VD FACT SHEET -1968

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 1968

Twenty-Fifth Edition

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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 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 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, 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.*

^{*}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 UNITED STATES, 1966*

MAN	N-YEARS OF SYPHILIS DISABILITY PER YEAR
	Institutionalization for syphilitic insanity
	Disability from cardiovascular syphilis including aneurysm (est.) 7,000
	Disability from syphilitic blindness
	ONOMIC COSTS OF SYPHILITIC PSYCHOSES O SYPHILITIC BLINDNESS PER YEAR
	Maintenance of patients with syphilitic psychoses\$43,719,000
	Compensation to syphilitic blind
LOS	SS OF LIFE EXPECTANCY FROM DEATHS DUE TO SYPHILIS IN MAN-YEARS
	White males
	White females
	Non-white males
	Non-white females
	Total population
LO	SS OF INCOME TO AGE 65 AT 1966 MEDIAN TOTAL MONEY INCOME RATE \$33,335,000

^{*}Estimates based on most recent year (1966) for which data is available.

Reported Mortality and Insanity 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

UNITED STATES

SELECTED YEARS 1940-1967

									FIRST AI	MISSIONS TO				
Calendar									MENTAI	L HOSPITALS				
Year		SYPHILIS	MORTALITY	*	INFAN	MORTALIT	Y DUE TO	SYPHILIS		SYPHILIS				
	Total	Rate	Per 100,	000 Pop.	Total	Rate Per	10,000 L	ive Births	Rate/100,00	Rate/100,000 Pop.**				
	Number	Tota1	White	Nonwhite	Number	<u>Total</u>	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				
195 4	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.				

^{*} Seventh Revision, International Lists of Causes of Death, 1955; see Mortality, Page 5 for explanation.

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.

^{**} Does not include admissions to Veterans Administration and psychopathic hospitals; rate based on population of area reporting.

^{***} Estimated.

N.A.: Not Available

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 must 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 to utilize 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 All Reporting Areas in United States Fiscal Years 1919-1940

Fiscal	ALL STAGES OF	F SYPHILIS	GONORRHI	EA
Year	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

				S	YPHI	LIS	3						CHAN	-	GRANU	I.OMA	LYMP	
Fiscal Years	All Stag	es*	Prima and Second	d	Early Latent		Late Late I		Congen	ital	GONORI	RHEA	CROI		INGUI		GRANULOMA VENEREUM	
	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates
1941	485,560	368.2	68,231	51.7	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						202,064				212,403			4.1	1,278	.9	1,888	1.4
1943							251,958		16,164	12.6	275,070	213.6	8,354	6.4	1,748	1.3	2,593	2.0
1944					123,038		202,848				300,676			6.1	1,759	1.3	2,858	2.2
1945					101,719		142,187		12,339		287,181			4.3	1,857	1.4	2,631	2.0
1946					107,924		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				97,745		123,972	86.1	13,309		363,014			6.0	2,315	1.6	2,494	1.7
1949	288,736				84,331		121,931	83.3	14,295		331,661			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	1		1	52,309		107,133		12,836		270,459			3.1	1,637	1.1	1,332	.9
1952	168,734		11,991		38,365		101,920		9,240		245,633			2.5	1,069	.7	1,235	.8
1953	156,099			6.2			100,195		8,021		243,857			2.3	785	.5	1,103	.7
1954	137,876				,		,		7,234		239,661			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			,				5,535		233,333			1.4	419	.3	602	.4
1957	130,552								5,452		216,476			1.1	348	. 2	449	.3
1958	116,630		1 ,				,	1	4,839		220,191				332	. 2	436	.3
1959	119,981	69.3	,		, , , , , ,		,		5,215		237,318				282	.2	485	.3
1960	120,249	68.0	12,47	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		18,78						4,388		265,665				296	.2	842	.5
1962	124,188		20,084				, -, ,		4,085		260,468				203	.1	635	.3
1963	128,450		22,045		18,683				4,140	1	270,076				196	.1	589	.3
1964	118,247		22,733				72,184		3,737		290,603				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	22,47	3 11.6	16,974	8.8					334,949			.5	164	.1	625	.3
1967	103,546	53.2	21,09	0 10.8	15,618		62,653				375,606			.4	128	.1	380	. 2
1968	98,195		20,18				58,905	29.9	2,596	1.3	431,380	219.2	827	.4	174	.1	349	.2

*Includes "Stage of Syphilis Not Stated."

TABLE 5a

REPORTED CASES OF CONGENITAL SYPHILIS, BY AGE*

UNITED STATES

SELECTED YEARS 1957-1968

Age	1	957		1965		1967	1968		
Group	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	

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

REPORTED CASES OF CONGENITAL SYPHILIS, UNDER ONE YEAR OF AGE
Case Rates per 10,000 Live Births**
UNITED STATES

SELECTED YEARS 1957-1968

TABLE 5b

1	.957	19	65	196	67	1968		
Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	
180	0.4	373	0.8	398	1.1	327	0.9	

^{**} Live births are reported in Monthly Vital Statistics Report, National Center for Health Statistics, (DHEW-PHS)

TABLE 6

REPORTED VENEREAL DISEASE CASES AND CASE RATES PER 100,000 POPULATION* UNITED STATES

(Known Military Cases Excluded) Fiscal Year 1968

		Syp	hilis					her
			Primar		_		Vene	
	A11 S			ndary		rrhea	Disea	
	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 ,57 0	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
	664	28.6	339	14.6	5,688	245.3	52	2.2
Mississippi	3,529	77.3	182	4.0	11,539	252.8	68	1.5
Missouri	53	7.7	9	1.3	524	75.8	1	.1
Montana	388	27.3	35	2.5	2,167	152.4	4	.3
Nebraska	239	54.7	38	8.7	949	217.2	1	. 2
Nevada		9.7	4	.6	416	61.1	2	.3
New Hampshire	66		537	7.7	6,891	99.2	6	.1
New Jersey	3,485	50.2	167	17.0	1,880	190.9	4	.4
New Mexico	740	75.1		12.7	40,194	219.6	65	.4
New York	15,145	82.8	2,325	14.9	11,133	226.8	71	1.4
North Carolina	1,566	31.9	731	1.0	435	69.4	1	.2
North Dakota	39	6.2	6			192.7	54	• 5
Ohio	4,137	39.6	556	5.3	20,115	160.4	6	.2
Oklahoma	1,246	50.9	87	3.6	3,923		0	
Oregon	192	9.6	35	1.8	3,659	183.5		.0
Pennsylvania	4,346	37.4	5 7 9	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	.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
	1,018	56.6	32	1.8	1,259	70.1	2	.1
West Virginia	1,344	32.1	22	.5	3,551	84.9	3	.1
Wisconsin	65	20.9	4	1.3	188	60.5	0	.0
Wyoming United States Total	98,195	49.9	20,182	10.3	431,380	219.2	1,350	.7

Wnited States Total 98,195
*Rates less than .05 not shown.

TABLE 7

PRIMARY AND SECONDARY SYPHILIS MORBIDITY AND AGE-SPECIFIC CASE RATES PER 100,000 POPULATION BY AGE-GROUPS, COLOR, AND SEX

UNITED STATES

Calendar Years 1956, 1964 - 1967

			White			MORBIDITY			Makel					AGE-SP	ECIFIC CAS	E RATES PE	R 100,000	POPULATIO				
GE	YEAR	Male	Vhite Female	Total	Male	Nonwhite Female	Total	Male	Total Female	Total		Male	White Female	Total	Male	Nonwnite Female	Total	Male	Total Female	Total	YEAR	AG
												1220	Tomato	10041	PRIC	Temate	10041	PRITE	remate	Total	ILAR	AU
0-14	1956	14	6	10	13	55	68	17	61	78	-	.0	•0	.0	.4	1.7	1.0	.1	•2	•2	1956	0-1
	1964	10	11	21	61	210	271	71	221	292		.0	.0	.0	1.4	4.8	3.1	.2	.8	•5	1964	
	1965	7	8 7	15 12	73 64	193 166	266 230	80 69	201 173	281 242		.0	.0	.0	1.6	4.4	3.0	. 3	• 7	•5	1965	
	1966 1967	8	2	10	68	161	229	76	163	239		.0	.0	.0	1.4	3•7 3•5	2.6 2.5	•5	.6 .6	•4	1966 1967	
5-19	1956	127	139	266	400	497	897	527	636	1163		2.8	2.8	2.8	50.2	(0.7	() 0	10.1			2056	25.2
.,,	1964	310	238	548	1317	1730	3047	1627	1968	3595					59•3	68.7	64.2	10.1	11.3	10.7		15-19
	1965	286	248	534	1494	2011	3505	1780	2259	4039		4.6 3.9	3.4 3.4	4.0 3.7	134.5 142.3	169.9 186.2	152.5 164.5	20.9	24.5 26.9	22.7	1964 1965	
	1966	239 255	227 190	466 445	1492 1551	1888 1810	3380 3361	1731 1806	2115	3846 3806		3.2	3.0	3.1	133.2	163.6	148.6	20.0	24.0	22.1	1966	
	1967	277	190	445	1551	1010	3301	1000	2000	3000		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	20-2
	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 1966	918 749	354 325	1272 1074	3032 2760	2271 2199	5303 4959	3950 3509	2625 2524	6575 6033		18.3 14.9	5.9 5.3	11.6 9.7	426.4 382.8	273•3 256•0	343.9 313.7	68.9 61.2	38.7 36.2	52.5 47.5	1965 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		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 1966	750 656	206 217	956 873	2266 2 1 79	1322 1287	3588 3466	3016 2835	1528 1504	4544 4339		16.3	4.1	10.0	375.8	184.9	272.2	57.9	26.8	41.7	1965	
	1967	679	204	883	2127	1171	3298	2806	1375	4181		14.0 13.7	4.2 3.8	8.6	350.9 328.2	176.5 155.5	256.6 235.4	53.3 50.0	25.8 22.6	38.9 35.7	1966 1967	
0-39	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	1555	5165		13.4	2.6	7.8	191.3	89.2	125 6	30.0			1964	
	1965	1105	207	1312	2294	1367	3661	3399	1574	4973		11.5	2.0	6.6	192.9	95.6	135.6 139.8	32.9 31.4	13.1	22.6 22.1	1965	
	1966 1967	913 877	243 215	1156 1092	2134	1195 1139	3329 3199	3047 2937	1438 1354	4485 4291		9•7 9•2	2.4	5.9	181.5 174.3	84.0	128.1	28.7 27.5	12.5	20.3	1966 1967	
	2,01	011	21)	10)2	2000	1137	32//	2731	237.	1.272		,		,.0	114.5	٠٠.٠	122.0	21.0	11.0	19.4	1501	
0-49	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 1485	597	2037		6.2	1.5	3.8	71.5	33.6	51.4	12.7	4.9	8.7	1964	
	1965 1966	583 448	147 11 1	730 559	902 810	423 383	1325 1193	1258	570 494	2055 1752		5.6 4.3	1.3	3.4 2.6	79.1	32.6 29.0	54•3 48•3	13.0 10.9	4.7	8.7 7.3	1965 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	
0 +	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 1966	266 234	84 40	350 274	378 314	143 129	521 443	644 548	227 169	871 717		1.4	.4	.8 .6	20.1 16.5	6.8 6.0	13.1	3.0 2.6	•9 •7	1.9	1965 1966	
	1967	222	51	273	309	93	402	531	144	675		1.1	.2	.6	16.2	4.2	9.8	2.5	.6	1.4	1967	
otal	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	5790	9867	7312	17179	14305	8664	22969		5.5	1.6	3.5	91.4	62.9	76.6	15.6	8.9	12.1	1964	
	1965 1966	3915	1254	5169 4414	10439 9753	7730 7247	18169 17000	14354 12997	8984 8417	23338 21414		4.8 3.9	1.4	3.1	94.7 87.0	65 .1 59 . 8	79·3 72·9	15.4 13.9	9.1 8.4	12.2	1965 1966	
	1967	3244 3328	1170 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 based on population estimates of the 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.

TABLE 8 GONORRHEA MORBIDITY AND AGE-SPECIFIC CASE RATES PER 100,000 POPULATION BY AGE-GROUPS, COLOR, AND SEX

UNITED STATES

Calendar Years 1956, 1964 - 1967

			White			MORBIDITY Norwhite							AGE-SI	ECIFIC CAS	SE RATES P	ER 100,000	POPULATIO	N .			
GE	YEAR	Male	Female	Total	Male	Female	Total	Male	Total Female	Total	Male	White Female	Total	Male	Nonwhite Female	Total	Male	Total Female	Total	MILLE	
															Temate	Total	Metre	remate	Total	YEAR	AG
0-14	1956	130	648	778	619	2203	2822	749	2851	3600	.6	3.0	1.8	18.7	66.8	42.7	2.9	11.5	7.1	1956	0-1
	1964	218	889	1107	1338	2159	3497	1556	3048	4604	.8	3.6	2.2	30.8	49.7	40.2	5.2	10.5			
	1965 1966	298	741 839	1039 1065	1274 1181	5000	3486 3181	1572	2953	4525	1.1	3.0	2.0	28.6	49.9	39.2	5.2	10.5	7.8 7.6	1964 1965	
	1967	283	877	1160	1419	2216	3635	1407	2839 3093	4246 4795	.9 1.1	3.4 3.5	2.1	26.2 31.0	44.5 48.7	35•3 39•8	4.6 5.6	9.6	7.1 8.0	1966	
												3.,	5	52.0	40.1	39.0	7.0	10.5	0.0	1967	
5 - 19	1956	3454	3359	6813	20769	17579	38348	24223	20938	45161	75.7	68.2	71.8	3076.0	2430.4	2742.1	462.9	372.0	415.7	1956	15-1
	1964	7968	7140	15108	30315	15643	45958	38283	22783	61066	117.0	101.9	109.3	3096.5	1536.6	2300.2	491.4	283.9	386.2	1964	
	1965 1966	8808 10639	7485 8505	16293 19144	34026 38708	16628 18180	50654 56888	42834 49347	24113 26685	66947 76032	121.3	102.4	111.8	3240.6	1539.6	2377.0	515.3	287.4	400.8	1965	
	1967	12988	10767	23755	45903	21732	67635	58891	32499	91390	141.6 178.4	111.2 141.8	126.3 159.7	3456.1 4016.0	1575.4 1821.6	2501.7 2895.3	571.5 699.1	303.2 369.9	436.1 531.0	1966 1967	
0-24	1956	10127	3633	13760	42842	18091	60933	52969	21724	74693	275.1	77•3	164.4	7886.2	em1 1	5012					
	1964	21386	7662	29048	59451										2714.1	5041.2	1255.8	406.8	781.8	1956	20-2
	1965	23178	8847	32025	64123	17308 18797	76759 82920	80837 87301	24970 27644	105807	439.0 461.8	133.4 148.6	273.6 291.9	8691.7 9018.7	2174.4	5182.9 5377.4	1455.0 1523.3	381.7 407.5	874.7 918.5	1964	
	1966 1967	26857 32820	10463 13645	37320 46465	69676 79586	19343 22826	89019 102412	96533 112406	29806	126339	535.7	171.2	335.5	9663.8	2251.8	5630.6	1683.5	427.6	994.4	1965 1966	
		32020	23047	4040)	19,000	22020	102412	112400	36471	148877	610.3	206.2	387.4	10430.7	2497.4	6106.9	1830.4	484.3	1088.9	1967	
5-29	1956	7630	2148	9778	29334	9512	38846	36964	11660	48624	159.8	41.2	98.1	5125.7	1372.5	3071.0	692.6	198.6	434.2	1956	25-2
	1964	12689	3123	15812	34402	8409	42811	47091	11532	58623	279.7	63.5	167.2	5781.8	1184.4	3280.5	917.6	204.9	544.8	1964	
	1965 1966	14210 16325	3680 4087	17890 20412	37955 41222	8680 8629	46635 49851	52165 57547	123 6 0 12716	64525 70263	308.8 347.7	73•9 80•0	186.7 208.3	6294.4 6638.0	1214.0	3538.3	1002.0	217.1	592.0	1965	
	1967	19795	4853	24648	46409	9896	56305	66204	14749	80953	398.4	91.1	239.3	7161.9	1183.7 1314.2	3689.9 4018.9	1082.3	217.9 242.5	630.0 691.9	1966 1967	
	1056																				
0-39		7 537	2251	9788	24030	6869	30899	31567	9120	40687	73.5	20.3	45.9	2110.3	521.7	1259.0	277.4	73.7	171.5	1956	30-3
	1964 1965	11357 11927	2538 2843	13895 14770	29464 31563	6713 5255	36177	40821	9251	50072	116.2	24.4	68.8	2451.2	466.2	1368.8	371.9	78.0	219.3	1964	
	1966	12667	2824	15491	31619	6493	37818 38112	43490 44286	9098 9317	52588 53603	123.8 134.3	27.8 28.0	74.4 79.4	2654.6 2688.7	437.4 456.6	1444.0	401.9 417.4	78.0 81.0	234.0	1965	
	1967	14155	3033	17188	33588	6196	39784	47743	9229	56972	149.1	30.3	88.1	2841.6	435.1	1526.6	447.2	80.7	242.3 257.7	1966 1967	
0-49	1956	2243	827	3070	4471	1507	5978	6714	2334	9048	23.4	8.3	15.7	439.2	133.8	278.7	63.7	21.1	41.9	1956	40-4
	1964	4073	988	5061	8132	1462	9594	12205	2450	14655	39.8	9.1	24.0	719.0	114.5	398.6	107.3				40-4
	1965 1966	4224 4323	962 950	5186 5273	9064 9483	1459	10523	13288	2421	15709	40.9	8.8	24.4	794.4	112.4	431.4	116.0	20.2 19.8	62.3 66.2	1964 1965	
	1967	4758	977	5735	9461	1341 1419	10824 10880	13806 14219	2291 2396	16097 16615	41.8 45.7	8.6 8.8	24.7 26.7	824.6 817.7	101.6	438.2 434.5	120.0	18.6 19.3	67.5 69.2	1966 1967	
											, ,			02111	10).3	434.67	122.9	19•3	09.2	1907	
0 +	1956	953	311	1264	1126	480	1606	2079	791	2870	5.6	1.7	3.6	76.0	30.9	52.9	11.3	4.0	7.5		50 +
	1964 1965	2041 2069	548 606	2589 2 67 5	2741 2493	509	3250	4782	1057	5839	10.7	2.5	6.3	147.6	24.9	83.3	22.8	4.4	13.0	1964	
	1966	1708	503	2211	2410	518 537	3011 2947	4562 4118	1124 1040	5686 5158	10.7 8.8	2.7 2.2	6.4 5.2	132.5 126.6	24.7 25.1	75.7 72.8	21.5	4.6	12.4	1965 1966	
	1967	1877	430	2307	2445	482	2927	4322	912	5234	9.6	1.8	5.4	127.8	21.9	71.2	20.0	3.6	11.1	1967	
otal	1956	32074	13177	45251	123191	56241	179432	155265	69418	224683	44.5	17.4	30.6	1409.5	600.0	990.9	192.4	81.7	135.7	1956	Tota
	1964	59732	22888	82620	165843	52203	218046	225575	75091	300666	73.6	26.7	49.5	1535.9	448.9	972.2	245.3	77.1	158.8	1964	
	1965 1966	64714 72745	25164 28171	89878 100916	180498 194299	54549 56523	235047 250822	245212 267044	79713	324925	78.7	29.0	53.2	1636.7	459.2	1026.0	263.1	80.8	169.3	1965	
	1967	86676	34582	121258	218811	64767	283578	305487	84694 99349	351738 404836	88.1	32.1 38.9	59•2 70•5	1734.2 1922.6	466.4 523.2	1075.4	284.7 323.2	84.8 98.2	181.6	1966 1967	
						/	70%)		prone s ed		3	100)	-/	723.2	-+/3•/	JEJ•2	30.2	200.9	190/	

Note: Cases not reported by age have been included on the bases of the known age distribution. Rates are based on population estimates of the 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.

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

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

The <u>Lesion-to-Lesion Index</u> 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 diag- nostics investigated.	243,257	241,016	245,715	257,009	231,517	223,939
Number of contacts in- vestigated.	179,715	192,580	186,386	183,634	176,583	167,432
Contact Investigation Indices:						
Contact Index Epidemiologic Index Brought-to-Treatment Index Lesion-to-Lesion Index	3.98 1.17* .47* .30	3.86 1.13* .46* .31	3.69 1.11* .45* .32	3.59 1.13* .45* .30	3.40 1.07* .44* .28	3.23 1.01* .41* .26

^{*}Excludes Missouri, South Carolina, and Tennessee.

Treatment of Syphilis

Congenital Syphilis

For the treatment of very small infants with congenital syphilis, aqueous procaine penicillin G is the preferred form of penicillin, the schedule consisting of 100,000 u/kg. of body weight in 10 equally divided daily doses. Benzathine penicillin G in a single injection of 50,000 u/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 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 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 most effective 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 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.

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.