3,505 | 1.9 | 310,155 | 163.8 | 1,083 | . 6 | 144 | . 1 | 873 | . 5 |
| 1966 | 110,128 | 57.1 | 22,473 | 311.6 | 16,974 | 8.8 | 66,149 | 34.3 | 3,464 | 1.8 | 334,949 | 173.6 | 950 | . 5 | 164 | . 1 | 625 | . 3 |
| 1967 | 103, 546 | 53.2 | 21,090 | 10.8 | 15,618 | 8.0 | 62,653 | 32.2 | 3,050 | 1.6 | 375,606 | 193.0 | 787 | . 4 | 128 | . 1 | 380 | . 2 |
| 1968 | 98,195 | 49.9 | 20, 182 | 10.3 | 15,379 | 7.8 | 58,905 | 29.9 | 2,596 | 1.3 | 431, 380 | 219.2 | 827 | . 4 | 174 | . 1 | 349 | . 2 |

[^3]REPORTED CASES OF CONGENITAL SYPHILIS, BY AGE*
UNITED STATES
SELECTED YEARS 1957-1968

| Age Group | 1957 |  | 1965 |  | 1967 |  | 1968 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cases | Percent | Cases | Percent | Cases | Percent | Cases | Percent |
| 0-1 Year | 180 | 3.3 | 373 | 10.6 | 398 | 13.1 | 327 | 12.6 |
| 1-4 Years | 79 | 1.4 | 59 | 1.7 | 26 | 0.9 | 30 | 1.2 |
| 5-9 Years | 190 | 3.5 | 44 | 1.3 | 37 | 1.2 | 28 | 1.1 |
| 10 Years and Over | 5,003 | 91.8 | 3,029 | 86.4 | 2,589 | 84.8 | 2,211 | 85.1 |
| GRAND TOTAL | 5,452 | 100.0 | 3,505 | 100.0 | 3,050 | 100.0 | 2,596 | 100.0 |

*Approximately $90 \%$ of congenital cases reported by age. Cases not reported by age have been prorated according to known ages.

TABLE 5b

$$
\begin{gathered}
\text { REPORTED CASES OF CONGENITAL SYPHILIS, UNDER ONE YEAR OF AGE } \\
\text { Case Rates per 10,000 Live Births** } \\
\text { UNITED STATES } \\
\text { SELECTED YEARS 1957-1968 }
\end{gathered}
$$

| 1957 |  | 1965 |  | 1967 |  | 1968 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cases | Rate | Cases | Rate | Cases | Rate | Cases | Rate |
| 180 | 0.4 | 373 | 0.8 | 398 | 1.1 | 327 | 0.9 |

REPORTED VENEREAL DISEASE CASES AND CASE RATES PER 100,000 POPULATION* UNITED STATES
(Known Military Cases Excluded)
Fiscal Year 1968

|  | Syphilis |  |  |  | Gonorrhea |  | OtherVenerealDiseases |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | All Stages |  | Primary and Secondary |  |  |  |  |  |
|  | Cases | Rates | Cases | Rates | Cases | Rates | Cases | Rates |
| Alabama | 960 | 27.4 | 681 | 19.4 | 4,565 | 130.3 | 18 | . 5 |
| Alaska | 41 | 17.2 | 2 | . 8 | 931 | 391.2 | 0 | . 0 |
| Arizona | 835 | 52.0 | 265 | 16.5 | 3,326 | 207.1 | 16 | 1.0 |
| Arkansas | 636 | 32.5 | 137 | 7.0 | 6,140 | 313.4 | 4 | . 2 |
| California | 10,515 | 56.0 | 1,543 | 8.2 | 63,783 | 339.4 | 82 | . 4 |
| Colorado | 484 | 25.1 | 31 | 1.6 | 2,570 | 133.5 | 2 | . 1 |
| Connecticut | 483 | 16.6 | 91 | 3.1 | 4,263 | 146.4 | 2 | . 1 |
| Delaware | 545 | 105.8 | 59 | 11.5 | 1,534 | 297.9 | 4 | . 8 |
| Dist. of Columbia | 2,060 | 260.1 | 772 | 97.5 | 12,231 | 1544.3 | 148 | 18.7 |
| Florida | 4,017 | 68.1 | 1,851 | 31.4 | 13,996 | 237.2 | 124 | 2.1 |
| Georgia | 2,425 | 55.3 | 905 | 20.6 | 18,688 | 425.9 | 172 | 3.9 |
| Hawaii | 111 | 16.2 | 7 | 1.0 | 608 | 88.9 | 2 | . 3 |
| Idaho | 23 | 3.3 | 6 | . 9 | 804 | 115.7 | 0 | . 0 |
| Illinois | 6,919 | 63.9 | 1,178 | 10.9 | 39,326 | 363.3 | 12 | . 1 |
| Indiana | 1,397 | 28.0 | 305 | 6.1 | 5,855 | 117.4 | 0 | . 0 |
| Iowa | 772 | 28.1 | 50 | 1.8 | 3,710 | 134.9 | 5 | . 2 |
| Kansas | 1,072 | 47.6 | 38 | 1.7 | 3,559 | 157.9 | 8 | . 4 |
| Kentucky | 1,378 | 43.9 | 165 | 5.3 | 3,733 | 118.8 | 2 | . 1 |
| Louisiana | 2,264 | 62.6 | 785 | 21.7 | 6,307 | 174.3 | 51 | 1.4 |
| Maine | 341 | 35.6 | 6 | . 6 | 862 | 90.1 | 1 | . 1 |
| Maryland | 3,146 | 87.2 | 522 | 14.5 | 8,678 | 240.6 | 18 | . 5 |
| Massachusetts | 2,404 | 44.6 | 197 | 3.7 | 5,816 | 108.0 | 10 | . 2 |
| Michigan | 5,485 | 64.1 | 1,071 | 12.5 | 17,283 | 201.8 | 62 | . 7 |
| Minnesota | 164 | 4.6 | 61 | 1.7 | 3,113 | 87.1 | 1 | . 0 |
| Mississippi | 664 | 28.6 | 339 | 14.6 | 5,688 | 245.3 | 52 | 2.2 |
| Missouri | 3,529 | 77.3 | 182 | 4.0 | 11,539 | 252.8 | 68 | 1.5 |
| Montana | 53 | 7.7 | 9 | 1.3 | 524 | 75.8 | 1 | . 1 |
| Nebraska | 388 | 27.3 | 35 | 2.5 | 2,167 | 152.4 | 4 | . 3 |
| Nevada | 239 | 54.7 | 38 | 8.7 | 949 | 217.2 | 1 | . 2 |
| New Hampshire | 66 | 9.7 | 4 | . 6 | 416 | 61.1 | 2 | . 3 |
| New Jersey | 3,485 | 50.2 | 537 | 7.7 | 6,891 | 99.2 | 6 | . 1 |
| New Mexico | 740 | 75.1 | 167 | 17.0 | 1,880 | 190.9 | 4 65 | . 4 |
| New York | 15,145 | 82.8 | 2,325 | 12.7 | 40,194 | 219.6 | 65 | . 4 |
| North Carolina | 1,566 | 31.9 | 731 | 14.9 | 11,133 | 226.8 | 71 | 1.4 |
| North Dakota | 39 | 6.2 | 6 | 1.0 | 435 | 69.4 | 1 | . 2 |
| Ohio | 4,137 | 39.6 | 556 | 5.3 | 20,115 | 192.7 | 54 | . 5 |
| Oklahoma | 1,246 | 50.9 | 87 | 3.6 | 3,923 | 160.4 | 6 | . 2 |
| Oregon | 192 | 9.6 | 35 | 1.8 | 3,659 | 183.5 | 0 | . 0 |
| Pennsylvania | 4,346 | 37.4 | 579 | 5.0 | 13,909 | 119.8 | 19 | . 2 |
| Rhode Island | 629 | 71.9 | 40 | 4.6 | 837 | 95.7 | 0 | . 0 |
| South Carolina | 1,472 | 58.3 | 609 | 24.1 | 8,697 | 344.2 | 68 | 2.7 |
| South Dakota | 132 | 19.8 | 42 | 6.3 | 1,041 | 156.1 | 4 | - 6 |
| Tennessee | 1,153 | 29.9 | 359 | 9.3 | 12,166 | 315.8 | 21 134 | . 5 |
| Texas | 6,003 | 56.3 | 2,355 | 22.1 | 31,885 | 299.3 | 134 | 1.3 |
| Utah | 104 | 10.2 | 10 | 1.0 | 911 | 89.5 | 0 | . 0 |
| Vermont | 39 | 9.4 | 3 | . 7 | 281 | 67.7 | 0 | . 0 |
| Virginia | 1,720 | 39.6 | 292 | 6.7 | 9,918 | 228.6 | 14 | . 3 |
| Washington | 204 | 6.7 | 56 | 1.8 | 5,543 | 183.0 | 6 | . 2 |
| West Virginia | 1,018 | 56.6 | 32 | 1.8 | 1,259 | 70.1 | 2 | -1 |
| Wisconsin | 1,344 | 32.1 | 22 | . 5 | 3,551 | 84.9 | 0 | -1 |
| Wyoming | 65 | 20.9 | - 4 | 10.3 | 431,380 | 219.5 | 1,350 | . 7 |

*Rates less than . 05 not shown.

MORBIDITY AND AGE-SPECIFIC CASE RATES PER 100,000 POPULATION BY AGE-GROUPS, COLOR, AND SEX
UNITED STATES
Calendar Years 1956, 1964-1967

|  | MORBIDITY |  |  |  |  |  |  |  |  |  | ACE-SPECIFIC CASE RATES PER 100,000 POPULATION |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| AGE | YEAR | Male | White |  | Male | $\begin{aligned} & \text { Nonwhite } \\ & \hline \text { Female } \end{aligned}$ | Total | Male | Total |  | Mal | $\begin{aligned} & \text { White } \\ & \text { Female } \end{aligned}$ |  |  | onunite |  |  | Total |  |  |  |
|  |  |  |  | Total |  |  |  |  |  | Total |  |  | Total | Male | Female | Total | Mate | Female | Total | YEAR | AGE |
| 0-14 | 1956 | 4 | 6 | 10 | 13 | 55 | 68 | 17 | 61 | 78 | . 0 | . 0 | . 0 | . 4 | 1.7 |  | ${ }^{1}$ | . 2 | . 2 | 1956 | 0-14 |
|  | 1964 | 10 | 11 | 21 | 61 | 210 | 271 | 71 | 221 | 292 | . 0 | . 0 | . 0 | 1.4 | 4.8 | 3.1 |  | . 2 | . 5 | 1964 |  |
|  | 1965 | 7 | 8 | 15 | 73 | 193 | 266 | 80 | 201 | 281 | . 0 | . 0 | . 0 | 1.6 | 4.4 | 3.0 | . 3 | . 7 | . 5 | 1965 |  |  |
|  | 1966 | 5 | 7 | 12 | 64 | 166 | 230 | 69 | 173 | 242 | . 0 | . 0 | . 0 | 1.4 | 3.7 | 2.6 | . 2 | . 6 | . 4 | 1966 |  |  |
|  | 1967 | 8 | 2 | 10 | 68 | 161 | 229 | 76 | 163 | 239 | . 0 | . 0 | . 0 | 1.5 | 3.5 | 2.5 | . 2 | . 6 | . 4 | 1967 |  |  |
| 15-19 | 1956 | 127 | 139 | 266 | 400 | 497 | 897 | 527 | 636 | 1103 | 2.8 | 2.8 | 2.8 | 59.3 | 68.7 | 64.2 | 10.1 | 11.3 | 10.7 | 1956 | 15-19 |
|  | 1964 | 310 | 238 | 548 | 1317 | 1730 | 3047 | 162\% | 1968 | 3595 | 4.6 | 3.4 | 4.0 | 134.5 | 169.9 | 152.5 | 20.9 | 24.5 | 22.7 | 1964 |  |
|  | 1965 | 286 | 248 | 534 | 1494 | 2011 | 3505 | 1780 | 2259 | 4039 | 3.9 | 3.4 | 3.7 | 142.3 | 186.2 | 164.5 | 21.4 | 26.9 | 24.2 | 1965 |  |
|  | 1966 | 239 | 227 | 466 | 1492 | 1888 | 3380 | 1731 | 2115 | 3846 | 3.2 | 3.0 | 3.1 | 133.2 | 163.6 | 148.6 | 20.0 | 24.0 | 22.1 | 1966 |  |
|  | 1967 | 255 | 190 | 445 | 1551 | 1810 | 3361 | 1806 | 2000 | 3806 | 3.5 | 2.5 | 3.0 | 135.7 | 151.7 | 143.9 | 21.4 | 22.8 | 22.1 | 1967 |  |
| 20-24 | 1956 | 399 | 138 | 537 | 739 | 482 | 1221 | 1138 | 620 | 1758 | 10.9 | 3.0 | 6.4 | 136.1 | 72.4 | 101.1 | 27.0 | 11.6 | 18.4 | 1956 | 20-24 |
|  | 1964 | 989 | 394 | 1383 | 2866 | 2206 | 5072 | 3855 | 2600 | 6455 | 20.3 | 6.9 | 13.0 | 419.0 | 277.1 | 342.5 | 69.4 | 39.7 | 53.4 | 1964 |  |
|  | 1965 | 918 | 354 | 1272 | 3032 | 2271 | 5303 | 3950 | 2625 | 6575 | 18.3 | 5.9 | 11.6 | 426.4 | 273.3 | 343.9 | 68.9 | 38.7 | 52.5 | 1965 |  |
|  | 1966 | 749 | 325 | 1074 | 2760 | 2199 | 4959 | 3509 | 2524 | 6033 | 14.9 | 5.3 | 9.7 | 382.8 | 256.0 | 313.7 | 61.2 | 36.2 | 47.5 | 1966 |  |
|  | 1967 | 798 | 368 | 1166 | 2825 | 2161 | 4986 | 3623 | 2529 | 6152 | 14.8 | 5.6 | 9.7 | 370.2 | 236.4 | 297.3 | 59.0 | 33.6 | 45.0 | 1967 |  |
| 25-29 | 1956 | 394 | 104 | 498 | 464 | 301 | 765 | 858 | 405 | 1263 | 8.3 | 2.0 | 5.0 | 81.1 | 43.5 | 60.5 | 16.1 | 6.9 | 11.3 | 1956 | 25-29 |
|  | 1964 | 851 | 201 | 1052 | 2157 | 1331 | 3488 | 3008 | 1532 | 4540 | 18.8 | 4.1 | 11.1 | 362.5 | 187.5 | 267.3 | 58.6 | 27.2 | 42.2 | 1964 |  |
|  | 1965 | 750 | 206 | 956 | 2266 | 1322 | 3588 | 3016 | 1528 | 4544 | 16.3 | 4.1 | 10.0 | 375.8 | 184.9 | 272.2 | 57.9 | 26.8 | 41.7 | 1965 |  |
|  | 1966 | 656 | 217 | 873 | 2179 | 1287 | 3466 | 2835 | 1504 | 4339 | 14.0 | 4.2 | 8.9 | 350.9 | 176.5 | 256.6 | 53.3 | 25.8 | 38.9 | 1966 |  |
|  | 1967 | 679 | 204 | 883 | 2127 | 1171 | 3298 | 2806 | 1375 | 4181 | 13.7 | 3.8 | 8.6 | 328.2 | 155.5 | 235.4 | 50.0 | 22.6 | 35.7 | 1967 |  |
| 30-39 | 1956 | 461 | 130 | 591 | 476 | 291 | 767 | 937 | 421 | 1358 | 4.5 | 1.2 | 2.8 | 41.8 | 22.1 | 31.2 | 8.2 | 3.4 | 5.7 | 1956 | 30-39 |
|  | 1964 | 1311 | 271 | 1582 | 2299 | 1284 | 3583 | 3610 | 15,5 | 5165 | 13.4 | 2.6 | 7.8 | 191.3 | 89.2 | 135.6 | 32.9 | 13.1 | 22.6 | 1964 |  |
|  | 1965 | 1105 | 207 | 1312 | 2294 | 1367 | 3661 | 3399 | 1574 | 4973 | 11.5 | 2.0 | 6.6 | 192.9 | 95.6 | 139.8 | 31.4 | 13.5 | 22.1 | 1965 |  |
|  | 1966 | 913 | 243 | 1156 | 2134 | 1195 | 3329 | 3047 | 1438 | 4485 | 9.7 | 2.4 | 5.9 | 181.5 | 84.0 | 128.1 | 28.7 | 12.5 | 20.3 | 1966 |  |
|  | 1967 | 877 | 215 | 1092 | 2060 | 1139 | 3199 | 2937 | 1354 | 4291 | 9.2 | 2.1 | 5.6 | 174.3 | 80.0 | 122.8 | 27.5 | 11.8 | 19.4 | 1967 |  |
| 40-49 | 1956 | 215 | 54 | 269 | 153 | 78 | 231 | 368 | 132 | 500 | 2.3 | . 5 | 1.4 | 15.1 | 6.9 | 10.8 | 3.5 | 1.2 | 2.3 | 1956 | 40-49 |
|  | 1964 | 631 | 168 | 799 | 809 | 429 | 1238 | 1440 | 597 | 2037 | 6.2 | 1.5 | 3.8 | 71.5 | 33.6 | 51.4 | 12.7 | 4.9 | 8.7 | 1964 |  |
|  | 1965 | 583 | 147 | 730 | 902 | 423 | 1325 | 1485 | 570 | 2055 | 5.6 | 1.3 | 3.4 | 79.1 | 32.6 | 54.3 | 13.0 | 4.7 | 8.7 | 1965 |  |
|  | 1966 | 448 | 111 | 559 | 810 | 383 | 1193 | 1258 | 494 | 1752 | 4.3 | 1.0 | 2.6 | 70.4 | 29.0 | 48.3 | 10.9 | 4.0 | 7.3 | 1966 |  |
|  | 1967 | 489 | 116 | 605 | 733 | 371 | 1104 | 1222 | 487 | 1709 | 4.7 | 1.0 | 2.8 | 63.4 | 27.5 | 44.1 | 10.6 | 3.9 | 7.1 | 1967 |  |
| $50+$ | 1956 | 120 | 29 | 149 | 88 | 38 | 126 | 208 | 67 | 275 | . 7 | . 2 | . 4 | 6.0 | 2.5 | 4.2 | 1.1 | . 3 | . 7 | 1956 | $50+$ |
|  | 1964 | 336 | 69 | 405 | 358 | 122 | 480 | 694 | 191 | 885 | 1.8 | . 3 | 1.0 | 19.3 | 6.0 | 12.3 | 3.3 | . 8 | 2.0 | 1964 |  |
|  | 1965 | 266 | 84 | 350 | 378 | 143 | 521 | 644 | 227 | 871 | 1.4 | . 4 | . 8 | 20.1 | 6.8 | 13.1 | 3.0 | . 9 | 1.9 | 1965 |  |
|  | 1966 | 234 | 40 | 274 | 314 | 129 | 443 | 548 | 169 | 717 | 1.2 | . 2 | . 6 | 16.5 | 6.0 | 10.9 | 2.6 | . 7 | 1.5 | 1966 |  |
|  | 1967 | г22 | 51 | 273 | 309 | 93 | 402 | 531 | 144 | 675 | 1.1 | . 2 | . 6 | 16.2 | 4.2 | 9.8 | 2.5 | . 6 | 1.4 | 1967 |  |
| Total | 1956 | 1720 | 600 | 2320 | 2333 | 1742 | 4075 | 4053 | 2342 | 6395 | 2.4 | . 8 | 1.6 | 26.7 | 18.6 | 22.5 | 5.0 | 2.8 | 3.9 | 1956 | Total |
|  | 1964 | 4438 | 1352 |  | 9367 | 7312 | 17179 | 14305 | 8654 | 22969 | 5.5 | 1.6 | 3.5 | 91.4 | 62.9 | 76.6 | 15.6 | 8.9 | 12.1 | 1964 |  |
|  | 1965 | 3915 | 1254 | 5169 | 10439 | 7730 | 18169 | 14354 | 8984 | 23338 | 4.8 | 1.4 | 3.1 | 94.7 | 65.1 | 79.3 | 15.4 | 9.1 | 12.2 | 1965 |  |
|  | 1966 | 3244 | 1170 | 4414 | 9753 | 7247 | 17000 | 12997 | 8417 | 21414 | 3.9 | 1.3 | 2.6 | 87.0 | 59.8 | 72.9 | 13.9 | 8.4 | 11.1 | 1966 |  |
|  | 1967 | 3328 | 1146 | 4474 | 9673 | 6906 | 16579 | 13001 | 8052 | 21053 | 4.0 | 1.3 | 2.6 | 85.0 | 55.8 | 69.8 | 13.8 | 8.0 | 10.8 | 1967 |  |

Note: Cases not reported by age have been included on the bases of the known age distribution. Rates are basec on population estimates of the
Bureau of the Census. Numbers include Alaska and Hawaii for 1956 and $1964-1967$. Rates are based on cases excluaing Alaska and Hawaii
Bureau of the Census. Numbers include Alaska and Hawaii for 1956 and 1964-1967. Rates are based on cases excluding Alaska and Hawaii
for 1956. For 1964-1967 rates are based on numbers for the United States, including Alaska and Hawaii.

Calendar Years 1956, 1964-1967


Cases not reported by age have been included on the basee of the known age distribution. Rates are based on population estimates of the
Bureau of the Census. Numbers include Alaska and Havai1 for 1956 and 1964 -1967. Rates are based on cases excluding Alaska and Hawain
for 1956. For 1964-1967 rates are based on numbers for the United States, including Alaska and Havail.

## Health Department Casefinding Activities

Casefinding investigations fall into two categories: (1) the investigation of sex contacts of patients with recently acquired and infectious disease, and (2) the investigation of persons other than sex contacts who are suspected of having venereal disease. Most of the latter group of suspects are persons with reactive tests for syphilis which are generated by the estimated $38,000,000$ serologic tests performed annually in the United States, and are referred to in Table 10 as positive diagnostics. Thousands of the investigations of positive diagnostics and sex contacts carry health department casefinding workers into the offices of private physicians who make the medical determination of whether or not the suspects have syphilis.

For many years, the proficiency of the interviewing-contact investigation process in ferreting out the foci of syphilis infections in the community has been measured by a series of epidemiologic indices. The indices presented in Table 10 are based only on infectious cases diagnosed in health department clinics and do not include cases diagnosed and reported by private physicians. These indices are defined as follows:

The Contact Index is the average number of sex contacts elicited per infectious (primary and secondary) syphilis case interviewed.

The Epidemiologic Index is the average number of cases of syphilis identified per infectious case interviewed. A number of these identified cases will already have been diagnosed and treated.

The Brought-to-Treatment Index is the average number of previously not diagnosed cases of syphilis brought to treatment per infectious case interviewed.

The Lesion-to-Lesion Index is the average number of infectious (lesion or primary or secondary) cases brought to treatment per infectious case interviewed.

TABLE 9
HEALTH DEPARTMENT CASEFINDING ACTIVITIES, UNITED STATES FISCAL YEARS 1963-1968

|  | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number of positive diagnostics investigated. | 243,257 | 241,016 | 245,715 | 257,009 | 231,517 | 223,939 |
| Number of contacts investigated. | 179,715 | 192,580 | 186,386 | 183,634 | 176,583 | 167,432 |
| Contact Investigation Indices: |  |  |  |  |  |  |
| Contact Index | 3.98 | 3.86 | 3.69 | 3.59 | 3.40 | 3.23 |
| Epidemiologic Index | 1.17* | 1.13* | 1.11* | 1.13* | 1.07* | 1.01* |
| Brought-to-Treatment Index | .47* | . $46 *$ | . $45 *$ | . $45 *$ | .44* | . $41 *$ |
| Lesion-to-Lesion Index | . 30 | . 31 | . 32 | . 30 | . 28 | . 26 |

[^4]
## Treatment of Syphilis

## Congenital Syphilis

For the treatment of very small infants with congenital syphilis, aqueous procaine pentcillin $G$ is the preferred form of penicillin, the schedule consisting of $100,000 \mathrm{u} / \mathrm{kg}$. of body weight in 10 equally divided daily doses. Benzathine penicillin G in a single injection of 50,000 $\mathrm{u} / \mathrm{kg}$. is recommended for all other children under 12 years of age or under 70 pounds in weight. Older or heavier children are generally treated with schedules recommended for adults in comparable stages of syphilis.

The earlier penicillin therapy is instituted for congenital syphilis, the more satisfactory the results.

## Early Syphilis

Benzathine penicillin $G$ and procaine penicillin $G$ in ofl with 2-percent aluminum monostearate (PAM) are the most widely used penicillin preparations for the treatment of early syphilis. Since benzathine penicillin G maintains a detectable blood level for a much longer period of time than PAM, a smaller total dosage is required for satisfactory results. The recommended schedules are $2,400,000$ units of benzathine penicillin $G$ administered in a single session ( $1,200,000$ units in each buttock) or $4,800,000$ units of PAM, 2,400,000 units at first session, and subsequent injections of $1,200,000$ units given at 2 - or 3 -day intervals. If aqueous procaine penicillin $G$ is used, 600,000 units should be administered daily for 8 days to total $4,800,000$ units.

For the patient who is sensitive to penicillin, erythromycin or tetracycline in a total dosage of $30-40$ grams administered over a 10-15 day period is recommended for the treatment of syphilis.

## Epidemiologic Treatment

The treatment of all sex contacts of patients with early infectious syphilis is recommended as the mosteffective procedure for preventing the spread of syphilis. Although clinically and serologically negative at time of initial examination, some of these contacts will have incubating syphilis and some, particularly females who may have an inconspicuous or no primary lesion, will already have developed syphilis. It is suggested, therefore, that contacts be treated for syphilis (rather than for incubating syphilis) with a dosage of 2,400,000 units of benzathine penicillin $G$.

## Syphilis in Pregnancy

Congenital syphilis is completely preventable. Adequate treatment of the mother during the first 18 weeks of gestation prevents infection of the baby; adequate treatment after the 18 th week cures the baby in utero.

In two studies, comprising 528 infants born to treated syphilitic mothers, approximately 98 percent of the children were nonsyphilitic. The percentage varied slightly by stage of mother's syphilis during pregnancy.

In the absence of relapse or reinfection, a woman treated with penicillin for syphilis will not require further treatment in the event of pregnancy.

## Neurosyphilis

A cooperative study conducted by the Public Health Service and leading neurosyphilologists in the United States has demonstrated that penicillin is the most effective treatment yet known for neurosyphilis.

Asymptomatic Neurosyphilis - Among 765 patients with asymptomatic neurosyphilis, approximately 75 percent of whom were treated with a minimum of $4,800,000$ units of penicillin, only one bona fide progression to symptomatic neurosyphilis was observed; 11 other patients exhibited minor neurologic changes. In contrast, among 467 patients treated with metal chemotherapy, 29 progressed to symptomatic neurosyphilis and an additional 15 showed minor neurologic changes.

Paresis - Six hundred and twenty-nine patients were treated for paresis with penicillin only, 60 percent of whom received a minimum of $6,000,000$ units. Paresis was diagnosed severe in 330, moderately severe in 141, and mild in 158. Five years after treatment 42 percent of those with severe psychoses were in remission or showed significant improvement, 45 percent remained unchanged, and only 13 percent had progressed or died from paresis. Progression or death from paresis occurred in 7.0 percent of those with moderately severe psychosis and in less than one percent of those with mild psychosis. Further proof of the effectiveness of penicillin is the fact that among those who survived, one-third of those who had been institutionalized, and two-thirds of those who had been unable to work at time of treatment were gainfully employed 5 years later.

The total recommended dosage of penicillin for both symptomatic and asymptomatic neurosyphilis' is $6,000,000$ to $9,000,000$ units. Any benefit from more than $10,000,000$ units is doubtful and has not been demonstrated. Treatment schedules are as follows:

Benzathine penicillin $G-3,000,000$ units at 7 -day intervals.
PAM - $1,200,000$ units at 3 -day intervals.
Aqueous procaine penicillin $G-600,000$ units daily.

## Treatment of Gonorrhea

The treatment of gonorrhea is in a state of uncertainty although penicillin still remains the drug of choice. Some strains of the gonococcus are developing increasing resistance to penicillin, but this resistance is relative and not absolute. Treatment schedules presently recommended are as follows:

Uncomplicated gonorrhea in men: Aqueous procaine penicillin G, 2,400,000 units in one IM injection.

Uncomplicated gonorrhea in women: Aqueous procaine penicillin G, 4,800,000 units IM in two injection sites at one visit, or the combination of aqueous procaine penicillin $G$ and procaine penicillin G in oil with 2 percent aluminum monostearate for two separate IM injections of $2,400,000$ units in each site given at one visit.

Prophylactic or epidemiologic treatment for gonorrhea (male and female) is accomplished with the same treatment schedules as for uncomplicated gonorrhea.

Treatment of gonorrhea with severe complications must be individualized using large amounts of short acting penicillin.

Excluding the likelihood of reinfection, retreatment is indicated if the discharge in uncomplicated male gonorrhea persists for three or more days following initial therapy and the smear or culture is still positive. In uncomplicated gonorrhea in the female retreatment is indicated if followup cultures remain positive for gonococci. Retreatment consists of doubling the original dosage at a single visit or in divided doses on two successive days.

Gonorrhea patients sensitive to penicillin may be treated effectively with tetracycline administered as a single oral dose of 1.5 grams. This dosage, however, is inadequate to abort incubating syphilis.

Gonorrhea patients who are sexual contacts to infectious syphilis should be given full prophylactic therapy for syphilis ( $2,400,000$ units of benzathine penicillin $G$ ) as well as recommended therapy for gonorrhea. While long acting forms of penicillin (such as benzathine penicillin) are ideal in syphilotherapy, they are not indicated in routine gonorrhea treatment.

## Penicillin Reactions

Since penicillin is the drug of choice for the treatment of both syphilis and gonorrhea, the Venereal Disease Program is concerned with the frequency and severity of reactions to penicillin therapy. Through the cooperation of venereal disease clinics three studies at 5 -year intervals ( 1954,1959 and 1964) have been conducted to determine their frequency.

The 1959 and 1964 studies were patterned after the 1954 study, the single departure being a request that, if possible, patients be detained in the clinic for a 30 -minute period following treatment. Reactions to penicillin were reported in 5.9/1,000 patients treated in 1954, in $9.7 / 1,000$ treated in 1959, and in $8.0 / 1,000$ treated in 1964. The increase over 1954 is attributed mainly to the delay in dismissing patients after treatment.

In each study, urticaria was the most frequent type of reaction, occurring in from $4-6 / 1,000$ patients treated. Moderate to severe anaphylaxis was observed in 0.21 to $0.35 / 1,000$ patients. The only death reported during a study period occurred in 1964.


[^0]:    *Shafer, J.K., Usilton. Lida J.; Gleeson, Geraldine A.: Untreated Syphilis in the Male Negro: A prospective study of the effect on life expectancy. Public Health Reports. 69:641-690. July 1951. Milbank Memorial Fund Quarterly, 32.262.274. July 1954.

[^1]:    *Estimates based on most recent year (1966) for which data is available.

[^2]:    * Seventh Revision, International Lists of Causes of Death, 1955; see Mortality, Page 5 for explanation.
    ** Does not include admissions to Veterans Administration and psychopathic hospitals; rate based on fopulation of area reporting.
    *** Estimated
    N.A.: Not Available

    Source: Mortality and Natality Data, National Vital Statistics Division; First Admissions to Mental Hospitals, National Institute of Mental Health; Rates based on population estimates of the Bureau of the Census.

[^3]:    *Includes "Stage of Syphilis Not Stated.

[^4]:    *Excludes Missouri, South Carolina, and Tennessee.

