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#### THE VALIDITY OF HEALTH SERVICE DATA GATHERED BY THE FAMILY SURVEY METHOD <sup>1</sup>

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#### INTRODUCTION

The personal interview as a method of gathering data is probably as old as speech itself. In this age of surveys it is quite commonly used by foundations, private enterprises, and governments. Many an analysis of health, behavior, income, education, and other matters pertaining to the citizenry, how they live and what opinions they hold, has had its beginnings in a house-to-house canvass.

Information gathered in this manner has been taken largely on faith. When a survey worker rings the doorbell of a home and succeeds in gaining an interview with a responsible member of the household, it is generally assumed that he comes away with information that is approximately correct. Usually this assumption has had to suffice, in lieu of any means of checking the authenticity of data thus amassed.

Such a check, however, has been possible in one of the surveys conducted by the United States Public Health Service, and it corroborates in an interesting fashion the common belief that within reasonable limits the personal interview is a dependable method of gathering information of certain types.

This survey, which was conducted in three southern counties, is part of a series of studies which the United States Public Health Service has been conducting in regard to the activities of rural health departments, with the object of determining how suitable their programs are for raising the general level of health among the people for whom they function.

The counties may be described as essentially rural, with a considerable number of inhabitants residing in communities representing suburban development from a populous urban area. The population was native-born for the most part, with 10 to 15 percent of the families being Negro. From 50 to 80 percent of the families in the different counties had gardens or were engaged in farming on some scale, although only about one-fourth of these reported farming as their

<sup>&</sup>lt;sup>1</sup>From the Office of Public Health Methods, National Institute of Health, in cooperation with the Division of Domestic Quarantine.

principal source of income. The economic level of the households in each county was doubtless above that found in most rural counties.

#### METHOD OF STUDY

The studies were carried on through a combination of two approaches. Clerical personnel of the United States Public Health Service spent the study year in the offices of the three health departments under review. They copied for that period records of the daily activities of the personnel—the health officer, the nurses, and whoever else might serve the population as a member of the health department staff or under its auspices. As the records were copied, a current indexed summary was kept to show the distribution of service to individuals and families in the county.

Toward the end of the study period a sample of families representative of the population in its different degrees of economic circumstance was chosen in each county for personal interview on the family way of living, illnesses over the year just past, medical care, and particularly all services received from the members of the health department staff.

The present discussion is set forth primarily as an appraisal of the family survey as a means of gathering health service data. For that restricted purpose the material at hand will be presented briefly to show the difference between what service the health departments recorded as given to the surveyed families during the 12 months of the study, and what service the families reported as received from the health departments during essentially the same period. The comparisons will cover the following topics: The proportion of the population served by members of the health department, the types of service rendered, and the places of service.

Approximately 1,000 families were surveyed in each county. The sample in County A represents about 18 percent of the population within the area served by the health department, in County B about 10 percent, and in County C about 14 percent.

#### VALIDITY OF THE SURVEY DATA

Proportion of families served.—The percentage of surveyed families receiving service from the separate members of the health department staffs is shown in table 1. The slight differences between the percentages determined from the health department data and those arrived at from the facts supplied by the family informants point to remarkably good recollection of contacts with the health departments. It will be noted that in general the percentages under "Reported" are slightly higher than those under "Recorded" for individual members

of	the l	health	depai	rtment	staff,	but	that	the	"Re	eported"	and	"Re-
cor	ded"	' figure	s for '	"All p	ersonn	el" a	re pra	actic	ally	the same	э.	

TABLE 1.—Percentage of	surveyed families in each	county receiving	health department
services of any type as	determined from (a) data	recorded by the	health department,
and (b) data reported	vy the family informants	-	• •

	County A County B		nty B	County C		
Health department personnel serving families	Percent of sur- veyed families receiving service		Percent of sur- veyed families receiving service		Percent of sur- veyed families receiving service	
	Recorded	Reported	Recorded	Reported	Recorded	Reported
All personnel Health officer Public health nurse. Sanitation officer School dentist <sup>1</sup>	52. 3 38. 4 47. 2 11. 0 35. 3	54. 4 42. 3 43. 7 16. 9 41. 5	27.7 9.1 23.4 6.2	29 0 12.8 26.7 2.1 1.7	71. 0 34. 5 55. 3 35. 6 14. 5	73. 0 44. 5 58. 5 35. 9 28. 8

<sup>1</sup> No dental service provided by the health department in County B.

The nurses in each county rendered a variety of services in that they had a share in nearly all of the activities of the health departments except the work of the sanitation officer. They carried out a large part of the work incident to the health supervision and maternity programs; assisted the health officer in school examinations; aided the dentist, where there was one; and helped in the immunization and communicable disease programs. That their participation in these services was recognized by the families is indicated by the very general reporting of the public health nurse for all but the sanitation services. In all three counties about the same percentage of families reported service from the public health nurses as was recorded by the health department.

The families reported service from the health officer and from the school dentist more frequently than it was recorded. In County A the percentage of families reporting service from the sanitation officer was considerably in excess of the percentage recorded, and in County B it was somewhat less. In County C the two sets of data agreed as to the proportion of families receiving sanitation services.

The explanation for much of this variation is inherent in the nature of the subject matter covered by the data. For example, the discrepancies in regard to services by the health officer and the school dentist undoubtedly represent a certain amount of misapprehension among the family informants as to whether the nurse performed certain school services alone or as an assistant to the health officer or school dentist. In other words, the facts in most cases are second-hand to the informant. There were many instances wherein the health department records indicated a school inspection with only the nurse in attendance, or a dental examination by the school dentist, and the family report credited the service to the health officer and nurse, the school dentist and nurse, or all three.

In County B, 18 families reported dental services received, when in fact no dental care was given in the schools in that county. The health officer and nurses in making examinations probably looked at the children's teeth, and no doubt some of this service was translated into dental care when reported by the family.

Further analyses of the data failed to reveal any explanation for the excess in County A and the deficiency in County B in the percentage of families reporting service from the sanitation officer. It is possible that in County B, where much of his work dealt with nuisances, many of the individuals served in this respect did not think of the situation in terms of service from the health department. In County C, where the family reports tallied closely with the records on sanitation services, the sanitation officer was occupied most of the year with supervision of a special privy-construction program. Inasmuch as this work necessitated that the owner or tenant be interviewed and that he be requisitioned for materials when repairs or construction were needed, one can understand why this work was so well remembered.

Close agreement between the two sets of data was shown when the families were considered by race, and also by type of locality in which they live. The divisions by race are two: White and Negro; and by locality, three: Suburban areas, small villages, and open country. Other possible variation was also sought by dividing the families into the four economic groups of comfortable, moderate, poor, and very poor, but each group showed about the same recollection of health department contacts.

Types of service rendered.—On the second division of data—types of service—the percentages refer to individuals rather than to family groups. Over 14,000 persons were included in the 3 samples of families and the possibility of error in reporting on them rather than on the 2,995 families to which they belong is, of course, much greater. In the family summaries in table 1 no account was made of services to separate individuals; if one member of a family or half a dozen members were served, the family was counted as having had contact with the health department.

Then, too, a large proportion of the services accounted for in table 2 was rendered through group work in the schools and is subject to considerable error in the reporting process. Common experience tells us that some children on coming home from school faithfully report the happenings of the day, and others fail to mention them. Some mothers listen carefully; others do not. It is not unusual for a woman to say that the several children in her family were all examined in school simply because she vaguely remembers that 3 months earlier little Johnny had said that the dentist examined his teeth that day at school. In view of these opportunities for error, it is submitted that the percentages in table 2 on types of service do not show any invalidating divergencies between the family account and the health department record of what took place during the study year. As in table 1, the percentages are practically the same in the total, although they show considerable variation on specific items. The general consistency between the two sets of data may be described as remarkably high when one considers the number of services involved and the amount of time spanned by the informant in picking up these small details, most of which she did not experience personally.

The relatively high percentage of individuals reporting examinations and dental services is occasioned in part by the frequent reporting of a combined physical and dental examination when in fact only one or the other had been given. Furthermore, the families were inclined to report staff services rendered in specialized clinics as examination by individual members of the health department.

**TABLE 2.**—Percentage of individuals in surveyed families receiving health department services of different types as determined from (a) data recorded by the health department, and (b) data reported by the family informants

	Cour	nty A	County B		County C	
Type of health department service	Percent of indi- viduals receiving service		Percent of indi- viduals receiving service		Percent of inc viduals receivi service	
	Recorded	Reported	Recorded	Reported	Recorded	Reported
All types of service Examinations (and inspections) Dental examinations <sup>1</sup> or corrections Immunizations Other services	23. 2 14. 0 14. 3 5. 1 4. 0	21. 4 19. 8 19. 3 1. 7 1. 5	11. 3 4. 8 2. 8 6. 6	13.3 9.8 .7 2.8 3.5	28.7 11.8 4.5 9.3 18.5	23. 9 16. 1 12. 1 10. 0 13. 8

<sup>1</sup> No dental service provided by the health department in County B.

Immunization of preschool and school children in County A was frequently given at the time of examination by the health officer and the nurse. While the families generally reported the examination, they often failed to report specifically that immunization service was rendered. This is in keeping with the general tendency of the families to remember the fact of service but to confuse the details.

Those services having to do with health supervision, maternity care, and the control of tuberculosis and venereal disease are grouped in table 2 under "Other." They were, as a rule, understated by the families, or perhaps to some extent reported under more general categories, such as "Examinations." The numbers in these groups are too small to yield percentages of any determining value, but one point relevant to the discussion might be made. It is likely that errors in reporting a series of services must occur, and an individual reached by one of the above programs frequently receives more than a single service. For example, the five trips that the nurse made to Mrs. Smith down on the river road are entered on the records of the health department under the heading of "Maternity and infant service," but Mrs. Smith may remember only that the nurse dropped by on several occasions for a little conversation about the baby.

The data also reveal another circumstance that makes for discrepancy in this particular survey. In County C, 32 individuals in the family sample were recorded in the offices of the health department as having received treatment for venereal diseases, while the informants reported only 2 individuals as having received this service. No venereal-disease service was reported by the family informants in Counties A and B, although several members of these two groups of families were recorded as having received treatment. The indications are that on matters conveying a suggestion of moral turpitude data will be poorly reported. In the majority of surveys such questions probably play no part; in surveys of health they might conceivably be productive of unreliable information.

Places where service was rendered.—The third topic covered by this discussion is the places of service, of which there are three—the homes, the schools, the clinics. The health department records show that 17 percent of the sampled families were contacted in the home at some time during the year. The information gathered from the families yields 14 percent on this point. It is entirely possible that seemingly casual calls by a member of the health department, such as a visit by the nurse to deliver a birth certificate, may not have been considered by the family as a health department contact.

The discrepancy falls the other way on service in schools, the family data showing 36 percent and the health department records 31 percent. This is in line with the consistent overstatement of services rendered in the schools.

The report on the clinics is less satisfactory. The health department recorded 19 percent of the sample of families as having been seen at clinics, and the families reported 9 percent. In explanation of this, it might be pointed out that certain services, involving a goodly number of individuals, were classified as clinic services by the health department but may not necessarily have been regarded as such by the family informants. Clinic is, of course, a generic term used freely by the medical profession to denote a place of organized group treatment, but the lay person is likely to refer to such places by their specific names. In County A a large number of adults applying for work on certain Public Works projects were given physical examinations by local physicians in clinics organized by the health department for that purpose. Relatively few of those in the surveyed families who were so examined reported the service as a clinic service and many of them failed to recognize it as a health department service at all. In County C many of the immunizations and Schick tests were reported as services received in the school or the office of the health department but were recorded by the health department as clinic activities.

Such a confusion of terms would not operate in every survey. Indeed, it is believed that this particular study constitutes a fairly severe test of the reliability of the family canvass. The informant was obliged to recall for a period of 12 months, personnel, types of service, and places of service. Many of the items she could know only if they had been reported to her. Remembrance of circumstances centering in the home, such as the illness of the members, would be much simpler than recalling the itemized relationship of the family and the individuals thereof with an outside agency.

There are other possibilities for error in data gathered from a canvass of families which it might be well to mention. The results shown in the foregoing pages might have been of a different character had many of the interviews been given by someone other than the female head of the household. The male head, a grandparent, or some other person might have been less informed and have recollected fewer contacts. It is not believed, however, that this is a circumstance so frequent as to constitute an obstacle, since a person making a houseto-house canvass does in most cases interview the female head of the family.

Again, a variation of some significance would have to be allowed for if there were extreme differences in the type of person who conducted the interviews. Workers vary in point of understanding and deftness in eliciting information, and the data which they secure will deviate accordingly. To minimize such variations only a few workers under the direction of a single supervisor were selected to conduct this series of studies. The workers were closely comparable in training and ability and had had extensive field experience. After a period of instruction and drill on the technique to be followed, each worker accompanied by the supervisor in charge conducted a series of interviews to insure that the same procedure was followed by all workers. The areas were then so assigned that most of the workers interviewed white and colored families and families residing in suburban areas, in small towns and villages, and on isolated rural premises.

#### SUMMARY

In summary of the foregoing, it seems that the family canvass is reliable within the limits that have generally been accepted. A comparison of the data furnished by these families with data taken from the health department records indicates that the family informants

presented from memory a close approximation of that which the health workers had set down as having taken place. Differences between the "Reported" and "Recorded" figures were usually associated with items calling for knowledge beyond the experience of the informant. The results concerning clinics were the least satisfactory, for the reason that many of the informants did not apply the term "clinic" to some familiar place where group service had been rendered. The overstatement of service from the health officer and school dentist largely reflects failure to distinguish between services classified by members of the health department staff as examinations, inspections, and dental treatments. School services rendered by the health officer, nurse, or school dentist, working alone, were frequently reported as physical examinations or physical and dental examinations with two or more staff members in assistance. The informants reported within 3 percent of the recorded figures the proportion of families served in the home, and to within 5 percent the proportion served in the school.

The comparisons afforded by their statements are offered, therefore, in testimony of the worth of the family survey as a means of gathering data relating to health service.

#### A STUDY OF DENTAL CARE IN DETROIT, MICH.

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In connection with the National Health Survey <sup>2</sup> a supplementary schedule was filled out in Detroit in order to obtain data regarding the extent and nature of dental care received in the general population of a large city. The Health Survey, which depended upon house-tohouse canvassing for the collection of facts, was devoted to determining the amount and kind of serious illness and chronic disease and the amount of medical care received during the period of 1 year prior to the date of the canvass in about 84 cities and some rural areas in 19 States. The relation of the data to population and environmental factors was a major aspect.

The supplementary schedule relating to dental care in Detroit, which was filled out in the course of the regular interview, was designed to give information of a character which was not available from the original schedule. The questions on this supplementary schedule covered the following points: (a) When the person last saw a dentist

<sup>&</sup>lt;sup>1</sup> From the Division of Public Health Methods, National Institute of Health.

<sup>&</sup>lt;sup>3</sup> The National Health Inventory, of which the survey was a part, was executed by the U. S. Public Health Service, with the aid of grants from the Works Progress Administration. The project was carried out under the general direction of Dr. L. R. Thompson, Director of the National Institute of Health, George St. J. Perrott, Project Director, and Clark Tibbitts, Field Director. Others concerned with the technical aspects of the Health Survey were Selwyn D. Collins, Principal Statistician, and the author of this report. The dental survey in Detroit was made on request of the Medical and Dental Bureau of Wayne County, Dr. O. W. White, Chairman, Professional Advisory Committee.

(exclusive of visits for cleaning of teeth only);<sup>3</sup> (b) The kind of dental service received during the period of 1 year <sup>4</sup> (extraction, filling, replacement,<sup>5</sup> treatment <sup>6</sup> of gums).<sup>7</sup> The color, occupation, and industry of the household head, and the sex and age of the individual, were also entered on the schedule.

The house-to-house canvass was made in the winter of 1935–36, the work extending over a period of about 5 months. Households were selected on a sampling basis to be representative of those in the city, the group consisting of about 20,000 families.<sup>8</sup> The dental schedule was not added until after the house-to-house canvass had been made of about 1,000 households; but it was not thought necessary to make return visits to secure the dental information from these households, since the remaining 19,000 households were regarded as an entirely adequate sample.

The information was usually given for all persons in a household by a member who was regarded as competent to answer the questions. The enumerators, who were selected from relief rolls, were carefully trained and the work was thoroughly checked. There is every reason to believe that the procedure afforded the degree of accuracy requisite for this type of survey and that the errors in the data are largely those involved in the difficulty a person giving the information would have in recalling events which occurred some time before. The questions were simple and could be answered without ambiguity.

The population surveyed, excluding persons under 3 years of age on their last birthday, was 70,554. Because of the method of sampling, this group is regarded as being representative of the whole population of Detroit with respect to dental care. Among these persons about a third <sup>9</sup> were reported as having been to a dentist during the year

<sup>&</sup>lt;sup>3</sup> The entry was made in years, with fractions for less than 1 year (2/12, 1/52). Thus there was little chance that an entry meant for a number of years would be taken as meaning a number of months. A special symbol was used for "Never having been to dentist." Throughout this paper dental service reported will be understood to be exclusive of visits for cleaning of teeth only.

<sup>•</sup> One or more of these items could be checked for one individual, but only one check was possible for a single type of service. The information obtained, therefore, was in regard to the number of persons making one or more visits to the dentist during the year for any one of these types of treatment or for any combination of them.

<sup>&</sup>lt;sup>4</sup> The enumerator was instructed to ask whether any teeth were replaced with plates, bridges, or crowns during the year.

<sup>&</sup>lt;sup>6</sup> The enumerator was instructed to ask whether there were any visits to a dentist for treatment of gums or mouth conditions. He was instructed *not* to include visits for cleaning of teeth only.

<sup>&</sup>lt;sup>7</sup> A further question dealt with whether the person still had any teeth the extraction of which had been recommended by a doctor or dentist. For various reasons, including the fact that the proportion of affirmative answers was higher for persons who had seen the dentist in the year than for those who had not, data on this point are not included in the paper. Since the data secured in this survey were largely the same, whether for the informant himself or for some other member of the family, consideration of this point is also omitted.

<sup>&</sup>lt;sup>8</sup> The sample was obtained by an arbitrary division of the census enumeration districts into units having about the same population, every nineteenth unit being completely enumerated.

<sup>•</sup> This figure may be compared with that of 24 percent in the survey in 1928-31 of the Committee on the Costs of Medical Care (also 3 years of age and over). See "The Incidence of Illness and the Receipt and Cost of Medical Care Among Representative Families: Experiences in Twelve Consecutive Months During 1928-31" by I. S. Falk, Margaret C. Klem, and Nathan Sinai. Publication No. 26 of the Committee on the Costs of Medical Care. 1933.

preceding the date of the canvass (referred to in this paper as "study year"). Of these, 11 percent received no dental service other than the extraction of teeth. In the belief that extractions frequently represent the treatment of economic necessity rather than the treatment of choice, they have not been included in most of the accompanying tables.

The estimates of dental care based on visits to dentists for specified treatment were much less for the Negro population in Detroit than



FIGURE 1.—Percentage of white persons of specific ages who were reported to have received dental care (exclusive of extractions only) during the study year.

for the white population. To avoid the confusion of combining the figures for white and colored persons, most of the following tables have been limited to white persons. Certain comparisons by color will be made later in this paper.

As would be expected, the percentage of persons reporting visits to dentists during a year varies greatly with their age. Among white persons from 3 to 5 years of age, only 7 percent were reported as having seen a dentist during the year (excluding visits for extractions only). This percentage rose to a maximum of 31 in the age group 15–19 and gradually decreased during adult life, so that for persons over 65 years of age the percentage was only 6. The curve by age is shown in figure 1. (Data in Appendix, table A.) The comparison suggests that visits to dentists may be related to urgency associated with dental disease, since visits increase up to adult life. It is believed



FIGURE 2.—Percentage of white persons (3 years of age and over) by time since last reported visit to the dentist.

that this is also true of attack by dental caries. Data secured in this survey were not of a character to explain the rapid decline in adult life.

The information received in the survey was not entirely limited to the experience of the year prior to the date of the visit, as one of the questions asked was how long since a person had been to the dentist. For periods of more than a year, however, it was not possible to exclude visits for extractions only. Figure 2 gives the cumulative percentage of white persons 3 years of age and older against the time since the last reported visit to the dentist. (Data in Appendix, table B.) It will be observed from the table that about 65 percent were reported to have been to the dentist within 5 years and about 19 percent as never having been to the dentist.

It is obvious that the proportion of persons who were reported as never having been to a dentist will be especially affected by the factor of age. In table 1, accordingly, this percentage is given for specific age groups. It varies from a maximum of 85 percent for persons in the age group 3-5 years to a minimum of 8 percent for persons in the age group 25-34 years. The slight increase in the percentages for persons of more advanced age is probably due partly to the question of memory and partly to an increased amount of dental care at the present time.

 TABLE 1.—Percentage of white persons who were reported as never having been to a dentist, by age

Age group	Percentage	Number who had never been to dentist	Population surveyed
Total 1	18.5	12, 280	66, 463
3-5	85.0	3, 113	3, 663
6-8	46.4	1, 751	3, 772
9-11	26.7	1, 047	3, 925
12-14	22.7	929	4, 089
15-19	16.6	1, 041	6, 278
20-24	11.6	694	5, 974
25-34	8.2	977	11, 934
35-44	8.9	1, 107	12, 439
45-64	10.7	1, 262	11, 775
65+	12.4	295	2, 370

13 years and older; includes unknown age.

Occupations of the household head were grouped on the basis of socio-economic class as follows: (a) Professional persons; (b) Wholesale and retail dealers, other proprietors, managers and officials; (c) Clerks, salesmen and kindred workers; (d) Skilled workmen and foremen; (e) Semi-skilled workers; (f) Unskilled workers; (g) Servant class.

Table 2 shows for each of these socio-economic classes, the percentage of white persons, 3 years of age and over, who were reported to have received dental care (exclusive of extractions only) during the period of 1 year prior to the date of the visit. Whereas the percentage in families of which the head was a professional person is 42, it falls as low as 16 for families of which the head was an unskilled worker.

**TABLE 2.**—Percentage of while persons (S years and older) reported to have received dental care (exclusive of extractions only) during the study year, by socio-economic class of household head

Socio-economic class of household head	Percent	Persons receiving care	Population surveyed
Professional persons	42. 5	1, 158	2, 726
Dealers, etc	30. 0	2, 123	7, 069
Clerks, etc	30. 6	2, 682	8, 757
Skilled workmen and foremen	20. 8	3, 676	17, 698
Semiskilled workers.	17. 2	3, 313	19, 245
Unskilled workers.	16. 3	1, 416	8, 690
Servants.	18. 3	313	1, 714

The Fundamentals study of the Committee on the Costs of Medical Care <sup>10</sup> concluded that all persons 3 years of age and over should receive some dental care every year. Exclusive of cases where the only visit was for extractions, that was true of 42 percent of persons in families in which the household head was a professional person; inclusive of cases where the only care was for extractions, the percentage was 51.

The survey followed a period of intense depression during which dental care was probably neglected in a large part of the population. At the time of the canvass the degree of recovery in Detroit would lead one to expect that many persons would be making long postponed calls to dentists. It is reasonable to assume, therefore, that the figures shown in this analysis, especially for certain groups of the population, are somewhat in excess of what would be found during a normal period. For this reason the differences for families on various socio-economic levels may not be as great as they would be in a normal period.

The ratio of the percentage of persons receiving dental care in different socio-economic groups to that for professional persons is not uniform at different ages. The percentages and the ratio for the different age groups are therefore shown in the Appendix, table C. In order to have sufficient numbers to furnish reliable results, certain of the socio-economic groups have been combined. It is evident that the relative lack of dental care in the semiskilled and unskilled groups is very much greater for children than it is for young adults. There is also a tendency for an increasing difference in late adult life.

Table 3, giving the proportion of adults reported as never having been to a dentist, by socio-economic class of the household head, shows a very great contrast between the professional and other groups, the proportion being four times as great for the unskilled as for the professional.

<sup>&</sup>lt;sup>10</sup> The Fundamentals of Good Medical Care: An Outline of the Fundamentals of Good Medical Care and an Estimate of the Service Required to Supply the Medical Needs of the United States. By Roger I. Lee and Lewis Webster Jones. Publication No. 22 of the Committee on the Costs of Medical Care. 1933.

Socio-economic class of household head	Percent	Number who never had been to dentist	Population surveyed
Professional persons	4.4	87	1, 966
Dealers, etc	7.2	349	4, 842
Clerks, etc	6.2	384	6, 192
Skilled workmen	9.5	1,090	11, 506
Semiskilled workers	10.5	1,323	12, 594
Unskilled workers	16.3	946	5, 787
Servants	10.5	128	1, 222

 TABLE 3.—Percentage of white persons (20 years and older) who were reported as

 never having been to a dentist, by socio-economic class of household head

The colored population may perhaps most easily be regarded as forming an additional socio-economic class. In table 4, therefore, the percentage of persons reported to have received dental care (exclusive of extractions only) during the year preceding the date of the visit, is shown for the professional white group, for the total white group, and for the colored. The very great contrast between the white and colored population is evident. Five times as many individuals in households of professional persons (white) were reported to have received dental care (exclusive of extractions) as in the colored population.<sup>11</sup>

 TABLE 4.—Percentage of persons reported to have received dental care (exclusive of extractions only) during the study year, by color, in 2 broad age groups

	Total 1	3 to 19 years	20 years and older
Percent: White: Professional Total. Colored Persons receiving care: White:	42. 5 22. 3 8. 4	44. 7 23. 2 10. 2	41. 8 21. 9 7. 5
Professional Total Colored Population surveyed: White:	1, 158 14, 808 343	335 5, 031 135	822 9, 731 206
Professional Total Colored	2, 726 66, 463 4, 091	750 21, 727 1, 319	1, 966 44, 492 2, 738

13 years and older; includes unknown age.

Up to this point the percentages have not been given separately for the two sexes. The differences are not sufficiently great to affect any of the comparisons which have been made, but it is of interest to note that a slightly higher proportion of women appears to have received dental care, which may be associated with greater need. (See Appendix, table D.)

<sup>&</sup>lt;sup>11</sup> In this comparison no allowance can be made for possible differences in the need for dental care among white and colored persons. In view of the fact that the incidence of dental caries is known to be lower in the colored race it is clear that the need for that part of dental care associated with dental caries must be lower for colored.

It has been brought out that 33 percent of white persons were reported to have received dental care during the year before the date of the visit. Eleven percent of these persons made their visits for extractions only, 11 percent for fillings only, and 4 percent for fillings and extractions. Table 5 indicates the percentage of persons reported to have made visits for different types of treatment.<sup>12</sup> Various combinations are shown and also the percentage of persons who made visits for any one kind of treatment, regardless of whether they also made visits for some other kind of treatment.

TABLE	5.—Percentage of	white persons (3 year	's and older) who	were reported to have
	received dental	care during the study	year, by type of	f treatment

Type of treatment	Percent	Number
Any care. Filling only. Filling, replacement, and extraction Filling and extraction. Replacement only. Treatment of gums only. Other combinations of above. Totals: Filling. Replacement. Extraction. Treatment of gums. Other treatment. Cother treatment. Unknown as to nature. Any, exclusive of extractions only	$\begin{array}{c} 32.7\\ 32.7\\ 11.2\\ .5\\ 4.1\\ 1.1\\ .9\\ .6\\ 10.5\\ 1.4\\ 16.9\\ 3.3\\ 16.7\\ 1.6\\ .1\\ 2.0\\ 22.3\end{array}$	$\begin{array}{c} 21, 784\\ 7, 466\\ 361\\ 2, 727\\ 733\\ 606\\ 397\\ 6, 976\\ 916\\ 11, 242\\ 2, 163\\ 11, 103\\ 1, 081\\ 1, 342\\ 14, 808\\ \end{array}$
Persons surveyed		66, 463

The nature of the dental care received in different age groups is shown in figure 3 (Appendix, table E). It will be noted that considerable difference exists in the relative incidence of the various types of treatment at different ages.

There is a marked difference by socio-economic class with respect to fillings and treatment of the gums and to a lesser extent in the case of replacement. For extractions, however, there is, if anything, a tendency for higher percentages in the lower socio-economic groups.<sup>13</sup> Where this tendency is real it would indicate the substitution of extractions for fillings. Table F, in the Appendix, gives the percentages reporting dental care and the ratio to the percentages for the professional group in four different age periods.

A similar comparison is made for the colored population in the Appendix, table G, which reveals very wide differences. White persons in the professional group showed a percentage about eight times as

<sup>&</sup>lt;sup>13</sup> The fact that only 2.0 percent were recorded as having been to a dentist, with no information as to the nature of the treatment, makes us feel an additional confidence in the data covering the percentage of persons who were reported as having seen the dentist within 1 year.

<sup>&</sup>lt;sup>13</sup> This is in agreement with findings based on further analysis of the data obtained in the survey reported in Public Health Bulletin No. 226 (Dental Survey of School Children, ages 6 to 14 years, made in 1933-34 in 26 States).

great as that for colored persons in the case of fillings, and large differences also for other types of treatment except extractions.

#### SUMMARY

As a part of the National Health Inventory, a supplementary schedule was utilized in one city (Detroit, Mich.) to determine the amount and kind of dental care received by a representative sample



FIGURE 3.—Percentage of white persons of specific ages who were reported to have received dental care of certain kinds during the study year.

of the population (70,554 persons 3 years of age and over being surveyed). Information was secured by house-to-house canvass as to when the person had last seen a dentist and the type of treatment received in the year before the date of the canvass. Visits for cleaning of teeth only were excluded. The items were related to the age and sex of the persons, and the color and socio-economic class of the household head. The following facts stood out (they are based on white persons 3 years of age and over except where otherwise specified):

1. Thirty-three percent (22 percent if visits for extractions only are excluded) were reported to have seen the dentist in the year before the date of the canvass.

2. The differences with age were marked, varying from 7 percent (excluding visits for extraction only) in the age group 3 to 5 years, to 31 percent in the age group 15 to 19 years, and down to 6 percent in the age group 65 years and over.

3. The proportion who had never seen a dentist varied from 85 percent in the age group 3 to 5 years to 8 percent in the age group 25 to 34 years, being 19 percent for the whole group.

4. The percentage of persons reported as having seen a dentist in the year before the date of the canvass (exclusive of visits for extractions only) varied greatly with socio-economic class of the household head—from 42 percent for professional to 16 percent for unskilled workers. For colored persons the figure was 8 percent.

5. The dental care received during the year before the date of the canvass was largely for extraction and/or filling, with characteristic differences by age.

6. Extractions showed slightly higher percentages in the lower socio-economic groups. All other types of treatment showed the reverse, especially fillings (about three times as much in professional as in unskilled). An even greater difference showed up in comparing persons in white professional families with the colored population.

#### Appendix

 TABLE A.—Percentage of white persons reported to have received dental care (exclusive of extractions only) during the study year, by age

Age group	Percent	Persons re- ceiving care	Population surveyed
Total 1	22. 3	14, 808	66, 463
3-5 6-8 9-11 12-14 15-19 20-24 20-24 25-34 35-44 45-64 65+	7. 1 19. 7 24. 6 26. 6 31. 5 30. 7 28. 2 21. 6 14. 4 6. 2	260 742 966 1, 087 1, 976 1, 832 3, 369 2, 685 1, 699 146	3, 663 3, 772 3, 925 4, 069 6, 278 5, 974 11, 934 12, 439 11, 775 2, 370

i 3 years and older; includes unknown age.

TABLE B	-Percentage of	f white per	sons (S	years as	nd older),	by time	since last	reported
		v	isit to th	ie dentu	st	•		•

	Per	cent	
Time since last visit to dentist	Simple	Cumula- tive	Number
Less than 1 year. Excluding extractions only. 1 year. 2 years. 3 years. 4 years. 6 years. 7-9 years. 10 years and over. Never been to dentist. Total persons surveyed 1.	82.8 (22.8) 11.1 12.0 5.6 8.2 3.9 1.9 2.7 6.2 18.5	32.8 43.9 61.5 64.7 68.6 70.5 78.2 79.4	21, 784 (14, 808) 7, 894 7, 993 8, 694 2, 122 2, 616 1, 268 1, 819 4, 107 12, 280 66, 463

<sup>1</sup> Includes unknown as to whether a dentist was ever seen and unknown time since last visit to dentist.

**TABLE C.**—Percentage of while persons reported to have received dental care (exclusive of extractions only) during the study year, by socio-economic class of household head and by age

Socio-economic class of house-		Age group										
hold head	Total	3-5	6-8	9–11	12-14	15-19	20-24	25-34	35-44	45-64	65+	
Ratio to professional: Professional persons Dealers and clerks Skilled workmen and fore-	100 72	100 69	1 100 61	1 100 68	<sup>1</sup> 100 74	1 100 81	1 100 78	1 100 77	100 71	100 64	100 67	
men Semi- and unskilled work-	49	40	42	50	52	60	59	53	47	35	32	
ers and servants	40	22	28	34	39	52	52	46	34	30	40	
Professional persons Dealers and clerks Skilled workmen and fore-	42.5 30.4	17.2 11.9	51.4 28.2	51, 1 34, 4	48.2 37.7	55.9 41.3	45. 9 39. 3	53.0 37.1	42.9 30.5	<b>33.</b> 7 21. 5	13.0 8.7	
men	20.8	6.8	19.4	25. 2	26.7	30. 5	30.0	25. 4	20.0	11.9	4.2	
ers and servants	17.0	8.8	12.8	17.4	19.9	26.4	26.3	22.1	14.6	10. 0	5. 2	
Professional persons Dealers and clerks Skilled workmen and fore-	1, 158 4, 805	27 105	72 241	71 292	65 323	100 528	94 498	287 1, 155	258 959	167 636	16 48	
men	3, 676	64	210	288	814	539	419	718	714	377	23	
ers and servants	5, 042	63	214	308	375	785	799	1, 185	735	508	57	
Professional persons Dealers and clerks Skilled workmen and fore-	2, 726 15, 826	157 880	140 855	139 850	135 858	179 1, 278	205 1, 267	541 3, 112	602 3, 145	495 2, 956	123 554	
men.	17, 698	944	1, 081	1, 143	1, 177	1, 770	1, 396	2, 825	3, 569	3, 163	553	
ers and servants	29, 649	1, <b>6</b> 65	1, 672	1, 768	1, 887	2, 974	3, 041	5, 364	5, 037	5, 062	1, 099	

<sup>1</sup> Ratios based on smoothed values for the percentage of professional persons receiving care.

	Total 1	3 to 19 years	20 years and older
Percentage: Male Female Persons receiving care:	20. 0 24. 7	21. 8 25. 2	19. 5 24. 4
Male Female Population surveyed:	6, 707 7, 949	2, 304 2, 681	4, 398 5, 260
Male Female	33, 474 32, 254	10, 843 10, 665	22, 577 21, 550

 TABLE D.—Percentage of white persons reported to have received dental care (exclusive of extractions only) during study year, by sex, in two broad age groups

13 years and older; includes unknown age.

 
 TABLE E.—Percentage of white persons reported to have received dental care during the study year, by type of treatment and by age

				Per	cent			
Age group (yéars)	Any care <sup>1</sup>	Extrac- tions only	Extrac- tions, total	Filling	Replace- ment	Treat- ment gums	Other and unknown	Persons
3-5	7.1 19.7 24.6 31.5 30.7 28.2 21.6 14.4 6.2	4.6 16.4 18.2 12.2 9.4 10.3 10.6 10.8 8.8 4.0	5.4 20.5 25.5 18.5 19.6 19.6 18.3 17.0 13.9 5.5	4.6 15.1 19.7 22.2 27.7 25.9 22.3 15.8 7.5 2.0	0.3 .5 1.5 3.2 3.9 5.0 5.7 3.0	0.8 1.0 1.4 1.2 1.6 2.1 2.1 1.8 1.5 .6	1.7 3.89 3.5 2.5 2.4 2.8 2.1 1.5 .9	
3-5	260 742 966 1,087 1,976 1,832 3,369 2,685 1,699 146	170 618 714 498 593 617 1, 268 1, 346 1, 038 94	197 773 1,000 758 1,105 1,172 2,180 2,119 1,633 130	170 569 772 907 1, 739 1, 547 2, 666 1, 907 883 48	11 11 19 95 194 463 623 669 72	28 39 56 103 123 256 228 181 15	64 144 153 143 160 142 334 258 173 22	3, 663 3, 772 3, 925 4, 089 6, 278 5, 974 11, 934 12, 439 11, 775 2, 370

<sup>1</sup> Excluding extractions only.

#### **TABLE F.**—Percentage of white persons reported to have received dental care during the study year, by type of treatment and by socio-economic class of household head, in 4 age groups (6 to 64 years)

	Rati	io to r	rofess	ional		Perc	entage	Number				sur-	
Age group and socio- economic class of household head	Extraction only	Pulling	Replace- ment	Treatment, gums	Extraction only	Filing	Replace- ment	Treatment, gums	Extraction only	Filling	Replace- ment	Treatment, gums	Population veyed
6 to 14 years													
Professional persons Deslers, etc Clerks, etc Skilled workmen Semiskilled workers Unskilled workers Servants	100 129 107 125 131 117 128	100 65 75 51 37 80 28	100 19 46 73 58 94 88	100 23 26 36 18 20 21	12.6 16.3 13.5 15.7 16.5 14.7 16.1	<b>38.6</b> 25.2 29.1 19.5 14.2 11.6 11.0	0.48 .09 .22 .35 .28 .45 .45	4.11 .94 1.08 1.50 .76 .84 .85	52 191 188 534 586 226 38	140 295 405 662 504 179 26	2 1 8 12 10 7 1	17 11 15 51 27 13 2	414 1, 169 1, 394 3, 401 3, 549 1, 542 236
15 to \$4 years													
Professional persons Deslers, etc Clerks, etc Skilled workmen Semiskilled workers Unskilled workers Servants	100 120 140 137 160 184 130	100 86 81 62 54 50 66	100 95 73 76 91 72 87	100 71 55 52 53 89 65	7.0 8.4 9.8 9.6 11.2 9.4 9.1	42. 2 36. 2 34. 2 26. 3 22. 6 21. 3 27. 9	2.86 2.72 2.08 2.18 2.59 2.06 2.49	3. 39 2. 40 1. 85 1. 77 1. 80 1. 31 2. 21	27 105 127 304 412 186 33	162 452 444 834 828 424 101	11 34 27 69 95 41 9	13 30 24 56 66 26 8	384 1, 248 1, 297 3, 166 3, 666 1, 987 362
25 to 44 years													
Professional persons Dealers, etc Clerks, etc Skilled workmen Semiskilled workers Unskilled workers Servants	100 119 118 141 150 121 139	100 65 71 45 35 37 38	100 96 85 72 58 61 77	100 69 79 50 43 49 47	8.0 9.5 9.4 11.3 12.0 9.7 11.1	87.7 24.4 26.9 16.8 13.3 14.0 14.5	6. 1 5. 9 5. 2 4. 43 3. 55 3. 76 4. 71	<b>8</b> . 50 2. 42 2. 75 1. 75 1. 52 1. 70 1. 63	92 238 352 724 888 240 61	431 614 1,006 1,073 983 346 80	70 148 195 283 262 93 26	40 61 103 112 112 42 9	1, 143 2, 518 3, 739 6, 394 7, 373 2, 476 552
45 to 64 vears													
Professional persons Dealers, etc Skilled workmen. Semiskilled workers Unskilled workers Servants	100 111 104 114 116 94 115	100 61 71 32 26 22 26	100 76 68 51 45 44 57	100 53 58 34 32 35 66	8.1 9.0 8.4 9.2 9.4 7.6 9.3	18.6 11.3 13.1 6.0 4.79 4.15 4.78	10. 1 7. 7 6. 8 5. 2 4. 55 4. 48 5. 7	<b>a</b> . 64 1. 93 1. 93 1. 23 1. 15 1. 29 <b>2</b> . 39	40 130 127 291 270 136 39	92 164 198 191 137 74 20	50 112 103 166 130 80 24	18 28 29 39 83 23 10	495 1, 450 1, 506 3, 163 2, 859 1, 785 418

			Ty	pe of treat	nent		
	Extrac- tions, total	Extrac- tions only	Filling	Replace- ment	Treat- ment, gums	Other and un- known	Total number of persons
Total: 1							
Percent:		I		1		1	1
White:				1			
Professional	15.7	8.2	31.9	5.1	3.67	4.37	
Total	16.7	10.5	16.9	3.25	1.63	2.13	
	13.0	11.0	3.91	1.56	1.12	1.46	
Number receiving care:							1
Professional	428	994	840	1 140	100	110	0 796
Total	11, 103	6.976	11 242	2 163	1 081	1 416	66 463
Colored	533	448	160	64	46	1,110	4 091
3-19 years:						~	1,001
Percent:							
White:							
Professional	14.9	8.5	35.1	0.53	4.53	4.40	
Total	17.6	11.9	19.1	0.63	1. 27	2.55	
Colored	8.0	7.0	4. 32	0.08	1.14	2.66	
Number receiving care:							
Professional	112	64	262		24	92	750
Total	3 833	2 593	4 157	126	976	554	91 797
Colored	106	92	57	100	15	35	1 319
20 years and older:				•		~	1,010
Percent:							
White:							
Professional	16.0	8.0	30.8	6.9	3.36	4.37	
Total	16.3	9.8	15.8	4. 54	1.80	1. 92	
Colored.	12.0	12.9	3.73	2.30	1, 13	. 88	
Number receiving care:							
W LLU: Professional	214	159	605	126	66	94	1 066
Total	7.234	4 343	7 051	2 021	803	853	44 492
Colored	424	353	102	63	31	21	2,738
				~			2,100

TABLE	G.—Percen	tage of p	ersons	reported	to i	have	received	dental	care o	during	the
	study year	, by type	of treat	ment and	by	color	, in 2 bro	oad age	group	)8 -	

1 3 years and older.

#### DEATHS DURING WEEK ENDED MARCH 5, 1938

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

	Week ended Mar. 5, 1938	Correspond- ing week, 1937
Data from 86 large cities of the United States:         Total deaths.         Average for 3 prior years.         Total deaths, first 9 weeks of year.         Deaths under 1 year of age.         Average for 3 prior years.         Deaths under 1 year of age, first 9 weeks of year.         Deaths under 1 year of age, first 9 weeks of year.         Deaths under 1 year of age, first 9 weeks of year.         Deaths under 1 year of age, first 9 weeks of year.         Deaths force.         Policies in force.         Number of death claims.         Death claims per 1,000 policies in force, annual rate.         Death claims per 1,000 policies, first 9 weeks of year, annual rate.	8, 753 9, 998 80, 488 534 639 4, 835 69, 774, 021 14, 031 10. 5 10. 1	9, 612 95, 158 620 5, 801 69, 355, 137 16, 894 12, 7 11, 6

#### **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.

In these and the following tables a zero (0) is to be interpreted to mean that no cases or deaths occurred, while leaders (....) indicate that cases or deaths may have occurred although none were reported.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended March 12, 1938 and March 13, 1937

	Diph	theria	Influ	16DZ8	Me	asles	Mening meni	ococcus ngitis
Division and State	Week ended Mar. 12, 1938	Week ended Mar. 13, 1937	Week ended Mar. 12, 1938	Week ended Mar. 13, 1937	Week ended Mar. 12, 1938	Week ended Mar. 13, 1937	Week ended Mar. 12, 1938	Week ended Mar. 13, 1937
New England States: Maine New Hampshire Vermont Massachusets Rhode Island Connecticut	7 0 6 1 7	0 0 0 1 2	8	116  42	147 26 259 260 2 20	15 11 810 253 625	0 0 1 1 0	0 0 5 1 0
Middle Atlantic States: New York New Jersey Pennsylvania Post North Control States:	33 21 46	44 10 47	<sup>1</sup> 10 28	1 47 39	1, 881 1, 186 7, 982	577 2, 015 299	11 3 5	11 1 6
Dhio	21 33 37 12 4	17 15 36 14 3	17 19 1 53	147 91 75 3 91	2, 984 906 6, 451 4, 449 4, 970	137 10 49 64 22	4 0 4 1 0	14 4 5 2 2
West North Central States: Minnesota Iowa Missouri North Dakota South Dakota Nebraska Vebraska Vebraska	0 4 26 4 0 4	16 4 18 4 2 3 13	6 17 109 2 1 21 3	2 4 195 4 	68 163 986 9 12	38 4 13 3 4 8 10	02 30 04	1 1 3 0 0 1 2
Kansas South Atlantic States: Delaware	4 0 5 9 10 8 22 4 9 14	13 0 7 12 6 18 7 13 7	3  35 7 338 	43 1 64 14 353 278 1, 602 1, 125 20	417 28 85 12 401 357 2,994 454 420 1,313	10 99 659 106 241 7 120 44 3	0 1 0 2 5 1 2 1 0	1 5 3 11 6 7 2 2 3
Kentucky Tennessee Alabama Mississippi <sup>1</sup>	8 11 11 5	14 3 9 0	24 59 214	179 452 2, 019	576 513 1, 108	81 8 33	6 3 8 1	23 4 20 5

See footnotes at end of table.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended March 12, 1938 and March 13, 1937—Continued

		Diph	theria	Infl	uenza	Me	asles	Menin meni	gococcus ingitis
Division and State		Week ended Mar. 12, 1938	Week ended Mar. 13, 1937	Week ended Mar. 12, 1938	Week ended Mar. 13, 1937	Week ended Mar. 12, 1938	Week ended Mar. 13, 1937	Week ended Mar. 12, 1938	Week ended Mar. 13, 1937
West South Central States:									
Arkansas		11	2	174	260	501	<u>-</u> -	1	20
Oklahoma 4		15	10	133	300	83	25	i	10
Texas 3		44	54	726	2,099	309	420	5	10
Mountain States:		<b>,</b>	<b>,</b>		97	80	46	<u>م</u> ا	<u>ہ</u>
Idaho		Ĩ	Ĩ	17	5	ĩ	29	ŏ	ŏ
Wyoming		0	0			32	4		0
New Mexico	•••••	15		4	81	89	100	Ĭŏ	Ó
Arizona		Ō	2	99	73	42	181	Ŏ	ļ
Utah <sup>1</sup>		0	0			273	23	0	0
Washington		0	3	2	2	8	29	1	2
Oregon		0	0	57	34	16	7	0	
					010	040			
Total		524	450	2, 278	11, 131	43, 802	7, 342	85	210
First 10 weeks of year		6, 327	5, 506	29, 694	235, 680	216, 689	52, 676	<del>94</del> 3	1, 628
	Polion	oliom yelitis Scar		yelitis Scarlet fever Smallpox T		Typhoid and paratyphoid fevers		Whoop- ing cough	
Division and State	Week ended Mar. 12 1938	Week ended Mar. 13 1937	Week ended Mar. 12 1938	Week ended Mar. 13 1937	Week ended Mar. 12 1938	Weck ended Mar. 13 1937	Week ended Mar. 12 1938	Week ended Mar.13 1937	Week ended Mar. 12 1938
New England States:									
Maine	Ů	0	17	17	0	0 0	Ŭ	1	04 7
Vermont	ž	ŏ	19	6	Ŏ	Ŏ	Ŏ	ō	19
Massachusetts	0	0	407	256	0	0	0	2	120
Connecticut	ŏ	ŏ	107	112	ŏ	ŏ	ŏ	ĭ	76
Middle Atlantic States:			007	1 000					451
New York	2	Ů	937	1,020	ŏ	ŏ	3	2	401 219
Pennsylvania	ō	ŏ	759	749	Ŏ	Ŏ	7	6	309
East North Central States:			471	370	10	2	R	8	188
Indiana	ŏ	ŏ	155	238	28	õ	ŏ	ŏ	23
Illinois	2	2	714	888	45	24	5	6	122
Michigan Wisconsin	0	Š Š	182	379	3	14	12	2	108
West North Central States:	v	, v							
Minnesota	0	9	153	161	10	38	0	1	18 25
Missouri	ŏ	ō	230	269	50	70	3	6	60
North Dakota	Ō	Ō	14	56	9	3	0	0	20
Nobreske	0 0	<u> </u>	45	87 57	12	ž	N N	N I	34 9
Kansas	ŏ	ŏl	207	492	20	32	č	ž	116
South Atlantic States:			12	10					1
Maryland 3	N N	Ň	13 74	31	ö	ŏ	ŏ	2	45
District of Columbia	ŏ	ŏ	24	9	ŏ	Ō	Ŏ	<u>o</u>	5
Virginia	<u>o</u>	<u> </u>	36	31	0 0	<u>o</u>	2	3	122
North Carolina	4	1 I	27	28	1	ŏl	3	ŏl	412
South Carolina	ō	ô	3	n	ō	ŏ	Ō	3	56
Georgia *	3	<u></u>	8	22	2	0	0	3 5	56 10
* INI ING	~ 1	~ 1		~ 1	¥ 1	~ 1	~ 1		

See footnotes at end of table.

	Polion	nyelitis	Soarle	t lever	Sma	llpox	Typhe parat; fev	Whoop- ing cough	
Division and State	Week ended Mar. 12 1938	Week ended Mar. 13 1937	Week ended Mar. 12 1938						
Fast South Central States									
Kentucky	2	1	114	46	7	0	0	5	50
Tennessee	ō	ō	28	18	14	Ō	2	3	28
Alabama	l i	ž	17	17	Ō	Ŏ	3	3	32
Mississippi	l ī	5	1	13	i	Ó	1	0	
West South Central States:	-	-	_		_				
Arkansas	0	1	5	12	9	5	6	2	34
Louisiana	l i	Ō	19	9	2	0	21	13	18
Oklahoma 4	Ō	Ó	35	34	16	3	1	4	43
Teras :	2	2	139	112	28	1	10	9	<b>3</b> 55
Mountain States:									
Montana	0	0	46	36	7	18	0	0	16
Idaho	l i	Ó	16	19	10	1	2	0	13
Wyoming	Ō	Ō	14	19	0	2	0	0	45
Colorado	Ó	Ŏ	45	42	3	0	0	0	9
New Mexico	Ŏ	Ŏ	16	30	ī	Ŏ	Ó.	Ó	81
Arizona	Ŏ	Ō	9	4	2	Ó	0	0	42
Utah 3	Ŏ	Ŏ	57	16	1	Ó	Ó	0	30
Pacific States!	, i	-			_	-			
Washington	0	0	55	29	81	6	2	5	179
Oregon	l i	Ŏ	35	24	46	36	2	3	16
Oalifornia	ī	i	235	234	24	11	4	4	529
Total	24	16	6, 900	7, 739	500	285	106	116	4, 542
First 10 weeks of year	216	211	61, 200	65, 463	5, 684	2, 942	1, 173	1, 101	40, 631

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended March 12, 1938 and March 13, 1937—Continued

New York City only.
 Period ended earlier than Saturday.
 Typhus fever, week ended Mar. 12, 1938, 10 cases as follows: Georgia, 5; Texas, 5.
 Figures for 1937 are exclusive of Oklahoma City and Tulsa.

#### SUMMARY OF MONTHLY REPORTS FROM STATES

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

State	Menin- gococ- cus menin- gitis	Diph- theria	Influ- enza	Mala- ria	Mea- sles	Pel- lagra	Polio- mye- litis	Scarlet fever	Small- pox	Ty- phoid fever
February 1933 California District of Colum- bia Florida Maine Maine Nebraska New Jersey Vermont West Virginia Wyoming	11 2 7 7 1 2 8 0 19 1	134 59 55 22 3 41 85 2 34 4	404 3 20 49 33 23 72 4 247 1	1 	1, 174 34 1, 663 204 431 66 5, 372 858 1, 684 25	5 1 8 	11 1 3 0 1 1 1 1 0 8 0	870 76 55 998 62 274 509 68 229 64	164 0 1 171 0 37 0 0 0 10	<b>2</b> 6 2 8 5 3 1 4 2 24 0

#### Summary of monthly reports from States-Continued

February 1958		February 1938—Continu	ed	February 1958—Continu	ed
Chickenner	Cases	Hookworm disease:	Cases	Tetenue.	Cases
California	. 104	Floride	790	California	1
District of Columbia	3990	Tenndice anidemia	100	Floride	- î
Florida	197	Celifornie	10	Trechome	•
Town	959	Tanpoev.	40	Celifornie	94
Maina	240	California	2	Trichingsis:	
Nahraska	215	Mumps	-	California	
New Jersey	3 228	California	1.666	Floride	ĭ
Vermont	190	Florida	68	New Jersov	î
West Virginia	252	Iowa	56	Tulomomio.	•
Wyoming	87	Maine	74	I ulai aciula.	1
Dysentery.	•••	Nebraska.	115	Now Jarsov	1
California (amochic)	8	New Jersey	896	Men has former	
California (bacillary)	13	Vermont.	530	Typnus lever:	10
District of Columbia		West Virginia	28	F IOFICIA	10
(amoebic)	1	Wyoming	48	Undulant lever:	10
Florida (amoebic)	ī	Ophthalmia neonatorum:		California.	10
Maine (bacillary)	8	Florida	1	Florida	2
New Jersey (amoebic).	ĭ	New Jersey	17	IOW8	10
Encenhalitis enidemic or		Paratyphoid fever:		New Jersey	2
lethargie:		California	2	vermont	-
California	2	Florida	2	Vincent's infection:	
Florida	1	New Jersey	1	Fiorida	00
Food poisoning.	-	Rables in animals:		Maine	Ð
Celifornie	73	California	149	Whooping cough:	
Comon moseles:		Florida	2	California	1, 423
Celifornie	74	New Jersey	5	District of Columbia	31
Floride	12	west virginia	0	F IOFICA	
Towe	8	Septic sore throat:		10W8	11/
Meine	21	California	ŏ	Maine.	218
Now Jercov	68	10%8	, A	Neoraska	702
Vermont	13	Maille	17	New Jersey	100
Granuloma comidioidal:	~	West Vinginio	1/	Wost Virginia	970
California		West virginia		Wyoming	610 65
	5	w young	1	1 w yourng	00

#### PLAGUE INFECTION IN SANTA CRUZ COUNTY, CALIF., AND ADAMS COUNTY, WASH.

Under date of March 10, 1938, Dr. W. M. Dickie, Director of Public Health of California, reported that plague infection had been proved, by culture and animal inoculation, in 41 fleas taken on February 3 from 2 *beecheyi* squirrels from a ranch 4 miles northeast of Watsonville, Santa Cruz County, Calif.

Under date of March 15, 1938, Senior Surgeon E. R. Eskey, in charge of plague suppressive measures at San Francisco, Calif., reported that plague infection had been proved, by culture and animal inoculation, in tissue from 1 *Citellus townsendi* squirrel shot March 7, 1938, 2 miles east of Lind, Adams County, Wash.

#### CASES OF VENEREAL DISEASES REPORTED FOR JANUARY 1938

These reports are published monthly for the information of health officers in order to furnish current data as to the prevalence of the venereal diseases. The figures are taken from reports received from State and city health officers. They are preliminary and are therefore subject to correction. It is hoped that the publication of these reports will stimulate more complete reporting of these diseases.

#### Reports from States

	Syr	ohilis	Gone	orrhea
	Cases reported during month	Monthly case rates per 10,000 population	Cases reported during month	Monthly case rates per 10,000 population
Alabama 1				
Arizona I	799	2 55		1 95
California	1 557	2 53	1 341	9 19
Colorado	28	.24	16	. 15
Connecticut	217	1.25	105	. 60
Delaware	240	9.20	71	2.72
District of Columbia	190	3.03	141	2. 25
Florida 1				
Georgia	1,685	5.47	293	. 95
Idano	1 020	1.03	1 009	- 67
Indiana	340	1 00	1,000	1.20
Tows	301	1.18	162	. 63
Kansas	180	. 97	50	. 27
Kentucky	716	2.45	315	1.08
Louisiana	568	2.67	102	. 48
Maine	50	. 59	59	. 69
Marylang	979	5.83	259	1.54
Massacnuseus	433	. 98	3/0	. 85
Minneente	920	1.82	102	1. 37
Mississinni	2.085	10.31	2 377	11 75
Missouri	416	1.04	91	. 23
Montana 1	63	1. 17	42	.78
Nebraska	104	. 76	115	. 84
Nevada 3				
New Hampshire	24	1.4/		. 18
New Jersey	020 110	1.00	404 57	.05
New York	4.000	3.13	2 011	1.55
North Carolina	3, 240	9.23	574	1.64
North Dakota	48	. 68	32	. 45
Ohio	1, 683	2.50	445	. 66
Oklahoma <sup>2</sup>	490	1.92	398	1.56
Oregon	139	1.35	166	1.62
Pennsylvania Phode Jelend	1, 887	1.80	200	· 20 70
South Caroline 3	3:0	1.92	371	1.98
South Dakota	38	. 55	18	. 26
Tennessee	919	3. 18	419	1.45
Техаз	1, 390	2. 25	- 380	. 62
Utah	29	. 56	56	1.08
Vermont	22	. 57	18	.47
Virgibia	830	3.40	201	1.05
West Virginia 1	371	1 90	167	4.40 00
Wisconsin 4	43	.15	119 I	. 41
W yoming <sup>s</sup>	7	. 30	2	. 09
'T'OT &I	31, 095	2.50	14, 585	1. 17

See footnotes at end of table.

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	Syp	hilis	Gono	rrhea
	Cases reported during month	Monthly case rates per 10,000 population	Cases reported during month	Monthly case rates per 10.000 population
Atron Obio I				
Atlanta Ga	325	11 32	135	4 7
Paltimore Md	579	7 02	163	19
Dirmingham Ale	316	11 19	80	28
Baston Moss	103	2 44	142	1.0
Bustole N V	125	2.11	70	1.0
Dullar, N. I	1 112	2.40	658	1.1
Cincingo, III	1, 112	0.12	000	1.0
Clausiand, Obio 1				
Cleveland, Unio	FO	1 02		o
Columbus, Onio	09	1.80	40	
Dallas, Tex	330	11. 57	00	4.3
Dayton, Onio	04	3.04	20	. 9
Denver, Colo	33	1.11	19	.0
Detroit, Mich	909	2.30	320	1.8
Houston, Tex.	193	5.76	56	1.6
Indiauapolis, Ind	27	.72	35	. 9
Jersey City, N. J.	10	.31	1	
Kansas City, Mo	33	.78	2	.0
Los Angeles, Calif	537	3.75	353	2.4
Louisville, Ky	352	10.86	113	3.4
Memphis, Tenn	343	12.85	98	3.6
Milwaukee, Wis. 8				
Minneapolis, Minn	73	1. 50	79	1.6
Newark, N. J. <sup>1</sup>				
New Orleans, La. <sup>1</sup>				
New York, N. Y	2, 545	3.48	1, 547	2.1
Oakland, Calif. <sup>1</sup>				
Omaha, Nebr	42	1.91	42	1.9
Philadelphia, Pa	582	2.93		
Pittsburgh, Pa	251	3. 67	20	.2
Portland, Oreg	.9	. 29	65	2.0
Providence, R. I.	65	2.51	33	1.2
Rochester, N. Y	34	1.01	38	1. 13
St. Louis, Mo	238	2.85	115	1.3
St. Paul, Minn	16	. 57	14	. 5
San Antonio, Tex. <sup>3</sup>				
San Francisco, Calif	167	2.49	226	3. 3
Seattle, Wash	116	3.06	133	3.50
SVIBCHSE, N. Y	71	3. 26	39	1.7
Toledo, Óhio	178	5.85	79	2.6
Weshington D.C.I	190	3.03	141	2. 2

#### Reports from cilies of 200,000 population or over

No report for current month.
 Incomplete.
 No report during present fiscal year.
 Only cases of syphilis in the infectious stage are reported.
 From report submitted to medical director of epidemiological studies.
 Reported by Jefferson Davis Hospital.
 Reported by social hygiene clinic.

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#### **WEEKLY REPORTS FROM CITIES**

#### City reports for week ended March 5, 1938

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.

C	1	1					1		_		
State and oits	Diph-	Inf	luenza	Mea-	Pneu-	let	Small-	Tuber-	phoid	w noop- ing	Deaths,
Diate and city	Cases	Cases	Deaths	Cases	deaths	fever Cases	Cases	deaths	fever cases	cough cases	causes
Data for 90 cities: 5-year average Current week 1.	200 155	823 188	140 53	5, 748 15, 167	999 688	2, 475 1, 851	24 39	418 385	19 29	1, 285 1, 042	
Maine: Portland	0		0	6	4	1	0	0	0	28	26
New Hampshire:						-					
Manchester	ŏ		ŏ	1	2	ō	ŏ	1	ŏ	ŏ	24
Nashua	0		. 0	0	0	0	0	0	0	11	7
Barre	0		0	18	0	0	0	0	0	0	2
Burlington	Ó		Ó	4	Q	Ó	0	0	Ó	2	8
Massachusetts:	0		0	U	2	U	U	U U	U	U	1
Boston	1		1	191	30	89	0	8	0	18	208
Fall River			0		2	35	U O		ő	4	39
Worcester	Ŏ		Ŏ	Ŏ	12	28	ŏ	Ž	ŏ	Ġ	
Rhode Island:	1		0	0	1	3	0	0	0	0	16
Providence	Ô		ŏ	ĭ	6	10	ŏ	ŏ	ŏ	12	59
Connecticut:	6		•	•		19	_	1		0	37
Hartford	ŏ		ŏ	ŏ	2	27	ŏ	ō	ŏ	8	44
New Haven	1		0	0	4	0	0	1	0	8	32
New York:											
Buffalo	0		0	3	.11	40	0	5	0	8	165
Rochester	39	18	ő	931 4	143	3/8	ŏ	106	ő	210	1, 013
Syracuse	Ŏ		Ŏ	33	5	12	Ŏ	ō	Ŏ	6	47
New Jersey: Comden	2		1	30	5	10	0	1	0	,	34
Newark	Õ	2	i	15	Ť	18	ŏ	15	ĭ	27	120
Trenton	· 0		1	4	10	2	0	0	0	0	42
Philadelphia	6		2	847	35	115	0	34	1	39	552
Pittsburgh	3	4	3	321	14	48	0	7	1	19	182
Scranton	1		U	51	1	7	ŏ	3	ŏl	i	29
	-					·				- 1	
Obio: Cincinnati	1		n	2	14	12	0	8	6	1	127
Cleveland	4	16	ŏ	264	15	69	ĭ	ğ	ŏ	41	191
Columbus	1		0	296	10	5	0	3	8	1	78 75
Indiana:	Ű		Ŭ	100	-	°	۳	- 1	۰	۳	10
Anderson	0		0	14	0 I	.3	3	- 1	0	1	14
Indianapolis	5		ĭ	262	8	21	ĭ	8	ŏ	3	91
South Bend	Ő		ō	8	2	1	ō	Õ	Õ	i	18
Terre Haute	. 3		0	16	0	4	0	0	1		24
Alton	0		Q	0	3	8	0	0	0	0	11
Chicago	14	10	5	3, 474	42	270		36	2	35	719
Moline	ŏ		ŏ	64	ŏ	15	ŏ	ŏ	ŏ	2	12
Springfield	0		0	155	3	3	1	0	0	0	20
Detroit	6	1	0	2,752	15	159	ol	12	o	82	192
Flint	Ó		Ó	5	3	44	<u>o</u>	1	0	10	27
Wisconsin:	U		0	23	2	13	0	0	0	8	81
Kenosha	Q		Q	12	Q	2	0	2	0	2	11
Madison	0		0	3 131	10	3	<u>s</u>	0 I	<u> </u>	1 22	16 100
Racine						10					
Superior	0		0	11	0	0	1	0	0	1	5
Minnesota:					1						
Duluth	0 0		1	1	2	5	0	2	<u>s</u>	ő	20
St. Paul	ő		51		61	5	11	2	ŏl	4	65

1 Figures for Racine, St. Joseph, and Wilmington, N. C., estimated; reports not received.

City	reports	for	week	ended	March 5,	1938—Continued	

State and city	Diph-	Inf	luenza	Mea-	Pneu-	Scar- let	Small-	Tuber-	Ty- phoid	Whoop- ing	Deaths,
	Cases	Cases	Deaths	Cases	deaths	fever cases	Cases	deaths	Cases	cough	Causes
Iowa:											
Davenport	ŏ			13					Ň		
Des Moines	Ŏ			Õ		23	Ŏ		ŏ	ŏ	38
Sioux City	0			0		11	0		0	1	
Waterico	Z			79		19	0		U	0	
Kansas City	0	2	0	212	13	15	0	3	0	4	105
St. Joseph							·				
St. Louis	7		1	26	6	86	2	3	1	2	191
Fargo	•		6	0	3	2	6	0	0		11
Grand Forks	č			ŏ		ĩ	1		ŏ	ō	
Minot	0		0	Ó	0	0	3	0	0	2	4
South Dakota:	•								•		
Siour Falls	Ň			0			• •		ő		
Nebraska:	v	1		l v		Ů	v		v	Ů	Ŭ
Lincoln	0			1		12	0		0	0	
Omaha	5		0	6	7	5	0	1	0	0	50
Lawrenco	٥		6	0	6	1	•	ا م	0	2	3
Topeka	ŏ		ŏ	27	3	2	ŏ	ŏ	ŏ	18	25
Wichita	0		Ó	2	3	Ō	Ō	1	0	2	24
Dalaman											
Delaware: Wilmington	1		•				•	2	0	0	26
Maryland:			Ň	-	· ·	-	v	- 1	Ň	v	
Baltimore	3	10	3	5	24	36	0	8	1	49	218
Cumberland	0 0		0	0 0	3	4	0	0	0	0	15
District of Colum-	U			U	<b>•</b>	U	U		v	0	0
bia:											
Washington	7	1	1	5	18	25	0	8	0	9	154
Virginia:	•			•			•				17
Norfolk	ŭ			18		11	Ň	1	ŏ	1	24
Richmond	ĭ		ŏ	26	5	-5	ŏ	ô	ŏ	ō	69
Roanoke	1		Ō	1	2	Ó	Ó	1	0	1	13
West Virginia:											14
Huntington	0		•	113	2	Ň	Ň	1	ŏ	ŏ	14
Wheeling	ŏ		0	64	3	7	ŏ	1	ŏ	ĭ	31
North Carolina:											
Gastonia	0			14		0	0		N N	8	
Wilmington	U		•	10	Ŭ		U	v	· · · ·		
Winston-Salem	1		0	9	3	2	0	0	0	59	17
South Carolina:		~		~	.						07
Charleston	1	20	1	83	4	0	0	U		1	25
Florence				9	·····i	0	0	1	0	0	13
Greenville	ŏ		ŏ	i,	ī	ŏ	Ŏ	Ō	0	13	5
Georgia:									.		
Atlanta	N N	10		200	ő	3		1	51	1	90 5
Savannah	2	43	ŏ	31	3	ŏ	ŏ	ŏ	ŏ	ŏ	37
Florida:	-		-		-						
Miami	0	. 1	0	179	2	0	0	1	8	2	46
Tampa	4	- 1	1	- 1	2	2	٥	•	۳I		200
Kentucky:	- 1	1						1			
Covington	0		0	7	3	2	0	1	0	0	14
Lexington	0		0	2	2	1	0	2	0	2	19
Louisville	0	2	0	230	1	24			v l		01
Knoxville	1	8	3	43	1	2	0	0	0	6	32
Memphis	ō		2	141	10	3	0	5	0	6	94
Nashville	0	0	4	141	4	0	0	2	0	8	54
Alabama: Birmingham	. 1	اء	. 1	176	2	2	6	3	0	0	73
Mobile	ō		2	20	5	ĩ	ŏ	ĭ	ŏ	ŏ	33
Montgomery	ŏ			71		Ō	Ō		0	4	
Antronoon	1					1					
Argansas: Fort Smith	2			2		ol	0		ol	2	
Little Rock	õl		0	80 I	1	ŏ	ŏl	2	0 I	1	3

State and city	Diph- theria	Inf	uenza	Mea- sles cases	Pneu- monia deaths	Scar- let fever	Small- pox cases	Tuber- culosis deaths	Ty- phoid fever	Whoop- ing cough	Deaths, all causes
		Cases	Deaths			cases			Case3	cases	
Louisiana: Lake Charles New Orleans Shreveport Oklahoma: Muskogee Oklahoma City.	0 6 1 1 1	4	0 3 0 1	1 2 0 0	, 19 5 6	1 6 4 1 3	000000000000000000000000000000000000000	0 10 1 1	0 17 0 0 0	0 12 0 0	3 162 37
Tulsa Texas:	0			8		0	5		1	6	
Dallas Fort Worth Galveston Houston San Antonio	1 0 5 1	2  1 	2 0 0 . 1 2	0 0 0 0	11 0 2 7 9	14 6 1 7 1	0 1 0 0	3 1 2 6 6	0 0 0 0	0 2 0 0 1	77 44 21 83 75
Montana: Billings Great Falls Helena Missoula Idabo:	1 0 0 0		· 1 0 0 0	0 0 0 0	1 2 0 2	2 3 1 1	0 1 0 0	0 0 0 0	0 0 0 0	2 4 2 0	8 10 4 10
Colorado:	0		0	0	1	1	2	0	0	0	9
Springs Denver Pueblo New Mexico:	5 6 0		0 1 0	0 536 0	1 9 1	1 21 3	0 1 0	3 2 3	0 1 0	1 3 0	8 96 13
Albuquerque Utah: Salt Lake City	0		0	4 209	3 5	4 13	0	4	0	2	21 37
Washington: Seattle Spokane Tacoma Oregon: Portland	2 0 0 0		0 0 1	2 0 0 1		5 2 8 22	3 1 2 2	0 1 3	000000000000000000000000000000000000000	46 6 5 2	29 27 102
Salem California: Los Angeles	6	3 15	2	14	20	33	2		0	13	296
Sacramento San Francisco	0 2	14	000	02	3 8	7 16	00	8 11	0	74 45	47 170
State and city	د   _	Mening menir	ococcus ngitis	Polio- mye- litis		State a	and city		Mening meni	ococcus ngitis	Polio- mye- litis
		Cases	Deaths	Cases					Cases	Deaths	Cases
New York: Buffalo New York		1	1	(	Geo ) Ten	rgia: Atlanta nessee:			1	0	0
Pennsylvania: Pittsburgh		1	0	(	Ala	Memph bama:	nis		1	0	0
Liinois: Chicago		1	0	6	)    Lou	Birmina isiana: New O	gnam		0	2	0
Minneapolis Maryland:		1	0	(		Shrever fornia	ort		Ó	i	Ŭ
Baltimore District of Columbia		1	1	C		Los An Sacram	geles ento		2 1	0	0
Washington West Virginia: Wheeling	•	2 1	0 0	C	]				-	-	

#### City reports for week ended March 5, 1938-Continued

Encephalitis, epidemic or lethargic.—Cases: Buffalo, 1; New York, 1. Pellagra.—Cases: Topeka, 1; Baltimore, 1; Atlanta, 2; Brunswick, 1; Savannah, 6; New Orleans, 1. Undulant fever.—Cases: Davenport, 1.

#### FOREIGN AND INSULAR

#### AUSTRIA

Vital statistics—Year 1936.—The following table shows the births, deaths, and marriages in Austria for the year 1936:

Population	6, 760, 631	Deaths from—Continued.	
Marriages	45, 996	Heart disease	15,009
Births	90, 348	Homicide	146
Total deaths	88,902	Influenza	447
Deaths under 1 year of age	8,241	Malaria	3
Deaths from:		Measles	100
Accidents	2,305	Scarlet fever	80
Cancer and other malignant tumors	12, 365	Suicide	2, 696
Cirrhosis of the liver	595	Syphilis	401
Diabetes	787	Tuberculosis (all forms)	6, 776
Diarrhea (under 2 years of age)	816	Typhoid fever and paratyphoid fever.	105
Diphtheria	867	Whooping cough	263
Dysentery	12		

#### **CANADA**

Provinces—Communicable diseases—2 weeks ended February 12, 1938.—During the 2 weeks ended February 12, 1938, 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 <sup>1</sup>	New Bruns- wick	Que- bec	Onta- rio	Mani- toba	Sas- katch- ewan	Alber- ta	British Colum- bia	Total
Cerebrospinal menin- gitis	    2  2	1 13 4 	1 2 9  67  8 19 6	3 254 79  283  1 221  111 52  245	1 509 11 2 8 8 76 1 474 314 83 	999 5 33 139 121 	45 1 3 	38 5  149 13 1 131 131  1 131  1 5	191 1 2 58 330 31 1 38 1 98 1 38 2 2 98	$\begin{array}{c} & 6\\ 1, 151\\ 115\\ 2\\ 30\\ 1955\\ 1\\ 1, 634\\ 554\\ 3\\ 147\\ 6\\ 960\\ 960\\ 960\\ 960\\ 655\\ 4\\ 529\end{array}$

<sup>1</sup> For 2 weeks ended Feb. 16, 1938.

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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]

								-	-								
		Aug.	Sept.	Oct.						Weel	ended	1					
Place	Aug. 1-28, 1937	Sept.	ses ses	31- 20.	Ð	ecemb	er 1937			Janı	lary 19	8		H	ebruar	y 1938	
		1937	1937	1937	4	п	18	52		80	15	ន	8	2	13	2	ន
China: Ganka.	8	102	14														
Hangebow Bong Long	964	212	- - 		İİ	ÌÌ	ŤŤ	$\frac{1}{11}$	1-	İT	1	$\frac{1}{11}$	ÌÌ		Ť		
Kwangchow Wan	10 10 10		388	12		ÌÌ	İİ			Ī	-		ÌÌ		İİ		
Macao	58 8	160	35	2 N					İİ						İİ		
Batren Kwantung Leased Territory		3	9						ÌÌ	Ì	ÌÌ				Ī		
Marking			120						İ		İİ						
Shanghai	80	1,804	14 1, 414	237	9	10	3	69	3		Ì						
By atow Tiantain	<b>00</b>	2	<b>4</b> 8	101	8												
Chosen: Fuen. Dutch East Indies:								İ									
Keonaar		-						Ī			-	Ī					
	18, 259	12,203 5,768	11, 344 5, 787	6, 802 3, 737	1. 28.89 28.90	1,588 831	1, 245	28	58	766	88						
	ននរូ	491 81 81 81 81 81 81 81 81 81 81 81 81 81	88; ;	286	• - q	8 2 2	97	8 21	ន្លង	នុង	8 <del>3</del>	82,	<b>₹</b> 8	12 33	28	នន	81
Bombay Frequency	1, 719	1, 571	1,0,0	821	<b>8</b>	19	88	35	- 9	2		-					
Caloritia Contract Provinces and Berar	176	288	88	358 358	19 36	នន	120	31	18.6	87	28	82	8	÷.	81	12	<b>4</b> 9 52
Delhi				1		Π	Π	Π				Ì				-	

Profiles       Fordias	Madras Presidency. Kadrai.		28821	1,844 771 70 18 33	1 1 1 1 1 1 1 1 1 1 1 1 1 1	1, 204 431 283 283	374  1 135  1 52  12	580 580 580 580 580 580 580 580 580 580	402 30 8 8	858 380 40 40	880 880 88 88 88 88	910 338 32 32	352 352 382	8010		404	<b>1</b> 000		1001
Open Function: Laboration: Transmitter Province.         Open Function: Laboration: Transmitter Province.         Open Function: Laboration: Transmitter Province.         Open Function: Laboration: Transmitter Province.         Open Function: Laboration: Transmitter Province.         Open Function: Laboration: Transmitter Province.         Open Function: Laboration: Transmitter Province.         Open Function: Laboration: Transmitter Province.         Open Function: Laboration: Transmitter Province.         Open Function: Laboration: Transmitter Province.         Open Function: Laboration: Labo	Routhwest Frontier province. Purises Frovince. Purise Rangeon.	A00000	203 247 120		147	91 1	8	=		-	1 [2	2	2	\$	1 20	eo	8	9	
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Tokuyama       Tokuyama <td< td=""><td>Japan: <sup>6</sup> Hiroshima Kobe Okayama Prefecture Sasebo<sup>1</sup></td><td>000 C</td><td></td><td>32</td><td>20 CI LOI</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	Japan: <sup>6</sup> Hiroshima Kobe Okayama Prefecture Sasebo <sup>1</sup>	000 C		32	20 CI LOI														
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<sup>1</sup> Imported. For reports prior to Aug. 1, 1337, see previous issues of PUBLIC HEALTH REPORTS. A report states that up to Sept. 30, choiser was reported in Japan, as follows: Hiogo Prefecture, 1 case, 1 death; Hiroshima Prefecture, 40 cases, 14 deaths; Yamaguchi Prefecture, A report states that up to Sept. 30, choiser was reported in Japan, as follows: Hiogo Prefecture, 1 case, 1 death; Hiroshima Prefecture, 40 cases, 14 deaths; Yamaguchi Prefecture, 2 cases, 1 death. During the week ended Mar. 12, 1838, 1 case of choiser was reported at the naval shipyard at Saseboy, 1 apan.

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<b>R</b> -Continued
FEVE
<b>YELLOW</b>
AND
FEVER,
TYPHUS
SMALLPOX,
PLAGUE,
CHOLERA,

PLAGUE 1 {C indicates cases; D, deaths; P, present}

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	-	Aug.	Sept.	Oet.						Week	ended	1					
Place	Aug 1-28, 1937	Sept.	ෂ්ප්ස්	21, Nov.		Deceml	oer 193'			Jan	IST 16	38			Februa	ry 1936	
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Brazil. (See table below.) British East Africa: Eauya	8 <u>1</u>	1	15	9						•			3	1			
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Golimes. Guyya guli Plague infected rata Parrouta Blov Altaro													1	<b>6</b> 6	69		8
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Pasubau Sector			•	9	•	:	6	101	• •	-	~	64		8		
raaulo Maui Island:					4	3	•				<u> </u>	<u> </u>				
Makawao District-Plague-infected rats					-	~		-	-	<u> </u>	-	-			Ì	
Umaopio		-														
India Transa Contraction Contr	962	1, 697	1, 996	1, 874	440	<b>8</b>	391	215 1	85 5	8						
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Bombay Presidency	1	•8:	82	2	12	õ	3	10	. 00 -			· <b>*</b> ·	<u> </u>			
Central Provinces and Berar	88	<b>3</b> 2	*33 *33	85	3 <b>8</b>	147	•8	°3	*8	01-10	13" 8"	`88 	8	190	128	260
Cochin		<u>-1</u>		-					 	<u> </u>	-	<u> </u>				
Madras Presidency.	203	11	80	176	ន	52	191	8	67	85 85						
	8:	83	41	25	13	8	2	8	8	35		-				
Punjab.	``						<u> </u>		<u> </u> 	<u> </u> 	<u> </u>  -	-	-			-
Sind State	•	<b>0</b> 0														
Indochina (French) (see also table below): Sadec.																
Madagascar. (See table below.)																
Peru. (See table below.)																
Benegal: Dakar		-					-								1	
Union of South Africa		11	11													
United States: 6 California: 1810																
Eldorado County-Plague-infected fleas.																
Fresno County <sup>6</sup>		-							<u> </u>							
Plague-infected fleas. Plagua-infected ground scunturals		~														
Placer County <sup>16</sup> —Plague-infected fleas. San Bernardino County—Plague-infected fleas.		, 														
<sup>1</sup> Including plague in the United States and its possess	ions.								•							
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 Intentions in the state of phermonic plague.
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Imported. For 2 weeks.

<sup>1</sup> Plague infection proved in insect hosts as follows: California-Eldorado County, Aug. 31; Fresno County, Oct. 7-Nov. 5; San Bernardino County, July 12-Sept. 8; San Mateo County, July Viebrede Aug. 10.
<sup>1</sup> For 5 week and a Nov. 6, plague infection proved in pooled tissue from squirrels, ehipmunks, and mos in Fresno County, County, California Plague infection proved in pooled tissue from squirrels, ehipmunks, and mos in Fresno County, County, California Plague infection proved in pooled tissue from squirrels, ehipmunks, and mos in Fresno County, Calif.

Calif.

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

PLAGUE-Continued

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

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Place				12 C		a dog	21. 20 21. 21. 21. 21. 21. 21. 21. 21. 21. 21.	Ă	ecembe	r 1937			Januai	y 1938			Febr	uary 19	8	
· .					031	1937	1937	-	Ħ	18	ន			8	8	10	12	19	8	
United States-Continued. Californis-Continued. Ban Matso County-Plague and ticks. Santa Cruz County-Plague- Moutana: Madison County-Plag Nevada: tormsby County-Plague-infe Utan: Morgan County-Plague-infe Washington: Adams County-Plague-infe	e-infected field finderted field field field field field field field field field field field field field from the field from t	fleas, li as. d squirr d squir d squir d grou	References (Sec. )																	
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1 Presente alected										.										

<sup>9</sup> Pneumonic plague. <sup>9</sup> Pneumonic plague. <sup>9</sup> Pague infection proved in insect hosts as follows: Cuif/Ornita-Eldorodo County, July 2-Aug. 31; Freeno County, Oct. 7-Nov. 6; Ban Bernandino County, July 12-Sept. 8; Ban Mateo <sup>9</sup> Plague infection proved in insect hosts as follows: Cuif/Ornita-Eldorodo County, July 2-Aug. 30. *Utah*-Morgan County, reported Aug. 10. <sup>10</sup> During the week ended Mar. 12, 1988, 1 Plague-infected squirrel was reported in Adams County, Wash. <sup>11</sup> For the year 1987, 85 cases of plague with 15 deaths were reported in Brazil as follows: Bahla State, 5 cases, 5 deaths; Ceara State, 2 cases; Parahyba State, 5 cases, 1 death; <sup>11</sup> For the year 1987, 38 cases of plague with 15 deaths were reported in Brazil as follows: Bahla State, 5 cases, 5 deaths; Ceara State, 2 cases; Parahyba State, 5 cases, 1 death; <sup>12</sup> For the year 1987, 38 cases, 9 deaths.

		Aug.	Sept.	Oet.					Week	ended	,					
Place	Aug. 1-28, 1937	Sept.	ෂ්ප්ඝ්	21. 200.	н	Jecemb	er 1937		Janua	ury 193			Ă	bruary	1938	
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SMALLPOX

1 For 2 weeks. <sup>a</sup> A report dated Feb. 12, 1888, states that for the 3 weeks anded Feb. 12, 1888, 100 cases of smallpox were admitted to hospitals in Canton, China.

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

SMALLFOX-Continued

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

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Bombay Presidency.	171	181	2 <u>7</u>	130	<u>3</u> 8	38	205	8 <u>8</u> 8	528	888		555	128	នុទ		<u>   </u>	
Bombay.	889	358	348	128	189	48	88	392	34	884 884	28		385	388	40 23 41		82
	<b>6</b> 99	128	81	28	60	11	82	31	35	<b>8</b> 80	<b>3</b> 46 <b>3</b> 46	312		88.	10	00	33.
Central Provinces and Berar		44	8	7	-	$\frac{1}{11}$	80	6	63	; 200-	=	120	~	° 8	• <del>Q</del>	# 10 -	°8
Delhi	7	- 1	-	2	-	-	61	<b>~~</b>	00		9		<b>61 63</b>	9		- 10 10	
Madras Presidency	415	318 62	304 51	513 28	8.0	<b>6</b> 2 12	80	ន្មន	25	137	149 31						•
Madras Merandam	102	92	74	8	2	2	19	40	8	8	25	6	8	76	71 5		\$
Northwest Frontier Province.	310	21	154	380	10 10 10	113	139	149	277	108	285	802	22	32	30	00	3
Punjab.	165	69	162	404	192	8	226	317	310	332	382	23	82	222	188 188		
Sínd State	<b>3</b>	8	2°	164	75	192	52	ິສິ	26	67	19		12	15	3		19
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Balgon-Cholon.	64			3		ÌÌ	İ	•	•		•			• •	•		•
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March 25, 1938

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derico (see also table below): Chihuahua			-	ľ											•			ľ
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Vera Cruz Morocco. (See table below.)		•	•		" 8	• <del>- 1</del>			" 8		•		•	•	•	İ	•	
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Portugal (see also table below): Lisbon	00	-	100	1 03	co.		-		1			-			-		-	
Uporto. Portuguese East Africa. (See table below.) Balrador. (See table below.) Seneral. (See table below.)	<u> </u>		N				<u> </u>											
Slam. Slerra Leone	00			10						33	12	1	9	-				8
Southern Rhodesia Straits Settlements: Singapore	00			*	121	1		3	8		9	Ī	ñ	-				
Budan (Anglo-Egyptian). Union of South Arrica. (See table below.) Venezeula: Puerto Cabello.4	0	8	2	2	<b>88</b>	7	n 1	<b>s</b>	10	\$	*	C1	18	121	ส	ส	<b>a</b>	
<sup>a</sup> Imported. <sup>4</sup> A report dated Feb. 10, 1938, states that 16 cases c reported in Barquisimeto, Lara State, Venezuela, and thi	of sma at sma	lipox w	Aere rep	orted in t from I	Puerto Barquisi	Cabel meto t	lo; info o Valen	mation cia and	Marc	Feb.	21, stat	es that	4,000 4	ases of	small	or (als	strim)	were
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On vessels—Continued. S. S. <i>Hong Stang</i> at Singapore from Amoy, Swatow, an	Hong Kong	S. S. Muinam at Singapore from Hong Kong.	8. 8. Tatruta Maru at Honolulu.	8. 8. Circassia at Aden from Bombay	8. S. Empress of Japan at Honolulu

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'EVER-Continued
AND YELLOW F
YPHUS FEVER,
, SMALLPOX, T
, PLAGUE,
CHOLERA

SMALLPOX-Continued [C indicates cases; D, desths; P, present]

Janu- ary 1939	9
Decem- ber 1937	11111111111111111111111111111111111111
No- vember 1937	1 20 20 10 20 20 20 20 20 20 20 20 20 20 20 20 20
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Aug- gust 1937	13 313 12 1 1 236 63 63
Place	Angola

For July and Augnst.

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

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	Aug. 1-28, 1937		ő.	°8∢	-		• •	B		16	100 OK	151.80	7		-	I	ñ	-	3
	Piace		Algeria: Algiers Department	Constantine Department.	Constantine Philippeville	Oran Department	Australia: Brisbane.	British East Africa: Kenya	Chile Antofessets Province	Concepcion Province	Linares Province Mallaco Province	Nuble Province.	China (See also table below):	Deiren	Shanghai Shanghai	Tientein Tientein Chosen. (See table below.)	Egypt: Alexandria	Beheira Province	Cairo Dakahliya Province

<sup>1</sup> For 2 weeks.

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

# **TYPHUS FEVER**-Continued

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

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6 6 63	Octo- ber 1937	162 1003 39 5 39 5 39
<sup>78</sup> 80	Sep- ember 1937	5000000051-154 232-1-500000054
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	August 1937	8 10 10 8 8 8 1 1 1 1 1 1 1 1 1 1 1 1 1
Poland Portugal. (See table below.) Rumania. (See table below.) Rumania. (See table below.) Strats Jecure. Freetown. Strats Jecure. Freetown. Trans. Jordan Trans. Jordan Trans. Jordan Trans. (See table below.) Durkey. (See table below.) Turkey. (See table below.) Durkey. (See table below.) Durkey. (See table below.) Durkey. (See table below.) Durkey. (See table below.) Durkey. (See table below.) Durkey. (See table below.) Durkey. (See table below.) Durkey. (See table below.)	Place	China: Manchuria-Harbin Chosen. Chosen. Chosen. Chosen. Latvia Latvia Latvia Artia A

<sup>3</sup> Suspected..

March 25, 1938

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FEVER-Continued
D YELLOW
FEVER, AN
TYPHUS
SMALLPOX
PLAGUE,
CHOLERA,

## YELLOW FEVER

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

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Place	Aug. 1-28,	Sept.		Ņ	ovemb	er 1937		A	ecemb	er 1937			Jant	19 JU	38		Febr	uary l	888
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Belgian Congo:! Saratumba.! Zongo !																		7 8	
Brazil: Amazonas State	1				Ī													*	
Matto Grosso State <sup>3</sup> I Minas Geraes State I Para State <sup>3</sup>													-	5		9	10	2	
Rio de Janeiro State Santa Catharina State. Bao Panio State								1							1	8	15	•	
Colombia: Boyaca Department										-								•	
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Dahomey: Cotonou French Equatorial Africa: Rameri										5 20				-					
Fort Archambault Gambia: Georgetown		12								ſ									
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Speo Plantations (near Bingerville). <sup>1</sup> Touba	20	31				 			11			 	 
Paraguay: Asuncion	64	5	12	00 •	63	 - 6		-	-		•		
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Yellow fever has also been reported in Belgian Congo as follows: Week ended Mar. 5, 1338, 1 suspected case in Saratumba and 4 suspected cases with 1 death at Zongo.

) Supported. Bee also reports of yellow fover in Brazil on pp. 216, 280, 361, and 404 of the FUBLIC HEALTH REPORTS for 1933, and in various issues for 1937. Includes 1 suspected case. • During the week ended Mar. 12, 1938, 2 cases of yellow fever with 1 death were reported in Spao Plantations near Bingerville. Ivory Coast. • Includes 3 suspected cases.