

VD Fact Sheet

Division of Venereal Disease

Office of Statistics



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FEDERAL SECURITY AGENCY

Public Health Service

Washington 25 DC

INCIDENCE - The number of new cases of a disease occurring in a specified area during a time period, usually one year. The incidence rate is calculated by dividing this figure by the average population of the area during the period and multiplying by 1000 (for rate per 1000) or 100,000 (for rate per 100,000). Because of inadequacy of case finding of syphilis many cases are not discovered until the later stages and therefore the true incidence cannot be determined. For trend purposes, however, the number of cases of early syphilis discovered may be taken as the "minimum" incidence.

For reasons outlined in the JOURNAL OF VENEREAL DISEASE INFORMATION, July 1949, it is believed that U.S. syphilis incidence has been decreasing for the past four years in the areas which are covered by control programs.

TABLE I

Estimated U.S. Annual Minimum Incidence of Syphilis
1936 - 1951

Fiscal Year	Civilian Cases Only Continental U.S.	Continental Civilian Cases and Total Armed Forces*
1936-37	259,000	-
1940-41	173,000	-
1941	177,000	183,000
1942	192,000	206,000
1943	231,000	259,000
1944	201,000	247,000
1945	178,000	231,000
1946	202,000	262,000
1947	214,000	241,000
1948	178,000	194,000
1949	139,000	151,000
1950	98,000	105,000
1951	71,000	74,000

Years 1936-37 and 1940-41 (Source 1)

Years 1941-51 (Source 2)

* Includes Armed Forces Overseas

The incidence of gonorrhea is believed to be at least five times the syphilis incidence (Source 4).

PREVALENCE - The total number of cases of a disease existing in a specified area at a point of time. The prevalence rate is calculated by dividing this figure by the population of the area at that time and multiplying by 100 (rate per 100) or 1000 (rate per 1000).

TABLE II

The prevalence rate per 1000 of syphilis detected among male selectees and volunteers examined during November 1940 to August 1941, by color and known age groups is shown below.

Age Groups	White	Non-White	Other & Unknown	Total
21-25	10.2	191.7	25.3	30.1
26-30	21.0	294.8	46.6	54.4
31-35	37.9	357.8	80.6	83.5
Other Ages	26.6	151.2	59.4	71.9
TOTAL	17.6	245.2	41.0	46.1

Source 3.

The 1947 prevalence of syphilis among examined sexual contacts of persons known to have primary or secondary syphilis is approximately 50 percent for White males, 51 percent White females, 55 percent Non-White males, and 59 percent for Non-White females (source 5). More recent data, available only for the total of all contacts to primary or secondary syphilis (calendar 1950) indicates 38 percent infected of those examined (source 6). The comparable figure for 1946 is 54 percent.

It was estimated a few years ago that there were in the United States approximately 3,000,000 persons who would have positive results to the serologic test for syphilis and that about half of these persons had never been treated for syphilis. The other half were persons who had received inadequate treatment under old arsenical schedules and early penicillin schedules. There is now some evidence that syphilis has decreased in the general population. Data are being analyzed to provide a more current estimate of prevalence.

Source 2 (1941-1951 Military cases excluded).
Source 19 (1919-1940 Military cases included).

TABLE III

Cases of Syphilis and Gonorrhea Reported to the Public Health Service
By State Health Departments
Continental United States
1919 - 1951

Fiscal Year	Syphilis	Gonorrhea
1919	100,466	131,193
1920	142,869	172,387
1921	184,090	189,927
1922	171,824	152,959
1923	172,258	156,826
1924	194,936	161,676
1925	201,692	166,208
1926	205,595	164,808
1927	196,457	160,793
1928	185,437	147,219
1929	195,559	156,544
1930	213,309	155,875
1931	229,720	155,895
1932	242,128	154,051
1933	238,656	149,823
1934	231,129	153,542
1935	255,856	162,763
1936	267,717	163,465
1937	336,258	182,460
1938	480,140	198,439
1939	478,738	182,314
1940	472,900	175,841
1941	477,841	191,306
1942	472,245	212,384
1943	575,592	275,057
1944	467,641	300,585
1945	359,115	287,181
1946	363,647	368,020
1947	372,963	400,639
1948	338,141	363,014
1949	288,736	331,661
1950	229,723	303,992
1951	198,640	270,448

Source 2 (1941-1951 Military cases excluded).
Source 19 (1919-1940 Military cases included).

TABLE IV

Cases of Venereal Diseases Reported to the Public Health Service
Fiscal Years 1941 - 1951
(Known Military Cases are Excluded)
Thousands of Cases

Year	Syphilis			Gonorrhea		Other Venereal Diseases		
	Primary and Secondary	Early Latent	Late and Late Latent	Congenital	Not Stated	Chancroid 1/	Granuloma Inguinale	Lymphogranuloma Venereum
In States and Territories								
1941	68.3	108.9	201.9	18.0	82.9	193.0	3.3	0.6
1942	78.6	118.3	206.5	18.9	62.2	218.6	5.6	1.3
1943	84.6	150.7	256.9	17.9	65.9	280.9	8.5	1.8
1944	80.3	125.4	208.8	15.7	42.5	307.5	8.0	1.8
1945	78.6	104.9	146.5	14.7	23.4	293.7	5.6	1.9
1946	96.2	110.7	129.1	14.2	20.8	372.6	7.3	2.2
1947	107.8	111.5	124.6	14.1	24.5	409.8	9.4	2.4
1948	81.4	101.4	125.9	14.5	22.7	372.2	8.9	2.3
1949	54.9	88.0	123.9	15.7	14.1	342.9	7.4	2.6
1950	32.9	69.2	116.1	15.1	7.0	313.5	5.9	2.0
1951	18.7	55.6	110.7	14.6	8.2	278.9	4.8	1.6
In Continental United States								
1941	68.0	108.7	201.2	17.6	82.4	191.3	3.3	0.6
1942	75.7	116.4	202.2	16.9	61.0	212.4	5.4	1.3
1943	82.2	148.9	253.0	16.2	64.6	275.6	8.3	1.7
1944	78.4	122.4	203.4	13.6	40.4	300.6	7.9	1.8
1945	77.0	101.1	142.7	12.3	23.1	285.0	5.5	1.8
1946	95.0	107.3	125.8	12.1	20.7	364.9	7.1	2.2
1947	106.6	107.8	122.3	12.3	24.4	400.7	9.0	2.4
1948	80.5	97.7	124.0	13.3	22.6	363.0	8.6	2.3
1949	54.3	84.3	121.9	14.3	13.9	331.7	7.2	2.6
1950	32.2	65.6	113.2	13.5	6.9	304.0	5.8	2.0
1951	18.2	52.3	107.1	12.8	8.2	270.4	4.7	1.6

1/ Includes some unspecified "Other Venereal Diseases".

TABLE V

Reported Syphilis Case Rates per 100,000 Population
Fiscal Years 1941 - 1951

Year	Total Including Not Stated	Primary or Secondary	Primary Secondary & Early Latent	Congenital	Late and Late Latent
Continental U. S. Civilians					
1941	362.3	51.5	133.9	13.3	152.5
1942	357.9	57.4	145.6	12.8	153.3
1943	438.8	63.9	179.6	12.6	196.5
1944	360.7	61.7	158.1	10.7	160.1
1945	280.5	60.6	140.2	9.7	112.4
1946	270.3	71.1	151.5	9.1	94.2
1947	264.8	75.6	152.0	8.7	86.7
1948	234.5	55.8	123.6	9.2	86.0
1949	197.0	37.0	94.6	9.8	83.2
1950	155.1	21.6	65.5	9.1	75.8
1951	129.9	11.9	46.1	8.4	70.1
Total Armed Forces ^{1/} and Continental U.S. Civilians					
1941	364.8	55.8	137.7	13.3	151.7
1942	362.9	66.9	153.8	12.6	151.0
1943	437.1	81.3	191.1	11.9	186.5
1944	367.0	90.5	179.6	9.9	148.1
1945	294.5	93.4	166.2	8.9	102.7
1946	299.4	110.0	186.4	8.6	89.6
1947	280.1	93.1	168.7	8.6	85.7
1948	243.0	65.9	133.1	9.2	85.2
1949	203.4	45.0	102.0	9.7	82.4
1950	158.7	26.4	69.9	9.1	75.1
1951	131.6	14.3	48.3	8.4	70.1

^{1/} Includes U.S. Armed Forces Overseas.

Source 7.

TABLE VI
REPORTED VENEREAL DISEASE CASE RATES PER 100,000 POPULATION BY COLOR AND SEX
CONTINENTAL UNITED STATES CIVILIANS
Fiscal Years 1947 - 1951

Disease Stage And Year		TOTAL			WHITE			NON-WHITE		
		Total	Male	Female	Total	Male	Female	Total	Male	Female
Total Syphilis (includes Not Stated)	1947	264.8	263.7	265.7	118.4	113.1	104.2	1507.8	1389.4	1619.9
	1948	234.5	230.8	238.1	98.7	110.2	87.5	1375.5	1256.5	1489.1
	1949	197.0	195.0	199.0	81.2	90.9	71.8	1175.9	1088.9	1258.2
	1950	155.1	152.4	157.8	62.9	69.4	56.5	926.1	855.2	993.4
	1951	129.9	132.3	127.6	51.7	59.0	44.7	779.6	751.9	805.8
Primary and Secondary Syphilis	1947	79.6	85.6	65.9	36.9	44.8	29.1	404.9	437.3	374.2
	1948	55.8	62.3	49.6	25.8	31.7	20.0	308.5	322.2	295.4
	1949	37.0	41.5	32.7	16.4	20.5	12.4	211.2	221.4	201.6
	1950	21.6	24.1	19.2	9.4	11.7	7.2	123.4	128.9	118.2
	1951	11.9	13.6	10.3	4.9	6.3	3.5	70.0	74.7	65.5
Early Latent Syphilis	1947	76.4	62.2	90.2	24.9	23.6	26.3	513.7	395.0	626.1
	1948	67.8	54.2	81.1	20.7	18.6	22.8	463.5	356.6	565.5
	1949	57.5	46.4	68.4	17.3	15.6	19.0	397.6	310.9	479.6
	1950	43.9	34.7	52.9	13.2	11.7	14.7	300.4	229.2	367.9
	1951	34.2	30.4	38.0	9.9	9.8	10.1	236.0	204.1	266.2
Late and Late Latent Syphilis	1947	86.7	90.1	83.4	42.9	49.4	36.6	458.9	440.7	476.1
	1948	86.0	89.1	82.9	38.7	44.8	32.8	483.2	466.2	499.4
	1949	83.2	87.5	79.0	38.2	44.4	32.2	463.5	457.7	468.9
	1950	75.8	80.0	71.7	34.6	40.2	29.1	420.6	417.5	423.4
	1951	70.1	74.9	65.3	31.0	36.6	25.5	394.7	398.4	391.2
Congenital Syphilis	1947	8.7	7.5	9.9	4.3	3.6	5.1	50.0	41.5	50.2
	1948	9.2	8.0	10.4	4.2	3.4	4.9	51.9	47.5	56.2
	1949	9.8	8.7	10.8	3.7	3.2	4.2	60.7	56.1	65.1
	1950	9.1	8.1	10.1	3.1	2.5	3.7	59.6	56.2	62.8
	1951	8.4	7.6	9.2	2.8	2.4	3.3	54.6	51.5	57.5
Gonorrhea	1947	284.2	384.1	187.2	119.0	157.1	81.3	1687.9	2340.6	1070.1
	1948	251.8	356.9	149.3	95.9	129.7	62.9	1561.5	2287.8	868.0
	1949	226.3	323.3	132.0	77.8	105.5	50.8	1481.9	2193.2	809.3
	1950	203.7	292.3	117.7	59.1	78.8	39.9	1411.9	2100.0	759.1
	1951	176.9	254.9	100.7	46.6	64.1	29.4	1260.1	1866.3	684.7

Sources 2, 8.

FACTS ABOUT CONGENITAL SYPHILIS

INCIDENCE

Because of inadequacy of case finding of congenital syphilis, many cases are not found early in life and thus the true incidence can not be determined. For trend purposes, the number of congenital syphilis cases reported under age one might be taken as a rough measure of "minimum" incidence. While current information for all States is not available, latest data submitted show the number of reported cases of congenital syphilis under age one to be 4.0 per 10,000 live births in 1949.

PREVALENCE

The current estimated prevalence of congenital syphilis in Continental United States, age 0 - 10 is approximately 100,000.

PRENATAL LAW

In 1949 forty States had prenatal blood testing laws. Of the total live births occurring in Continental United States, during 1949, 79 percent were in these States having laws. Seventy-one percent of the congenital syphilis reported for Continental United States was reported by these States.

In 1945, the last year for which data are available, the ratio of the number of prenatal serologic tests for syphilis to the number of live births in the 26 States having a law was approximately one half.

Source 23.

TABLE VII

Reported Mortality and Insanity Due to Syphilis
Continental U.S.
1933 - 1950

Calendar Year	Syphilis Mortality Rates per 100,000 population			Infant Mortality Due to Syphilis Rates per 1000 live births			First Admissions to Mental Hospitals Due to Syphilis Rates per 100,000 Population ^{1/}
	Total	White	Non-White	Total	White	Non-White	Total
1933	15.1	10.9	52.4	.79	.44	2.95	6.6
1934	15.9	11.3	56.6	.74	.41	2.84	6.6
1935	15.4	11.0	54.0	.70	.41	2.77	6.6
1936	16.2	11.5	56.8	.73	.41	3.07	6.6
1937	16.1	11.4	58.0	.69	.37	2.96	6.4
1938	15.9	11.1	58.2	.63	.33	2.81	6.3
1939	15.0	10.4	55.1	.57	.28	2.60	6.6
1940	14.4	9.9	54.3	.53	.25	2.52	5.8
1941	13.3	9.3	47.5	.41	.18	2.03	6.1
1942	12.2	8.6	42.5	.30	.15	1.50	5.9
1943	12.1	8.6	42.1	.25	.12	1.28	5.4
1944	11.3	7.9	39.6	.27	.12	1.35	5.3
1945	10.7	7.5	36.9	.25	.11	1.26	5.2
1946	9.3	6.6	32.1	.16	.07	.92	4.7
1947	8.8	6.4	29.9	.14	.05	.82	4.3
1948	8.0	5.7	26.9	.12	.05	.63	3.7
1949	7.8	5.7	25.9	.08	.03	.44	3.0
1950 ^{2/}	7.0	5.1	23.8	-	-	-	-

^{1/} Does not include admissions to V. A. Hospitals

^{2/} Estimated

Sources 9, 10, 11.

TABLE VIII

Clinic and Epidemiologic Data
Fiscal Years 1947 - 1951

Clinic and Epidemiologic Data	1947	1948	1949	1950	1951 ^{1/}
Diagnostic examinations in public clinics	1,776,087	2,328,002	2,276,957	2,717,614	2,532,963
Percent of examinations in which one or more Venereal Diseases were found	30.0	21.0	20.3	15.7	14.8
Previously untreated syphilis cases found per 100 examined	9.3	6.7	5.7	3.9	3.5
Previously untreated primary-secondary syphilis cases found per 100 examined	3.2	1.9	1.3	.7	.4
Percent of early syphilis discovered referred for inpatient treatment	61.0	65.5	57.0	49.2	37.3
Number of contact investigations completed	476,368	408,054	380,079	339,966	314,356
Number of other suspect investigations completed.	177,169	164,003	153,435	148,563	155,087
Approximate number of contacts obtained from each prev. untreated pri. & sec. syphilis patient.....	1.79	2.30	2.54	2.70	3.00
Approximate number of syphilis infections identified in the contacts of each prev. untreated primary & secondary patient .....	.54	.70	.73	.70	.68
Approximate number of syphilis infections brought to treatment in the contacts of each prev. untreated primary & secondary patient .....	.30	.37	.41	.40	.37
Approximate number of primary & secondary syphilis brought to treatment in the contacts of each prev. untreated primary & secondary patient .....	.15	.17	.19	.20	.17

^{1/} Provisional

Sources 2, 21.

COSTS OF UNCONTROLLED VENEREAL DISEASE

Venereal Disease Disability in Man-years.

Hospitalization for syphilis treatment (Fiscal 1951) ^{12/}	1,639
Hospitalization for syphilitic insanity (1944) ^{13/}	25,450
Disability from cardiovascular syphilis (1945) ^{4/}	7,820
Disability from locomotor ataxia (1945) ^{4/}	5,070
Disability from syphilitic blindness (1946) ^{4/}	13,400

Economic cost of Paresis and Syphilitic Blindness

Maintenance of paretics (1940) ^{14/}	\$ 11,000,000
Loss of income by male paretics (1940) ^{14/}	112,000,000
Maintenance of syphilitic blind (1939) ^{15/}	4,000,000
Loss of income by syphilitic blind (1939) ^{15/}	6,000,000

Syphilitic loss of Life in Man-years (1944)

White ^{16/}	201,000
Non-White ^{17/}	150,000
Total Population	351,000

PENICILLIN IN THE TREATMENT OF SYPHILIS

Early Syphilis: Procaine penicillin in oil with 2% aluminum monostearate is not only practicable for out-patient therapy but is equally as effective in the treatment of early syphilis as aqueous penicillin given at 2 hour intervals. A minimum of 2,400,000 units is recommended for primary syphilis; best results are obtained in secondary syphilis with a minimum of 4,800,000 units^{18/}.

A comparison of schedules utilizing varying amounts of procaine penicillin and aluminum monostearate in the treatment of secondary syphilis is presented in Table X.

Congenital Syphilis: There is a significantly greater percentage of patients with satisfactory progress among children treated at less than 6 months of age than among children treated at 6 months to 2 years of age or children treated at 2 years of age or over.

TABLE IX

Age of Child at time of Treatment	Satisfactory Progress	Unsatisfactory Progress
	6 - 18 months Posttreatment	6 - 18 months Posttreatment
Less than 6 months	95.7 percent	4.3 percent
6 mos. - 1 yr. 11 mos.	75.0 percent	25.0 percent
2 years and over	61.4 percent	38.6 percent

Source 18.

Syphilis in Pregnancy: Penicillin is effective therapy for the prevention of congenital syphilis. Among pregnant women treated with a minimum of 2,400,000 units (or a minimum of 40,000 u/kg) approximately 98 percent of the children were nonsyphilitic. The percentage varied slightly by stage of mother's syphilis at time of treatment during pregnancy (see Table XI).

TABLE X

TREATMENT OF SECONDARY SYPHILIS WITH PROCAINE
PENICILLIN AND ALUMINUM MONOSTEARATE

A. Results at 12 Months After Treatment

Center or Group of Centers	Schedule of Therapy	Cases observed	Cumulative percent retreated	Not re-treated			
				Seropositive		Seronegative	
				Number	Percent	Number	Percent
A	2,400,000 units - 1,200,000 q 4 days	73	7.9	13	17.9	54	74.3
	2,400,000 units - 1 session	57	5.6	10	17.5	44	76.9
B	1,200,000 units - 1 injection	96	25.2	17	17.7	55	57.3
	2,400,000 units - 1,200,000 q 7 days	111	10.7	31	28.0	68	61.4
	4,800,000 units - 1,200,000 q 7 days	123	8.7	26	21.2	86	70.2
C	9,600,000 units - 600,000 q 3 - 4	84	3.4	20	23.9	61	72.8
D	Units per Kilogram of Body Weight						
	5,000 units or less	11	46.2	3	26.9	3	26.9
	10,000 units	30	26.1	11	37.0	11	37.0
	20,000 units	32	21.2	6	18.9	19	60.0
	40,000 units	128	11.0	31	24.2	83	64.8
	80,000 units	136	10.3	23	16.9	99	72.8

TABLE X

TREATMENT OF SECONDARY SYPHILIS WITH PROCAINE
PENICILLIN AND ALUMINUM MONOSTEARATE

B. Results at 24 Months After Treatment

Center or Group of Centers	Schedule of Therapy	Cases observed	Cumulative percent retreated	Not re-treated			
				Seropositive		Seronegative	
				Number	Percent	Number	Percent
A	2,400,000 units - 1,200,000 q 4 days	21	10.8	1	4.7	18	84.6
	2,400,000 units - 1 session	15	15.8	2	13.0	11	71.3
B	1,200,000 units - 1 injection	29	27.4	2	6.9	19	65.8
	2,400,000 units - 1,200,000 q 7 days	34	17.8	4	11.7	24	70.5
	4,800,000 units - 1,200,000 q 7 days	38	13.4	4	10.5	29	76.2
C	9,600,000 units - 600,000 q 3-4 days	35	4.6	3	8.7	30	86.7
D	Units per Kilogram of Body Weight						
	5,000 units or less	9	46.2	3	32.3	2	21.5
	10,000 units	18	44.3	3	16.8	7	39.2
	20,000 units	14	27.8	3	21.7	7	50.7
	40,000 units	49	19.8	10	20.6	29	59.6
	80,000 units	68	12.9	7	10.3	52	76.7

TABLE XI

Outcome of Pregnancy By Stage of Disease
At Time of Mother's Treatment During Pregnancy

Stage of Disease at time of Mother's treatment with Penicillin	Total live births		Nonsyphilitic		Syphilitic	
	Number	Percent	Number	Percent	Number	Percent
A. Aqueous penicillin - 2,400,000 units or more						
All diagnoses	250	100.0	245	98.0	5	2.0
Primary & Secondary	160	100.0	156	97.5	4	2.5
Early Latent	90	100.0	89	98.9	1	1.1
B. Procaine penicillin and aluminum monostearate One session - 40,000 or 80,000 units/kg. of body weight						
All diagnoses	238	100.0	233	97.9	5	2.1
Secondary	41	100.0	39	95.1	2	4.9
Early Latent	153	100.0	150	98.1	3	1.9
Late (latent, CNS, Congenital)	44	100.0	44	100.0	0	0.0

Note: Series A is based on previously untreated mothers (Source 20);
Series B includes previously treated cases (Source 18).

TABLE XII

Outcome Of Pregnancy In Women Treated Prior To, But Not
During, Pregnancy By Stage Of Syphilis At Time Of Treatment

Stage of Disease at time of Mother's Treatment Prior to Pregnancy	Total live births		Nonsyphilitic		Syphilitic	
	Number	Percent	Number	Percent	Number	Percent
Series A						
All diagnoses	154	100.0	153	99.4	1	0.6
Primary or Secondary	133	100.0	132	99.2	1	0.8
Early Latent	13	100.0	13	100.0	0	0.0
Late (latent, CNS, congenital)	8	100.0	8	100.0	0	0.0
Series B						
All diagnoses	229	100.0	228	99.6	1	0.4

Series A - Source 18.

Series B - Source 22.

REFERENCES

TREATMENT OF OTHER VENEREAL DISEASES 24/Gonorrhea

Procaine penicillin G in oil with 2% aluminum monostearate in a single injection of 300,000 units is recommended for the treatment of gonorrhea. If the discharge in uncomplicated gonorrhea persists for three days or more and the smear and culture are still positive, an additional injection of 600,000 units should be administered.

Chancroid

Sulfadiazine is the drug of choice in the treatment of chancroid. It is recommended that 1 gram be given 4 times a day for 8 to 12 days. Streptomycin, aureomycin and chloromycetin have been found effective but are not routinely recommended.

Granuloma Inguinale

Streptomycin, aureomycin, chloromycetin and terramycin are effective. Streptomycin or dihydro-streptomycin should be given intramuscularly in doses of 1 gram each 3 times a day for 7 - 10 days. The other drugs should be given orally in 1-gram doses 3 times a day for 7 - 10 days.

Lymphogranuloma Venereum

Sulfadiazine is the drug of choice. Doses of 1 gram 4 times a day for 12 - 15 days are usually required. Aureomycin is effective but is generally held in reserve for patients sensitive or resistant to sulfadiazine.

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