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TABLE OF CONTENTS

Clinical-Pathological Conference: (I) A Case of Secondary Anemia with Cardiac Manifestations and (II) A Case of Obscure Infection. Louis Hamman, Baltimore, Md. 665

An Operation for Late Reduction of the Semilunar Bone. Earl D. McBride, Oklahoma City, Okla. 672

Discussed by Owen H. Wangensteen, Minneapolis; Joseph D. Wright, Boston, Mass.; W. Carter Wilson, Dallas, Tex.; R. Lanphier Scott, Birmingham, Ala.

Denervation of the Uterus: A Clinical Study. Lawrence R. Wharton, Baltimore, Md. 677

Pulmonary Abscess in Children. David T. Smith and Angus McBryde, Durham, N. C. 686

Discussed by W. Ambrose McGee, Richmond, Virginia.

Plasma Cell Myelomas Causing Cord Compression: Report of Five Cases. Roland M. Klemme, St. Louis, Mo. 692

Discussed by R. G. Spurling, Louisville, Ky.

Asthmatic Bronchitis. Treatment with Iodized Oil (Lipiodol). James F. Alison, Selma, Ala. 696

Continued on Next Page

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TREND OF CASES OF SYPHILIS UNDER TREATMENT OR OBSERVATION IN THE UNITED STATES*

By TALIAFERRO CLARK, M.D.,†
and
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Washington, D. C.

Since the spring of 1927 the United States Public Health Service, in cooperation with state and city health authorities, has been making an effort to measure the effectiveness of present day syphilis control measures, to be expressed in the difference in the case rate per 1,000 population of those under treatment or observation for syphilis on a given census day as compared with the case rate for the same community after a three year interval. If there were no untreated, self-treated, or inadequately treated syphilis in the United States a downward trend of the prevalence rate could be translated immediately into terms of successful efforts in this field, but in the light of all these indeterminate factors frequently the upward trend of the curve is paradoxically indicative of the most fruitful results. Data on the extent of the problem in typical rural and urban communities throughout the United States have been published in "Venereal Disease Information" during the past few years and are used in the present study to form a base line from which to determine the trend during the three years interim, 1927-1930,[1] which has been calculated from the number of cases of syphilis in 16 communities actively under treatment or observation in 1927 as compared with 1930. In 14 of the communities comprising 8 cities ranging in size from 16,400 in El Dorado, Arkansas, to 105,000 in Peoria, Illinois, and in six counties in West Virginia, Kentucky and Illinois, with populations from 14,400 in Scott County, Kentucky, to 63,250 in Pike County, Kentucky, the combined changes in case rates of syphilis per 1,000 population showed a 4.4 per cent decrease. However, this downward trend is not a consistent one throughout each of the 14 communities, although it did occur in 9 of them.

In the other two communities in which statewide surveys were made, one in Oregon[2] and the other in up-state New York,[3] there was a definite increase in the syphilis rate, in Oregon 18 per cent and in up-state New York 15 per cent. It is interesting to note that in the total rate for 14 communities the decrease was among the late or chronic cases under treatment and not among the early cases. As a matter of fact the composite change in rates in the 14 communities revealed a 13 per cent increase in the cases admitted to treatment while in the early stage of the disease.

A similar situation was found in Oregon for although there was an increase in case rates per 1,000 population among both the early and late cases of syphilis under treatment or observation, the percentage increase among the early cases was 38 per cent as compared with 10 per cent increase in the late.

Probably the most encouraging findings in the resurveys are those rather appreciable increases in the number of early cases of syphilis which come under treatment. Certainly nothing will ultimately so surely bring under control this elusive disease as will the early recognition and treatment by both the private practitioner and the public clinic. Many factors may be responsible for the bringing of a larger group of cases under treatment while the infection is in the early stages. Among these may be mentioned the provision of more adequate public clinic facilities for the part pay as well as indigent patient, a wider use of the state laboratories for performing the diagnostic tests, the influence of educational measures in the hands of the private physician and the public clinics, and the routine Wassermann testing of hospitalized persons.

It may be expected that the rate for chronic cases will gradually show a reduction as resurveys are continued at various intervals, first because of the growing tendency, in private practice, to make a routine Wassermann on all pregnant women, which should lead to the elimination of much of the congenital syphilis which makes up part of the chronic group today, and secondly, as early cases come in promptly and receive adequate treatment they should never reach the chronic stage, but effect a satisfactory permanent reversal of the blood Wassermann and destruction of the organism before it is deeply seeded in the various organs with the danger of late central nervous system, cardiovascular or visceral involvement. It is indeed

*Read in Section on Dermatology and Syphilology, Southern Medical Association, Twenty-Sixth Annual Meeting, Birmingham, Alabama, November 15-18, 1933.

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encouraging to find in 14 communities that the percentage of cases coming to public clinics while the disease is in the early stage is 11 per cent higher than it was three years ago. The benefits of this attitude towards early treatment are incalculable.

METHOD OF RESURVEY

A complete discussion of the manner of carrying out the prevalence surveys was given in an article setting forth the prevalence of venereal disease in the United States, published in "Venereal Disease Information."[1] As nearly as possible the same procedure was carried out in the resurvey. Each person and institution in the resurveyed community authorized to treat the sick was supplied with a questionnaire on which to record the number of cases of syphilis under treatment or observation as of a given date. The requested data were classified by sex and color of the patient and stage of the disease. Syphilis was designated as "early" in all cases in which one year or less had elapsed since the probable date of infection, and as "late" in all cases where more than one year had elapsed. As far as was possible, all factors affecting the completeness and accuracy of the data were accounted for. The good faith and willingness to cooperate on the part of those who filled out the questionnaire was secured by seeking the approval of members of the medical profession through local health and medical associations. A personal representative of the Public Health Service did follow-up work for all missing questionnaires in fifteen of the communities.

Undoubtedly there are uncontrollable factors which do affect the data, but on the whole these contribute to understatement rather than overstatement of the problem. It is felt that the number of cases of syphilis reported as under treatment or observation represents the very minimum in the United States as well as showing with fair exactness the extent of syphilis as a causative factor in the population under medical care each day. The uncontrollable factors which would make comparison between different communities inadvisable are the inclusion of nonresident patients, the availability of free treatment, and the extensiveness and effectiveness of follow-up and social service in keeping the patient under care until the maximum benefits have been received, and the varying personal equation of physician and patient.

SIGNIFICANCE OF THE INDICATED TRENDS BASED ON REPORTS OF TREATMENT SOURCES OF A 24,500,000 POPULATION

The number of persons constantly under treatment or observation for syphilis in continental United States in 1927 was estimated at 643,000 cases.[1] This estimate was based on the cases reported as actually under treatment or observation for syphilis by all medical sources in 25 representative communities throughout the United States, which included 29,918 physicians, 828 other private practitioners, and 1,101 public institutions responsible for the medical care and treatment of 24,498,000 people. It is felt that the findings among 20 per cent of the nation's population selected from the most rural territory to the great metropolises of the country are a reliable index of the syphilitic population constantly under medical care day by day.

Resurvey data in 1930 for 16 of these communities with a population of approximately 7,000,000, including up-state New York, the State of Oregon, 8 cities of 100,000 or less population and 6 counties in four other states, Arkansas, Illinois, Kentucky, West Virginia, form the basis of this estimated trend. The trend for cases of syphilis under treatment or observation throughout the United States can be expressed as ranging from a possible decrease of 28,000 cases to a possible increase of 100,000. The difference in the trend in the various communities in 1927 as compared with 1930 shows that the individuals infected are still neglecting treatment rather than any definite increase or decrease in the actual number of persons being infected. These evidences of apparent indifference of the infected individual toward the treatment of syphilis are viewed with deep concern. While the population of some communities may be responding to the concentrated efforts of control officers to seek early and adequate treatment for syphilis, the great difference in the rates throughout this resurveyed territory reveals that it is not a universal response. There is much evidence that only a small part of the syphilitic population receives adequate treatment, or, as a matter of fact ever seeks treatment. Indeed, approximately 50 per cent of the syphilitics never seek any treatment until in the late stages even though in many instances public clinic facilities are available, as will be seen later in the discussion of the incidence of syphilis among a population of approximately 11,500,000 persons.

The difficulty of keeping syphilitics under treatment is well known and is experienced not only in private practice but in public clinics. Recent studies by the U.S. Public Health Service in eight of the best equipped syphilis clinics in the country revealed that two-thirds of the patients lapsed from treatment before the maximum benefits had been received[4,5] even though the disastrous consequences of inadequately treated syphilis are constantly stressed. It is quite well known that syphilis contributes 11 per cent of the first admissions to the institutions for mental diseases,[6] is an important causative factor in disabling heart conditions,[7] and is responsible for a high percentage of fetal deaths.[8] In fact, an average of 6.9 per cent of the pregnant women admitted to the maternity hospitals have a positive Wassermann.[9] Jeans reports that 24 per cent of the 3,009 pregnancies among 870 syphilitic families resulted in the death of the fetus on or before term.[10] Further evidence of the projected effects of syphilis can be seen in a study of 33,000 unselected rural negroes of the South who under routine Wassermann test revealed 25 congenital syphilitics per 1,000 population.[11]

A review of the clinic cases from 1927-1930 in up-state New York shows that the increase in number of cases of syphilis actually under treatment or observation at the end of the year is due to cases remaining under treatment for a longer period of time, thus receiving more adequate treatment. This conclusion was arrived at from examination of the number of new cases admitted during the three year period. The new clinic cases increased 5.7 per cent whereas the total number of cases at the end of the third year had increased about 59 per cent. Since there was a noticeable decrease in the number of early cases prematurely discontinuing treatment, it is concluded that at least for clinic cases in up-state New York prolongation of treatment, and not new admissions, is largely responsible for the increased number of syphilis patients constantly under clinic care.[3] Similar data in up-state New York were not available for physician's cases, but this situation in the clinics in certain localities leads to the belief that persons infected with syphilis are gradually acquiring a higher appreciation of the necessity of thorough treatment.

PREVALENCE RATES FOR SYPHILIS IN EACH OF 16 COMMUNITIES

During the three-year period there was in the total resurveyed territory a 6 per cent increase in the case rate per 1,000 population for patients seeking treatment within the first year of infection, and a corresponding increase of 14 per cent in the case rate for those coming to treatment in the late stage of the disease. Unfortunately this increase in case rates for those reporting for treatment in the early stage is not uniform throughout the 16 communities. In fact, in some communities the reverse is true. For example, in up-state New York there was a high rate of increase (23 per cent) among the late cases while among the early cases there was a 3 per cent decrease. In the State of Oregon, although the case rates for both early and late cases increased, the increase among the early cases was four times that of the late. The early cases in 5 of the 8 cities of 100,000 or less population showed a decrease in the case rate as also in two of the 6 counties included in the 14 communities resurveyed. However, the total case rates for the 14 communities had a 13 per cent increase among early cases and a 13 per cent decrease among the case rates of infected individuals reporting for treatment after the infection reached the late stage. The syphilis case rates per 1,000 population for the two cities of more than 75,000 population, Peoria, Illinois, and Huntington, West Virginia, both with good public clinic facilities, gives a very similar picture for the early cases of syphilis, both showing a high percentage of increase per 1,000 population. The total syphilis rate for Wheeling, West Virginia, and Decatur, Illinois, cities of 50,000 to 75,000 population, are 6.2 and 6.8 per 1,000 in 1930 as compared with a rate of 8.0 and 8.3 in 1927. This decrease in both cities occurred among the late cases. In the four cities with populations of 15,000 to 50,000, Lexington, Kentucky; El Dorado, Arkansas; Paducah, Kentucky; and Texarkana, Arkansas, the syphilis rates are two and one-half to five times higher for Lexington than they are for the other three cities and yet Lexington is the only one which maintains a public clinic. This high rate is undoubtedly not due to an excessive colored population as all four of these cities have approximately the same high percentage of colored population.

Does the knowledge that free treatment for syphilis is available make the population any less fearful of the consequences of the disease? Is it possible that greater liberty and license exists in one town than in another of approximately the same size? The results of recent studies to a large extent discount the importance

of these causes in the increase of syphilis, which revealed that only one in 25 negroes with a positive blood Wassermann seeks treatment for his syphilis,[11] and that not more than 50 per cent of the white clinic population ever seek treatment for syphilis until after it reaches the late stages. With all these untreated syphilitics in any community it is believed any fresh or renewed effort, either in the field of education or medicine, should result in bringing to treatment many of those who have been inadequately treated or who remain entirely untreated for syphilis. With the present knowledge of the importance of rendering a fresh case of syphilis free from the possibilities of infectious relapse, the desirability of early and adequate treatment for syphilis cannot be too strongly emphasized.[12] Further, an increase in the number of cases of syphilis under treatment at any one time cannot be regarded with anything but the greatest optimism. The above referred to studies, disclosing the tremendous number of untreated syphilitics, were made in quite rural communities, which fact invalidates much of the popular belief that syphilis is less prevalent in rural than in urban areas. In the 14 communities under consideration the prevalence rate for syphilis per 1,000 population in the rural area was slightly higher in 1930 than in 1927. It is still less than one-half as high as the urban rate. Further, the counties which have public clinic facilities have a higher prevalence rate. Thus it would appear that there is much to be done in training the rural physicians and populations in the recognition, treatment, and necessity for the treatment of early syphilis.

EFFECT OF SEX ON CASE RATES FOR SYPHILIS PER 1,000 POPULATION

The case rates per 1,000 population under treatment for syphilis are consistently higher for males than for females in the resurveyed territory. In the total resurveyed territory the case rate per 1,000 population for males is 3.8 as compared with the case rate for females of 2.3 per 1,000 female population. It is interesting to note that although the case rate for females increased 26 per cent more than did the rate for males in the three year period, it is still a third less than the present rate for males. These rates do not necessarily mean that there is less syphilis among females; they do show that it is being recognized, probably the result of routine Wassermann tests. Among both sexes there are more patients seeking treatment after their infection has reached the chronic stage than come in while the disease is in the early stages. In fifteen of the communities where the data are available the tendency in the past three years has been to report earlier for treatment. Considerable improvement among the males reporting for treatment early was seen in Hunt-

Table 1

INFLUENCE OF STAGE OF INFECTION ON ADMISSION ON CASE RATES PER 1,000 POPULATION FOR SYPHILIS SHOWING PERCENTAGE OF INCREASE OR DECREASE, 1930 AS COMPARED WITH 1927

	Early			Late			Total		
	1927	1930	Per Cent Increase or Decrease	1927	1930	Per Cent Increase or Decrease	1927	1930	Per Cent Increase or Decrease
14 communities									
Number	1423	1751	23.05	2692	2535	−5.83	4115	4286	4.15
Case rate	2.36	2.67	13.14	4.47	3.87	−13.42	6.83	6.54	−4.25
Oregon									
Number	567	857	51.15	1527	1821	19.25	2094	2678	27.89
Case rate	.65	.90	38.46	1.74	1.91	9.77	2.39	2.81	17.57
Up-State New York									
Number	3713	3791	2.07	9223	11941	29.47	12936	15732	21.61
Case rate	.68	.66	−2.94	1.68	2.06	22.62	2.36	2.72	15.25
Total									
Number	5703	6399	12.20	13442	16297	21.24	19145	22696	18.55
Case rate	.82	.87	6.10	1.93	2.20	13.99	2.75	3.07	11.64

Table 2

EFFECT OF SEX ON CASE RATES PER 1,000 POPULATION FOR SYPHILIS, SHOWING PERCENTAGE OF INCREASE DECREASE, 1930 AS COMPARED WITH 1927

	Males		Per Cent Increase or Decrease	Females		Per Cent Increase or Decrease	Total		
	1927	1930		1927	1930		1927	1930	
14 communities									
Number	2524	2672	5.86	1591	1614	1.45	4115	4286	
Case rate	8.31	8.18	-1.56	5.24	4.91	-8.05	6.84	6.54	
Oregon									
Number	1366	1744	27.67	728	934	28.30	2094	2678	27
Case rate	2.93	3.49	19.11	1.77	2.06	16.38	2.39	2.81	17
Up-State New York									
Number	8091	9588	18.50	4345	6144	26.81	12936	15732	21
Case rate	2.97	3.35	12.79	1.75	2.10	20.00	2.36	2.72	15
Total									
Number	11981	14004	7.88	7164	8692	21.33	19145	22696	18.
Case rate	3.43	3.80	10.79	2.06	2.34	13.59	2.75	3.07	11.

ington, West Virginia; Texarkana, Arkansas; Logan County, West Virginia; and Scott County, Kentucky. In the 1927 survey a higher percentage of the males came to treatment for syphilis after the first year of the infection, whereas in the 1930 survey the percentage of males seeking treatment in the first year of the disease in the above mentioned communitie was nearly twice the number who sought treat ment after the infection had reached the lat stages. This condition cannot be taken to mea that the number of infections is decreasing fo in two of these four communities (Texarkana Ark., and Scott County, Ky.) there was an actual decrease in the total syphilis rate for the males, but it does mean that at least the patient is beginning to recognize the advantages of early treatment.

Table 3

THE PERCENTAGE OF CASE RATES PER 1,000 POPULATION FOR SYPHILIS TREATED IN PUBLIC CLINICS AND PRIVATE PRACTICE, BY STAGE OF INFECTION IN 1930

Community	Public Clinics			Private Practice		
	Total	Early	Late	Total	Early	Late
8 cities, 100,000 or less population						
Case rates	4.27	1.36	2.91	4.15	1.93	2.22
Per cent	50.7	31.9	68.1	49.3	46.5	53.5
6 counties						
Case rates	.91	.37	.54	2.22	1.19	1.03
Per Cent	29.1	40.7	59.3	70.9	53.6	46.4
Oregon						
Case rates	.47	.12	.35	2.34	.78	1.56
Per Cent	16.7	25.5	74.5	83.3	33.3	66.7
Up-State New York						
Case rates	1.04	.21	.83	1.68	.45	1.23
Per Cent	38.2	20.2	79.8	61.8	26.8	73.2
Total						
Case rates	1.15	.27	.88	1.92	.60	1.32
Per cent	37.5	23.5	76.5	62.5	31.3	68.7

DISTRIBUTION OF CASES IN PUBLIC CLINICS AS COMPARED WITH PRIVATE PRACTICE

In 1930 among these 16 resurveyed communities, 62.5 per cent of the patients were in the hands of private practitioners as compared with 37.5 per cent under treatment in public clinics. During the three year period there was a shifting of 7 per cent of the cases from private practice to public clinics in the total surveyed territory. (The most significant transition of private practice cases to public clinics was in Huntington, West Virginia, Paducah, and Pike County, Kentucky, the change representing about 33 per cent of the cases.) Undoubtedly the present economic depression is in a large measure responsible for the increased number of syphilitics seeking treatment in public clinics. In 14 of the communities data by stage of infection are available for the public clinic and private practice cases. In the six counties the increase was 18 per cent among the cases com-

ing to the clinics early for treatment but the proportion of cases seeking treatment early decreased in the cities of 100,000 or less population.

In the total resurveyed territory the early cases of syphilis comprised 23.5 per cent of the cases of syphilis under treatment in public clinics and 31.3 per cent of those in private practice. Obviously too many infected individuals are not seeking treatment until after their disease is in the late stages.

ESTIMATED ANNUAL INCIDENCE OF FRESH INFECTIONS OF SYPHILIS

In the more recent prevalence studies there has been included in the questionnaire a request for the number of patients with syphilis who reported for the first time for observation or treatment during the preceding month. These data were assembled as the basis for estimating the number of fresh infections occurring annually as well as to determine the percentage of syphilitics who sought treatment during the early stage of the infection. The month preceding the prevalence survey date was selected for recording the incidence data because of its convenience to those filling out the questionnaire and also because it is felt that one month is as representative as another in the absence of any seasonal variation in the disease.

Philadelphia was the first community sur-

Table 4

ANNUAL INCIDENCE RATES PER 1,000 POPULATION FOR SYPHILIS IN 1930 AMONG A POPULATION OF 11,740,561 PERSONS

Locality	Number of Cases			Rates per 1,000			
	Total	Early	Late	Total	Early	Late	Population
Oregon State	4,056	1,848	2,208	4.25	1.94	2.31	953,786
Up-State New York	25,524	10,752	14,772	4.41	1.86	2.55	5,787,805
Philadelphia, Pa.	19,344	7,980	11,364	9.37	3.87	5.50	2,064,200
Charleston, W. Va.*	2,508	1,440	1,068	41.52	23.84	17.68	60,411
New Orleans, La.	6,528	3,744	2,784	14.23	8.16	6.07	458,762
Dallas, Tex.	7,524	4,836	2,688	28.89	18.57	10.32	260,475
Birmingham, Ala.	7,344	2,556	4,788	28.28	9.84	18.44	259,678
Jefferson County, Ala. (exclusive of Birmingham)	1,872	996	876	10.90	5.80	5.10	171,815
Baltimore, Md.	8,460	3,972	4,488	10.51	4.93	5.58	804,874
Five counties in Maryland	1,224	636	588	4.64	2.41	2.23	263,482
14 communities—total	8,604	6,036	2,568	13.13	9.21	3.92	655,273
14 communities in detail							
Peoria, Ill.	1,320	840	480	12.57	8.00	4.57	104,969
Huntington, W. Va.	1,164	936	228	15.40	12.38	3.02	75,572
Wheeling, W. Va.	648	312	336	10.51	5.06	5.45	61,639
Decatur, Ill.	216	156	60	3.75	2.71	1.04	57,510
Lexington, Ky.	1,572	1,236	336	34.37	27.02	7.35	45,736
Eldorado, Ark.	468	216	252	28.50	13.15	15.35	16,421
Paducah, Ky.	276	120	156	8.23	3.58	4.65	33,541
Texarkana, Ark.	468	360	108	17.10	13.15	3.95	27,366
LaSalle District, Ill.	60	60	.....	2.29	2.29	.....	26,180
Pike County, Ky.	504	432	72	7.97	6.83	1.14	63,267
Logan County, W. Va.	1,596	1,140	456	27.27	19.48	7.79	58,534
Morgan County, Ill.	12	.....	12	.35	.....	.35	34,240
Greenbrier County, W. Va.	72	24	48	2.01	.67	1.34	35,873
Scott County, Ky.	228	204	24	15.83	14.17	1.66	14,400
Total	92,988	44,796	48,192	7.92	3.82	4.10	11,740,561

*Exclusive of Charleston City Clinic cases for which data by stage of infection were not available.

veyed which had included in the questionnaire an inquiry into the incidence of the disease. Similar data have now been collected from 24 communities with a population of 11,740,561, or 9.4 per cent of the total population of continental United States. The urban population is proportionately higher than is desirable to be comparable with the division of the data into urban and rural for the country as a whole. However, the data here presented represent a fairly good distribution between rural and urban population, as well as geographical representation. In Oregon State, 49 per cent of the population surveyed is rural while in up-state New York there is about an equal division between rural and urban territory, ranging in population from small towns to cities of a half million. Most of the communities in the 14 studied have a high percentage of negroes which explains in a large degree the inflation in the case rates in these communities. In the original estimate based on the findings in Philadelphia alone, the information was confined to the rate per 1,000 persons reporting with early infections. It was felt that in this way at least a minimum of fresh infections occurring annually would be shown. It is indeed interesting that with more than five times the population resurveyed, including persons from rural areas as well as a large percentage of colored population, the composite rate for the incidence of fresh infections of syphilis is practically unchanged. These rates for early syphilis ranging from less than 1 per 1,000 population to 24 per 1,000 population give a resultant rate which very closely approximates that found in Philadelphia and thus gives added weight to the estimate of 423,000 cases of fresh infections each year based on the Philadelphia incidence data. It is also of interest that for every case of syphilis reporting for treatment in the early stages of the disease one case delays seeking treatment until the disease has reached at least the second year of infection. The seriousness of this neglect is reflected not only in the lessening of chances for cure for the infected individual but also in the greater danger to the community from the untreated resident syphilitics.

SUMMARY

A downward slope cannot be translated into successful efforts in the field of control of syphilis because of the large number of untreated, self-treated, and inadequately treated cases of syphilis which any renewed effort in the field of education or medicine in a community brings under treatment. The great variation in the changes in prevalence rates in the three year interim (1927-1930) in the 16 communities resurveyed emphasizes the validity of this statement.

The changed rate among the 16 communities comprising 7,000,000 population ranges from a downward trend of 4.4 per cent in the composite 14 smaller communities to an upward trend in two state wide resurveys of 15 to 18 per cent.

In 15 of the communities there was a definite increase in the early cases coming to treatment, which fact is probably the most encouraging finding in the resurvey. Regardless of how many additional fresh infections occur, the disease will eventually be brought under control if the populace can be educated to come early for treatment of syphilis and remain until the disease is rendered noninfectious. There is still much to be done in this direction for although there is an increase in the early cases coming to treatment there are still approximately one-half of the infected individuals who never seek treatment until the disease is in the late stages.

Based on the 1927 prevalence surveys of syphilis under the care of medical sources treating approximately 24,500,000 of the nation's population, it was estimated that there were 643,000 cases of syphilis constantly under treatment. Three years later a resurvey of the medical sources treating approximately 7,000,000 of the same population gave a wide difference in rates in the several communities. Based on the total findings of these prevalence surveys it is estimated that the syphilitic population constantly under medical care day by day changed from a possible decrease of 28,000 cases in the 14 rural communities, to a possible increase of 100,000 cases in up-state New York and Oregon in the three year period.

Some of the reasons for these variations have been attributed to the successful efforts of the health officers in getting more of the untreated or self-treated syphilitic population under treatment. In up-state New York the investigator claims that the increase is due to successful efforts in keeping syphilis patients under treatment for a prolonged period of time until the maximum benefits of treatment have been received, claiming that thus the increased patient population in clinics is due to an accumulation of cases.

An upward trend of the prevalence curve with either of these causes the determining factor would be most encouraging.

In the total resurveyed territory there was a 6 per cent increase in the case rates per 1,000 population among the early cases and a 14 per cent increase among the late cases.

The availability of free clinic facilities appears to carry with it higher prevalence rates.

The rural rates are not as high as the urban in the 14 communities surveyed.

The case rates for males are consistently higher throughout all communities than they are for females. It is interesting that although the case rate for females increased 26 per cent more than did the rate for males in the three year period, it is still one-third less than the present rate for males.

In 1930 in the 16 communities resurveyed, 62.5 per cent of the patients were in the hands of private physicians as compared with 37.5 per cent under treatment in public clinics. During the three year period there was a shifting of 7 per cent of the private practice cases to public clinics, probably due in large measure to the present economic depression.

The early cases of syphilis were 23.5 per cent of the cases of syphilis under treatment in public clinics and 31.3 per cent of those in private practice.

Data on the number of fresh infections reporting annually for treatment have been gathered from medical sources treating 9.4 per cent of the nation's population. The estimate based on Philadelphia alone made in 1929 is supported by the composite incidence rates in these 24 communities. Thus the estimated incidence of fresh cases reporting for treatment each year in continental United States is 423,000 cases. However, there is an equally large number who are also reporting for treatment each year for first time treatment of a late syphilitic infection.

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DISCUSSION (*Abstract*)

Dr. Hugh J. Morgan, Nashville, Tenn.—The work that has been carried on by Drs. Parran, Clark, Usilton and associates in the United States Public Health Service is of the greatest importance. As a result of their data we are able to arrive at a fairly accurate estimate of the volume of syphilis in the United States. Before their reports became available there was no reliable information on the subject. This paper is but one of a series of extremely important communications.

Dr. D. C. Smith, University, Va.—The increased number of cases of syphilis under treatment in this country during the last several years may cause one to feel pessimistic about the disease. The increased number of cases under treatment is, however, thought due to an improvement in the discovery of cases with syphilis.

The efforts in regard to the handling of syphilis in this country since the World War have been just about sufficient to care for the average number of new cases. As the proportion of preventive measures increases beyond the point at which the above situation occurs the trend of syphilis will be downward. Whenever the point is reached where the decrease begins to occur then a very slight increase in the effort of eradication will accelerate the decrease in the disease.

OCULAR NEUROPATHIES AND AMAUROSES IN MENINGOCOCCIC MENINGITIS*

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During the past few years a large number of cases of epidemic cerebrospinal meningitis have occurred in and around the City of Memphis. The majority of these cases were treated in the Isolation Department of the Memphis General Hospital. A report[1] on the eye findings in the early part of the epidemic was read before this Section in 1930. Since May 1, 1930, I have examined the eyes of all cases except some of those who died within a few hours of admission. The total number of these patients whose eyes I have studied amounts to 184. A few

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