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RELATION OF PHYSICAL DEFECTS TO THE PHYSICAL GROWTH OF CHILDREN OF 21 STATES[1]

Physical Measurement Studies No. 3

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Over a half-century ago Bowditch (*1*) called attention to the importance of securing measurements relating to the physical growth of large numbers of children by enumerating some problems the investigation of which required such data. He mentioned geographic location, season, rural and urban residence, economic status, occupation, mode of life, and normal dental processes as factors to be studied in relation to growth, and particularly referred to the relationship of certain diseases of childhood to the rapid growth characteristic of early life. He pointed out, for example, that enlarged cervical glands and measles had been observed to be associated with decreases in weight before the appearance of more unequivocal signs; at the same time Bowditch cautioned that arrest of growth in weight or loss in weight in a growing child is not always a sign of approaching disease, since the weight of a healthy child fluctuates within ascertainable limits.

Since the appearance of the above-mentioned paper a voluminous literature dealing with its subject has accumulated. It is sufficient to add that Robertson (*2*), in 1916, reported that in a group of 8-year old children the presence of adenoids was related to decreased height and weight, and that Peller (*3*) more recently concluded from a study of girls, 13 to 15 years of age, that normal tonsils regulate physical growth by means of some hormonal factor.

In this, the third paper of the series, it is purposed to obtain some knowledge concerning the relation between physical defects in school children and their physical growth, rate of physical growth, and their body form, respectively, so far as it is determinable from the recorded results of examinations for physical defects and the records of certain physical measurements.

MATERIAL AND METHOD

Data collected by three officers of the United States Public Health Service in connection with the physical measurement of 28,674 white children, ages 6 to 15 years, in 21 States, afford material for the study

[1] From the Office of Child Hygiene Investigations, U. S. Public Health Service. The collected data on which the Physical Measurement Studies are based were edited, coded, and transferred to punch cards several years ago during the assignment of Dr. S. D. Collins to this office. Furthermore, many tabulations and computations were made at the same time. The author is indebted to Dr. Collins for placing all of this material at his disposal. The other papers of the series are mentioned in the list of references.

of the proposed question.[2] The geographic distribution of the children by State and community, the number measured, the dates of measurement, the methods of making the measurements, and other pertinent information are given in the previous papers (*4*, *5*) of the series and will not be repeated here.

The anthropometric measurements dealt with in the present report are seven in number and include body weight, standing and sitting heights, chest circumference, anteroposterior and transverse chest diameters, and vital capacity. In addition, the following four computed indexes of body form are employed:

$$\text{Weight-height (lbs. per in. of height)} = \frac{\text{mean weight in pounds,}}{\text{mean height in inches}}$$

$$\text{Trunk-length, percent} = \frac{100\ (\text{mean sitting height in inches}),}{\text{mean standing height in inches}}$$

$$\text{Thoracic, percent} = \frac{100\ (\text{mean anteroposterior chest diameter in cms.}),}{\text{mean transverse chest diameter in cms.}}$$

$$\text{Chest-height, percent} = \frac{100\ (\text{chest circumference in inches}).}{\text{standing height in inches}}$$

The population measured is homogeneous in several respects: The children are native-born of white native-born parents and grandparents; excepting a few measured in the West, all lived in large urban areas, and none seriously ill is included, since all were attending school. Moreover, grossly defective or crippled children are excluded.

Almost one-half of the population measured, however, had physical defects of some kind recorded for it. These defects had been observed in the majority of the children by the local school medical officers shortly before the physical measurements were made, and were accepted and recorded by the medical officers of the Public Health Service as defects existing at the time of measuring. Those children who had not been previously examined for defects were examined for them by the officers making the measurements.

Nothing is known regarding the completeness of the examinations for defects nor the accuracy with which they were made in the various communities. For example, less than 33 percent of the children measured and examined were recorded as having carious teeth, alone, or in combination with other defects. This percent is remarkably low when compared with the findings of a recent dental survey of school children (*6*), and probably means that dental mouth mirrors and explorers were infrequently used or not used at all, and that

[2] The children were distributed, according to the officer making the measurements, as follows: Dr. Viola R. Anderson, 1,943; Dr. E. Blanche Sterling, 9,377, and Dr. M. V. Veldee, 17,354. The 21 States are: Maine, New Hampshire, Vermont, Massachusetts, Connecticut, New York, New Jersey, Pennsylvania, Minnesota, Wisconsin, Michigan, Indiana, Illinois, Texas, Louisiana, Arkansas, Tennessee, Kentucky, Missouri, Utah, and Nevada. The small number of 15-year old children measured are omitted from this paper.

pits and fissures were generally not included in the definition of dental caries. The results of the examinations, therefore, are probably of little value for precise epidemiological purposes, but it may be reasonably assumed that the records of the presence of defects are of sufficient accuracy and completeness for the purposes of the present study. Indeed, a classification of the children into "defectives" and "nondefectives" based on these records is probably more likely in this instance to yield significant results than one based on meticulous examinations leading, as they would, to the discovery of more defects in their early stages of development, and more defects of a transitory nature.

In the matter of definitions no attempt will be made to define generally a defect nor any particular defect. Table 1 is included to show the composition of the defective group. The particular defects are arranged according to the frequency of their occurrence, the one occurring most frequently appearing first. Thus, carious teeth, alone, were recorded as present in 58 percent of the defective group, defective tonsils or adenoids in 14 percent of the group, and so on. The large sex difference for the categories involving goiter is in harmony with the observations reported by Olesen (*7*), and Collins (*8*, p. 68).

TABLE 1.—*Children, ages 6 to 14, with recorded defects, classified according to specified defects*

Defect	Number			Percent		
	Both sexes	Boys	Girls	Both sexes	Boys	Girls
Defective (total)	12,717	6,326	6,391	100.00	100.00	100.00
Carious teeth only	7,387	3,892	3,495	58.09	61.52	54.69
Defective tonsils or adenoids	1,796	896	900	14.12	14.16	14.08
Defective tonsils or adenoids and carious teeth	1,138	601	537	8.95	9.50	8.40
Goiter	422	27	395	3.32	.43	6.18
Defective vision or other eye defect or disease	385	165	220	3.03	2.61	3.44
Defective vision or other eye defect or disease and carious teeth	276	142	134	2.17	2.24	2.10
Enlarged cervical or submaxillary glands and carious teeth	225	124	101	1.77	1.96	1.58
Enlarged cervical or submaxillary glands	141	75	66	1.11	1.19	1.03
Defective tonsils or adenoids, enlarged cervical or submaxillary glands and carious teeth	117	66	51	.92	1.04	.80
Goiter and carious teeth	92	6	86	.72	.09	1.35
Defective tonsils or adenoids, and enlarged cervical or submaxillary glands	64	36	28	.50	.57	.44
All other	674	296	378	5.30	4.68	5.91
Nondefective (total)	15,600	7,798	7,802	-------	-------	-------
Total, all children	28,317	14,124	14,193	-------	-------	-------

An attempt will be made to secure some information on the subject proposed by determining whether there is a difference between the physically defective group of children and the physically nondefective group with respect to, first, the means and yearly increments of the means, respectively, of the seven anthropometric measurements, and, second, the means of the four indexes of body form. All of the data are specific for sex and age.

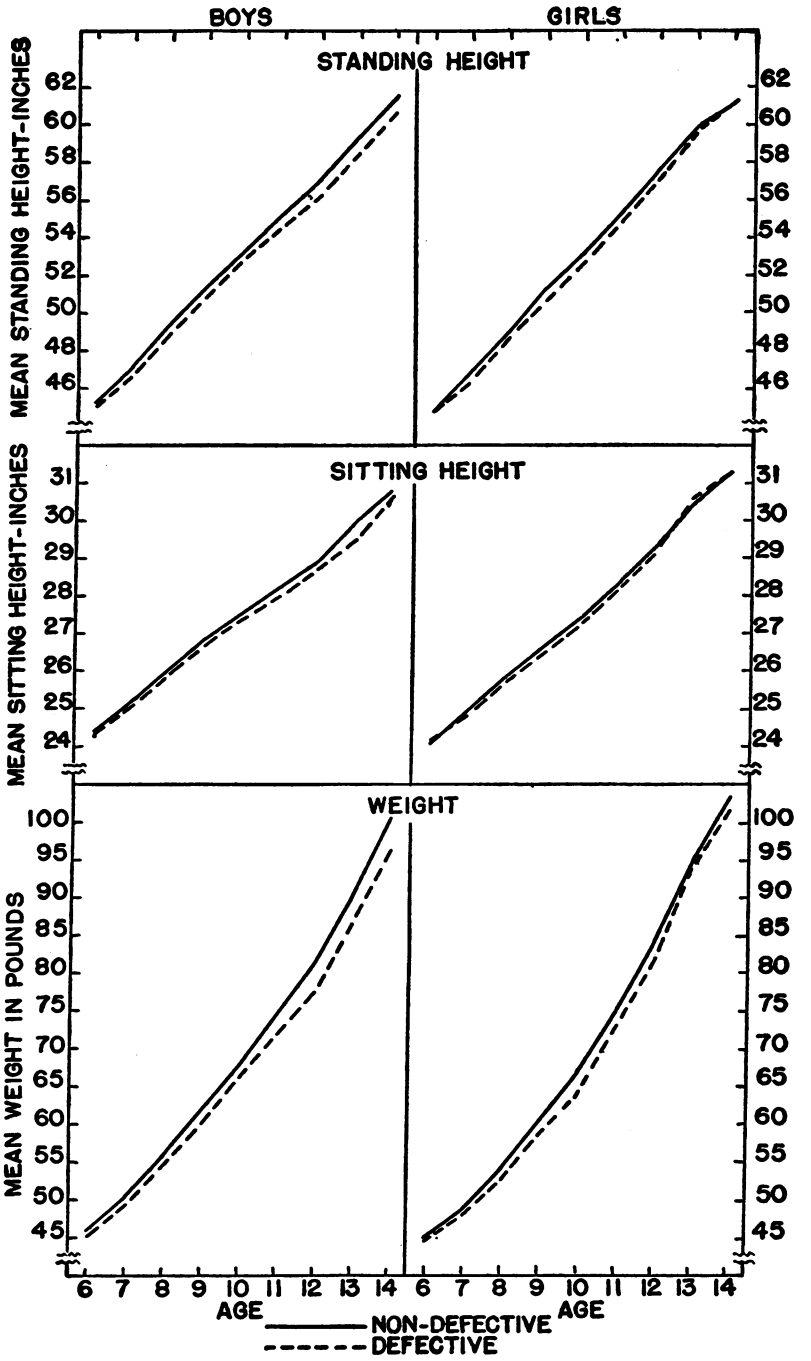

FIGURE 1.—Mean measurements of nondefective and defective children.

RESULTS

Growth of the nondefective and defective groups.—Table 2 presents for the two groups the sex-age specific means of the basic measurements and of the computed indexes of body form. The means for standing and sitting heights and for weight are shown graphically in figure 1. While the differences for both standing and sitting heights are small, the curves for the nondefective group are generally above the corresponding ones for the defective group. For the boys the differences for the two measurements are consistent; for the girls, on

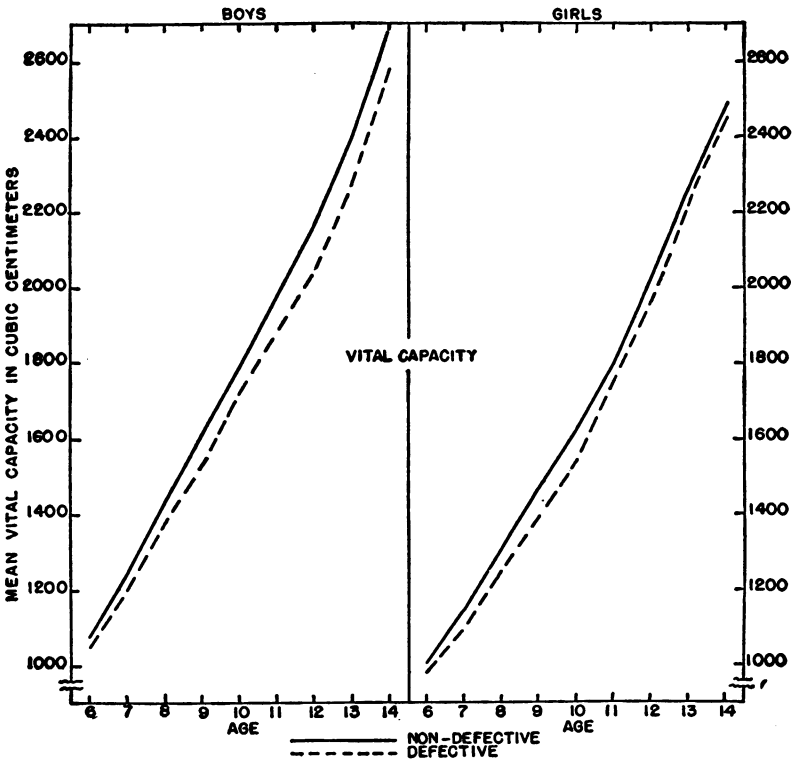

FIGURE 2.—Mean vital capacity of nondefective and defective children.

the other hand, the consistency is disturbed at both ends of the age range. There is evidence, however, to suggest that the nondefective group, on the average, is probably taller and has longer trunks. The differences with regard to weight are striking. The curves for both sexes of the nondefective group are consistently above those for the other group, the differences for the higher age groups lying in the neighborhood of 4 pounds for the boys and 2 pounds for the girls. With regard to vital capacity (fig. 2) the curves for the nondefectives of both sexes are again consistently above the corresponding curves for the defectives. The differences for the boys range from approximately 30 to 130 cubic centimeters, and for the girls, from 20 to 75.

The graphs of the three measurements dealing with chest circumference and the two chest diameters show no real differences for either sex as between the nondefective and defective groups and are omitted. It must be stated at this time, however, that when the States in which measurements were made are classified into a northeast, a north central, and a south central region, and the nondefective and defective groups within each region are compared, there is an indication that the nondefective group has, on the average, larger chests.[3]

TABLE 2.—*Mean measurements of nondefective and defective children*

[Defective group in *italics*]

Measurement and index	Age in years, nearest birthday								
	6	7	8	9	10	11	12	13	14
	Boys								
Weight, pounds	46.17	50.44	55.90	61.74	67.68	74.51	81.50	90.55	100.85
	45.36	*49.21*	*54.70*	*59.90*	*66.08*	*71.94*	*77.65*	*86.59*	*96.48*
Standing height, inches	45.28	47.28	49.49	51.59	53.41	55.39	57.18	59.35	61.47
	45.01	*46.84*	*49.07*	*51.00*	*53.00*	*54.68*	*56.27*	*58.46*	*60.74*
Sitting height, inches	24.38	25.15	26.03	26.82	27.54	28.23	28.92	29.84	30.84
	24.36	*25.06*	*25.98*	*26.71*	*27.41*	*28.04*	*28.72*	*29.52*	*30.70*
Chest circumference, inches	22.70	23.28	23.91	24.58	25.25	26.00	26.83	27.79	28.96
	23.09	*23.38*	*24.07*	*24.62*	*25.35*	*26.14*	*26.84*	*27.87*	*29.02*
Transverse chest diameter, centimeters.	18.88	19.42	20.01	20.59	21.17	21.80	22.47	23.24	24.12
	19.22	*19.54*	*20.13*	*20.73*	*21.31*	*21.99*	*22.65*	*23.54*	*24.54*
Anteroposterior chest diameter, centimeters.	14.15	14.47	14.69	15.04	15.42	15.84	16.29	16.86	17.60
	14.49	*14.55*	*14.81*	*15.15*	*15.48*	*15.95*	*16.29*	*16.96*	*17.72*
Vital capacity, cubic centimeters	1,076	1,241	1,430	1,614	1,785	1,975	2,167	2,405	2,694
	1,047	*1,197*	*1,378*	*1,525*	*1,721*	*1,881*	*2,044*	*2,273*	*2,583*
Weight over height, pounds per inch of height.	1.020	1.067	1.130	1.197	1.267	1.345	1.425	1.526	1.641
	1.008	*1.051*	*1.115*	*1.175*	*1.247*	*1.316*	*1.380*	*1.481*	*1.589*
Sitting height over standing height, percent.	53.83	53.19	52.59	51.99	51.56	50.96	50.58	50.29	50.17
	54.14	*53.51*	*52.83*	*52.39*	*51.71*	*51.28*	*51.04*	*50.49*	*50.55*
Anteroposterior chest diameter over transverse chest diameter, percent.	74.95	74.49	73.40	73.02	72.85	72.64	72.49	72.53	72.97
	75.38	*74.46*	*73.55*	*73.06*	*72.62*	*72.51*	*71.93*	*72.04*	*72.28*
Chest circumference over standing height, percent.	50.13	49.23	48.31	47.65	47.29	46.93	46.93	46.82	47.11
	51.30	*49.91*	*49.06*	*48.28*	*47.83*	*47.81*	*47.69*	*47.67*	*47.77*
	Girls								
Weight, pounds	45.25	48.95	54.26	60.47	66.94	75.18	84.17	94.90	103.67
	44.53	*48.21*	*52.62*	*58.77*	*64.26*	*73.03*	*81.90*	*94.20*	*101.87*
Standing height, inches	44.77	46.94	49.10	51.30	53.20	55.44	57.63	59.90	61.21
	44.85	*46.40*	*48.77*	*50.60*	*52.65*	*54.80*	*57.24*	*59.80*	*61.24*
Sitting height, inches	24.13	24.99	25.84	26.67	27.43	28.37	29.36	30.49	31.33
	24.23	*24.83*	*25.74*	*26.45*	*27.25*	*28.23*	*29.22*	*30.63*	*31.33*
Chest circumference, inches	22.08	22.69	23.33	24.11	24.87	25.81	26.78	27.92	28.78
	22.58	*23.02*	*23.42*	*24.17*	*24.89*	*26.06*	*27.01*	*28.17*	*28.96*
Transverse chest diameter, centimeters.	18.37	18.84	19.41	20.02	20.60	21.34	22.01	22.86	23.47
	18.79	*19.16*	*19.56*	*20.09*	*20.72*	*21.56*	*22.27*	*23.07*	*23.69*
Anteroposterior chest diameter, centimeters.	13.72	14.00	14.33	14.72	15.19	15.69	16.38	17.13	17.77
	13.99	*14.18*	*14.45*	*14.81*	*15.28*	*15.94*	*16.55*	*17.41*	*17.88*
Vital capacity, cubic centimeters	1,004	1,144	1,311	1,471	1,624	1,802	2,034	2,272	2,486
	982	*1,098*	*1,255*	*1,395*	*1,549*	*1,755*	*1,971*	*2,253*	*2,440*
Weight over height, pounds per inch of height.	1.011	1.043	1.105	1.179	1.258	1.356	1.460	1.584	1.694
	0.993	*1.039*	*1.079*	*1.162*	*1.221*	*1.333*	*1.451*	*1.576*	*1.663*
Sitting height over standing height, percent.	53.90	53.25	52.63	51.98	51.55	51.16	50.94	50.91	51.19
	54.02	*53.51*	*52.78*	*52.28*	*51.76*	*51.52*	*51.05*	*51.23*	*51.15*
Anteroposterior chest diameter over transverse chest diameter, percent.	74.65	74.32	73.84	73.53	73.73	73.51	74.43	74.93	75.70
	74.46	*74.03*	*73.89*	*73.71*	*73.73*	*73.94*	*74.51*	*75.44*	*75.50*
Chest circumference over standing height, percent.	49.32	48.33	47.51	47.00	46.75	46.56	46.47	46.61	47.01
	50.33	*49.62*	*48.02*	*47.76*	*47.27*	*47.55*	*47.18*	*47.11*	*47.29*
NUMBER OF CHILDREN									
Boys	524	727	785	848	836	986	1,079	1,123	890
	398	*873*	*894*	*965*	*862*	*749*	*655*	*523*	*427*
Girls	506	740	796	858	959	989	1,075	1,030	849
	460	*808*	*856*	*922*	*813*	*729*	*661*	*627*	*515*

[3] The western region represented by Nevada and Utah is omitted because of the relatively small number of children measured there. The relation of physical defects to physical growth in different geographic regions will be considered in the next paper of the series. [Am. Jour. Hyg., 23: 205–215 (1936)].

A consideration of the graphical presentation (fig. 3) of the four mean indexes follows. With the exception of the index expressing relative chest depth or what percent the anteroposterior chest di-

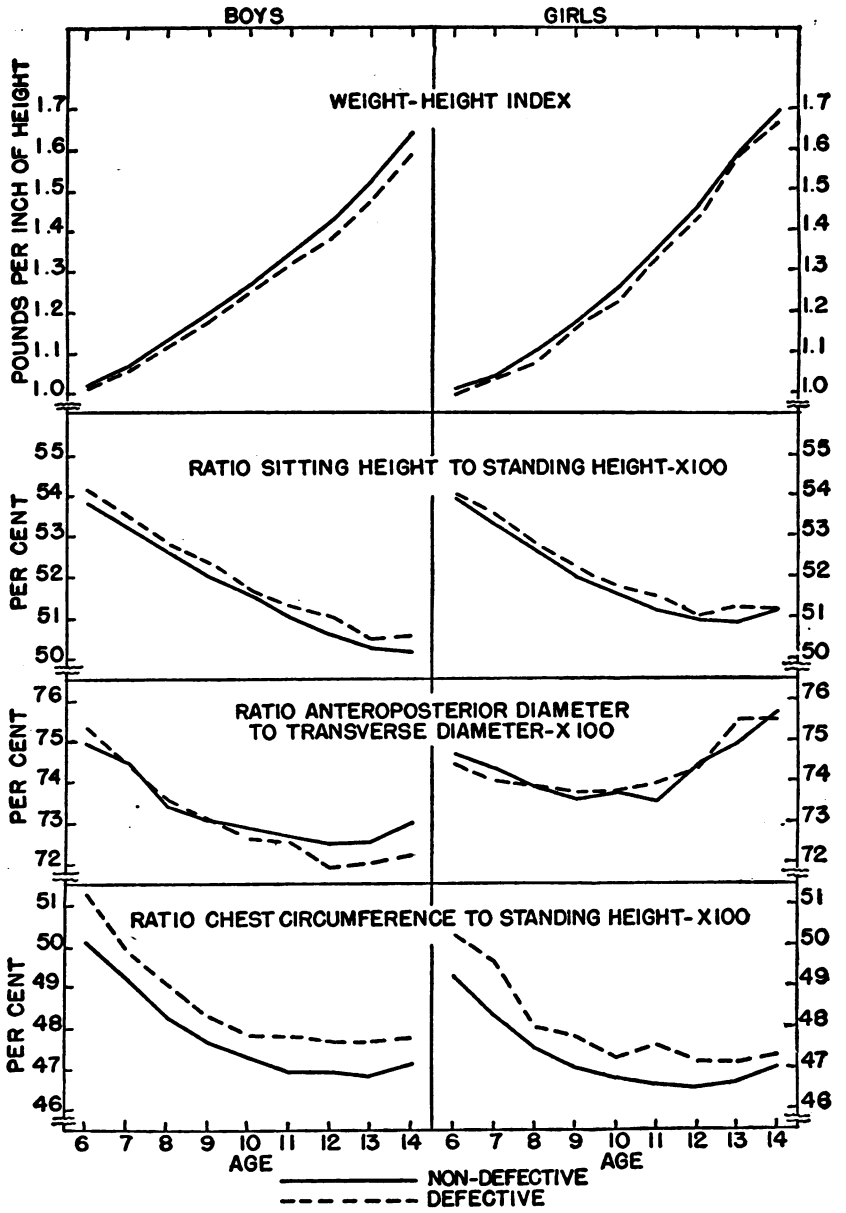

FIGURE 3.—Mean indexes of body form of nondefective and defective children.

ameter is of the transverse chest diameter, all indexes for one group, for both sexes, are consistently above or below the corresponding indexes for the other group. The actual differences between the two groups of children are all small.

Thus the weight-height index in pounds per inch of height is consistently larger for both sexes of the nondefective group, the differences being not more than 0.05 pound per inch of height. The

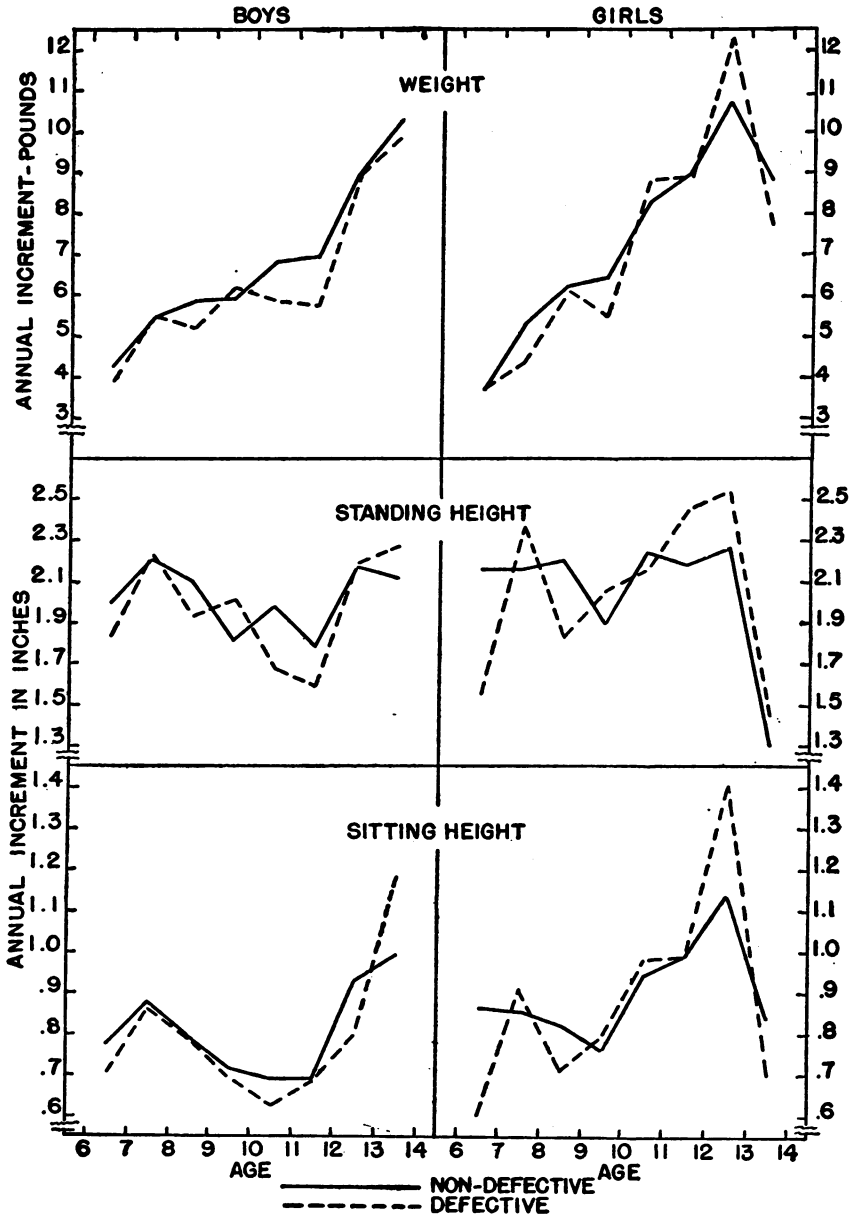

FIGURE 4.—Mean annual increments of growth of nondefective and defective children.

children of the nondefective group are, therefore, on the average, stockier than those of the defective group. The index of relative trunk length, or the percent that the sitting height is of the standing

height, is smaller for both sexes of the nondefective group, the differences being generally less than 0.4 percent. The nondefective group has, therefore, on the average, relatively short trunks. The curves of the index of relative chest depth, as referred to above, show

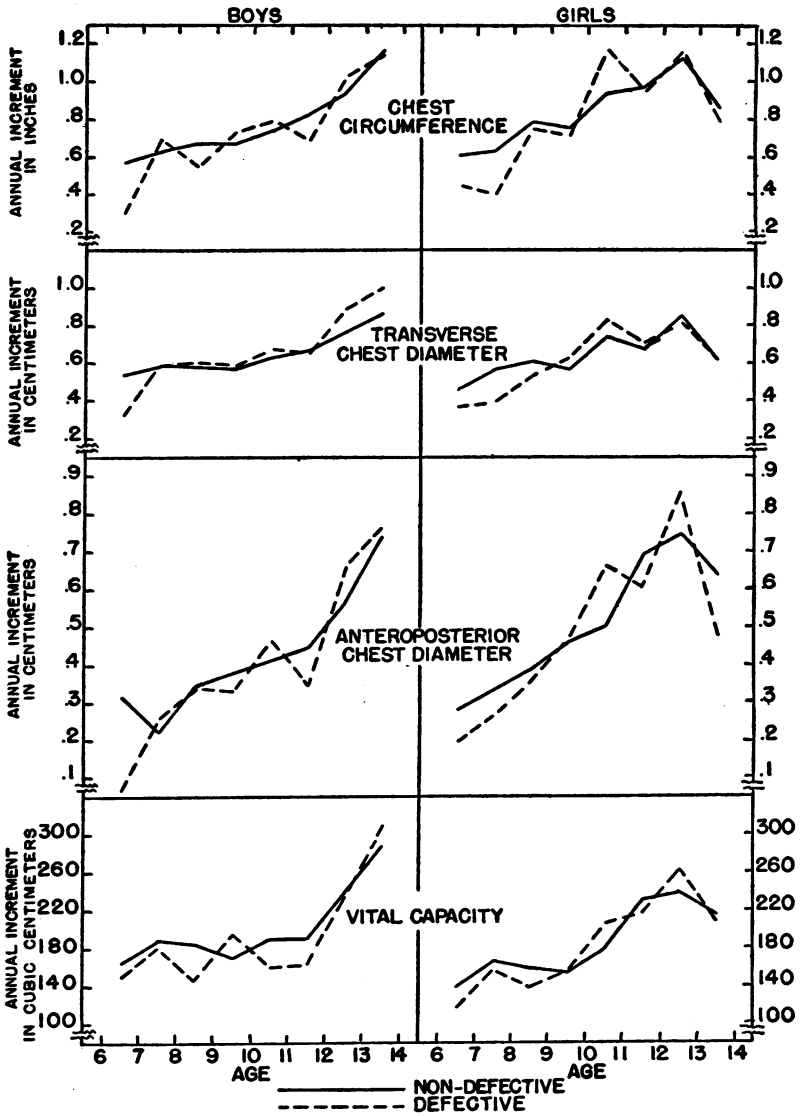

FIGURE 5.—Mean annual increments of growth of nondefective and defective children.

no consistent differences for either sex. In other words, with respect to relative flatness or relative thickness of the chest, the two groups are probably not different. The index expressing chest circumference in relation to height is for both sexes, on the average, consistently

smaller for the nondefective group. None of the differences for either sex is much over 1 percent.

Rate of growth of the nondefective and defective groups.—The differences between pairs of mean measurements of successive age groups are given in table 3 and shown graphically in figures 4 and 5. None of the graphs shows consistent differences as between the nondefective and defective groups. The material, therefore, presents no definite evidence of differences in rates of growth as between the two groups with respect to weight, standing and sitting heights, chest circumference, transverse and anteroposterior chest diameters, and vital capacity.

TABLE 3.—*Mean annual increments in the measurements of nondefective and defective children*

[Defective group in *italics*]

Measurement	Age interval							
	6–7	7–8	8–9	9–10	10–11	11–12	12–13	13–14
	Boys							
Weight, pounds	4.268	5.456	5.846	5.934	6.827	6.995	9.047	10.307
	3.846	*5.486*	*5.202*	*6.184*	*5.858*	*5.707*	*8.958*	*9.897*
Standing height, inches	1.998	2.206	2.102	1.816	1.984	1.786	2.172	2.120
	1.835	*2.227*	*1.929*	*2.007*	*1.675*	*1.589*	*2.197*	*2.273*
Sitting height, inches	.771	.878	.794	.716	.690	.690	.928	.995
	.700	*.860*	*.790*	*.694*	*.629*	*.685*	*.798*	*1.185*
Chest circumference, inches	.573	.633	.672	.673	.743	.837	.955	1.169
	.291	*.693*	*.551*	*.732*	*.788*	*.694*	*1.035*	*1.145*
Transverse chest diameter, centimeters	.542	.592	.580	.577	.636	.665	.772	.876
	.324	*.586*	*.600*	*.584*	*.679*	*.659*	*.885*	*1.002*
Anteroposterior chest diameter, centimeters	.317	.222	.349	.385	.417	.449	.569	.741
	.064	*.254*	*.340*	*.333*	*.469*	*.345*	*.662*	*.768*
Vital capacity, cubic centimeters	164.8	189.1	184.7	170.5	190.5	191.5	238.5	288.5
	149.9	*180.4*	*147.1*	*196.2*	*160.1*	*162.7*	*229.2*	*309.9*
	Girls							
Weight, pounds	3.701	5.311	6.211	6.464	8.244	8.988	10.729	8.774
	3.677	*4.408*	*6.153*	*5.492*	*8.766*	*8.873*	*12.902*	*7.662*
Standing height, inches	2.166	2.165	2.202	1.898	2.242	2.187	2.266	1.309
	1.548	*2.372*	*1.828*	*2.048*	*2.150*	*2.444*	*2.544*	*1.459*
Sitting height, inches	.862	.853	.822	.760	.940	.990	1.137	.840
	.693	*.909*	*.714*	*.796*	*.983*	*.989*	*1.405*	*.701*
Chest circumference, inches	.606	.639	.787	.757	.943	.969	1.133	.860
	.446	*.401*	*.746*	*.719*	*1.170*	*.948*	*1.162*	*.793*
Transverse chest diameter, centimeters	.462	.578	.611	.574	.745	.669	.851	.608
	.373	*.395*	*.529*	*.635*	*.857*	*.710*	*.805*	*.615*
Anteroposterior chest diameter, centimeters	.283	.336	.390	.462	.504	.693	.749	.636
	.195	*.265*	*.356*	*.471*	*.663*	*.607*	*.860*	*.477*
Vital capacity, cubic centimeters	140.0	167.1	159.2	153.6	178.0	231.9	237.9	213.6
	116.6	*156.7*	*139.9*	*154.3*	*205.9*	*215.7*	*262.2*	*207.2*

SUMMARY

The purpose of this paper, the third of the series, is the comparison of the physical growth and the rate of physical growth, respectively, of two groups of elementary school children, one group being without

and the other with physical defects. The comparison is made with respect to, first, seven physical measurements; second, the annual increments of the measurements; and, finally, four computed indexes of body form. The defects include, principally, carious teeth, defective tonsils and adenoids, goiter, enlarged cervical and submaxillary glands, and defective vision. The physical measurements are body weight, standing and sitting heights, chest circumference, transverse and anteroposterior chest diameters, and vital capacity. The indexes are weight over height, sitting height over standing height, anteroposterior chest diameter over transverse chest diameter, and chest circumference over standing height. All of the measurements are specific for sex and age.

The material for the study is furnished by the records of physical examinations and physical measurements of approximately 30,000 elementary school children of 21 States. The parents and grandparents of the children were all white native-born. Almost one-half of the children had one or more recorded physical defects.

While the actual differences in the mean physical measurements between the two groups of children were found generally to be small, they are, with one or two exceptions, in the same direction for both sexes. Thus the nondefective group is, on the average, taller and heavier and has longer trunks and greater vital capacity. The indexes showed the nondefective group to be stockier; in relation to height, the nondefectives have short trunks and small chest girths. The two groups showed no consistent differences between them in their rate of growth as measured by mean annual increases in each of the seven physical measurements.

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DISTRIBUTION AND HOSTS OF THE HUMAN FLEA, *PULEX IRRITANS* L., IN MONTANA AND OTHER WESTERN STATES[1]

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With the recent recognition of sylvatic plague in Montana and Oregon, data on the distribution and host relationships of fleas in these States, particularly those species known to attack man, assume a new interest. For this reason, the authors have prepared and present here records, most of them obtained recently, of the human flea, *Pulex irritans* L., which show its definite association with a plague-susceptible native rodent, wild carnivores, game animals, and household pets within these States.

P. irritans has been recorded by Ewing (1931) from Wyoming (no host or locality data) and by Jordan and Rothschild (1908) from Alberta, Canada, which border Montana on the south and north, respectively. The Alberta specimens were from the swift fox, *Vulpes velox*, and the wild cat, *Lynx* sp.

In July 1935, a single male flea collected from a prairie dog, *Cynomys ludovicianus* (Rodentia: Sciuridae) in Jefferson Canyon, Broadwater County, Mont., March 1934, by Jellison and William Rush, of the United States Biological Survey, was identified as *P. irritans* by B. J. Collins, of the Zoological Division, National Institute of Health. This was the first record of this species in Montana.

In order to verify this finding, 10 additional prairie dogs from well separated points in the dog town were examined on August 16, 1935. Of the 140 fleas collected, 124 were *P. irritans*, some on each animal. Only 16 were the true prairie dog flea, *Opisocrostis hirsutus* (Baker).

This prairie dog town, probably the most western in Montana, extends from the Jefferson River bridge at Three Forks north for several miles and west along the Jefferson River for at least 15 miles. There are but few ranches within the dog-town limits, and the quite heavy infestation observed can hardly be attributed to accidental parasitism by fleas dropped from domestic dogs or other hosts, but is due, rather, to well-established infestations of the burrows and nests of the rodents.

One male *P. irritans* was collected on W. L. J. near Dillon, Beaverhead County, Mont., in July 1935, and probably came from a ranch dog.

Through the cooperation of R. E. Bateman, district agent of the United States Biological Survey, a number of collections of fleas, taken in various parts of Montana from domestic dogs and coyotes (*Canis latrans*) by predatory animal trappers, have been received. Most of

[1] Contribution from the Rocky Mountain Laboratory, U. S. Public Health Service, Hamilton, Mont.

these fleas were *P. irritans*, and they furnish the following Montana records for 1935: Dog and coyote, Powell County, August; dog and coyote, Petroleum County, August; coyote, Glacier County, August, October, and November; dog and coyote, Bighorn County, September; coyote, Lake County, October; coyote, Yellowstone County, October; dog and coyote, Treasure County, October; dog, Powder River County, October; dog and coyote, Meagher County, November; dog and coyote, Prairie County, December. One vial of coyote fleas contained 191 specimens.[2]

The above records show that *P. irritans* is well established in many parts of Montana on native hosts as well as on dogs. The accompanying map shows the known distribution of the species within the State.

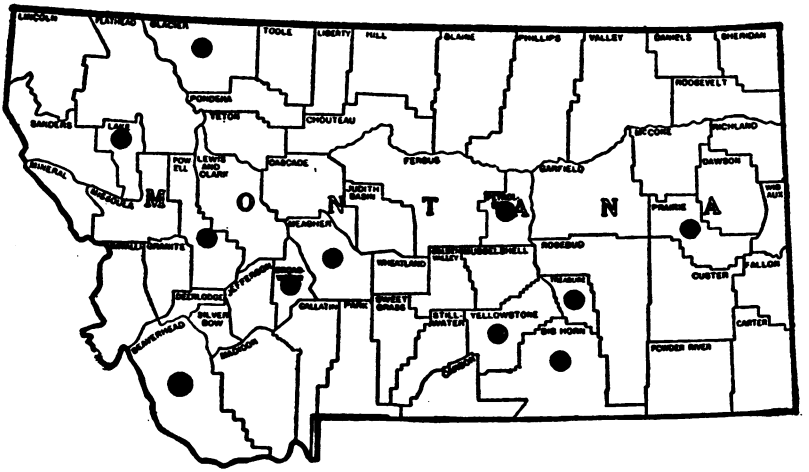

FIGURE 1.—Locality records of *Pulex irritans* L. in Montana.

That this flea may occur frequently on coyotes in other western States is suggested by three collections from this host made by Kohls —one at Sanford, Colo., May 1932 (1 specimen); one in Josephine County, Oreg., August 1935 (2 specimens); the other in the vicinity of Desert Center, Riverside County, Calif., September 1935 (25 specimens).

A deer (*Odocoileus* sp.) killed September 22, 1935, in the Siskiyou National Forest in the extreme northeastern part of Curry County, Oreg., was found heavily flea-infested when examined several hours after death by two members of the Civilian Conservation Corps, who were collecting ticks and other parasites under direction of the United States Public Health Service Rocky Mountain Laboratory. Specimens received at the laboratory were identified as *P. irritans*. Forest

[2] Since this paper was prepared and submitted for publication, the following additional Montana collections have been identified as *P. irritans:* From a coyote, Madison County, 1936; a large series of gravid females from coyote dens, Glacier County, May 1936; and a previously unidentified collection made in July 1916 from a coyote in Powder River County by R. R. Parker and R. W. Wells.

rangers and other residents of the region report that deer are frequently heavily flea infested. The only prior record of *P. irritans* on this host is that of Chandler (1926), who states that F. C. Clarke found them in considerable numbers on *Odocoileus columbianus* in northern California.

The possibility that this flea might be associated with burrowing animals was suggested by Ewing (1931). In this paper Ewing listed all available records of *P. irritans* in the United States. In a group of six contiguous western States the species had been found in only two, and these were each represented by a single record. On the basis of these data he concluded that the species was of rare occurrence in the region comprised of the Great Basin and Rocky Mountains.

It seems likely, however, in view of the diverse host data and the number of locality records which we have obtained in a relatively brief period, that *P. irritans* has been a well-established species in this region for some time and that further field studies will increase the list of host animals and add extensively to the locality data.

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Chandler, A. C.: Animal parasites and human diseases, p. 414 (1926).
Ewing, H. E.: Some factors affecting the distribution of and variation in North American ectoparasites. The American Naturalist, vol. 65, pp. 360–369 (1931).

POOLED-FLEA INOCULATIONS REVEAL PLAGUE-INFECTED AREAS IN CALIFORNIA

In a letter, dated June 10, to Dr. W. M. Dickie, executive officer of the California State Department of Health, Dr. K. F. Meyer, director of the Hooker Foundation for Medical Research, University of California, reports that plague infection has been proved in certain areas in Modoc and Ventura Counties, Calif., by the method of pooled-flea inoculation of guinea pigs, described by Surg. C. R. Eskey in the Public Health Reports for June 12, 1936 (p. 786).

Doctor Meyer states that, owing to a shortage of guinea pigs in the laboratory, the batches of fleas sent in from the field in buffer salt solution were kept in the refrigerator for varying periods of time before inoculating them into guinea pigs. Three general pools of fleas collected from ground squirrels were found positive for plague, as follows: (1) 1 batch of 71 fleas and another batch of 44 fleas from 2 different ranches in Modoc County—guinea pig inoculated June 3 died of acute septicemic plague on June 8; (2) 9 different collections from Ventura County, pooled and inoculated into a guinea pig on June 3; animal died of acute septicemic plague on June 9; (3) 33 fleas from 104 squirrels anatomically free from plague, from 3 dif-

ferent regions in Modoc County, pooled and inoculated into a guinea pig on June 3. Animal died of acute septicemic plague on June 10.

Dr. Meyer makes the following comment regarding the application of the method of pooled-flea inoculation in determining plague infection:

"These observations leave no doubt that the method developed by Doctor Eskey is exceedingly valuable and should be more universally used. I personally feel that we should give the matter considerable thought. It is not unlikely that dogs might be prominent disseminators."

THE CHICAGO OUTBREAK OF AMEBIC DYSENTERY IN 1933 [1]

An epidemic of amebic dysentery had its origin in Chicago during the summer and fall of 1933. This was the first recognized water-borne outbreak, and the only known extensive epidemic of this disease in a civilian population.

During the period of the epidemic there were approximately 8,500,000 out-of-town visitors to Chicago, with resulting unusual congestion of downtown hotels and public eating places. Chiefly involved in the epidemic were two neighboring large downtown hotels. They had in part a common water supply. Incomplete reporting brought to light a total of 1,409 cases, of which more than two-thirds were in out-of-town visitors.

Only one focus was discovered which accounted for any considerable number of cases; namely, the two hotels. The infection was spread within the hotels from about June 1 to December 31, 1933, with a particularly high incidence late in June, during the latter half of August, and early in October. The incidence of carriers was high among employees of the two hotels.

The two major points of possible pollution which are considered to have resulted in water-borne infections in the hotels were as follows: (*a*) Two cross-connections in hotel X which joined an overhead sewer to condenser-water discharge pipes. This water, which had been first used for cooling purposes, was distributed throughout hotel X and to the upper floors of hotel Z. The pollution of this water would account for the observed parallelism of the incidence of infection in the two hotels. (*b*) An old, rotting, wooden plug in an overhead sewer which permitted leakage into the cooled drinking-water tank below. This would account for infections among guests and patrons only in hotel X, because this water system was limited to that hotel.

[1] A report on this outbreak has recently been issued by the Public Health Service as National Institute of Health Bulletin No. 166. The investigation was conducted jointly by representatives of the Board of Health of the city of Chicago, the Division of Water Purification, Bureau of Engineering, Department of Public Works of Chicago, and the United States Public Health Service.

Efforts were made to control the outbreak by the elimination of carriers of cysts of *E. histolytica* from among the food-handling staffs, but there is no evidence that these efforts were successful.

The measures required to prevent the recurrence of such an epidemic are the following: (*a*) Effective supervision of the installation of plumbing in new buildings and of changes in old ones; (*b*) reasonably frequent inspections of the water and sewage systems of buildings, especially of the older ones; (*c*) particular attention to the elimination of hazardous cross-connections, through preventing their installation and through detecting and removing existing ones.

Institutions serving the public, particularly those providing residence, meals, or beverages, should be encouraged, aided, and required to provide adequately for the protection of the public health. Properly trained sanitarians should more commonly be included in the personnel of such organizations.

DENTAL SURVEY OF ELEMENTARY SCHOOL CHILDREN OF 26 STATES

A report on a dental survey of approximately 1,500,000 elementary school children made in 1933–34 by the United States Public Health Service, in cooperation with the committee for dental health survey of the American Dental Association, has been recently published by the Public Health Service.[1] Of the total number, 1,356,435 white and 81,883 colored children were examined, each of which groups is approximately equally divided in respect of sex. The examinations were performed by about 8,000 practicing dentists in 648 counties of the following States: Arizona, California, Colorado, Florida, Georgia, Indiana, Iowa, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Nebraska, New Jersey, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, South Dakota, Tennessee, Utah, Virginia, West Virginia, and Wisconsin. In four of the participating States, namely, Indiana, Minnesota, New Jersey, and Tennessee, the attempt was made to examine as many of the children below the ninth grade as possible; the percentages examined, based on estimated populations, are 43, 45, 39, and 48, respectively. The number of children examined in the four States is approximately 1,000,000.

The bulletin consists primarily of tabulations with the data classified according to the community in which the examinations were made, color, sex, and the three age groups 6–8, 9–11, and 12–14 years. Communities with populations between 5,000 and 10,000, and communities with populations less than 5,000, however, are each combined by county.

[1] Dental survey of school children, ages 6–14 years, made in 1933–34 in 26 States, by C. T. Messner, W. M Gafafer, F. C. Cady, and H. T. Dean. Public Health Bul. No. 226, Government Printing Office, Washington, D. C., 1936.

The dental data deal with two major subjects, namely, (*a*) present dental needs and oral pathology, and, (*b*) past dental treatment; each tabulation corresponding to a community or group of communities further classifies the major subjects. Thus, under the first subject (*a*) are given the percent of the children needing treatment and prophylaxis, respectively; the percent with gingivitis; the percent with carious deciduous teeth; the number of caries of the deciduous teeth per 100 children; the percent with carious permanent teeth; the number of caries of the permanent teeth per 100 children; the percent with deciduous teeth that require extraction, and the number per 100 children; the percent with permanent teeth that require extraction, and the number per 100 children; the percent with slight and severe mal-occlusion, respectively; and the percent to which orthodontic treatment was recommended.

Under the second subject (*b*), namely, past dental treatment, are included the percent that had received dental treatment prior to the examination; the percent with a history of odontexesis; the percent with fillings in the deciduous and (or) permanent teeth; the percent with filled deciduous teeth, and the number per 100 children; the percent with filled permanent teeth, and the number per 100 children; and the percent with extracted permanent teeth together with the number per 100 children.

It is believed that the tabulations give an approximation of the oral conditions of a large cross-section of the elementary school population of the United States, and that a comparison of the observations from a particular area in respect of color, sex, or age will probably yield a suggestion of the influence of these factors on oral conditions.

It is impossible to summarize here the vast amount of data presented, but it will be of interest to examine the summations of the data for some of the items relating to dental needs as observed in the four States, Indiana, Minnesota, New Jersey, and Tennessee, where more than two-thirds of the examinations were made.

In all four States the percent of the white children needing dental treatment varies from 81 to 94; for the colored children of Tennessee, where the majority of the 81,883 colored was examined, the percent varies from 91 to 94. In general, the highest percents for each sex are associated with the children of the middle age group, 9 to 11 years. The boys of all age groups and of both colors show slightly higher percents than the girls of the corresponding groups.

The number of caries of the deciduous teeth per 100 white children of the age group 6 to 8 years, for example, varies from 151 to 194. The rates for the colored boys and girls of Tennessee are 109 and 102, respectively. In all four States the boys show slightly higher

rates than the girls. The number of deciduous teeth per 100 children of the same age group, the extraction of which was indicated, varies from 87 to 151. The rates for the colored boys and girls of Tennessee are 71 and 60, respectively. In the four States the boys show higher rates than the girls.

The number of caries of the permanent teeth per 100 white children of the age group 10 to 14 years, for example, varies from 210 to 309. For the colored boys and girls of Tennessee the rates are 126 and 136, respectively. In the four States the girls show higher rates than the boys. The number of permanent teeth per 100 children of the same age group, the extraction of which was indicated, varies from 12 to 57. The rates for the colored boys and girls of Tennessee are 18 and 19, respectively. With the exception of Indiana, where the rate for the boys is lower than that for the girls, the rates for the other three States are almost identical in respect of sex.

DEATHS DURING WEEK ENDED JUNE 6, 1936

[From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce]

	Week ended June 6, 1936	Corresponding week, 1935
Data from 86 large cities of the United States:		
Total deaths	8,316	8,154
Deaths per 1,000 population, annual basis	11.6	11.4
Deaths under 1 year of age	487	570
Deaths under 1 year of age per 1,000 estimated live births	44	52
Deaths per 1,000 population, annual basis, first 23 weeks of year	13.2	12.4
Data from industrial insurance companies:		
Policies in force	68,357,506	67,830,119
Number of death claims	12,721	13,156
Death claims per 1,000 policies in force, annual rate	9.7	10.1
Death claims per 1,000 policies, first 23 weeks of year, annual rate	10.8	10.5

PREVALENCE OF DISEASE

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring

UNITED STATES

CURRENT WEEKLY STATE REPORTS

These reports are preliminary, and the figures are subject to change when later returns are received by the State health officers

Reports for Weeks Ended June 13, 1936, and June 15, 1935

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended June 13, 1936, and June 15, 1935

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended June 13, 1936	Week ended June 15, 1935	Week ended June 13, 1936	Week ended June 15, 1935	Week ended June 13, 1936	Week ended June 15, 1935	Week ended June 13, 1936	Week ended June 15, 1935
New England States:								
Maine	1	1	-------	-------	172	260	0	0
New Hampshire	-------	-------	-------	-------	7	-------	0	0
Vermont	-------	1	-------	-------	158	16	0	0
Massachusetts	7	12	-------	-------	1,084	334	5	1
Rhode Island	2	2	-------	-------	22	472	1	0
Connecticut	-------	2	-------	1	213	667	2	0
Middle Atlantic States:								
New York	41	34	[1] 3	(1)	2,546	2,904	13	15
New Jersey	10	14	4	2	430	2,007	3	5
Pennsylvania	15	26	-------	-------	875	1,586	2	4
East North Central States:								
Ohio	16	24	29	53	725	1,927	5	6
Indiana	5	20	4	5	9	129	1	1
Illinois	59	61	22	34	26	1,068	6	10
Michigan	6	8	1	-------	75	2,356	3	2
Wisconsin	1	3	4	25	168	1,651	1	0
West North Central States:								
Minnesota	0	2	1	2	199	190	3	4
Iowa	2	16	-------	5	5	121	3	4
Missouri	18	13	22	54	14	195	3	6
North Dakota	-------	2	-------	-------	3	34	0	3
South Dakota	-------	2	-------	-------	-------	17	0	0
Nebraska	1	-------	3	-------	19	89	1	2
Kansas	3	13	1	17	14	321	0	0
South Atlantic States:								
Delaware	1	3	-------	-------	10	9	0	1
Maryland [2] [3]	6	5	1	2	333	98	3	9
District of Columbia [3]	7	2	-------	-------	125	30	3	0
Virginia [3]	9	4	-------	-------	81	183	4	10
West Virginia	4	13	11	26	95	213	6	4
North Carolina [4]	7	5	-------	2	25	56	5	5

See footnotes at end of table.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended June 13, 1936, and June 15, 1935—Continued

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended June 13, 1936	Week ended June 15, 1935	Week ended June 13, 1936	Week ended June 15, 1935	Week ended June 13, 1936	Week ended June 15, 1935	Week ended June 13, 1936	Week ended June 15, 1935
South Atlantic States—Continued.								
South Carolina [4]	6	1	25	56	30	18	3	0
Georgia [4]	7	3	----	----	----	----	1	0
Florida [4]	----	6	7	1	11	9	1	0
East South Central States:								
Kentucky [4]	5	2	11	3	16	179	3	1
Tennessee	8	6	8	5	11	21	3	2
Alabama [4]	3	7	6	30	----	66	4	0
Mississippi [3]	6	5	----	----	----	----	0	0
West South Central States:								
Arkansas	----	5	10	47	11	35	1	0
Louisiana	11	9	22	15	15	90	3	0
Oklahoma [4]	----	----	27	10	5	36	1	0
Texas [4]	25	20	78	31	125	22	0	4
Mountain States:								
Montana [3]	----	----	19	21	14	202	0	1
Idaho [3]	1	----	----	----	1	19	0	0
Wyoming [3]	----	----	----	1	----	5	0	0
Colorado	4	4	----	----	25	238	0	0
New Mexico	2	----	1	1	56	7	1	1
Arizona	5	1	8	----	70	7	0	1
Utah [3]	----	----	----	----	19	3	0	0
Pacific States:								
Washington	----	----	----	----	199	365	1	2
Oregon [3]	1	4	----	----	63	144	0	1
California	25	30	212	30	1,135	1,097	5	3
Total	330	391	540	479	9,239	19,498	100	108
First 24 weeks of year	12,453	14,715	138,082	101,610	238,920	641,383	5,253	3,403

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended June 13, 1936	Week ended June 15, 1935	Week ended June 13, 1936	Week ended June 15, 1935	Week ended June 13, 1936	Week ended June 15, 1935	Week ended June 13, 1936	Week ended June 15, 1935
New England States:								
Maine	0	0	7	21	0	0	1	1
New Hampshire	0	0	3	2	0	0	0	0
Vermont	0	0	7	2	0	0	0	0
Massachusetts	2	1	188	188	0	0	1	1
Rhode Island	0	0	23	5	0	0	2	0
Connecticut	0	0	62	77	0	0	1	2
Middle Atlantic States:								
New York	2	1	607	748	0	0	11	7
New Jersey	1	1	174	162	0	0	4	4
Pennsylvania	0	0	261	373	0	0	12	10
East North Central States:								
Ohio	0	1	270	446	0	4	8	9
Indiana	0	1	63	77	4	0	4	8
Illinois	1	2	431	950	19	2	6	4
Michigan	0	0	375	216	0	0	7	4
Wisconsin	0	1	361	365	5	3	1	0
West North Central States:								
Minnesota	0	2	150	220	3	7	2	11
Iowa	0	0	126	54	19	8	9	3
Missouri	1	0	85	28	80	2	5	7
North Dakota	1	0	21	34	9	1	0	0
South Dakota	0	0	26	5	27	7	0	0
Nebraska	0	0	39	9	12	15	0	0
Kansas	0	0	131	45	8	29	53	7
South Atlantic States:								
Delaware	0	0	3	4	0	0	1	0
Maryland [3] [3]	1	0	43	53	0	0	3	3
District of Columbia [3]	0	0	11	26	0	0	0	0
Virginia [3]	0	3	22	20	0	0	14	6

See footnotes at end of table.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended June 13, 1936, and June 15, 1935—Continued

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended June 13, 1936	Week ended June 15, 1935	Week ended June 13, 1936	Week ended June 15, 1935	Week ended June 13, 1936	Week ended June 15, 1935	Week ended June 13, 1936	Week ended June 15, 1935
South Atlantic States—Continued.								
West Virginia	0	0	20	37	0	0	6	7
North Carolina	2	57	15	21	0	1	4	16
South Carolina [4]	0	0	1	1	0	0	8	32
Georgia [4]	0	0	9	5	0	0	18	40
Florida [4]	2	0	5	1	0	0	2	15
East South Central States:								
Kentucky [4]	0	0	11	13	0	0	9	9
Tennessee	0	0	15	8	0	0	12	17
Alabama [4]	1	2	5	5	0	0	4	23
Mississippi [3]	0	1	7	7	0	0	3	9
West South Central States:								
Arkansas	0	0	4	3	0	0	4	8
Louisiana	2	7	----	5	1	0	13	16
Oklahoma [5]	0	0	21	4	0	1	10	3
Texas [4]	2	0	28	28	5	9	12	19
Mountain States:								
Montana [3]	0	0	49	8	12	7	1	0
Idaho [3]	0	1	5	9	0	0	2	0
Wyoming [3]	0	0	11	10	3	7	0	0
Colorado	0	0	49	126	0	2	0	0
New Mexico	0	0	44	6	0	0	6	0
Arizona	0	0	17	25	0	0	0	6
Utah [3]	0	0	24	75	3	0	0	0
Pacific States:								
Washington	0	0	43	36	2	29	2	2
Oregon [3]	0	0	29	15	16	2	2	2
California	2	20	261	155	0	10	10	10
Total	20	101	4,162	4,733	228	146	282	321
First 24 weeks of year	448	719	168,892	165,315	5,431	4,529	3,036	3,713

[1] New York City only.
[2] Week ended earlier than Saturday.
[3] Rocky Mountain spotted fever, week ended June 13, 1936, 20 cases, as follows: Maryland, 1; District of Columbia, 1; Virginia, 7; Montana, 4; Idaho, 2; Wyoming, 3; Oregon, 2.
[4] Typhus fever, week ended June 13, 1936, 20 cases as follows: North Carolina, 1; South Carolina, 2; Georgia, 5; Florida, 1; Kentucky, 2; Alabama, 7; Texas, 2.
[5] Exclusive of Oklahoma City and Tulsa.

SUMMARY OF MONTHLY REPORTS FROM STATES

The following reports of cases reported monthly by States is published weekly and covers only those States from which reports are received during the current week.

State	Meningococcus meningitis	Diphtheria	Influenza	Malaria	Measles	Pellagra	Poliomyelitis	Scarlet fever	Smallpox	Typhoid fever
April 1936										
Colorado	4	12	1	----	142	----	0	531	34	7
May 1936										
Arizona	12	12	257	13	770	1	1	125	0	10
Indiana	24	33	123	----	84	----	2	525	8	6
Maine	1	10	15	----	1,446	----	0	68	0	7
Michigan	13	33	9	10	465	----	5	1,259	2	18
Nebraska	3	8	5	----	179	----	0	486	82	0
New Jersey	15	46	21	6	2,190	----	1	1,184	0	9
New Mexico	3	16	40	3	226	4	1	239	0	9
Ohio	35	77	137	5	2,241	----	0	1,010	0	42
Pennsylvania	58	149	----	2	5,343	2	6	1,877	0	40
South Carolina	----	47	668	758	298	180	3	14	0	14
Wyoming	----	3	----	----	6	----	0	143	67	0

April 1936

	Cases
Colorado:	
Chicken pox	235
Epidemic encephalitis	2
Impetigo contagiosa	6
Mumps	504
Septic sore throat	3
Vincent's infection	1
Whooping cough	156

May 1936

	Cases
Chickenpox:	
Arizona	123
Indiana	132
Maine	120
Michigan	1,353
Nebraska	240
New Jersey	991
New Mexico	70
Ohio	1,046
Pennsylvania	1,931
South Carolina	53
Wyoming	23
Dengue:	
South Carolina	4
Diarrhea:	
Ohio (under 2 years, enteritis included)	7
South Carolina	402
Dysentery:	
Arizona	35
New Jersey (amoebic)	1
New Mexico (bacillary)	4
Ohio (bacillary)	1
Epidemic encephalitis:	
Arizona	2
New Jersey	2
New Mexico	2
Pennsylvania	3
South Carolina	4
German measles:	
Arizona	97
Maine	490
Michigan	2,156

May 1936—Continued

	Cases
German measles—Contd.	
New Jersey	1,164
New Mexico	10
Ohio	170
Pennsylvania	1,593
South Carolina	45
Hookworm disease:	
South Carolina	93
Lead poisoning:	
Ohio	18
Leprosy:	
Arizona	1
Mumps:	
Arizona	240
Indiana	314
Maine	707
Michigan	1,421
Nebraska	171
New Jersey	1,351
New Mexico	141
Ohio	877
Pennsylvania	2,104
South Carolina	282
Wyoming	82
Ophthalmia neonatorum:	
New Jersey	13
Ohio	71
Pensylvania	7
South Carolina	9
Paratyphoid fever:	
Michigan	1
South Carolina	1
Puerperal septicemia:	
Ohio	2
Rabies in animals:	
Indiana	68
Michigan	16
New Jersey	17
New Mexico	2
South Carolina	34
Rabies in man:	
Indiana	1
Rocky Mountain spotted fever:	
Wyoming	19

May 1936—Continued

	Cases
Septic sore throat:	
Arizona	1
Maine	4
Michigan	28
New Mexico	5
Ohio	165
Wyoming	5
Tetanus:	
New Jersey	1
Ohio	2
South Carolina	3
Trachoma:	
Arizona	50
New Jersey	1
New Mexico	1
Pennsylvania	2
Trichinosis:	
Pennsylvania	1
Tularaemia:	
Michigan	1
New Jersey	1
Undulant fever:	
Arizona	6
Maine	1
Michigan	10
New Jersey	6
Ohio	3
Pennsylvania	8
Vincent's infection:	
Maine	9
Michigan	22
Whooping cough:	
Arizona	64
Indiana	109
Maine	200
Michigan	1,642
Nebraska	70
New Jersey	504
New Mexico	51
Ohio	1,072
Pennsylvania	1,076
South Carolina	66
Wyoming	10

PLAGUE INFECTION IN LASSEN, MODOC, AND VENTURA COUNTIES, CALIF.

The Director of Public Health of California has reported positive findings for plague in two squirrels from Lassen County, Calif. One squirrel, received at the laboratory on June 4, 1936, was from a ranch 4 miles east and 2 miles south of Adin, and the other, received at the laboratory on June 9, was found 3 miles west of Adin.

Plague infection was found in fleas taken from squirrels found on ranches in Fandango Valley, Modoc County; Modoc National Forest, 37 miles west and 13 miles north of Alturas; 2 ranches approximately 39 miles west and 16 miles north of Alturas; and 9 collections of squirrels in Ventura County. For a description of the method used in determining plague-infection in fleas taken from squirrels found in Modoc and Ventura counties, see p. 844.

WEEKLY REPORTS FROM CITIES

City reports for week ended June 6, 1936

This table summarizes the reports received weekly from a selected list of 140 cities for the purpose of showing a cross section of the current urban incidence of the communicable diseases listed in the table. Weekly reports are received from about 700 cities, from which the data are tabulated and filed for reference.

State and city	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Smallpox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths all causes
		Cases	Deaths								
Maine:											
Portland	0	------	0	330	1	1	0	0	0	2	36
New Hampshire:											
Concord	0	------	0	0	1	1	0	1	0	0	10
Manchester	0	------	0	0	0	0	0	0	0	0	9
Nashua	0	------	--------	0	-------	0	0	-------	0	0	--------
Vermont:						4					
Barre	0	------	0	2	1	0	0	0	0	0	3
Burlington	0	------	0	68	0	0	0	0	0	8	14
Rutland	0	------	0	14	0	0	0	0	0	0	5
Massachusetts:											
Boston	2	------	1	310	14	67	0	9	0	32	233
Fall River	0	------	0	3	3	7	0	4	0	1	37
Springfield	0	------	0	1	0	6	0	1	0	0	31
Worcester	0	------	0	196	6	13	0	0	0	12	47
Rhode Island:											
Pawtucket	0	------	0	0	0	0	0	0	0	0	--------
Providence	0	------	0	15	7	13	0	3	0	1	64
Connecticut:											
Bridgeport	0	2	1	5	2	0	0	2	0	0	39
Hartford	1	------	0	4	2	1	0	2	0	6	42
New Haven	0	------	1	0	1	1	0	1	0	22	43
New York:											
Buffalo	0	------	0	134	14	34	0	5	0	3	144
New York	31	3	1	1,377	98	278	0	95	2	77	1,464
Rochester	0	------	0	0	2	0	0	3	0	0	62
Syracuse	0	------	0	49	4	15	0	0	0	28	53
New Jersey:											
Camden	1	------	0	13	3	3	0	0	0	2	35
Newark	1	1	0	17	5	42	0	5	0	24	114
Trenton	0	------	0	4	1	3	0	1	0	18	42
Pennsylvania:											
Philadelphia	1	2	2	454	19	65	0	25	1	46	419
Pittsburgh	4	3	3	8	11	123	0	11	0	28	189
Reading	0	------	0	14	0	3	0	1	0	7	21
Scranton	0	------	--------	0	-------	1	0	-------	0	0	--------
Ohio:											
Cincinnati	4	------	0	15	7	9	0	12	0	0	127
Cleveland	1	1	1	166	11	48	0	14	0	100	197
Columbus	0	3	3	0	5	6	0	3	0	8	87
Toledo	1	------	0	41	4	5	0	5	2	20	70
Indiana:											
Anderson	0	------	0	0	0	15	0	0	0	4	9
Fort Wayne	0	------	0	0	4	6	0	0	0	0	31
Indianapolis	1	------	1	2	8	19	0	3	0	18	99
Muncie	0	------	0	0	1	0	0	0	0	0	10
South Bend	0	------	0	0	1	0	0	0	0	3	16
Terre Haute	0	------	0	0	0	0	0	0	0	0	24
Illinois:											
Alton	0	------	0	0	1	6	0	0	0	6	11
Chicago	25	2	2	11	38	165	0	51	1	103	659
Elgin	0	------	0	0	0	1	0	0	0	1	14
Moline	0	------	0	0	1	1	0	0	0	2	6
Springfield	1	------	0	0	0	3	0	0	0	4	8
Michigan:											
Detroit	2	1	0	23	17	206	0	11	2	303	282
Flint	0	------	0	1	7	3	0	0	1	8	26
Grand Rapids	0	------	0	1	3	8	0	1	0	5	32
Wisconsin:											
Kenosha	0	------	0	0	0	6	0	0	0	0	10
Madison	0	------	0	5	2	4	0	1	0	4	28
Milwaukee	0	------	0	8	4	72	0	3	0	65	114
Racine	0	------	0	0	0	18	0	0	1	4	11
Superior	0	------	0	0	2	14	0	0	0	0	16
Minnesota:											
Duluth	0	------	0	6	2	24	0	0	0	12	28
Minneapolis	2	------	2	193	5	74	0	2	0	16	107
St. Paul	0	------	0	88	5	17	0	1	0	2	56

City reports for week ended June 6, 1936—Continued

State and city	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Smallpox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths, all causes
		Cases	Deaths								
Iowa:											
Cedar Rapids	1			0		3	0		0	7	
Davenport	0			0		6	0		0	0	
Des Moines	1			1		8	1		0	0	38
Sioux City	0			2		16	13		0	0	
Waterloo	0			0		12	0		0	0	
Missouri:											
Kansas City	10		1	1	7	42	0	7	0	0	126
St. Joseph											
St. Louis	9	3	0	7	6	37	0	11	1	10	166
North Dakota:											
Fargo	0		0	0	1	3	0	0	0	0	9
Grand Forks	0			0		0	0		0	0	
Minot	0		0	5	0	7	0	0	0	0	8
South Dakota:											
Aberdeen	0			1	0	7	0		0	1	
Nebraska:											
Omaha	7		0	9	7	19	13	0	0	1	54
Kansas:											
Lawrence	0		0	0	0	1	0	0	0	0	5
Topeka											
Wichita	1		0	0	2	4	0	0	0	0	30
Delaware:											
Wilmington	0		0	5	2	0	0	0	0	1	23
Maryland:											
Baltimore	4		0	233	13	23	0	10	0	39	190
Cumberland	0		0	0	3	0	0	0	0	0	13
Frederick	0		0	0	0	0	0	0	0	0	2
District of Col.:											
Washington	10		0	100	14	12	0	9	0	24	182
Virginia:											
Lynchburg	1		0	1	2	1	0	1	0	6	10
Norfolk	0	1	0	1	1	0	0	2	0	0	36
Richmond	0		2	1	3	15	0	1	1	0	46
Roanoke	1		0	0	0	0	0	2	0	1	17
West Virginia:											
Charleston	0	1	1	1	2	1	0	1	2	0	46
Huntington	0			0		2	0		0	0	
Wheeling	1		0	40	0	1	0	1	0	3	19
North Carolina:											
Gastonia	0		0	0	0	0	0	0	0	0	
Raleigh	0		0	0	2	0	0	3	1	2	15
Wilmington	0		0	0	0	0	0	0	0	0	9
Winston-Salem	1		0	0	1	0	0	3	0	0	15
South Carolina:											
Charleston	0	5	0	0	1	2	0	2	0	2	23
Columbia											
Florence	0		0	0	0	0	0	0	0	0	8
Greenville	0		0	2	0	0	0	0	0	0	2
Georgia:											
Atlanta	3	2	0	0	4	13	0	0	0	2	74
Brunswick	0		0	0	0	0	0	0	0	0	4
Savannah	0		0	1	1	2	0	3	1	0	33
Florida:											
Miami	0	1	1	4	0	0	0	2	1	2	25
Tampa	0		0	4	1	0	0	1	2	7	16
Kentucky:											
Ashland	0		1	0	1	0	0	1	0	0	25
Covington	0		0	7	0	6	0	1	0	0	11
Lexington	1	1	0	5	0	1	0	2	0	2	25
Louisville	0		0	0	6	0	0	7	0	0	84
Tennessee:											
Knoxville	0		0	5	0	0	0	0	0	0	16
Memphis	1		0	0	8	2	0	9	0	29	89
Nashville	1		0	5	3	3	0	3	0	2	64
Alabama:											
Birmingham	0	1	0	0	4	0	0	5	2	2	68
Mobile	0		0	0	0	1	0	2	0	0	25
Montgomery	1	2		0		0	0		0	0	
Arkansas:											
Fort Smith											
Little Rock	0		0	0	1	0	0	3	0	0	8
Louisiana:											
Lake Charles	0		0	0	0	0	0	0	0	1	1
New Orleans	10	3	0	6	7	2	0	9	0	39	178
Shreveport	0		0	0	7	1	0	1	0	1	33
Oklahoma:											
Oklahoma City	1		1	2	3	4	0	1	0	2	38

City reports for week ended June 6, 1936—Continued

State and city	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Smallpox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths, all causes
		Cases	Deaths								
Texas:											
Dallas	4	2	2	56	6	6	0	3	1	3	62
Fort Worth	0	------	0	0	2	1	0	1	2	0	26
Galveston	0	------	0	0	4	0	0	1	0	0	18
Houston	7	------	2	1	2	3	0	1	0	0	85
San Antonio	0	------	3	3	8	0	0	5	0	0	71
Montana:											
Billings	0	------	0	2	0	0	0	0	0	0	6
Great Falls	0	------	0	0	1	1	0	1	0	0	10
Helena	0	------	0	0	0	0	0	0	0	0	6
Missoula	0	------	0	0	2	3	0	0	0	0	11
Idaho:											
Boise	0	------	0	1	1	1	0	0	0	0	4
Colorado:											
Colorado Springs	0	------	0	0	0	6	0	2	0	0	10
Denver	4	------	2	27	3	12	0	2	0	29	82
Pueblo	0	------	0	1	2	11	0	0	0	2	11
New Mexico:											
Albuquerque	0	------	0	9	0	7	0	2	0	0	10
Utah:											
Salt Lake City	0	------	0	39	0	22	0	0	0	3	28
Nevada:											
Reno	------	------	------	------	------	------	------	------	------	------	------
Washington:											
Seattle	0	------	0	171	5	11	5	5	0	4	106
Spokane	0	------	0	13	1	15	0	0	1	8	37
Tacoma	0	------	0	40	4	6	0	0	0	1	28
Oregon:											
Portland	0	------	2	1	6	10	0	3	4	13	72
Salem	0	------	------	3	------	2	0	------	0	0	------
California:											
Los Angeles	11	13	0	130	12	25	0	17	1	80	270
Sacramento	1	------	0	3	1	18	0	6	1	35	32
San Francisco	0	------	0	118	11	77	0	8	0	5	187

State and city	Meningococcus meningitis		Poliomyelitis cases	State and city	Meningococcus meningitis		Poliomyelitis cases
	Cases	Deaths			Cases	Deaths	
Massachusetts:				**Missouri:**			
Boston	1	1	4	Kansas City	0	1	0
Worcester	1	1	0	St. Louis	4	0	0
Connecticut:				**Maryland:**			
Bridgeport	1	0	0	Baltimore	1	1	0
New Haven	1	0	0	**District of Columbia:**			
New York:				Washington	2	1	0
New York	6	4	1	**South Carolina**			
New Jersey:				Charleston	1	1	0
Newark	2	0	0	**Georgia:**			
Pennsylvania:				Atlanta	1	0	0
Philadelphia	2	0	1	**Florida:**			
Pittsburgh	1	1	0	Miami	0	1	0
Reading	1	0	0	**Kentucky:**			
Ohio:				Louisville	0	3	0
Cincinnati	4	0	0	**Tennessee:**			
Indiana:				Nashville	1	0	0
Indianapolis	2	1	0	**Alabama:**			
Illinois:				Birmingham	1	1	0
Chicago	6	3	1	**Louisiana:**			
Wisconsin:				New Orleans	3	3	0
Racine	0	1	0	**Colorado:**			
Minnesota:				Denver	0	0	1
Minneapolis	1	0	0	**California:**			
Iowa:				Sacramento	0	0	1
Cedar Rapids	1	0	0				

Epidemic encephalitis.—Cases: San Francisco, 1.
Pellagra.—Cases: Chicago, 1; Wilmington, N. C., 1; Winston-Salem, 5; Charleston, S. C., 3; Brunswick, 1; Savannah, 13.
Typhus fever.—Cases: Charleston, S. C., 1; Atlanta, 1; Savannah, 1. Deaths.—Charleston, S. C., 1.

FOREIGN AND INSULAR

CANADA

Provinces—Communicable diseases—2 weeks ended May 30, 1936.—During the 2 weeks ended May 30, 1936, cases of certain communicable diseases were reported by the Department of Pensions and National Health of Canada as follows:

Disease	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Cerebrospinal meningitis				2	1	1		1	1	6
Chicken pox		12		203	424	35	24	21	103	822
Diphtheria		11		30	11	3	3			58
Dysentery				1						1
Erysipelas				12	9			9	3	33
Influenza		12	3		47	6	15		11	94
Lethargic encephalitis					2					2
Measles	1	43	28	623	2,250	213	199	388	684	4,429
Mumps		10			742	36	29	44	158	1,019
Paratyphoid fever					2		2	1	1	6
Pneumonia	1	2			37		1		13	54
Poliomyelitis					1					1
Scarlet fever	2	16	6	115	282	103	16	103	45	688
Trachoma						1	2		4	7
Tuberculosis	12	51	13	136	86	8	21	5	67	399
Typhoid fever			2	20	3	2	1	2	2	32
Undulant fever				1	1	1	1			4
Whooping cough	10	19	7	49	276	18	16	34	65	494

CUBA

Habana—Communicable diseases—4 weeks ended June 6, 1936.—During the 4 weeks ended June 6, 1936, cases of certain communicable diseases were reported in Habana, Cuba, as follows:

Disease	Cases	Disease	Cases
Diphtheria	11	Scarlet fever	1
Malaria	[1] 37	Tuberculosis	40
Poliomyelitis	[1] 2	Typhoid fever	[1] 49

[1] Includes imported cases.

Provinces—Notifiable diseases—4 weeks ended May 30, 1936.—During the 4 weeks ended May 30, 1936, cases of certain notifiable diseases were reported in the Provinces of Cuba, as follows:

Disease	Pinar del Rio	Habana	Matanzas	Santa Clara	Camaguey	Oriente	Total
Cancer	1			11	3	1	16
Chicken pox		19		11	2	2	34
Diphtheria	1		2	3	2	5	13
Hookworm disease		1		1			2
Leprosy				2		1	3
Malaria	162	34	13	201	97	600	1,107
Measles	34			3	8		45
Poliomyelitis	1	2		1	1	3	8
Scarlet fever						1	1
Tuberculosis	16	8	13	39	15	34	125
Typhoid fever	16	66	21	27	12	91	233

CZECHOSLOVAKIA

Communicable diseases—March 1936.—During the month of March 1936, certain communicable diseases were reported in Czechoslovakia as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Anthrax	2		Paratyphoid fever	5	1
Cerebrospinal meningitis	14	4	Poliomyelitis	8	
Chicken pox	214		Puerperal fever	52	17
Diphtheria	2,103	152	Scarlet fever	2,353	71
Dysentery	6	1	Trachoma	74	
Influenza	1,524	24	Typhoid fever	268	32
Lethargic encephalitis	2	1	Typhus fever	210	8
Malaria	50				

GERMANY

Vital statistics—1935.—Following are the vital statistics for Germany for the year 1935:

Number of marriages	650,851	Deaths per 1,000 population	11.8
Number of live births	1,261,273	Deaths under 1 year of age	86,227
Live births per 1,000 population	18.9	Deaths under 1 year of age per 100 live births	6.8
Number of stillbirths	32,763		
Number of deaths	791,912		

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER

From medical officers of the Public Health Service, American consuls, International Office of Public Health, Pan American Sanitary Bureau, health section of the League of Nations, and other sources. The reports contained in the following table must not be considered as complete or final as regards either the list of countries included or the figures for the particular countries for which reports are given.

CHOLERA

[C indicates cases; D, deaths; P, present]

Place		Oct. 27–Nov. 30, 1935	Dec. 1–28, 1935	Dec. 29, 1935–Jan. 25, 1936	Jan. 26–Feb. 29, 1936	Week ended— March 1936 7	14	21	28	April 1936 4	11	18	25	May 1936 2	9	16	23	30
Ceylon:																		
Batticaloa.[1]																		
Provinces	C										14	4						
India	C	25,638	11,615	14,233	13,729	2,995	3,799	4,206	5,605	6,413	5,717	6,008	5,890					
	D	13,350	6,169	7,799	7,183	1,449	1,792	2,064	2,683	2,930	2,855	2,978	2,982					
Assam	C	658	707	318	92	8	12	8	31	20	19	45	53	75	124	115	98	
	D	356	396	167	46	4	7	5	14	12	4	22	27	37	51	65	49	
Bassein	C															3		
Bombay Presidency	C	1,892	941	459	332	16	41	35	38	40	36	32	37	63	87			
	D	877	445	237	149	9	15	21	10	14	13	10	5	25	27			
Bombay	C	[2]1																
Calcutta	C	144	103	140	380	227	188	179	208	245	171	230	153	161	192	268	225	
Central Provinces and Berar	C	1,350	98	14	56	26	45	52	94	122	102	49	84	38	23	163	184	
Chittagong	C	1												4	1			1
Madras Presidency	C	5,280	2,855	3,870	2,877	902	861	598	390	442		404	368					
	D	2,527	1,336	2,013	1,407	429	421	281	209	189		192	151					
Madras	C	12	13	9	70	5	4	12	5	1	2	1	1		1	1		
	D	4	7	3	26	3	3	5				1						
Moulmein	C				2	5	1	1	3	1		1		1		2		
Negapatam	C		7	22	56	2		4		1	1							
	D		4	8	27	2												
Northwest Frontier Province	C			1	1													
Punjab	C	24	7	1							1	1	4	3	5		3	
Rangoon	C	[2]1		[2]1							4							
India (French):																		
Chandernagor	C			8	6						2	3	1	1				
Karikal	C	12																
Pondichery	C	5																
Indochina (see also table below):																		
Bentre	C														1			
Pnom-Penh	C														1			
Siam:																		
Ang Thoang Province	C	3			3	4	1	1		5	1	3	2					
	D	3			3	3	1			2	1	2	1					
Ayudhaya Province	C	25	40	74	214	40	14	23	24	1	5	7	12	3	13	4		
	D	16	35	49	159	25	9	18	17	4	4	9	6	4	11	2		

Bankok	C	77	49	124	375	48	52	30	18	18	11	17	13	20	8	11	3	10
Bejrpuri Province	C	3		56	66	4	3	10	25	14	18	6	4	7	1			
Bichitr Province	C					P	6	11	3	23	11							
Bisnulok Province	C				13	14	35	25	32	14	4	49	6	40	20	4		
Chandapuri Province	C								15		4							
Chhaxoengsao Province	C		55	175	95	5	2	2	12	4	1	1	1	2		2		
Jalapuri Province	C		3	20	12		1	7	1	5			4	20	8	6		
Jayanad Province	C				13	1	4	2	4			6	13					
Kanchanapuri Province	C							2	9	8	1	11	7					
Lobpuri Province	C		10		7	2										1		
Nagara Nayok Province	C				10													
Nagara Pathom Province	C	25	1	4	11	1	6	17	19	6	17	3	1	2	2			
Nagara Rajsima Province	C				2													
Nagara Svarga Province	C				15	1	1	23	17	24	3	28	10	9	4	3		
Nondpuri Province	C	19	3	7	21	16	2	2	3	3	2	4	2	10	1			
Prachinpuri Province	C	14	54	26	4		3			1								
Prachuabgirikhand Province	C										14							
Pradhumdhani Province	C	2	1	4	41	18	3				1		4	13	8	5		
Prae Province	C							3										
Rajpuri Province	C	36	54	63	16	6	7	14	16	13	14	17	26	13		3		
Sarapuri Province	C	17		2	104	7	1	1										
Singhapuri Province	C	15	2	1	1							9	7	6		1		
Smudprakar Province	C	6	49	15	156	20	45	46	27	5	30	9	2	6	14	9		
Smudsagara Province	C	7	36	58	76	30	19	23	8	10	5		6	6		5		
Smudsongram Province	C	34	38	49	84	20	36	32	24	27	10	13	9	4				
Subarnpuri Province	C	18			13	4	24	4	16	14	12	11	9	2	7			
Upala Rajdhani Province	C					P	33	2						1		4		
Uttradhani Province	C								12									
Utradith Province	C						3	2		3	10	4		1	4			
On vessels:																		
S. S. *Egra* at Rangoon	C			1														
S. S. *Floristan* at Masulipatam	C			[2] 1														
S. S. *Chatala* at Rangoon from Chittagong	C								1									
S. S. *Kuisang* at Penang from Calcutta	C										1							
S. S. *Karagola* at Penang from Calcutta	C														1			

Place		December 1935			January 1936			February 1936			March 1936			April 1396		
		1-10	11-20	21-31	1-10	11-20	21-31	1-10	11-20	21-29	1-10	11-20	21-31	1-10	11-20	21-30
Indochina (French) (see also table above):																
Cambodia [4]	C				1		1	4	7		4	4	3		2	
	D				1		1	3	1		4	3	3		1	
Cochinchina [4]	C		2	1			2	2		3	3	4	1	4		1
	D		2	1			2	2		3	3	4	1	3		1

[1] According to information dated Apr. 8, 1936, 31 cases of cholera with 27 deaths have occurred in the vicinity of Batticaloa, Ceylon.
[2] Imported.
[3] Suspected.
[4] Reports incomplete.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER AND YELLOW FEVER—Continued

PLAGUE[1]

[C indicates cases; D, deaths; P, present]

Place		Oct. 27–Nov. 30, 1935	Dec. 1–28, 1935	Dec. 29, 1935–Jan. 25, 1936	Jan. 26–Feb. 29, 1936	Week ended— March 1936 7	14	21	28	April 1936 4	11	18	25	May 1936 2	9	16	23	30
Algeria: Bone	C									[2]3								
Argentina (see also table below):																		
Bahia Blanca (vicinity of)	C				2													
	D				2													
Azores. (See table below.)																		
Basutoland	C				[2]2													
Belgian Congo	C															1		
Brazil (see also table below).																		
British East Africa:																		
Kenya	C	7	25	10	22		2	2	5	7	3		1	8	2	21		
Tanganyika	C			7	2	5								3				
Uganda	C	281	61	44	44	14	14	18	16	9	8	16	24	23	17	43		
	D	231	54	40	42	13	14	15	16	9	8	15	23	22	16	42		
Ceylon:																		
Anuradhapura	C							1										
Balapitiya	C	1																
Colombo	C	5	11	10	6	1			2	1	1	1		2				1
	D	4	10	9	3	1			2	1	1	1		2				1
Plague-infected rats		27	4		2	2	1			2		1	5	2				5
Hatton	C															3		
Manar	C											1						
Weligama	C										1							
China: Manchuria[4]																		
Dutch East Indies: West Java	C	985	878	726	996	188	162	186	164									
	D	980	873	723	990	186	158	183	162									
Ecuador:																		
Daule[5]	C							1										
Guayaquil	C	48	20	8	6		1			1								
	D	16	4	6	3					1								
Plague-infected rats		12	5	2		1												

Egypt:																			
Alexandria: Plague-infected rats		P	P	P	P	P		P		P		P		P		P			
Asyut Province	C	1	3	6	9	1	1	4	7	4	5	7	2	1	1				
Girga Province	C			1	2				1	1							1		
Minya Province	C				4		1	4					1	1					
Great Britain—England—Liverpool: Plague-infected r ats			2																
Hawaii Territory: Plague-infected rats:																			
Hawaii Island—Hamakua district:																			
Hamakua Mill		1	1		1														
Kukaiau		2	1																
Paauhau				1										2					
Pohakea Sector					1					1	1	2							
India	C	3,131	1,852	2,168	3,382	591	1,168	1,061	723	602	721	447	564						
	D	1,019	928	1,144	1,726	367	483	426	393	279	357	279	310						
Bassein	C		1		7	1	2	1		3		1	1		1	2	1		
Plague-infected rats		1			2														
Bombay Presidency	C	148	88	99	169	17	36	47	25	9	21	21	17	7	4				
	D	93	48	61	110	8	23	24	15	6	12	15	14	3	2				
Bombay	C			[2] 1															
Central Provinces and Berar	C	1,651	716	194	584			345	111	181	135	79	92	45	6	1			
Karachi	C						5												
Madras Presidency	C	133	71	42	29	16	11	4	13	10		5	5						
	D	88	51	26	11	14	8	6	10	5		5	3						
Punjab	C	48			1	7	2	3	2	8	22	54	11	56	1	8			
	D	21				3	2		2	4	16	28	5	36	1	7			
Rangoon	C		[6] 1		[6] 1										3		2		
Plague-infected rats			1		5		2										1		
Indochina (see also table below):																			
Pnom-Penh	C			1	1										1				
Saigon-Cholon	C			1									1						
Tanghai	C										2						4		
Iraq: Baghdad	C	1	1	[6] 1															
Madagascar. (See table below.)																			
Malta	C											3		1					
	D											2							
Peru. (See table below.)																			
Senegal. (See table below.)																			
Tunisia: Tunis	C	1																	
	D	1																	
Plague-infected rats		1			2					1	1								
Union of South Africa	C	7	7	44	144		[7] 22		[7] 19		[7] 6				[7] 3		[7] 3		
Cape Province	C		2																
Orange Free State	C	1	1																

[1] Including plague in the United States and its possessions.
[2] Includes 1 suspected case.
[4] A report dated Oct. 28, 1935, states that up to Oct. 23, 155 deaths from plague were reported in the provinces of Kirin, Lungkiang, Fengtien, and South Hsingan, Manchuria, China. A report dated Nov. 27, 1935, stated that 23 deaths from plague had occurred in the vicinity of Koshan, and that there were about 15 cases in Harbin.
[5] During the period Jan. 1 to Feb. 20, 1936, 7 cases of plague were reported at Daule and vicinity, Ecuador.
[6] Imported.
[7] For 2 weeks.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

PLAGUE—Continued

[C indicates cases; D, deaths; P, present]

Place		Oct. 27–Nov. 30, 1935	Dec. 1–28, 1935	Dec. 29, 1935–Jan. 25, 1936	Jan. 26–Feb. 29, 1936	Week ended— March 1936				April 1936				May 1936				
						7	14	21	28	4	11	18	25	2	9	16	23	30
United States:																		
California:																		
Lassen County.[8]																		
Modoc County.[8]																		
Santa Rosa	C											1						
Ventura County: Plague-infected squirrel [8]										1								
Nevada: Elko County.—Plague-infected squirrels															P			

Place		November 1935	December 1935	January 1936	February 1936	March 1936	April 1936
Argentina (see also table above):							
Buenos Aires Province	C				2		
Cordoba Province	C		5	1			
San Luis Province	C						6
Santa Fe	C			1			
Azores	C	2	2	3	4		
Basutoland	C		16				
Brazil:							
Bahia State	C	7	20				
Ceara State	C				7	54	
Pernambuco State	C					[10] 15	
Indochina (see also table above):							
Cambodia	C			1	2	1	1
Cochinchina	C	1		1			1
Madagascar (central region)	C	345	507	503	382	206	
	D	333	485	485	358	196	

Place		November 1935	December 1935	January 1936	February 1936	March 1936	April 1936
Peru	C	14	9	23	19	10	15
Arequipa Department	C			5			
Catamarca Department	C	13					
Lambayeque Department	C		1	4	3		
Libertad Department	C	1		5	1	1	6
Lima Department	C	10	7	9	8	3	6
Callao	C			1	2	4	1
	D			1	2	1	1
Plague-infected rats						P	
Piura Department	C				5		2
Trujillo Department	C					2	
Senegal:							
Dakar [11]	C			1	1		
	D			1	1		
Tivaouane [11]	C	1	1				1

[8] Plague-infected squirrels have been reported in Lassen County, Calif., as follows: Week ended June 6, 1936, 1 plague-infected squirrel, and week ended June 13, 1936, 1 plague-infected squirrel.

[9] During the week ended June 6, 1936, plague-infected squirrels were reported present in Modoc County and Ventura County, Calif.

[10] From Jan. 1 to Mar. 16, 1936.

[11] Reports incomplete.

SMALLPOX

[C indicates cases; D, deaths; P, present]

Place		Oct. 27–Nov. 30, 1935	Dec. 1–28, 1935	Dec. 29, 1935–Jan. 25, 1936	Jan. 26–Feb. 29, 1936	Week ended— March 1936: 7	14	21	28	April 1936: 4	11	18	25	May 1936: 2	9	16	23	30
Algeria:																		
Algiers Department	C				2													
Constantine Department	C											1						
Argentina (see also table below):																		
Corrientes Province	C								5									
Jujuy Province	C								7									
Belgian Congo. (See table below.)																		
Bolivia. (See table below.)																		
Brazil: **Porto Alegre** (alastrim)	C	32	27															
British East Africa:																		
Tanganyika	C	18		9	8			38	19						11	61		
Uganda	C			10	12	4	2	1										
British Somaliland	C	3	7	4	34											6		
British South Africa: Southern Rhodesia	C				1													
Canada:																		
Alberta	C	[1] 1		[1] 1	3	4	18	5	3	1				1	1			
British Columbia	C	[1] 1	2	2		[1] 1												
Ontario	C									[1] 1								
Saskatchewan	C	[1]	[1]															
Ceylon: **Colombo**	C			1														
China:																		
Amoy	C				3							1						
Canton	C									1								
Dairen	C				4			1	1	1		1						
Foochow	C	P	P	P	P	P		P				P		P				
Hangchow	C		1	3	15	5		1	2	2	1		2	2				
Hankow	C				4			1				2			1			
Hong Kong	C	2				2	1	2	1	4	2	1		1	1			3
Nanking	C	26	43	16	41	4	6	14	14	21	9	10	39	27				
Shanghai	C	4	6	5	30	7	6	7	3	15	9	17	9	11	9	10	9	10
Swatow	C	3	1		2	1				2	2							
Tientsin	C		3			2					1							
Chosen. (See table below.)																		
Colombia (see also table below)	C	44	32	68	13		[2] 78		10			[2] 30						
Bogota	C	8	3															

[1] For 2 weeks.
[2] For 3 weeks.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

SMALLPOX—Continued

[C indicates cases; D, deaths; P, present]

Place		Oct. 27–Nov. 30, 1935	Dec. 1–28, 1935	Dec. 29, 1935–Jan. 25, 1936	Jan. 26–Feb. 29, 1936	Week ended— March 1936 7	14	21	28	April 1936 4	11	18	25	May 1936 2	9	16	23	30
Dahomey. (See table below.)																		
Dutch East Indies: Palembang	C					1												
Ecuador. (See table below.)																		
Egypt: Provinces	C				2	5												
Eritrea	C				1			5				2						
Asmara	C											1						
France. (See table below.)																		
Great Britain: England and Wales—London and Great Towns	C													3		1		
Greece: Salonika	C	4		6	14	5	5	5	5	5	5	5	5	5	8	8		
Guatemala. (See table below.)																		
India	C	8,642	9,617	19,883	34,355	6,407	7,841	8,353	8,711	8,327	9,390	8,385	8,646					
	D	1,762	2,106	4,220	8,417	1,585	1,818	2,068	2,208	2,215	2,548	2,244	2,084					
Assam	C	17	168	116	798	85	84	64	88	57	60	32	70	36	112	35	34	
Bassein	C			[3] 1														
Bombay Presidency	C	635	741	1,703	3,444	730	627	754	709	741	826	570	722	773	592			
	D	90	103	282	650	158	139	134	125	104	167	137	152	124	111			
Bombay	C	21	30	86	266	54	64	78	81	87	104	74	57	63	45	43	47	
	D	12	21	49	149	34	37	43	43	46	65	45	39	40	31	24	38	
Calcutta	C	19	88	270	1,606	330	464		511	563	383	288	318	200	126	100	77	
	D	12	56	133	893	272	312		361	425	310	217	214	158	103	86	67	
Central Provinces and Berar	C	475	808	1,266	2,652	479	549	541	540	461	913	561	891	661	563	665	585	
Chittagong	D			1	1								1					
Cochin	C	1			21	2		5										
Karachi	C	3	11	17	77	12	5	6	5	13	7	11	5	6	5	3	1	
Madras Presidency	C	1,811	1,366	1,312	1,214	458	555	439	528	316		322	302					
	D	324	269	176	191	75	85	56	78	56		68	41					
Madras	C	7	5	3	3		4	7	1			1		1			3	
Moulmein	C	2	6	27	61	26	22	20	15	12	9	7	7	2	9	7	11	
Negapatam	C			3	2					1	2				1			
Northwest Frontier Province	C	9	7	26	50		1			3		16	2		5			
Punjab	C	336	313	498	641	92	140	100	105	53	83	135	101	97	47	70		
Rangoon	C	[3] 1	4	9	10	2	7	5	2	8	5	3	4				3	
Sind State	C										21	43	26	71	54	45	26	
Tuticorin	C	3	5															
Vizagapatam	C	6	9	36	39	1	2	11	5		1	1			3		1	

India (French):																		
Chandernagor	C	44																
Karikal	C	1																
Pondichery	C	3																
	D	3		7														
India (Portuguese)	C			1		5		4										
Indochina (see also table below):																		
Haiphong	C				1													
Tourane	C							1						1	1			
Iran	C	3	12	9	12		1											
Iraq	C	8	36	58	40	5	1	1	2	2	4	2	2	1	4		1	5
Baghdad	C	2		1						1			1	1				
Basra	C	1										2	1					
Italian Somaliland	C	2																
Japan:																		
Kobe	C									1								
Moji	C				1	1												
Nagasaki	C											1						
Osaka	C							5				1						1
Yamaguchi Prefecture	C			1														
Libya: Tripolitania	C			2														
Mexico (see also table below):																		
Chihuahua	C	1		1	1					2				2				
Guadalajara	D	9	16	13	46	14	13	6	6	9	13	8	3		4	5	8	4
Mazatlan	C	1			1	1	1											
Mexico, D. F	C	12	5	4	11	3	3	5	1									
Monterrey	C	1			2	2							1					
San Luis Potosi	D						1											
Torreon	C	5	1	1			1		1									
Morocco. (See table below.)																		
Mozambique. (See table below.)																		
Nigeria	C	146	427	84	549	798			[3] 899		[1] 162							
Lagos	C				2													
Niger Territory. (See table below.)																		
Nyasaland. (See table below.)																		
Oman: Sharjah and Pirate Coast	C			875	70				[4] 46									
Peru. (See table below.)																		
Poland	C	1			1													
Portugal (see also table below): Lisbon	C	5	8	3	5	1		1	3		1	1	1			1		
Portuguese East Africa. (See table below.)																		
Salvador. (See table below.)																		
Saudi Arabia	C	4			8							10						
Sierra Leone	C	222	116	37	[1] 135		[1] 211		[1] 4		[1] 3							
Freetown	C		2		1						[1] 1							
Spain	C	1	1	20	12	1	2	5	7	10		2	2	3	3			
Sudan (Anglo-Egyptian)	C	2		3	5	12				2		1	3	13	2	2		1
Turkey. (See table below.)																		
Uruguay. (See table below.)																		

[1] For 2 weeks. [2] For 3 weeks. [3] Imported. [4] For 5 weeks.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

SMALLPOX—Continued

[C indicates cases; D, deaths; P, present]

On vessels:			On vessels—Continued.		
S. S. *Ekma* at Rangoon from Calcutta	1 case	Dec. 10, 1935	S. S. *Khandalla* at Rangoon from Calcutta	1 case	Mar. 16, 1936
S. S. *Cape St. Francis* at Rangoon from Calcutta	1 case	Dec. 17, 1935	S. S. *Haishang* at Rangoon	1 case	Mar. 18, 1936
S. S. *Bankura* at Karachi	1 case	Jan. 4, 1936	S. S. *Cranfield* at Madras from Calcutta	1 case	Mar. 27, 1936
S. S. *Jalgopal* at Rangoon from Aracan	1 case	Jan. 5, 1936	S. S. *Hokuryo Maru* at Moji from Tientsin	1 case	Apr. 2, 1936
S. S. *Matua* at Suez from Calcutta	1 case	Jan. 21, 1936	S. S. *City of Adelaide* at Colachel from Rangoon	1 case	Apr. 13, 1936
S. S. *Khosrou* at Kamaran quarantine station	1 case	Feb. 15, 1936	S. S. *City of London* at Suez from Calcutta	1 case	Apr. 20, 1936
S. S. *Karapara* at Rangoon from Calcutta	1 case	Mar. 9, 1936	S. S. *Manipura* at Port Sudan from Calcutta	1 case	Apr. 23, 1336
S. S. *Egra* at Calcutta	1 case	Mar. 10, 1936	S. S. *Kasagi Maru* at Moji from Shanghai	1 case	May 4, 1936
S. S. *City of Auckland* at Rangoon from Calcutta	2 cases	Mar. 15, 1936	S. S. *Awaji Maru* at Nagasaki from Dairen	1 case	May 8, 1936

Place		November 1935	December 1935	January 1936	February 1936	March 1936	April 1936
Argentina:							
Buenos Aires Province	C				4	7	
Entre Rios Province	C				5	1	
Jujuy Province	C					7	3
Belgian Congo	C		54	456	227	198	
Bolivia	C	38	43	48	18	62	18
China: Manchuria—Harbin	C		1	1	3		
Chosen	C	53	53	86			
Colombia:							
Barranquilla	D				1	1	
Santa Marta	D				1		
Dahomey	C	31	11		18		
Ecuador: Guayaquil	C				1		
France	C	7	18	76	24	30	
Guatemala	C	1		2	14	2	5
Indochina (see also table above)	C	66	44	57	229	196	221
	D	10	3	3	31	15	30
Mexico (see also table above):							
Aguascalientes State—Aguascalientes	C				5	4	
Chiapas State	C			1			
Chihuahua State—Chihuahua	C					1	
Coahuila State—Torreon	C				1		
Colima State	C				1	1	
Guanajuato State	C			5		5	
Leon	C			1			
Jalisco State	C			109			
	D			28			

Place		November 1935	December 1935	January 1936	February 1936	March 1936	April 1936
Mexico (see also table above)—Continued.							
Guadalajara	C			85	115	70	
	D			24	50	43	
Lower California	C				7		
Mexico State	C				2	4	
Mexico, D. F	C			10	22	18	
Mexico City	C			9			
Morelos State	C					1	
Puebla State	C			2	9	2	
Puebla	C				8	2	
Quintana Roo	C					1	
San Luis Potosi State—San Luis Potosi	C					8	
Sonora State	C				1	1	
Tamaulipas State	C			8			
Tlaxcala State	D					1	
Morocco	C			9	1	2	15
Mozambique	C	1		3	1	2	5
Niger Territory	C		43				
Nyasaland	C	19		3	50	1	
Peru	C	7		31	7		
Portugal (see also table above)	C	103	74	103			
	D	26	11	6			
Portuguese East Africa	C			3			
Salvador	C	36	12	32	46	13	89
Turkey	C			5	6	1	1
Uruguay	C			3			

TYPHUS FEVER

Place		Oct. 27–Nov. 30, 1935	Dec. 1–28, 1935	Dec. 29, 1935–Jan. 25, 1936	Week ended— February 1936					March 1936				April 1936				May 1936		
					1	8	15	22	29	7	14	21	28	4	11	18	25	2	9	16
Algeria:																				
Algiers Department	C	1		4	3	6		15	7	7		53	4	31	26	15	5	21	11	38
Algiers	C			1																2
Constantine Department	C	1		25	5	24	10	10	11		10	24	15	22	16	6	18	5	34	8
Bone	C			1															1	
Constantine	C			8							1								2	
Oran Department	C			7			50	2	1		12			4	12	1	15		5	7
Australia: Sydney	C	2		1								[1] 3								
Basutoland	C																			
Bolivia. (See table below.)																				
Bulgaria	C			14	5	6								16	14		17			
Chile	C	691							[2] 430											
Santiago Province [3]	C																			
Valparaiso	C	56	37	12	6	8	5	6	4	2	1	2	3	1	4	6	1			
China:																				
Canton	C	2																		
Hankow	C	1											1		1		2			
Nanking	C	1													1					
Shanghai	C		3															1		
South Manchuria Railway Zone	C	4																		
Tientsin	C	1						1		1						1				
Tsingtao	C		3			1							1							
Chosen. (See table below.)																				
Czechoslovakia. (See table below.)																				
Egypt:																				
Alexandria	C		1	1						2	3	1	2			1				1
Asyut Province	C	1				5	2				1		1	1						2
Beheira Province	C	11	12	28	14	16	52			33	31		39	49						28
Cairo	C			1	3	3		3	2			1		3		2	1	5	1	
Dakahliya Province	C			1		10	25			4	3		7	6						15
Faiyum Province	C	1																		
Gharbiya Province	C	1		46	26	36	16			49	37		45	33						32
Girga Province	C	1		1										1						
Minufiya Province	C					26	4			9	2		7							2
Port Said	C																			1
Qena Province	C	1				2	1			1			24	20						1
Sharkiya Province	C			1	1					1	11		1							2

[1] For 3 weeks.
[2] For 5 weeks.
[3] A report dated Jan. 20, 1936, states that there were 305 cases of typhus fever with 58 deaths in Santiago Province, Chile, from Nov. 2–16, 1935.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

TYPHUS FEVER—Continued

[C indicates cases; D, deaths; P, present]

Place		Oct. 27–Nov. 30, 1935	Dec. 1–28, 1935	Dec. 29, 1935–Jan. 25, 1936	Week ended— February 1936					March 1936				April 1936				May 1936		
					1	8	15	22	29	7	14	21	28	4	11	18	25	2	9	16
Egypt—Continued.																				
Suez	C	1																		
Provinces	C	26	41	138	44		103	126	98	86	153	133		119	159	153	132	109	107	106
Finland. (See table below.)																				
Greece (see also table below): Salonika	C	1	4	3	1	2	2	2	2	6	6	6	6	1	1	1	1	1	1	1
Guatemala. (See table below.)																				
Hawaii Territory: Honolulu	C	1	1								1	4	2						1	
Hungary	C			3								7		2	2			1		
Iran	C	7	2	17	3			4	2		3	2	4	7	8	7	3	5	6	
Teheran	C			1						1	1	1	1	2	2	6	1			
Iraq	C		17	19																
Irish Free State: Mayo County	C														2			1		
Japan	C			1																
Lithuania	C	19		69		9				6			[1]7		[1]8		[1]2			4
Mexico (see also table below):																				
Mexico, D. F	C	60	68	35	12	14	21		24	9	9	9	15							
San Luis Potosi	D								1											
Morocco (see also table below)	C	8	12	39	7	11	1	9	9			3	2	4	1	29	5	5	13	4
Palestine: Haifa	C	11		3		1	1							1						
Panama Canal Zone. (See table below.)																				
Peru. (See table below.)																				
Poland	C	159	230	382	101	153	121	150	146	126	153	144	196	134	129	113	143	148	139	104
	D	8	22	24	16	7	6	11	8	6	6	16	11	2	11	9	7	8	11	7
Portugal (see also table below): Oporto	C										1									
Rumania. (See table below.)																				
Straits Settlements: Singapore	C	1	2	3							1	1				1				
Syria: Beirut	C							[1]2												
Trans-Jordan	C			6	5	4	1		1	2			4	5	5					

Tunisia:																				
Tunis	C	1	1	5							3	1	5	1	1	1	1	1	1	
Provinces	C	6	31	61	20	4	9	22	9	14	30	45	49	14	37	26	50	27	18	29
Turkey. (See table below.)																				
Union of South Africa. (See table below.)																				
Yugoslavia. (See table below.)																				

Place		November 1935	December 1935	January 1936	February 1936	March 1936	April 1936
Bolivia	C	134	168	135	115	110	75
China: Manchuria—Harbin	C	3		1	5	9	
Chosen	C	30	50	51			
Czechoslovakia	C			14	25	219	13
Finland	C					5	112
Greece	C	4	9	5	7	6	
Guatemala	C	26	7	9	17	6	114
Latvia	C					5	
Mexico:							
Aguascalientes State: Aguascalientes	C				5	5	
Durango State	C				1	1	
Guanajuato State	C			15		56	
Leon	C			7	16	20	
Mexico State	C				2	15	
	D				3		
Mexico, D. F	C			86	73	52	
Mexico City	C			75			
	D			22			
Oaxaca State	C			1	2		

Place		November 1935	December 1935	January 1936	February 1936	March 1936	April 1936
Mexico—Continued.							
Puebla State	C			1			
Puebla	C				2	3	
Queretaro State	C			3			
San Luis Potosi State: San Luis Potosi	C			8	6	6	
Tlaxcala State	C					1	
Morocco (see also table above)	C		13	45	30	7	45
Panama Canal Zone	C	1	1	2	1	1	
Peru	C			143	103		
Portugal (see also table above)	C			1	1		
Rumania	C	92	210	572	905	1,581	
Turkey	C	18	35	33	51	33	79
Istanbul	C			5	4	4	
Union of South Africa:							
Cape Province	C	79	76	36	57	39	
Natal	C	6	1	7	2	3	
Orange Free State	C	18	4	17	21	5	
Transvaal	C	25	12	1	13	3	
Yugoslavia	C	10		131	80	113	106

[1] For 2 weeks.
[4] Imported.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

YELLOW FEVER

[C indicates cases; D, deaths; P, present]

Place		Oct. 27–Nov. 30, 1935	Dec. 1–28, 1935	Dec. 29, 1935 Jan. 25, 1936	Week ended— February 1936 1	8	15	22	29	March 1936 7	14	21	28	April 1936 4	11	18	25	May 1936 2	9	16
Bolivia: Santa Cruz Department.[1]																				
Brazil:[2]																				
Bahia State	C		1	2																
Matto Grosso State	C		1	1	1				1	1					1					
Minas Geraes State	C		10	8	2	3	4		2	1		4	2		1	1		1		
	D		5	8	2	3	4		2	1		4	2		1	1		1		
Parana State[3]	C						1	4	4	1	7	5	6	1	2					
Sao Paulo State[3]	C		11	4		2	2	3	16	17	5	7	6	[3] 3				1	1	6
Colombia:																				
Boyaca Department	C							3												
Intendencia of Meta	C							3												
Acacias	C	2																		
Restrepo	C	2																		
Gold Coast:																				
Koforidua	C															1				
Kumasi	C								1				1							
Preprawase	C														1					
Ivory Coast:																				
Abidjan	C	1																		
Sassandra	C	1																		
Vavua	C													1						
Niger Territory: Fada N'Gourma	C															1				
Senegal:																				
Dakar	C		[4] 1																	
M'Bake	C		1																	
Tivaouane.[5]																				
Sudan (French): Koutiala	C	1																		

[1] Yellow fever has been reported in Bolivia as follows: For the month of February 1936, 2 cases; March, 10 cases, April, 1 case.

[2] Yellow fever has also been reported in Brazil as follows: Parana State, Feb. 16–25, 1936, 5 cases, 5 deaths; Sao Paulo State, no date given, 3 cases and 4 deaths. Mar. 24–31, 1936, 2 cases, 2 deaths.

[3] Includes 1 case of yellow fever reported in the city of Sao Paulo, Brazil.

[4] Suspected.

[5] During the week ended June 6, 1936, 3 cases of yellow fever, 2 cases of which were suspected cases, were reported at Tivaouane, Senegal.