VD FACT SHEET - 1964

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

PUBLIC HEALTH SERVICE

Basic Statistics on the Venereal Disease Problem in the United States

VD FACT SHEET
1964

Twenty-first Revision

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
Communicable Disease Center
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Introduction

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 case-finding are measured in terms of cases reported, the actual amount of case-finding 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 statistics collected by the Venereal Disease Branch of the Communicable Disease Center, or upon estimates made by the Branch. 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

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, 1964, there were 22,733 cases reported to health departments by physicians and clinics in the United States. 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.

For the past several years, published estimates of the incidence of syphilis have been about 60,000 cases a year. Reported cases of latent and late syphilis were the basis for estimating the number of cases occurring but neither diagnosed nor reported until the later stage of the disease.

In July 1962, the American Social Health Association, in cooperation with the American Medical Association, the National Medical Association, and the American Osteopathic Association sent a questionnaire to every private physician in the United States. One of the questions asked was "How many new cases of primary and secondary (infectious) syphilis did you treat between April 1 and June 30, 1962?"

One hundred and thirty-one thousand two hundred and forty-five responding physicians indicated they treated 13,930 cases of infectious syphilis during these three months (an estimate of 55,720 cases for the year 1962). These 55,720 cases plus 13,769 cases of infectious syphilis treated in 1962 by public clinics (not included in the survey) total an estimated 69,489 newly acquired cases of syphilis treated. Actually, 69,489 cases can be considered minimum incidence since it does not include cases treated by physicians who failed to respond to the survey nor cases occurring but not detected during the year. This estimate is presented only to show that the actual incidence of syphilis is much higher than reported new cases. In fact, if one considers that at least half of the cases occurring are not detected until the late or latent stages of disease, then the actual annual incidence of syphilis would be at least twice the estimated 69,489 cases treated in 1962.

Costs of Uncontrolled Syphilis

The statistics presented in Table 1 indicate the toll imposed by syphilis 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, private, 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. The three percent of patients with syphilitic psychoses maintained in private institutions has not been included.

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 1962. It is based on the expected years of life remaining to persons of that age, race and sex. The loss of income indicates the probable earnings of these persons for the productive years of life lost to age 65. It is based on the average personal income for adults during 1962.

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.*

* 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, 69:684-690, July 1954. Milbank Memorial Fund Quarterly, 32:262-274, July 1954.

TABLE 1

ESTIMATED ANNUAL COSTS OF UNCONTROLLED SYPHILIS*

MAN-YEARS OF SYPHILIS DISABILITY PER YEAR	
Institutionalization for syphilitic insanity (1962)	21,000
Disability from cardiovascular syphilis, including aneurysm (1962)	5,700
Disability from locomotor ataxia (1962)	500
Disability from syphilitic blindness (1962)	12,000
ECONOMIC COSTS OF SYPHILITIC PSYCHOSES AND SYPHILITIC BLINDNESS PER YEAR	
Maintenance of patients with syphilitic psychoses (1962)	$50,310,000
Maintenance of syphilitic blind (1962)	$5,227,000
LOSS OF LIFE EXPECTANCY FROM DEATHS DUE TO SYPHILIS IN MAN-YEARS (1962)	
White males	19,928
White females	8,541
Non-white males	9,718
Non-white females	5,578
Total population	43,765
LOSS OF INCOME TO AGE 65 AT 1962 ADULT INCOME RATE	$42,063,000

* Estimates based on most recent available data for years indicated.

Reported Mortality and Insanity Due to Syphilis

Mortality statistics are compiled by the National Vital Statistics Division from duplicates of death 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 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 case-finding 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 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 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.

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TABLE 2

REPORTED MORTALITY AND INSANITY DUE TO SYPHILIS
UNITED STATES
SELECTED YEARS 1940-1964

Calendar Year	Syphilis Mortality* Rates per 100,000 Population			Infant Mortality Due to Syphilis, Rates per 10,000 Live Births			First Admissions to Mental Hospitals Due to Syphilis Rates per 100,000 Population**
	Total	White	Nonwhite	Total	White	Nonwhite	Total
1940	10.7	7.3	40.2	5.30	2.50	25.20	6.1
1945	7.9	5.6	27.3	2.50	1.07	12.59	5.5
1950	5.0	3.7	16.1	.57	.24	2.59	2.6
1951	4.1	3.0	13.4	.34	.12	1.73	2.1
1952	3.7	2.7	11.4	.24	.10	1.14	1.8
1953	3.3	2.4	10.9	.14	.04	.77	1.5
1954	3.0	2.3	9.2	.11	.03	.54	1.3
1955	2.4	1.7	7.9	.08	.03	.41	1.0
1956	2.3	1.7	7.1	.06	.02	.31	.8
1957	2.2	1.7	6.9	.06	.05	.16	.8
1958	2.0	1.5	6.4	.07	.02	.36	.6
1959	1.7	1.3	4.9	.06	.02	.23	.4
1960	1.6	1.3	4.5	.07	.04	.24	.4
1961	1.6	1.2	4.5	.05	.02	.18	.3
1962	1.5	1.2	3.9	.07	.02	.33	.2
1963***	1.4	1.2	3.5	.07	N.A.	N.A.	N.A.
1964***	1.5	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

* 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 population of area reporting.

*** Estimated

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.

Reported Cases of Venereal Disease

All states require that syphilis and gonorrhea cases coming to medical attention be reported to the state or local health officer. Other venereal diseases are also reportable in most states. Quarterly, each state submits to the Public Health Service a summary of the cases reported to it. All cases not previously reported, regardless of duration, are to be included in the report. The reported morbidity, as reported cases are sometimes called, indicates the volume of successful casefinding.

The trend of reported cases of early syphilis (or reported case rates) over a period of years may be indicative of incidence trends if no significant changes in case-finding effort have occurred. Reported cases of syphilis in the later stages may be considered as an indication of past case-finding failure as well as present success. Trends in reported cases must be interpreted with caution since changes in case-finding effort are reflected in morbidity data just as much as changes in incidence and prevalence.

Reported cases of venereal diseases are shown in Table 3 through Table 7. During the years 1955-1958, reported cases of primary and secondary syphilis, the recently acquired infectious stage of the disease, remained fairly level at about 6,500 cases per year. However, in fiscal year 1959, reported cases of infectious syphilis began to increase and continued to increase at an accelerated rate through 1961. In 1962 and 1963, the increases were not nearly as great as in the 3 preceding years. These increases are believed to be due to a combination of better reporting by private physicians, to better casefinding, and to a real increase in incidence in most areas.

Health Department Case-Finding Activities

The correct interpretation of case-finding success depends upon a knowledge of the volume of case-finding effort. Table 8 shows the volume of case-finding effort in public clinics and cases of venereal disease found through these efforts. Total activity is indicated by the number of diagnostic examinations performed and investigations completed. The section of contact investigation indices indicate the volume of contacts named and the success in finding cases of syphilis on a per patient basis. It should be noted that at least one infected contact should be identified for each case of primary or secondary syphilis.

TABLE 3

CASES OF SYPHILIS AND GONORRHEA REPORTED TO THE PUBLIC HEALTH SERVICE BY STATE HEALTH DEPARTMENTS, AND RATES PER 100,000 POPULATION
All Reporting Areas in United States
Selected Years 1919-1964

Fiscal Year	SYPHILIS (ALL STAGES)		GONORRHEA	
	Cases	Rates per 100,000	Cases	Rates per 100,000
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
1925	201,692	181.2	166,208	149.3
1930	213,309	185.4	155,875	135.5
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
1941	485,560	368.2	193,468	146.7
1942	479,601	363.4	212,403	160.9
1943	575,593	447.0	275,070	213.6
1944	467,755	367.9	300,676	236.5
1945	359,114	282.3	287,181	225.8
1946	363,647	271.7	368,020	275.0
1947	372,963	264.6	400,639	284.2
1948	338,141	234.7	363,014	252.0
1949	288,736	197.3	331,661	226.7
1950	229,723	154.2	303,992	204.0
1951	198,640	131.8	270,459	179.5
1952	168,734	110.8	245,633	161.3
1953	156,099	100.8	243,857	157.4
1954	137,876	87.5	239,661	152.0
1955	122,075	76.0	239,787	149.2
1956	126,219	77.1	233,333	142.4
1957	130,552	78.3	216,476	129.8
1958	116,630	68.5	220,191	129.3
1959	119,981	69.3	237,318	137.0
1960	120,249	68.0	246,697	139.6
1961	125,262	69.7	265,665	147.8
1962	124,188	68.1	260,468	142.9
1963	128,450	69.3	270,076	145.7
1964	118,247	62.9	290,603	154.5

NOTE: Beginning in 1939, all States are included in the reporting area.
Military cases excluded after 1940.

TABLE 4

CASES OF VENEREAL DISEASE REPORTED TO THE PUBLIC HEALTH SERVICE
FISCAL YEARS 1955 – 1964
(Known Military Cases Are Excluded)

	SYPHILIS					GONORRHEA	OTHER VENEREAL DISEASES		
	Syphilis (All Stages)*	Primary and Secondary	Early Latent	Late and Late Latent	Congenital		Chancroid	Granuloma Inguinale	Lympho-Granuloma Venereum
				United States					
1955	122,075	6,516	21,553	84,741	5,515	239,787	2,863	584	875
1956	126,219	6,757	20,014	89,851	5,535	233,333	2,322	419	602
1957	130,552	6,251	19,046	96,856	5,452	216,476	1,860	348	449
1958	116,630	6,661	16,698	85,974	4,839	220,191	1,574	332	436
1959	119,981	8,178	17,592	86,776	5,215	237,318	1,604	282	485
1960	120,249	12,471	16,829	84,195	4,593	246,697	1,555	273	800
1961	125,262	18,781	19,146	80,942	4,388	265,665	1,595	296	842
1962	124,188	20,084	19,924	78,264	4,085	260,468	1,401	203	635
1963	128,450	22,045	18,683	81,736	4,140	270,076	1,242	196	589
1964	118,247	22,733	18,104	72,184	3,737	290,603	1,260	145	543
				United States and Territories					
1955	124,925	6,698	22,232	86,392	5,779	244,363	2,937	590	883
1956	128,645	6,885	20,591	91,252	5,702	238,568	2,366	420	611
1957	132,510	6,323	19,492	98,135	5,597	220,614	1,887	352	463
1958	118,404	6,746	17,125	87,071	4,978	224,268	1,607	333	458
1959	121,598	8,285	17,998	87,725	5,345	241,004	1,673	282	504
1960	121,474	12,577	17,206	84,845	4,672	249,719	1,587	276	805
1961	126,534	19,075	19,666	81,336	4,433	268,570	1,627	297	850
1962	125,583	20,540	20,496	78,606	4,104	263,527	1,420	204	656
1963	130,042	22,784	19,078	82,162	4,166	273,058	1,274	196	595
1964	120,166	23,609	18,697	72,605	3,753	293,793	1,271	146	544

* Includes "Stage of Syphilis Not Stated."

TABLE 5

REPORTED SYPHILIS CASE RATE PER 100,000 POPULATION
FISCAL YEARS 1941 - 1964

Fiscal Year	Syphilis (All Stages)*	Primary and Secondary	Primary, Secondary and Early Latent	Late and Late Latent	Congenital
			United States Civilians		
1941	368.2	51.7	134.4	153.9	13.4
1942	363.4	57.1	145.1	153.1	12.8
1943	447.0	63.8	179.8	195.7	12.6
1944	367.9	61.7	158.5	159.6	10.7
1945	282.3	60.5	140.5	111.8	9.7
1946	271.7	70.9	151.6	93.6	9.0
1947	264.6	75.6	152.0	86.5	8.7
1948	234.7	55.9	123.8	86.1	9.2
1949	197.3	37.1	94.7	83.3	9.8
1950	154.2	21.6	65.1	75.5	9.0
1951	131.8	12.1	46.8	71.1	8.5
1952	110.8	7.9	33.1	66.9	6.1
1953	100.8	6.2	27.0	64.7	5.2
1954	87.5	4.9	20.8	59.4	4.6
1955	76.0	4.1	17.5	52.7	3.4
1956	77.1	4.1	16.3	54.8	3.4
1957	78.3	3.8	15.2	58.1	3.3
1958	68.5	3.9	13.7	50.5	2.8
1959	69.3	4.7	14.9	50.1	3.0
1960	68.0	7.1	16.6	47.6	2.6
1961	69.7	10.4	21.1	45.0	2.4
1962	68.1	11.0	21.9	42.9	2.2
1963	69.3	11.9	22.0	44.1	2.2
1964	62.9	12.1	21.7	38.4	2.0

*Includes "Stage of Syphilis Not Stated."

TABLE 6

REPORTED VENEREAL DISEASE CASE RATES PER 100,000 POPULATION BY COLOR AND SEX
UNITED STATES CIVILIANS
Fiscal Years 1960 - 1964

Disease, Stage and Year		TOTAL			WHITE			NONWHITE		
		Total	Male	Female	Total	Male	Female	Total	Male	Female
Syphilis (All Stages)*	1960	68.0	76.3	60.6	32.3	39.1	25.8	352.0	371.1	334.0
	1961	69.7	79.1	60.5	33.6	40.7	26.6	349.6	380.6	319.9
	1962	68.1	77.1	59.5	32.9	40.0	26.0	340.4	367.5	314.9
	1963	69.3	78.1	60.9	33.9	40.7	27.3	337.9	364.7	312.9
	1964	62.9	71.4	54.8	30.1	36.5	24.1	310.0	338.0	284.9
Primary and Secondary Syphilis	1960	7.1	10.1	4.2	3.1	5.3	1.0	38.7	48.0	29.9
	1961	10.4	14.5	6.5	4.0	6.6	1.4	60.6	76.2	45.7
	1962	11.0	14.8	7.4	3.8	6.3	1.4	66.7	81.5	52.9
	1963	11.9	15.6	8.4	3.8	6.0	1.6	73.7	88.9	59.4
	1964	12.1	15.7	8.7	3.7	5.9	1.5	75.3	89.9	61.7
Early Latent Syphilis	1960	9.5	10.0	9.2	3.4	4.1	2.9	57.9	56.0	59.6
	1961	10.7	11.6	9.7	4.0	5.0	2.9	62.6	64.0	61.1
	1962	10.9	12.1	9.8	4.2	5.4	2.9	63.1	63.8	62.4
	1963	10.1	11.0	9.1	3.4	5.0	2.8	57.4	58.0	56.8
	1964	9.6	10.8	8.5	3.4	4.5	2.3	56.8	58.7	54.9
Late and Late Latent Syphilis	1960	47.6	53.0	42.8	23.8	28.0	19.7	237.4	251.5	224.0
	1961	45.0	50.0	40.2	23.7	27.5	19.9	210.4	226.2	195.3
	1962	42.9	47.5	38.5	23.1	26.9	19.5	196.1	209.6	183.4
	1963	44.1	48.8	39.6	24.9	28.2	20.8	192.9	206.5	180.3
	1964	38.4	42.5	34.4	21.4	24.7	18.4	166.2	179.1	154.3
Congenital Syphilis	1960	2.6	1.9	3.3	1.3	0.9	1.7	12.7	10.0	15.4
	1961	2.4	1.9	3.0	1.3	0.9	1.7	11.4	9.5	13.2
	1962	2.2	1.7	2.8	1.2	0.8	1.6	10.3	8.4	12.0
	1963	2.2	1.7	2.8	1.2	0.9	1.5	10.2	7.8	12.5
	1964	2.0	1.5	2.4	1.1	0.8	1.4	8.8	7.1	10.5
Gonorrhea	1960	139.6	203.2	79.9	37.6	55.7	20.2	948.7	1371.8	549.0
	1961	147.8	212.8	84.7	42.5	61.6	23.8	964.3	1400.2	549.9
	1962	142.8	211.3	76.8	43.0	63.1	23.6	914.6	1374.4	482.5
	1963	145.7	220.7	74.5	46.0	69.3	23.9	901.1	1380.4	454.0
	1964	154.5	238.1	75.5	49.0	73.1	26.1	951.0	1495.6	444.8

* Includes "Stage of Syphilis Not Stated."

TABLE 7

REPORTED VENEREAL DISEASE CASE RATES PER 100,000 POPULATION*
UNITED STATES CIVILIANS
FISCAL YEAR 1964

State	Syphilis		Gonorrhea	Other Venereal Diseases
	All Stages	Primary & Secondary		
Alabama	42.8	22.3	117.5	1.6
Alaska	37.3	5.1	290.2	–
Arizona	42.2	11.7	194.7	2.7
Arkansas	90.3	10.2	380.0	1.6
California	71.1	12.4	175.9	.5
Colorado	37.2	1.5	99.2	.1
Connecticut	21.4	4.7	79.6	.2
Delaware	155.6	16.3	238.8	1.0
District of Columbia	235.3	89.8	1298.1	22.1
Florida	117.9	36.5	161.4	2.1
Georgia	70.5	29.5	262.9	10.4
Hawaii	27.5	2.9	53.0	–
Idaho	3.6	1.4	88.8	–
Illinois	54.8	9.5	264.3	.2
Indiana	27.2	1.2	77.2	.1
Iowa	32.5	.9	49.1	–
Kansas	43.1	2.0	125.7	.2
Kentucky	52.3	4.9	89.8	–
Louisiana	102.0	17.2	151.8	3.0
Maine	7.3	1.0	26.2	–
Maryland	79.9	16.6	185.7	.5
Massachusetts	41.5	6.5	71.6	–
Michigan	64.4	6.3	143.4	1.5
Minnesota	7.7	2.9	54.5	–
Mississippi	25.8	11.5	230.4	1.7
Missouri	88.3	5.2	204.6	1.7
Montana	24.8	3.9	90.2	.6
Nebraska	31.0	4.0	71.9	–
Nevada	106.4	11.1	205.3	–
New Hampshire	12.8	1.1	18.9	–
New Jersey	81.5	18.9	63.3	.3
New Mexico	87.9	20.2	150.7	.4
New York	127.0	23.7	170.4	.9
North Carolina	59.7	20.6	180.6	1.7
North Dakota	6.1	–	99.7	–
Ohio	34.8	5.0	117.3	.1
Oklahoma	65.8	7.6	136.1	.1
Oregon	26.3	4.4	108.6	.1
Pennsylvania	72.0	5.0	66.4	.4
Rhode Island	46.4	1.6	31.4	.1
South Carolina	70.4	34.6	335.2	1.1
South Dakota	17.7	6.3	148.3	–
Tennessee	39.4	11.3	235.1	.7
Texas	48.5	15.6	260.2	2.3
Utah	13.3	1.2	49.0	.1
Vermont	7.9	2.3	41.3	–
Virginia	71.5	7.5	165.1	.7
Washington	11.7	3.3	106.7	.4
West Virginia	59.6	2.6	54.4	.2
Wisconsin	18.8	1.2	38.2	–
Wyoming	26.4	5.4	40.5	.3
United States Total	62.9	12.1	154.5	1.1

*Rates less than .05 not shown.

TABLE 8

HEALTH DEPARTMENT CASE-FINDING ACTIVITIES, UNITED STATES
Fiscal Years 1959 – 1964

Clinic and Epidemiologic Data	1959	1960	1961	1962	1963	1964
Diagnostic examinations in public clinics	1,911,557	1,840,464	1,785,187	N.A.	N.A.	N.A.
Percent of examinations in which one or more venereal diseases were found	13.1	13.3	14.6	N.A.	N.A.	N.A.
Number of contact investigations completed	223,755	222,052	225,541	186,784	179,715	192,580
Number of other suspect investigations completed	208,068	227,523	239,835	234,305	243,257	241,016
Contact investigation indices:						
Approximate number of contacts obtained from each primary and secondary syphilis patient (contact index)	3.95	3.95	4.10	4.03	3.98	3.86
Approximate number of syphilis infections identified in the contacts of each primary and secondary patient (epidemiologic index)	1.07	1.07	1.22	1.24	1.17	1.13*
Approximate number of syphilis infections brought to treatment in the contacts of each primary and secondary patient (brought-to-treatment index)	.54	.52	.55	.52	.47	.46*
Approximate number of primary and secondary syphilis infections brought to treatment in the contacts of each primary and secondary patient (lesion-to-lesion index)	.30	.31	.33	.32	.30	.31

*Excludes Missouri, South Carolina and Tennessee

TABLE 9

PRIMARY AND SECONDARY SYPHILIS
UNITED STATES
AGE-SPECIFIC CASE RATES* BY AGE GROUPS, RACE AND SEX
Calendar Years 1956, 1960, 1961, 1962, 1963

		WHITE			NONWHITE			TOTAL		
AGE	YEAR	Male	Female	Total	Male	Female	Total	Male	Female	Total**
	1956	.0	.0	.0	.4	1.8	1.1	.1	.3	.2
	1960	.0	.0	.0	.8	2.9	1.8	.1	.4	.3
0-14	1961	.0	.0	.0	1.7	4.0	2.9	.3	.6	.4
	1962	.0	.1	.0	1.7	4.3	3.0	.3	.7	.5
	1963	.1	.1	.1	1.6	4.1	2.8	.3	.6	.5
	1956	2.4	2.7	2.6	56.9	64.6	60.9	9.4	10.7	10.1
	1960	5.0	3.5	4.2	130.4	130.6	130.5	20.4	19.2	19.8
15-19	1961	6.5	4.0	5.2	153.6	164.0	158.9	24.7	23.8	24.2
	1962	5.6	3.8	4.7	158.4	180.1	169.5	24.3	25.4	24.8
	1963	5.0	3.7	4.4	137.6	168.1	153.2	21.4	24.2	22.8
	1956	10.8	2.9	6.4	136.6	75.4	103.0	27.0	12.0	18.6
	1960	25.8	5.3	14.7	355.6	185.0	262.1	67.0	28.2	45.9
20-24	1961	26.5	6.9	15.9	396.6	231.8	307.1	73.2	35.5	52.8
	1962	24.1	6.0	14.3	435.7	271.6	346.1	75.5	39.2	55.8
	1963	23.5	7.2	14.7	432.0	264.4	341.1	73.8	38.8	54.8
	1956	8.6	2.0	5.2	83.6	42.8	61.2	16.6	6.8	11.5
	1960	25.9	3.3	14.2	229.1	106.9	162.1	49.3	16.4	32.1
25-29	1961	26.0	4.2	14.7	306.6	139.7	215.2	58.3	21.4	39.0
	1962	22.7	4.2	13.0	316.5	168.4	235.7	57.0	25.0	40.2
	1963	21.7	5.2	13.1	345.8	183.1	257.2	59.4	27.7	42.8
	1956	4.5	1.1	2.8	40.9	22.5	31.1	8.2	3.4	5.7
	1960	15.9	1.7	8.5	106.8	42.6	72.2	25.6	6.4	15.6
30-39	1961	16.7	2.1	9.2	143.6	57.1	96.8	30.3	8.6	19.0
	1962	14.3	2.1	8.0	160.6	66.4	109.5	30.2	9.7	19.5
	1963	15.3	2.5	8.7	171.5	79.9	121.7	32.3	11.8	21.7
	1956	2.2	.6	1.4	16.4	7.4	11.7	3.6	1.3	2.4
	1960	5.1	1.0	3.0	33.3	12.5	22.4	7.9	2.1	4.9
40-49	1961	6.2	1.5	3.8	51.2	18.3	33.9	10.6	3.3	6.9
	1962	5.9	1.1	3.4	56.5	23.4	39.1	11.0	3.4	7.1
	1963	6.5	1.4	3.9	64.9	28.5	45.7	12.3	4.2	8.1
	1956	.8	.2	.5	5.6	2.5	4.0	1.2	.4	.7
	1960	1.3	.2	.7	8.0	3.0	5.4	1.9	.4	1.1
50+	1961	1.6	.4	.9	11.3	4.1	7.6	2.4	.7	1.5
	1962	1.9	.3	1.0	14.6	4.7	9.5	3.0	.6	1.8
	1963	1.8	.3	1.0	15.3	4.8	9.8	3.0	.7	1.7
	1956	2.4	.8	1.6	26.7	18.6	22.5	5.0	2.8	3.9
	1960	6.3	1.2	3.7	63.4	38.3	50.4	12.8	5.5	9.1
Total	1961	6.7	1.5	4.1	79.1	49.0	63.6	15.0	7.1	11.0
	1962	6.0	1.4	3.7	85.2	56.9	70.6	15.2	7.9	11.5
	1963	6.1	1.6	3.8	87.5	59.0	72.7	15.6	8.4	11.9

* Cases Per 100,000 Population. Rates for 1956, 1961, 1962, and 1963 are based on population estimates of the Bureau of the Census. Rates for 1960 are based on United States Census of Population, 1960.

** Includes race and sex not stated.

TABLE 10

GONORRHEA
UNITED STATES
AGE-SPECIFIC CASE RATES* BY AGE GROUPS, RACE AND SEX
Calendar Years 1956, 1960, 1961, 1962, 1963

AGE	YEAR	WHITE			NONWHITE			TOTAL		
		Male	Female	Total	Male	Female	Total	Male	Female	Total**
0-14	1956	.5	3.2	1.8	19.5	66.9	43.0	3.0	11.7	7.2
	1960	.9	3.2	2.1	33.7	66.5	50.1	5.4	12.1	8.7
	1961	.8	3.8	2.3	23.8	52.0	37.9	3.9	10.7	7.3
	1962	.6	2.9	1.7	25.0	47.7	36.3	4.0	9.4	6.7
	1963	.8	3.3	2.0	25.5	46.1	35.8	4.3	9.6	6.9
15-19	1956	83.3	69.0	75.9	2966.2	2360.6	2653.0	455.3	363.6	407.8
	1960	109.2	88.5	98.7	3126.8	2178.3	2642.2	480.9	347.1	412.7
	1961	106.5	95.4	100.8	3107.7	1849.1	2465.0	476.8	312.0	392.7
	1962	103.5	86.6	94.9	2890.0	1631.3	2245.7	444.1	275.8	358.0
	1963	113.1	94.2	103.5	2932.7	1469.3	2185.7	461.5	265.5	361.9
20-24	1956	266.8	76.9	160.6	7934.6	2745.8	5080.5	1254.9	410.4	783.3
	1960	370.8	112.6	230.5	8237.9	2716.3	5211.7	1354.4	443.7	859.2
	1961	392.1	120.8	245.4	8117.7	2540.9	5089.5	1365.8	428.2	858.6
	1962	407.7	127.5	255.2	8009.2	2396.5	4949.3	1357.3	411.2	842.3
	1963	438.6	129.9	270.9	8267.8	2254.2	5006.9	1402.7	390.6	853.0
25-29	1956	160.8	41.3	98.6	5169.1	1395.1	3102.9	698.1	201.4	438.3
	1960	225.0	51.3	134.7	5047.4	1364.4	3030.1	779.1	217.8	485.5
	1961	241.0	59.1	146.5	5314.1	1361.1	3149.4	823.6	224.3	510.3
	1962	260.8	64.8	158.5	5186.3	1283.0	3056.4	835.5	219.5	512.3
	1963	276.1	58.3	162.8	5365.8	1155.4	3073.7	868.3	197.3	517.2
30-39	1956	72.0	20.5	45.3	2119.0	535.1	1270.2	277.0	75.4	172.1
	1960	98.0	22.7	59.1	2112.9	520.7	1253.5	313.0	80.3	192.1
	1961	106.9	22.8	63.5	2157.7	478.8	1249.1	326.8	76.2	196.7
	1962	109.4	25.5	65.9	2108.6	458.0	1213.4	326.8	76.8	196.6
	1963	114.2	24.3	67.7	2277.8	427.7	1271.7	350.0	72.7	205.9
40-49	1956	24.9	8.5	16.5	454.8	135.5	287.0	66.6	21.5	43.5
	1960	33.2	9.1	20.9	541.2	135.9	329.1	83.6	22.2	52.1
	1961	37.6	9.4	23.2	569.6	124.2	335.8	90.4	21.4	54.9
	1962	38.1	8.8	23.1	590.2	125.0	344.9	92.9	20.9	55.8
	1963	42.9	9.5	25.7	666.3	122.0	378.6	104.7	21.3	61.7
50+	1956	5.9	1.7	3.7	77.5	30.5	53.5	11.7	3.9	7.6
	1960	6.7	1.8	4.2	92.5	22.3	56.3	14.2	3.6	8.6
	1961	9.0	2.0	5.3	101.9	27.3	63.3	17.2	4.1	10.3
	1962	8.7	1.7	5.0	97.3	28.8	61.7	16.5	4.0	9.9
	1963	9.4	1.8	5.3	106.0	23.4	62.9	17.9	3.6	10.3
Total	1956	44.6	17.5	30.7	1410.3	600.6	991.6	192.6	81.9	135.9
	1960	59.8	21.9	40.4	1381.9	554.9	954.0	210.2	83.6	145.3
	1961	63.8	23.6	43.2	1388.7	502.0	930.1	215.7	79.4	145.8
	1962	65.9	24.1	44.4	1349.7	468.8	893.4	214.5	76.4	143.5
	1963	71.9	24.9	47.8	1420.7	436.4	910.6	229.0	73.7	149.2

*Cases Per 100,000 Population. Rates for 1956, 1961, 1962, and 1963, are based on population estimates of the Bureau of the Census. Rates for 1960 are based on United States Census of Population, 1960.
**Includes race and sex not stated.

TABLE 11

REPORTED CASES OF CONGENITAL SYPHILIS, BY AGE
UNITED STATES (EXCLUDING TERRITORIES)
Fiscal Years 1961 – 1964

Age Group	1961 Number	1961 Percent	1962 Number	1962 Percent	1963 Number	1963 Percent	1964 Number	1964 Percent
0-1 Year	218	7.9	219	8.1	367	9.9	336	10.0
1-4 Years	44	1.6	38	1.4	52	1.4	53	1.6
5-9 Years	18	.7	31	1.1	42	1.1	22	0.7
10- Years and Over	2,481	89.8	2,427	89.4	3,245	87.6	2,947	87.7
Total, Known Age	2,761	100.0	2,715	100.0	3,706	100.0	3,358	100.0
Unknown Age	1,627		1,370		434		379	
GRAND TOTAL	4,388		4,085		4,140		3,737	

CASES UNDER 1 YEAR OF AGE

Case rates of congenital syphilis under 1 year of age per 10,000 live births were estimated in fiscal year 1961 to be 0.8, in 1962 to be 0.8, in 1963 to be 0.9, and in 1964 to be 0.8.

INFANT MORTALITY DUE TO SYPHILIS – See Table 2

Treatment of Syphilis

Congenital Syphilis

Recommended treatment for early congenital syphilis (less than 2 years) consists of aqueous procaine penicillin G in total dosage of 100,000 μ/kg. in 10 equally divided daily doses. Late congenital syphilis is treated with the same schedules as for comparable manifestations of acquired 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 oil 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 (20-30 grams) or tetracycline (30-40 grams) is recommended for the treatment of syphilis. Of these two, only erythromycin (oral) has been clinically evaluated by the Public Health Service in the treatment of early syphilis. In order to establish a minimum dosage requirement, the initial schedule consisted of 10 grams covering a period of 8 to 10 days. Since this dosage proved inadequate (table 12), the schedule was increased to 15 grams, 1.5 grams a day for 10 days, and later to 20 grams in 10 days. The cumulative rate of failures plus reinfections at the 12th month of post treatment observation was 15.4 percent for the 15-gram schedule and 14.8 percent for the 20-gram schedule. Since there is no apparent difference between the two schedules, the combined results are shown in table 13.

Although it is impossible to separate accurately relapses from reinfections, the higher retreatment rates in the primary stages than in the secondary on these higher dosage schedules, substantiate the opinions of the clinicians that the majority of cases requiring additional treatment were reinfections rather than treatment failures. It is doubtful, however, if any oral therapy covering a period of days, regardless of dosage, will give results which equal those obtained with injectable repository preparations since most venereal disease clinic patients are too irresponsible to follow a prescribed schedule.

Epidemiologic Treatment

The treatment of all sex contacts of patients with early infectious syphilis is recommended as the most effective procedure for preventing the spread of syphilis. Although clinically and 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.

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.

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 18th 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.

TABLE 12

RESULTS OF PROPIONYL ERYTHROMYCIN IN THE TREATMENT OF EARLY SYPHILIS

(CASES WITH NO HISTORY OF SYPHILIS OR TREATMENT)
SCHEDULE: 10 gms. total in 8 to 10 days

Months Observed	Cases Observed	CUMULATIVE PERCENT			All Other Cases	
		Clinical or Serorelapse	Probable Reinfection	Total Retreated	Percent Seropos.	Seroneg.
		Seronegative Primary Syphilis				
3	30	3.3	10.0	13.3	0.0	86.7
6	28	6.8	10.0	16.8	0.0	83.2
9	24	11.0	14.1	25.1	0.0	74.9
12	19	11.0	18.8	29.8	0.0	70.2
		Seropositive Primary Syphilis				
3	76	2.5	2.5	5.0	59.3	35.7
6	62	8.6	8.4	17.1	21.1	61.7
9	53	13.7	8.4	22.2	13.3	64.5
12	44	13.7	12.7	26.5	11.5	62.0
		Secondary Syphilis				
3	78	2.5	1.3	3.8	96.3	0.0
6	62	23.4	2.9	26.3	56.1	17.6
9	51	32.5	2.9	35.4	41.1	23.5
12	40	34.7	10.3	45.0	35.0	20.0
		Total Syphilis				
3	184	2.6	3.2	5.9	65.3	28.8
6	151	14.6	6.3	20.8	31.7	47.5
9	128	21.1	7.1	28.1	21.9	50.0
12	102	21.9	12.7	34.6	18.6	46.8

TABLE 13

RESULTS OF PROPIONYL ERYTHROMYCIN IN THE TREATMENT OF EARLY SYPHILIS

(CASES WITH NO HISTORY OF SYPHILIS OR TREATMENT)

SCHEDULE: 15 - 20 gms. total in 10 days

Months Observed	Cases Observed	CUMULATIVE PERCENT			All Other Cases	
		Clinical or Serorelapse	Probable Reinfection	Total Retreated	Percent Seropos.	Seroneg.
Seronegative Primary Syphilis						
3	34	0.0	2.9	2.9	0.0	97.1
6	29	0.0	9.6	9.6	0.0	90.4
9	23	0.0	13.9	13.9	0.0	86.1
12	16	0.0	13.9	13.9	0.0	86.1
Seropositive Primary Syphilis						
3	90	0.0	3.3	3.3	72.2	24.4
6	75	7.6	4.5	12.2	41.2	46.6
9	57	9.2	6.1	15.3	22.9	61.8
12	39	9.2	8.7	17.9	12.8	69.3
Secondary Syphilis						
3	82	0.0	0.0	0.0	98.8	1.2
6	64	4.4	4.4	8.8	72.3	18.9
9	54	4.4	8.1	12.5	48.4	39.1
12	42	4.4	8.1	12.5	37.9	49.6
Total Syphilis						
3	206	0.0	1.9	1.9	70.9	27.2
6	167	5.2	5.2	10.4	46.0	43.6
9	134	5.8	8.1	13.9	29.2	56.9
12	98	5.8	9.1	14.9	21.5	63.6

Gonorrhea

Diagnosis

The fluorescent antibody technique in the diagnosis of gonorrhea has been used experimentally in selected venereal disease clinics throughout the country. Although there is variation by clinic, the over-all results (table 14) indicate that the delayed FA test is approximately 70 percent more effective than the culture in detecting the gonococcus in females. The site from which the specimen was obtained made little difference in the number of positive results to the delayed FA test (27.1 to 29.9 percent) whereas over 30 percent more positive cultures were obtained from cervical than from urethral or vaginal specimens.

The delayed FA test was positive in 79 percent of female contacts with clinical evidence of gonorrhea and in 59 percent of those who were asymptomatic (table 15). In contrast, gonorrhea was detected in only 3.6 percent of women screened for cervical cancer (in general over 30 years of age), in 6.0 percent of prenatal examinees, and in 10.1 percent of foodhandlers.

The recent development of the Thayer-Martin selective medium containing ristocetin and ploymyxin B, which inhibits the growth of other organisms but does not materially affect the gonococcus, makes the culture almost as efficient as the delayed FA technique in detecting the gonococcus in females.

Treatment

Since 1960 there has been an accelerated increase in the resistance of the gonococcus to penicillin. Evidence suggests that the use of delayed absorption preparations has contributed to the lessened susceptibility of the organism. In a recent evaluation using the delayed FA technique as a test of cure (table 16), cure rates for penicillin schedules routinely used for the treatment of gonorrhea in the female ranged from 55 to a high of only 66 percent.

Although treatment schedules have not been established, it is now believed that aqueous procaine penicillin G is preferable to benzathine penicillin G or procaine penicillin G in oil for the treatment of gonorrhea and that the minimum dosage should be no less than 2,400,000 units for males and probably higher for females.

TABLE 14

COMPARISON OF LABORATORY TECHNIQUES IN THE DETECTION OF THE GONOCOCCUS IN THE FEMALE

Total All Participating Laboratories as of July 31, 1963

Site of Specimen	Laboratory Technique	Total Examined	Result of Examination: Positive Number	Positive Percent	Negative Number	Negative Percent	Unsatisfactory Number	Unsatisfactory Percent
Total patients	Culture	9,470	2,099	22.2	7,321	77.3	50	0.5
	Direct FA	9,480	1,454	15.3	8,026	84.7		
	Delayed FA	9,481	3,502	36.9	5,979	63.1		
	Total	9,483	3,552	37.5	5,931	62.5		
Cervix	Culture	9,416	1,891	20.1	7,452	79.1	73	0.8
	Direct FA	9,424	1,015	10.8	8,409	89.2		
	Delayed FA	9,424	2,821	29.9	6,603	70.1		
	Total	9,426	2,902	30.8	6,524	69.2		
Urethra	Culture	9,434	1,386	14.7	7,952	84.3	96	1.0
	Direct FA	9,455	754	8.0	8,701	92.0		
	Delayed FA	9,457	2,680	28.3	6,777	71.7		
	Total	9,459	2,766	29.2	6,693	70.8		
Vagina	Culture	9,454	1,449	15.3	7,899	83.6	106	1.1
	Direct FA	9,475	652	6.9	8,823	93.1		
	Delayed FA	9,480	2,569	27.1	6,911	72.9		
	Total	9,481	2,686	28.3	6,795	71.7		
Other Sites	Culture	4	2		2			
	Direct FA	4	1		3			
	Delayed FA	4	3		1			
	Total	4	3		1			
Total Specimens	Culture	28,308	4,728	16.7	23,305	82.3	275	1.0
	Direct FA	28,358	2,422	8.5	25,936	91.5		
	Delayed FA	28,365	8,073	28.5	20,292	71.5		
	Total	85,031	15,223	17.9	69,533	81.8	275	0.3

TABLE 15

FREQUENCY OF POSITIVE DELAYED FA TESTS IN FEMALES BY TYPE OF CASE EXAMINED

Clincial evidence of Gonorrhea	Type of Case	Total Examined	Positive Delayed FA Test Number	Positive Delayed FA Test Percent
NO	Contact of known GC	2,773	1,629	58.7
	Volunteer	2,522	930	36.9
	VD other than GC	1,034	266	25.7
	Cervical Cancer screening	126	4	3.2
	Premarital	152	30	19.7
	Prenatal	2,111	104	4.9
	Jail inmate	1,575	324	20.6
	Food handler	1,578	156	9.9
	Other or unspecified	837	297	35.5
	Total	12,708	3,740	29.4
YES	Contact of known GC	1,911	1,506	78.8
	Volunteer	1,033	677	65.5
	VD other than GC	127	53	41.7
	Cervical Cancer screening	6	1	16.7
	Premarital	15	6	40.0
	Prenatal	71	22	31.0
	Jail inmate	236	66	28.0
	Food handler	80	14	17.5
	Other or unspecified	174	114	65.5
	Total	3,653	2,459	67.3
TOTAL (Including unspecified)	Contact of known GC	4,888	3,275	67.0
	Volunteer	3,625	1,629	44.9
	VD other than GC	1,189	323	27.2
	Cervical Cancer screening	138	5	3.6
	Premarital	170	36	21.2
	Prenatal	2,209	133	6.0
	Jail inmate	1,842	393	21.3
	Food handler	1,707	173	10.1
	Other or unspecified	1,027	421	41.0
	Total	16,795	6,388	38.0

TABLE 16

EVALUATION OF SCHEDULES OF TREATMENT FOR GONORRHEA IN THE FEMALE USING DELAYED FLUORESCENT ANTIBODY TECHNIQUE AS TEST OF CURE

Schedule of Treatment	Total Cases Treated	Cases Completing Followup	Cured	
			Number	Percent
Mysteclin F (oral) - 3 grams 500 mg. every 4 hours	234	161	128	79.5
Panmycin phosphate (IM) - 500mg. 250 mg. at 24-hour interval	137	110	82	74.5
Cyclamycin (oral) - 3 grams 500 mg. every 4 hours	218	154	110	71.4
Chloromycetin - 1 gram Single IM injection	214	157	108	68.8
Aqueous procaine penicillin G 1,200,000 u. - Single IM injection	188	130	86	66.2
PAB (procaine penicillin G and benzathine penicillin G) - 2,400,000 u. - Single IM injection	248	170	112	65.9
PAM - 1,200,000 u. - Single IM injection	321	227	145	63.9
Benzathine penicillin G - 1,200,000 u. - Single IM injection	232	160	94	58.8
Combination schedule - One IM Injection each of PAM - 1,200,000 u. Benzathine penicillin G	223	149	82	55.0
Streptomycin - 1 gram Single IM injection	280	197	108	54.8

Penicillin Reactions

Since penicillin is the drug of choice for the treatment of both syphilis and gonorrhea, the Venereal Disease Branch is concerned with the frequency and severity of reactions to penicillin therapy. Through the cooperation of venereal disease clinics two studies have been conducted to determine their frequency – one in 1954, the other in 1959. The 1959 study was 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.

Results of these two studies are shown in Table 17. Reactions to penicillin were reported in 9.7/1,000 patients treated in 1959 and in 5.9/1,000 patients treated in 1954. This increase, amounting to 64 percent in the frequency of reactions reported, is attributable, at least in part, to the delay in dismissing patients after treatment. This is evidenced by the fact that a significant increase is noted only among patients treated on single session schedules. In general, such patients are not seen following treatment; but by detaining them in the clinic for a half-hour the clinicians were afforded an opportunity to observe reactions which otherwise would not have come to their attention.

In both studies, urticaria was the most frequent type of reaction, occurring in approximately 5/1,000 patients treated. Moderate to severe anaphylaxis also occurred with approximately the same frequency in 1959 as in 1954, 0.3/1,000 and 0.2/1,000 respectively. However, mild anaphylactoid reactions, generalized pruritis, vertigo or syncope, gastrointestinal disturbances, and chills, fever or headache were reported more frequently in 1959. No fatal reactions occurred during either study period.

TABLE 17

COMPARATIVE FREQUENCY OF REACTIONS TO PENICILLIN IN 1959 AND 1954 BY VARIOUS FACTORS KNOWN TO INFLUENCE THE RATE

	1959 STUDY			1954 STUDY		
	Total	Cases Reacting		Total	Cases Reacting	
	Cases	Number	Rate/1,000	Cases	Number	Rate/1,000
Grand Total	25,550	248	9.7	19,510	116	5.9
Epidemiologic treatment	5,938	32	5.4	3,757	10	2.7
Gonorrhea	15,104	83	5.5	12,026	29	2.4
Syphilis	3,229	122	37.8	3,442	77	22.4
Procaine penicillin G in oil	10,294	122	11.9	12,179	97	8.0
Benzathine penicillin G	6,164	74	12.0	7,109	17	2.4
Single session schedule	21,502	122	5.7	17,710	51	2.9
2-7 day schedule	1,768	45	25.5	694	14	20.2
Schedules of 8 or more days	2,280	81	35.5	1,106	51	46.1
Previous penicillin						
Reacted	154	18	116.9	121	12	99.2
Did not react	20,547	185	9.0	14,214	56	3.9
No previous penicillin	2,866	26	9.1	3,750	34	9.1
White – Male	1,546	24	15.5	965	7	7.3
Female	1,121	16	14.3	670	7	10.4
Negro – Male	11,297	78	6.9	9,548	32	3.4
Female	8,702	84	9.7	7,738	51	6.6
10-19 years of age	5,127	23	4.5	3,908	12	3.1
20-29 " " "	11,660	95	8.1	9,512	37	3.9
30-39 " " "	4,513	52	11.5	3,674	34	9.3
40-49 " " "	1,595	33	20.7	1,252	21	16.8
50 years and over	1,102	36	32.7	1,012	11	10.9

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