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## DOCTORS' CALLS IN CONNECTION WITH ILLNESS FROM SPECIFIC DISEASES AMONG 9,000 FAMILIES, BASED ON NATION-WIDE PERIODIC CANVASSES, 1928-31 ${ }^{1}$

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CONTENTS


Illnesses from a given disease have many different characteristics. Clinically they are described in terms of symptoms and lesions present. Epidemiologically they are described in terms of mass phenomena such as geographic spread, seasonal and other chronological variation, and incidence by age and sex, in urban as compared with rural areas, and among the poor as compared with the rich. Somewhere between these two types of characteristics of illnesses lie such descriptive items as average duration of symptoms, of inability to work, and of tim in bed on account of sickness. Somewhat similar measures are the number of doctors' calls per case of illness from a given disease, the distribution of illnesses according to the number of calls, and the percentage of cases that were attended by different types of practitioners. It is true that these latter characteristics of illnesses are somewhat artificial in the sense that the number of calls for a given case of sickness may depend as much upon ability to pay as upon the severity of the case; however, the number of days in bed and the time lost from work also frequently depend to a considerable degree upon how many days' wages the patient can afford to lose or how much time is allowed him

[^0]as sick leave. The comparison of different diagnoses with respect to the amount of medical care actually received in connection with a case of illness would seem of interest; such data are the subject of this paper.

## I. SOURCI AND CHARACTER OF DATA

In the study of illness in a group of families in 18 States ${ }^{2}$ that was made by the Committee on the Costs of Medical Care (17) and the United States Public Health Service, the record for each illness included all service received from physicians and other practitioners within the 12 -month study period. Among the items recorded were type of attendant and the number of home, office, and clinic calls. Thus doctors' calls per case of illness can be computed. A preceding paper (16) was devoted to doctors' calls per 1,000 population.

The composition and characteristics of the group of 8,758 white families which were kept under observation for 12 consecutive months in the years 1928-31 have been considered in some detail in the first report in the series (1). These families, including a total of 39,185 individuals, resided in 130 localities in 18 States representing all geographic sections. Every size of community was included, from metropolitan districts to small industrial and agricultural towns and rural unincorporated areas. ${ }^{3}$ With respect to income, the distribution was reasonably similar to the estimated distribution of the general population of the United States at the time of the survey.

Each family was visited at intervals of 2 to 4 months for a period long enough to obtain a sickness record for 12 consecutive months. On the first call a record was made of the number of members of the household, together with sex, age, marftal status, occupation, and other facts about each person. On succeeding visits the canvasser recorded all illness that had occurred since the preceding call, with such pertinent facts about each case as the date of onset; whether attended and the type of each attendant in such terms as private physician, surgeon or other specialist, clinic physician, dentist, chiropodist, osteopath, chiropractor, midwife, or other; number of calls on the case by each practitioner, with separation of physicians' calls into home and office. Data about cases that were still sick at the preceding visit were brought up to date and when completed the termination was entered. Thus there are available certain facts about the attendant for each illness and the number of doctors' services received.

[^1]Definition of illness as recorded in survey.-An illness, for the purpose of this study, was defined as any symptom, disorder, or affection which persisted for one or more days or for which medical service ${ }^{4}$ was received or medicine purchased. Illness included the results of both disease and injury. What was actually included as illness, however, was necessarily influenced not only by the informant's (usually the housewife's) conception of sickness but also by her memory. With visits as infrequent as 2 to 4 months, it was inevitable that many of the unattended nondisabling illnesses would be terminated and forgotten before the next visit of the enumerator. The relatively few but long institutional cases which are largely missed in family surveys ${ }^{\text {s }}$ would add little to a study of home and office calls by doctors in a noninstitutional population. It is felt, therefore, that doctors' services as recorded in this study are reasonably complete for the general family population.

Definition of doctors' care ${ }^{6}$ as recorded in survey.-An illness was considered as attended ${ }^{7}$ if any type of practitioner was called in or consulted about the case, including all hospital cases; the analysis, however, considers attendants of different types. Illnesses with two or more diagnoses were counted as attended if a doctor was called in connection with any diagnosis. Nursing services are tabulated separately; nurses are not included in this analysis of attendants who had primary responsibility for cases, even in the few instances where a nurse was the only attendant. ${ }^{8}$ However, a midwife who was the

[^2]only attendant is counted as a primary attendant because she customarily has charge of a case without the supervision of a physician. Thus the attendant refers to anyone who assumes primary charge of a case; the quality of service is disregarded because no index of quality was available. However, in some of the tables the services of medical doctors (M. D.) are separated from other types of attendants; cases attended only by the hospital or clinic staff are counted in this group of medically attended cases.

Classification of cauises of illness.-In the present study of 8,758 households by periodic visits, the diagnoses as reported by family informants were submitted to the attending physician for confirmation or correction and his diagnosis substituted for the one reported by the family. While not all cases were attended and reports could not be obtained from all attending physicians, the replies indicated that the housewife usually reported with reasonable accuracy the diagnosis which the physician had given to the family. ${ }^{9}$

Considering an illness in the sense of a continuous period of sickness, only 4.3 percent were designated as due to more than one cause. In general, the more important or more serious cause was assigned as primary, except where a disease like pneumonia is commonly recognized as following measles or influenza, in which case the antecedent condition was taken as primary. ${ }^{10}$ In this series of papers, averages and rates for illness from all causes and from broad disease groups are based on sole or primary diagnoses only. Case rates per 1,000 population for specific diseases such as pneumonia, appendicitis, and whooping cough are based on all cases of the given diagnosis whether it was the sole, primary, or contributory cause of the illness; average calls per case are usually shown separately for cases with sole diagnosis and for complicated cases.

Methods of tabulating and computing.-In computing calls per case, illnesses that originated prior to but caused sickness during the study year are included along with cases having their onset within the period of observation; the inclusion of the illnesses with prior onset seems necessary to give proper representation to chronic ailments. The only date of onset available was the onset of symptoms (nondisabling or disabling); therefore, prior onset does not necessarily mean prior attendance by a doctor. Seven percent of the attacks of illness had their onset prior to the study year; this does not mean that in the other 93 percent the disease always had its onset within the year, for the patient may have had preceding attacks of the same chronic disease. For all diagnoses commonly considered as chronic, 33 percent were

[^3]reported with an onset for this illness prior to the study year, as compared with 3 percent for diagnoses ordinarily considered acute. A large proportion of the cases of such diseases as tuberculosis, cancer, diabetes, and cardio-renal affections originated prior to the study. ${ }^{11}$

Doctors' calls refer in all instances to those within the 12-month study period. In computing average calls per case, both complete and incomplete cases are included as cases but the calls refer to those within the study year only. The incomplete cases (those with prior onset and those still sick at the last report) usually average considerably longer durations and presumably have more doctors' calls than the complete cases; therefore, average calls per case which excluded those with prior onset would be biased toward fewer calls. Attended cases with an unknown number of calls are put in at the average calls per case of the same diagnosis attended by the same type of practitioner.

In the present paper no distinction is made between hospital and nonhospital cases, the average calls per case referring always to all cases. Only 7 percent of all cases and 10 percent of attended cases were hospitalized; and of those hospitalized only 5 percent did not receive home, office, or hospital calls from a private doctor or clinic physician in addition to care by the hospital staff. ${ }^{12}$ A later paper will be devoted to hospital care.

## II. MEAN CALLS PER CASE AND THE PROPORTION OF CASES AND CALLS BY diffekent types of practitioners

Table 1 shows for illnesses classified into 13 broad diagnosis groups the average number of calls per case, and the proportion of cases attended by and of calls made by different types of practitioners. The final column shows for cases attended by physicians not designated as specialists the proportion that had one or more home calls. Table 2 shows similar data for specific diseases with enough cases to justify the computation of averages and percentages, including all diagnoses with 10 or more attended cases with known numbers of calls. Both tables show data separately for illnesses of sole diagnosis and for those designated as "complicated," in which the given diagnosis was one of two or more recorded for the illness.

[^4]Table 1．－Mean calls by any practitioner within the year of observation ${ }^{1}$ per case of illness from broad groups ${ }^{2}$ of causes，and the proportion of cases and calls for different types of practitioners－8，758 canvassed white families in 18 States during 12 consecutive months，1928－81

| Disease and whether sole diag－ nosis or complicated by another disemes |  |  |  | Mean callsby anypracti－tioner s |  | Percent of at－ tonded cases ${ }^{\circ}$ attended by－ |  |  |  | Percent of calls ${ }^{\text {b }}$ by－ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | $\begin{aligned} & 8 \\ & 8 \\ & \text { 8 } \\ & \text { 合 } \\ & \text { 曾 } \end{aligned}$ |  |  |  |  |  | 苞 |  |  |  |
| All causes： |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole or primary． | 646.6 | ${ }^{25} 5609$ | 78.1 | 3． 3 | 4.2 | 95.6 | 12.8 | 4.8 | 4.3 | 14.3 | 4.7 | 8.7 | 57.1 |
| 8ole．．．．．．．．－ |  | 2.3020 | 77.5 | 8． 15 | 8.9 9.3 | 95.4 | 12． 2 | 4.7 | 4．3 | 17.9 | 4.7 | 8.8 | ${ }_{69} 56$ |
| Complicated． <br> Minor respiratory diseases（11， pt．97，98，99，pt．107，pt．109）： |  | 2，673 | 90.9 | 8.5 | 9.3 | 98.2 | 24.8 | 6.1 | 3.7 | 17.3 | 4.6 | 6.8 | 69.5 |
| Sole or primary． | 8． 8 | 7，283 | 64． 2 | 1.6 | 2.4 | 98.2 | 7.8 | 2.2 | 2.3 | 2.4 | 2.1 | 2.8 | 68.9 |
| Sole |  | 6，869 | 63.4 | 1.4 | 2.2 | 98.1 | 6.8 | 2.2 | 2.3 | 84 | 1.8 | 3.0 | 68.7 |
| Complicated． |  | 516 | 83.5 | 4.4 | 5.3 | 99.0 | 21.8 | 3.3 | 2.1 | 14.9 | 3.3 | 1.3 | 74.2 |
| Other respiratory diseases（31，pt． 97，100－106，pt．107，pt．109）： |  | 1，991 | 95.2 | 5． 5 | 5.8 |  |  | 10.9 |  | 29.2 | 6.3 | 25 | 53.1 |
| Sole． |  | 1，881 | 95.0 | 5． 2 | 5.4 | 97.8 | 36.4 | 10.6 | 1.7 | 28.8 | 6.4 | 2.6 | 51.9 |
| Complicated |  | 270 | 98.5 | 12.0 | 12.1 | 99.3 | 40.0 | 11.9 | 1.9 | 26.2 | 4.5 | 1.3 | 78.7 |
| Minor digestive diseases（15，pt． 16, 112-114): |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole or primary | 3.1 | 1，710 | 75.9 | 1.8 | 2.3 | 98.9 | 6.4 | 3． 2 | 1.6 | 10.4 |  | 6． 3 | 55.5 |
| Complicated |  | 146 | 79：3 | 4.2 | 5.3 | 95.2 | 7.5 | 3.4 | 5． 5 | 7.2 | 2.0 | 14. | 51.9 |

1 Cases with onset prior to the study and those still sick on the last visit are included along with completed cases，but only for calls of the respective kinds that came within the year of observation．Average calls per case tend to be greater for incomplete than for complete cases because the longer the case the greater the probability that it will be still sick at the last visit．Prior onset of illness does not necessarily mean that medical attention was received prior to the study year．
${ }^{2}$ The specific diagnoses in each group are shown in table 2 and figures 1 and 2.
${ }^{3}$ A case is considered as complicated if another diagnosis is reported as occurring simultaneously with or as overlapping the period of sickness from the diagnosis listed regardless of which diagnosis was classified as the primary cause of the illness．The complication may have a definite relationship to the other diagnosis （as in measles and pneumonia），or be apparently unrelated（as in measles and chickenpox）．The numbers in parentheses following the names of the diseases are those used in the International List of Causes of Death， 1920 repision．
${ }^{4}$ Adjusted by the direct method to the age distribution of the white population of the death registration States in 1930 as a standard population；this population is given for specific ages in table 1 of a preceding paper（4）．The adjustment method involves the weighting of the age specific rates for the canvassed popu－ lation according to the age distribution of the standand population．The details of the process are given under the heading of＂corrected death rates＂in Pearl（18）pp．269－271．
$s$ In computing mean calls per case and the percentage of calls by different types of practitioners，cases attended by a given type of practitioner but with an unknown number of calls were put in at an average based on cases of the same diagnosis．Attended cases include some hospital cases with no calls because all service was rendered within the hospital by the hospital staff．A few attended cases had all calls prior to the study year（ 0.4 percent were so reported）．Doctors＇calls were entered and coded in actual numbers up to 99 and in class intervals of 10 above that number；means were computed from summated calls and not from the distribution of cases in the broader class intervals shown in table 4.
${ }^{6}$ Because two or more types of practitioners may attend the same case，these percentages for cases do not necessarily add to 100 ；also cases and calls by dentists are not included in any practitioner group except the total．The percent of calls（home，office，and clinic）by physicians（all M．D．）is not shown but the approxi－ mate percent can be computed by subtracting the percent of calls by nonmedical practitioners from 100 ． The result would include estimated calls on illness by dentists which are negligible（less than 1.0 percent） for all the diagnosis groups except＂other respiratory，＂sole or primary 1.8 percent，sole 2.0 ；＂all other diseases，＂sole or primary 2．9，sole 2.9 percent．
${ }^{7} \mathrm{M}$ ．D．inctides private physician，surgeon or other specialist，private group clinic，public clinic，out－ patient department，and hospital．
${ }^{8}$ Specialist means a physician so designated by the family informant；a negligible percentage of these cases and calls represent specialists in clinics and are counted in both categories．
－Nonmedical practitioners include osteopath，chiropractor，Ohristian Scientist or other faith healer， midwife．naturopath，and other nonmedical practitioners，and also supplementary practitioners such as chiropodist，physiotherapist，and optician，but not dentist．
10 General physician means private physician（M．D．）not designated as specialist．

Table 1.-Mean calls by any practitioner within the year of observation ${ }^{1}$ per case of illness from broad groups of causes, and the proportion of cases and calls for different types of practitioners-8,758 canvassed white families in 18 States during 18 consecutive months, 1928-81-Continued

| Disease and whether sole diagnosis or complicated by another disease | $\begin{aligned} & \text { Attended cases per 1,000 } \\ & \text { population (adjusted) } \end{aligned}$ |  | Percent of cases attendedby any practitioner | Mean callsby anypracti-tioner |  | Percent of attended cases attended by- |  |  |  | Percent of calls by- |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  | Public clinic |  |  | Public clinic |  |  |
| Other digestive diseases (pt. 108, 110, 111, 115-127): <br> Sole or primary | 26.4 | 945 | 91.7 | 6. 1 | 6.7 | 97. | 22.8 |  |  |  | 1. | 9. | 54.7 |
| Sole. |  | 859 | 91.0 | 6. 6 | 6.1 | 97.3 | 21.7 | 2. | 4.3 | 29.0 | 1.5 | 9.3 | 54.7 |
| Complicated |  | 155 | 96.9 | 10.7 | 11.0 | 98.7 | 35.5 | 5.8 | 2.6 | 25.6 | 3.0 | 8.3 | 55.5 |
| Communicable diseases (1-10, 12- <br> 14, pt. 16, 17-30, 32-42): <br> Qole or primary | 49.5 | 496 | 68.0 | 2.5 | 3.6 |  |  |  |  |  | 6. |  | 78.8 |
| Sole or primary | 9.6 | 2,370 | 67.0 | 2. 5 | 3. 6 | 99.8 | 5. 1 | 3.4 | . 6 | 4.9 | 6.8 | 7 | 78. 2 |
| Complicated |  | 179 | 94.2 | 7.0 | 7.4 | 99.4 | 17.9 | 8.4 | 2. 2 | 13.5 | 7.3 | 2.3 | 90.0 |
| Ear and mastoid diseases (86) Sole or primary. | 15.3 | 676 | 93.5 | 4.1 | 4.4 |  |  |  |  |  | 6.6 |  | 49.8 |
|  |  | 648 | 93.2 | 3.9 | 4.2 | 99.5 | 42.9 | 6.8 |  | 43.6 | 6.1 | 1.1 | 49.1 |
| Complicated |  | 197 | 92.9 | 6. 5 | 7.0 | 99.5 | 43.7 | 6.6 |  | 24.6 | 7.6 | 4.6 | 77.4 |
| Nervous diseases except cerebral hemorrhage, paralysis, neuralgia, and neuritis (70-73, 76-81, 84): <br> Sole or primary | 13.1 | 465 | 93.2 | 5.0 | 5.4 | 90.8 | 8.8 |  | 11.6 | 7.1 |  | 20.8 | 50.7 |
| Sole. |  | 445 | 93.1 | 4.9 | 5.3 | 90.3 | 8.3 |  | 12.1 | 6.3 |  | 22.1 | 49.7 |
| Complicated |  | 71 | 91.0 | 9.4 | 10.3 | 98.6 | 18.3 | 2.8 | 5. 6 | 20.1 |  | 4.5 | 73.8 |
| Rheumatism and related diseases (51, 52, 82, pt. 158): | 22.2 | 699 | 87.7 | 4.9 | 5.6 | 86.0 | 5. 6 |  |  | 5.2 | 3.8 |  | 50.4 |
| Sole....-. |  | 673 | 87.5 | 4.7 | 5. 3 | 85. 6 | 5. 1 |  | 19.8 | 3.6 | 4.1 | 32.1 | 49.7 |
| Complicated |  | 93 | 87.7 | 9.5 | 10.8 | 93.5 | 15. 1 | 4.3 | 10.8 | 20.9 | 2.5 | 20.3 | 58.4 |
| Degenerative diseases (43-50, 57, 74, 75, 83, 87-92, pt. 93, pt. 96, 128-130, pt. 131, 132, pt. 133, 135): |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole or primary | 40.9 | 1, 161 | 95.3 | 7.7 | 8. 1 | 98.0 | 14.8 | 4.0 | 5.1 | 10.6 | 3. 9 | 8. 2 | 48.4 |
| Sole. |  | 973 | 95.4 | 6.7 | 7.0 | 98. 2 | 13.9 | 3.8 | 4. 2 | 11.2 | 3.4 | 6. 4 | 43.5 |
| Complicated |  | 389 | 94.9 | 12.7 | 13.4 | 98.2 | 19.8 | 4.1 | 6.7 | 8.3 | 3.6 | 9.1 | 73.8 |
| Skin diseases (151-154, Sole or primary | 28.4 | 1,146 | 85.5 | 3.4 | 3.9 | 96.7 |  | 4.7 |  |  | 4.3 | 6.1 | 21.9 |
| Sole.- |  | 1, 134 | 85.3 | 3.3 | 3.9 | 96.6 | 12.3 | 4.4 | 4. 4 | 14.7 | 3.9 | 6.3 | 21.8 |
| Complicated |  | 64 | 97.0 | 7.5 | 7.8 | 98.4 | 25.0 | 17.2 | 6.3 | 14.7 | 11.6 | 2. 7 | 54.5 |
| Female genital and puerperal diagnoses (137-150): |  |  | 96.8 |  | 7.7 |  |  | 8. | 4. | 11.0 | 5. |  | 66.7 |
|  | 179.6 | 1, 491 | 98.8 | 7.4 | 7.7 |  | 11.2 | 8. 5 | 4.0 | 9.4 | 6. | 4.8 | 66.6 |
| Somplicated |  | 1. 397 | 96.7 97.5 | 6.9 15.2 | 15. 5 | 99.5 | 11.3 | 8. 8. | 3.6 | 23.8 | 2. | 8.4 | 66.6 66.9 |
| Accidental injuries (pt. 85, 165203): <br> Sole or primary | 66.0 | , 595 | 90.1 | 3.8 | 4.3 | 96.8 | 7.8 | 6.9 | 4. 1 | 7.7 |  | 6. 4 | 39.1 |
| Sole |  | 2,553 | 90.0 | 3.8 | 4.2 | 96.8 | 7.6 | 6.9 | 4.2 | 7.3 | 5.2 | 6.6 | 38.7 |
| Complicated |  | 51 | 98.1 | 9.6 | 9.8 | 98.0 | 21.6 | 5.9 | 2.0 | 16.4 | 1.2 |  | 63.0 |
| All other diseases (53-56, 58-69, 85, pt. 93, 94, 95, pt. 96, pt. 108, pt. 131, pt. 133, 134, 136, 155-157, pt. 158, 159-164, 204, 205): |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole or primary | 73.8 | 2,849 | 86.3 | 3.9 | 4. 5 | 79.7 | 15. 2 | 6. 2 | 14.5 | 17.6 |  | 23.8 | 38.5 |
| Sole. |  | 2,778 | 86. 2 | 3.8 | 4.4 | 79.3 | 15.2 | 6. 2 | 14.8 | 17.6 |  | 24.2 | 38.3 |
| Complicated |  | 350 | 88.6 | 7.0 | 7.8 | 96.6 | 18.9 | 6.6 | 4.6 | 14. 1 |  | 8.5 | 56.1 |

[^5]Table 2.-Mean calls by any practitioner within the year of observation ${ }^{1}$ per case of illness from specific ${ }^{2}$ causes, and the proportion of cases and calls for different types of practitioners-8,758 canvassed white families in 18 States during 12 consecutive months, 1928-s1

| Disease and whether sole diagnosis or complicated by another disease ${ }^{3}$ |  |  |  | Meancallsby anypracti-tioner $i$$\|$ |  | Percent of attended cases ${ }^{6}$ attended by - |  |  |  | Percent of calls ${ }^{6}$ by- |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  | $\begin{aligned} & \text { 을 } \\ & \text { 를 } \\ & \text { 苟 } \\ & \text { a } \end{aligned}$ |  |  | $\begin{aligned} & \text { 을 } \\ & \text { a } \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ |  |  |
| Minor respiratory diseases: Influenza and grippe (11) $\qquad$ | 65.17 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole .-.....-........-.--- |  | 2418 | 76.7 | 1.97 | 2.56 | 98.4 |  | 0.9 | 2.0 | 3.6 | 0.6 |  | 84.1 |
| Complicated |  | 156 | 92.9 | 6.41 | 6.90 | 99.4 | 17.9 | 3.2 | 2.6 | 9.7 | 2.8 |  | 84.9 |
| Bronchitis and chest colds (99) | 32.07 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 1,257 | 69.8 | 1.67 | 2.39 | 98.7 | 6.1 | 5.6 | 1.4 | 5.5 | 5. 0 | 2.1 | 66.0 |
| Complicated |  | 66 | 80.5 | 4.70 | 5. 83 | 100.0 | 10.6 | 1.5 | 1.5 | 23.4 | 1.3 | . 5 | 74.2 |
| Coryza and colds, unqualified (pt. 97, pt. 107). | 47.72 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 1,796 | 46.0 | 75 | 1.62 | 96.2 | 7.0 | 1.8 | 4.0 | 8.7 | 1.6 | 6.5 | 49.4 |
| Complicated |  | 174 | 78.3 | 2.48 | 3.25 | 98.9 | 22.4 | 1.7 | 1.7 | 17.3 | . 7 | 5 | 66.9 |
| Cough (pt. 107) | 1.24 | 54 | 54.0 | . 89 | 1.65 | 100.0 | 5.6 | 1.9 |  | 11.2 | 4.5 |  | 43.2 |
| Tonsillitis (pt. | 16.69 |  | 3.0 | . 8 | 1.65 | 10.0 | 5.6 | 1.8 |  |  | 4.5 |  | 43.2 |
| Sole.. |  | 677 | 80.5 | 1.61 | 2.00 | 99.4 | 8.4 | 1.5 | 1.0 | 11.0 | 1.3 | 1.3 | 72.7 |
| Complicated |  | 54 | 96.4 | 4.66 | 4.83 | 100.0 | 25.9 | 3.7 |  | 20.3 | 1.5 |  | 82.6 |
| Quinsy (pt. 109) | 1.85 | 62 | 83.9 | 3.76 | 4.00 | 08.4 | 21.0 |  | 3 |  |  |  |  |
| Sore throat (pt. 109) | 8.75 | 62 | 93.9 | 3.76 | 4.00 | 98.4 | 21.0 |  | 3.2 | 17.7 |  | 4.8 | 79.6 |
| Sole. |  | 325 | 52.3 | 1.26 | 2.41 | 100.0 | 13.2 | 3.1 |  | 26.7 | 2.2 |  | 52.8 |
| Complicated. |  | 19 | 54.3 | 3.06 | 5.63 | 100.0 | 31.6 |  |  | 23.4 |  |  | 70.6 |
| Other pharynx and tonsil affections, except tonsillectomy (pt. 109) | 3.82 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole. |  | 127 | 92.0 | 3.61 | 3.92 | 99.2 | 20.5 | 3.1 | 2.4 | 11.5 | 1.0 | 1.0 | 66.7 |
| Complicated |  | 34 | 97.1 | 5.37 | 5.53 | 94.1 | 41.2 | 14.7 | 5.9 | 17.0 | 22.9 | 1.1 | 58.3 |
| Laryngitis (pt. 98) | 2.69 | 9 | 90.4 | 2.47 | 2.73 | 95.7 | 22.3 | 2.1 | 6.4 | 39.3 | 1.2 | 8.9 | 61.8 |
| Croup (pt. 98) | 1.11 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole ------------ |  | 63 | 57.3 | . 94 | 1.63 | 100.0 | 4.8 |  |  | 3.9 |  |  | 87.0 |
| Other respiratory diseases: Tonsillectomy and adenoidectomy (pt. 109) | 17.97 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole. |  | 791 | 100.0 | 2.76 | 2.76 | 99.5 | 51.7 | 12.6 | . 5 | 47.9 | 8.6 | 1.0 | 33.0 |
| Complicated -.... |  | 50 | 100.0 | 8.04 | 8.04 | 100.0 | 46.0 | 12.0 |  | 28.6 | 3.5 |  | 55.3 |
| Pneumonia, all forms (100, 101) | 7.29 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole.-...--.-....... |  | 238 | 99.6 | 9. 59 | 9. 63 | 99.2 | 7.6 | 1.7 | 1.3 | 4.3 | . | 8 | 96.0 |
| Complicated |  | 77 | 100.0 | 14.90 | 14.90 | 100.0 | 33.8 | 5.2 | 1. | 18. | 1.5 | . 8 | 97.0 |
| Sinusitis (pt. 97) | 10.38 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole |  | 324 | 95.3 | 6.04 | 6.34 | 96.9 | 51.9 | 4.9 | 3.7 | 53.5 | 3.6 | 5.5 | 34.8 |
| Vincent's angina (pt. 109 ) |  | 54 | 98.2 | 12.25 | 12.48 | 98.1 | 57.4 | 7.4 | 1.9 | 48.8 | 3.7 | 1.6 | 62.2 |
| Vincent's angina (pt. 109) <br> Sole. | 1.11 | 88 | 100.0 | 14.47 | 14.47 | 65.8 | 13.2 |  |  | 3.1 |  |  | 33.3 |
| Asthma (105) | 3.44 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole. |  | 104 | 79.4 | 4.02 | 5.06 | 98.1 | 11.5 | 4.8 | 3.8 | 12.2 | 3.0 | 5.3 | 60.2 |
| Complicated |  | 19 | 100.0 | 10.89 | 10.89 | 94.7 | 15.8 | 10.5 | 10.5 | 15.9 |  | 10.6 | 82.4 |
| Hay fever (pt. 107) Sole | 1.51 | 55 | 73.3 | 5. 87 | 8.00 | 90.9 | 14.5 | 5.5 |  | 6.1 |  | 12.5 | 17.5 |

For notes 1, 3, 5, 7, 8, 9, and 10, see notes with same numbers on table 1.
${ }^{2}$ The table shows data for all diagnoses that had 10 or more cases attended by a doctor with known numbers of calls. Within this limitation, the diagnoses aro the same as shown in table 2 of a preceding paper on durations (15).
${ }^{4}$ These rates per 1,000 population are for sole, primary, and contributory causes occurring during the year, as defined in notes 1 and 5 to table 1; the age adjustment for attended cases is approximate only and is obtained by applying the percentage of cases that were attended to the age adjusted rate for all cases (attended and not attended) as shown for the same diagnoses in table 2 of a preceding paper (15).
${ }^{\circ}$ Because two or more types of practitioners may attend the same case, these percentages for cases do not necessarily add to 100; also cases and calls by dentists are not included in any practitioner group except the total. The percent of calls (home, office, and clinic) by physicians (all M. D.) is not shown but the approximate percentages can be computed by subtracting the percent of calls by nonmedical practitioners from 100. The result would include estimated calls on illness by dentists which is negligible (less than 1.0 percent) for all diagnoses except Vincent's angina, sole diagnosis 38.2 percent; diseases of the mouth except teeth and gums, sole 2.7, complicated 6.7; rheumatism (unqualified), sole 1.1; neuralgia and neuritis, sole 1.4, complicated 2.1; diseases of the lymphatic system, complicated 1.4; diseases of the teeth and gums, sole 56.9 , complicated 14.5; debility and fatigue, complicated 1.1 percent.

Tabls 2．－Mean calls by any practitioner within the year of observation per case of illness from specific causes，and the proportion of cases and calls for dafferent types or practitioners－8，758 canvassed white families in 18 States during 18 consecutive months，1928－\＄1－Continued．

| Disease and whether sole diag－ nosis or complicated by another disease |  |  |  | $\left\lvert\, \begin{gathered} \text { Mean calls } \\ \text { by any } \\ \text { practi- } \\ \text { tioner } \end{gathered}\right.$ |  | Percent of at－ tended cases attended by－ |  |  |  | Percent of calls by－ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | 菬 | $\begin{aligned} & \text { 를 } \\ & \text { 를 } \\ & 0 \\ & 0 \end{aligned}$ |  | $\begin{aligned} & \text { 志 } \\ & \text { 髪 } \\ & \text { } \end{aligned}$ |  |  |  |
| Other respiratory diseases－Con． <br> Pleurisy（102）． |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Complicated |  | 28 | 96.6 | 8． 52 | 8.82 | 100.0 | 25.0 | 3.6 | 3.6 | 4.0 | 1.2 |  | 95． 8 |
| Respiratory tuberculosis（pt． 31） $\qquad$ | 2.83 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 89 | 96.7 | 10.01 | 10.35 | 98.9 | 11.2 | 49.4 | 1.1 | 19.3 | 21.8 | 1.3 | 74.4 |
| Complicated |  | 13 | 100.0 | 21.00 | 21.00 | 100.0 | 38.5 | 53.8 |  | 22.7 | 14.7 |  | 65.6 |
| Suspected respiratory tu－ berculosis（pt．31） | 1.14 | 38 | 97.4 | 8. | 9.13 | 100.0 | $\bigcirc$ | 4 |  |  |  |  | 38.4 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Complicated |  | 65 | 71.4 | 3.13 | 4.38 | 96.9 | 1.5 | 3.1 | 3.1 | 1.1 | ． 7 | 2.8 | 54.1 |
| Biliousness（pt．112） | 2.55 | 92 | 66.7 | 1.25 | 1.88 | 100.0 |  | 1.1 | 2.2 |  | 1.2 | 26.0 | 55.7 |
| Otherand ih－defined stomach diseases（pt．112） | 5． 16 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole |  | 171 | 82 | 2. | 3.60 | 96.5 | 17.0 | 2.9 | 4.1 | 23.6 | 3.7 | 1 | 35.3 |
| Complicated |  | 26 | 86.7 | 3.80 | 4.38 | 84.6 | 7.7 |  | 19.2 | 15.8 |  | 35.1 | 35.0 |
| Diarrhea and enteritis（15，pt． 16，113，114） | 14.08 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 568 | 73.5 | 1.90 | 2.59 | 99.3 | 8.1 | 3.3 | 1． 6 | 11.4 | 3． | 7.3 | 65.3 |
| Complicated |  | 49 | 87.5 | 6.25 | 7.14 | 98.0 | 16.3 | 6.1 | 2.0 | 6.9 | 3.7 | 17.1 | 64.3 |
| Other digestive diseases： <br> Uleers of stomach and duo－ denuin（1II）． $\qquad$ 2.21 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Intestinal parasites，except hookworm（116） |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole |  | 33 | 80.5 | 1.27 | 1.58 | 100.0 | 6.1 |  |  | 5.8 |  |  | 31.0 |
| Appendicitis（117） <br> Sole | 9.40 | 284 | 97.6 | 6.61 | 6.77 | 98.2 | 32.0 | 1.1 | 2.8 | 39.6 | 4 | 4.0 | 67.8 |
| Complicated |  | 60 | 98.4 | 12.43 | 12．63 | 100.0 | 48.3 | 5.0 | 1.7 |  |  | 9.5 | 65.4 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 79 | 88.8 | 5.89 | 6.63 | 98.7 | 29.1 | 5.1 | 2.5 | 24.2 | 3.8 | 1.9 | 42.6 |
| Complicated |  | 17 | 100.0 | 7.94 | 7.94 | 100.0 | 41.2 | 11.8 |  | 19.3 | 7.4 |  | 56.3 |
| Constipation（pt．119） Sole．．．．．．．．．．．．．．．．．．．． | 1.73 | 54 | 65.9 | 2.35 | 3.57 | 90.7 | 5． 6 | 1.9 | 13.0 | 7.3 | 1.6 | 28.4 | 32.6 |
| Biliary calculi，cholecystitis （123，pt．124） |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 152 | 93.8 | 6.71 | 7.15 | 98.0 | 17.8 | 1.3 | 3.9 | 25.4 | ． 4 | 15.5 | 69.5 |
| Complicated |  | 22 | 95.7 | 9.91 | 10.36 | 100.0 | 31.8 | 4.5 | 4.5 | 17.5 | 9.6 | 11.0 | 61.1 |
| Other and ill－defined liver diseases（pt．124） | 1.98 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 55 | 84.6 | 2.66 | 3.15 | 92.7 | 3． 6 | 1.8 | 9.1 | 4.6 | ． 6 | 23.7 | 38.3 |
| Complicated． |  | 14 | 100.0 | 7.21 | 7.21 | 92.9 |  |  | 14.3 |  |  | 44.6 | 46.2 |
| Diseases of the mouth except teeth and gums（pt．108） | 1.28 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole ．．．．．．．．．．．．．．．．．．．－－ |  | 53 | 96.4 | 2.04 | 2.11 | 88.1 | 13.2 |  |  | 17.0 |  |  | 34.8 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole．．．．．．．．－．．．．．．．．．－．．．．－－ | －．．．．．－ | 568 | 64.0 | 1.17 | 1.83 | 100.0 | 4.2 |  |  | 4.7 |  |  | 96.0 |
| Complicated－－．－－－－－－－ |  | 50 | 94.3 | 3.92 | 4.16 | 100.0 | 12.0 | 8.0 |  | 19.2 | 12.0 |  | 95.5 |
| German measles（pt．25）．．．．－－． 61 |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 506 | 71.5 | 2.32 | 3.25 | 100.0 | 6.3 | 4.5 | 1.0 | 6.4 | 5．0 | ． 6 | 685 |
| Complicated |  | 28 | 90.3 | 6． 32 | 7.00 | 100.0 | 7.9 | 7.1 | 3.6 | 16．3 | 1.0 | 3.1 | 98.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 280 | 948.4 | $4{ }^{73}$ | 1． 51 | 100.0 | 3.9 5.9 | ． 7 |  | 4.7 | 7 |  | 83.8 88.2 |
| Mumps（13） |  | 17 | 94.4 | 4.50 | 4.76 | 100.0 | 5.9 |  |  | 1.2 |  |  | 88.2 |
| Sole |  | 195 |  | ． 71 | 1． 63 | 99.5 | 3． 1. | 1.0 | 1.0 | 7.2 | ． 6 | 1.8 | 79.1 98.3 |

Table 2.-Mean calls by any practitioner within the year of observation per case of illness from specific causes, and the proportion of cases and calls for different types or practitioners-8,758 canvassed white families in 18 States during 12 consecutive months, 1988-\$1-Continued.

| Disease and whether sole diagnocis or complicated by another disease |  | Number of attended cases |  | Mean callsby anypracti-tioner |  | Percent of attended cases attended by - |  |  |  | Percent of call by- |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | $\begin{aligned} & 8 \\ & 8 \\ & \mathbf{8} \\ & \hline 8 \\ & 8 \\ & 4 \\ & \text { M } \end{aligned}$ |  |  | 荡 |  |  |  | $\begin{aligned} & \text { 을 } \\ & \text { 를 } \\ & \text { 율 } \\ & \end{aligned}$ |  |  |
| Communicable diseases-Con. <br> Scarlet fever (8) |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 200 | 83.0 | 4.95 | 5.33 | 100.0 | 20.0 |  | 5.0 | 2.3 |  | 3 | 100.0 |
| Complicated |  | 15 | 100.0 | 14.20 | 14.20 | 100.0 | 28.7 |  |  | 13.1 |  |  | 100.0 |
| Diphtheria (10) | 1.45 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole.-. ${ }^{\text {S }}$ Sall |  | 68 | 100.0 | 5.96 | 5. 96 | 100.0 | 29 | 1.5 |  | 3.2 |  |  | 100.0 |
| Smalipox (6) | 38 | 16 | 94.1 | 6. 12 | 5.44 | 100.0 |  |  |  |  |  |  | 100.0 |
| Typhoid fe | . 37 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole. |  | 14 | 100.0 | 20.07 | 20.07 | 100.0 | 21.4 |  |  | 3.9 |  |  | 92.3 |
| Malaria (5) | 272 | 95 | 80.5 | 3.28 | 4.05 | 100.0 | 2.1 |  |  | 21 |  |  |  |
| Compli |  | 11 | 100.0 | 3.91 5. | 8. 91 | 100.0 | 2.1 |  |  | 21 |  |  | 00.9 |
| Erysipelas (21) | 83 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole |  | 24 | 98.0 | 11.04 | 11. 50 | 100.0 | 12.5 |  |  | 1.1 |  |  | 77.3 |
| Tuberculosis, nonrespiratory (32-37) | 63 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 21 | 91.3 | 9.22 | 10. 10 | 100.0 | 47.6 | 28.6 |  | 29.7 | 17. |  | 64.3 |
| Local and other infections not specified as accidental (41).- | 6. 45 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole...-.-.-........------ |  | 198 | 90.4 | 3.97 | 4.39 | 98.0 | 5.1 | 1.0 | 2.5 | 4.0 |  | 3.7 | 38.3 |
| Complicated |  | 14 | 100.0 | 8.86 | 8.86 | 100.0 | 35.7 | 7.1 | 14.3 | 16.1 | 6.5 | 14.5 | 70.0 |
| Smallpox vaccination (pt. 42) - | 1.58 | 76 | 100.0 | 2.16 | 2.16 | 100.0 |  | 30.3 |  |  |  |  | 32.7 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole---.-----.-.-.-.-.-.-- | ------- | 87 | 75.7 | 1.26 | 1. 67 | ${ }^{98} 9$ | 28.7 | 2.3 | 1.1 | 37.2 | 2.1 | 7 | 42.6 |
| Complicated |  | 30 | 76.9 | 2.38 | 3. 10 | 100.0 | 20.0 | 3.3 |  | 15.1 | 1.1 |  | 65.2 |
| Otitis media (pt. | 10. 19 | 376 | 96.4 | 3.82 | 3.96 |  | 38.8 | 9.3 |  | 37.5 | 8.1 |  |  |
| Complicated |  | 126 | 98.4 | 7.69 | 7.81 | 99.2 | 46.8 | 7.9 | 1.6 | 21.7 | 7.4 | 6.5 | 55.6 85.0 |
| Other ear diseases | 4.78 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole-.-.--- |  | 145 | 96.7 | 3.74 | 3.87 | 98.6 | 53.8 | 3.4 | 7 | 61.3 | 1.6 | 2.1 | 20.6 |
| Complicated --1.-.-...-- |  | 29 | 87.9 | 4.33 | 4.93 | 100.0 | 41.4 |  |  | 36.4 |  |  | 68.2 |
| Diseases of mastoid process (pt. 86) | 1.14 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 40 | 100.0 | 11.00 | 11.00 | 100.0 | 72.5 | 5.0 |  | 59.8 | 5.0 |  | 75.0 |
| Complicated. |  | 12 | 100.0 | 14.25 | 14.25 | 100.0 | 75.0 | 16. 7 |  | 36.8 | 17.5 |  | 100.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole. |  | 203 | 92.3 | 3.70 | 4.00 | 84.2 | 5.4 | 3.9 | 16.7 | 4.2 | 5.3 | 23.2 | 32.7 |
| Complicated. |  | 26 | 89.7 | 7.34 | 8. 19 | 96.2 | 11.5 |  | 11.5 | 3.8 |  | 9.9 | 54.2 |
| Neurasthenia, nervous breakdown (pt. 84) | 3.79 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole--1.--- |  | 103 | 100.0 | 6.94 | 6.94 | 95.1 | 5. 8 | 1.0 | 9.7 | 3.4 | 5.6 | 16. 1 | 58.5 |
| Complicated |  | 15 | 100.0 | 11.33 | 11. 33 | 100.0 | 6. 7 |  | 6.7 | 7.1 |  | 7.1 | 71.4 |
| Convulsions, unqualifled (79, 80) | 77 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole-..-...-..............-- |  | 36 | 90.0 | 2.63 | 2.92 | 100.0 | 8.3 | 5. 6 |  | 8.6 | 2.9 |  | 87.5 |
| Other nervous diseases except cerebral hemorrhage, paralysis, neuralgia, and neuritis (70-73, 76-78, 81, pt. 84) - | 3.33 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole.-....-............- |  | 103 | 89.6 | 6.10 | 6.81 | 92.2 | 16.5 | 12.6 | 9.7 | 9.4 | 17.0 | 30.5 | 00.0 |
| Complicated |  | 22 | 84.6 | 11.81 | 13.95 | 100.0 | 36. 4 | 13.6 |  | 31.9 | 1 |  | 89.5 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| thritis (pt. 52).................-. $\quad$ 6. 23Sole. |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 114 | ${ }^{80.9}$ | 9. 19 | 11.37 | 87.7 | 14.0 | 6.1 | 20.2 | 6. 3 | 48 | 340 | 51.2 |
| Rhenmatism |  | 29 | 93.5 | 15. 42 | 16. 48 | 83.1 | 20.7 | 6.9 | 13.8 | 4. 7 | 4.8 | 23.4 | 60.0 |
| Rhenmatism, unqualited (Dt. 52) |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Complicated. |  | 187 <br> 23 | $\begin{aligned} & 91.7 \\ & 92.0 \end{aligned}$ | $\begin{aligned} & 8.49 \\ & 6.28 \end{aligned}$ | 8.80 | $10001$ | $\left\|\begin{array}{r} 2 \\ 23 \\ 13 \end{array}\right\|$ | $\begin{aligned} & -7.9 \\ & 4.3 \\ & 4 \end{aligned}$ | 11.8 | $11$ |  | 140 | 49.7 |

Tabli 2．－Mean calls by any practitioner within the year of observation per case of illness from specific causes，and the proportion of cases and calls for different types or practitioners－8，758 canvassed white families in 18 States during 12 consecutive months，1928－81－Continued．

| Disease and whether sole diag－ nosis or complicated by another disease |  |  |  | Mean callsby anypracti－tioner |  | Percent of at－ tended cases attended by－ |  |  |  | Percent of calls by－ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | $\begin{aligned} & \text { 荡 } \\ & \text { 镸 } \\ & \text { 品 } \end{aligned}$ | $\begin{aligned} & \text { 음 } \\ & \text { 를 } \\ & \text { 률 } \end{aligned}$ |  |  |  |  |  |
| Rheumatism and related dis－ eases－Continued <br> Neuralgia and neuritis（82）．－－ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole |  | 205 | 87.2 | 4.47 | 5.12 | 85.4 | 3.9 | 2.9 | 19.5 | 1.6 | 2.1 | 37.1 |  |
| Complicated． |  | 29 | 85.3 | 8.41 | 9.86 | 89.7 | 10.3 |  | 17.2 | 8.7 |  | 32.5 | 56. |
| Lumbago（pt．158） | 3.58 | 108 | 86.9 | 2． 35 | 2.71 | 83.0 | ． 9 |  | 22.6 | ． 3 |  | 34.8 | 47. |
| Myalgia and myositis（pt． 158） | 1.02 | 10 | 8.8 | 2.35 | 2.1 | 83.0 | ． |  | 22.6 | ． 3 |  | 34.8 | 47. |
|  |  | 32 | 91.4 | 3.20 | 3.50 | 43.8 | 6.3 |  | 56.3 | 1.8 |  | 75.9 | 38. |
| Degenerative diseases： <br> Cancer，all sites（43－49） |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole |  | 42 | 100.0 | 19．29 | 19.29 | 97.6 | 50.0 | 11.9 | 7.1 | 15.9 | 11.9 | 28 | 73. |
| Benign tumors，except of fe－ male organs（50） | 3.84 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole． |  | 113 | 99.1 | 4.38 | 4.42 | 97.3 | 31.9 | 7.1 | 3． 5 | 21.2 | 3．2 | 1.2 | 16.1 |
| Complicat |  | 13 | 100.0 | 7.77 | 7.77 | 100.0 | 38.5 |  |  | 23.8 |  |  | 20.0 |
| Diahetes（57） Sole． | 35 | 53 | 93.0 | 9.05 | 9.74 | 100.0 | 15． 1 | 11.3 | 1.9 | 9.1 | 3.3 | 1.7 | 6.5 |
| Complicated |  | 14 | 93.3 | 11． 47 | 12． 29 | 100.0 | 42.9 | 7.1 | 14.3 | 20.9 | 5.8 | 9.9 | 2.7 |
| Diseases of the hea Sole | 1.72 | 190 | 92.7 | 6.92 | 7.46 | 99.5 | ． 8 | 8.2 | 2.6 | 5.8 | 1.9 | 6 | ． 0 |
| Complicated． |  | 123 | 93.9 | 13． 19 | 14.05 | 97．6 | 16.3 | 8． 7 | 8.9 | 4.5 | 1.9 | 13.8 | 78.3 |
| Arteriosclerosis and high blood pressure（pt．91，pt． 96） | 8.07 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 110 | 99.1 | 7.54 | 7.61 | 99.1 | 1.8 | 1.8 | 3． 6 |  | 1． 1 | 10.9 | 49.0 |
| Complicated |  | 74 | 100.0 | 15． 20 | 15． 20 | 97.3 | 17．6 | b． 4 | 8.1 | 4.6 | 1.6 | 10.5 | 77.6 |
| Cerebral hemorrhage and paralysis（74，75） | 2． 53 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 27 | 81.8 | 12.79 | 15． 63 | 96.3 | 14.8 |  | 18．5 | 2.6 |  | 23.5 | 70.8 |
| Complicated |  | 32 | 100.0 | 14． 25 | 14．25 | 96.9 | 12.5 |  | 6.3 | 4.6 |  | 7.2 | 93.1 |
| Varicose veins or ulcer（pt．93） Sole | 1.76 | 41 | 93.2 | 6.00 | 6.44 | 95.1 | 7.3 | 4.9 | 4.9 | 8.3 | 5.2 | 16.3 | 23.5 |
| Nephritis，acute and chronic （128，129） | 2.99 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 43 | 97．9 | 7.40 | 7． 57 | 100.0 | ${ }_{15}^{6.5}$ | 2.2 | 4.3 | 19.0 | 1． 1 | 4.3 | 52.3 83 |
| Other and unspecified kidney diseases except pyelitis（pt． |  | 33 |  | 15． 55 | 15． 55 |  | 15.2 | 3.0 | 3.0 | 1.2 | 8 | 2.3 | 83.3 |
| 131）Sole |  | 130 | 92.9 | 4.99 | 5.38 | 95.4 | 12.3 | 1． 5 | 6.2 | 7.2 | ． 9 | 10.3 | 37． 4 |
| Complicated |  | 35 | 79.5 | 5． 32 | 6． 69 | 97.1 | 14.3 |  | 5． 7 | 13.2 |  | 20.5 | 58.6 |
| Cystitis，and calculi of uri－ | 4.8 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole |  | 131 | 97.8 | 4.38 | 4.48 | 100.0 | 13.7 |  | 2.3 | 19.6 |  | 1． 5 | 43.6 |
| Complicated |  | 24 | 100.0 | 13． 29 | 13．29 | 100.0 | 25.0 |  | 4.2 | 19．1 |  | 1.3 | 50.0 |
| Other diseases of bladder（pt． 133） | 1.88 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 61 | 95.3 | 2.83 | 2.97 | 95.1 | 8.2 | 4.9 | 6.6 | 12.2 | 8.8 | 11.6 | 21.2 |
| Skin disease |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Furuncle | 6.68 | 240 | 78.2 | 3.28 | 4.20 | 100.0 | 3.3 | 2.5 |  | 10.0 | 1.6 |  | 22.2 |
| Complicated |  | 12 | 100.0 | 7.58 | 7.58 | 100.0 | 25.0 | 8.3 | 16.7 | 16． 5 | 3.3 | 12.1 | 54.5 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 112 | 98.6 | 403 | 4.17 | 100.0 | 7.1 | 1.8 |  | 5． 4 | 1.9 |  | 40.2 |
| Complicated |  | 11 | 100.0 | 5.64 | 5.64 | 100.0 | 36.4 | 9.1 |  | 17.7 | 12.9 |  | 66.7 |
| Impetigo（pt．154） |  | 110 | 79.7 | 2.30 | 2.88 | 100.0 | 9.1 | 6.4 |  | 6.0 | 4.7 |  | 15.8 |
| Urticaria，hives（pt．154）－．．－－ 1.50 |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 56 | 90.3 | 2.44 | 2.70 | 98.2 | 10.7 | 1.8 | 5.4 | 10.6 | ． 7 | 21.9 | 41.3 |
|  |  | 4 | 69.8 | 1.82 | 2.61 | 100.0 | 6.8 | 9.5 |  | 6.2 | 8.3 |  | 20.3 |
| Eczema（pt．154） | $\text { 3. } 38$ | ， |  | 1.8 |  |  |  |  |  |  |  |  |  |
|  |  | 140 | 0.9 |  | 5 |  |  |  |  |  |  |  | 6.1 |

Table 2．－Mean calls by any practitioner vithin the year of observaction per case of illness from specific causes，and the proportion of cases and calls for different types or practitioners－8，758 canvassed white families in 18 States during 12 consecutive months，1928－s1－Continued

| Disease and whether sole diag－ nosis or complicated by another disease |  |  |  | Mean callsby anypracti－tioner |  | Percent of at－ tended cases attended by－ |  |  |  | Percent of calls by－ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | 等 | 遃 |  | 稷 |  |  |  |
| Skin diseases－Continued． <br> Other and ill－defined skin diseases（151，pt．154，pt． 205） $\qquad$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 402 |  | 3． 68 |  |  | 19.7 |  | 10.4 | 24.6 | 2.5 | 12.1 | 18． 28 42.9 |
| Complicated <br> Female genital and puerperal diagnoses： <br> Cysts and tumors of ovary and uterus $(137,139)$ $\qquad$ | 112.77 |  |  |  |  |  |  |  |  | 18.6 | 3 |  |  |
| Sole－－．．．．．．．．．．．．－－－．－．－ |  | 33 | 100.0 | 8.97 | 8.97 | 100.0 | 36.4 | 9.1 | 6.1 | 12． 2 | 2.0 | 8.1 | 65． 6 |
| Complicated <br> Salpingitis and pelvic ab－ scess（138） $\qquad$ | 111.62 | 13 | 100.0 | 10.92 | 10.92 | 100.0 | 69.2 |  |  | 10.6 |  |  | 45.5 |
|  |  | 17 | 100.0 | 12.88 | 12.88 | 100.0 |  | 5.9 |  | 12.8 |  |  | 68.8 |
| Complicated |  | 15 | 100.0 | 15.87 | 15.87 | 100.0 | ，33．3 | 13.3 | 6.7 | 36． 6 |  | 11.3 | 71.4 |
| Menstrual disorders（140，pt． 141） | 1111.53 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole．－．．．．．．．． |  | 185 | 87.3 | 3.48 | 3.98 | 94.6 | 4.3 |  | 5.9 | 2.4 |  | 6.2 | 42.5 |
| Complicated |  | 17 | 89.5 | 9.89 | 11.06 | 100.0 | 5.9 | 18 |  | 1.1 | 5.9 |  | 46.7 |
| Other and ill－defined nonve－ nereal diseases of female or－ gans，including chronic re－ sults of childbirth（pt．141， 142，pt．145，pt．149）． | 1115.77 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 228 | 94.2 | 13．28 | 66．65 |  |  |  |  | 14.1 | 3.1 | 8．1 | 38.0 |
| Complicated Acute complications of preg－ nancy and childbirth（pt． 143，144，pt．145，146－148， pt．149） $\qquad$ | 113.25 | 77 | 96.3 | 13.83 | 14．36 | 98.7 | 36.4 | 9.1 |  | 20.8 | 3.4 | 14.4 | 56.4 |
| Sole． |  | 37 | 100.0 | 5． 78 | 5.78 | 94.6 | 16.2 | 8.1 | 5.4 | 7.0 | 7.5 | 7.9 | 70.4 |
| Complicated |  | 26 | 100.0 | 19．54 | 9.54 | 100.0 | 38.5 |  | 3.8 | 33.7 |  | 5.9 | 73.9 |
| Abortions，miscarriages，and stillbirths（pt．143） | 117.67 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 132 | 97.1 | 5.11 | 5.27 | ${ }^{99.2}$ | 18.9 | 3.8 | 1． 5 | 11.1 | 4.3 | 1.2 | 89.0 |
| Complicated |  | 13 | 100.0 | 15． 62 | 15． 62 | 100.0 |  | 7.7 | 7.7 |  | 2.0 | 14.8 | 100.0 |
| Live births（pt．145，pt．149） Sole． | 1140.01 | 732 | 99.6 | 8.35 | 8． 39 | 97.1 | 7.7 | 13.1 | 3.4 | 9.2 | 8.4 | 3.4 | 78.1 |
| Complicated |  | 26 | 100.0 | 16． 27 | 16．27 | 100.0 | 34.6 |  |  | 4 |  |  | 77.3 |
| Puerperal diseases of the breast（150） | 112.06 |  |  |  |  |  |  |  |  |  |  |  |  |
| Accidental injuries： <br> Poisoning by ivy，oak，and other plants（pt．177） <br> Sole |  | 33 | 100.0 | 5.36 | 5． 36 | 100.0 | 3.0 | 9.1 |  | 2.8 | 3.4 |  | 66.7 |
|  | 1.71 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 69 | 71.9 | 1.39 | 1.93 | 100．0 | 8.7 | 1.4 |  | 7.5 | 2.3 |  | 26.2 |
| Other accidental poisonings （175，176，pt．177） Sole | 2.63 |  |  |  |  |  |  |  |  |  |  |  | 20.2 |
| Automobile accidents（pt． 188） |  | 105 | 89.7 | 1.68 | 1.88 | 99.0 | 3.8 | 2.9 | 1.0 | 3.0 | 2.0 | 1.0 | 57.1 |
|  | 4.98 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole－ailal． |  | 180 | 95.2 | 7.12 | 7.47 | 97.2 | 16.7 | 9.4 | 2.8 | 12.0 | 2.8 | 5.0 | 66.9 |
| Accidental burns（179） <br> Sole． | 2.50 | 101 | 66.4 | 2.93 | 4.41 | 99.0 | 5.0 | B． 9 | 1.0 | 4.0 | 7.4 | 2 | 44.4 |
| Accidental injuries by cut－ ting or piercing instru－ ments（184） | 5.88 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole－－7．－．－． |  | 247 | 85.8 | 3.29 | 3.84 | 99.2 | 4.0 | 8.9 | ． 8 | 2.5 | 5.9 | ． 6 | 27.4 |
|  |  | 173 | 90.6 | 2.83 | 3.13 | 94.8 | 7.5 | 5.2 | 6.9 | 5.4 | 3.5 | 7.4 | 59.9 |
| Eye accidents（pt．85，pt．202）－ Sole | 2.88 |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 1.01 | 115 | 97.5 | 2.87 | 2.95 | 99.1 | 38.3 | 5.2 |  | 7.2 | 2.7 | ． 3 | 20.5 |
|  |  | 45 | 88.2 | 2.84 | 3.22 | 100.0 |  | 6.7 |  |  | 8 |  | 34.1 |

[^6]Table 2.-Mean calls by any practitioner within the year of observation per case of illness from specific causes, and the proportion of cases and calls for different types or practitioners-8,758 canvassed white families in 18 States during 12 consecutive months, 1928-\$1-Continued

| Disease and whether sole diagnosis or complicated by another disease |  |  |  |  |  |  |  | $\begin{aligned} & \text { 弟 } \\ & \text { en } \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Accidental injuries-Continued. All other accidents (165-174, 178, 180-183, 186, 187, pt. 188, | 40.24 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole.-.-. |  | 1,516 | 92.7 | 4.06 | 4.38 | 96.0 | 5.4 | 7.2 | 5. 5 | 6.6 | 5.7 | 8.9 | 35.3 |
| Complicated |  | 31 | 96.9 | 10.34 | 10.68 | 100.0 | 19.4 | 6.5 |  | 18.4 | 1.2 |  | 63.3 |
| All other diseases: <br> Anemia, all forms (58) | 4.10 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole |  | 106 | 93.0 | 7.81 | 8.40 | 100.0 | 10.4 | 5.7 |  | 2.5 | 4.3 |  | 25.3 |
| Complicated |  | 32 | 100.0 | 16.00 | 16.00 | 96.9 | 25.0 | 9.4 | 6.3 | 18.8 | 4.7 | 11.7 | 42.9 |
| Diseases of thyroid gland (60) Sole. | 3.53 | 105 | 92.9 | 8.62 | 9.28 | 95.2 | 27. | 9.5 | 5 6.7 | 23.6 | 3.7 | 12.5 | 14.7 |
| Complicate |  | 19 | 90.5 | 8.33 | 9.21 | 94.7 | 15.8 |  | 10. 5 | 5. 7 | 3.7 | 18.9 | 46.7 |
| Acidosis (pt. 6 | 1.6 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole.- |  | 59 | 95.2 | 2.24 | 2.36 | 98.3 | 10.2 | 1.7 | 7 | 9.4 | 2.2 | 4.3 | 39.6 |
| Sty (pt. 85) -..................-- | 1.21 | 50 |  |  | 2.32 | 100.0 | 28.0 |  |  |  |  |  |  |
| Conjunctivitis, pinkeye, sore <br> eye (pt. 85) | 3.38 | 50 | 82.0 | 1.90 | 2.32 | 100.0 | 28.0 | 6.0 |  | 41.4 | 2.6 |  | 17.6 |
|  |  | 144 | 72.4 | 1. 49 | 2.06 | 100.0 | 24.3 | 5. 6 | - 7 | 40.9 | 3.7 | 1.7 | 23.7 |
| Other eye diseases (pt. 85) Sole | 4.76 | 153 | 96.2 | 5.23 | 5.44 | 96.1 | 57.5 | 7.8 | 5.9 | 66.0 | 8.8 | 6.5 | 16.7 |
| Complica |  | 17 | 100.0 | 10. 41 | 10.41 | 100.0 | 70.6 |  |  | 28.8 |  |  | 40.0 |
| Hemorrhoids (pt. 93) | 2.80 | 89 | 89.0 | 3.48 | 3.91 | 92.1 | 15.7 | 2.2 | 7.9 | 22.1 | 2.0 | 11.2 | 27.3 |
| Diseases of lymphatic system (94) | 3. 93 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 150 | 87.7 | 4.02 | 4.58 | 97.3 | 14.0 | 4.0 | 4.0 | 15.9 | 2.0 | 4.4 | 54.3 |
| Complicated |  | 48 | 78.7 | 3.49 | 4.44 | 100.0 | 25.0 | 6.3 | 2.1 | 26.3 | 1.9 | 1.4 | 64.1 |
| Diseases of the teeth and gums (pt. 108) | 9.74 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole |  | 365 | 92.4 | 1.52 | 1. 64 | 42.7 | 1. 6 | 1.4 | . | 1. 0 | 1.0 | 8 | 50.0 |
| Complicated |  | 44 | 83.0 | 2.21 | 2.68 | 95.5 | 4.5 | 4. | 2.3 | 1.7 | 6.0 | . 9 | 61.5 |
| Pyelitis (pt. 131) <br> Sole. | 2.18 | 80 | 98.8 | 6.15 | 6.23 | 100.0 | 10.0 | 2.5 | 1.3 | 9.6 | 8 | 2.2 | 62.5 |
| Complicated |  | 12 | 100.0 | 14.08 | 14.08 | 100.0 | 33.3 |  |  | 28.4 |  |  | 75.0 |
| Circumcision (pt. 136) | 123.21 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole. |  | 80 | 100.0 | 2.26 | 2. 28 | 97.5 | 11.3 | 5. 0 | 2.5 | 10.5 | 4.4 | 1.7 |  |
| Complicated |  | 15 | 100.0 | 3.27 | 3.27 | 100.0 | 13.3 | 13.3 |  | 8.2 | 8.2 |  | 42.9 |
| Diseases of bones and joints. except tuberculosis and rheumatism $(155,156)$ | 2.19 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole------------------ |  | 69 | 94.5 | 9. 93 | 10.51 | 81.2 | 30.4 | 8.7 | 29.0 | 17.9 | 4.6 | 28.7 | 30.6 |
| Ill-defined orthopedic condiditions and diseases of the organs of locomotion, except lumbago, myalgia, and myositis (157, pt. 158, pt. 205) | 4.69 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 165 | 94.3 | 7.22 | 7.65 | 77.0 | 32.1 | 17.6 | 28. 5 | 32.4 | 5.3 | 38.2 | 27.9 |
| Congenital malformations and diseases of early infancy (159-163) | 1.43 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole | 3.07 | 69 | 100.0 | 6.22 | 6.22 | 97.1 | 30.4 | 20.3 | 2.9 | 25.2 | 8.6 | 37.3 | 62.5 |
| Sole |  | 102 | 98.1 | 2.70 | 2.75 | 2.9 | 2.0 |  | 99.0 | . 7 |  | 98.9 | 100.0 |
|  | 3.29 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole. <br> Backache (pt. 205) | 2.60 | 109 | 46.6 | . 97 | 2.07 | 83.5 | 3.7 | 4.6 | 19.3 | 4.4 | 5.3 | 28.8 | 38.7 |
| Sole...--.-.-- |  | 83 | 81.4 | 3.86 | 4.75 | 45.8 | 2.4 |  | 60.2 | 2.0 |  | 78.2 | 20.0 |
| Debility, fatigue, exhaustion, malnutrition, loss of weight |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 182 | 78.1 | 273 | 3.50 | 87.9 | 4.9 | 9.3 | 13.2 | 2.0 | 14.8 | 20.1 | 29.1 |
| Complicated |  | 22 | 100.0 | 4.18 | 4. 18 | 81.8 | 4.5 | 9.1 | 13.6 | 2.2 | 19.6 | 41.3 | 28.7 |
| Rash, unqualified (pt. 205).-Sole | 1.87 | 83 | 89.2 |  | 1. 53 | 98.81 | 12.0 | 6.0 | 1.2 | 17.3 | 3.9 | . 8 | 20.4 |

[^7]Of the total illnesses from all causes, 78 percent ${ }^{18}$ were attended by some type of practitioner, with an average of 3.3 calls per total case (attended or not attended) and of 4.2 calls per attended case. Of all attended cases, 96 percent had the attendance of one or more physicians ${ }^{14}$ (M. D. including general physician, specialist, and clinic or hospital physician). Specialists attended 12.8 percent of the cases, public clinics 4.8 percent, and nonmedical practitioners 4.3 percent, with or without the attendance of other practitioners on the same case. Of all attended cases, 90 to 95 percent had one doctor only. Of the calls by all types of practitioners, 91 percent were by physicians including specialists and clinic and hospital physicians, 14.3 percent by specialists, 4.7 percent by public clinics, and 8.7 percent by nonmedical practitioners. ${ }^{15}$

Considering calls per total case (sole or primary diagnoses) minor respiratory ( 1.6 calls) had the smallest average, and degenerative, diseases ( 7.7 calls) had the largest. In terms of calls per attended case, the average for minor digestive was the same as that for minor respiratory diseases, 2.4 calls, but degenerative remained at the top with 8.1 calls per attended case. Without exception in these 13 broad groups, the complicated cases ( 2 or more diagnoses) had on the average considerably more calls per case than those with only one diagnosis.

Considering sole or primary causes, 43 percent of the cases of ear and mastoid diseases were attended by a specialist, with major respiratory second ( 37 percent), and major digestive third ( 23 percent). Likewise in percentage of calls by a specialist, these three diagnoses stand at the top.

[^8]In these families fewer cases went to public clinics than to specialists. The diagnosis group with the highest proportion attended by a public clinic was major respiratory ( 10.9 percent), with female genital and puerperal ( 8.4 percent) second, and ear and mastoid ( 7.0 percent) third.

The percentage of all cases that had nonmedical practitioners was about the same as the percentage that went to public clinics, but the type of case was quite different. In the proportion of cases that went to nonmedical practitioners, rheumatic diseases such as arthritis, rheumatism, and neuritis ( 19 percent) were highest, other and illdefined diseases ( 14 percent) second, and nervous diseases ( 12 percent) third.

Of more interest than the figures for these broad disease groups are data on the more specific diagnoses. As already noted, the mean calls per case and other indexes of severity are almost invariably greater for complicated cases ( 2 or more diagnoses) than for those with a single diagnosis. Therefore, in table 2 the data are shown for illnesses with a sole diagnosis and, if the numbers are sufficient, for cases complicated by one or more diseases other than the one under consideration.

Figure 1 shows attended cases per 1,000 population and figure 2 shows calls by all practitioners per attended case of sole diagnosis. In this study 78 percent of the cases were attended by some practitioner. Although the percentage attended is much lower for some diseases than for others, the order of the diagnoses with respect to frequency is not greatly different for attended cases as shown in figure 1 and for total cases as shown in a similar way in a preceding paper (15). Because only a small percentage of cases of coryza and colds are attended, influenza and grippe becomes the most frequent diagnosis among attended cases. But the next five minor respiratory diagnoses show the same order in attended as in total cases. Similarly, for a large number of other disease groups the order of frequency of the separate diagnoses is much the same whether total or attended cases are under consideration.

Among the 113 specific diagnoses (sole causes) shown in table 2 and figure 2,46 showed 5 or more mean calls per attended case and 11 showed 10 or more. Typhoid fever, cancer, and cerebral hemorrhage were the three highest with more than 15 doctors' calls per attended case. At the other extreme, there were 15 of the 113 diagnoses with less than 2 calls per attended case, chickenpox, German measles, and rash (unqualified) being at the bottom with 1.5 calls. Since the averages shown in figure 2 are for attended cases, there is, by definition, at least one call for every case. For acute diseases, these averages of calls within the study year will represent the approximate averages for completed cases since only 5 percent of such acute cases were incomplete because of prior onset or because still sick at


Thaure 1.-Cases of specific diseases attended by any practitioner during the study year per 1,000 surveyed population-8,758 canvassed white families in 18 States during 12 consecutive months, 1928-31. (Sole, primary, and contributory causes; adjusted for age by an approximate method described in note 4 to table 2).


Ftgure 2.-Mean calls by all practitioners per attended case of sole diagnosis-8,758 canvassed white families in 18 States during 12 consecutive months 1928-31.
the last report on the case. However, of the diseases commonly considered as chronic, 43 percent were incomplete because of prior onset or because still sick at the last report, so average calls in such cases represent calls for one year rather than for the entire course of the disease. Considering calls per total case (attended or not attended) 42 of the 113 diagnoses (sole causes) had 5 or more mean calls per total case and 8 diseases had 10 or more mean calls per total case. The differences between these means and the mean calls per attended case vary with the proportion of cases attended. Of the 113 specific diagnoses (sole causes), 5 showed less than 50 percent of the cases attended by some practitioner; on the other hand, 94 showed 75 percent or more of the cases attended, 67 showed 90 percent or more, and 14 diagnoses showed all cases attended by some practitioner.

The extent to which specialists, public clinics, and nonmedical practitioners were consulted in connection with the various specific diagnoses is of interest. In this group of families, consultations with specialists were much more frequent than with public clinics or nonmedical practitioners. Of the 113 diagnoses (sole causes) there were 85 in which a specialist was consulted in 5 percent or more of the cases, but there were only 44 in which 5 percent or more of the patients attended public clinics and 36 diagnoses in which 5 percent or more of the patients consulted nonmedical practitioners.

Of the 113 diagnoses (sole causes) included in table 2, 58 showed a specialist for 10 percent or more of the cases, 37 for 15 percent or more, 26 for 20 percent or more, and 19 diagnoses showed a specialist for 25 percent or more of the cases. Similarly, of the 113 diagnoses (sole causes) there were 48 for which 10 percent or more of all calls were made by specialists, 34 with 15 percent or more, 25 with 20 percent or more, and 19 diagnoses for which 25 percent or more of all calls were made by specialists. The 8 specific diagnoses (sole causes) with the highest percentages of cases attended by specialists were: Mastoid diseases, 72 percent; eye diseases (except sty and conjunctivitis), 57 percent; ear diseases (except otitis media and earache), 54 percent; sinusitis, 52 percent; tonsillectomy, 52 percent; cancer, 50 percent; nonrespiratory tuberculosis, 48 percent; and otitis media, 39 percent.

Of the 113 diagnoses (sole causes) in table 2, 44 showed attendance at public clinics for 5 percent or more of the cases, 26 for 7 percent or more, and 12 diagnoses for 10 percent or more. The corresponding figures for calls are: 32 of the 113 diagnoses (sole causes) showed 5 percent or more of all calls made to public clinics, 22 showed 7 percent or more, and 9 showed 10 percent or more. The 8 specific diagnoses for which the highest percentages of patients attended public clinics were: Respiratory tuberculosis, 49 percent; suspected respiratory tuberculosis, 47 percent; reaction from smallpox vaccination, 30
percent; nonrespiratory tuberculosis, 29 percent; congenital malformations and diseases of early infancy, 20 percent; ill-defined orthopedic conditions, 18 percent; confinement with live birth, 13 percent; and tonsillectomy, 13 percent.

Of the total of 113 diagnoses (sole causes), 36 showed a nonmedical practitioner for 5 percent or more of the cases, 23 for 7 percent or more, and 17 for 10 percent or more. In terms of calls, nonmedical practitioners showed more attendance; of the 113 diagnoses (sole causes), 46 showed 5 percent or more of all calls made by nonmedical practitioners; 39 showed 7 percent or more, and 31 diagnoses showed 10 percent or more. The 8 specific diagnoses with the highest percentages of cases attended by nonmedical practitioners were: Foot trouble, 99 percent (chiropodists) ; backache, 60 percent; myalgia and myositis, 56 percent; diseases of the bones and joints, 29 percent; ill-defined orthopedic conditions, 28 percent; lumbago, 23 percent; acute rheumatism, 21 percent; and chronic rheumatism and arthritis, 20 percent. The 8 specific diagnoses for which the highest percentages of all calls were made by nonmedical practitioners were: Foot trouble, 99 percent (chiropodists); backache, 78 percent; myalgia and myositis, 76 percent; ill-defined orthopedic conditions, 38 percent; congenital malformations and diseases of early infancy, 37 percent; neuralgia and neuritis, 37 percent; lumbago, 35 percent; and chronic rheumatism and arthritis, 34 percent. Thus it appears that the ill-defined chronic aches and pains reported under such names as rheumatism, neuralgia, myalgia, lumbago, and backache are the diagnoses for which the patient most frequently goes to a nonmedical practitioner. Although some of this showing may result from less accurate and precise diagnosis by nonmedical practitioners, the tendency for this type of ailment to get to the nonmedical practitioners seems fairly clear.

Cases attended by different kinds of specialists.-In an earlier section it was indicated that 12.8 percent of all cases were attended by specialists (with or without some other attendant) and 14.3 percent of all calls were made by specialists. Table 3 shows the kind of specialist that was most frequently consulted. Of all the cases (sole or primary) which had one or more kinds of specialists in attendance, 40 percent had an eye, ear, nose, or throat specialist, 22 percent a pediatrician, 15 percent a surgeon without other designation of specialty, 5.1 percent an internal medicine specialist, 4.3 percent a specialist in obstetrics or gynecology, 4.1 percent an orthopedic specialist, 3.6 percent a dermatologist, 1.5 percent a urologist, 1.3 percent a neurologist, 0.7 percent a tuberculosis specialist, and 5.2 percent a specialist of some other or unknown type. If the same case had two kinds of specialists it is counted for both types in the above computations.

Table 3.-Types of specialists ${ }^{1}$ who attended illnesses from broad groups of causes8,758 canvassed white families in 18 Statès during 12 consecutive months, 1928-s1
[Sole and primary causes only]

| Diagnosis group ${ }^{2}$ |  |  |  |  |  |  | $\begin{aligned} & 8 \\ & \frac{8}{6} \\ & 0 \\ & 6 \\ & \mathbf{t} \\ & 0 \end{aligned}$ |  |  |  |  | - |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. | Per- |  | Perce | nt of | cas | wi | e | ty | 0 | pec | al |  |
| All causes. | 300 | 100 | . 5 | 21.9 |  |  | 4.1 | 8.6 | 1.5 | 1.3 | 0.7 |  | 5. 2 |
|  | 567 |  |  |  |  |  |  |  |  |  |  |  | 2.6 |
| Other respiratory diseases........................- | 733 |  |  |  |  | . 1 |  |  |  |  | 1.8 | 15.6 | 8.1 |
| Minor digestive diseases. | 118 | 100 | 1.7 |  |  |  |  |  | . 8 | . 8 |  |  | 5. 1 |
| Other digestive diseases. | 150 | 100 | 14.0 | 65. ${ }^{6}$ | 14.0 | 1.4 | 6.7 | 2.8 | . 2 | 7 |  |  | 9.3 |
| Ear and mastoid diseases-..---. | 292 | 100 | 88.7 | 10.3 | 0.0 | . 8 | 6.7 |  |  | . 7 |  | 4.7 | $\begin{array}{r}\text { 3. } \\ \hline\end{array}$ |
| Nervous diseases except cerebral hemorrhage, paralysis, neuralgia, and neuritis. |  |  |  |  |  |  | 7.1 |  |  | 42.9 |  |  |  |
| Rheumatism and related diseases............... | 39 | 100 | 20.5 | 7.7 | 7.7 | 2.6 | 30.8 |  |  | 10.3 |  | 2.6 | 9 |
| Degenerative diseases | 172 | 100 | 9.9 | 6.4 | 22.1 | 3.5 | 1.7 | 4.7 | 16.9 | 3.5 |  | 23.8 | 13.4 |
| Bkin diseases ......... | 140 | 100 | 6.4 | 15.0 | 2.1 |  | 21 | 62.9 | . 7 |  |  | , | 7.9 |
| Female genital and puerperal diagnoses. | 188 | 100 |  | 1.1 | 2.7 | 60.1 |  |  | 2.1 | 1.6 |  | 31.4 | 4.3 |
| Accidental injuries.- | 205 | 100 | 30.2 | 15.6 | 1.0 | 1.0 | 16.1 | 3.4 | 1.0 | . 6 |  | 24.4 | 8.8 |
| All other diseases. | 439 | 1003 | 36.0 | 18.9 | 7.1 | 2.3 | 16.2 | 2.8 | 1.8 | 1.4 |  | 10.0 | 6.8 |

[^9]The kind of specialist that predominated among those consulted for cases of the different broad diagnosis groups is of interest. In ear and mastoid and respiratory diseases, eye, ear, nose, or throat specialists predominated; for ear diseases 89 percent of the specialists were of this type, for major (other) respiratory 72 percent, and for minor respiratory 46 percent which was second only to pediatrician with 48 percent for this group. Even in accidental injuries 30 percent of the specialists were eye, ear, nose, or throat specialists and for rheumatism and related diseases the percentage was 21 , presumably because of the frequent searches for foci of infection in the tonsils and sinuses. The pediatrician was the predominant type of specialist consulted for minor digestive diseases, 80 percent; communicable diseases, 65 percent; and minor respiratory diseases, 48 percent. In major (other) digestive cases, 69 percent of the specialists consulted were designated merely as surgeons; apparently "surgeon" refers largely to one who does abdominal surgery, as this group of major digestive diseases includes appendicitis, hernia, cholecystitis, biliary calculi and other diseases of the digestive tract. However, the specialist was also frequently designated only as surgeon in other diagnosis groups, includ-
ing female genital and puerperal, 31 percent; accidental injuries, 24 percent; degenerative diseases, 24 percent; and major (other) respiratory (including tonsillectomy), 16 percent.

Medical services for complicated cases.-Most of the above discussion of doctors' calls has pertained to illnesses with only one diagnosis. Almost without exception the complicated illnesses ( 2 or more diagnoses) had more average calls per case than those with a single diagnosis. Figure 3 gives for each of the 13 broad diagnosis groups


Figure 3.-Proportion of attended cases that had 10 or more calls by all practitioners during the study year for illnesses with sole diagnosis and for complicated cases-8,758 canvassed white families in 18 States during 12 consecutive months, 1928-31.
the percentage of cases that had 10 or more calls, illnesses with a sole diagnosis being shown separately from those with 2 or more diagnoses. In every diagnosis group the percentage with 10 or more calls is much greater for complicated cases than for those with only one diagnosis. On the other hand, the percentage of attended cases that had only one call is greater in every diagnosis group for illnesses with a single diagnosis.

There were 63 diagnoses with enough complicated cases to be included in table 2. Of these 63 diseases, 47 diagnoses for complicated illnesses had 90 percent or more of the cases attended by a doctor, as compared with 38 diagnoses for illnesses with a sole cause only. The corresponding figures for diseases with all cases attended by a doctor are 28 diagnoses (among the total of 63) for complicated cases and 7 for those with a sole diagnosis.

Of the 63 diagnoses with data for both sole and complicated cases, 28 of the complicated illnesses had means of 10 or more calls per attended case, as compared with 5 diagnoses for illnesses of sole cause only. At the other extreme, there were, among the 63 diagnoses, 13 diagnoses for complicated illnesses with less than 5 mean calls per $415455^{\circ}-41-4$
attended case, as compared with 34 diagnoses for illnesses of sole cause.

Similar figures for mean calls per total case (attended or not attended) are 26 diagnoses (among the total of 63) for complicated cases with more than 10 calls per total case as compared with only 4 diagnoses for cases with sole cause. At the other extreme, there were 15 of the 63 diagnoses for complicated cases with less than 5 mean calls per total case as compared with 38 diagnoses for cases with sole cause only.

## III. DISTRIBUTION OF ILLNESSES ACCORDING TO CALLS BY ALI, PRACTITIONERS

Table 4 shows in 13 broad diagnosis groups the distribution of the attended cases according to the number of calls by all types of practitioners. Since a given case may have had 3 calls from the family physician, 1 call from another general practitioner, and 2 calls from a specialist, the best single statement of total services seems to be obtained by classifying this as a 6 -call case, comparable with other cases in which 6 calls were received from the one family physician or from one specialist. ${ }^{16}$

Considering illness from all causes, 40 percent of the attended cases had only a single call, presumably in many cases for diagnosis or for diagnosis and a prescription. This large percentage with a single call may frequently reflect the state of mind of the patient in which it is important to have a diagnosis and check-up, but with that information it is only a question of taking the medicine and awaiting recovery without further medical attention. On the other hand, the large percentage of cases with a single call may often reflect the inadequacy of medical care in which so many patients do not receive needed calls to check on the progress of the disease.

The minor digestive diseases, with 55 percent of the attended cases (sole or primary causes) with only a single call, and the minor respiratory, with 50 percent, are the groups with the highest proportions. At the other extreme are female genital and puerperal diagnoses with 15 percent of the attended cases with only one call.

[^10]Table 4.-Distribution of illnesses ${ }^{1}$ from broad groups of causes according to the number of calls by all practitioners within the year of observation-8,758 canvassed white families in 18 States during 12 consecutive months, 1928-81

| Disease group and whether sole cause or primary of 2 or more diagnoses ? | Attended cases with known number of calls |  | Percent of attended cases with the specified number of calls |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\underset{\text { ber }}{\text { Numm- }}$ | Percent | 1 | 2 | 8 | 4 | 5 | 6-7 | 8-9 | 10-14 | 15-19 | 20-29 | $\begin{gathered} 30 \\ \text { and } \\ \text { over } \end{gathered}$ |
| causes |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole or primar | 23, 957 | 100 | 40.0 | 19.6 | 11.2 | 6.4 | 4.3 | 5. 5 | 3.2 3.1 | 4.5 | 2.0 | 1.8 | 1.4 |
| Complicated | 2,511 | 100 | 21.0 | 14.0 | 10.8 | 7.0 | 5.6 | 9.4 | 5. 9 | 9.2 | 4.7 | 6.4 | 0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole | 6, 654 | 100 | 51. | 22.8 | 11.4 | 5. 3 | 2.8 | 3.1 | 1.3 | 1.5 | 2 | 1 | 2 |
| Complicated. | 498 | 100 | 29.1 | 17.7 | 11.6 | 8.8 | 5.0 | 10.0 | 4.2 | 7.2 | 2.4 | 2.0 | 1.8 |
| Other respiratory diseases: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole or primary | 1,745 1,638 | 100 | 23.7 | 22.3 | 11.0 | 8.5 | 7.2 | 6.5 | 4. 4. | 6.3 | 3.7 | 3.7 3.3 | 1.8 |
| Complicated | , 253 | 100 | 9.1 | 12.3 | 8.3 | 7.5 | 8.7 | 9.5 | 8.7 | 11.1 | 4.7 | 11.1 | 9.1 |
| Minor digestive diseases: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole...... | 1,638 | 100 | 56. 0 | 23.2 | 8.4 | 4.2 | 2.6 | 2.0 | 5 | 1.5 | 析 | 2 | 6 |
| Complicated | 139 | 100 | 38.8 | 15.1 | 12.2 | 7.9 | 2.2 | 6.5 | 5.8 | 5.0 | 2.9 | . 7 | 2.9 |
| Other digestive diseases: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole. | 806 | 100 | 34.2 | 16.4 | 14.5 | 5.8 | 5.2 | 7.8 | 4.2 | 4.1 | 22 | 2.9 | 26 |
| Complicated | 138 | 100 | 16.7 | 14.5 | 12.3 | 10.1 | 6.5 | 10.9 | 7.2 | 3.6 | 5.1 | 7.2 | 5.8 |
| Communicable diseases: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole or Sole.. | 2,244 |  | 42.6 | 18.6 | 13.2 | 6.1 | 4.0 | 5.5 | 2.5 | 4.0 | 1.7 | 1.1 | 8 |
| Complicated | 174 | 100 | 24.1 | 21.3 | 10.3 | 5.2 | 5.2 | 8.0 | 4.6 | 8.0 | 5.2 | 5. 7 | 2.3 |
| Ear and mastoid diseases: $\quad 665$ l |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole... | 638 |  | 38. 6 | 17.1 | 14.3 | 6. 0 | 3.9 | 6.0 | 4.4 | 5.0 | 2.8 | 1.4 | 6 |
| Complicated | 193 | 100 | 20.2 | 17.6 | 9.3 | 9.3 | 5.2 | 10.9 | 9.3 | 7.8 | 2.6 | 5.2 | 26 |
| Nervous diseases, except cerebral hemorrhage, paralysis, neuralgia, and neuritis: |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 430 |  | 33.3 | 16.7 | 11.9 | 5.6 | 3.7 | 9.1 | 4.4 | 6. 7 | 3.3 | 3.0 | 2.3 |
| Sole | 412 |  | 34.2 | 17.0 | 11.7 | 5.3 | 3.6 | 8. 7 | 3.9 | 6.8 | 3.4 | 2.9 | 2.4 7.8 |
| Rheumatism and related diseases: |  |  |  |  |  |  |  |  | 6.3 | 12.5 | 3.1 | 7.8 | 7.8 |
|  |  |  |  |  |  |  |  |  | 4.1 | 6.5 | 2.9 | 3.8 | 2.7 |
| Sole. | 640 |  | 33.6 | 20.2 | 10.0 | 8.0 | 4.1 | 5.5 | 3.9 | 5. 9 | 2.7 | 3.6 | 2.7 |
| Complicated | 87 | 100 | 25.3 | 13.8 | 9.2 | 1.1 | 5.7 | 9.2 | 6.9 | 11.5 | 4.6 | 5.7 | 6.9 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole or primary. | 1,097 |  |  |  | ${ }^{9.8}$ | 7.9 | 5.7 | 7.6 | 6. 1 | 6. 6 | 3. 5 | 5.1 | 4.5 |
| Complicated | 365 | 100 | 14.0 | 9.3 | 8.2 | 4.9 | 6.0 | 9.9 | 6. 6 | 10.7 | 8.5 | 9.6 | 12.3 |
| Skin discases: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole or primary | 1,098 | 100 |  |  | 12.3 | 6. 2 | 3.9 | 4.7 | 2.8 | 5.6 | 1.5 | 1.8 | 1.1 |
| Sole......- | 1,086 | 100 | 14. 5 | 18.2 | 29.0 | 6. 3.8 | 4. 2 | 4.4 | 2.8 | 5.6 | 4.8 | 1.7 9.7 | 1.6 |
| Female genital and puerperal diagnoses: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole or primary | 1,412 | 100 | 14.9 | 11.7 | 10.7 | 9.0 | 7.4 | 11.3 | 9.0 | 13.0 | 6. 6 | 4.1 | 2.3 |
| Sole. | 1,323 | 100 | 15. 7 | 12.0 | 10.9 | 9. 1 | 7.4 | 11.4 | 9.3 | 12.5 | 6. 4 | 3. 6 | 1.6 |
| Complicated. | 179 | 100 | 5.6 | 7.8 | 8.9 | 7.3 | 6.1 | 11.2 | 4.5 | 16.8 | 6.7 | 11.7 | 13.4 |
| Accidental injuries: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole. | 2,459 |  | 37.6 | 18.3 | 10.6 | 8.2 | 5.2 | 7.9 | 3.4 | 3.8 | 2.1 | 1.6 | 1.3 |
| Complicated | 47 | 100 | 14.9 | 12.8 | 21 | 4.3 | 6.4 | 6.4 |  | 14.9 | 6.4 | 8.5 | 4.3 |
| All other diseases: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sole or primary | 2,344 |  |  | 18.1 | 9.7 | 5.9 | 4.5 | 5.0 | 3.4 | 6.3 | 1.9 | 2.1 | 2.3 |
| Complicated | 312 |  | 28.8 | 13.1 | 11.5 | 6.1 | 4.8 | 7.1 | 4.2 | 9.9 | 4.8 | 4.8 | 4.8 |

1 The table includes only illnesses with known numbers of calls. A small number of cases with 2 or more types of attendants had a known number of calls by one and an unknown number by the other. Since cases with 2 attendants usually received more calls than those with only 1, their exclusion would bias the
distribution toward fewer calls. Therefore, in such instances 1 call was added to the known number and the sum used as representing the minimum calls for the case. For method of handling such unknowns in computing means, see note 5 to table 1 . Home, office, and clinic calls by any practitioner are all included.
Cases with onset prior to the study and those still sick on the last visit are included along with completed cases, but only for the calls that came within the study year.
${ }^{2}$ A case is considered as complicated if another diagnosis is reported as occurring simultaneously with or as overlapping the period of sickness from the diagnosis listed regardless of which diagnosis was classifed as the primary cause of the illness. The complication may have a definite relationship to the other diagnosis (as in measles and pneumonia), or be apparently unrelated (as in measles and chickenpox). For inclusions In the diagnosis groups in terms of International List numbers, see table 1; table 2 and figures 1 and 2 ghow the frequency of attended cases and the mean calls per case for specific diagnoses included in the broed groups.

Table 5 shows for specific diseases distributions of attended cases according to total calls, similar to those in table 4. However, the small numbers of complicated cases are omitted, the table showing only those with a single diagnosis. It includes all diagnoses with 25 or more attended cases with a known number of doctors' calls; thus some diagnoses for which the average calls per case appear in table 2 are not included in table 5 because the numbers are too small to give reliable distributions. In computing the distributions, cases with an unknown number of calls are omitted.

Table 5.-Distribution of illnesses from specific causes ${ }^{1}$ according to the number of calls by all practitioners within the year of observation-8,758 canvassed white families in 18 States during 12 consecutive months, 1928-s1
(Sole diagnosis only)

| Diagnosis and International List numbers, 1920 revision | Attendedcases withknown num-ber of calls |  | Percent of attended cases with the specified number of calls |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Num- | Percent | 1 | 2 | 3 | 4 | 5 | 6-7 | 8-9 | 10-14 | 15-19 | 20-20 | 30 and over |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Infuenza and grippe (11) --90) | 2,329 | 100 | 42.5 | 522.7 | 114.7 | 6.7 | 4.0 | ( 4.8 | 1.4 | 2.2 | 0.3 | 0.2 | 0.2 |
| Coryza and colds, unqualifed (pt. 97, pt. 107) | 1,235 | 100 |  | 17.9 | 6. 9 | 4.5 | 2.7 1.9 | 2.0 1.3 | 2. 2 | 1.7 .5 | 3 | . 2 |  |
| Cough (pt. 107) | 49 | 100 | 63.3 | 32.4 | 4.1 | 6. 1 |  |  | 2.0 | 2.0 |  | 1 |  |
| Tonsillitis (pt. 109) | 669 | 100 | 54.6 | 622.7 | 11.7 | 4.9 | 1.5 | $2{ }^{2} 4$ | 2.0 | . 9 | . | 1 |  |
| Quinsy (pt. 109) | 62 | 100 | 29.0 | 16.1 | 14.5 | 8.1 | 3.2 | 217.7 | 1.6 | 9.7 |  |  |  |
| Sore throat (pt. 109) | 317 | 100 | 54.6 | 23.3 | 9.5 | 4.4 | 2.2 | 2.2 | 1.9 | . 9 | . 3 |  | . 6 |
| Other pharynx and tonsil affections, except tonsillectomy (pt. 109) | 125 |  |  |  |  |  |  | 5. 6 | 2.4 | 4.0 | 1.6 |  | 1.6 |
| Laryngitis (pt. 98) | 91 | 100 | 54.9 | 16.5 | 12.1 | 4.4 | 3.3 | 2.2 | 2.2 | 1.1 | 1.1 | 1.1 | 1.1 |
| Croup (pt. 98) | 58 | 100 | 65.5 | 19.0 | 3.4 | 3.4 | 5.2 | 3.4 |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Pneumonia, all forms (100, 101) | 233 | 100 |  | 7.3 | 7.7 | 11. 6 | 10.3 | 12.9 | 12.9 | 15.9 | 6.4 | 5.6 | 7 |
| Sinusitis (pt. 97) | 319 | 100 | 28.2 | 11.3 | 11.9 | 7.2 | 9.1 | 8.5 | 5.0 | 8.2 | 3.8 | 4.7 | 2.2 |
| Asthma (105) | 9 | 100 | 36. 7 | 17.3 | 6. 1 | 8.2 | 6.1 | 5.1 | 1.0 | 6.1 | 9.2 | 3.1 | 1.0 |
| Hay fever (pt. 107 | 51 | 100 |  | 11.8 | 7.8 | 9.8 | 2.0 | 5. 9 |  | 9.8 | 15.7 | 11.8 |  |
| Pleurisy (102) ............- | 72 | 100 | 43.1 | 20.8 | 9.7 | 6.9 | 5. 6 | 4.2 | 4.2 | 1.4 | 2.8 | 1.4 |  |
| Respiratcry tuberculosis (pt. 31).Suspected respiratory tuberculosis (pt 31) | 76 | 100 |  | 14.5 | 1.3 5.9 | 7.9 | 6.6 | 9.2 | 7.9 | 13.2 | 9.2 | 10.5 2.9 | 6.6 5.9 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Biliousness (pt. 112) | 90 | 100 | 67.8 | 24. 4 | 2.2 | 2.2 | 1.1 |  |  | 1.1 |  |  | 1.1 |
| Other and ill-deffned stomach diseases (pt. 112) | 167 | 100 |  |  | 9.0 | 4.8 | 0.0 | 5.4 | . 6 | 2.4 | 3.6 | 1.2 | 1.2 |
| Diarrhea and enteritis (15, pt. 16, 113, 114) | 528 | 100 | 5 | 23.1 | 9.1 | 4.4 | 3.0 | 2.5 | . 8 | 2.3 | 1 |  | 1.1 |
| Ulicers of stomach and duodenum (111) | 64 |  |  |  |  |  |  |  | ${ }^{.8}$ | 78 |  |  |  |
| Intestinal parasites, except bookworm (116) | $31$ |  | 58.12 |  | 3.2 |  |  |  | 3.1 | 7.8 | 3.1 | 4.7 | 10.9 |

[^11]Table 5.-Distribution of illnesses from specific causes according to the number of calls by all practitioners within the year of observation-8,758 canvassed white families in 18 States during 12 consecutive months, 1928-81-Continued
(Sole diagnosis only)


Table 5.-Distribution of illnesses from specific causes according to the number of calls by all practitioners within the year of observation-8,758 canvassed white families in 18 States during 12 consecutive months, 1928-s1-Conlinued
(Sole diagnosis only)


Of the 104 diagnoses (sole causes) for which distributions of cases according to total calls are shown in table 5, 49 diagnoses had 40 percent or more of the cases with only one call, 69 had 30 percent or more, and 89 diagnoses. had 20 percent or more of the cases with only one call. At the other extreme, there were 31 diagnoses in which less than 5 percent of the cases had 10 or more calls, 51 in which less than 10 percent of the cases had 10 or more calls, and 72 diagnoses in which less than 15 percent of the cases had 10 or more calls. The 8 specific diagnoses with the largest percentages of cases with 10 or more calls by all practitioners were cancer, 53 percent; respiratory tuberculosis, 39 percent; mastoid diseases, 39 percent; hay fever, 37 percent; chronic rheumatism and arthritis, 35 percent; diseases of the bones and joints, 33 percent; pneumonia, 33 percent; and diabetes, 32 percent.

## IV. SUMMARY

Data on the frequency of illness and the volume of medical care received were recorded for a 12 -month period between 1928 and 1931 by periodic canvasses of 8,758 white families in 130 localities in 18 States. The families included representation from nearly all geographic sections, from rural, urban, and metropolitan areas, from all income classes, and of both native- and foreign-born persons. The visits were made at intervals of 2 to 4 months. Illness causing symptoms that lasted for one day or longer within the study year was recorded, together with the number of calls on the case by physicians in general practice, specialists, public and private clinic physicians, osteopaths, chiropractors, chiropodists, and other types of practitioners.

There were 3.3 calls by all practitioners per total case (attended or not attended), and 4.2 calls per attended case of illness from all causes; 78 percent of the cases had one or more calls by some practitioner. For 13 broad diagnosis groups, the mean calls per attended case of sole or primary diagnosis ranged from 2.4 for minor respiratory and minor digestive diseases to 8.1 calls for degenerative diseases. The specific diseases with the largest average calls per attended case with sole diagnosis were typhoid fever, 20 ; cancer, 19 ; and cerebral hemorrhage and paralysis, 16 calls. Of the 113 diagnoses, 67 had less than 5 calls per attended case with sole diagnosis; and 11 diagnoses had 10 or more calls per attended case.

Of all attended illnesses, 12.8 percent were attended by specialists, 4.8 by public clinics, and 4.3 by nonmedical practitioners; 96 percent of the attended cases had the attendance of one or more medical doctors with or without nonmedical practitioners. Of the total calls, 14.3 percent were made by specialists, 4.7 were to public clinics, and 8.7 percent were made by nonmedical practitioners; 91 percent of all
calls were made by medical doctors. Of the illnesses attended by general medical practitioners, 57 percent had one or more home calls.

Among 13 broad diagnosis groups, ear and mastoid diseases had the highest percentage of attended cases (sole or primary causes) with a specialist, 43 percent; major respiratory diseases was second with 37 percent. Of the 113 specific diagnoses (sole causes), 58 showed specialists in 10 percent or more of the cases. The specific diagnoses with the highest percentages of cases attended by specialists were mastoid diseases, 72 percent; miscellaneous eye diseases (except sty and conjunctivitis), 57 percent; and miscellaneous ear diseases (except otitis media and earache), 54 percent.

Among the 13 diagnosis groups (sole or primary causes) the highest proportions of patients that attended public clinics were for major respiratory diseases, 10.9 percent, and female genital and puerperal diagnoses, 8.4 percent. Of the 113 specific diagnoses (sole causes), 12 showed attendance at public clinics by 10 percent or more of the patients. The specific diagnoses with the highest percentages of patients attending public clinics were: Respiratory tuberculosis, 49 percent; suspected tuberculosis, 47 percent; and sickness following smallpox vaccination, 30 percent.

Of the 13 diagnosis groups (sole or primary causes), the ones with the highest proportions attended by nonmedical practitioners were rheumatism and related diseases, 19 percent, and nervous diseases, 12 percent. Of the 113 specific diagnoses (sole causes), 17 had a nonmedical attendant in 10 percent or more of the cases. The specific diagnoses with the highest percentages of cases attended by nonmedical practitioners were foot trouble, 99 percent; backache, 60 percent; and myalgia and myositis, 56 percent.

Complicated cases (illnesses with two or more diagnoses) almost invariably received more medical care than those with only a single diagnosis. Considering illness from all causes, cases with sole diagnosis averaged 3.9 calls per attended case, as compared with 9.3 for complicated cases. Cases of sole diagnosis had a specialist in 12 percent of the cases, as compared with 25 percent for complicated cases.

Forty percent of all attended illnesses had only a single call by a doctor; at the other extreme, 9.7 percent had 10 or more calls. Among 13 broad diagnosis groups (sole or primary causes), minor digestive diseases had the largest proportion of attended cases with a single call, 55 percent, and minor respiratory diseases was second with 50 percent. Female genital and puerperal diagnoses had the largest proportion of attended cases with 10 or more calls, 26 percent.

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# ORNITHODOROS HERMSI AND RELAPSING FEVER IN OREGON ${ }^{1}$ 

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The first proved case of relapsing fever in Oregon occurred near Bend in Deschutes County, central Oregon, in June 1940, and has recently been reported in detail by Hemingway, Hemingway, and Arneson of that city. Following the finding of spirochetes in blood films, a blood sample and a film were forwarded to the Rocky Mountain Laboratory for confirmation of the diagnosis. A small clot from the blood sample was washed, ground in saline, and injected into two white mice. One mouse died the following day. Spirochetes appeared in tail blood of the remaining mouse on the eleventh and twelfth days following injection and were present in the forwarded film.

Later in the summer a second authentic case from the same general locality was reported by these same physicians, who further advised that three probable cases have occurred near Bend during the past several years.

These data indicated a new endemic area quite distant from previously known foci. Local observations were made by the writer in early October in an attempt to determine the transmitting agent. Only one collection of ticks was made. This was a lot of 52 Ornithodoros hermsi found in a hollow yellow pine log (Pinus ponderosa) a short distance southeast of Bend. Several other pine logs, 3 mouse nests, 4 "wood rat" nesting places in decaying junipers, and several ground squirrel (Citellus sp.) burrows failed to yield further specimens. The ticks were later tested in 7 groups of 5 each, and 3 of 4,6 , and 7 each, by allowing them to feed on white mice. Spirochetes were recovered from 6 of the 10 mice. Three of the strains were particularly invasive, spirochetes appearing in tail blood on the third day following tick feeding and rapidly increasing in number until a massive spirochetosis was attained on the sixth and seventh days. In the other three mice the course of infection was milder. Relapses occurred as shown by the disappearance and subsequent reappearance of spirochetes.

## DISCUSSION

Relapsing fever has been reported from all of the neighboring States, viz, California, as early as 1921; Washington, 1927; Nevada, 1930; and Idaho, 1931.

Ornithodoros hermsi is a proved vector of relapsing fever in California (Wheeler, Herms, and Meyer, 1935), Colorado (Davis, 1939), and Idaho (Philip and Davis, 1940). It is also undoubtedly a vector

[^12]in the Lake Tahoe region in Nevada, a specimen of this tick collected from a summer home on the Nevada side of the lake having been sent recently to the Rocky Mountain Laboratory by Dr. Edward Records, of the University of Nevada. He advised that several years ago practically the entire family living in this dwelling had contracted relapsing fever.

This tick has been collected only in timbered regions and mostly at relatively high altitudes. In California it has been found only above 5,000 feet, in Colorado at an elevation of approximately 8,000 feet, and in Idaho at about 3,000 feet. The altitude at Bend is 3,640 feet.

In California and Idaho it has been reported chiefly from summer cabins and in Colorado only from Douglas fir (Pseudotsuga taxifolia) snags. ${ }^{2}$ In most instances the number of ticks collected has been very small. However, collections from 7 snags in Park and Boulder Counties, Colo. (Davis, unpublished notes), were of 21, 30, 37, 72, 93,213 , and 318 ticks, respectively. Forty-two of the 93 ticks from one of the snags were collected nearly a year after a first collection of 51 at which time the snag was denuded of all bark and all nesting material was removed. Douglas fir checks in the process of decay, leaving many cracks and crevices in which the ticks find protection.

The new endemic area in Oregon is in a heavily timbered section. Junipers are found to the north of the city while yellow pine predominates to the south and southeast.

The area where the 0 . hermsi were found had long since been cut over, leaving numerous stumps, discarded logs, and snags. The following rodents were seen: Cottontail rabbits (Sylvilagus sp.), chipmunks (Eutamias sp.), and mantled ground squirrels (Citellus sp.).

The rather scanty evidence available suggests that one possible source for acquiring relapsing fever in this area may be through direct or indirect contacts with wood, in one way or another. The 520. hermsi collected locally were found clinging to debris in a hollow yellow pine $\log$ and the appearance of the $\log$ suggested that rodent nesting material might have been present in that portion of the bole that had been removed (the stump was not decayed) and that ticks might have been carried away in it. Nearby a boy was observed gathering wood from fallen pines. In other words, such biotopes may serve as "reservoirs" from which a few ticks may occasionally be transported on rodents or by other means to nearby cabins or dwellings.

Neither of the two proved cases had any known contact with rodents. The second patient stated that, in connection with his duties in a sawmill, he often stood "hip deep" in shavings of shredded

[^13]pine. Such shavings might occasionally come from a $\log$ such as mentioned in the preceding paragraph. A small pile of lumber on this man's ranch contained boards that had probably been cut from a log that was partially hollow.

The only known records of Ornithodoros ticks, other than hermsi, in Oregon are 15 nymphs of $O$. parkeri recovered from a lot of 12 ground squirrels (Cit. columbianus) collected in Umatilla County, Oreg., and Walla Walla County, Wash., in May 1939 (forwarded to this laboratory by Professor C. Anderson Hubbard of Pacific University) and 1 nymph collected from a woodchuck in Benton County west of the Cascade Mountains in 1935 (recently forwarded by S. E. Crumb, Jr.).

It appears reasonably certain that, since Bend is in a timbered area and spirochete-infected $O$. hermsi were collected locally, this tick is in fact the local vector. O. parkeri has been collected only on sagebrush prairies, grassy slopes, or semidesert areas, never in timbered regions.

## SUMMARY

Two proved cases and three suspected cases of relapsing fever have been reported from central Oregon. Fifty-two specimens of Ornithodoros hermsi were collected from a hollow pine $\log$ in the immediate area. These were tested in 7 groups of 5 each, and 3 groups of 4, 6, and 7 each. Spirochetes were recovered from 6 of the 10 test mice. The presence of relatively large numbers of $O$. hermsi in Douglas firs in Colorado and in a pine log in Oregon suggests such habitats as the source of infestations of cabins and nearby dwellings and, further, that contact with decaying wood as a fuel or lumber supply may be a source of infection.

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## PROVISIONAL MORTALITY RATES FOR THE FIRST HALF OF 1941

The mortality rates in this report are based upon preliminary data from 32 States, the District of Columbia, Alaska, and Hawaii for the first 6 months of 1941. Comparative data for the first 6 months of 1939 and 1940 are presented for 25 States and the District of Columbia. This report is made possible through a cooperative arrangement


Figure 1.-Death rates per 1,000 population, by months, 1941 and 1940.
with the respective States which voluntarily furnish provisional monthly tabulations of current birth and death statistics to the United States Public Health Service which analyzes and publishes the data. Because of lack of uniformity in the method of classifying deaths according to cause, as well as some delay in filing certificates, these data are preliminary and may differ in some instances from the final figures subsequently published by the Bureau of the Census.

In the past, however, these preliminary reports have accurately reflected the trend in mortality rates for the country as a whole. Some deviation from the final figures, especially those for specific causes of death, for individual States may be expected because of the provisional nature of the information. Nevertheless, it is believed that the trend in mortality within each State is correctly represented. Comparisons of specific causes of death for different States are subject to error because of variations in tabulation procedure and promptness of filing the original certificates. Such comparisons should be based upon the final figures published by the Bureau of the Census.

The mortality rate from all causes per 1,000 population for the first half of 1941 was slightly lower than the corresponding rate for the 2 previous years, 11.1 compared with 11.3 in each of the 2 preceding years. During the current year, the death rate has been lower than last year for 4 of the first 6 months (fig. 1). The slight decrease results from decreases in mortality from pneumonia and from certain of the chronic diseases of late adult life, cerebral hemorrhage, heart disorders, and nephritis. In addition, there were decreases in the mortality rates of diphtheria, scarlet fever, and diseases of the digestive system.

The current period was marked by widespread outbreaks of influenza and measles; in 1941, 22 of the reporting areas experienced a higher influenza rate and 20 of the reporting areas experienced a higher measles rate than in 1940. The influenza rate was 20 percent higher than the rate in 1940, and the measles rate was over 6 times as high. Mortality rates from cancer and tuberculosis showed very slight increases, the latter remaining well below 50 per 100,000, while the diabetes rate was the same as in 1940.

The increase in the death rate from accidents which was recorded in 1940 continued throughout the first 6 months of 1941, the rate being 4 percent higher in 1941 than in 1940. Fatal automobile accidents showed an increase of 18 percent.

Infant deaths per 1,000 live births for the first 6 months of 1941 showed no change from the corresponding rate for 1940. Maternal mortality, however, continued to show a decided decrease. The rate of 3.1 maternal deaths per 1,000 live births was 20 percent less than in the preceding year.

The birth rate increased from 16.6 per 1,000 population in 1940 to 17.4 in 1941. The crude rate of natural increase was 6.3 per 1,000 population, as compared with 5.3 and 5.2 for the first 6 months of 1940 and 1939.
Provisional mortality from certain causes in the first 6 months of 1941, with comparative provisional data for the corresponding period in preceding years

|  |  |  | $\begin{aligned} & \text { Rate per } \\ & 1.000 \text { live } \end{aligned}$births |  | Death rate per 100,000 population (annual basis) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| 1941-......... | 11.9 | 17.1 | 51 | 3.0 | 4 | 6 | 5 | 2.8 | . 7 | 47.5 | 40.6 | 1.6 | . 3 | . 5 | 121.4 | 32.5 | 88.9 | 348.7 | 80.2 | 50.7 | 3.3 | 82.7 | 67.6 | 23.3 |
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Provisional mortality from certain causes in the first 6 months of 1941, with comparative provisional data for the corresponding period in preceding years-Continued


[^14]
## DEATHS DURING WEEK ENDED SEPTEMBER 27, 1941

[From the Weekly Mortality Index, issued by the Bureau of the Censun, Department of Commerco]

|  | $\begin{aligned} & \text { Weok ended } \\ & \text { Sopt. 27, } 1941 \end{aligned}$ | $\begin{aligned} & \text { Correspond- } \\ & \text { ing } w e 6 k \text {, } \\ & 1 \Omega 90 \end{aligned}$ |
| :---: | :---: | :---: |
| Data from 88 large cities of the Urited States: |  |  |
| Total deaths | 7,280 | 7,489 |
| Total deaths, first 39 weelrs of year | 328,683 | 20, 091 |
| Deaths per 1,000 population, frst 80 weelics of year, annual rate | 11.8 | 11.8 |
| Deaths undar 1 year of aga | 513 | 521 |
| Average for 3 prior years. | ${ }^{804}$ |  |
| Deaths under 1 year of agh first 39 weeks of year | 20,457 | 19,577 |
|  | 64, 488, 432 | 64, 82\%,308 |
| Number of death claims. | 10, 571 | 10,759 |
| Death claims per 1,000 policies in force, annual rate | 8.5 | 8.7 |
| Death claims per 1,000 policies, frst 39 weeks of year, annual rate........- | 9.6 | 9.8 |

# PREVALENCE OF DISEASE 

No health department, State or local, can effectively prevent or control disease withous knowledge of when, where, and under what conditions cases are occurring

## UNITED STATES

## REPORTS FROM STATES FOR WEEK ENDED OCTOBER 4, 1941

## Summary

The incidence of poliomyelitis declined-a total of 456 cases was reported as compared with 592 for the preceding week. The New England and the West South Central States reported the same number of cases as for the preceding week, the Pacific States reported 20 cases as compared with 19 last week, while the other geographic arsas recorded decreases. Only 10 States reported 15 or more cases, as follows (last week's figures in parentheses): New York, 87 (115); Pennsylvania, 51 (66); Ohio, 32 (42); Tennessee, 27 (39); New Jersey, 22 (29); Alabama, 22 (35); Michigan, 19 (26); Illinois, 18 (31); Maryland, 18 (15); and Minnesota, 15 (16). The figures for the current week are the lowest since the week ended August 9. The largest number of cases for any one week was reported for the week ended August 30 ( 624 cases).

Of the nine common communicable diseases included in the following table, the incidence of only influenza, poliomyelitis, and whooping cough was above the 5 -year (1936-40) median (3-year median for whooping cough, 1938-40).

Of 974 cases of influenza, 357 cases occurred in Texas, 183 cases in Virginia, and 110 cases in South Carolina. The principal excess incidence of whooping cough is apparently in the East North Central States.

While the current incidence of diphtheria and the cumulative total to date are below the median expectancy, the disease is unusually prevalent in the South Atlantic States, which reported 254 (or 42 percent) of the 599 cases reported for the current week.

Only three cases of infectious encephalitis were reported in Minnesota and four in North Dakota.

Of 105 cases of endemic typhus fever, 44 cases occurred in Georgia, 17 in Texas, and 12 in Florida. Two cases were reported in New York. Of 9 cases of Rocky Mountain spotted fever, 6 occurred in Oklahoma, and 1 case each in Illinois, Arkansas, and Oregon.

The crude death rate for the current week for 88 large cities in the United States is 10.7 per 1,000 population, as compared with 10.3 for the preceding week and a 3 -year (1938-40) average of 10.6 for the corresponding week.

Telegraphic morbidity reports from State health officers for the week ended October 4. 1941, and comparison with corresponding week of 1940 and 5-year median

In these tables a zero indicates a definite report, while leaders imply that, although none were reported, cases may have occurred.


Telographic morbidity reports from State health officers for the woek ended October 4, 1941, and comparison with corresponding week of 1940 and 5-year median-Con.

see footnotes at end of table.

## Telegraphic morbidity reports from State health officers for the week onded October 4, 1941, and comparison with corresponding week of 1940-Con.

| Division and Stato | Whooping cough |  | Division and State | Whoeptingcough |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Weak ended |  |  | Weak ended |  |
|  | $\begin{aligned} & \text { Oet. } 4, \\ & 1941 \end{aligned}$ | $\begin{gathered} \text { Oct. } 5, \\ 1940^{\circ} \end{gathered}$ |  | $0_{1041}$ | $\begin{aligned} & \text { Oct. 5, } \\ & 1940 \end{aligned}$ |
| NEW ENG. | 101421384347 | 1721117704 | s0. ATL.-continued | 79818516 | 180 |
| New Hampshire... |  |  | North Carolina |  |  |
| Vermont............ |  |  | South Carolina |  | 23 |
| Massachusetts. |  |  | Georgis 2-......... |  | 5 |
| Rhode Island. |  |  | Florida ${ }^{\text {2 }}$ - |  | 8 |
| onnecticut |  |  | E. SO. CEN. |  |  |
| MID. ATL. |  |  | Kentucky | 72 | 108 |
| New York ${ }^{\text {2 }}$ | 359133204 | 20195358 | Tennessee 2--............ | 15 | 27 18 |
| New Jersey-- |  |  | Mississippi ${ }^{\text {a }}$ |  | 18 |
| Pennsylvania 2-.... |  |  |  | 2721168 | 781288 |
| E. NO. CEN. | $\begin{gathered} 225 \\ 10 \\ 182 \\ 347 \\ 206 \end{gathered}$ | $\begin{gathered} 256 \\ 15 \\ 109 \\ \mathbf{3 1 8} \\ 98 \end{gathered}$ | Arkansas \%.-........... |  |  |
| Ohio.................... |  |  | Louisiana: |  |  |
| Indians. |  |  | Oklahoma ${ }^{\text {a }}$..... |  |  |
| nlinois ${ }^{3}$ |  |  | Texas ${ }^{\text {s }}$ |  |  |
| Michigan ${ }^{\text {4 }}$ |  |  |  |  |  |
| W isconsin. |  |  | Montans MOUNTALN | 768 | 1 |
| w. No. CEN. |  |  | Montana <br> Idaho. |  |  |
|  | 4759971041 | 23231812453 | W yoming |  |  |
| Minnesota. |  |  | Colorado. |  | 8 |
| Iowa..... |  |  | New Mexico......... | 18 | 23 |
| Missouri---. |  |  | Arizona -- | 4 | 9 |
| North Dakota |  |  | Utah ${ }^{\text {4 }}$ | 11 | 9 |
| South Dakota. |  |  | Nevada.. | 4 | 0 |
| Nebrasks...- |  |  |  |  |  |
| Kansas.- |  |  | Washington......... |  |  |
| so. ATL. | 3 | 26 | Oregon ${ }^{\text {s }}$--...-.-. | 11188 |  |
| Delaware |  |  | California |  | -100 |
| Maryland ${ }^{\text {4 }}$ | 57 | 74 |  |  |  |
| Dist. of Col. | 15 | 1 | Total | 2,937 | 2,669 |
| Vest Virginia.-.....- | 14 | 21 | 40 weeks ${ }^{5}$ | 168, 881 | 125, 672 |

[^15]
## WEETKY REPORTS FROM CITIES

City reports for week ended Sept. 80, 1941
This table lists the reports from 186 cities of more than 10,000 population distributed throughout the United fatio, and ropresents a croserection of the current urban incidence of the diseases included in the table.


City reports for week ended Sept. 20, 1941-Continued


City reports for week ended Sept. 20, 1941—Continued


City reports for week ended Sept. 20, 1941—Continued


Encephalntis, epidemic or lethargic.-Cases: Nashua, 1; Springfleld, Mass., 1; Philadelphia, 1; Duluth, 1; Minneapolis, 10; Denver, 2; Phoenix, 1. Deaths: New York, 2.
Pellagra.-Cases: Fall River, 1; Charleston, S. C., 1; Atlanta, 1; Savannah, 2; Memphis, 1; Phoenix, 1.
Rabies, in man.-Deaths: Cleveland, 1.
Typhus fever.-Cases: Baitimore, 1; Charleston, S. C., 1; Savannah, 1; Miami, 2; Tampa, 1; Birmingham, 2; New Orleans, 2; Shreveport, 1; Dallas, 1.

Rates (annual basis) per 100,000 population for a group of 87 selected cities (population, 1940, 33,790,805)

| Period | Diphtheria cases | Influenza |  | Measles cases | Pneumonia deaths | Scarlet fever cases | Smanpox cases | Tuberculosis deaths | Typhoid fever cases |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Cases | Deaths |  |  |  |  |  |  |  |
| Week ended Sept. 20, 1941 | 8.5 | 5.8 | 0.8 | 15.9 | 36.0 | 43.1 | 0.0 | 42.6 | 6.2 | 162.5 |
| A verage for week, 1936-40 | 14.0 | 6.7 | 2.0 | 24.9 | 45.0 | 53.0 | . 3 | 49.9 | 9.6 | 161.6 |

## PLAGUE INFECTION IN FLEAS FROM PRAIRIE DOGS IN VALENCIA COUNTY, N. MEX.

Under date of Sept. 20, 1941, plague infection was reported found upon examination of specimens at the laboratory in San Francisco, Calif., in a pool of 147 fleas collected from 59 prairie dogs, Cynomys gunnisoni zuniensis, shot Sept. 5 at locations 10 miles east and 2 miles southwest of Ramah, Valencia County, N. Mex., and in another pool of 188 fleas from 29 prairie dogs of the same species shot 8 miles east of Ramah on Sept. 9.

## TERRITORIES AND POSSESSIONS

## HAWAII TERRITORY

Plague (rodent).-A rat found on August 29, 1941, and another found on September 4, 1941, both in Paauhau, Hamakua District, Island of Hawaii, T. H., have been proved positive for plague.

## FOREIGN REPORTS

## CANADA

Provinces-Communicable diseases-Week ended August 30, 1941.During the week ended August 30, 1941, cases of certain communicable diseases were reported by the Department of Pensions and National Health of Canada as follows:

| Disease | Prince <br> Edward Island | Nova Scotia | New Brunswick | $\begin{aligned} & \text { Que- } \\ & \text { bec } \end{aligned}$ | Ontario | Manitoba | Sas-katchewan | Alberta | $\begin{gathered} \text { British } \\ \text { Colum- } \\ \text { bia } \end{gathered}$ | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cerebrospinal meningitis |  | 1 |  | 1 | 7 | 1 |  | 1 | 3 | 14 |
| Chickenpox-...-.-......- |  |  |  | 3 | 15 |  | 3 | 4 | 8 | 33 |
| Diphtheria....- |  | 3 | 1 | 11 | 2 |  | 3 | 1 |  | 21 |
| Dysentery-....-..........- |  |  |  | 10 |  |  |  |  |  | 10 |
| Influenza--.-.----.-..--- |  | 6 |  |  |  | 2 |  |  |  | 8 |
| Lethargic encephalitis.. |  |  |  |  | 18 | 95 2 |  | 10 |  | ${ }_{141} 231$ |
| Measles |  |  | 1 | 69 | 38 | 2 | 3 7 | 1 | 27 | 141 86 |
| Mumps |  |  |  | 36 | 23 | 10 | 7 | 4 | 6 | 86 |
| Prieumonia.-. |  | 3 |  |  |  | 3 83 | 2 |  | 3 5 | 18 |
| Potiomyelitis.. |  | 1 | 29 | 42 | 41 | 83 2 | 7 | 15 | 13 | 18 |
| Smallpox--- |  | 6 | 2 |  |  |  | 1 |  |  | 1 |
| Tuberculosis | 5 | 1 | 8 | 65 | 18 | --.-.- | 2 |  |  | 99 |
| Typhoid and paraty- <br> phoid fever |  |  | 4 | 15 | 2 |  | 6 | 8 | 3 | 38 |
| Whooping cough.---.-.--- |  | 1 |  | 140 | 85 |  | 3 | 5 | 12 | 246 |

[^16]
## CUBA

Habana-Communicable diseases-4 weeks ended September 20, 1941.-During the 4 weeks ended September 20, 1941, certain communicable diseases were reported in Habana, Cuba, as follows:

| Disease | Cases | Deaths | Disease | Cases | Deaths |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Diphtheria.... | 8 |  | Scarlet fever- |  |  |
| Leprosy-..--- | 2 |  | Tuberculosis | 4 | 2 |
| Malaria | 1 |  | Typhoid fever... | 30 |  |

## REPORTS OF CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND yellow fever received during the current week

Note.-Only those places are included which had not previously reported any of the above-named diseases, except yellow fever, during the current year. All reports of yellow fever are published currently.
A cumulative table showing the reported prevalence of these diseases for the year to date is published in the Public Health Reports for the last Friday of each month.

Brazil.-Yellow fever has been reported in Brazil as follows: Amazonas State-Codajaz, July 21, 1941, 1 death; Para State-Irituia, July 11, 1 death; S. Sebastiao Boa Vista, August 6, 1 death.

Colombia.-Yellow fever has been reported in Colombia as follows: Intendencia of Meta-San Martin, Acacias, August 5, 1941, 1 death; Santander Department-Guamales, August 13, 1 death; Guayacan, July 7, 1 death; La Colorada, July 29, 1 death; La Granada, August 5, 1 death; Las Flores, August 11, 1 death, August 13, 1 death.

Venezuela-Bolivar State-Guasipati-Correction.-The reports of the presence of yellow fever in Guasipati, Bolivar State, Venezuela, in July (Public Health Reports of Sept. 5, 1941, p. 1818, and Sept. 26, p. 1939) were erroneous. The case referred to in those reports occurred during the week ended August 16, 1941.

## COURT DECISION ON PUBLIC HEALTH

City held not liable for. death of child by drowning in cesspool.-(Texas Supreme Court; Gotcher et ux. v. City of Farmersoille, 151 S.W.2d 565; decided May 7, 1941, motion for rehearing overruled June 4, 1941.) An action to recover damages was brought against the city of Farmersville by the parents of a 7 -year-old child who was drowned in a sanitary cesspool maintained by the city for the use and benefit of its inhabitants.

The essential allegations made by the plaintiffs were: The cesspool was an open structure approximately 20 feet wide, 40 feet long, 9 or 10 feet deep, and divided into 4 or 5 compartments. The outside walls extended above the ground 6 or 8 inches and no fence or other safeguard or protection was maintained. The compartments were filled with some acid used in the decomposition of sewage and the process of decomposition caused a collection of sediment on the top of the acid and liquid which, after a time, dried, cracked, and presented the appearance of a solid mass. The plaintiff mother, with 3 of her children and others, went on the premises in the vicinity of the cesspool to gather persimmons and as they approached the poolwhich the mother did not know was located in the vicinity-one of her children turned from the path being traveled, made a dash for the cesspool, jumped into it, and was drowned. The defendant knew, or should have known, that children customarily played in the vicinity of the cesspool and thus there was extended an implied invitation for the mother to enter upon the premises and the deceased to play in the vicinity of the pool. Because of the cesspool's location and construction and the sediment having the general appearance of a
baby pool or sand pile usually employed for the amusement of young children, there was created a public and attractive nuisance which was especially attractive to the plaintiffis' child.

From judgments in both the trial court and the court of civil appeals in favor of the city, the case was taken to the Supreme Court of Texas. The latter court said that the court of civil appeals was correct in holding that the city was engaged in a governmental function in the maintenance of its sanitary sewer system, including the cesspool, and that by reason thereof was not liable for any negligence of its employees in the operation of the system.

With reference to the plaintiffs' contention that the cesspool constituted a nuisance and that the city was liable for damages caused by the mäintenance thereof, even though engaged in the exercise of a governmental function, the supreme court held that, in order to create liability, the nuisance had to constitute in some way an unlawful invasion of the rights of others and that such facts as were necessary to create liability were not alleged in the instant case.

Regarding the contention that the cesspool was so situated and maintained as to constitute an attractive nuisance and thereby endanger the lives of children, the court said that liability under the attractive nuisance doctrine was based on the theory that the dangerous thing was so situated and maintained as to attract children from the street or from some public place where they may be expected to be, thus raising a presumption that the parties so maintaining the nuisance should have foreseen and anticipated the injury. The allegations, said the court, showed that the deceased child was not attracted to the vicinity of the cesspool but was taken by his mother upon the premises near where it was maintained. "It appears, therefore, that the child was not upon the premises because of any attraction or allurement of the cesspool; and consequently the attractive nuisance doctrine passes out of the case."

The judgments of the lower courts were affirmed.


[^0]:    ${ }^{1}$ From Statistical Investigations, Division of Public Health Methods, National Institute of Health.
    This is the seventeenth of a series of papers on sickness and medical care in this group of families (1-16). The survey of these families was organized and conducted by the Committee on the Costs of Medical Care; the tabulation was done under a cooperative arrangement between the Committee and the Public Health Service. Committee publications based on the results deal primarily with costs and Public Health Service publications primarily with the incidence of illness and the extent and kind of medical care, without regard to cost. As costs are meaningless without some knowledge of the extent and nature of the service received, there is inevitably some overlapping. The Committee staff, particularly Dr. I. S. Falk and Miss Margaret Klem, cooperated in the tabulation of the data.
    'Special thanks are due to Dr. Mary Gover, who assisted in the analysis, to Mrs. Lily Vanzee Welch, who was in immediate charge of tabulating the data, and to other members of the statistical staff of the Public Health Service for advice and assistance in the preparation of the study.

[^1]:    3 The 18 States sampled and the number of canvassed families were as follows: California (8e0), Colorado (396), Connecticut (100), District of Columbia (99), Georgia (544), Ilinois (463), Indiana (494), Kansas (301), Massachusetts (287), Michigan (329), Minnesota (224), New York (1,710), Ohio (1,148), Tenneesee (212), Virginia (412), Washington (551), West Virginia (318), Wisconsin (290). Further details about the distribution of the canvassed population are included in a preceding paper (1).
    \& Every community that was included in the study had either a local health department or some other organization employing a visiting nurse or both; therefore, the most rural areas with no organiced community services are not represented.

[^2]:    4 Exclusive of dental services, eye refractions, immunizations, and health examinations rendered when no symptoms were present.

    - The limitations of the house-to-house survey in recording institutional cases were discussed in considerable detail in an earlier paper in this series (14). No special inquiry was made in this study about mental defectives at home or about persons away from the family throughout the year in such resident institutions as hospitals for the insane, mentally defective, or tuberculous; however, a few such cases were recorded. Physical impairments such as blindness and lost and impaired limbs were not included as sickness unless the defect was treated or otherwise involved some status other than the mere presence of an impairment.
    "To avoid the repeated use of a long expression such as "all types of practitioners," "doctor" is used in this study in the popular sense to designate any type of healer; and "physician" and "specialist" are used to designate persons with medical degrees. For the most part percentages are shown separately for the different types of healers.

    Also the reference made in many places to calls made by some practitioner is understood to include those in which the patient went to the doctor (office) as well as those in which the doctor went to the patient (home or hospital).
    ${ }^{7}$ In a few instances the only consultation was by telephone or by some other member of the family going to see the doctor; such cases were counted among the total attended by some practitioner but no calls were counted for them. By reason of tabulating methods, attended cases for specific types of practitioners do not include these cases in which the doctor did not see the patient. The numbers of such cases are small, amounting for specialists to about 0.6 percent of the specialists' cases, and for general medical practitioners to less than 2 percent of the cases, chiefly for communicable, minor respiratory, and minor digestive diseases.
    If a doctor treated two or more patients on one call to a family, each patient seen was counted as having a call. See footnotes to table 1 for further details.

    - There were 168 cases not counted as attended in which a visiting or other nurse or medical assistant was the only attendant, 0.7 percent of the 25,569 cases tabulated as attended by some practitioner. Of these 168 cases, 80 were communicable diseases, 32 minor respiratory diseases, 21 skin diseases, 11 accidental injuries, and the remainder scattered in various groups.
    There were 40 cases not counted as attended which were said to have been seen by a health officer, prosumably for diagnosis or quarantine only, 0.2 percent of the total cases tabulated as attended. Thirtyfive of these cases were communicable diseases and four were poison ivy or rash that was presumably suspeoted of being some communicable disease.

[^3]:    - See comparison of diagnoses reported by families and by physicians in the Health Survey of 1935-36 (19, table 2).
    ${ }^{10}$ Further details on the method of classifying the causes of illness are included in the first report in the serles (1).

[^4]:    ${ }^{1}$ A preceding paper (16) shows the percentage of cases of different types that were incomplete because of prior onset or because still sick at the last report on the case; the first report (1) in the series shows by specific disease the number of cases with onset prior to the study year.
    ${ }^{1 s}$ Home, office, and hospital calls by private or clinic doctors for hospitalized illness amounted to 8.7 call per case, as compared with 4.2 calls per case for all attended illnesses. Doctors' calls per hospitalized cas for the specific diagnoses were in nearly every instance larger than the corresponding figure for all attende cases; thus the greater severity of the cases that were hospitalized led to more doctors' calls per case in add tion to supplementary care by the hospital staff.

    The diagnoses with a high percentage of cases with no care except by the hospital staff were tuberculosis, 16 percent; nervous diseases, 16 percent; bones, joints, malformations, and diseases of early infancy, 15 percent; communicable diseases, 9 percent; and accidents, 9 percent. No other frequent hospital diagnoses were over 6 percent.

[^5]:    ${ }^{11}$ The rate for female genital and puerperal diagnoses is expressed as cases per 1,000 females; the rate per 1,000 total population is 43.4 .

[^6]:    ${ }^{11}$ Rates for female genital and puerperal diagnoses are expressed as cases per 1,000 femaics．

[^7]:    ${ }^{12}$ Rate for circumcision is expressed as cases per 1,000 males.

[^8]:    ${ }^{13}$ In some preceding papers the percentages of cases attended have been computed from adjusted rates for total cases and for attended cases. In the present paper all such percentages are computed from the actual cases and are comparable only with those so computed in the preceding paper (16). Usually the differences resulting from the two methods are small.
    ${ }^{14}$ Numbers attended (one or more calls) by one or more M. D.'s were 24,432 cases; by private general medical practitioners, 20,705 cases; by specialists, 3,280 cases; by public clinic physicians, 1,225 cases; and by private group clinic physicians, 327 cases. The cases for the various types of physicians add to more than the total for all M. D.'s because some had two or more types of physicians.

    Of all cases attended by private general medical practitioners 86 percent were attended by the family physician and 15 percent by some other general practitioner, about 1 percent being attended by both. Of all cases attended by general practitioners, 5.8 percent had a specialist also, presumably called in or referred to by the general physician. In about 1 percent of the cases a nonmedical practitioner was also in attendance at some time.
    In 62 percent of all cases attended by specialists, the specialist was the only attendant, but in 37 percent a private general practitioner was also in attendance, presumably the original attendant who called in or referred the case to the specialist. In less than 1 percent of the cases a nonmedical practitioner was also in attendance at some time.
    ${ }^{1 s}$ Nonmedical practitioners include osteopath ( 452 cases), chiropractor ( 402 cases), Christian Scientist or other faith healer ( 24 cases), midwife ( 22 cases), naturopath and other nonmedical practitioners ( 75 cases), and also supplementary practitioners such as chiropodist ( 163 cases), physiotherapist without the supervision of a physician ( 28 cases), and optician ( 3 cases), but not dentist. The cases given above may add to more than the total for nonmedical practitioners because some cases may have had two or more types of nonmedical practitioners. The few illnesses attended by dentists ( 356 cases) are excluded from both the total M. D. and the nonmedical group but are counted as attended. For dental care (18) with or without sickness ( 10,116 cases) and eye refractions ( 3 ) with or without sickness ( 1,525 cases) in this group of families, see preceding papers.

[^9]:    ${ }^{1}$ Specialties are given as reported by the canvassed families.
    ${ }^{1}$ For inclusions in the diagnosis groups in terms of International List numbers, see table 1; figure 1 shows the frequency of attended cases for specific diagnoses included in each broad group.
    ${ }^{3}$ Includes a few cases ( 20 for all causes) in which the specialist did not see the patient but was consulted by telephone or by another member of the family. Preceding papers and tables excluded these few cases from those attended by specialists.

    Includes only surgeons not designated as to anatomical field of surgery.
    If same case had 2 or more types of specialists, each type is counted but the case counts only once in the total; therefore, the percentages may add to more than 100.

[^10]:    ${ }^{16}$ Since calls refer to those made within the study year, they are understated for some cases because they do not include service received prior to the beginning or after the close of the study year. This would apply particularly to the long-duration chronic diseases. However, the incomplete cases average longer durations and presumably more calls than complete cases of similar diagnoses, so their exclusion would bias the data even further toward smaller numbers of calls per case.
    Similarly, hospitalization and care by staff physicians might be a substitute for calls by private doctors; however, hospital cases average more calls per case (before and after hospitalization and by private doctors during hospitalization) than nonhospital cases of similar diagnoses, so thair exclusion would also bias the data toward smaller numbers of calls per case.

[^11]:    1 The table includes only illnesses with a single diagnosis and with 25 or more attended cases with known numbers of calls. A small number of cases with two or more types of attendants had a known number of calls by one and an unknown number by the other. Since cases with two attondants usually receive more calls than those with only one, their exclusion would bias the distribution toward fewer calls. Therefore in such instances one call was.added to the known number and the sum used as representing the minimum calls for the case. For method of handling such unknowns in computing means, see note 5 to table 1. Home, office, and clinic calls by any practitioner are all tncluded.
    Cases with onset prior to the study and those still sick on the last visit are included along with completed cases, but only fer the calls that came within the study year.

[^12]:    ${ }^{1}$ Contribution from the Rocky Mountain Laboratory, Hamilton, Mont., Division of Infectious Diseases, National Institute of Health.

[^13]:    3 This term is in common usage for that portion of a tree which remains after the top has been blown down and is in contrast to a "stump" which is that portion remaining after a tree has been cut down.

[^14]:    8 Excludes pericarditis, acute endocarditis, and acuto myocarditis.
    Classified as diarrhes and enteritis, age not speoifed. Chronic nephritis only. 7 January to May only

    8 Less than 0.1 per 100,000 population.
    Data not available.

    Includes all States except Georgia, Kansas, Nevada, and West Virginia with data for
    the 6 -month period of 1941,1940 , and 1939 . The District of Columbia is included as a State. Estimated population July 1, 1941, 72,491,000. 1940 Statistical Bulletins published by the Metropolitan Life Insurance Co. All figures are provisional and are subject to correction, since they are based on provisional estimates of lives exposed to risk. Data
    do not include all diseases reported to the Public Health Service.

[^15]:    1 New York City only.
    2 Typhus fever, week ended Oct. 4, 1941, 105 cases, as follows: New York, 2; Pennsylvania, 1; South Carolina, 6; Georgia, 44; Florida, 12; Tennessee, 3; Alabama, 4; Mississippi, 8; Louisiana, 6; Texas, 17; California, 2.
    ${ }^{3}$ Rocky Mountain spotted fever, week ended Oct. 4, 1941, 9 cases, as follows: Illinois, 1; Arkansas, 1; Oklahoma, 6; Oregon, 1.
    4 Period ended earlier than Saturday.

    - Figures for Texas are for the current week instead of a week earlier as has been the case previously. Figures for the week ended Sept. 27, 1941, are as follows: Diphtheria, 32; influenza, 350; measles, 15; meningococcus meningitis, 2; poliomyelitis, 4; scarlet fever, 22; smallpox, 1 ; typhoid and paratyphoid fever, 13; whooping cough 90; typhus fever, 23.

[^16]:    ${ }^{1}$ Encephalomyelitis.

