THE FREQUENCY OF DOCTORS' PRESCRIPTIONS AND OF LABORATORY AND RELATED SERVICES IN THE TREATMENT OF ILLNESS

BASED ON RECORDS FOR 9,000 FAMILIES IN EIGHTEEN STATES VISITED PERIODICALLY FOR TWELVE MONTHS, 1928-1931[1]

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SOME years ago the small town physician was frequently the pharmacist also. Thus the writing and compounding of prescriptions were functions of the same individual, so there was little difference between direct dispensing by the physician and the writing of a prescription. Moreover, the purchase of medicine on the recommendation of the druggist was practically equivalent to procuring it on a doctor's prescription. Even medicine purchased over the counter was not entirely without the sanction of a physician since the doctor-proprietor of the small drug store handled most of the sales of medicines.

With the separation of the functions of the physician and pharmacist which exists today, the written prescription has become the common method of supplying the patient with the needed medicine. The present paper deals with the frequency in a surveyed group with which medicine was procured by doctor's prescription, by druggist's recommendation, and by purchase over the counter without either of these procedures. The frequency with which

[1] From General Morbidity Studies, Division of Public Health Methods, National Institute of Health.

This is the twenty-second of a series of papers on sickness and medical care in this group of families (1-21). 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.

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laboratory and x-ray services and physiotherapy were used in the diagnosis or treatment of illness is also considered.

Source and Character of Data

In the study of illness in a group of families in eighteen States[3] that was made by the Committee on the Costs of Medical Care (22) and the United States Public Health Service, the record for each illness included a statement of medicine procured for the case by doctor's prescription or other methods, of laboratory and x-ray services received, and of physiotherapy used in treating the case.

The composition and characteristics of the group of 8,758 white families which were kept under observation for twelve consecutive months in the years 1928-1931 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 eighteen States representing all geographic sections. Every size of community was included, from metropolitan districts to small industrial and agricultural towns and rural unincorporated areas[4]. 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 two to four months for a period long enough to obtain a sickness record for twelve consecutive months. On the first call a record was made of the number of members of the household, together with sex, age, marital status, occupation, and other facts about each person. On succeeding visits the canvasser recorded all illness that had occurred since the pre-

[3] The eighteen States sampled and the number of canvassed families were as follows: California (890), Colorado (386), Connecticut (100), District of Columbia (99), Georgia (544), Illinois (463), Indiana (494), Kansas (301), Massachusetts (287), Michigan (329), Minnesota (224), New York (1,710), Ohio (1,148), Tennessee (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).

[4] 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 organized community services are not represented.

ceding call, with such pertinent facts about each case as the date of onset and duration; whether attended by a doctor; whether hospitalized; and the nature of such services as surgery, laboratory procedures, x-ray, and physiotherapy. Records for cases that were still sick at the preceding visit were brought up-to-date and when completed the termination was entered. Thus data are available about the frequency of these services in an observed population and the proportions of different types of cases that received them.

Definitions of Illness, Attendant, Medicine, and Special Services. 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[5] 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 conception of sickness but also by her memory. With visits as infrequent as two to four months, it was inevitable that many of the unattended nondisabling illnesses would be terminated and forgotten before the next visit of the enumerator.

An illness was considered as attended if any type of practitioner was called in or consulted about the case, including all hospital cases and also those attended by nonmedical practitioners.

For each illness a record was made of medicine procured for this illness (a) on doctor's prescription (new or refill), (b) on druggist's recommendation, and (c) other medicine, that is, medicine procured without a doctor's prescription or druggist's recommendation. Doctors' prescriptions include medicine dispensed by the physician himself as well as that bought from a drug store on a written prescription; however, medicine recommended by a physician without a written prescription would presumably fall in the "other medicine" category, including bandages and other dress-

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

ings which were included with medicine[6]. Although the bulk of the "other medicine" may be assumed to be made up of patent preparations bought by the patient or his family, these other items must not be forgotten when considering this category.

It should be emphasized that what is here tabulated as medicine includes only that procured by purchase or otherwise for a specific illness. If the illness was one that recurred frequently such as coryza, bronchitis, or an attack of a chronic disease, the patient may have had on hand medicine formerly purchased by prescription; thus a case that used prescribed medicine might not be listed as having procured any medicine for this illness. Moreover, if such an illness was not attended, it was not recorded as a case that used medicine from the home supply, that category being limited to more or less common remedies that did not originate from prescriptions.

In other sections of the schedule entry was made of all laboratory and x-ray services received either in or outside of a hospital. Unfortunately it was impossible to distinguish in this study between x-ray used in the diagnosis of an illness and that used therapeutically, so all x-ray service was put in a single category. A record was also made of special services of the nature of physiotherapy. The report of the family informant may have been incomplete for these types of services. Certain kinds of laboratory procedures, such as urinalysis and blood tests, are routine for all admissions to some hospitals and with no separate charge the family may not have known that such service was rendered. Therefore, the percentage of cases with laboratory and other special services should be considered as a minimum statement of the use of such procedures in the diagnosis and treatment of illness. However, the data seem to be worth presenting because they are based on a fairly broad sample of the general population rather than upon the experience of any one physician, clinic, or hospital.

[6] Braces, crutches, artificial limbs, other appliances, and blood transfusions are not included with any category of medicine.

Classification of Causes of Illness. The diagnosis as reported by the family informant was submitted to the attending physician for confirmation or correction and his diagnosis substituted for the one given by the family. While 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.[7]

Considering an illness in the sense of a continuous period of sickness, only 4.3 per cent of the illnesses 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[8]. In this paper, tables for broad disease groups are based on sole or primary causes only; tables referring to more specific diagnoses are based primarily on sole causes but some data are shown for cases with two or more diagnoses, designated as complicated.

Extent of Illness from all Causes with Doctors' Prescriptions, Other Medicine, and Special Services

Medicines. In this group of families there were during the year 495 illnesses per 1,000 population for which medicine of some kind was procured by purchase or otherwise for the treatment of the specific case (Table 1). This is exclusive of the cases which were treated by home remedies or from a home stock or nonprescription medicine not purchased for this particular case. The 495 cases per 1,000 represent 58 per cent of the total illnesses (850 per 1,000) reported in the survey[9].

There were 368 illnesses per 1,000 persons for which medicine

[7] *See* comparison of diagnoses reported by families and by physicians in the Health Survey of 1935-1936 (23, Table 2).

[8] Further details on the method of classifying the causes of illness are included in the first report in the series (1).

[9] Rates here quoted have not been adjusted for age so are comparable only with "crude" rates in preceding papers in this series.

was procured on a doctor's prescription, including those with a new prescription and those in which an old prescription was refilled for this particular attack. In 27 cases per 1,000 persons medicine recommended by a druggist[10] (but none on doctor's prescription) was procured, and in the other 100 cases per 1,000 that represented the total with medicine, all drugs and dressings used were bought over the counter without a doctor's prescription or a druggist's recommendation.

Of the total cases reported in the survey, 43 per cent procured medicine on a doctor's prescription and of the cases attended by some practitioner 53 per cent procured medicine in this way[11]. Sixty-two per cent of the attended cases procured medicine of some kind for the specific case, as compared with 45 per cent of the unattended cases. The 45 per cent of the unattended cases is made up of 12 per cent in which medicine was procured on the recommendation of a druggist, 7 per cent in which a former prescription was refilled, and 26 per cent for which the only medicine was procured by some other method. In addition to the 45 per cent of the unattended cases for which medicine was procured for the particular case, 11 per cent were recorded as using home remedies or medicine from a home stock of nonprescription preparations.

Considering cases of all ages which procured medicine of any kind, the rate for males was 438 such illnesses per 1,000, as compared with rates for females of 549 for all causes and 501 for all except female genital and puerperal diagnoses. However, most of this difference between the sexes reflects variation in the rate of illness—among males 57 per cent of the cases procured some medicine for the case as compared with 59 per cent for females for all causes and also for the causes common to the two sexes.

[10] Only 207 cases or 5.4 per 1,000 persons procured medicine for the same attack on a doctor's prescription and also on a druggist's recommendation.

[11] Of cases attended by physicians not designated as specialists, 58 per cent procured medicine on a doctor's prescription, as compared with 45 per cent for specialists, and 48 per cent for cases attended by both a physician and a specialist.

Table 1. Frequency and proportion of illnesses[1] from all causes for which medicine was procured by doctor's prescription[2] and by other methods among persons of specific ages for each sex—8,758 canvassed white families in eighteen States during twelve consecutive months, 1928-1931.

Sex and Type of Rate	All Ages[3] (Crude)	Age									
		Under 5	5–9	10–14	15–19	20–24	25–34	35–44	45–54	55–64	65 and Over
	Cases[1] with medicine procured by the specified method per 1,000 population during year										
Any Medicine Procured by Any Method											
Both Sexes, All Causes	495	730	518	344	320	403	508	470	466	536	604
Male, All Causes	438	734	519	333	289	253	379	371	379	449	506
Female, All Causes	549	729	516	354	350	512	603	569	572	640	681
Female, All Except Genital and Puerperal	501	729	516	351	318	389	466	491	542	631	677
Medicine Procured on Doctor's Prescription[2]											
Both Sexes, All Causes	368	586	375	241	212	287	372	351	352	393	462
Male, All Causes	323	589	365	233	190	168	285	272	275	328	362
Female, All Causes	412	586	385	251	234	375	437	430	446	471	540
Female, All Except Genital and Puerperal	384	586	385	248	213	313	361	380	422	463	537
Medicine Procured on Druggist's Recommendation But None on Doctor's Prescription											
Both Sexes, All Causes	26.8	35.0	31.7	21.9	22.0	18.4	24.8	23.1	28.3	31.9	30.1
Male, All Causes	27.5	31.7	35.5	20.9	19.6	20.1	27.5	21.8	32.0	28.6	43.5
Female, All Causes	26.1	38.4	28.0	22.9	24.3	17.1	22.9	24.4	23.9	35.9	19.6
Female, All Except Genital and Puerperal	25.3	38.4	28.0	22.5	23.6	13.9	21.0	23.4	23.2	35.9	19.6
Medicine Procured Only by Methods Other Than Doctor's Prescription and Druggist's Recommendation											
Both Sexes, All Causes	99.8	108.8	111.3	80.3	85.9	96.7	111.0	96.1	85.3	110.7	112.2
Male, All Causes	88.3	113.2	119.5	80.0	79.9	64.9	67.0	77.9	72.1	92.0	100.7
Female, All Causes	111.0	105.1	103.3	80.7	91.9	120.0	143.6	114.5	101.6	133.0	121.2
Female, All Except Genital and Puerperal	92.2	104.7	103.3	80.7	81.4	62.0	84.0	87.1	96.9	131.5	121.2
	Percentage of all cases[1] that had medicine procured by the specified method										
Any Medicine Procured by Any Method											
Both Sexes, All Causes	58.2	60.2	53.0	50.6	53.3	59.9	61.9	60.7	61.3	63.4	61.7
Male, All Causes	56.8	59.3	52.0	48.7	51.5	55.7	62.1	60.2	60.7	62.1	59.4
Female, All Causes	59.4	61.4	54.0	52.6	54.9	61.5	61.8	61.1	61.8	64.6	63.1
Female, All Except Genital and Puerperal	59.2	61.5	54.0	52.6	54.1	62.3	62.2	60.9	61.7	64.5	63.3
Medicine Procured on Doctor's Prescription[2]											
Both Sexes, All Causes	43.3	48.4	38.3	35.6	35.3	42.7	45.4	45.3	46.3	46.5	47.2
Male, All Causes	41.8	47.6	36.5	34.0	33.8	36.9	46.7	44.0	44.0	45.4	42.5

Table 1. Frequency and proportion of illnesses[1] from all causes for which medicine was procured by doctor's prescription[2] and by other methods among persons of specific ages for each sex—8,758 canvassed white families in eighteen States during twelve consecutive months, 1928-1931.

Sex and Type of Rate	All Ages[3] (Crude)	Age									
		Under 5	5–9	10–14	15–19	20–24	25–34	35–44	45–54	55–64	65 and Over
	Cases[1] with medicine procured by the specified method per 1,000 population during year										
Any Medicine Procured by Any Method											
Both Sexes, All Causes	495	730	518	344	320	403	508	470	466	536	604
Male, All Causes	438	734	519	333	289	253	379	371	379	449	506
Female, All Causes	549	729	516	354	350	512	603	569	572	640	681
Female, All Except Genital and Puerperal	501	729	516	351	318	389	466	491	542	631	677
Medicine Procured on Doctor's Prescription[2]											
Both Sexes, All Causes	368	586	375	241	212	287	372	351	352	393	462
Male, All Causes	323	589	365	233	190	168	285	272	275	328	362
Female, All Causes	412	586	385	251	234	375	437	430	446	471	540
Female, All Except Genital and Puerperal	384	586	385	248	213	313	361	380	422	463	537
Medicine Procured on Druggist's Recommendation But None on Doctor's Prescription											
Both Sexes, All Causes	26.8	35.0	31.7	21.9	22.0	18.4	24.8	23.1	28.3	31.9	30.1
Male, All Causes	27.5	31.7	35.5	20.9	19.6	20.1	27.5	21.8	32.0	28.6	43.5
Female, All Causes	26.1	38.4	28.0	22.9	24.3	17.1	22.9	24.4	23.9	35.9	19.6
Female, All Except Genital and Puerperal	25.3	38.4	28.0	22.5	23.6	13.9	21.0	23.4	23.2	35.9	19.6
Medicine Procured Only by Methods Other Than Doctor's Prescription and Druggist's Recommendation											
Both Sexes, All Causes	99.8	108.8	111.3	80.3	85.9	96.7	111.0	96.1	85.3	110.7	112.2
Male, All Causes	88.3	113.2	119.5	80.0	79.9	64.9	67.0	77.9	72.1	92.0	100.7
Female, All Causes	111.0	105.1	103.3	80.7	91.9	120.0	143.6	114.5	101.6	133.0	121.2
Female, All Except Genital and Puerperal	92.2	104.7	103.3	80.7	81.4	62.0	84.0	87.1	96.9	131.5	121.2
	Percentage of ALL cases[1] that had medicine procured by the specified method										
Any Medicine Procured by Any Method											
Both Sexes, All Causes	58.2	60.2	53.0	50.6	53.3	59.9	61.9	60.7	61.3	63.4	61.7
Male, All Causes	56.8	59.3	52.0	48.7	51.5	55.7	62.1	60.2	60.7	62.1	59.4
Female, All Causes	59.4	61.4	54.0	52.6	54.9	61.5	61.8	61.1	61.8	64.6	63.1
Female, All Except Genital and Puerperal	59.2	61.5	54.0	52.6	54.1	62.3	62.2	60.9	61.7	64.5	63.3
Medicine Procured on Doctor's Prescription[2]											
Both Sexes, All Causes	43.3	48.4	38.3	35.6	35.3	42.7	45.4	45.3	46.3	46.5	47.2
Male, All Causes	[illegible]	47.6	36.5	34.0	33.8	36.9	46.7	44.0	44.0	45.4	42.5

Medicine procured on a doctor's prescription showed similar sex differences; among males there were 323 cases with a prescription per 1,000 persons, as compared with rates for females of 412 for all causes and 384 for all except female genital and puerperal diagnoses. The proportion of all cases which had a doctor's prescription was 42 per cent for males and 45 per cent for females; of attended cases males had a doctor's prescription in 52 per cent as compared with proportions for females of 54 per cent for all causes and 57 per cent for all except female genital and puerperal diagnoses. Thus the excess in medicines procured by women represents largely an excess in the incidence of illness rather than in the procuring of medicine for the cases that occur.

Similarly, age differences in rates for cases with doctors' prescriptions and other medicine represent, to a considerable extent, age variation in the incidence of illness rather than in the percentage of illnesses for which medicine was procured by particular methods (Table 1). The percentage of cases with a doctor's prescription varies less with age than the cases per 1,000 persons with such medicine; the minimum occurs at 15-19 years, which is the age with the minimum illness rate. Aside from a lower percentage of cases having prescriptions from 5 to 25 years, age differences are small.

Special Services. There were during the survey year 51.3 cases with laboratory service of some kind per 1,000 population. Among males the rate was 35.2 per 1,000 as compared with rates for females of 66.7 for all causes and 46.3 for all except female genital and puerperal diagnoses (Table 2). There is not so much variation with age except for an unusually high rate of laboratory service for females of the ages 20-44 which is apparently due to puerperal diagnoses.

Of all attended cases, 7.7 per cent had some laboratory service[12]; among males the percentage was 5.9 as compared with percentages

[12] Of cases attended by physicians not designated as specialists, 5.1 per cent had some laboratory service, as compared with 15.3 per cent for specialists and 35.7 per cent for cases attended by both a physician and a specialist.

Sex and Type of Service	All Attended Cases				Hospital Cases				Nonhospital Attended Cases			
	All Ages[1]	Under 20	20–44	45 and Over	All Ages[1]	Under 20	20–44	45 and Over	All Ages[1]	Under 20	20–44	45 and Over
	CASES WITH THE SPECIFIED SERVICE PER 1,000 POPULATION DURING YEAR											
Laboratory Service[2]												
Both Sexes, All Causes	51.3	37.4	68.7	54.1	35.2	25.2	50.2	31.6	16.1	12.2	18.5	22.5
Male, All Causes	35.2	34.4	33.3	41.2	24.2	24.3	23.1	25.3	11.1	10.0	10.2	15.9
Female, All Causes	66.7	40.6	98.6	68.7	45.8	26.2	73.1	38.7	21.0	14.4	25.5	30.0
Female, All Except Genital and Puerperal	46.3	39.4	47.3	65.4	28.5	25.2	29.9	35.8	17.8	14.2	17.4	29.6
X-ray Service[3]												
Both Sexes, All Causes	26.1	20.0	30.8	34.0	9.2	5.7	11.1	15.8	16.9	14.3	19.7	18.2
Male, All Causes	27.0	23.7	29.0	33.1	8.8	6.8	9.4	13.3	18.2	16.9	19.6	19.8
Female, All Causes	25.3	16.3	32.4	35.1	9.6	4.6	12.5	18.6	15.7	11.7	19.8	16.5
Female, All Except Genital and Puerperal	24.0	16.2	29.4	34.4	8.9	4.6	10.7	18.3	15.2	11.6	18.7	16.1
Physiotherapy[4]												
Both Sexes, All Causes	11.5	7.5	12.4	22.3	1.6	1.0	2.0	2.6	9.9	6.5	10.4	19.8
Male, All Causes	10.3	6.9	10.8	19.8	1.4	1.1	1.9	1.6	8.8	5.8	8.9	18.1
Female, All Causes	12.7	8.1	13.8	25.2	1.8	1.0	2.0	3.7	11.0	7.2	11.7	21.6
Female, All Except Genital and Puerperal	11.9	8.1	11.7	24.5	1.5	1.0	1.3	3.3	10.4	7.2	10.4	21.2
	PERCENTAGE OF ATTENDED CASES WITH THE SPECIFIED SERVICE											
Laboratory Service[2]												
Both Sexes, All Causes	7.7	5.5	10.6	8.4	57.5	48.2	64.1	64.3	2.7	1.9	3.3	3.8
Male, All Causes	5.9	4.9	6.9	7.6	50.9	46.3	55.1	59.5	2.0	1.6	2.3	3.2
Female, All Causes	9.2	6.1	12.5	8.9	61.7	50.6	67.0	68.4	3.2	2.3	3.8	4.2
Female, All Except Genital and Puerperal	7.1	6.0	7.8	8.9	58.0	49.9	64.0	71.0	3.0	2.3	3.1	4.3
X-ray Service[3]												
Both Sexes, All Causes	3.9	2.9	4.8	5.3	15.1	10.9	14.2	32.2	2.8	2.3	3.5	3.0
Male, All Causes	4.5	3.4	6.0	6.1	18.5	12.9	22.4	31.3	3.3	2.6	4.5	4.0
Female, All Causes	3.5	2.4	4.1	4.6	13.0	8.9	11.5	32.9	2.4	1.9	2.9	2.3
Female, All Except Genital and Puerperal	3.7	2.5	4.8	4.7	18.0	9.1	22.8	36.2	2.5	1.9	3.3	2.3
Physiotherapy[4]												
Both Sexes, All Causes	1.7	1.1	1.9	3.5	2.6	1.9	2.5	5.2	1.6	1.0	1.8	3.3
Male, All Causes	1.7	1.0	2.3	3.7	3.0	2.0	4.6	3.8	1.6	.9	2.0	3.7
Female, All Causes	1.8	1.2	1.7	3.3	2.4	1.9	1.9	6.5	1.7	1.2	1.7	3.0
Female, All Except Genital and Puerperal	1.8	1.2	1.9	3.3	3.0	1.9	2.9	6.5	1.7	1.2	1.8	3.1
	PERCENTAGE OF SURGICAL CASES WITH THE SPECIFIED SERVICE											
Laboratory Service[2]												
Both Sexes, All Causes	35.5	29.7	42.2	42.2	58.8	52.4	64.4	68.1	1.3	1.0	2.3	—
Male, All Causes	28.6	25.4	32.4	36.6	54.2	49.9	58.8	63.4	.9	1.1	.7	—
Female, All Causes	42.1	35.1	48.2	47.1	62.2	54.9	67.0	71.7	1.9	.9	3.8	—
Female, All Except Genital and Puerperal	40.3	35.2	45.9	46.8	61.8	54.9	68.4	73.7	1.6	1.0	3.2	—

X-ray Service[3]												
Both Sexes, All Causes	14.2	11.3	14.5	27.0	14.6	9.0	16.3	33.7	13.6	14.3	11.2	16.0
Male, All Causes	15.2	13.1	15.1	26.8	15.5	10.6	18.1	33.8	14.8	15.7	11.6	17.3
Female, All Causes	13.3	9.0	14.0	27.1	13.9	7.4	15.4	33.7	12.0	11.8	10.8	14.6
Female, All Except Genital and Puerperal	14.0	9.1	16.6	28.6	15.0	7.4	19.0	37.5	12.3	11.9	12.0	13.0
Physiotherapy[4]												
Both Sexes, All Causes	1.8	1.1	2.7	3.0	2.1	1.1	2.9	3.7	1.5	1.0	2.3	2.0
Male, All Causes	1.5	.8	3.1	1.6	2.4	1.4	4.5	2.8	.5	.3	1.4	—
Female, All Causes	2.2	1.4	2.5	4.3	1.8	.8	2.2	4.3	2.9	2.4	3.2	4.2
Female, All Except Genital and Puerperal	1.9	1.4	1.7	4.8	1.6	.8	1.7	5.0	2.4	2.4	1.6	4.3
	PERCENTAGE OF ATTENDED NONSURGICAL CASES WITH THE SPECIFIED SERVICE											
Laboratory Service[2]												
Both Sexes, All Causes	4.8	2.7	7.3	5.8	55.4	36.0	63.8	59.3	2.7	2.0	3.3	3.9
Male, All Causes	3.2	2.3	3.9	5.3	43.7	35.9	47.7	55.0	2.1	1.6	2.4	3.3
Female, All Causes	6.0	3.1	9.0	6.2	60.9	37.3	67.0	63.5	3.3	2.4	3.8	4.3
Female, All Except Genital and Puerperal	4.1	3.0	4.5	6.3	48.7	33.0	54.5	67.2	3.0	2.4	3.1	4.4
X-ray Service[3]												
Both Sexes, All Causes	2.9	2.0	3.7	3.6	15.8	16.4	12.0	30.1	2.3	1.7	3.2	2.7
Male, All Causes	3.3	2.2	5.0	4.5	25.1	19.5	31.4	28.3	2.6	1.8	4.1	3.5
Female, All Causes	2.5	1.8	3.1	3.0	11.7	13.6	8.2	31.7	2.1	1.5	2.7	2.0
Female, All Except Genital and Puerperal	2.7	1.8	3.8	3.1	25.4	14.7	30.9	34.5	2.2	1.5	3.1	2.1
Physiotherapy[4]												
Both Sexes, All Causes	1.7	1.1	1.8	3.5	3.5	4.4	2.1	7.3	1.7	1.0	1.8	3.3
Male, All Causes	1.7	1.0	2.2	3.8	4.3	3.9	4.7	5.0	1.7	.9	2.1	3.8
Female, All Causes	1.7	1.2	1.7	3.2	3.2	5.1	1.6	9.5	1.6	1.1	1.7	3.0
Female, All Except Genital and Puerperal	1.8	1.2	1.9	3.2	6.5	5.5	5.5	8.6	1.7	1.1	1.9	3.1
	TOTAL NUMBER OF CASES[5]											
Number of Surgical Cases												
Both Sexes, All Causes	2,439	1,317	851	263	1,452	735	547	163	987	582	304	100
Male, All Causes	1,187	739	324	123	618	369	177	71	569	370	147	52
Female, All Causes	1,252	578	527	140	834	366	370	92	418	212	157	48
Female, All Except Genital and Puerperal	1,068	574	362	126	686	364	237	80	382	210	125	46
Number of Attended Nonsurgical Cases												
Both Sexes, All Causes	23,130	11,523	8,000	3,502	905	250	525	123	22,225	11,273	7,475	3,379
Male, All Causes	10,097	5,838	2,687	1,539	279	128	86	60	9,818	5,710	2,601	1,479
Female, All Causes	13,025	5,677	5,313	1,963	622	118	439	63	12,403	5,559	4,874	1,900
Female, All Except Genital and Puerperal	11,718	5,599	4,154	1,895	279	109	110	58	11,439	5,490	4,044	1,837

[1] All ages includes a few of unknown age; both sexes includes a few of unknown sex.
[2] One or more kinds of laboratory service (exclusive of x-ray)—*see* Table 6 for specific services included.
[3] X-ray used in the diagnosis or treatment of the case.
[4] One or more kinds of physiotherapy—*see* Table 7 for specific services included.

for females of 9.2 for all causes and 7.1 for all except female genital and puerperal diagnoses.

Of all hospital cases, 57 per cent had some laboratory service as compared with 3 per cent for attended cases not in a hospital. Surgical and nonsurgical hospital cases had about the same percentages with such service, 59 and 55 per cent respectively; of the minor surgical cases that were not hospitalized, 1.3 per cent had laboratory service as compared with 2.7 for nonsurgical attended cases that were not hospitalized. Thus hospitalization is more important than surgery in considering the frequency of laboratory service.

A record was made of the kind of laboratory which rendered the service. Of the 1,976 cases with one or more laboratory procedures, there were 1,935 for which the type of laboratory which did the work was reported. In 67.8 per cent of these 1,935 cases, part or all of the service was done in a hospital laboratory, in 20.4 per cent part or all of the work was done in the laboratory of a physician who was not designated as a specialist, in 4.9 per cent in a specialist's laboratory, in 4.2 per cent in a commercial laboratory, in 3.5 per cent in a public laboratory, in 2.3 per cent in the laboratory of a public clinic, and in 2.2 per cent in the laboratory of a private medical group. Cases for which work was done in two or more kinds of laboratory are counted in all types specified.

There were during the survey year 26.1 cases per 1,000 population which reported the use of x-ray service for diagnostic or therapeutic purposes. There was little variation in this rate as between the sexes but there was some increase with age.

Of all attended cases, 3.9 per cent had some x-ray service[13]. Among hospital cases 15.1 per cent had x-ray service, as compared with 2.8 per cent for nonhospital attended cases. Surgical and nonsurgical hospital cases reported about the same proportions with x-ray, 14.6 and 15.8 per cent, respectively. Nonhospital surgical cases had about

[13] Of cases attended by physicians not designated as specialists, 2.6 per cent had x-ray service, as compared with 5.9 per cent for specialists and 18.6 per cent for cases attended by both a physician and a specialist.

as much x-ray as hospital cases, 13.6 per cent; but among nonhospital nonsurgical cases, only 2.3 per cent of the attended cases had any x-ray services[14]. In this connection it must be remembered that x-ray is frequently used on accident cases and that in this study the setting of a bone or placing of a cast was considered a surgical procedure.

During the survey year there were 11.5 cases per 1,000 population which reported some form of physiotherapy on the case. The rate for males was 10.3 per 1,000 as compared with rates for females of 12.7 for all causes and 11.9 for all except female genital and puerperal diagnoses. Both sexes showed considerable increase with age in physiotherapy rates.

Only 1.7 per cent of the attended cases had any physiotherapy[15]; there was little variation as between the sexes but the percentage of cases with physiotherapy increased with age. Hospital cases had only slightly higher proportions with physiotherapy, 2.6 per cent as compared with 1.6 per cent for nonhospital cases. Likewise there were no large variations in the percentage receiving physiotherapy among surgical as compared with nonsurgical attended cases.

Proportion of Cases of Each Disease with Doctors' Prescriptions, Other Medicine, and Special Services

Medicines. The proportion of cases which had medicine procured by prescription and by other means varies greatly for different diagnoses. Table 3 shows these facts for illnesses classified into thirteen broad diagnosis groups and Tables 4 and 5 show similar data for a large number of specific diseases.

[14] A reflection of the same tendency is found in the fact that only about one-third of the cases with x-ray reported that the service was received in a hospital, whereas about two-thirds of the cases with laboratory service received it in a hospital. On the other hand nearly half of the cases receiving x-ray service obtained it in the offices of private physicians and specialists, as compared with only one-fourth of the cases receiving laboratory service.

Physiotherapy tends to be done in the offices of private practitioners rather than in hospitals. More than three-fourths of the cases with physiotherapy received the service in offices of private doctors and specialists.

[15] Of cases attended by an osteopath, 4.6 per cent had some form of physiotherapy, as compared with 1.1 per cent for chiropractors, 1.2 per cent for physicians not designated as specialists, 1.9 per cent for specialists, and 4.5 per cent for cases attended by both a physician and a specialist.

Table 3. Medicine, laboratory, physiotherapy, and x-ray services rendered within the year of observation in connection with illnesses from broad groups of causes—8,758 canvassed white families in eighteen States during twelve consecutive months, 1928-1931.

Disease and Whether Sole Diagnosis or Complicated by Another Disease[2]	Number of Attended Cases	Percentage of Attended Cases[1] Which Had:					Number of Unattended Cases	Percentage of Unattended Cases[1] Which Had:				Total Number of Cases	Percentage of All Cases[1] Which Had Medicine Procured for This Case:		
		Medicine Procured for This Case		One or More Kinds of Laboratory Services	X-ray Used for Diagnosis or Treatment of Case[4]	One or More Forms of Physiotherapy		Medicine Used from Home Supply But None Procured for This Case	Medicine Procured for This Case						
		On Doctor's Prescription (New or Refilled)[3]	But None on Doctor's Prescription						But None on Druggist's Recommendation or Doctor's Prescription	On Druggist's Recommendation But None on Doctor's Prescription	By Refilling of Doctor's Prescription[3]		On Doctor's Prescription (New or Refilled)[3]	On Druggist's Recommendation But None on Doctor's Prescription	But None on Druggist's Recommendation or Doctor's Prescription
All Causes															
Sole or Primary	25,569	53.4	8.5	7.7	3.9	1.7	7,183	11.1	25.6	12.0	7.4	32,752	43.3	3.2	11.7
Sole	24,290	52.9	8.4	7.3	3.7	1.7	7,054	11.0	25.8	12.0	7.4	31,344	42.7	3.2	11.8
Complicated	2,673	62.7	9.8	17.5	8.3	2.5	269	13.3	19.6	13.0	7.0	2,942	57.6	1.9	9.9
Minor Respiratory Diseases															
Sole or Primary	7,283	68.7	4.7	1.5	.5	.8	4,053	13.0	27.9	13.0	7.2	11,336	46.7	4.9	12.7
Sole	6,869	68.8	4.7	1.3	.4	.7	3,966	12.9	28.2	13.0	7.2	10,835	46.2	5.0	13.0
Complicated	516	68.4	6.6	4.1	3.5	1.6	102	16.7	13.7	14.7	4.9	618	57.9	3.6	6.6
Other Respiratory Diseases															
Sole or Primary	1,991	45.2	8.2	22.8	5.9	1.5	100	5.0	33.0	21.0	18.0	2,091	43.9	1.4	9.0
Sole	1,881	44.6	8.0	21.8	5.1	1.3	100	5.0	33.0	21.0	18.0	1,981	43.2	1.5	8.8
Complicated	270	62.2	9.3	27.8	18.1	4.4	[5]	—	—	—	—	274	61.7	.7	8.8
Minor Digestive Diseases															
Sole or Primary	1,772	66.6	4.4	1.9	1.9	.4	551	11.8	23.2	12.5	6.7	2,323	52.4	3.4	8.4
Sole	1,710	66.4	4.3	1.9	1.9	.4	543	11.8	22.8	12.7	6.6	2,253	52.0	3.5	8.4
Complicated	146	67.8	7.5	3.4	4.8	—	38	10.5	28.9	13.2	5.3	184	54.9	3.8	10.9
Other Digestive Diseases															
Sole or Primary	945	50.4	15.8	27.1	10.1	1.2	86	5.8	24.4	18.6	15.1	1,031	47.4	2.3	15.7
Sole	859	50.1	15.5	25.1	9.0	1.0	85	5.9	24.7	18.8	15.3	944	46.9	2.4	15.6
Complicated	155	50.3	16.8	43.9	18.7	2.6	[5]	—	—	—	—	160	49.4	1.9	16.3
Communicable Diseases															
Sole or Primary	2,496	50.6	8.7	4.9	.8	1.0	1,175	8.4	12.2	4.9	5.6	3,671	36.2	2.1	9.2
Sole	2,370	49.6	8.7	4.7	.8	.9	1,167	8.3	12.2	4.8	5.7	3,537	35.1	2.1	9.3
Complicated	179	64.0	9.6	10.7	5.6	2.2	[5]	—	—	—	—	190	60.3	1.1	9.0

Ear and Mastoid Diseases															
Sole or Primary	676	51.0	5.6	4.4	2.4	.9	47	14.9	14.9	12.8	10.6	723	48.4	1.1	5.9
Sole	648	50.8	5.7	3.9	1.5	.9	47	14.9	14.9	12.8	10.6	695	48.1	1.2	6.0
Complicated	197	71.1	5.6	11.2	8.6	2.0	15	26.7	6.7	13.3	13.3	212	67.0	.9	5.7
Nervous Diseases Except Cerebral Hemorrhage, Paralysis, Neuralgia and Neuritis															
Sole or Primary	465	61.5	4.3	7.7	4.7	3.0	34	8.8	32.4	8.8	20.6	499	58.7	1.0	5.8
Sole	445	61.3	4.3	7.4	4.0	3.1	33	9.1	33.3	9.1	21.2	478	58.6	1.0	5.9
Complicated	71	64.8	2.8	16.9	9.9	1.4	[5]	—	—	—	—	78	60.3	2.6	5.1
Rheumatism and Related Diseases															
Sole or Primary	699	56.7	6.7	4.3	4.7	9.2	98	11.2	39.8	14.3	8.2	797	50.7	2.5	10.0
Sole	673	56.6	6.8	3.7	4.6	9.1	96	10.4	39.6	14.6	7.3	764	50.5	2.6	10.1
Complicated	93	68.8	7.5	20.4	11.8	9.7	[5]	—	—	—	—	106	62.3	1.9	8.5
Degenerative Diseases															
Sole or Primary	1,161	61.7	7.1	17.5	8.4	2.6	57	1.8	19.3	12.3	22.8	1,218	59.9	1.3	6.9
Sole	973	60.2	6.9	17.6	8.2	2.6	47	2.1	19.1	10.6	23.4	1,020	58.5	1.0	7.0
Complicated	389	70.7	7.5	18.0	8.0	2.1	21	—	33.3	9.5	14.3	410	67.8	2.0	7.3
Skin Diseases															
Sole or Primary	1,146	58.5	8.5	2.0	2.1	3.8	195	6.2	32.8	20.5	13.3	1,341	51.9	4.0	11.0
Sole	1,134	58.4	8.4	1.9	2.1	3.9	195	6.2	32.8	20.5	13.3	1,329	51.8	4.0	11.0
Complicated	64	56.3	17.2	14.1	3.1	—	[5]	—	—	—	—	66	56.1	1.5	15.2
Female Genital and Puerperal Diagnoses															
Sole or Primary	1,491	36.8	24.3	26.9	1.7	1.1	49	4.1	34.7	10.2	4.1	1,540	35.7	1.0	24.0
Sole	1,397	36.1	24.7	26.1	1.5	1.1	48	4.2	35.4	10.4	4.2	1,445	35.0	1.0	24.4
Complicated	192	47.9	18.2	39.6	7.8	1.6	[5]	—	—	—	—	197	46.7	.5	18.3
Accidental Injuries															
Sole or Primary	2,595	26.4	14.3	2.8	14.3	2.2	285	9.8	37.8	17.5	3.8	2,880	24.1	2.4	15.9
Sole	2,553	26.3	14.0	2.5	14.3	2.0	284	9.8	37.9	17.2	3.9	2,837	24.0	2.4	15.7
Complicated	51	37.3	25.5	23.5	19.6	9.8	[5]	—	—	—	—	52	36.5	1.9	25.0
All Other Diseases															
Sole or Primary	2,849	41.4	7.2	7.3	3.9	2.9	453	6.8	28.4	10.6	7.9	3,302	36.8	2.3	9.3
Sole	2,778	41.3	7.1	7.1	3.9	2.8	443	6.5	28.4	10.6	8.1	3,221	36.7	2.3	9.2
Complicated	350	54.3	11.5	16.7	4.3	2.9	45	13.0	23.9	6.5	2.2	395	48.2	1.0	12.7

[1] Cases with onset prior to the study and those still sick on the last visit are included along with completed cases, but the medicine and services refer to those received within the study year. Attended cases include all attended by either medical or nonmedical practitioners.

[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 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 specific diagnoses included in each broad group are shown in Table 4. For definition of diagnosis groups in terms of the International List of Causes of Death, *see* Table 1 of a preceding paper (17).

[3] Medicine dispensed by the doctor is included with doctor's prescriptions.

[4] Including seven cases where radium was used.

[5] Less than fifteen unattended cases and no percentages computed.

Considering all cases (attended and unattended) as shown in Table 3, degenerative and nervous diseases show the highest proportions of cases with medicine procured on a prescription, 60 and 59 per cent respectively; at the other extreme with low proportions are accidents with 24 per cent and female genital and puerperal with 36 per cent procuring medicine by prescription. However, when cases not attended by a doctor are eliminated, minor respiratory and minor digestive diseases show the highest proportions of attended cases with medicine procured by prescription, 69 and 67 per cent respectively; at the other extreme with low proportions are accidents with 26 per cent and female genital and puerperal diagnoses with 37 per cent of the attended cases procuring medicine by prescription. Thus, of the attended cases, the two groups of acute illnesses with a high frequency of occurrence also had a high percentage of cases which procured medicine by prescription, even though the illnesses are usually of a minor character. Among the specific minor respiratory diseases (sole diagnosis) with a high percentage of cases having a prescription are bronchitis, 78 per cent; laryngitis, 73 per cent; influenza, 71 per cent; and cough, 70 per cent. Thus, there are no one or two diagnoses which are responsible for the high minor respiratory percentage.

The specific diseases with the highest percentage of attended cases (sole diagnosis) which had medicine on a doctor's prescription were: impetigo, 86 per cent; acute rheumatism, 83 per cent; diphtheria, 81 per cent; pneumonia, 79 per cent; and intestinal parasites, 79 per cent. Of the 113 specific diseases (sole diagnosis) shown in Table 4, 9 had less than 20 per cent of the attended cases with a doctor's prescription, 23 had 20 to 39 per cent, 34 had 40 to 59 per cent, 44 had 60 to 79 per cent, and 3 diagnoses had 80 per cent or more of the attended cases with a doctor's prescription.

As noted above, medicine other than that procured on a doctor's prescription or druggist's recommendation would probably be composed rather largely of patent preparations, although it includes

Table 4. Medicine, laboratory, x-ray, and physiotherapy services received within the year of observation in connection with illnesses from specific causes—8,758 canvassed white families in eighteen States during twelve consecutive months, 1928-1931.

Disease and Whether Sole Diagnosis or Complicated by Another Disease[2]	Number of Attended Cases	Percentage of Attended Cases[1] Which Had:					Total Number of Cases	Percentage of All Cases[1] Which Had Medicine Procured for This Case:		
		Medicine Procured for This Case		One or More Kinds of Laboratory Service	X-ray Used for Diagnosis or Treatment of Case	One or More Forms of Physiotherapy		On Doctor's Prescription (New or Refilled)[3]	On Druggist's Recommendation But None on Doctor's Prescription	But None on Druggist's Recommendation or Doctor's Prescription
		On Doctor's Prescription (New or Refilled)[3]	But None on Doctor's Prescription							
Minor Respiratory Diseases										
Influenza and Grippe										
Sole	2,418	71.2	4.8	1.5	.3	.5	3,152	56.3	3.4	9.4
Complicated	156	72.3	8.4	5.2	3.2	1.3	168	67.1	3.6	7.2
Bronchitis and Chest Colds										
Sole	1,257	78.0	4.5	1.8	.8	1.4	1,801	57.3	4.4	13.8
Complicated	66	74.2	6.1	6.1	4.5	1.5	82	59.8	3.7	7.3
Coryza and Colds, Unqualified										
Sole	1,796	62.1	4.0	.7	.3	.5	3,906	32.3	7.0	16.3
Complicated	174	64.4	4.6	1.1	2.9	1.1	228	50.9	4.4	5.3
Cough										
Sole	54	70.4	3.7	3.7	—	3.7	100	49.0	12.0	12.0
Tonsillitis										
Sole	677	65.7	5.5	.9	.1	.1	841	54.0	4.6	10.0
Complicated	54	66.7	9.3	5.6	1.9	—	56	64.3	3.6	7.1
Quinsy										
Sole	62	53.2	12.9	1.6	—	1.6	66	50.0	3.0	12.1
Sore Throat										
Sole	325	62.8	5.2	.9	—	.3	621	35.4	3.7	14.5
Complicated	19	68.4	10.5	—	—	10.5	35	40.0	2.9	14.3
Other Pharynx and Tonsil Affections, Except Tonsillectomy										
Sole	127	57.5	4.7	4.7	1.6	3.9	138	53.6	.7	5.8
Complicated	34	70.6	—	11.8	11.8	2.9	35	68.6	—	—
Laryngitis										
Sole	94	73.4	2.1	2.1	1.1	1.1	104	67.3	2.9	2.9
Croup										
Sole	63	69.8	6.3	1.6	—	—	110	43.6	2.7	20.9
Other Respiratory Diseases										
Tonsillectomy and Adenoidectomy										
Sole	791	18.1	10.4	42.1	1.9	.4	791	18.1	—	10.4
Complicated	50	36.0	24.0	52.0	6.0	4.0	50	36.0	—	24.0
Pneumonia, All Forms										
Sole	238	79.0	5.5	5.0	2.9	1.3	239	78.7	.8	4.6
Complicated	77	68.8	11.7	27.3	14.3	6.5	77	68.8	1.3	10.4
Sinusitis										
Sole	324	62.3	4.0	5.6	7.7	2.5	340	60.3	.9	5.3
Complicated	54	61.1	1.9	18.5	24.1	3.7	55	60.0	—	1.8

Table 4 (Continued).

Disease and Whether Sole Diagnosis or Complicated by Another Disease[2]	Number of Attended Cases	Percentage of Attended Cases[1] Which Had:					Total Number of Cases	Percentage of All Cases[1] Which Had Medicine Procured for This Case:		
		Medicine Procured for This Case		One or More Kinds of Laboratory Service	X-ray Used for Diagnosis or Treatment of Case	One or More Forms of Physiotherapy		On Doctor's Prescription (New or Refilled)[3]	On Druggist's Recommendation But None on Doctor's Prescription	But None on Druggist's Recommendation or Doctor's Prescription
		On Doctor's Prescription (New or Refilled)[3]	But None on Doctor's Prescription							
Other Respiratory Diseases (Continued)										
Vincent's Angina										
Sole	38	44.7	18.4	7.9	—	—	38	44.7	—	18.4
Asthma										
Sole	104	77.9	6.7	6.7	—	1.9	131	66.4	9.2	7.6
Complicated	19	89.5	5.3	15.8	15.8	5.3	19	89.5	—	5.3
Hay Fever										
Sole	55	52.7	14.5	1.8	1.8	1.8	75	44.0	2.7	20.0
Pleurisy										
Sole	77	61.0	2.6	7.8	6.5	1.3	85	55.3	3.5	3.5
Complicated	28	78.6	3.6	14.3	21.4	—	29	75.9	—	3.4
Respiratory Tuberculosis										
Sole	89	44.9	10.1	25.8	34.8	3.4	92	43.5	4.3	8.7
Suspected Respiratory Tuberculosis										
Sole	38	42.1	5.3	7.9	21.1	5.3	39	41.0	—	5.1
Minor Digestive Diseases										
Indigestion, Upset Stomach, and Nausea										
Sole	880	69.2	4.3	1.6	1.3	.3	1,135	55.3	3.6	8.5
Complicated	65	73.8	4.6	3.1	3.1	—	91	53.8	2.2	12.1
Biliousness										
Sole	92	64.1	6.5	—	—	—	138	44.2	5.1	14.5
Other and Ill-Defined Stomach Diseases										
Sole	171	56.1	2.9	4.7	7.6	1.2	208	49.5	3.8	5.8
Complicated	26	69.2	7.7	3.8	11.5	—	30	63.3	6.7	10.0
Diarrhea and Enteritis										
Sole	568	65.4	4.4	1.8	1.4	.4	773	49.1	2.8	7.8
Complicated	49	59.2	12.2	4.1	4.1	—	56	51.8	5.4	8.9
Other Digestive Diseases										
Ulcers of Stomach and Duodenum										
Sole	68	72.1	5.9	16.2	35.3	—	70	71.4	1.4	5.7
Intestinal Parasites, Except Hookworm										
Sole	33	78.8	3.0	3.0	3.0	—	41	68.3	7.3	9.8
Appendicitis										
Sole	284	37.7	25.7	46.5	4.6	.7	291	36.8	.7	25.8
Complicated	60	43.3	23.3	65.0	23.3	1.7	61	42.6	1.6	23.0
Hernia, Intestinal Obstruction										
Sole	79	22.8	27.8	32.9	8.9	1.3	89	21.3	2.2	24.7
Complicated	17	47.1	23.5	47.1	11.8	—	17	47.1	—	23.5
Constipation										
Sole	54	64.8	9.3	1.9	—	1.9	82	46.3	11.0	14.6

Table 4 (Continued).

Disease and Whether Sole Diagnosis or Complicated by Another Disease[2]	Number of Attended Cases	Percentage of Attended Cases[1] Which Had:					Total Number of Cases	Percentage of All Cases[1] Which Had Medicine Procured for This Case:		
		Medicine Procured for This Case		One or More Kinds of Laboratory Service	X-ray Used for Diagnosis or Treatment of Case	One or More Forms of Physiotherapy		On Doctor's Prescription (New or Refilled)[3]	On Druggist's Recommendation But None on Doctor's Prescription	But None on Druggist's Recommendation or Doctor's Prescription
		On Doctor's Prescription (New or Refilled)[3]	But None on Doctor's Prescription							
Other Digestive Diseases (Continued)										
Biliary Calculi, Cholecystitis										
Sole	152	61.2	7.9	18.4	15.8	2.0	162	61.1	1.2	7.4
Complicated	22	50.0	13.6	45.5	31.8	—	23	47.8	—	13.0
Other and Ill-Defined Liver Diseases										
Sole	55	67.3	1.8	1.8	1.8	—	65	56.9	6.2	1.5
Diseases of the Mouth Except Teeth and Gums										
Sole	53	58.5	3.8	5.7	—	1.9	55	56.4	—	3.6
Communicable Diseases										
Measles										
Sole	568	53.5	4.4	1.1	—	—	887	38.0	2.4	5.6
Complicated	50	66.0	16.0	8.0	4.0	—	53	62.3	1.9	13.2
German Measles										
Sole	25	16.0	4.0	—	—	—	58	6.9	1.7	1.7
Whooping Cough										
Sole	506	60.5	7.9	.4	.2	1.2	708	44.2	5.2	9.5
Complicated	28	71.4	3.6	—	3.6	7.1	31	64.5	—	3.2
Chickenpox										
Sole	280	36.8	7.5	—	—	.4	578	19.7	1.0	8.5
Complicated	17	47.1	5.9	—	5.9	—	18	44.4	—	5.6
Mumps										
Sole	195	24.1	7.2	1.5	.5	—	446	13.0	.4	7.6
Complicated	16	37.5	6.3	—	—	—	20	30.0	5.0	10.0
Scarlet Fever										
Sole	200	62.5	7.0	22.5	—	—	215	58.1	.5	7.0
Complicated	15	73.3	6.7	40.0	6.7	—	15	73.3	—	6.7
Diphtheria										
Sole	68	80.9	11.8	23.5	—	—	68	80.9	1.5	10.3
Smallpox										
Sole	16	37.5	6.3	12.5	—	—	17	35.3	—	5.9
Malaria										
Sole	95	66.3	23.2	4.2	—	—	118	56.8	3.4	28.8
Erysipelas										
Sole	24	75.0	12.5	—	—	4.2	25	72.0	—	12.0
Tuberculosis, Nonrespiratory										
Sole	21	28.6	—	9.5	33.3	19.0	23	26.1	—	4.3
Local and Other Infections Not Specified as Accidental										
Sole	198	38.4	19.7	2.0	2.5	2.0	219	34.7	.5	22.4
Smallpox Vaccination										
Sole	76	10.5	10.5	1.3	—	—	76	10.5	1.3	9.2

Table 4 (Continued).

Disease and Whether Sole Diagnosis or Complicated by Another Disease[2]	Number of Attended Cases	Percentage of Attended Cases[1] Which Had:					Total Number of Cases	Percentage of All Cases[1] Which Had Medicine Procured for This Case:		
		Medicine Procured for This Case		One or More Kinds of Laboratory Service	X-ray Used for Diagnosis or Treatment of Case	One or More Forms of Physiotherapy		On Doctor's Prescription (New or Refilled)[3]	On Druggist's Recommendation But None on Doctor's Prescription	But None on Druggist's Recommendation or Doctor's Prescription
		On Doctor's Prescription (New or Refilled)[3]	But None on Doctor's Prescription							
Skin Diseases (Continued)										
Abscesses and Ulcers										
Sole	112	36.6	14.3	1.8	1.8	1.8	116	37.1	1.7	12.9
Impetigo										
Sole	110	86.4	1.8	—	—	.9	138	75.4	1.4	8.0
Urticaria										
Sole	56	64.3	1.8	3.6	—	3.6	62	58.1	3.2	3.2
Scabies										
Sole	74	73.0	14.9	1.4	—	2.7	106	58.5	4.7	16.0
Eczema										
Sole	140	77.9	7.1	4.3	1.4	7.9	154	71.4	3.9	9.7
Other and Ill-Defined Skin Diseases										
Sole	402	54.0	6.0	1.7	4.2	6.5	446	49.8	3.8	7.6
Complicated	18	44.4	27.8	11.1	5.6	—	19	42.1	5.3	21.1
Female Genital and Puerperal Diagnoses										
Cysts and Tumors of Ovary and Uterus										
Sole	33	33.3	24.2	45.5	12.1	3.0	33	33.3	6.1	18.2
Salpingitis and Pelvic Abscess										
Sole	17	58.8	17.6	47.1	11.8	—	17	58.8	—	17.6
Complicated	15	53.3	20.0	46.7	6.7	—	15	53.3	—	20.0
Menstrual Disorders										
Sole	185	72.4	2.2	2.7	.5	.5	212	64.2	1.4	6.1
Complicated	17	76.5	5.9	5.9	11.8	5.9	19	68.4	—	5.3
Other and Ill-Defined Nonvenereal Diseases of Female Organs, Including Chronic Results of Childbirth										
Sole	228	45.2	11.4	14.9	3.9	3.5	242	42.6	.4	12.4
Complicated	77	42.9	14.3	37.7	10.4	2.6	80	41.3	1.3	15.0
Acute Complications of Pregnancy and Childbirth										
Sole	37	48.6	5.4	16.2	—	—	37	48.6	—	5.4
Complicated	26	42.3	23.1	46.2	—	—	26	42.3	—	23.1
Abortions, Miscarriages, and Stillbirths										
Sole	132	47.7	21.2	25.8	.8	3.8	136	46.3	2.9	20.6
Live Births										
Sole	732	20.8	37.0	35.8	.4	.1	735	20.7	.7	36.3
Complicated	26	38.5	34.6	50.0	3.8	—	26	38.5	—	34.6
Puerperal Diseases of the Breast										
Sole	33	39.4	9.1	—	3.0	—	33	39.4	—	9.1
Accidental Injuries										
Poisoning by Ivy, Oak, and Other Plants										
Sole	69	71.0	4.3	—	1.4	—	96	56.3	12.5	6.3

Table 4 (Continued).

Disease and Whether Sole Diagnosis or Complicated by Another Disease[2]	Number of Attended Cases	Percentage of Attended Cases[1] Which Had:					Total Number of Cases	Percentage of All Cases[1] Which Had Medicine Procured for This Case:		
		Medicine Procured for This Case		One or More Kinds of Laboratory Service	X-ray Used for Diagnosis or Treatment of Case	One or More Forms of Physiotherapy		On Doctor's Prescription (New or Refilled)[3]	On Druggist's Recommendation But None on Doctor's Prescription	But None on Druggist's Recommendation or Doctor's Prescription
		On Doctor's Prescription (New or Refilled)[3]	But None on Doctor's Prescription							
Accidental Injuries (Continued)										
Other Accidental Poisonings										
Sole	105	50.5	5.7	1.0	—	—	117	45.3	.9	6.0
Automobile Accidents										
Sole	180	20.0	22.2	8.9	26.1	3.3	189	19.0	.5	21.7
Accidental Burns										
Sole	101	48.5	17.8	—	—	—	152	32.2	11.2	28.9
Accidental Injuries by Cutting or Piercing Instruments										
Sole	247	21.5	17.0	.8	2.8	.4	288	18.4	1.4	19.4
Accidental Falls										
Sole	173	22.4	10.3	3.4	20.7	5.2	191	20.3	3.6	11.5
Eye Accidents										
Sole	115	30.4	5.2	2.6	.9	—	118	29.7	—	5.9
Injuries by Animals										
Sole	45	22.2	4.4	2.2	2.2	—	51	20.0	—	10.0
All Other Accidents										
Sole	1,516	22.8	14.7	2.2	17.9	2.4	1,635	21.5	1.6	15.8
Complicated	31	35.5	22.6	25.8	22.6	6.5	32	34.4	3.1	21.9
All Other Diseases										
Anemia, All Forms										
Sole	106	77.4	2.8	14.2	5.7	3.8	114	75.4	.9	5.3
Complicated	32	71.9	3.1	28.1	9.4	3.1	32	71.9	—	3.1
Diseases of Thyroid Gland										
Sole	105	67.6	8.6	28.6	1.9	1.9	113	62.6	1.7	9.6
Complicated	19	68.4	5.3	31.6	10.5	5.3	21	61.9	—	14.3
Acidosis										
Sole	59	72.9	3.4	10.2	—	1.7	62	72.6	1.6	1.6
Sty										
Sole	50	36.0	8.0	—	—	—	61	29.5	—	9.8
Conjunctivitis, Pink-eye, Sore Eye										
Sole	144	59.0	5.6	1.4	—	—	199	44.7	2.5	8.5
Other Eye Diseases										
Sole	153	45.8	4.6	9.2	3.9	.7	159	44.0	2.5	3.8
Complicated	17	58.8	17.6	23.5	5.9	5.9	17	58.8	—	17.6
Hemorrhoids										
Sole	89	55.1	11.2	6.7	—	2.2	100	50.0	7.0	11.0
Diseases of Lymphatic System										
Sole	150	56.0	11.3	3.3	1.3	2.0	171	51.5	3.5	10.5
Complicated	48	39.6	6.3	6.3	2.1	2.1	61	32.8	—	4.9

Table 5. Medicine procured withir illnesses from specific diagnoses that were not attended by a doctor—8,758 canvassed white families in eighteen States during twelve consecutive months, 1928-1931. (Sole diagnosis only.)

Disease	Number of Unattended Cases	Percentage of Unattended Cases[1] Which Had:			
			Medicine Procured for This Case:		
		No Medicine Procured But Used Home Supply[2]	But None on Druggist's Recommendation or Doctor's Prescription	On Druggist's Recommendation But None on Doctor's Prescription	By Refilling of Doctor's Prescription
Influenza and Grippe	734	15.4	25.7	13.1	7.1
Bronchitis and Chest Colds	544	9.7	36.8	13.4	9.4
Coryza and Colds, Unqualified	2,110	13.2	27.0	12.7	6.7
Cough	46	—	23.9	23.9	23.9
Tonsillitis	164	14.6	29.9	22.6	5.5
Sore Throat	296	10.1	25.0	7.4	5.4
Croup	47	21.3	40.4	6.4	8.5
Sinusitis	16	6.3	37.5	12.5	18.7
Asthma	27	7.4	22.2	33.3	22.2
Hay Fever	20	—	35.0	10.0	20.0
Indigestion, Upset Stomach, and Nausea	255	14.1	25.9	13.3	7.5
Biliousness	46	10.9	30.4	15.2	4.3
Other and Ill-Defined Stomach Diseases	37	8.1	18.9	21.6	18.9
Diarrhea and Enteritis	205	9.8	18.0	9.8	3.9
Constipation	28	10.7	32.1	25.0	10.7
Measles	319	11.0	8.5	6.0	10.3
German Measles	33	—	3.0	—	—
Whooping Cough	202	7.9	19.3	12.4	3.5
Chickenpox	298	6.4	9.7	1.7	3.7
Mumps	251	8.8	8.0	.8	4.4
Scarlet Fever	15	—	13.3	—	—
Malaria	23	13.0	52.2	17.4	17.4
Local & Other Infec. Not Spec. as Accid.	21	9.5	47.6	4.8	—
Earache	28	14.3	17.9	10.7	7.1
Nervousness	17	17.6	35.3	17.6	5.9
Chronic Rheumatism and Arthritis	27	7.4	33.3	18.5	7.4
Rheumatism, Unqualified	17	5.9	47.1	17.6	11.8
Neuralgia and Neuritis	30	16.7	36.7	3.3	6.7
Lumbago	16	12.5	43.7	18.7	6.3
Diseases of the Heart	15	—	13.3	—	20.0
Furuncle	67	7.5	37.3	22.4	1.5
Impetigo	28	—	32.1	7.1	32.1
Scabies	32	9.4	28.1	6.3	25.0
Other and Ill-Defined Skin Diseases	44	6.8	34.1	27.3	11.4
Menstrual Disorders	27	7.4	37.0	7.4	7.4
Poisoning by Ivy, Oak, and Other Plants	27	11.1	14.8	40.7	18.5
Accidental Burns	51	7.8	56.9	27.5	—
Accid. Injuries by Cut. or Pierc. Instruments	41	17.1	41.5	2.4	—
Accidental Falls	18	11.1	33.3	27.8	—
All Other Accidents	119	8.4	38.7	13.4	5.0
Conjunctivitis, Pink-Eye, Sore Eye	55	1.8	16.4	9.1	7.3
Diseases of Lymphatic System	21	14.3	28.6	4.8	19.0
Diseases of the Teeth and Gums	30	10.0	36.7	10.0	—
Headache	125	5.6	32.0	6.4	5.6
Backache	19	5.3	42.1	21.1	—
Debility, Fatigue, Exhaust., Malnu., Loss of Wt.	51	2.0	23.5	27.5	7.8

[1] This table shows data for all diagnoses shown in Table 4, which had 15 or more unattended cases; "other stomach", "other skin", and "other accidents" are other than the separate groups shown in Table 4 and not other than those shown here. Cases with onset prior to the study and those still sick [illegible] ed

load. Of the 14,184 cases which procured medicine by prescription, 37.4 per cent were minor respiratory diseases. Communicable diseases were second, accounting for 9.4 per cent; minor digestive third, 8.6 per cent; major respiratory fourth, 6.5 per cent; and degenerative diseases fifth with 5.1 per cent.

Of the 1,239[16] cases which procured some medicine on a druggist's recommendation, 50.5 per cent were minor respiratory diseases; 8.6 per cent were communicable; 6.9 per cent were minor digestive diseases; 6.1 per cent were accidental injuries; and 5.5 per cent were skin diseases.

Of the 3,847 cases whose only medicine was procured by some method other than a doctor's prescription or a druggist's recommendation, 37.5 per cent were minor respiratory diseases, 11.9 per cent were accidental injuries, 9.6 per cent were female genital or puerperal diagnoses, 8.8 per cent were communicable, and 5.1 per cent were minor digestive.

Of the 794 unattended cases reported as using home remedies or medicine from a home supply not originating in prescriptions, 66.1 per cent were minor respiratory diseases, 12.5 per cent were communicable, 8.2 per cent were minor digestive, 3.5 per cent were accidental injuries, and 1.5 per cent were skin diseases.

To summarize, the minor respiratory diseases are the most frequent cause for procuring medicine of all of the various types; communicable diseases, minor digestive diseases, and accidents are also important among the diseases that lead to the purchase of medicine. It must be remembered, however, that these statements are based on numbers of cases with one or more prescriptions, rather than on total prescriptions.

Special Services. Considering broad groups of diseases, major digestive and female genital and puerperal diagnoses had the highest percentages of attended cases with one or more laboratory ser-

[16] Includes 207 cases for which medicine was procured by doctor's prescription as well as on druggist's recommendation.

some form of physiotherapy, 9.2 per cent, followed by nervous diseases with 3.0 per cent. Minor digestive and minor respiratory had the smallest proportions of cases so treated, with 0.4 and 0.8 per cent, respectively. Among the more specific diseases (sole diagnosis) with the highest percentages of cases with physiotherapy were nonrespiratory tuberculosis, 19.0 per cent; chronic rheumatism and arthritis, 14.9 per cent; cerebral hemorrhage and the resulting paralysis, 14.8 per cent; bone and joint diseases, 11.6 per cent; and miscellaneous other orthopedic conditions, 10.9 per cent. Of the 113 diseases (sole diagnosis) shown in Table 4, 34 diagnoses had no cases with physiotherapy, and 38 more had less than 2 per cent so treated, 28 diagnoses had 2 to 4 per cent, 7 had 5 to 9 per cent, 5 had 10 to 14 per cent, and only 1 diagnosis had 15 or more per cent of the cases with physiotherapy.

From the point of view of the physiotherapist's case load, it may be noted that in spite of the small percentage of respiratory cases with physiotherapy, respiratory diseases contributed 19.8 per cent of the total of 444 cases which had physiotherapy (13.0 for minor and 6.8 for other respiratory). Other disease groups of importance in the physiotherapist's load are: rheumatic diseases with 14.4 per cent of the total, and accidents with 12.8 per cent of the total with physiotherapy.

Specific Kinds of Laboratory and Physiotherapy Service Rendered for Broad Disease Groups

In nearly one-fourth of the cases recorded as having laboratory service, the specific kinds of services were not recorded; therefore, it is not feasible to compute the percentage of cases which had a specific laboratory procedure. In Table 6 all cases with laboratory service of an unspecified type have been eliminated; among those with known kinds of services the table shows what percentage had urinalysis, Wassermann or other test for syphilis, and other types of laboratory procedures of as many specific kinds as were reported.

Considering the 1,520 cases of all diagnoses which had one or more laboratory services of known type, 80.5 per cent had urinalyses, 35.7 had some type of blood test not specified as a test for syphilis, 7.5 per cent a Wasserman or other syphilis test, 3.0 per cent had a metabolism test, 3.0 a sputum examination, 1.9 a throat culture, 1.6 a pathological examination of some tissue, 1.1 an analysis of stomach contents, 0.9 a spinal fluid examination, 0.8 per cent had skin tests of some kind, 0.7 an examination of faeces, with only 1.4 per cent reporting some other type of laboratory service. These per-

Table 6. Specific kinds of laboratory service received in connection with illnesses from broad groups of causes—8,758 canvassed white families in eighteen States during twelve consecutive months, 1928-1931. (Sole or primary causes only.)

Diagnosis Group [1]	Number of Cases With One or More Known Kinds[2] of Laboratory Service	Percentage[3] of Cases With Known Kinds of Laboratory Service That Had:											
		Urinalysis	Wassermann Test	Other Blood Tests and Analyses	Spinal Fluid Examination	Throat Culture	Sputum Examination	Stomach Analysis	Stool Examination	Pathological Examination	Skin Tests	Metabolism Test	Other Known Kinds
All Causes	1,520	80.5	7.5	35.7	.9	1.9	3.0	1.1	.7	1.6	.8	3.0	1.4
Minor Respiratory Diseases	101	68.3	4.0	19.8	1.0	6.9	12.9	—	1.0	—	—	2.0	3.0
Other Respiratory Diseases	312	68.6	2.9	55.8	.6	1.3	7.4	.3	.3	.3	2.6	1.3	.3
Minor Digestive Diseases	28	78.6	10.7	21.4	—	—	—	10.7	3.6	—	—	—	3.6
Other Digestive Diseases	190	88.9	2.6	60.5	—	—	.5	4.7	1.1	2.6	—	—	—
Communicable Diseases	107	78.5	9.3	12.1	2.8	10.3	1.9	.9	1.9	.9	—	.9	2.8
Ear and Mastoid Diseases	20	90.0	5.0	50.0	—	—	—	—	—	—	—	—	—
Nervous Diseases Except Cerebral Hemorrhage, Paralysis, Neuralgia, and Neuritis	31	74.2	38.7	45.2	12.9	—	6.5	—	—	—	—	6.5	—
Rheumatism and Related Diseases	27	88.9	22.2	22.2	3.7	—	—	—	—	—	—	7.4	3.7
Degenerative Diseases	165	83.6	6.1	26.1	1.2	—	.6	.6	.6	4.2	.6	4.2	3.0
Skin Diseases	20	55.0	25.0	20.0	—	—	—	—	5.0	—	10.0	10.0	—
Female Genital and Puerperal Diagnoses	303	96.0	10.2	18.5	—	.3	—	—	—	2.6	—	.7	1.3
Accidental Injuries	49	85.7	2.0	42.9	2.0	—	—	—	—	4.1	—	—	2.0
All Other Diseases	167	71.3	10.2	35.9	—	3.6	1.8	.6	1.2	—	.6	13.8	1.2

[1] For specific diseases included in each broad group, *see* Table 4.
[2] Excludes 456 cases with laboratory service of unknown kind.
[3] When the same case had two or more kinds of laboratory service, each kind is counted but the case counts only once in the total; therefore, the percentages usually add to more than 100.

Table 8. Medicine procured by doctor's prescription[1] and by other methods for illness from all causes in cities of different sizes and in rural areas—8,758 canvassed white families in eighteen States during twelve consecutive months, 1928-1931.

Size of City	All Ages[2]	Under 20	20–44	45 and Over	All Ages[2]	Under 20	20–44	45 and Over
	Percentage of all cases that had medicine procured on doctor's prescription[1]				Percentage of attended cases that had medicine procured on doctor's prescription[1]			
Cities of 100,000 or Over	51.2	51.0	51.1	52.1	59.3	59.9	57.6	61.4
Cities 5,000–100,000	44.8	42.9	47.2	46.3	51.3	50.8	52.4	50.6
Towns Under 5,000	37.2	34.9	37.5	45.5	49.1	48.5	46.4	57.4
Rural Areas	32.0	28.1	36.0	37.9	47.9	45.4	47.2	56.1
	Percentage of all cases that had medicine procured on druggist's recommendation but none on doctor's prescription				Percentage of all cases that were attended[3] by any practitioner			
Cities of 100,000 or Over	4.6	4.7	4.1	5.3	83.4	81.8	86.2	82.6
Cities 5,000–100,000	2.5	2.3	2.7	2.5	84.1	81.0	87.7	88.1
Towns Under 5,000	2.1	2.1	2.2	2.2	72.3	67.7	78.4	75.7
Rural Areas	2.5	2.8	1.6	3.3	64.4	59.1	73.7	65.5
	Percentage of all cases that had medicine procured only by methods other than doctor's prescription or druggist's recommendation				Total number of attended[3] cases			
Cities of 100,000 or Over	11.4	10.4	12.9	11.2	9,628	4,757	3,393	1,417
Cities 5,000–100,000	9.5	9.1	10.7	8.0	7,340	3,797	2,571	952
Towns Under 5,000	13.5	11.6	16.2	14.5	5,143	2,577	1,772	774
Rural Areas	13.8	13.5	14.2	14.1	3,458	1,709	1,115	622
	Percentage of all cases that had any medicine procured by any method				Total number of all cases			
Cities of 100,000 or Over	67.2	66.2	68.2	68.6	11,540	5,812	3,935	1,717
Cities 5,000–100,000	56.8	54.3	60.6	56.9	8,731	4,697	2,930	1,081
Towns Under 5,000	52.8	48.6	55.9	62.2	7,111	3,804	2,259	1,021
Rural Areas	48.3	44.4	51.7	55.3	5,370	2,888	1,512	949

[1]Medicine procured on doctor's prescription includes new and refilled prescriptions and also medicine furnished by the doctor.
[2]All ages includes a few of unknown age.
[3]Attended cases include those attended by medical and nonmedical practitioners, hospitals, and clinics but not cases attended only by a nurse or laboratory attendant.

Table 9. Medicine procured by doctor's prescription and by other methods for illness from all causes among families of different income levels—8,758 canvassed white families in eighteen States during twelve consecutive months, 1928-1931.

Annual Family Income	All Ages[2]	Under 20	20–44	45 and Over	All Ages[2]	Under 20	20–44	45 and Over
	Percentage of all cases that had medicine procured on doctor's prescription[1]				Percentage of attended cases that had medicine procured on doctor's prescription[1]			
Under $1,200	35.9	32.9	38.1	41.9	51.5	50.3	48.5	60.9
$1,200 But Under $2,000	42.6	41.5	43.5	46.3	54.9	55.5	52.4	60.7
$2,000 But Under $3,000	46.7	44.8	50.0	46.3	56.4	55.6	57.5	56.2
$3,000 But Under $5,000	45.8	43.4	45.4	53.1	53.8	52.0	52.1	62.0
$5,000 and Over	45.2	43.5	46.9	46.8	48.2	47.1	49.3	49.7
	Percentage of all cases that had medicine procured on druggist's recommendation but none on doctor's prescription				Percentage of all cases that were attended[3] by any practitioner			
Under $1,200	4.4	4.7	3.4	5.4	66.7	62.0	76.1	66.2
$1,200 But Under $2,000	4.0	4.1	4.1	3.4	74.8	71.1	81.2	74.0
$2,000 But Under $3,000	2.7	2.7	2.3	4.0	80.2	77.8	84.3	79.3
$3,000 But Under $5,000	2.9	2.3	2.7	5.0	81.3	79.3	83.7	82.7
$5,000 and Over	1.0	.6	1.3	1.4	90.1	88.5	91.8	91.1
	Percentage of all cases that had medicine procured only by methods other than doctor's prescription or druggist's recommendation				Total number of attended[3] cases			
Under $1,200	12.9	11.9	14.7	13.3	3,074	1,542	996	529
$1,200 But Under $2,000	12.6	11.6	13.7	13.9	8,017	4,242	2,910	829
$2,000 But Under $3,000	12.6	11.6	14.1	13.5	6,272	3,278	2,204	776
$3,000 But Under $5,000	11.4	10.0	13.6	11.3	3,516	1,644	1,266	584
$5,000 and Over	7.7	7.2	8.7	7.1	4,411	2,017	1,386	982
	Percentage of all cases that had any medicine procured by any method				Total number of all cases			
Under $1,200	53.2	49.5	56.1	60.6	4,609	2,489	1,308	799
$1,200 But Under $2,000	59.2	57.1	61.3	63.6	10,718	5,968	3,584	1,121
$2,000 But Under $3,000	62.1	59.1	66.4	63.7	7,825	4,217	2,614	979
$3,000 But Under $5,000	60.1	55.7	61.6	69.4	4,323	2,072	1,511	706
$5,000 and Over	53.9	51.3	56.9	55.2	4,894	2,279	1,509	1,078

[1]Medicine procured on doctor's prescription includes new and refilled prescriptions and also medicine furnished by the doctor.
[2]All ages includes a few of unknown age.
[3]Attended cases include those attended by medical and nonmedical practitioners, hospitals, and clinics but not cases attended only by a nurse or laboratory attendant.

dispensed directly by the physician increases fairly regularly in each income group as size of city decreases.

Table 13. Direct dispensing of medicine to families of different annual income levels in cities of various sizes—8,758 canvassed white families in eighteen States during twelve consecutive months, 1928-1931. (Cases with doctor's prescription or doctor's medicine exclusive of all hospital and clinic cases.)

Size of City	All Incomes[1]		Under $1,200	$1,200 But Under $2,000	$2,000 But Under $3,000	$3,000 But Under $5,000	$5,000 or Over
	Percentage for All Incomes Combined[2]	Simple Average of Percentages for Five Incomes[3]	PERCENTAGE OF CASES OF ILLNESS WITH A PRESCRIPTION OR MEDICINE FURNISHED BY A DOCTOR IN WHICH ALL MEDICINE WAS FURNISHED BY A DOCTOR				
All Sizes							
Percentage for All Sizes Combined[4]	24.3	—	42.3	28.6	22.3	16.3	13.3
Simple Average of Percentages for Five Sizes[5]	—	—	37.3	32.8	29.4	24.0	21.2
Cities of 100,000 or Over	11.1	11.3	13.7	13.0	10.9	7.1	11.7
Cities 25,000–100,000	16.0	15.7	19.4	19.3	18.1	16.4	5.2
Cities 5,000–25,000	33.0	32.4	49.3	40.6	29.2	23.1	19.8
Towns Under 5,000	43.1	40.4	52.8	45.0	41.1	29.8	33.3
Rural Areas	47.3	44.9	51.4	46.1	47.4	43.4	35.9
	TOTAL NUMBER OF CASES OF ILLNESS WITH A PRESCRIPTION OR MEDICINE FURNISHED BY A DOCTOR						
All Sizes	12,378		1,356	3,992	3,256	1,716	1,957
Cities of 100,000 or Over	5,096		212	1,443	1,388	905	1,133
Cities 25,000–100,000	2,356		144	711	784	275	424
Cities 5,000–25,000	1,165		134	409	260	143	217
Towns Under 5,000	2,215		428	820	552	248	144
Rural Areas	1,546		438	609	272	145	39

[1] All incomes includes a few of unknown income.
[2] Percentages for all incomes combined are computed by adding the cases in the several income groups and computing a percentage without regard to income.
[3] Simple averages for the five incomes are computed by adding the percentages for the five income groups and dividing by five.
[4] Percentages for all sizes combined are computed by adding the cases in the several size groups and computing a percentage without regard to size.
[5] Simple averages for the five sizes are computed by adding the percentages for the five sizes and dividing by five.

There is also a fairly consistent increase in dispensing as family income decreases, at least in small towns and rural areas. In cities over 100,000, there is no consistent change with income, and the income differences are small for cities from 25,000 to 100,000 with the exception of a low figure for the highest income group. In the two groups of towns under 25,000 in population and also in rural areas, the low family income levels have definitely more direct dispensing than the higher levels. If a simple average of the percentages for the five urban-rural groups in each income level is computed, the resulting mean percentages of cases in which doctor's medicine was dispensed directly by the physician range from 21 for family incomes above $5,000 to 37 per cent for those under $1,200 per year. Thus the lowest income group in these "adjusted" percentages shows less than twice the dispensing percentage of the highest, but rural areas show about four times as much dispensing as cities over 100,000. The averaging of the percentages for the different income levels gives "adjusted" figures for the variation with size of city that are about the same as the simple percentages quoted earlier.

Summary

Data on the frequency of illness, the purchase of medicine by prescription and other methods, and the use of laboratory and other special services were recorded for a twelve-month period between 1928 and 1931 by periodic canvasses of 8,758 white families in 130 localities in eighteen States. The surveyed families include representation from nearly all geographic sections; from rural, urban, and metropolitan areas; from all income classes; and of both native and foreign-born persons. Visits were made at intervals of two to four months and all illness that caused symptoms for one day or longer were recorded.

There were 495 illnesses per 1,000 population for which some medicine was procured for the specific attack; this represents 58 per cent of all illnesses reported in the survey.

dispensed directly by the physician increases fairly regularly in each income group as size of city decreases.

Table 13. Direct dispensing of medicine to families of different annual income levels in cities of various sizes—8,758 canvassed white families in eighteen States during twelve consecutive months, 1928-1931. (Cases with doctor's prescription or doctor's medicine exclusive of all hospital and clinic cases.)

Size of City	All Incomes[1]		Under $1,200	$1,200 But Under $2,000	$2,000 But Under $3,000	$3,000 But Under $5,000	$5,000 or Over
	Percentage for All Incomes Combined[2]	Simple Average of Percentages for Five Incomes[3]	Percentage of cases of illness with a prescription or medicine furnished by a doctor in which all medicine was furnished by a doctor				
All Sizes							
Percentage for All Sizes Combined[4]	24.3	—	42.3	28.6	22.3	16.3	13.3
Simple Average of Percentages for Five Sizes[5]	—	—	37.3	32.8	29.4	24.0	21.2
Cities of 100,000 or Over	11.1	11.3	13.7	13.0	10.9	7.1	11.7
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Rural Areas	47.3	44.9	51.4	46.1	47.4	43.4	35.9
	Total number of cases of illness with a prescription or medicine furnished by a doctor						
All Sizes	12,378		1,356	3,992	3,256	1,716	1,957
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Data on the frequency of illness, the purchase of medicine by prescription and other methods, and the use of laboratory and other special services were recorded for a twelve-month period between 1928 and 1931 by periodic canvasses of 8,758 white families in 130 localities in eighteen States. The surveyed families include representation from nearly all geographic sections; from rural, urban, and metropolitan areas; from all income classes; and of both native and foreign-born persons. Visits were made at intervals of two to four months and all illness that caused symptoms for one day or longer were recorded.

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