

Prepayment Medical-Care Plans for Low-Income Farmers in Ohio

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PREPAYMENT MEDICAL-CARE PLANS FOR LOW-INCOME FARMERS IN OHIO

ROBERT L. McNAMARA AND A. R. MANGUS

INTRODUCTION

SIGNIFICANCE AND PURPOSE OF THIS STUDY

During recent months rural people have become vitally concerned with problems of health and medical care. They have been shocked by the high rates of draft rejection and by the large numbers of rural men who have been found physically and mentally unfit for military service. They are stirred by the fact that in Ohio death rates among infants, children, and youths are highest in the rural areas, particularly in those rural areas where levels of living are lowest and where health services and facilities are most inadequate.

Rural people have also become aware of the very great progress in medicine during the past several decades. They know that the great body of knowledge that the medical sciences have developed is one of the wonders of the world and that its achievements in the saving of lives have been very great. They also know that the full application of that knowledge to human needs has been very limited and that its full application in rural areas awaits newer developments in methods of distributing medical care to those who need it most. They are convinced that we can ill afford to continue a system which allows people to suffer and die from causes which medical science could control in whole or in part if the barriers between medical knowledge and its full application were removed.

The barriers to the full application of medical knowledge are economic, social, and psychological. Rural people have not effectively demanded good medical care, either because they cannot afford to pay for it, or because they have not understood its nature or what it has to contribute to their welfare and success in living, or because of false and outmoded traditions in their communities. In order to remove those barriers new methods of organizing and distributing medical care are being tried out in many places and under many auspices. It is the purpose of this report to describe and analyze one of these newer methods as applied to low-income farm people who were clients of the Farm Security Administration in Ohio. Attempt is made to treat the FSA Medical-Care Plans not as an isolated development but as a part of a much broader development which may be referred to loosely as the group health movement.

NEW PLANS FOR DISTRIBUTING MEDICAL CARE

During recent years there has been a rapid development of prepayment plans for distributing medical services and hospitalization. Such plans are widely variable in basic philosophy, in scope, in coverage, and in type of sponsorship. The fundamental idea underlying all of them is the application of the insurance principle of spreading the costs of medical care over large num-

bers of people and over long periods of time. Many individuals or families make fixed periodic payments to a pooled fund from which the sickness bills of each contributor is paid. When properly organized and administered these plans should provide many economic, social, psychological, and educational, as well as medical, benefits.

No complete canvass has been made of all medical care plans that are in operation in the United States. A recent report presented a digest of 219 plans providing medical service to subscribers on a prepayment basis.² More than 3 million persons were eligible for medical services under those plans. Latest reports indicate that around 14 million Americans are covered under group hospitalization plans sponsored by hospital associations and approved by the American Hospital Association. The most widespread prepayment medical care plan for farm people is that sponsored by the Farm Security Administration for its clients. In 1943 a total of approximately 600,000 farm persons were covered under those plans. It is probable that at least 20 million Americans are covered for some kind of service under voluntary group health plans, not including commercial insurance and similar plans providing cash benefits only to policy holders.

Voluntary group health plans have a fairly brief history in this country. They were developed first for the employees of certain dangerous industries, such as mining, lumbering, and railroading, and in areas removed from other medical services. Later developments have been widespread. In some cases employers have established and financed medical care for their employees. More often the employees within particular industrial establishments have set up their own prepayment medical care plans with or without the cooperation of employers.

Following the first World War some groups of physicians operating private clinics began to supply medical care to subscribers on a prepayment basis. A number of such private-group clinics owned and managed by one or more physicians are operating prepayment plans at present. Outstanding examples are found in the Ross-Loos Medical Group in Los Angeles, California, and Trinity Hospital in Little Rock, Arkansas.

More recently the consumers of medical services have established a great many group health plans, often under the control of cooperative associations. In such associations physicians administer the medical aspects of the plan, but the policy-making power is vested in the membership or its delegated representatives.

The most recent development in prepayment medical care has been under the sponsorship of state and county medical societies. These plans provide medical service through physicians who agree to participate. The physicians continue in individual private practice and are paid on the traditional fee-for-service basis. Subscribers usually have little or no voice in the management of these plans.

A few governmental plans have been established on a voluntary basis for employees or clients of governmental units. The most outstanding of these are the plans sponsored by the Farm Security Administration for its rehabilitation borrowers. Description and analyses of these FSA plans as they operate in Ohio provide the subject matter for the remainder of this report.

²Klem, Margaret C. 1943, Nov. *Prepayment medical care organizations*. Federal Security Agency, Social Security Board. Bur. of Research and Statistics. Washington, D. C. Bur. Memo. No. 55.

FARM SECURITY ADMINISTRATION PLANS

Soon after its organization, the Farm Security Administration (FSA) discovered that in many instances where its rehabilitation clients failed to repay their loans, poor health was a basic factor. In 1936 that agency began the establishment of voluntary prepayment medical care plans for its borrowers. By the middle of 1942 such plans with some variations had been put into operation in more than 1,000 counties in 40 states, including 41 counties in Ohio. Under all those plans considerably more than a half million low-income farm people were eligible for service.

While the FSA plans vary in many respects, they are all based on certain general principles. These include free choice of physician, group prepayment, family contribution based on average income of the clients in the area, and voluntary participation on the part of the client.

Most of the FSA plans have been organized either as simple trusteeships or as health associations. Under the trusteeship the clients may obtain loans from the FSA which are pooled with a trustee, who then pays physicians' bills on a monthly or quarterly *pro rata* basis. There is no definite organization which the subscribers join as members, but there may be an elected or appointed "advisory committee," or "governing board", of borrowers to represent their interest. The trustee who manages the fund is usually a responsible person who is neither a borrower, physician, nor an FSA representative.

Under the health association type of plan the subscribers are ordinarily organized in an informal, unincorporated association. The county association collects a fixed payment from each family, usually \$2 or \$3 each month. Contracts are made with physicians to provide the medical service either on a fee-for-service basis, on a salary, or on a per capita payment basis. All plans in Ohio have been operated as trusteeships and fee-for-service payments.

In obtaining professional services under these plans working agreements are entered into between the FSA and each State Medical Society in the states where the plans are in effect. Under the general terms of the state agreement local plans are worked out in detail with the county medical societies. Physicians are usually paid on the fee-for-service system, but the extent of compensation depends upon the funds available for any given period. When the total bills submitted and approved by a physicians' reviewing committee exceed the amount of funds available for payment, the individual bills are scaled down *pro rata* to a point where the budget is balanced. Bills from physicians, surgeons, dentists, druggists, or hospitals may be scaled down in equal proportions, or some may be given preference and paid in full.

The type and scope of medical services provided under the FSA plans have been narrowed by limitations on medical resources available in many rural areas and by the very low incomes of borrower families. All of the plans offer one or more of the following services: general practitioner care, surgeon's service, limited dentistry, hospitalization, and some drugs. For the most part, the plans aim only to supply emergency medical care in cases of certain acute conditions.

The rates of prepayment charged to subscribers depend upon the type of program, the kind of services provided, the financial ability of the eligible clients, and upon the size of the family. In Ohio, services have been limited to those supplied by general practitioners and surgeons, except in one county where limited dental care is provided. The annual average rates of prepayments ranged from \$20 to about \$26 per family in the different counties.

Since these FSA medical-care plans are voluntary not all eligible clients participate. In 1941 a little less than one-half of all borrower families for whom plans were available was actually subscribing to those plans.

SCOPE AND TECHNIQUE OF THIS STUDY

Although group medical-care plans have been sponsored by the FSA for a number of years in Ohio, no detailed studies have heretofore been made of the operation of those plans. With the rapid growth of group health plans in urban areas and a growing consciousness on the part of rural people of their health needs and resources, attention is being drawn to the need for more effective ways of organizing rural health services. Basic to the planning of such programs is factual information so that relatively sound predictions can be made regarding the demand for medical services under a prepayment plan, types of illness for which services are demanded, and costs. In Ohio, FSA plans offer the only available source of information regarding these matters. The present study was undertaken in cooperation with FSA to provide that information.

LOCATION

The FSA group medical-care plans for farmers were studied in five southern Ohio counties—Adams, Brown, Highland, Jackson, and Vinton. These counties are located in the poorer areas of the State. The gross cash income from farming operations yielded only about \$1,400 per farm, on the average, in 1942 as compared with the State average of about \$2,500 for that year. The farms themselves are smaller and considerably less productive than the average for the State, and the tenancy rate is relatively high in three of the counties. They are predominantly rural counties with a high proportion of rural-farm population and a low level-of-living. Birth, death, and infant death rates are high when compared with the rural-farm population of the State as a whole.

That part of Ohio of which these counties form a part has extremely limited facilities for medical care. The number of physicians and dentists per unit of population is lower than in other parts of the State. Hospital facilities are likewise limited; the number of hospital beds per unit of population is far below accepted standards of adequacy.

The continuous operation and the general uniformity of the FSA medical-care plans in the counties of the State made it possible to study the experience of Ohio farm people in these programs within a relatively limited geographical area.

The area studied is disadvantaged in respect to medical services and facilities, and the effective demand of the farm people for these services is considerably less than for those living in some other parts of the State. Nevertheless, the counties studied are not unlike much of Ohio in these respects. It is in precisely such areas that experimentation in the organization for medical care is warranted in view of the shortcomings experienced with the traditional organization.

METHOD

Since the FSA sponsored medical-care plans were initiated in the five-county area during 1940, it became possible in 1943 to study their operation over a 3-year period. Included in the study were all households which had

participated in the county programs during that time. A schedule was devised to provide data on the following main points: Factors affecting the rate of service, factors affecting the type of treated illness, and the cost of and payment for medical services.

Materials filed with the trustee of county programs were made available and were transcribed to the schedules. Such items related principally to family composition, medical program affiliation, and medical service history for each member of the household. FSA county offices provided supplementary information, especially regarding the economic, educational, and financial status of the households. A total of 680 usable schedules representing 3,699 persons were obtained, and, after the materials were carefully edited, the various items were coded, transferred to individual code cards, and hand sorted. Use was made of a diagnostic code furnished by the U. S. Public Health Service for the classification of treated illnesses and conditions reported by physicians.

Although the schedule furnished the primary source of information, some time was spent in interviewing lay and professional people in each of the counties. This study was supplemented by materials available on rural prepayment programs in other states, by annual reports of the Chief Medical Officer of FSA, and by the rapidly expanding literature on the social and economic aspects of medical care.

The field work for the study was done in late 1943 and the processing of materials during early 1944.

NATURE OF THE PLANS STUDIED

The medical-care plans sponsored by FSA in the five counties were highly informal, loosely-organized trusteeships. The trustee is selected by a client-governing committee, a group selected by participants to represent lay interests. Professional interests are represented by a physicians' reviewing committee which reviews medical bills and checks on abuses of the program.

Clients of the FSA are eligible to participate in the medical-care plans, and medical services are extended to all members of the client's family. Participants sign a participation agreement each 12-month period according to which they agree to make certain contributions and are entitled to receive certain medical services. The annual contribution by families is from \$20 to \$29, depending on the size of family.

Services furnished include ordinary home and office care, obstetrics, immunizations, ordinary drugs, emergency surgery, and surgery necessary to improve or protect the ability to earn a living.

When the local medical society approves the plan, all legally licensed medical doctors are eligible to serve the families and be paid from the funds available. Physicians practice in their accustomed manner and submit their bills on a quarterly basis to the physicians-reviewing committee. After review, the accepted bills are submitted to the trustee who issues checks on the funds available as follows:

1. Pro-rata in accordance with the amount of funds available for the period.
2. After all bills are paid for the period, any money remaining from that period's allotment is left to accumulate until the end of the year to be applied on all unpaid bills accumulated during the year.

3. At the end of the year any funds remaining after all medical service bills have been paid in full are refunded to the participating families, the amount refunded being based on the number of months the families participated in the year during which the surplus accumulated.
4. Bills for physicians' service or for surgeons' service are paid from their respective funds. Payment to physicians or surgeons as above constitutes payment of clients' account in full for the year.

The form of organization described above provided for no close relationship between participants or between the consumers of medical care and those who furnished the services. Until late 1942 the plans were limited geographically to one county each. Beginning in October 1942 one trustee was selected to handle the administrative duties for a seven-county area, including the five counties included in this study. Each county, however, retained its own enrollment activities and only in terms of accounting procedure has the local unit given way to a district form of organization.

As indicated, payment for professional services is on a fee-for-service basis. Fees are on the same scale as those usually charged to families of average circumstances in the respective communities. Payment of fees—that is, the extent of compensation—must depend on the amount of money available for the period and the year in which these bills are submitted. Any reduction in the amount of bills paid is borne by the physicians, and the experience has been that this reduction due to pro-rating is rather consistent, although to different degrees for physicians' and for surgeons' services.

Control of professional services under the plan is by the physicians' reviewing committee. In practice, the amount of supervision of the professional aspects of the plans is limited and cursory in nature. With little educational work being done to give the individual physician a conception of his role in programs of this kind or to place the physicians as a group in a functional position in relation to the continuing health of the people, these FSA trusteeships are in danger of becoming simply collecting and bookkeeping services for physicians and an opportunity for limited and emergency medical care at low cost for participants.

AIMS

Within the general purpose of providing factual data upon which rural prepayment programs may be based there emerge three aims with which this report is specifically concerned. The first of these is in answer to the general question: How much care do rural people demand in a prepayment medical care program, and what are the factors affecting variation in those demands? The second task which has an important effect on the type of broad health program needed in rural areas is that of determining the type of illnesses and conditions reported by attending physicians. The third problem, and one essential to program planning in this field, concerns the factors affecting the financial status or solvency of the medical-care plans. The operating experience of the farm people studied in respect to the above problems is the subject of the following three chapters of this report.

AMOUNT OF CARE RECEIVED BY CHARACTERISTICS OF SUBSCRIBERS

The records of prepayment medical-care programs provide data on the amount of medical care demanded by the people covered and on the way that demand varies with age, sex, and other social factors. The influence of such factors on the demands for the medical services available to participants in the FSA plans studied is the subject of this chapter.

AGE AND SEX

In order to obtain a standard measure of the amount of physicians' care furnished by doctors and received by patients eligible for care, doctors' call rates were computed. The call rate was defined as the number of doctor-patient contacts per 100 people eligible for service during 1 year. It was found that for all causes the doctors' call rate was 200 for males and 289 for females of all ages. That is, in the course of a year each 100 males had 200 contacts with physicians, or 2 contacts per person on the average, while 100 females had 289 contacts with doctors, which was an average of nearly 3 contacts per person. In other words, the average male saw a doctor every 6 months, and the average female saw one about every 4 months.

There was considerable variation from these overall rates among the different age and sex groups. Female call rates exceeded those for males in every age group and beginning with the youth years 15-19 the difference became particularly marked. Whereas high call rates for both sexes were noted from 25 years of age onward, young women in their early twenties were already requiring medical service at a rate not reached by males in the entire life span (fig. 1).

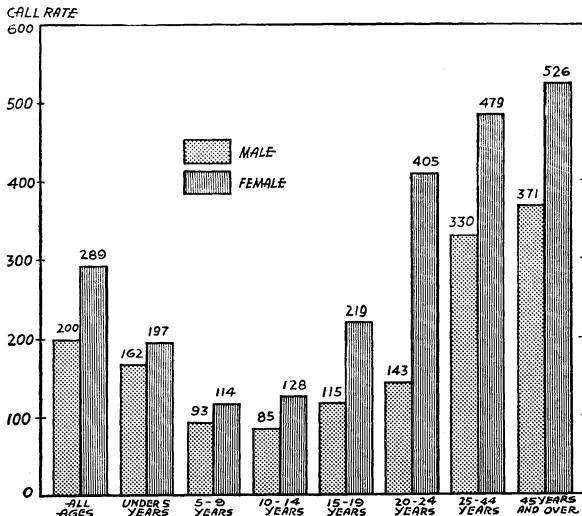


Fig. 1.—Doctors' call rates per 100 annually, by age and sex of subscribers

It is known that the amount and kind of illness varies by age and sex and thus affect the volume of service required.² However, the physician call rates as described do not accurately reflect the prevalence of disabling illness at the various ages and for the sexes. For example, if the volume of medical service were in proportion to the amount of disabling illness reported, the call rates should be at least as high during the school ages as during the middle years of life. Apparently, we must look to social and psychological factors to account for the pattern of call rates observed in this study. As shown later, even when the calls necessitated by pregnancy, childbirth, and post-natal care are subtracted, women in the middle years required medical care at higher rates than did men and at much higher rates than did children.

The decision of resorting to professional medical care is usually made by parents and breadwinners so their own illnesses are more likely to receive professional attention. This would be particularly true where there is a tendency to regard diseases of childhood as routine, expected, and unimportant. It is known, however, that serious complications may result from lack of care or improper care of childhood illnesses and such complications may be reflected in high physician call rates in later years. The rather common reliance on the doctor by women for maternity services may be a factor in their more readily resorting to professional treatment for other illnesses and conditions. The greater use of medical services by women may be a contributing factor in the greater length of life for females than for males.

TENURE STATUS AND NET WORTH OF HOUSEHOLD HEADS

From client case records in the FSA County Offices the average net worth of heads of households participating in the medical-care plans was obtained according to their farm tenure status at the time of first participation in the plans. Of the 680 households, financial and tenure information were available for 551. There were in the 551 households 2,978 persons, nearly three-fourths (72.3 per cent) of whom were residing in tenant homes. The fact that the median net worth of the families studied was less than \$600 (that of owners being about \$1,200 and of tenants about \$400) is a good indication of the financial insecurity of these people (table 1). With attendant low incomes it must have represented a considerable sacrifice to contribute so small an annual amount as \$20-\$25 to a prepayment medical care program providing a low minimum of medical services. An adequate program of medical care would involve payments prohibitive to most families of the economic level described here.

The volume of physician calls per unit of population was generally higher for those of lowest net worth, although the difference was not great. Persons residing in tenant households demanded medical care at higher rates than did dwellers in owner households for nearly every net worth classification (table 1). The small differences existing in the call rates for tenure groups of different economic status may be due to two factors: (1) tenants themselves were younger on the average than owners (the median ages were about 38 and 45, respectively) and, consequently, a relatively high proportion of tenant wives would be included in those age groups where call rates were high and (2) owner households with older heads would be subject to the higher rates for older people.

²Collins, Selwyn D. 1940. Frequency and volume of doctors calls among males and females in 9,000 families, based on nationwide periodic canvasses 1928-1931. *Public Health Reports* 55: 12-13.

TABLE 1.—Doctors' call rates per 100 persons annually, by farm tenure status and net worth of household heads*
(Excludes persons of unknown tenure and net worth)

Net worth	Number of persons			Physician calls per 100 persons		
	Total	Owner	Tenant	Total	Owner	Tenant
Total	2,978	826	2,152	236	203	248
Under \$250	741	70	671	242	206	246
\$ 250- 499	601	60	541	237	160	246
500- 749	452	90	362	279	179	304
750- 999	304	93	211	215	215	214
1,000-1,499	465	219	246	226	209	241
1,500-1,999	220	111	109	169	169	168
2,000 and over	195	183	12	236	236	250
Median value	\$581	\$1,229	\$437	.....	.....	.....

*At time of becoming eligible for medical service.

SIZE OF HOUSEHOLD

The total of 3,699 persons included in this study were distributed by the size of household in which they resided. The demands of these people for the medical services available were in inverse proportion to their household size. As size of household increased, the average annual call rate decreased. An important factor in this connection is the age composition of the households. It was found that younger persons for whom low call rates were reported formed large proportions of the larger-size households and the smaller-size households were more likely to be composed of older people with higher demands for medical service (table 2)

TABLE 2.—Doctors' call rates per 100 persons annually, by size of households

Size of households*	Persons represented	Physician calls per 100 persons eligible	Per cent of persons 25 years old and over
Total	3,699	243	35.4
Less than 3 persons	133	381	86.8
3-4 persons	788	326	45.9
5-6 persons	1,103	224	34.9
7-8 persons	837	186	27.4
9-10 persons	629	165	22.3
More than 10 persons	209	132	19.6

*At time of becoming eligible for medical service.

EDUCATION

The number of grades of school completed was determined for 1,263 persons who were 20 years of age and older and who, therefore, may be assumed to have completed their formal educational training. Only about one-half of these adults had completed grade school and only about one of every ten had completed high school (table 3). This school grade attainment compares poorly with that of the rural-farm population of Ohio 20 years old and over as

reported by the 1940 Census. At that time, more than three-fourths (77.6 per cent) had completed eight grades of school, and the proportion who had completed high school or gone beyond was 21.1 per cent.³

TABLE 3.—Doctors' call rates per 100 persons annually, by highest grade completed for persons 20 years old and over

Highest grade completed*	Persons represented		Physician calls per 100 persons eligible
	Number	Per cent	
Total	1,263	100.0	368
Less than 5 grades	106	8.4	359
5-7 grades	254	20.1	371
8 grades	628	49.7	394
9-11 grades	132	10.5	305
12 grades or more	143	11.3	319

*At time of becoming eligible for medical service.

There was no great difference in the physician call rates for persons of varying educational attainment, although those with little schooling had somewhat higher rates than those of more advanced education (table 3). The slight indication that the households of lower economic status and of most meager education used the medical services available to a greater extent than higher-status participants may be one of the distinct advantages of health programs of this kind. The situation is diametrically opposite to that found in surveys of medical care outside of prepayment medical care programs.

TIME OF YEAR SERVICE IS RECEIVED

The fact that some illnesses are more likely to be prevalent during certain seasons of the year and that the general demand for medical services varies with the seasons has prompted an investigation of seasonal use of services available. Each professional call was assigned to the month in which the service was performed, and the number of persons eligible for care each month was determined. These steps made possible the computation of physician call rates by months. The successive four quarterly periods of the year were termed winter, spring, summer, and fall, and quarterly physician call rates were determined.

TABLE 4.—Doctors' call rates per 100 persons annually, by time of year medical service was performed

Season	Average number of persons eligible	Physician calls	Physician calls per 100 persons eligible
Winter	5,056	3,454	273
Spring	5,598	3,268	234
Summer	4,633	2,505	216
Fall	4,744	2,786	234

It was during the winter months of January, February, and March that the demand for medical services was heaviest; during that season the volume of medical care was more than 25 per cent greater per unit of population than

³Sixteenth Census of the United States: 1940, Population, Fourth Series, Table 19, p. 77.

during the summer months and nearly 20 per cent greater than during the spring or fall (table 4). Thus, the amount of medical service to be paid for is shown to vary considerably at different quarterly periods although no provision was made for this variation in the allotment of funds by quarterly periods. Although the plans provided for an end-of-year allotment of funds remaining unused in each quarter to be paid on unpaid bills, this procedure involves a waiting period of up to 12 months for payment of such bills. The above data would seem to indicate the advantage of a variable allotment of funds for the quarterly periods. The fact that participation fees are paid a full year in advance would permit variable allotment by the same method used for equal allotments according to present practice.

The amount of medical care being received by participants in these prepayment plans was, on the whole, more than twice as great as that received by farm families studied by the Committee on the Costs of Medical Care. That the care received by these farm families was not excessive, however, seems clear from authoritative estimates that adequate physician and specialist services for the diagnosis and treatment of diseases and defects would entail more than six calls per person annually.⁴ Nor was the amount of care received in excess of that reported for rural prepayment plans in other states. The United States Department of Agriculture reported that for the experimental health programs which it is sponsoring in widely separated rural areas, the physician call rate by the end of 1942 was about 300 per 100 persons annually.⁵ This is a greater use of services than represented by the over-all annual call rate of 243 reported for the FSA plans studied here.

The volume of medical care received by rural people in prepayment forms of medical service organization depends in a large part on social and economic factors, age and sex particularly have an important effect on demands for medical service. The fact that the physician call rate in this study ranged from less than one call annually for school age boys to over five calls annually for elderly women should suggest to program administrators the usefulness of information of this kind.

AMOUNT OF CARE RECEIVED BY AGE, SEX, AND TYPES OF ILLNESS

It is the purpose of this section of this report to describe the kinds of illness which received physicians' care and to indicate the amount of such care required for each type of illness. Since the types of sickness and the amount of care received vary greatly between the sexes and among the different age groups, separate analyses are presented for males and females and for those at different age levels.

TYPES OF ILLNESS—ALL AGES

During the 3 years covered by this study subscribers in the five counties included in the study had a total of 11,852 professional contacts with physicians. These doctor-patient contacts were required for a wide variety of rea-

⁴Lee, R. I., and L. W. Jones. 1933. *The fundamentals of good medical care*, Pub. of the Com. on the Costs of Medical Care. 22: 296 Univ. of Chicago Press, Chicago.

⁵U. S. Dept. of Agr. Interbureau Coordinating Comm. on Postwar Programs, Experimental Rural Health Program., Report on activities during November and December, 1942.

sons. More than half of the contacts, however, involved disorders of three organ systems; namely, the respiratory organs, the digestive system, and the reproductive and urinary organs.

About 33 per cent of all doctor contacts with male patients and 27 per cent of all contacts with female patients were made for the purpose of treating respiratory diseases. These included disorders of the nose, throat, bronchial tubes, and lungs. The call rate for these diseases, mostly common colds, influenza, bronchitis, asthma, and sinus trouble, amounted to 67 for males and 78 for females; that is, males received care for these respiratory disorders at the rate of 67 treatments per 100 individuals each year, and females received 78 treatments per 100 annually (table 5).

Digestive disorders were of next importance as illnesses requiring physician services. About 17 per cent of all treatments involving males and 12 per cent of those involving females were for diseases of the digestive system. Most frequent were diarrhea and enteritis, intestinal disorders which are often fatal among infants and young children and which occur at all age levels. Treatment of all digestive disorders required 35 doctors' calls per 100 persons annually and was the same for males as for females (table 5).

TABLE 5.—Doctors' call rates per 100 persons annually, by type of illness and sex of patient

Type of illness	Doctors' call rate		
	Average both sexes	Male	Female
All illnesses	243	200	289
Respiratory disorders	72	67	78
Common cold	28	27	30
Influenza	18	16	20
Bronchitis	9	8	10
Asthma	3	3	3
Sinusitis	2	3	1
Other	12	10	14
Diseases of the digestive system	35	35	35
Diarrhea and enteritis	12	12	11
Diseases of the liver and gall bladder	8	6	10
Diseases of the stomach and intestines	5	5	5
Other	10	12	9
Genito-urinary diseases	25	5	46
Diseases of the female genital organs and breast	18	.....	36
Cystitis	14	1	6
Diseases of the kidneys and ureters	2	2	3
Other	1	2	1
Diseases of the nervous system and sense organs	12	11	13
Psychoneurosis	4	4	4
Neuritis	3	2	4
Other	5	5	5
Diseases of the circulatory system	11	9	14
Diseases of the heart	4	4	5
Hypertensive-vascular	4	3	5
Other	3	2	4
Skin diseases	11	11	11
Injuries and poisonings	11	15	7
Maternity services	9	.....	19
Other conditions without sickness	6	2	10
Communicable diseases	3	4	6
All other illnesses	46	41	50

Disorders of the reproductive organs and the kidneys accounted for about 10 per cent of all doctors' calls on FSA subscribers. Most important were diseases of the female genital organs and breasts, mostly among women 20 years old and over. These alone accounted for 1 of every 8 professional treatments of female patients of all ages and involved a call rate of 46 per 100 females annually (table 5).

Nervous disorders, including the psychoneuroses and diseases of the sense organs, required about 5 per cent of all doctors' treatments. For these illnesses the annual call rate was 11 per 100 males and 13 per 100 females (table 5).

Circulatory disorders, including heart diseases and high blood pressure, accounted for less than 5 per cent of all doctor-patient contacts, although they constitute one of the most fatal types of illness. The doctors' call rate for these cardiovascular disorders was higher for females than for males—14 for the one sex and only 9 for the other (table 5).

Other important conditions requiring physician services included skin diseases, such as local infections, eczema, and scabies; injuries and poisonings (accidents resulting in fractured bones, cuts, and lacerations); maternity services, including pre-natal care, childbirth, and post-natal care; and communicable diseases, of which whooping cough, scarlet fever, and measles were most often treated.

In addition, a number of conditions not classified as illnesses received medical attention. These included physical examinations, inoculations, well baby care, and uncomplicated pregnancy care. These conditions, however, required only a small amount of the total care received, amounting to about 1 per cent of the calls for males and to about 4 per cent of the calls for females (table 5).

In summary, the leading reasons for calling the doctor for males were, in order of their frequency: respiratory diseases, digestive disorders, injuries and poisonings, nervous disorders, skin diseases, and cardiovascular defects. Among females the leading reasons were, in order: respiratory diseases, disorders peculiar to women, digestive disorders, maternity services, cardiovascular disorders, nervous disorders, and diseases of the skin (table 5).

CHILDREN UNDER 5 YEARS OLD

Though young children usually experience high rates of acute illnesses, they received less than average amounts of physician services. As at all other ages, the males of these earliest years of life received less medical attention than did the females, the doctors' annual call rate being 160 per 100 for boys and 197 per 100 for girls (table 6).

The outstanding type of illness requiring physician services for these young children was respiratory diseases, which accounted for about half of all doctors calls at these ages and consisted mostly of common colds and influenza. Second and third in importance were the digestive disorders, especially diarrhea and enteritis, and the communicable diseases of childhood, principally whooping cough. Together, these three groups of illnesses accounted for about three of every four physicians' calls on these young children (table 6).

TABLE 6.—Doctors' call rate per 100 persons annually for children under 5 years old, by type of illness and by sex of patient

Type of illness	Doctors' call rate		
	Average both sexes	Male	Female
All illnesses	180	160	197
Respiratory disorders	84	73	94
Digestive disorders	32	36	29
Communicable diseases	13	14	12
Skin diseases	11	10	12
Accidents	11	11	11
All others	29	16	39

CHILDREN 5-14 YEARS OLD

Children 5-14 years old received less professional medical attention than did persons in any other age group. Nearly one-half of all medical care furnished these children was for respiratory illnesses, mostly common colds and influenza. In addition to respiratory, digestive, and communicable diseases and accidents, these school age children required doctors' care in considerable amounts for nervous disorders and for skin diseases (table 7).

TABLE 7.—Doctors' calls per 100 persons annually for children 5-14 years old, by type of illness and by sex of patients

Type of illness	Doctors' call rate					
	5-9 years old			10-14 years old		
	Average both sexes	Male	Female	Average both sexes	Male	Female
All illnesses	104	93	114	106	85	128
Respiratory	50	48	52	45	33	57
Digestive	11	10	12	13	11	15
Accidents	8	10	7	10	14	7
Communicable diseases	8	5	11	3	3	4
Nervous disorders	7	4	9	4	3	6
Skin diseases	5	6	3	8	7	8
All others	15	10	20	23	14	31

Among the children of school age, the doctors' call rates for nervous troubles were higher for those 5-9 years old than for those of the early teens. Such troubles probably are the results of difficulties in making satisfactory school adjustments. Skin diseases are more characteristic of older children and consist of acne and similar disorders which often accompany the onset of puberty (table 7).

YOUTHS 15-24 YEARS OLD

Young people 15-19 years old received 51.0 per cent more physician services than did those 5 years younger, and those 20-24 years old received nearly three times as much medical attention as did children 10-14 years old. Increases in the amount of medical care, as measured by the doctors' call rate, were found for both males and females but were much greater for girls and

young women. Among youths 15-19 years old, the call rate was nearly twice as high for girls as for boys. Among those 20-24 years old, the rate was almost three times greater for women than for men (table 8).

TABLE 8.—Doctors' call rates per 100 persons annually for youths 15-24 years old, by type of illness and sex of patient

Type of illness	Doctors' call rate					
	15-19 years old			20-24 years old		
	Average both sexes	Male	Female	Average both sexes	Male	Female
All illnesses	160	115	219	288	143	405
Respiratory	48	38	61	69	50	84
Digestive	19	16	23	35	32	38
Skin diseases	9	8	12	7	6	7
Accidents	8	12	3	11	6	15
Genital and urinary	7	2	14	49	5	84
Maternity care	6	.....	15	51	.....	92
Communicable diseases	5	4	5	1	2	.....
Nervous disorders	5	3	8	10	9	10
Heart and blood vessels	2	2	2	4	1	6
All others	51	30	76	51	32	69

The reasons for the increase in the amount of medical care received by males in the youth period were found largely in increased medical attention for respiratory and digestive diseases and in increases in nervous disorders among the older youths. Girls and young women also received increased medical attention for these same illnesses. The major reasons for increased medical attention for young women, however, were found in the demand for maternity services for young wives and in the demand for treatment of disorders of the reproductive system and the kidneys (table 8). When the doctors' calls for the diseases of the genital and urinary system were combined with calls for maternity services, a total rate of 176 calls per 100 women 20-24 years old was found. This means that upwards of one-half (43.5 per cent) of the total service required by these young wives was for illnesses and conditions of pregnancy, childbirth, and the reproductive organs and related parts (table 8).

ADULTS 25-44 YEARS OLD

Persons 25-44 years of age received physician services at a rate about 40 per cent higher than for any younger age group and was not greatly surpassed by older people. In this age period disorders involving the female reproductive organs and related parts continued to account for a considerable volume of medical service. These disorders, together with ordinary maternity services, accounted for more than one-third of all the doctor contacts with women patients. Respiratory diseases (chiefly common colds, influenza and bronchitis), digestive diseases (especially intestinal disorders such as diarrhea and enteritis), and nervous disorders were other conditions requiring much medical attention for women during the childbearing years (table 9).

Men of this age period received professional medical service at a rate 45.2 per cent below that for women of the same age interval. Among men, the more important conditions requiring doctors' treatment were respiratory, digestive, and nervous disorders and accidents. The call rate for accidents consisting of a variety of injuries and poisonings sufficiently serious to require

medical attention was higher among adult males 25-44 years old than for any other age group of either sex. Other specific conditions for which a greatly increased volume of medical services was demanded by men of these ages were rheumatism and local infections, conditions which are relatively unimportant in the demands of younger people for medical service but which are of increasing importance in the older years.

TABLE 9.—Doctors' calls per 100 persons annually for adults 25-44 years old, by type of illness and sex of patient

Type of illness	Doctors' call rate		
	Average both sexes	Male	Female
All illnesses	403	330	479
Respiratory	94	95	93
Genital and urinary	63	8	123
Digestive	51	46	57
Nervous	25	27	23
Maternity care	22	.....	45
Skin diseases	17	18	15
Heart and blood vessels	16	12	22
Accidents	16	24	4
All other	99	100	97

PERSONS 45 YEARS OLD AND OVER

From 45 years of age onward the demand for physician services reached a maximum. Where children of elementary school ages received one doctor call, these middle-aged and elderly people received four. Women of these ages received a volume of physicians' services 41.8 per cent greater than that received by men. In these years, respiratory and digestive diseases, accounting for 41.6 per cent of the total calls, continued to be major conditions requiring doctors' treatment among both men and women.

TABLE 10.—Doctors' calls per 100 persons annually for adults 45 years old and over, by type of illness and sex of patient

Type of illness	Doctors' call rate		
	Average both sexes	Male	Female
All illnesses	437	371	526
Respiratory	102	102	102
Digestive	80	86	72
Heart and blood vessels	57	46	72
Genital and urinary	50	19	92
Nervous disorders	22	13	35
Skin diseases	17	17	16
Accidents	10	14	4
All other	99	74	133

Among the respiratory illnesses common colds and influenza continue to be of principal importance as reasons for calling a doctor, but the treatment of asthma and bronchitis is also a heavy contributor to the total volume of service demanded by these older people. These four illnesses combined accounted for an annual physician call rate of 87, amounting to about one of every five

calls. Diseases of the liver and gall bladder constituted the principal digestive disorders. Heart diseases and high blood pressure became important reasons for seeing the doctor after 45, and women call the doctor for these disorders more often than do men. The increase in medical service required for the treatment of heart disease and other circulatory diseases accounts in large measure for the very high call rates for adults 45 years old and over. The male rate of 46 calls per 100 persons annually for the treatment of these conditions is four times the rate observed for men 25-44 years of age, and the rate for women of 72 calls is more than three times that reported for women of the next younger age group. Diseases of the reproductive and related organs continue to harass women, who also seek relief from nervous disorders, especially neuroses and neuritis (table 10).

SIGNIFICANCE OF THESE FINDINGS

The volume of physician calls for the various types of diseases indicates a rough measure of the relative frequency of illnesses requiring medical attention. The pattern of physician calls by illness, age, and sex suggests the direction in which greatest efforts should be made in formulating preventive disease programs and programs designed for the continuing health of the people. For example, the volume of professional care was concentrated at most ages in a very few types of illness and was so distributed as to indicate an urgent need for health programs of nutrition, communicable disease control, and general public measures to ward off sickness.

Attention is directed to the fact that nearly one-third of the doctors' calls made for women of child-bearing ages were for illnesses and conditions related to pregnancy, childbirth, and their complications. In devising a program to meet general health needs and especially those of mothers and infants, an important place for prenatal and postnatal clinics seems indicated. The effort to control the diseases of adult life has met with far less success than has been accomplished for diseases of the younger years of life. One way of reducing the accumulation of handicaps, defects, and impairments of the adult years is by conserving and developing health to the maximum at all preceding ages. Group health plans which have as one of their objectives a better distribution of health services of all kinds for those who need them can go far toward providing the necessary setting within which adequate health programs can operate.

PAYMENT OF BILLS

The uneven burden of sickness costs is apparent to any discerning person. Within any one income group a large proportion of the families spend comparatively small amounts for medical care during a year, while at the same time large bills have to be met by a relatively small number. To overcome this and to place the cost of medical care on a budgetable basis is one of the objectives of group health plans. Although the FSA prepayment medical-care plans fall short of the group health ideal in many respects the principle of a group contributing to a common fund from which medical bills are paid has been followed. It is the purpose of this chapter to show how the FSA programs have fared in payment of bills for the medical services received.

COST OF PHYSICIANS AND SURGEONS CARE

In the period of approximately 3 years for which the FSA plans were studied, physicians and surgeons bills totalling about \$25,000 were approved by the physicians' reviewing committees and submitted to the trustees for payment. Of this amount, about \$18,000 (69.6 per cent) was paid from quarterly allotments. By far the greater share of the bills submitted was for general practitioners' care, about \$20,000 being submitted for this purpose and about \$5,000 being submitted for surgeons' services. The rate of quarterly payment was about 71 per cent for general practitioners' services and about 65 per cent for surgeons' services.⁶ The annual average fee of \$23 per household was about \$5 short of the amount required to pay the physicians' and surgeons' bills in full from the quarterly allotments. If the bills had been paid in full at the quarterly settlements a total annual contribution of over \$22 for physicians' care and over \$5 for surgeons' services would have been required per household, actually only \$16 was allotted annually to physicians' services and \$6 to surgical services (table 11). It appears that this division of funds could be adjusted to advantage and surgery services expanded.

TABLE 11.—Cost of and quarterly payments* for medical care

Item	All services	Physicians' services	Surgeons' services
Households eligible	680	680	680
Persons eligible	3,699	3,699	3,699
Physicians bills			
Submitted for payment	\$25,450	\$20,514	\$ 4,936
Paid	\$17,717	\$14,505	\$ 3,212
Per cent paid	69.6	70.7	65.1
Average duration of participation (years)	1.34	1.34	1.34
Average size of household	5.4	5.4	5.4
Average fee per household	\$23.00†	\$16.00	\$ 6.00
Annual cost per person			
On basis of bills submitted	\$ 5.13	\$ 4.14	\$ 0.99
On basis of bills paid	\$ 3.57	\$ 2.92	\$ 0.65
Annual cost per household			
On basis of bills submitted	\$27.70	\$22.35	\$ 5.35
On basis of bills paid	\$19.28	\$15.77	\$ 3.51

*Exclusive of end-of-year settlements.

†Includes \$1 for administrative costs.

MEMBERSHIP TURNOVER

Other factors have very great effects on the success of these voluntary plans in meeting their financial obligations. Important among these factors is the changing composition of the subscriber group. Membership turnover in the FSA plans was due to a number of factors. For example, improved economic conditions making possible the payment of rehabilitation loans automatically remove households from membership in the medical care plans; membership turnover is likewise affected by attitudes expressed by profes-

⁶Unused funds after the quarterly payments were made were accumulated for each year and then allotted on a pro-rata basis to the unpaid bills for the year. These end-of-year settlements represent an undetermined amount but have been estimated to raise the proportion of physicians' bills paid for the period studied to about 80 per cent and to about 85 per cent for surgeons' services.

sional personnel toward the plans and by the degree of satisfaction to those in actual participation. In any event about one-half of the eligible households in the five counties had participated for varying periods in the plans.

Stability of participation is of utmost importance to the successful operation of prepayment medical-care plans. That the FSA plans operated under great disadvantages in this regard is apparent from the data of tables 12 and 13. The yearly enrollment of new participating households and re-enrollment of others (additions) and the termination of participating households (separations) show that there has been a considerable net decline in the number of households participating. The 1941 rate of growth was not maintained in 1942 and a further net loss was reported in the first 6 months of 1943. Recruitment fell off in 1943 even when adjusted to a 12-month basis, while separations during the first half of 1943 were at a rate more than double that of the preceding 12 months.

The duration of participation of the families is shown in detail in table 13. Of the 224 households representing 1,253 persons participating in the plans at the close of the study, only 54 households had maintained continuous affiliation since 1940. Failure to renew participation after one year was an increasingly

TABLE 12.—Turnover of participating households in the FSA medical care programs

Year	Beginning of year		Additions		Separations		End of year	
	Households	Persons	Households	Persons	Households	Persons	Households	Persons
1940*			249	1,355			249	1,355
1941	249	1,355	179	1,034	96	471	332	1,918
1942	332	1,918	183	1,004	176	959	339	1,963
1943†	339	1,963	83	386	198	1,096	224	1,253

*Plans initiated in 1940 as follows: Adams County, April; Jackson and Vinton Counties, July; Brown County, August; Highland County, October.
†Period of study terminated June 30, 1943.

TABLE 13.—Duration of participation in FSA medical care plans, by households and persons represented

Duration of participation	Households	Persons represented
Total	680	3,699
Active July 1, 1943	224	1,253
Joined 1940	54	325
Joined 1941	55	350
Joined 1942	32	192
Joined 1943	77	351
Joined 1940, terminated 1941, and rejoined 1943	6	35
Non-active July 1, 1943	456	2,446
1-year participants	305	1,581
Joined 1940, terminated 1941	82	391
Joined 1941, terminated 1942	80	423
Joined 1942, terminated 1943*	143	767
2-year participants	148	842
Joined 1940, terminated 1942	96	536
Joined 1941, terminated 1943*	44	261
Joined 1940, terminated 1941, joined 1942, terminated 1943*	8	45
3-year participants	3	23
Joined 1940, terminated 1943*	3	23

*Prior to July 1, 1943.

serious problem. In 1941, 96 households (38.6 per cent) of the original 249 failed to sign new participation agreements, this proportion increased to 44.7 per cent in 1942 when 80 households of the 179 who had joined during the preceding year failed to re-enroll, and in 1943 there were 151 terminations of the 183 who joined for the first time in 1942, accounting for a separation rate after one year of 72.4 per cent (table 13).

A highly significant finding in regard to participant turnover is the fact that demands for medical service were far greater on the part of those households who participated continuously in the plans, while those who failed to renew their participation agreements were requiring relatively little medical service. The inability of these plans to retain larger proportions of the one-year participants has been costly. In table 14 three classes of participants are presented from the total of 680 households: (1) those who participated 1 year only; (2) those who participated 2 years; and (3) those who had always renewed their participation agreements, and therefore had never dropped from the plans. The estimated costs incurred for and the contributions made by these three classes of participants suggest the part each played in maintaining the financial solvency of the plans.⁷

TABLE 14.—Estimated annual contributions and costs of services for selected types of participating households

Type of participation	Households	Persons represented	Physician calls per 1,000 persons annually	Estimated annual contributions*	Estimated annual costs of services†	Contributions as per cent of costs
Total.....	507	2,748	2,377	\$11,200	\$13,100	85.5
One-year.....	305	1,581	2,031	6,700	6,400	104.7
2-years.....	148	842	2,764	3,300	4,700	70.2
Continuous....	54	325	3,055	1,200	2,000	60.0

*Based on an estimated annual contribution of \$23 per household, \$22 of which was used for medical services.

†Based on an estimate of \$2 per physician call.

The 305 households that failed to continue their participation after one year were the only households contributing funds to the plans in excess of their costs to the ventures. Two-year participants contributed only about \$7 for each \$10 incurred annually in obligations for medical services received, and those maintaining continuous affiliation required \$10 in services for each \$6 of their contributions. The need for a better distribution of these classes of participants seems clear, for if all these households had participated in a given year their contributions would still have fallen short by about 15 per cent of sufficient funds to pay in full the cost of services participants would have received (table 14).

Such evidence is a strong argument for active recruitment policies so that the costs of medical service may be spread over large groups of people rather than tending to hold only those participants who make most use of the available services. It will be recalled that the total cost of medical services rendered to the 680 households during the 3 years of operation was about \$25,000. Households maintaining affiliation with the program more than one year

⁷These estimates were found to correspond closely with the actual contributions and costs of participants. To test these estimates, the actual annual contribution for the 54 continuous participants was found to total \$1,227, or an average fee of \$22.72 which is very close to the \$23 estimate. For these households a total of \$4,902 was submitted by physicians for services rendered, representing 2,714 calls or an average cost per call of \$1.80 which may be compared with the estimate of \$2 used in the above table and discussion.

accounted for only about 40 per cent of the annual participant contributions to the plans, while their annual demand for medical services constituted more than one-half (51.5 per cent) of the annual cost for services received (table 14).

COSTS FOR FAMILIES RECEIVING SERVICE

The need for medical services is highly variable, many families in a given year may have little or no need for professional care and their only medical expenditure may be for ordinary household medical supplies. On the other hand, a few families may require services involving expenditures of hundreds of dollars. Of the 3,699 persons included in this study, 1,747 (47.2 per cent) used none of the available medical services and 2,640 (71.4 per cent) required two or fewer doctor calls per year. At the other extreme, 195 persons, about 5 per cent of the total, had 10 or more doctor calls per year, thus accounting for about 40 per cent of all physicians' calls. On the average, families who actually used the services, received at an average annual cost of about \$23, services which would have cost the families over \$50 if procured outside the medical-care plans, the difference being made up by the contributions of those subscribers who had no treated illness. Moreover, the cost of services received ranged from a few dollars for some families to several hundred dollars for others. One of the incentives for group action in the field of health stems from the fact that the burden of sickness costs may fall heavily on families whose previous medical costs have been light. For example, households whose affiliation with the medical-care plans was for one year only had, on the average, relatively low demands. However, in 1941 those who affiliated for that year only required services at a rate nearly as high as those households who maintained a continuous affiliation in the plans.

SUMMARY AND CONCLUSIONS

This summary is based on a study designed to contribute to current information and current discussion of prepayment medical-care plans. Such plans have been organized in many places and under many auspices. They differ widely in scope, coverage, type of organization, and underlying philosophy, but all are alike in applying the insurance principle of spreading the costs of medical care among large groups of people and over long periods of time.

The study was focused mainly on prepayment medical-care plans sponsored by the Farm Security Administration for its clients and specifically on those plans as they have operated in five southern Ohio counties. These plans had their beginning in 1936; they were designed to provide a minimum of general practitioner and surgical services to borrowers and to members of their families. They were initiated in 41 counties in this State as part of a nationwide program.

In Ohio these medical-care plans were very simply organized. Each participating family contributed about \$23 annually to a pooled fund managed by a bonded trustee. From the fund the doctor bills of each participating family were paid on a quarterly basis. This arrangement did not involve any fundamental change in the traditional conditions of private medical practice on a competitive fee-for-service basis. When the funds were insufficient to pay doctor bills in full, all bills were scaled down in equal proportions to a level where they could be paid from available funds.

This report is based on a first-hand study of the operating experience of FSA medical-care plans in the following Ohio Counties: Adams, Brown, Highland, Jackson, and Vinton. While the study was restricted to one type of prepayment medical-care plan and to a type greatly limited in scope and coverage, it was made and interpreted in the light of the much larger and growing group health movement in the United States.

SUMMARY OF FINDINGS

1. Under FSA plans, females received a greater volume of physicians' services than did males.

It was found that for all causes, the doctors' call rate was 200 for males and 289 for females of all ages—that is, in the course of a year each 100 males had 200 contacts with physicians, or two contacts per person on the average, while 100 females had 289 contacts with doctors, which was an average of nearly three contacts per person.

2. Under FSA plans, adults received greater amounts of physicians' services than did young people and children.

On the average, a person 25 years of age and older received more than four physicians' calls per year. A child of pre-school age received nearly two physicians' calls annually, and a school age child under 15 years of age received only about one physician call per year. During the youth years 15-24, the average annual call rate ranged from 160 for each 100 persons 15-19 years of age to 288 per 100 persons in their early twenties.

3. Under FSA plans, farm tenants received a larger volume of physicians' services than did owners.

For each 100 persons living in farm tenant households an average of 248 physicians' calls were made annually, but for each 100 persons residing in farm owner households, the annual call rate was only 203.

4. Under FSA plans, persons of low economic status received a larger volume of physicians' services than did those of more advantaged economic position.

Those residing in households reporting a net worth of less than \$750 received an average of about 250 physician calls per 100 eligible persons annually; whereas those residing in households of higher net worth received, for each 100 eligible persons, about 200 physician calls each year.

5. Under FSA plans, members of small size households received a greater amount of physician services than did those who were members of large size households.

In households of fewer than three persons, the number of physician calls for each 100 eligible persons was 381 annually, the annual amount of medical services received per person decreased as the size of the household increased amounting to a call rate of 326 for persons residing in households of 3 to 4 persons, to 224 for 5 to 6-person households, to 186 for 7 to 8-person households, to 165 for 9 to 10-person households, and to 132 for households of more than 10 persons.

6. Under FSA plans, adults with little formal schooling required a greater amount of physicians' services than did those with more advanced schooling.

Of the surveyed persons who had completed their formal schooling, those completing only grade school training or less required upwards of four physician calls annually per person eligible for service. For those who had received some high school training or had gone beyond, only about three professional contacts were made yearly per person eligible.

7. Under FSA plans, the amount of medical service required was greatest in the winter months and least in the summer.

The demand for the medical services available was heaviest in the months of January, February, and March when the call rate per 100 persons eligible was 273 annually. During the summer months of July, August, and September, the rate was 216, more than 25 per cent lower. Physicians' services during the spring and fall months were required at an annual rate of 234 calls per 100 persons eligible, or nearly 20 per cent below the peak requirements of the winter season.

8. Under FSA plans, physicians' services were required for a variety of reasons but more than one-half of the contacts were for treatment of respiratory and digestive disorders and diseases and conditions of the reproductive and urinary organs.

Respiratory disorders were the chief reasons for calling the doctor; these accounted for about 30 per cent of all physician calls. Diseases of the digestive system, particularly diarrhea and enteritis, required an additional 14 per cent of the doctors' calls. Disorders of the reproductive organs and the kidneys accounted for about 10 per cent of all doctors' calls on FSA subscribers. Other conditions requiring physicians' services included nervous disorders, circulatory illnesses, skin diseases, accidents, maternity services, and communicable diseases. There were in addition a small number of conditions not

classified as illnesses which received medical attention. These included physical examinations, inoculations, well baby care, and uncomplicated pregnancy care.

9. Respiratory diseases were of first importance for every age group from the standpoint of amount of physicians' services received by FSA families.

The chief contributors to the high call rates for respiratory illnesses were the common cold and influenza, although during the adult years bronchitis, asthma, and sinusitis became important factors.

Among children, nearly one-half of all physicians' calls were for respiratory disorders; this proportion dropped to about one-fourth during the youth years and still further to about one-fifth during adult life. The call rate for respiratory diseases was not exceeded by that for any other type of illness in these broad age groupings.

10. Digestive disorders were of second importance among FSA medical program participants, in terms of volume of physicians calls, at most ages.

The overall call rate for digestive disorders was 35 per 100 persons yearly. Among children and youth about one of every six or eight physician calls were for these disorders, especially diarrhea and enteritis. The proportion increased to about one of every four or five calls during the adult years when the illnesses of this type treated were principally diseases of the liver, gall bladder, stomach, and intestines.

11. Disorders involving the female reproductive organs and related illnesses account for a considerable volume of physicians care for women in the FSA plans from 20 years of age onward.

The demand for maternity services and for treatment of disorders of the reproductive system and kidneys amounted to a call rate of 176 per 100 women 20-24 years old and maintained about that same rate during the middle years 25-44. The calls for these conditions accounted for one-third to nearly one-half of the total services required by women during the child-bearing years.

12. The FSA plans were subject to a highly selective turnover resulting in a situation where participants consist of disproportionately large numbers of people who require an excessive amount of medical care.

Among the factors having great effect on the operation of these voluntary plans is the changing composition of the subscriber group. During more than 3 years from the initiation of the plans in 1940 to mid-1943, a total of 680 households had participated in the five-county area. Only 54 households had maintained continuous participation throughout the period. More than 300 households had participated for one year and had failed to renew their affiliation. A very great part of the difficulty experienced in the operation of the plans is the fact that demands for medical service were far greater on the part of those households who participated continuously than for those who failed to renew their participation agreements. Those who participated continuously required medical services available at a rate of about three physician calls annually for each person eligible and the contributions of these subscribers amounted to only about 60 cents for each dollar of medical costs they incurred. One-year participants, on the other hand, required only about two physician calls annually for each person eligible and their contributions exceeded by about 5 per cent the costs of services they received.

The need for a better distribution of the various classes of subscribers seems clear. The evidence presented is a strong argument for active recruitment policies so that the costs of medical service may be spread over larger groups rather than tending to hold in participation only those who, on the average, make most use of the available services.

13. Although the cost of the medical services received has been paid, for the most part, by the contributions of participants, the rather consistent scaling down of physicians' bills has been borne by the physicians.

In the period of approximately 3 years for which the FSA medical-care plans were studied, at least 80 per cent of the amounts presented for payment by physicians and surgeons were paid. According to the usual experience of rural physicians, this probably compares favorably with the proportion of collection under private practice from an income group as low as the one studied. Nevertheless, the fact remains that physicians have had to withstand a considerable scaling down of their bills. Practitioners cannot be expected permanently to absorb reductions of their bills for services rendered in order to insure keeping group plans in operation. Physicians cannot be expected to be enthusiastic toward these plans when their experience has been one of rather consistent financial assistance by the physicians themselves.

If the physician has a tacit obligation to absorb a portion of the costs he may feel that he has a right to overcome the loss in his professional work with more prosperous patients. Scaling down of bills may, therefore, tend to perpetuate the "sliding scale" system of medical fees. Equalization of health costs should be a public responsibility and not become the weapon by which special groups may justify a form of health service organization.

SOME GENERAL CONCLUSIONS

1. The medical care plans sponsored by the FSA represent methods of payment designed to facilitate delivery of minimum medical services to farm people. The equally important problem of creating a better basis for the practice of medicine in rural areas has been affected only indirectly.—Study of FSA plans in Ohio discloses the ventures to be efforts to provide low income clients of that federal agency with enough medical services to keep farmers in working condition. To achieve this objective, arrangements are made with physicians whereby subscribers contribute to a pooled fund from which participating physicians are paid on a fee-for-service basis for the services rendered. Physicians practice in their accustomed manner and the schedule of fees is similar to that charged persons of average circumstances in the same community.

The problem of providing a better basis for the practice of medicine is affected but little. Limitations of professional personnel, both in point of numbers and facilities with which to work, place definite limits on the advances that can be made toward conservation of human resources. Continuation of FSA plans as they are now constituted does not promise to improve conditions of medical practice. If, however, group prepayment plans were extended to rural people generally, and if the health services available provided for comprehensive medical care, then considerable inducement would exist for larger numbers of physicians and other professional personnel to enter upon practice in rural areas and the establishment of needed facilities would likewise become more feasible. In rural areas like those studied here,

expanded programs will require resources from outside the local area in addition to the contributions made locally. It is only when health facilities are established and maintained and when professional personnel find rural practice attractive that the full potentialities of group health programs can be realized.

2. Medical services available to FSA clients in these medical-care plans meet only a part of the total need for medical care for both ability to pay on the part of participants and the health resources of the rural areas are extremely limited.—The type and scope of medical services provided under the FSA plans have been narrowed by limitations on medical resources available and by the very low incomes of borrower families. In effect, the physicians' and surgeons' services offered are emergency services. Mainly they have been devised to meet a low minimum of health requirements and in some respects come close to being a glorified relief service. On the other hand, even the limited services available are not without value, for the assurance of some medical care is better than none and from the point of view of organization, the stage is set for a gradual improvement.

It is doubtful, however, if appreciable extension of services is possible under these FSA plans. It is generally agreed that there exists a need for a program to provide all essential services. An increase in the rates of prepayment or outside assistance would be necessary to support an expanded program and the number of people reached would need to be increased to guarantee a better distribution of risks and to give substance to the plans. Of equal importance is the availability of health services and facilities. Recent research has disclosed the serious inadequacy of health services of every type in rural areas of Ohio. To increase the types of services covered by the plans would eventually raise the question of their availability.

In order to overcome these difficulties, a larger portion of the total need for medical care in rural areas can be met by extending voluntary prepayment plans beyond county boundary lines, extending eligibility to rural people generally regardless of occupation or income, extension of the plans to provide complete medical care, and provision for outside financial assistance to the extent that participants cannot meet established annual costs.

3. The volume of medical service received by participating families was in excess of that generally received by farm families but was far below adequacy as defined by competent authorities.—When individual families procure medical services by their own unaided efforts, their effective demand for those services is considerably less than when services are procured on a group basis. By making periodic prepayment for medical services, a greater readiness to use professional services would appear to be encouraged. For example, farm people were using physicians' and surgeons' services at a rate of about 1,100 professional calls per 1,000 people annually, according to the National Health Survey of 1928-1931. But participants in these FSA medical care plans used the services at a rate of more than 2,400 annual calls per 1,000 people. Experience of another rural prepayment medical-care plan indicates that use of services by farm families is even higher, a rate of about 2,900 calls per 1,000 people yearly.

Apparently, there is a wide gap between real need and effective demand for medical care. The Committee on the Costs of Medical Care reported that adequate medical care by physicians and specialists requires well over six calls per person annually, or more than twice the amount actually received by participants in the FSA plans.

There is some feeling that privileges of prepayment plans are being abused by the participants. The social and psychological factors involved in the use of professional medical services are extremely important. Resourcefulness of people is extremely variable in matters of human health and well-being. Those who are panic stricken when confronted with minor illnesses or accidents may call the doctor without hesitation, while those who remain calm in emergencies may work out such situations satisfactorily without resort to professional care. Those who place great reliance on home remedies and those who have a meager understanding of home care of the sick may also have widely different requirements for professional services. Who is to say, however, that a doctor's call in the one case is necessary and is an abuse of privileges in the other case? Obviously, more is involved here than simply the desire of some people to obtain as much medical service as possible regardless of need.

4. Regardless of a proper distribution of risks among participants, these low income FSA families would be unable to pay the family costs of an adequate health insurance program.—A fully adequate health insurance program would cost several times as much per family as FSA families pay for care they receive. The small amount contributed by each FSA family in the present study was insufficient to pay for a minimum of their health service needs; however it constituted nearly 5 per cent of their net worth. If it can be assumed that only those with a net worth of \$1,000 or more can afford to pay on a group basis for a health service program approaching adequacy, then nearly three of every four of these FSA households would be excluded. No perfection of organization can bring the cost of complete medical care within the range of these low income farm families ability to pay by their own unaided efforts.

The FSA sponsored medical-care plans have demonstrated value not only in providing some farm families with a minimum of medical service; the experience of these plans is also valuable in suggesting guide lines for establishing more adequate health programs for rural people. Such programs, in order to provide a maximum opportunity for healthful living, should make full use of all the health services afforded by modern knowledge and skill and should be extended to all who need protection and assistance against the costs of medical care. As an integral part of community health programs, preventive measures should be emphasized along with early diagnosis and treatment of illness and disability and the programs should aim at continued improvement in the quality of medical services and facilities. In the important work of striving to bring about medical and financial advantages, those planning community health programs should not lose sight of the social and psychological values of group action, such as the sense of belonging to a group and the feeling of security derived as well as the development of cooperative and democratic attitudes among beneficiaries and between beneficiaries and professional medical personnel. Group health programs will gain in standing and prestige as professional personnel are assured of reasonable payments for their services and as all implications of charity are divorced from the doctor-patient relationship. It is hoped that further experimentation with group health programs will bring agreement on a proper division of control of the plans between lay and professional groups.

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