

VD FACT SHEET

Division of Venereal Disease

Office of Statistics

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No. 7

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FEDERAL SECURITY AGENCY

PUBLIC HEALTH SERVICE

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 - 1950

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

a - Provisional

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

Years 1941 - 1950 (source 2)

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	Negro	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 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 1949) indicates 42 percent infected of those examined (source 6). The comparable figure for 1946 is 54 percent.

There are in the United States approximately 3,000,000 persons with positive results to the serologic test for syphilis. It is estimated that about half of these persons have never been treated for syphilis and the other half are persons who received inadequate treatment under older arsenical schedules and early penicillin schedules.

TABLE III

Cases of Syphilis and Gonorrhea Reported to the Public Health Service
By State Health Departments
Continental United States
1919 - 1950

Fiscal Year	Syphilis	Gonorrhea
1919	100,466	131,193
1920	142,869	172,387
1921	217,817	203,281
1922	171,824	152,959
1923	172,258	156,826
1924	193,844	160,790
1925	200,584	165,523
1926	215,547	166,655
1927	196,219	160,555
1928	176,502	143,490
1929	195,559	156,544
1930	213,309	155,875
1931	229,310	155,729
1932	260,564	158,083
1933	234,647	149,527
1934	230,890	153,255
1935	254,551	161,810
1936	266,626	162,487
1937	336,147	182,435
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	564,918	275,648
1944	458,199	300,585
1945	356,315	284,994
1946	360,918	364,853
1947	373,296	400,659
1948	338,141	363,014
1949	288,769	331,695
1950	231,567	304,066

Source 2 (1941 - 1950 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 - 1950
(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	1.3
1942	78.6	118.3	206.5	18.9	62.2	218.6	5.6	1.3	1.9
1943	84.6	150.7	256.9	17.9	65.9	280.9	8.5	1.8	2.4
1944	80.3	125.4	208.8	15.7	42.5	307.5	8.0	1.8	2.9
1945	78.6	104.9	146.5	14.7	23.4	293.7	5.6	1.9	2.7
1946	96.2	110.7	129.1	14.2	20.8	372.6	7.3	2.2	2.6
1947	107.8	111.5	124.6	14.1	24.5	409.8	9.4	2.4	2.7
1948	81.4	101.4	125.9	14.5	22.7	372.2	8.9	2.3	2.5
1949	54.9	88.0	123.9	15.7	14.1	342.9	7.4	2.6	2.2
1950	32.9	69.2	116.1	15.3	7.0	313.6	5.9	2.0	1.7
In Continental United States									
1941	68.0	108.7	201.2	17.6	82.4	191.3	3.3	0.6	1.3
1942	75.7	116.4	202.2	16.9	61.0	212.4	5.4	1.3	1.9
1943	82.2	148.9	253.0	16.2	64.6	275.6	8.3	1.7	2.4
1944	78.4	122.4	203.4	13.6	40.4	300.6	7.9	1.8	2.9
1945	77.0	101.1	142.7	12.3	23.1	285.0	5.5	1.8	2.6
1946	95.0	107.3	125.8	12.1	20.7	364.9	7.1	2.2	2.6
1947	106.6	107.8	122.3	12.3	24.4	400.7	9.0	2.4	2.7
1948	80.5	97.7	124.0	13.3	22.6	363.0	8.6	2.3	2.5
1949	54.3	84.3	121.9	14.3	13.9	331.7	7.2	2.6	2.2
1950	32.2	65.6	113.2	13.6	6.9	304.1	5.8	2.0	1.6

1/ Includes some unspecified "Other Venereal Diseases".

Source 2.

TABLE V

Reported Syphilis Case Rate per 1000 Population
Fiscal Years 1941 - 1950

Year	Total Including Not Stated	Primary or Secondary	Primary, Secondary & Early Latent	Congenital	Late and Late Latent
Continental U. S. Civilians					
1941	3.623	0.515	1.339	0.133	1.525
1942	3.579	0.574	1.456	0.128	1.533
1943	4.388	0.639	1.796	0.126	1.965
1944	3.607	0.617	1.581	0.107	1.601
1945	2.805	0.606	1.402	0.097	1.124
1946	2.703	0.711	1.515	0.091	0.942
1947	2.648	0.756	1.520	0.087	0.867
1948	2.345	0.558	1.236	0.092	0.860
1949	1.970	0.370	0.946	0.098	0.832
1950	1.551	0.216	0.655	0.091	0.758
Total Armed Forces ^{1/} and Continental U.S. Civilians					
1941	3.648	0.558	1.377	0.133	1.517
1942	3.629	0.669	1.538	0.126	1.510
1943	4.371	0.813	1.911	0.119	1.865
1944	3.670	0.905	1.796	0.099	1.481
1945	2.945	0.934	1.662	0.089	1.027
1946	2.994	1.100	1.864	0.086	0.896
1947	2.801	0.931	1.687	0.086	0.857
1948	2.430	0.659	1.331	0.092	0.852
1949	2.034	0.450	1.020	0.097	0.824
1950	1.587	0.264	0.699	0.091	0.751

^{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 - 1950

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
Primary & 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
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
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
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
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

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 1948 thirty-eight States had prenatal blood testing laws. Of the total live births occurring in Continental United States, during 1948, 78 percent were in these States having laws. 73 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 28.

TABLE VII

Reported Mortality and Insanity Due to Syphilis
Continental U.S.
1933 - 1949

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 ^{2/}	7.6	5.6	23.8	.09	.04	.45	-

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

^{2/} Estimated

Sources 9, 10, 11.

TABLE VIII
Clinic and Epidemiologic Data
Fiscal Years 1947 - 1950

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

^{1/} Provisional

Sources 2, 25.

COSTS OF UNCONTROLLED VENEREAL DISEASE

Venereal Disease Disability in Man-years.

Hospitalization for syphilis treatment (Fiscal 1950) ^{12/}	2, 326
Hospitalization for syphilitic insanity (1944) ^{13/}	25, 450
Disability from cardiovascular syphilis (1945) ^{3/}	7, 820
Disability from locomotor ataxia (1945) ^{3/}	5, 070
Disability from syphilitic blindness (1946) ^{3/}	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

TABLE IX

**TREATMENT OF SYPHILIS WITH CRYSTALLINE PENICILLIN G
RESULTS OF SEVEN SCHEDULES WITH 21-24 MONTHS
POSTTREATMENT OBSERVATION**

Schedule of Therapy	SERONEGATIVE PRIMARY			SEROPOSITIVE PRIMARY			SECONDARY		
	Cases observed 21-24 mo.	Cumula. percent re-treat.	Percent Sero-negative	Cases observed 21-24 mo.	Cumula. percent re-treat.	Percent Sero-negative	Cases observed 21-24 mo.	Cumula. percent re-treat.	Percent Sero-negative
9,000,000 units POB - 600,000 q 24 hours	25	7.1(±10.3)	92.9	31	8.6(±10.1)	91.4	108	7.5(±5.1)	83.1
4,800,000 units - 80,000 q 3 hours	23	12.8(±13.9)	87.2	33	13.4(±11.9)	83.7	152	13.8(±5.6)	83.0
4,800,000 units - 53,333 q 2 hours	32	7.4(±9.3)	92.6	46	15.0(±10.5)	82.9	139	11.7(±5.5)	82.6
2,400,000 units - 26,667 q 2 hours	43	8.8(±8.6)	91.2	72	10.8(±7.3)	87.8	126	14.2(±6.2)	80.2
2,400,000 units - 40,000 q 3 hours	47	7.8(±7.8)	92.2	67	15.2(±8.8)	84.8	156	16.6(±6.0)	79.6
3,400,000 units - 40,000 q 2 hours	58	11.0(±8.2)	89.0	130	13.4(±6.0)	82.9	322	15.4(±4.0)	76.7
2,800,000 units - 25,000 q 3 hours	40	11.8(±10.2)	88.2	57	12.4(±8.7)	82.2	177	22.0(±6.2)	72.8

NOTE: Figures in parenthesis represent twice the standard error.

Source 18.

PENICILLIN IN THE TREATMENT OF SYPHILIS

Early Syphilis

Only 30 percent of patients with early syphilis admitted to clinics for routine therapy received the minimum protective regimen of 20 arsenical injections together with heavy metals^{26/}. Under present penicillin schedules for in-patients (ranging in duration from 4 to 14 days), 99 percent complete treatment^{12/}. Among clinic patients 40 percent on an 8-week schedule and 75 percent on a 6-day schedule completed treatment within the prescribed period; the percentage eventually completing treatment, however, ranged from 89 to 97 percent^{18/}.

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 X

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 therapy among pregnant syphilitic women is very effective in preventing congenital syphilis. Treatment by weekly injections of arsenicals and heavy metal started after the fifth month of pregnancy had a failure rate of over 22 percent^{24/} which is nearly six times higher than the failure rate of penicillin begun in the third trimester^{20/}. Arsenical and heavy metal treatment begun before the fifth month of pregnancy has a failure rate over twice that of penicillin.

TABLE XI

Outcome of Pregnancy by Stage of Disease
at the time of Mother's Treatment During Pregnancy

Stage of Disease at time of Mother's treatment with Penicillin	Percent of Total Live Births	
	Congenital	Non-Syphilitic
All Diagnoses	3.5	96.5
Primary & Secondary	4.2	95.8
Early Latent	2.1	97.9

Source 20.

Present evidence on the outcome of pregnancies of mothers treated for syphilis with penicillin before pregnancy indicates that the child was protected in more than 99 percent of the cases. These were mothers for whom the physician believed the original treatment for the infection was sufficient, and who were permitted to go through the pregnancy without additional therapy. ²⁷

TABLE XII
Penicillin in the Treatment of Gonorrhea

Treatment Schedule	Percent Cure*	Source
200,000 units - single injection - Calcium Penicillin in peanut oil and 4.8 percent beeswax	92	(21)
200,000 units - 3 injections in 2 hours - Sodium Penicillin aqueous (50,000 - 50,000 - 100,000)	94	(22)
200,000 units - 4 injections in 3 hours - Sodium Pencillin aqueous (40,000 - 40,000 - 40,000 - 80,000)	96	(22)
200,000 units - 3 injections in 2 hours - Crystalline G Penicillin aqueous (50,000 - 50,000 - 100,000)		(23)
Given by intramuscular needle injection . .	97.9	
Hypospray Administration	97.5	

* Clinically and bacteriologically free of infection, i.e., without signs or symptoms and with three or more cultures - all negative - during the observation period.

TABLE XIII

**SEVERE REACTIONS AND DEATHS REPORTED BY
36 RAPID TREATMENT CENTERS FROM
JULY 1946 THROUGH JUNE 1950**

Type of Treatment	Total Cases Treated	Severe Reactions		Number of Deaths
		Number	Rate per 1,000	
Without Arsenoxide:				
Aqueous penicillin	100,454	479	4.77	1
Penicillin in oil and beeswax	41,231	48	1.16	
Procaine penicillin	43,892	51	1.16	1
TOTAL	185,577	578	3.11	2
With Arsenoxide:				
Aqueous penicillin	107,358	1679	15.64	17
Penicillin in oil and beeswax	48,121	279	5.80	1
Procaine penicillin	815	5	6.13	
TOTAL	156,294	1963	12.56	18
GRAND TOTAL	341,871	2541	7.43	20

Source 18.

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