

# MEDICAL CARE AMONG MALES AND FEMALES AT SPECIFIC AGES—EASTERN HEALTH DISTRICT OF BALTIMORE, 1938–1943<sup>1</sup>

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THE recent growth of group plans of payment for medical service has resulted in increasing interest in data on medical care received by the people in the United States. In the past two decades, medical care statistics have been provided from two sources. First, a special morbidity-medical care survey conducted by the Committee on the Costs of Medical Care during 1928–1931 (1, 2) and the National Health Survey made during 1935–1936 (3) have furnished data on care received by population groups paying for service largely under the fee-for-service system. Second, records of group payment plans have provided statistics of medical service received by persons prepaying for the service on the insurance principle (4, 5). The purpose of the present report is to present a study of the volume of medical service for illness received by males and females at specific ages in the Eastern Health District of Baltimore during the years 1938–1943. This analysis is of interest chiefly because it shows the extent to which a wage-earning population utilized medical service for illness in an area where the immediate neighborhood afforded facilities for the care of illness to an unusual degree.

The sample population observed for morbidity was considered as representative of the localities in Baltimore in which the wage-earning population lived; that is, it contained some families in relatively poor economic circumstances, wage-earning families in moderate circumstances, relatively few families in the professional class, and no families classed as wealthy.

Facilities for medical care of illness in the original Eastern Health District (Wards 6 and 7), the area from which the sample of families was drawn, included three hospitals within

<sup>1</sup> From the Milbank Memorial Fund. The study of illness in the Eastern Health District of Baltimore was conducted by the Public Health Service and the Milbank Memorial Fund.

the district and two adjacent to it. Each of these hospitals had an outpatient service where medical care was available at a nominal cost or free if the patient was considered eligible for free care by the social service department of the hospital. Baltimore also had a city hospital where free care was available to all residents considered eligible for such care. Approximately 150 private physicians practiced regularly within the district. However, during the period of the study (from three to five years) 619 different private physicians served the observed population.

#### DATA AND METHOD OF STUDY

For all cases of illness a record was made of volume of medical service received and whether rendered by a private physician, clinic, or hospital. The causes of illness as reported by the family informants were submitted to the attending physician for confirmation or correction. The volume of services rendered by the physicians; that is, the number of medical calls, was not submitted to the attending physician for confirmation or correction; these data are based upon information given by the family informant. The causes of illness for clinic attendance and hospital admissions were checked against the records of the clinic or hospital where the service was given. The date of each clinic visit was recorded from these records. Also, the total hospital days for the specific illness was obtained, but the hospital record did not include the number of physician visits while the patient was hospitalized.

Volume of medical service in this study includes the number of physician visits for illness reported by the family informants, the number of times a patient visited a clinic because of illness, and the number of hospital days recorded by the hospital which rendered the service.

The sample population was composed of persons in families observed for illness for two months or longer in thirty-four city blocks during the period June, 1938–May, 1943. Seventeen of these blocks were included in the study for a period of five

years and the other seventeen for a period of three years. The population includes 20,832 person-years; 10,292 males and 10,550 females. The age composition by sex was representative of white males and females in the original Eastern Health District (6, 7).

DESCRIPTION OF THE POPULATION

Characteristics of the sample population have been described in two previous papers (8, 9). The families were found to be a mobile group. For example, in the seventeen city blocks observed for five years there was a total of 1,270 families included in the morbidity study. Eight hundred and twenty-six of these families moved one or more times and 444 did not move (8). About three-fourths of the employed persons were in the clerical, sales, skilled, and semi-skilled occupation groups. The mean annual family income based on those that reported income (83 per cent of families in the third or middle study year) was \$1,718 (9).

VOLUME OF MEDICAL SERVICE

The annual rate of illness in the sample population was 1,500 per 1,000 person-years, 1,234 among males and 1,758 among

Table 1. Annual rate of medical services (calls) for all cases of illness by sex, Eastern Health District of Baltimore, June, 1938-May, 1943.

TYPE OF CALL AND MEDICAL ATTENDANT	BOTH SEXES	MALE	FEMALE	FEMALE, EXCLUDING CALLS FOR FEMALE GENITAL AND PUERPERAL DIAGNOSES
RATE PER 1,000 POPULATION				
TOTAL CALLS	2,418.2	2,122.7	2,706.2	2,271.5
Office or Clinic	1,790.9	1,663.6	1,914.9	1,587.6
Home	627.3	459.1	791.3	683.9
General Practitioner	1,380.1	1,084.8	1,668.0	1,425.2
Specialist	167.3	172.1	162.7	120.7
Clinic	678.9	679.6	678.2	563.6
General Practitioner and Clinic	191.9	186.2	197.3	162.0

females. Medically attended cases constituted about one-third of the total, 592 per 1,000 person-years.

Table 1 shows the annual rate of medical service, 2,418 per 1,000 population, for all cases of illness. Three-fourths of the calls were office or clinic calls and the remainder consisted of calls made at the home of the patient. About 60 per cent of the total calls for illness were made by a general practitioner; 25 per cent were visits to a clinic; and 8 per cent were visits to cases which had both private physician attendance and clinic attendance. If clinic service be considered as specialist service, about one-third of the total medical service was rendered by specialists. Only a relatively small proportion of total medical services, 7 per cent, were rendered by specialists outside of clinics.<sup>2</sup>

The rate of medical service was higher among females than

<sup>2</sup> Clinic attendance includes services rendered by specialists. In this analysis service indicated by the classification "specialist" means service for illness other than that given by a clinic. The clinics in the outpatient department of a hospital were classified according to their specialty and each was under the direction and supervision of a specialist. Consequently, it is proper to consider clinic service as specialist service.

"Specialists" includes physicians who according to the American Medical Association Directory, 1940, limited their practice to a specialty.

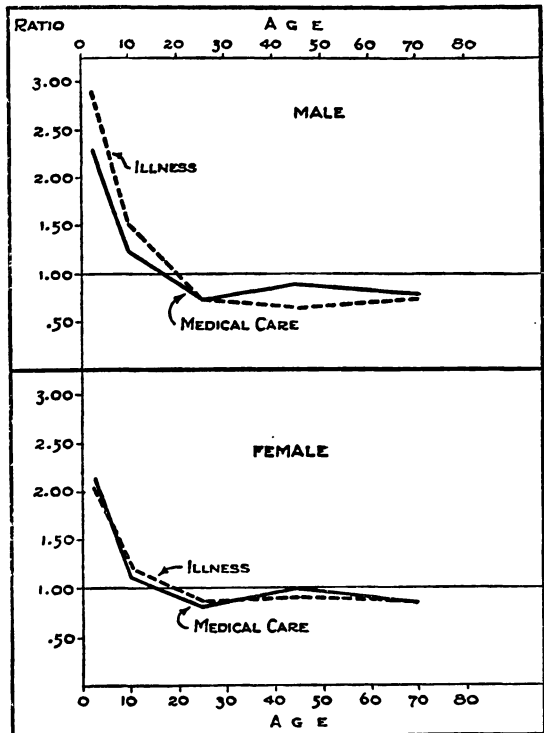


Fig. 1. Ratio of the rate of acute illness among males and females at each age to the rate at all ages compared with the ratio of the rate of medical services for acute illness at each age to the rate of such services at all ages (excluding female genital and puerperal diagnoses), Eastern Health District of Baltimore, June, 1938–May, 1943.

among males. When calls for female genital and puerperal diagnoses are excluded from the female rate, males had a slightly

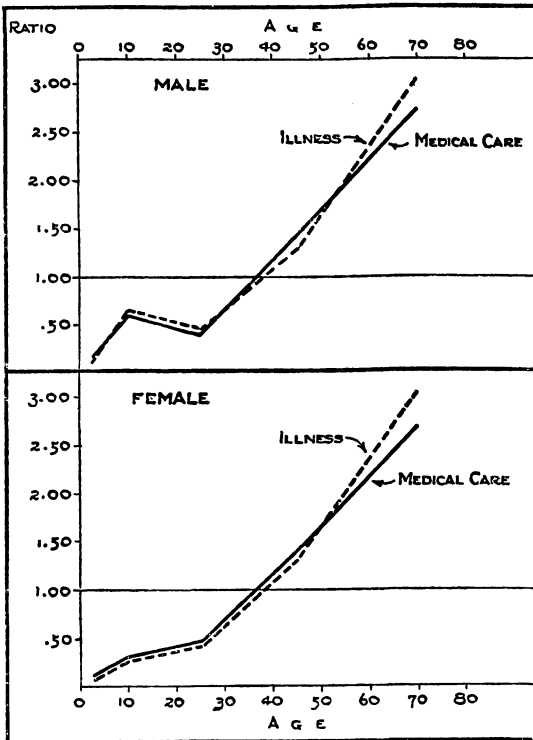


Fig. 2. Ratio of the rate of *chronic* illness among males and females at each age to the rate at all ages compared with the ratio of the rate of medical services for chronic illness at each age to the rate of such services at all ages (excluding female genital and puerperal diagnoses). Eastern Health District of Baltimore—June, 1938–May, 1943.

higher rate of office or clinic calls compared with that among females. On the other hand, the rate of home calls for females was 49 per cent above the rate for males. When attendant is considered, the excess of general practitioner calls for females compared with males was 31 per cent. Males exceeded the females in the rate of calls to clinics or specialist.

*Medical Service by Age and Sex.* It has been shown that the incidence of acute illness and the prevalence of chronic illness show marked differences at specific ages

(6). The incidence of acute illness is relatively high at the youngest ages and declines as age increases. The prevalence of chronic illness, on the other hand, is relatively low at the youngest ages, the rate increases as age increases, and reaches its peak in old age.

Figure 1 shows for each sex the ratio of the rate of *acute* illness at each age to the total rate at all ages compared with the ratio of the rate for medical services for acute illness at each age to the total rate for all ages. Figure 2 shows the same data for

*chronic* illness. It is evident that medical service for each of the two types of illness has the same relationship by age to its mean as does illness of that type.

Acute illness includes minor respiratory diseases and pneumonia, digestive diseases, diseases of the skin, acute communicable diseases, female genital diseases, pregnancy and complications of pregnancy, diseases of the ear, and of the teeth and gums, acute attacks of asthma and hay fever, diseases of the organs of vision, accidental injuries, and other miscellaneous causes.

Chronic illness includes heart disease, hypertensive vascular

Table 2. Annual rate per 1,000 population of medical services (home, office, and clinic calls) for cases of *acute* illness by age and sex, Eastern Health District of Baltimore, June, 1938–May, 1943.

TYPE OF CALL	AGE GROUP					
	All Ages	0-4	5-14	15-34	35-54	55 +
	BOTH SEXES					
ALL CALLS	1,533.8	2,977.9	1,589.4	1,454.7	1,423.5	1,119.7
Office or Clinic	1,090.5	1,812.7	1,034.4	1,124.9	1,073.5	707.5
Home	443.3	1,165.2	555.0	329.8	350.0	412.2
	MALE					
ALL CALLS	1,357.8	3,101.0	1,690.3	1,036.4	1,225.0	1,076.5
Office or Clinic	1,016.2	1,860.6	1,173.4	857.8	1,015.8	749.0
Home	341.6	1,240.4	516.9	178.6	209.2	327.5
	FEMALE					
ALL CALLS	1,705.3	2,850.5	1,480.5	1,865.2	1,619.7	1,154.2
Office or Clinic	1,162.9	1,763.2	884.5	1,387.1	1,130.6	674.3
Home	542.4	1,087.3	596.0	478.1	489.1	479.9
	FEMALE (EXCLUDING CALLS FOR FEMALE GENITAL AND PUERPERAL DIAGNOSES)					
ALL CALLS	1,331.8	2,850.5	1,467.7	1,052.5	1,328.7	1,142.1
Office or Clinic	893.6	1,763.2	871.7	803.4	917.2	670.5
Home	438.2	1,087.3	596.0	249.1	411.5	471.6

disease, arthritis, tuberculosis, diabetes, chronic nephritis, rheumatic fever, varicose veins, chronic gallbladder disease, malignant neoplasm, peptic ulcer, toxic goiter, epilepsy, mental deficiency, psychoses and psychoneuroses, syphilis, and other important but relatively rare chronic conditions. Those of a less severe nature included chronic sinusitis, lumbago, neuritis, neuralgia, chronic headache, and chronic indigestion. (See Appendix II for a more detailed list.)

*Acute Illness.* Table 2 shows the annual rate of medical services for *acute* illness by age for each sex. The services are classified according to "office or clinic calls" and "home calls." The rate of home calls was highest at the young ages and for persons 55 and older. Office or clinic calls were relatively frequent at ages under 5, 1.8 per person per year, and declined to less than one call per person after age 55.

Home calls constituted 29 per cent of all calls for *acute* illness. In the oldest age group, 55+, 37 per cent of the total were home calls. Females utilized physician home calls more than did males, especially at the older ages. For example, at ages 55+ among males, home calls formed 30 per cent of the total compared with 42 per cent among females at the same ages.

Table 3 shows the rate of medical calls for *acute* illness classified according to type of attendant. The important point brought out by this table is that, regardless of age or sex, the major volume of medical service for *acute* illness was rendered by the general practitioner. Calls by general practitioners included from 48 to 61 per cent among males at specific ages and from 59 to 69 per cent of the total among females.

Before consideration of medical care for chronic disease, it is important to point out and stress the fact that only a very small proportion of these conditions can be considered as physical defects in the usual sense of the term. In a previous analysis the rate of crippling conditions, all of which could be considered as defects, was only 3.8 per 1,000 population for both sexes combined; that is, about 1 per cent of the total chronic disease rate (7). If varicose veins and hernia be considered as defects, they

TYPE OF ATTENDANT	AGE GROUP					
	All Ages	0-4	5-14	15-34	35-54	55 +
BOTH SEXES						
ALL CALLS	1,533.8	2,977.9	1,589.4	1,454.7	1,423.5	1,119.7
General Practitioner	913.7	1,925.9	858.1	824.9	889.0	713.2
Specialist	107.1	239.9	63.3	122.4	103.3	53.1
Clinic	387.6	641.7	541.5	388.9	280.7	286.5
General Practitioner and Clinic	125.4	170.4	126.5	118.5	150.5	66.9
MALE						
ALL CALLS	1,357.8	3,101.0	1,690.3	1,036.4	1,225.0	1,076.5
General Practitioner	756.9	1,896.4	815.3	537.0	738.2	660.6
Specialist	108.2	305.6	52.0	100.5	117.4	62.9
Clinic	372.1	716.1	657.8	316.7	230.6	259.0
General Practitioner and Clinic	120.6	182.9	165.2	82.2	138.8	94.0
FEMALE						
ALL CALLS	1,705.3	2,850.5	1,480.5	1,865.2	1,619.7	1,154.2
General Practitioner	1,066.5	1,956.3	904.3	1,107.4	1,038.1	755.3
Specialist	106.1	172.0	75.3	143.8	89.4	45.2
Clinic	402.7	564.8	416.0	459.8	330.1	308.4
General Practitioner and Clinic	130.0	157.4	84.9	154.2	162.1	45.3
FEMALE (EXCLUDING CALLS FOR FEMALE GENITAL AND PUERPERAL DIAGNOSES)						
ALL CALLS	1,331.8	2,850.5	1,467.7	1,052.5	1,328.7	1,142.1
General Practitioner	847.8	1,956.3	894.1	640.7	860.1	743.1
Specialist	77.9	172.0	75.3	77.2	73.4	45.3
Clinic	305.2	564.8	413.5	248.9	250.4	308.4
General Practitioner and Clinic	100.9	157.4	84.8	85.7	144.8	45.3

Table 3. Annual rate per 1,000 population of medical services classified by type of attendant for cases of *acute* illness by age and sex, Eastern Health District of Baltimore, June, 1938-May, 1943.

add only about 15 cases per 1,000 to the total rate (238.3 per 1,000 population) from chronic disease. Chronic disease as



considered in this study includes mainly illnesses which are progressive in their development and most of which are of a serious nature in that they may involve both disability and discomfort to the patient.

*Chronic Illness.* Chronic illness for each sex constituted only about 16 per cent of all illness in terms of cases but received slightly more than one-third of all medical calls and was the cause of 24 to 36 per cent of all hospital admissions (7). Table 4 shows the distribution of calls by age classified according to office or clinic and home calls. The rate of home calls for

Table 4. Annual rate per 1,000 population of medical services (home, office, and clinic calls) for cases of *chronic* illness by age and sex, Eastern Health District of Baltimore, June, 1938–May, 1943.

TYPE OF CALL	AGE GROUP					
	All Ages	0-4	5-14	15-34	35-54	55 +
	BOTH SEXES					
ALL CALLS	884.4	120.9	369.4	405.1	1,272.6	2,373.9
Office or Clinic	700.4	95.6	339.3	373.3	1,114.3	1,471.3
Home	184.0	25.3	30.1	31.8	158.3	902.6
	MALE					
ALL CALLS	764.9	131.7	441.7	320.8	1,120.2	2,098.0
Office or Clinic	647.4	117.6	413.9	309.7	1,037.5	1,402.4
Home	117.5	14.1	27.8	11.1	82.7	695.6
	FEMALE					
ALL CALLS	1,000.9	109.8	291.6	487.9	1,423.3	2,594.6
Office or Clinic	752.0	72.8	259.1	435.7	1,190.2	1,526.4
Home	248.9	37.0	32.5	52.2	233.1	1,068.2
	FEMALE (EXCLUDING CALLS FOR FEMALE GENITAL AND PUERPERAL DIAGNOSES)					
ALL CALLS	939.7	109.8	291.6	422.1	1,319.7	2,532.2
Office or Clinic	694.0	72.8	259.1	371.7	1,095.6	1,464.0
Home	245.7	37.0	32.5	50.4	224.1	1,068.2

TYPE OF ATTENDANT	AGE GROUP					
	All Ages	0-4	5-14	15-34	35-54	55 +
BOTH SEXES						
ALL CALLS	884.4	120.9	369.5	405.1	1,272.6	2,373.9
General Practitioner	466.4	31.2	62.6	190.5	657.3	1,511.7
Specialist	60.2	30.6	16.9	37.9	91.8	121.1
Clinic	291.3	24.7	266.0	153.4	402.6	604.4
General Practitioner and Clinic	66.5	34.4	24.0	23.3	120.9	136.7
MALE						
ALL CALLS	764.9	131.7	441.7	320.8	1,120.2	2,098.0
General Practitioner	327.9	21.7	47.4	119.4	502.2	1,114.7
Specialist	63.9	60.1	23.1	37.6	115.0	82.9
Clinic	307.5	24.3	354.0	138.9	359.3	801.6
General Practitioner and Clinic	65.6	25.6	17.2	24.9	143.7	98.8
FEMALE						
ALL CALLS	1,000.9	109.8	291.6	487.9	1,423.3	2,594.6
General Practitioner	601.5	41.0	79.1	260.3	810.6	1,829.1
Specialist	56.6	0.0	10.2	38.2	68.9	151.7
Clinic	275.5	25.1	171.0	167.7	445.4	446.8
General Practitioner and Clinic	67.3	43.7	31.3	21.7	98.4	167.0
FEMALE (EXCLUDING CALLS FOR FEMALE GENITAL AND PUERPERAL DIAGNOSES)						
ALL CALLS	939.7	109.8	291.6	422.1	1,319.7	2,532.2
General Practitioner	577.4	41.0	79.1	230.6	776.3	1,801.1
Specialist	42.8	0.0	10.2	22.3	44.3	142.8
Clinic	258.4	25.1	171.0	154.3	411.5	426.4
General Practitioner and Clinic	61.1	43.7	31.3	14.9	87.6	161.9

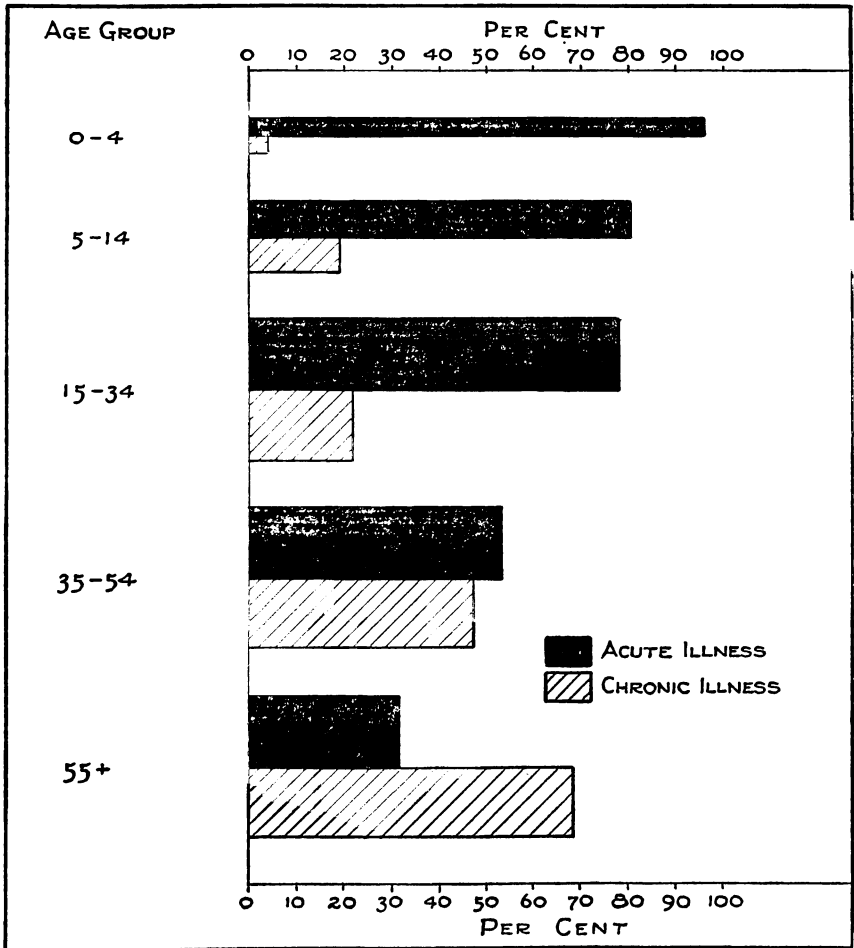
Table 5. Annual rate per 1,000 population of medical services classified by type of attendant for cases of *chronic* illness, by age and sex, Eastern Health District of Baltimore, June, 1938-May, 1943.

*chronic* illness, 184 per 1,000 population, was slightly less than

half the rate (443) for *acute* illness. Females had a higher rate of home visits than did males. The rates for home visits to each sex were relatively low until age 55 and over. A marked increase in the rate of office and clinic visits was noted after age 35, the same ages when both prevalence and incidence of chronic disease increased to a marked degree.

Table 5 shows the rate of medical services for *chronic* disease classified according to type of medical attendant. It is noteworthy that the private physician furnished most of the medical

Fig. 3. Per cent of the total medical services at each age that were for acute and chronic illness, Eastern Health District of Baltimore, June, 1938–May, 1943.



care for chronic disease in the population after age 35. In the younger ages the major part of medical care was furnished by the clinics.

Figure 3 contrasts the volume of medical service for acute and chronic illness at different ages. Ninety-six per cent of the medical calls among children under 5 years of age were because of acute illness. At ages 5 to 34, acute illness accounted for about 80 per cent of the total service for illness. At ages 35 to 54, medical calls were about evenly divided between acute and chronic illness. After age 55, medical service for chronic illness formed a much higher proportion of the total for all illness than did the service for acute illness; the proportions in this age group were 68 and 32 per cent, respectively.

Table 6 shows the average number of medical calls per medically attended case of illness by age and sex of the patient. Illnesses are classified according to the nature of the illness; that is, acute and chronic. The mean number of calls per acute case of illness ranged from 2 at ages 0-4 to about 4 at ages 35 and

Table 6. Number of medical calls per medically attended case of acute and chronic illness, classified by age and sex, Eastern Health District of Baltimore, June, 1938-May, 1943.

CLASSIFICATION	ALL AGES	0-4	5-14	15-34	35-54	55 +
	ACUTE ILLNESS					
BOTH SEXES	3.13	2.14	2.64	3.54	3.87	3.47
Male	3.06	2.14	2.65	3.29	4.39	3.44
Female	3.20	2.14	2.62	3.69	3.55	3.47
Female (Excluding Female Genital Conditions)	2.79	2.14	2.61	2.73	3.27	3.50
	CHRONIC ILLNESS					
BOTH SEXES	8.60	9.30	7.76	8.13	9.68	7.98
Male	9.46	8.58	8.38	8.73	11.17	8.56
Female	8.05	10.38	6.92	7.79	8.76	7.65
Female (Excluding Female Genital Conditions)	8.05	10.38	6.92	7.54	8.96	7.63

over. There were no important differences between the sexes. On the other hand, chronic illness had considerably more visits per case than did acute illness. For example, for all ages there were 8.6 visits per case. Chronic illness is characterized by a long duration compared with acute illness and duration of illness influences the amount of medical care received per case.

A portrayal of medical care for illness is incomplete without a consideration of days spent in the hospital because of illness. Table 7 shows the annual rate per 1,000 population of hospital

Table 7. Annual rate per 1,000 population of hospital days for acute and chronic illness by age and sex, Eastern Health District of Baltimore, June, 1938-May, 1943.

TYPE OF ILLNESS	AGE GROUP					
	All Ages	0-4	5-14	15-34	35-54	55 +
BOTH SEXES						
ALL ILLNESS	2,595.1	879.1	2,566.6	2,764.5	2,046.7	4,233.7
Acute	532.1	823.8	435.2	617.4	470.6	385.3
Chronic	2,063.0	55.3	2,131.4	2,147.1	1,576.1	3,848.4
MALE						
ALL ILLNESS	2,915.6	1,016.6	3,886.3	2,426.2	2,938.0	4,191.2
Acute	404.3	951.4	397.9	278.1	435.0	375.3
Chronic	2,511.3	65.2	3,488.4	2,148.1	2,503.0	3,815.9
FEMALE						
ALL ILLNESS	2,282.8	736.8	1,144.2	3,096.6	1,165.9	4,267.7
Acute	656.6	691.8	475.4	950.4	505.7	393.3
Chronic	1,626.2	45.0	668.8	2,146.2	660.2	3,874.4
FEMALE (EXCLUDING DAYS FOR FEMALE GENITAL AND PUERPERAL DIAGNOSES)						
ALL ILLNESS	1,992.0	736.8	1,139.1	2,451.0	961.2	4,245.4
Acute	365.9	691.8	470.3	304.8	301.0	370.9
Chronic	1,626.1	45.0	668.8	2,146.2	660.2	3,874.5

days for acute and chronic illness by age and sex. For both sexes at all ages, about 79 per cent of the hospital days were because of chronic illness. This relationship was true of both males and females. At only one age did the rate of hospital days for acute illness exceed that for chronic illness; namely, at ages 0-4. The rate of hospital days was higher among males than among females at every age except ages 15-34. At ages 55+ the rates were similar for both sexes. The importance of chronic disease in the utilization of hospital facilities in terms of days is apparent; long-duration diseases with long periods of hospitalization have a marked effect upon the rates.<sup>3</sup>

The study of illness in the Eastern Health District of Baltimore did not include data concerning costs of medical care received by the surveyed population. It is evident, however, that much of the cost of a considerable portion of medical services received (visits) was borne by the community. About 30 per cent of the medical services for illness were furnished by outpatient hospital clinics where services were at a nominal cost; that is, patient fees did not cover the entire cost of service.

### DISCUSSION

The data on volume of medical care for illness in the surveyed population in the Eastern Health District of Baltimore are not strictly comparable with data from any other morbidity study. In comparison with other illness studies, the population was drawn from a particular area of only one large city and was not representative of all income classes in that city. It has been shown that the level of income of the family influences the amount of medical care received for illness. In the Committee on the Costs of Medical Care study it was noted that families with relatively high income had more illness and more medical care than did low-income families (1).<sup>4</sup> The mean annual in-

<sup>3</sup> Hospital days for cases of chronic disease include patient days spent in tuberculosis sanatoria and in hospitals which care for the mentally ill.

<sup>4</sup> The population in the C.C.M.C. study was somewhat weighted with families with high income when compared with the distribution of the population of the United States by income class.

come of the families with known income in the Eastern Health District sample was \$1,718.

However, it is desirable to obtain some sort of indication as to the possible influence of the availability of facilities for medical care upon the volume of services received by the sample population in Baltimore. A comparison of the total volume of services in the sample population with data from the C.C.M.C. study shows a striking similarity between the two.

The data are as follows:

*All M.D. Attended Cases Per 1,000 Population:*

C.C.M.C. Study	634
Eastern Health District	592

*Annual Calls Per 1,000 Population:*

C.C.M.C. Study	2,543
Eastern Health District	2,418

*Mean Calls Per Attended Case:*

C.C.M.C. Study	4.0
Eastern Health District	4.1

On the other hand, when the annual rate of medical calls is subdivided by attendant, marked internal differences between the two studies are evident.

The data are as follows:

*Calls by Private Physician (Per 1,000 Population):*

C.C.M.C. Study	2,416
Eastern Health District	1,739

*Clinic Calls (Per 1,000 Population):*

C.C.M.C. Study	127
Eastern Health District	679

Without doubt the level of the rate of clinic calls in the Eastern Health District was affected by the availability of such facilities. Clinic calls were five times as frequent in that population compared with such calls noted in the C.C.M.C. study. Had clinic facilities in the Eastern Health District been less abundant, some patients who attended clinics might have had the care of a private physician. However, it is safe

to conclude that the volume of medical care for illness in this district was considerably affected by the presence of hospital clinics in the neighborhood. Patients received medical care for illness who under other conditions would probably have had none.

#### SUMMARY

This report deals with the volume of medical services among males and females at specific ages in a sample population in the Eastern Health District of Baltimore. It is the fourth in a series of papers based on the whole study (6, 7, 9).<sup>5</sup>

The annual rate of medical calls for illness was 2,418 per 1,000 population; three-fourths of the calls were office or clinic calls and the remainder were home calls. About 68 per cent of the total calls were made by a general practitioner; 32 per cent were classed as specialist calls.

Office or clinic calls for acute illness were relatively frequent at ages under 5, 1.8 per person per year, and declined to less than 1 call per person after age 55.

Regardless of age or sex, the major volume of medical service for acute illness was rendered by the general practitioner. Calls by general practitioners included from 48 to 61 per cent of the total among males at specific ages and from 59 to 69 per cent among females.

The general practitioner furnished most of the medical service for chronic disease in the population after age 35. Among those younger the major part of medical care was furnished by the clinics.

Medical calls per attended case were 3 for acute illness and 9 for chronic illness. The difference between the two was attributed to difference in duration of acute and chronic illness.

About 79 per cent of the total hospital days were due to chronic illness. This was true for each sex.

Volume of medical care in the sample population of the Eastern Health District was compared with data from the Com-

<sup>5</sup> Three of the papers exclude 1 of the 35 city blocks surveyed which was dropped from the study because of excessive moving of families residing there.



mittee on the Costs of Medical Care study. The rate of clinic visits in the sample population was five times the rate of such visits in the C.C.M.C. population. It was concluded that the population drawn from the Eastern Health District because of easily available medical facilities (hospital outpatient clinics) had more medical care for illness than would have been the case had such facilities been lacking.

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## APPENDIX I

Appendix Table 1. Number of medical services (home, office, and clinic calls) for cases of *acute* illness by age and sex, Eastern Health District of Baltimore, June, 1938-May, 1943.

TYPE OF CALL	AGE GROUP					
	All Ages	0-4	5-14	15-34	35-54	55 +
BOTH SEXES						
ALL CALLS	31,953	4,580	5,175	10,865	8,171	3,162
Office or Clinic	22,718	2,788	3,368	8,402	6,162	1,998
Home	9,235	1,792	1,807	2,463	2,009	1,164
MALE						
ALL CALLS	13,961	2,425	2,855	3,835	3,495	1,351
Office or Clinic	10,449	1,455	1,982	3,174	2,898	940
Home	3,512	970	873	661	597	411
FEMALE						
ALL CALLS	17,992	2,155	2,320	7,030	4,676	1,811
Office or Clinic	12,269	1,333	1,386	5,228	3,264	1,058
Home	5,723	822	934	1,802	1,412	753
FEMALE (EXCLUDING CALLS FOR FEMALE GENITAL AND PUERPERAL DIAGNOSES)						
ALL CALLS	14,050	2,155	2,300	3,967	3,836	1,792
Office or Clinic	9,427	1,333	1,366	3,028	2,648	1,052
Home	4,623	822	934	939	1,188	740

TYPE OF ATTENDANT	AGE GROUP					
	All Ages	0-4	5-14	15-34	35-54	55 +
<b>BOTH SEXES</b>						
ALL CALLS	31,953	4,580	5,175	10,865	8,171	3,162
General Practitioner	19,034	2,962	2,794	6,161	5,103	2,014
Specialist	2,232	369	206	914	593	150
Clinic	8,075	987	1,763	2,905	1,611	809
General Practitioner and Clinic	2,612	262	412	885	864	189
<b>MALE</b>						
ALL CALLS	13,961	2,425	2,855	3,835	3,495	1,351
General Practitioner	7,782	1,483	1,377	1,987	2,106	829
Specialist	1,113	239	88	372	335	79
Clinic	3,826	560	1,111	1,172	658	325
General Practitioner and Clinic	1,240	143	279	304	396	118
<b>FEMALE</b>						
ALL CALLS	17,992	2,155	2,320	7,030	4,676	1,811
General Practitioner	11,252	1,479	1,417	4,174	2,997	1,185
Specialist	1,119	130	118	542	258	71
Clinic	4,249	427	652	1,733	953	484
General Practitioner and Clinic	1,372	119	133	581	468	71
<b>FEMALE (EXCLUDING CALLS FOR FEMALE GENITAL AND PUERPERAL DIAGNOSES)</b>						
ALL CALLS	14,050	2,155	2,300	3,967	3,836	1,792
General Practitioner	8,944	1,479	1,401	2,415	2,483	1,166
Specialist	822	130	118	291	212	71
Clinic	3,220	427	648	938	723	484
General Practitioner and Clinic	1,064	119	133	323	418	71

Appendix Table 2. Number of medical services classified by type of attendant for cases of acute illness by age and sex, Eastern Health District of Baltimore, June, 1938-May, 1943.

TYPE OF CALL	AGE GROUP					
	All Ages	0-4	5-14	15-34	35-54	55 +
BOTH SEXES						
ALL CALLS	18,424	186	1,203	3,026	7,305	6,704
Office or Clinic	14,591	147	1,105	2,788	6,396	4,155
Home	3,833	39	98	238	909	2,549
MALE						
ALL CALLS	7,865	103	746	1,187	3,196	2,633
Office or Clinic	6,657	92	699	1,146	2,960	1,760
Home	1,208	11	47	41	236	873
FEMALE						
ALL CALLS	10,559	83	457	1,839	4,109	4,071
Office or Clinic	7,934	55	406	1,642	3,436	2,395
Home	2,625	28	51	197	673	1,676
FEMALE (EXCLUDING CALLS FOR FEMALE GENITAL AND PUERPERAL DIAGNOSES)						
ALL CALLS	9,914	83	457	1,591	3,810	3,973
Office or Clinic	7,322	55	406	1,401	3,163	2,297
Home	2,592	28	51	190	647	1,676

Appendix Table 3. Number of medical services (home, office, and clinic calls) for cases of *chronic* illness by age and sex, Eastern Health District of Baltimore, June, 1938-May, 1943.

TYPE OF ATTENDANT	AGE GROUP					
	All Ages	0-4	5-14	15-34	35-54	55 +
<b>BOTH SEXES</b>						
ALL CALLS	18,424	186	1,203	3,026	7,305	6,704
General Practitioner	9,717	48	204	1,423	3,773	4,269
Specialist	1,254	47	55	283	527	342
Clinic	6,068	38	866	1,146	2,311	1,707
General Practitioner and Clinic	1,385	53	78	174	694	386
<b>MALE</b>						
ALL CALLS	7,865	103	746	1,187	3,196	2,633
General Practitioner	3,371	17	80	442	1,433	1,399
Specialist	657	47	39	139	328	104
Clinic	3,162	19	598	514	1,025	1,006
General Practitioner and Clinic	675	20	29	92	410	124
<b>FEMALE</b>						
ALL CALLS	10,559	83	457	1,839	4,109	4,071
General Practitioner	6,346	31	124	981	2,340	2,870
Specialist	597	0	16	144	199	238
Clinic	2,906	19	268	632	1,286	701
General Practitioner and Clinic	710	33	49	82	284	262
<b>FEMALE (EXCLUDING CALLS FOR FEMALE GENITAL AND PUERPERAL DIAGNOSES)</b>						
ALL CALLS	9,914	83	457	1,591	3,810	3,973
General Practitioner	6,091	31	124	869	2,241	2,826
Specialist	452	0	16	84	128	224
Clinic	2,726	19	268	582	1,188	669
General Practitioner and Clinic	645	33	49	56	253	254

Appendix Table 4. Number of medical services classified by type of attendant for cases of *chronic* illness by age and sex, Eastern Health District of Baltimore, June, 1938-May, 1943.

AGE GROUP	BOTH SEXES	MALE	FEMALE	FEMALE EXCLUDING GENITAL CONDITIONS AND PREGNANCIES
	ACUTE ILLNESS			
ALL AGES	10,198	4,567	5,631	5,027
0-4	2,143	1,135	1,008	1,008
5-14	1,963	1,076	887	881
15-34	3,070	1,167	1,903	1,454
35-54	2,112	796	1,316	1,172
55+	910	393	517	512
	CHRONIC ILLNESS (MAJOR AND MINOR)			
ALL AGES	2,142 <sup>1</sup>	831 <sup>1</sup>	1,311	1,231
0-4	20	12	8	8
5-14	155	89	66	66
15-34	372	136	236	211
35-54	755	286	469	425
55+	840	308	532	521

<sup>1</sup> Excludes one case of unknown age.

Appendix Table 5. Number of medically attended cases of acute and chronic illness, classified by age and sex, Eastern Health District of Baltimore, June, 1938-May, 1943.

TYPE OF ILLNESS	AGE GROUP					
	All Ages	0-4	5-14	15-34	35-54	55 +
BOTH SEXES						
ALL ILLNESS	54,061	1,352	8,357	20,648	11,748	11,956
Acute	11,084	1,267	1,417	4,611	2,701	1,088
Chronic	42,977	85	6,940	16,037	9,047	10,868
MALE						
ALL ILLNESS	29,978	795	6,564	8,977	8,382	5,260
Acute	4,157	744	672	1,029	1,241	471
Chronic	25,821	51	5,892	7,948	7,141	4,789
FEMALE						
ALL ILLNESS	24,083	557	1,793	11,671	3,366	6,696
Acute	6,927	523	745	3,582	1,460	617
Chronic	17,156	34	1,048	8,089	1,906	6,079
FEMALE (EXCLUDING DAYS FOR FEMALE GENITAL AND PUERPERAL DIAGNOSES)						
ALL ILLNESS	21,016	557	1,785	9,238	2,775	6,661
Acute	3,860	523	737	1,149	869	582
Chronic	17,156	34	1,048	8,089	1,906	6,079

Appendix Table 6. Number of hospital days for acute and chronic illness by age and sex, Eastern Health District of Baltimore, June, 1938-May, 1943.

APPENDIX II

MAJOR CHRONIC ILLNESSES

Code Numbers<sup>1</sup>

1. Tuberculosis

020-036,  
038, 039

<sup>1</sup> Code numbers are those from the Manual For Coding Causes of Illness—according to a Diagnosis Code For Tabulating Morbidity Statistics: U. S. Public Health Service, Miscellaneous Publication, No. 32, U. S. Government Printing Office, Washington, 1944.

*Code Numbers*

2. Syphilis	060-069
(061 is classed with cardiovascular disease)	
(063 is classed with psychoses)	
3. Malignant neoplasms	100-169
4. Rheumatic fever	200-202
5. Diabetes	210-219
6. Goiter—toxic	220, 222
7. Pernicious anemia	250
8. Aplastic anemia	259
9. Alcoholism (chronic)	270
10. Apoplexy (stroke)	290
11. Multiple sclerosis	303
12. Parkinson's disease	305
13. Spastic paraplegia	307
14. Psychoses	320-329
15. Psychoneuroses	330-334
16. Mental deficiency	335
17. Epilepsy	336
18. Heart disease	360-365
19. Hypertensive heart disease	370-375
20. Other heart	380, 381, 382, 389
21. Functional disease of heart	388
22. Hypertensive vascular disease	390-399
23. Arteriosclerosis	400
24. Other diseases of the arteries	403, 409
25. Varicose veins of lower extremities	410
26. Plebitis and thrombophlebitis	420, 421
27. Peptic ulcer	520-527
28. Hernia	550, 553
29. Diverticulosis	579
30. Cholecystitis with or without calculi	585, 586
31. Nephritis (chronic)	600
32. Hypertensive vascular-renal disease	607
33. Calculi of kidneys and ureters	619, 620
34. Prostatitis (chronic)	632
35. Arthritis, rheumatoid, osteo-arthritis and other forms	620-629



*Major Chronics (Continued)**Code Numbers*

36. Osteomyelitis	730
37. Osteitis deformans (Paget's disease)	731
38. Brittle bones (Perthes disease)	734
39. Spina Bifida	750
40. Congenital malformation of the heart	753
41. Nervousness	786
42. Behavior problems	787

*CRIPPLING AND DISABLING CONDITIONS*

1. Cataract	341
2. Other conditions of vision	349
3. Deafness	352
4. Old fracture	733
5. Other diseases of the joints	739
6. Other deformities due to previous disease or injury	742
7. Other diseases of organs of movement	749
8. Ill-defined diseases	789

*MINOR CHRONIC ILLNESSES*

1. Gonococcus infection	041
2. Dermatophytosis	092
3. Non-malignant tumors	170-199
4. Goiter—non-toxic	221, 229
5. Diseases of endocrine glands	230-239
6. Obesity	241
7. Malnutrition	242
8. Facial paralysis	310
9. Neuritis	316
10. Migraine	337
11. Glaucoma	340
12. Strabismus	342
13. Otitis media and other ear	350-359 (except 352)
14. Hemorrhoids	415
15. Other circulatory	429
16. Bronchitis	471
17. Sinusitis	495

*Minor Chronics (Continued)*

	<i>Code Numbers</i>
18. Asthma	501
19. Other respiratory (emphysema)	509
20. Colitis (chronic)	539
21. Appendicitis (chronic)	549
22. Indigestion (chronic)	560
23. Salpingitis	650
24. Chronic cervicitis	652
25. Pelvic disease (chronic)	658
26. Menopause	663
27. Menstrual disorder	664
28. Other female genital	666
29. Psoriasis	715
30. Other skin conditions	719
31. Curvature of spine	735
32. Sacro-iliac disease	736
33. Lumbago	782
34. Neuralgia	784
35. Headache (chronic)	785

## ERRATUM

In Table 8, of the article, "Causes of Illness Among Males and Females," by Jean Downes, which was published in the October, 1950, issue of the *Milbank Memorial Fund Quarterly* (xxviii, No. 4, p. 146), the first line should read:

TOTAL ADMISSIONS	53.5	43.3	63.4	1,114	444	669
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