

*Health Maintenance Organizations and other forms of prepaid group practice have received considerable favorable attention of late. The Federal Government has supported formation of HMOs, and legislation has been considered to make them an option in all health plans. It is, therefore, appropriate to examine anew some of the effects of prepayment. The series of papers in this issue addresses the question of forms of payment and organization in delivery of health services, and thus contributes to the ongoing dialogue about necessary and important changes in the delivery system, the importance of payment mechanisms, and the response of consumers. If the HMO concept is sound in principle, these papers may be taken to forewarn of some of the difficulties of effective implementation.*

George G. Reader, M.D., Editor

## On Paying the Fiddler to Change the Tune: Further Evidence from Ontario Regarding the Impact of Universal Health Insurance on the Organization and Patterns of Medical Practice

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*This paper compares the findings from a 1973 community household interview survey conducted in Sault Ste. Marie, Ontario, with the findings from a similar study conducted in 1968 in the same city by a research team from the World Health Organization.*

*Sault Ste. Marie is the site of the first Canadian consumer-sponsored prepaid group practice. Opposition by the private, solo practice sector of this community to this new modality of medical practice was considerable.*

*Since 1969, with the introduction of universal health insurance in Ontario, the cost and benefit differences between solo and group practice medical care have been eliminated. By comparing the findings from the 1973 study with similar data from the 1968 WHO survey, observations can be made about the impact of universal health insurance on the organization and patterns of medical practice. Implications for the United States are important in view of the recent passage of the Health Maintenance Organization Act of 1973 and the expected enactment of some form of national health insurance.*

The excitement over national health insurance in the United States seems to rest upon the assumption that the way in which health

care is financed somehow determines the manner in which health care is provided. While a universal health insurance plan may be essential to the development of a program of health care that ensures complete and equitable health care coverage for the entire nation, the impact of national health insurance on the patterns and structure of the health care delivery system seems extremely problematical. In fact, Navarro (1973:224) indicates that the impact of national health insurance may be to further solidify and reinforce already existing structural arrangements within the health care system:

. . . the experience of those countries with national health insurance . . . would seem to indicate that although national health insurance may be a necessary step toward the provision of full health care coverage for the entire population, it is by itself not sufficient to stimulate or determine the type of organization of health services that is required to make this commitment possible. Actually, in most of these countries experience has shown that the insurance system will adapt itself to the organization of medical care and not vice versa. And when national health insurance programs were adopted, they have not inevitably led to changes in the types of medical practice in the delivery system but instead have frequently strengthened the existing patterns and types of delivery. In those instances, the insurance mechanism may have acted more as a *consolidating force* than as a *stimulant for change* in the organization of medical care. And changes within the insurance scheme in these countries have not primarily been aimed at stimulating changes in the delivery of care, but mostly at adapting the system of funding to the needs of the already existing delivery system or at simplifying the administration of the health insurance system. [Emphasis added]

This paper summarizes the old and presents new evidence available from Sault Ste. Marie, Ontario, with regard to the impact of universal health insurance on the organization and patterns of medical practice.

The Sault Ste. Marie experience, frequently cited in the literature (Hastings et al., 1973; Mott et al., 1973; Korcok, 1972; Goldberg, 1962; Hastings et al., 1970; Anderson, 1970), is particularly noteworthy with respect to the United States because

a consumer-sponsored prepaid medical group practice *and* a substantial number of solo-practice physicians have existed side by side in this community since 1963. Rarely in North America have the conflict and competition between an emergent prepaid group medical practice and the established solo practice community been so vociferous as in Sault Ste. Marie. The inauguration of the Ontario Health Services Insurance Plan (OHSIP) in 1968–69 by the provincial government of Ontario produced an additional element of the Sault Ste. Marie experience of interest to health care planners and policy makers in the United States. Though much has been written about the early history of the group medical practice in this community no one has studied the impact of universal health insurance on the structure of the medical care delivery system. Recent enactment in the United States of Public Law 93–222, the Health Maintenance Organization Act of 1973, and the commitment of the Ford administration to the development of new forms of prepaid (usually group-practice) delivery structures, raises important questions about the potential impact of national health insurance on these new modes of service delivery.

This paper will first provide a brief overview of the historical development of the present health care delivery system in Sault Ste. Marie, including a discussion of the way in which the OHSIP program has affected the health care consumer. Secondly, data will be presented from a household survey conducted in Sault Ste. Marie during the spring of 1973 which reflect upon the question of the impact of universal health insurance on the organization of medical practice, and, particularly, the implications of a program of universal health insurance for the prepaid group-practice organization.

### Socio-Historical Background

Sault Ste. Marie is an industrial city of 83,000 population, located on the bank of the St. Mary's River, which connects Lake Superior and Lake Huron. The principal industry in Sault Ste. Marie is the Algoma Steel Corporation, Ltd. There is an active pulp and paper industrial sector as well, but steel is by far the major economic enterprise. Because of the prominence of the steel industry, the United Steelworkers of America constitutes a major force in this community. It was the steelworkers' union that initiated the drive

during the period from 1958–63 to establish the Sault Ste. Marie and District Group Health Association. The history of these developments is adequately reviewed by Goldberg (1962) and will not be repeated here.

It is important to note that this was the first consumer-sponsored, direct-service medical care plan developed in Canada as an alternative to an already existing system of private medical practice. The local medical community saw this development as a direct threat to the conventional pattern of professional practice. Likewise, the commercial (private) health insurance industry was threatened with the loss of its virtually complete domination of the health insurance market in this community. There was very little experience with group practice, much less prepayment, in Canada. Solo-practice physicians were understandably apprehensive. Efforts were made by the local medical society and insurance industry, through the press and through personal contact with consumers, to discredit and eliminate the plan for the creation of a consumer-sponsored prepaid health care program in Sault Ste. Marie.

Despite vigorous political, legal, and professional opposition, the Group Health Centre opened in July of 1963. At the time of the Group Health Centre's opening, employees of Algoma Steel could choose, through a "dual choice" arrangement, between receiving medical (i.e., physician) care from the multi-specialty Group Health Centre or obtaining physician services through enrollment in the conventional indemnification insurance plan marketed by the Prudential Insurance Company of America. Hospital services were already government-insured and provided to all citizens through the Ontario Hospital Services Plan. Persons wishing to receive their care at the Group Health Association enrolled as "members" of the Sault Ste. Marie and District Group Health Association and paid a standard premium, a portion of which was contributed by their employer (Algoma Steel paid two-thirds of the premium for their employees who enrolled). The Group Health Centre had an opening-day enrollment of 16,000–17,000 persons and a medical staff of 13 physicians.

From the outset, the health and medical *benefits* (both physician and hospital services) and *costs* of medical care were essentially comparable between the two plans as a result of an expansion of the benefit package of the commercial insurance carriers at the

time the Health Centre opened. Hence, consumers were presented with a choice, the major dimensions of which primarily concerned the *organization* of the services delivery system.

### Previous Efforts to Study the Two Types of Medical Practice in Sault Ste. Marie

During the year from 1967 to June 1968, a team of researchers sponsored by the World Health Organization (WHO) and under the direction of Dr. John E. F. Hastings conducted a two-phase comparative investigation of the utilization experience under the two plans. The first phase consisted of an examination of routinely compiled documentary evidence pertaining to service utilization and related matters, while the second phase involved a household interview survey (Hastings et al., 1973; Mott et al., 1973).

Evidence collected by the WHO research team, recently published in the journal *Medical Care*, revealed rather dramatic differences between the enrollees of the Group Health Centre and subscribers to the conventional Prudential insurance plan with regard to the utilization of hospital and physician services. Group Health Centre enrollees displayed a rate of inpatient hospital usage 25 percent below that of non-Centre users. Furthermore, the incidence of surgery was less for Group Health Centre patients. Group Health Centre patients received more "preventive" health care services (e.g., immunizations and checkups) from physicians, as well as more "diagnostic" laboratory and radiologic services. Group Health Centre patients were more likely to be seen by a specialist where a given medical problem would seem to warrant specialist care. Group Health Centre patients were more likely to seek all (or a majority of all) medical care services at the Group Health Centre, reflecting a pattern of utilization oriented toward a primary source of medical care.

The WHO study became the subject of considerable interest and controversy throughout Canada and the United States. Preliminary results were revealed by Dr. Hastings at the 1970 meetings of the Canadian Public Health Association. Though Hastings himself was reluctant to draw very bold conclusions from his data, articles about the study results in major Canadian newspapers following the CPHA meetings implied that the

mechanism by which physicians were paid determined the kind and quality of care provided (Ottawa Citizen, 1970; Hollobon, 1970). These inferences drawn by the press upset physicians all over Canada, for by that time there were similar health-center developments in St. Catherines, Ottawa, and elsewhere.

Two years later, Dr. Hastings and Sault Ste. Marie were again in the news. In July of 1972 the final report of a year-long, commissioned policy study of community health centers in Canada was submitted, a project which Hastings directed at the request of the Minister of National Health and Welfare. This report (Community Health Centre Project, 1972) recommended, in the strongest possible terms, the establishment by the provinces of community health centers as non-profit corporate bodies and that these centers become the fundamental units of a fully integrated health-services system for Canada.

The "Hastings Report," as this document became known, set the stage for what has continued to be a major debate on the future of Canadian health care program development. While the evidence reviewed and observations made by the Hastings Committee were strongly in favor of the group health center idea, there was a critical shortage of empirical data by which to characterize the performance and situation of prepaid group practice organizations in Canada under universal health insurance.

### Situational Factors of Importance

In October of 1969, with the inauguration of OHSIP, sometimes unofficially referred to as "Medicare," the prepayment of all hospital and physician services were combined in a single financial mechanism. The integration of all health insurance arrangements as part of the same plan had many implications for prepaid group-practice organizations in Ontario.

Prior to the passage of the OHSIP legislation, the "duality" of the medical care system in Sault Ste. Marie was more readily apparent to consumers of physician care services. Subscribers to the Group Health Association were expected to pay out of pocket for physician services received from non-Group physicians, except when referred by a Group Health Centre doctor. Non-enrolled patients could, of course, receive care at the Group Health Centre and pay out of pocket on a fee-for-service basis.

Because of these early restrictions on the use of non-Group physician services, the accusation of "closed panel practice" was frequently raised with regard to the Group Health Centre physicians in Sault Ste. Marie.

In 1966, the Group Health Association became one of the first prepaid medical care plans in North America to introduce an "interselection choice" provision, whereby subscribers could elect to receive physician care without referral from a non-Group physician and have the cost of this service paid by the Group Health Association.

The enactment of the OHSIP legislation in 1969 made the notion of "closed panel practice" irrelevant to the situation in Sault Ste. Marie. Provisions of the legislation explicitly forbade *any* restrictions on the freedom of choice of the patient.

When the OHSIP plan absorbed all insurance and prepayment arrangements, the Group Health Centre, like the single other prepaid group-practice organization in Ontario (at St. Catherines), contracted with OHSIP to care for its enrolled patients on a "capitation" basis. This was primarily an administrative arrangement between the Group Health Centre and the provincial government. The consumer was not involved in this contractual relationship, except perfunctorily in signing a form agreeing to allow the Group Health Centre to claim him as a regular patient. Since the right of consumers to seek medical care from any provider he/she chose was guaranteed by legislation, the matter of "membership," and therefore "capitation," became an essentially meaningless distinction to the consumer.<sup>1</sup>

Thus, at the time of the WHO study and since, the system of medical care available to residents of Sault Ste. Marie was, from the patient's point of view, an "open" system composed of two distinctly different modalities of medical practice. The major distinctions between these two sources of physician care, from the patient's vantage point, were aspects of service organization. Cost and benefit differences were essentially nonexistent.

<sup>1</sup>This situation created a rather difficult and significant research problem at the time of the community survey in 1973, for it became very difficult to accurately classify respondents on the basis of their answers to interview questions seeking to distinguish "capitation" from "fee-for-service" patrons of the Group Health Centre.

The physicians were continually aware of their organizational differences (i.e., group versus solo practice), but sought to end many of the conflicts that characterized their earlier periods of coexistence. The local medical societies (of which there had been two in the early 1960s, one for the Group physicians, and one for the solo practitioners) merged into a single society. At the time of the study reported here, physicians of both groups seemed to see their differences as essentially the distinction between multi-specialty group practice versus private solo practice. The notions of "prepaid" and "fee-for-service" reimbursement seemed less important as distinctions between the two groups. However, there remained strong feelings about the notions of "salaried" versus "fee-for-service" remuneration, particularly as the consumer might associate these things with ideas about quality, competence, and dedication to service.

It was against this situational background that the present author was asked to assist the Group Health Centre staff with the design of a major household interview survey of a sample of the entire Sault Ste. Marie population during the winter and spring of 1973. The Health Centre staff and board of directors were not convinced that either the data generated by the WHO study prior to the enactment of universal health insurance or the arguments of the Hastings Report adequately addressed the major questions concerned with the future of group medical care organization in Canada.

Since its inception, the Group Health Centre had maintained a rather consistent 30-40 percent of the health care market in the Sault Ste. Marie area. In sum, non-profit group medical practice remained an attractive mode of health care delivery for a significant proportion of the population, even when financial considerations were removed.

It was the opinion of the Group Health Centre board of directors that if community health centers were able to maintain this sort of attractiveness over time, even with massive changes in the health insurance picture, then the basis of this appeal must surely lie in the pattern of service organization. The recommendations of the Hastings Report suggested that the nature of this appeal needed further documentation and analysis.

A protocol for such a study was prepared and funds were obtained to support the fieldwork for data collection from the Canada



Manpower Commission.<sup>2</sup> The Group Health Centre provided the other necessary support for the research design and data analysis phases of the project. A major report from the study has been prepared and has been submitted to the Minister of National Health and Welfare (DeFriese, 1974).

This study involved interviews of approximately one hour's duration with each of 1,503 randomly selected household representatives. These interviews took place during April and May of 1973 and were performed by a staff of 22 interviewers hired and trained by the author.

Selected data from this survey, when compared with the data collected earlier (Hastings et al., 1973; Mott et al., 1973), are relevant to an examination of the impact of a change in the mechanism of financing upon the structure and pattern of health care delivery.

### General Considerations in the Study Design

As stated earlier, it was planned that the study would consist of a random sample of the entire population of the city of Sault Ste. Marie. Community-wide coverage was necessary in order that an estimation of the extent of usage of the two sectors of the medical care system (solo versus group practice) could be made. Since residents of the community, whether officially listed as capitation patients of the Group Health Centre or not, could use any and all medical care services and facilities in the community, it was important that these patterns of usage be documented. A completely random survey would facilitate this sort of inquiry. Furthermore, it was important that three types of patients be included: those who used only the Group Health Centre; those who patronized only the solo practitioners; and those who used both sources of medical care.

### Sample Design

In order to insure that the above conditions were met, a means of sampling had to be devised that would ensure nearly "random" criteria of selection of sample points. Several of the conventional options were considered, including the use of residential land-use

<sup>2</sup>Support from the Canada Manpower Commission's "Local Initiatives Programme" is gratefully acknowledged.

planning maps, city directories, telephone directories, etc. Quite fortuitously, representatives of city government offered to produce a master address file for residential property from the computer-accessible municipal tax records. Separate lists were provided for single-family dwelling units, multi-family dwelling units (two to four families), and for individual apartments. In addition, entries in these three lists were grouped into one of five separate tax-assessment ranges, thus providing a 15-cell sampling frame. Residential units were selected for inclusion from these lists, on the basis of a table of random numbers, in sufficient volume to represent the distribution of residential units by *type* (single- and multi-family apartments) and assessed tax *valuation* (a surrogate indicator of socioeconomic status). The sampling frame is depicted graphically in Fig. 1. As can be seen from the sample design, it was expected that this frame would yield a sample of 1,500 households (1,503 interviews were actually obtained). The final sample represented approximately 5.5 percent of all residential properties in the city of Sault Ste. Marie. Approximately one third of these were expected to be from the lowest socioeconomic stratum, about 60 percent from the middle social strata and about 7 to 8 percent from the highest socioeconomic stratum. Actual data from survey respondents on annual family income indicates that the lowest stratum was slightly underrepresented, while the highest stratum was slightly overrepresented. It is particularly noteworthy that the use of these tax-based data, which included both the name and the address of the resident, made the sample design, normally a matter of considerable difficulty by other procedures, a short, concise and reasonably representative process.<sup>3</sup>

### Interview Schedule Content

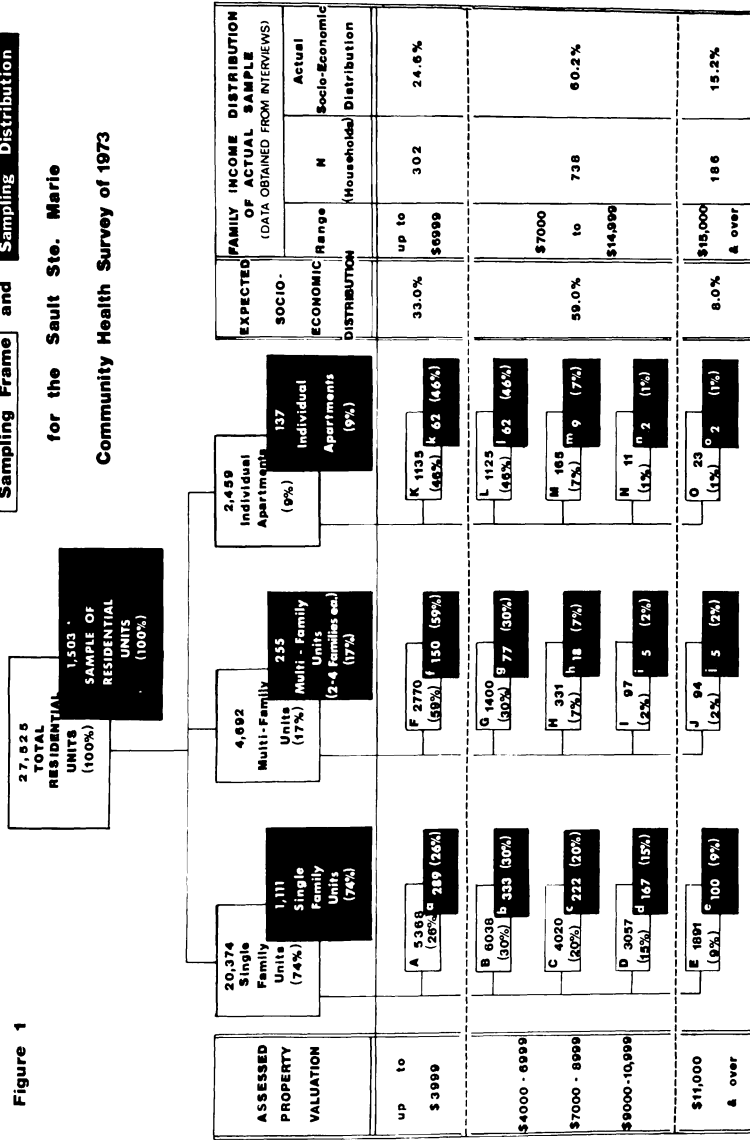
An interview schedule was prepared and pretested which included five major sections: (1) a section on medical care services *utilization*, including hospitals, physicians, dentists, and other health care practitioners; (2) a section on attitudes toward, and measures of satisfaction with care received from, physicians; (3) a

<sup>3</sup>A comparison of the age-sex distributional characteristics of the study sample and the official census of population for Sault Ste. Marie indicated practically no difference between the two distributions. The sampling procedure was accepted as statistically representative of the community.

Sampling Frame and Sampling Distribution

for the Sault Ste. Marie

Community Health Survey of 1973



Note: At the time of the study, residential property in Sault Ste. Marie was assessed for tax purposes at a small percentage of market value. A new assessment was underway during the period in which the study was being conducted. These data constitute only an approximate indicator of the distribution of socio-economic characteristics in Sault Ste. Marie. They cannot be taken as a reflection of the distribution of actual property values in the community.

\*The final sample turned out to include 1503 completed interviews due to a mistake in numbering questionnaires. As a result, three additional interviews were obtained in the apartment residential areas.

section dealing with the problems of availability (i.e., supply and distribution) of physician personnel and alternative sources of such care; (4) a section on the adequacy of medical care services available in Sault Ste. Marie and several questions about the kinds of criticisms that respondents had either heard or read of both the Group Health Centre and the solo-practice physicians; and (5) a section whereby respondents could provide a detailed comparative evaluation of the availability and quality of services provided by each of the two sectors of the local health care system.

Selected data will be reported below that reflect, at least from the consumer's perspective, those aspects of the structure and process of medical care delivery in this community that might have been affected by the universal health insurance system currently operating in Ontario.

### A Typology of Consumers

In order to make the analysis of study findings as meaningful as possible, respondents had to be identified according to extent of use of the Group Health Centre and/or the solo-practice physicians as sources of medical care. The difficulty experienced by consumers in knowing whether they were actually "capitation" enrollees of the Group Health Centre was discussed above. At the time of the survey, the Group Health Centre was operating under a set of procedures that required that the capitation patient annually sign an "enrollment" or "membership" application. No fee was involved; the procedure was merely an administrative matter having to do with the identification of capitation patients. It was felt that most persons would be able to associate sufficient meaning with the notion of being a "member" of the Group Health Association to permit a question about membership to be used for partitioning the respondent population into subgroups for analysis. Households could then be classified as having, or not having, Group Health Centre "members" present.

In addition to the question about Group Health Centre household "membership," a measure of the estimated "extent of usage" of the Centre was also included. This measure, which separately estimated extent of usage for each individual household member, permitted the aggregation of these "usage" scores for households and thereby allowed households to be classified as us-

ing the Health Centre for "almost all care," "some but not all care," or "never."

These two types of questions permitted the subdivision of the households included in the sample into five separate groups:

1. Households with *at least one* "member" of the Group Health Centre and with a *high* level of "use" of Group Health Centre services. N = 395
2. Households with *at least one* Group Health Centre "member" but with a moderate level of "use" of Group Health Centre services. N = 14
3. Households with *no* "members" of the Group Health Centre but with at least *some* "use" of Group Health Centre services. N = 317
4. Households with *at least one* "member" of the Group Health Centre but reporting *no* "usage" of Group Health Centre services. N = 24
5. Households with *no* "members" of the Group Health Centre and *no* reported "usage" of Group Health Centre services. N = 753

Because of the size of groups 2 and 4, they were combined with groups 1 and 5, respectively, which resulted in the identification of three groups of respondents (or households), represented by the symbols indicated in Table 1. These categories will be used throughout the paper for reporting the findings.

TABLE 1

Categories of Survey Respondents  
by Predominant Source of Physician  
Care for Households

GHC (1 and 2)	N = 409
GHC/Solo (3)	N = 317
Solo (4 and 5)	N = 777
Total Sample	N = 1503

## Qualitative Dimensions of Doctor-Patient Relationships

It has become commonplace in attitudinal studies of consumer acceptance of prepaid group medical practice to find greater positive evaluations of the technical skill and economic aspects of such organizations than for the qualitative, interpersonal aspects of doctor-patient relationships (Donabedian, 1969; Greenlick, 1972; Metzner et al., 1972; Roemer and Shonick, 1973; Weinerman, 1964). Prepaid group practice is generally reported by consumers to be characterized by the impersonality and insensitivity of group physicians and clinical staff, a lack of continuity in personal doctor-patient relations, and the inaccessibility of physicians without undue formalities and bureaucratic procedures.

The remarkable finding from these studies (all of which were conducted in the United States) is that, despite these well-recognized and frequent consumer views, there remains a strong preference for the prepaid group-practice mode of service organization among large groups of persons who place greater emphasis on the *financial advantages* of the prepaid physician care contract and the centralized availability of a wide range of *medical-scientific skills and services*. If these financial advantages are neutralized (or eliminated) as in Ontario, it remains to be seen whether prepaid group practice organizations will be able to maintain their comparative attractiveness to their clientele on the basis of organizational structure alone.

Data from the present study, when compared with the 1967-68 WHO study in the same community, provide an opportunity for comparing the patterns of doctor-patient relations in prepaid group- and solo-practice settings as they may have been affected by a universal health insurance system.

One way of highlighting the pattern of doctor-patient relations characteristic of a community is to explore the "continuity" of such relationships, that is, the degree to which consumers of medical care have become accustomed to a single, primary provider of care, one who usually serves as the first contact with the medical care system when professional attention may be required.

Studies of this aspect of medical care delivery conducted in other communities have asked respondents to indicate whether or not they utilize the services of a medical practitioner they consider

to be their "regular doctor," i.e., someone they would consult for attention to matters of a rather routine nature.

The earlier WHO study (Mott et al., 1973:180) conducted in Sault Ste. Marie reported striking differences between Group Health Centre members and patients of private practitioners in the tendency to see their "usual doctor" at the onset of some acute condition.

For acute illness or injury, most G.H.A. members turned to non-specialist physicians, but in 64.9 percent of these visits the patient did not see his usual doctor and in 57.9 percent the doctor was one the patient had not visited before. Persons enrolled in I.I.P. (Prudential Indemnity Plan) turned in somewhat larger proportion to general practitioners, with just 30.7 percent of these visits being to a doctor who was not the patient's usual doctor and only 16.2 percent of the visits being to a physician not visited previously.

In the present study, respondents were asked whether their household had a "main source" of medical care services. Secondly, respondents were asked whether they, their spouse, and/or their children had a "regular doctor." Thirdly, they were asked, in an open-ended question, to indicate how these physicians may have been selected. Tables 2, 3, and 4 display these data.

Households which tend to use the Group Health Centre for most of their physician care are somewhat more likely to have a

TABLE 2

Households Having a Main (Principal or Primary) Source  
of Medical Care Assistance or Advice by Predominant  
Source of Physician Care for Household

Does Household Have a Main Source of Medical Care?	PREDOMINANT SOURCE OF PHYSICIAN CARE FOR HOUSEHOLD					
	GHC		GHC/Solo		Solo	
	#	%	#	%	#	%
Yes	380	(96.0)	278	(89.7)	688	(89.9)
No	15	(3.5)	25	(8.0)	69	(9.0)
Don't Know	2	(0.5)	7	(2.3)	8	(1.1)
Totals	397	(100)	310	(100)	765	(100)

TABLE 3  
Household Members Having a "Regular Doctor" by Predominant Source of  
Physician Care for Household

Does Res- pondent, Spouse, or Child Have Regular Doctor	RESPONDENT			SPOUSE			CHILDREN											
	GHC	GHC/Solo	Solo	GHC	GHC/Solo	Solo	GHC	GHC/Solo	Solo									
	#	%	#	%	#	%	#	%	#									
Yes	275	68.6	258	81.6	672	87.5	196	57.7	202	76.8	499	85.3	218	92.7	187	90.3	416	92.4
No	126	31.4	57	18.0	95	12.4	141	41.5	57	21.7	83	14.2	81	7.0	19	9.2	32	7.1
Don't Know	-	-	1	0.3	1	0.1	3	0.9	4	1.5	3	0.5	1	0.3	1	0.5	2	0.4
Totals	401	100	316	100	768	100	340	100	263	100	585	100	300	100	207	100	450	100



TABLE 4  
Reasons Given for Selecting "Regular Doctor" for Respondent,  
Spouse and/or Children by Predominant Source  
of Physician Care for Household

Rank Order of Rea- sons for Selecting Reg- ular Doctor	RESPONDENT						SPOUSE						CHILDREN					
	GHC		GHC/Solo		Solo		GHC		GHC/Solo		Solo		GHC		GHC/Solo		Solo	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Only one available in that place or at that time	54	20.4	15	5.8	42	6.4	39	22.0	10	5.0	29	6.0	38	19.5	14	7.7	20	5.0
No particular reason—"just went to him"	60	22.6	41	15.8	118	17.9	45	25.4	37	18.7	75	15.6	28	14.4	20	11.0	67	16.7
Recommended by medical personnel	53	20.0	43	16.7	88	13.4	25	14.1	25	12.6	55	11.4	42	21.5	24	13.3	52	12.9
Recommended by friend	45	17.0	77	29.8	189	28.7	33	18.6	53	26.7	142	29.5	35	18.0	45	24.9	112	27.9
Spoke same language	4	1.5	5	1.9	25	3.8	2	1.2	4	2.0	25	5.2	—	—	2	1.1	14	3.5
Pediatrician sought	—	—	—	—	—	—	—	—	—	—	—	—	22	11.3	11	6.1	19	4.7
Other reason	49	18.4	77	29.8	197	29.9	33	18.6	69	34.9	155	32.2	30	15.4	65	35.9	118	29.3
Totals	265	100	258	100	659	100	177	100	198	100	481	100	195	100	181	100	402	100

“main source” of medical care services (refer to Table 2). This would be expected in view of the fact that subscribers to the Group Health Centre plan during the 1960s were very much aware of the significant “choice” they made in selecting plan membership over the conventional solo-practice form of physician care. Even in 1973, there was a tendency for this group to look to the Health Centre as the principal *place* to receive medical care.

When one asks about the patient’s ability to identify a single physician as his/her “regular doctor,” the Sault Ste. Marie data present a rather striking similarity to earlier studies of prepaid group practice patients. For the respondent, the respondent’s spouse, and for their children (if any), there is a consistent tendency for patients who use only the services of the private solo practitioners to be more likely than Group Health Centre patients to have a “regular doctor” whom they normally consult when routine health problems are encountered, “. . . something like the flu, an earache, a nagging cough, or a sore throat . . .” (refer to Table 3).<sup>4</sup>

An open-ended question on the reason the “regular doctor” was selected revealed a wide range of responses. Generally, these reasons seem to cluster among only a few responses. A brief glance at these reasons gives further support to the notion that doctor-patient relations differ between solo and group medical practice (refer to Table 4). Regular patients of the Group Health Centre are three to five times as likely to have selected their regular physician, when they have one at all, because he/she was the physician available to them when medical care was sought. Patients who use only the solo practitioners seem to use the “lay referral” system slightly more frequently in selecting the regular doctor than Group Health Centre patients. Group Health Centre patients seem to have chosen their regular doctors (when they have one) on the basis of professional advice from another physician or other medical personnel more frequently than patients of solo practitioners.

These findings are in harmony with those of the WHO study. In that study, respondents were asked to indicate why a given physician was consulted for particular reported episodes of both acute and chronic conditions. Although the specific focus of the

<sup>4</sup>This is particularly true for the respondent’s “spouse.” The majority of “respondents” were female (74.7 percent).

WHO inquiry was slightly different from a concern with the identification of a "regular physician," a comparison is of interest. According to Mott et al. (1973:180):

(participants in the Prudential Plan) cited a considerable range of reasons for selection of the doctor, with only about one fourth to one third of these representing the recommendation of another physician. On the other hand, for a large proportion of visits, G.H.A. members cited the Group Health Centre as the source of their guidance, a natural reflection of the type of health care organization and program they had joined.

The data on the selection of a "regular doctor" for children in the household indicate that when Group Health Centre patients identify a regular physician for their children, they tend to prefer that this person be a specialist in the care of children.

These few observations from the 1973 survey, when compared with the data from the 1967-68 WHO study in the same community, would seem to offer further support to the contention that the prepaid group practice tends to provide a less personalized, though (as we shall see) more organizationally systematized, form of physician care. These data also suggest a tendency for group-practice patients to use medical (as opposed to lay) sources of advice in the selection of their physician when such a choice is deliberately made. It is significant that these patterns persist despite major change in the financial subcomponent of the health care system.

### Patterns of Health Services Utilization

A second way in which the impact of universal health insurance on the service delivery system might be observed is with regard to changes in the patterns of use associated with physician and hospital services. Here again it is fortunate that the earlier WHO study collected similar data prior to the beginning of the OHSIP program.

There is no *a priori* reason to expect that the three groups of households would experience different levels of illness, i.e., that one group would be more sickness-prone than the other. The WHO research team was unable to establish a significantly higher pre-

TABLE 5

Rates of Utilization of Selected Types of Practitioners for All Persons  
in 1503 Households by Predominant Source of Physician Care

Type of Practitioner	PREDOMINANT SOURCE OF PHYSICIAN CARE		
	GHC	GHC/Solo	Solo
	<i>Visits/ Person</i>	<i>Visits/ Person</i>	<i>Visits/ Person</i>
Family MD/GP	3.63	3.58	3.46
Dermatologist	3.20	4.80	2.91
OB/GYN	4.07	3.64	4.40
Otolaryngology	2.68	2.02	2.09
Orthopedist	4.77	4.30	3.70
Chiropractor	8.79	7.35	7.69
Optometrist	1.37	1.49	1.55
Ophthalmologist	2.81	1.49	2.04
Chiropodist (Podiatrist)	6.60	4.00	3.68
Physical Therapist	12.24	17.11	14.35
Psychiatrist	5.82	11.13	6.08
Surgeon	3.82	3.36	3.46
Urologist	3.56	1.82	2.52
Pediatrician	4.24	3.73	4.03
Internist	6.75	6.97	4.67
Number and Percentage of Households with No Visits to Any of These Types of Practitioners	<i>N</i> = 12 (0.8%)	<i>N</i> = 10 (0.67%)	<i>N</i> = 57 (3.79%)

valence of "symptom/condition complexes" among either the group- or solo-practice patient sub-samples, even though the former did show a "tendency" to report a slightly more frequent incidence of symptoms (Mott, 1973:181-182).

In the present study, questions were included regarding the number of visits made to selected types of medical practitioners (including some non-physicians) over the previous 12-month

period<sup>5</sup> and the number of adult and/or children who required physician care. These data are displayed in Table 5.

A careful analysis of the data in Table 5 reveals few real differences in the use of these types of health care practitioners. It is apparent, however, that Group Health Centre (GHC) patrons report higher rates of use than the other two categories of households for nine of the 15 types of practitioners. In all but three cases, Group Health Centre patients report higher utilization levels than do patients of solo practitioners.

The only other finding of a real importance to be extracted from these data on physician usage is the observation that patients who receive their care totally from the private solo practitioners are four to five times as likely not to have received any physician care as persons who receive at least some of their care at the Group Health Centre. This observation is also consistent with the finding from the WHO study, using record data, that Group Health Centre patients were more likely to have seen a physician at least once during the previous year (Hastings et al., 1973:98). In the WHO study and in the present case, even though these differences were statistically significant, the number of households without any physician care was so small as to render the finding of little consequence.

Several questions from the survey instrument dealing with hospitalization experiences lend themselves to comparison with similar data from the 1968 WHO study. It was assumed that the problem of recall would not be so great with hospitalization as with physician usage. Table 6 displays the data on rates of hospitalization and length of stay among the three categories of households in the study population.

The most striking finding from these tables is the existence of a difference of 1.04 days per stay between the "GHC" and "Solo" households and a difference of 1.29 days per stay between the "GHC" and "Solo" households. In view of the costs of care per

<sup>5</sup>The problems inherent in data which depend upon a 12-month recall period are well recognized. However, these data were obtained from a sample 70 percent of whom were women members of households and more likely to have had to "manage" any illness that may have occurred. Despite the temporal inaccuracy problems associated with them, these data do provide one way of measuring perceived patterns of service usage.

TABLE 6

Length of Hospital Stay and Admissions/1000/Year  
by Predominant Source of Physician Care

PREDOMINANT SOURCE OF PHYSICIAN CARE BY HOUSEHOLD

	GHC			GHC/Solo			Solo			Total (All Persons)		
	Admis- sions #	Days (Days)	Length Of Stay (Days)	Admis- sions #	Days (Days)	Length Of Stay (Days)	Admis- sions #	Days (Days)	Length Of Stay (Days)	Admis- sions #	Days (Days)	
Total hospitalization experience (All hospitals)	215	2385	11.093	191	2366	12.387	431	5229	12.132	837	9980	11.924
Total persons for whom these hospitalization data are provided	1585			1125			2584			5294		
Admissions/1000/ year	135.6			169.8			166.8			158.1		
Days hospitalization/ 1000/year	1504.7			2103.1			2023.6			1885.2		

TABLE 7

Comparison of Findings on Hospital Usage from the 1968 WHO Survey  
and the 1973 Survey by Predominant Source  
of Physician Care for Households

Hospital Utilization Indicator	Users <sup>a</sup> of G.H.C. (GHC plus GHC Solo)		Non-User of G.H.C. (Solo)	
	1968 (WHO)	1973	1968 (WHO)	1973
Days/1000/year				
Record study	971	—	1284	—
Interview study	1117	1753	1323	2024
Discharges 1000/year				
Record study	109.2	—	137.3	—
Interview study	104.6	149.8 <sup>b</sup>	129.8	166.8 <sup>b</sup>

<sup>a</sup> "Users" of the Group Health Centre are here defined as Members of both GHC and GHC/Solo households. Obviously, many of the GHC Solo patients were likely to have been hospitalized by Solo physicians. Thus, differences in rates of hospital use reflected in this table are probably conservative estimates of the real differences between GHC and Solo utilization experiences.

<sup>b</sup> 1973 data are for "admissions" not for discharges.

day in a hospital, this difference is of course significant.

Table 7 summarizes the data from the present study as they relate to the findings of both the clinical records and household interview surveys conducted by the WHO project.

The WHO study did not analyze differences in length of hospital stay. However, that study did include data on the number of days of hospitalization and number of admissions per 1,000 population for group- and solo-practice patients. The data in Table 7 indicate that although general rates of hospital usage seemed to have increased since the inception of the OHSIP insurance plan, there continue to be marked differences between the patients of solo- and group-practice physicians, with the latter having the lower rates. Evidently the physician who attends the patient while hospitalized and the way in which this physician's practice is organized make a difference not only in terms of admissions, but in terms of the number of days spent in expensive hospital care.

### Patterns in the Quality of Care

Although it is as yet impossible to begin to make adequate assessments of the quality of care provided by physicians through the use

TABLE 8

Recency with Which Respondent and Spouse Have Had a Physical Examination Performed  
by a Physician by Predominant Source of Physician Care for Households

Time of Last Physical Examination	Predominant Source of Physician Care		Respondent				Spouse					
	#	GHC %	#	GHC/Solo %	Solo %	#	GHC %	#	GHC/Solo %	Solo %		
Within past 6 months	72	17.8	75	23.7	159	20.7	41	12.1	38	14.6	104	17.8
6 months-1 year	130	32.1	102	32.2	230	29.9	92	27.1	76	29.1	143	24.4
1-5 years	155	38.3	91	28.7	236	30.7	137	40.3	89	34.1	187	32.0
5 or more years	25	6.2	16	5.0	56	7.3	27	28.4	18	18.5	50	52.6
Never	21	5.2	32	10.1	83	10.8	32	9.4	26	10.0	68	11.6
Don't know	2	0.5	1	0.3	5	0.7	11	3.2	14	5.4	33	5.6
Totals	405	100	317	100	769	100	358	100	261	100	585	100



of sample survey techniques, an attempt was made in the present study to obtain an approximate indicator of the quality of care provided by physicians. Under the assumption that the "recency" and "thoroughness" of the most recent physical examination might provide a crude index of the degree to which certain kinds of preventive and diagnostic care were being provided by physicians (or requested by consumers), questions regarding both aspects of routine checkups were included in the survey.

Table 8 presents the findings regarding the recency of a physical exam for the respondents (mostly women), their spouses, and their children. Though there are few differences among these groups, a noticeable tendency does exist for respondents who are Group Health Centre patients to be less likely to have "never" had a physical exam than patients of solo practitioners. But, in general, there do not appear to be major distinctions among groups of health care consumers in terms of access to preventive health care, when measured by the recency of a physical exam.

Respondents were asked to reflect upon *their own* most recent physical examination in terms of the *procedures performed* by the physician during that examination. The procedures included in this question included six commonly performed diagnostic tests. Respondents were asked to indicate whether each was performed by the physician (or one of his/her staff). The results, displayed in Table 9, indicate a slight, but consistent, tendency for all six of these procedures to be more frequently performed when GHC patients were involved. It must be remembered that the majority of respondents were women, many of whom were probably answering on the basis of their last periodic gynecological examination. Given this factor, it is not surprising that several of the procedures were performed in less than half of these examinations.

A further analysis of these data was conducted wherein these six procedures were assumed to represent a "complete" physical examination. Calculations were made for each respondent of the degree to which the most recent exam approached this theoretical standard of "completeness." A complete exam then became equal to a score of "1" (i.e., six of a possible six procedures performed). The following mean scores on this "completeness" dimension were obtained: GHC Users (GHC + GHC/Solo) = .3721; Non-Users (Solo) = .3235. While these means are significantly different from one another [ $t = 2.49$  (2 tailed),  $p = .013$ ], neither of the two

TABLE 9

Number and Percentage of Respondents Reporting  
Each of Six Diagnostic Procedures  
Being Performed as Part of Most Recent Physical  
Examination by Predominant Source  
of Physician Care for Household

Diagnostic Procedure Performed During Examination	Predominant Source of Physician Care							
	<i>GCH</i>		<i>GHC/Solo</i>		<i>Solo</i>		<i>Total</i>	
	#	%	#	%	#	%	#	%
Blood pressure taken	199	97.1	165	94.8	365	93.1	729	94.6
Chest and Stomach examined	194	94.6	159	91.4	343	87.5	696	90.3
Knee jerk tested	142	69.3	113	64.9	220	56.3	475	61.7
Cardiogram exam	82	40.2	80	46.0	149	38.1	311	40.4
Blood sample	175	85.4	130	74.7	281	72.2	586	76.3
Chest X-ray	99	49.0	83	47.7	150	38.6	332	43.4

means is extraordinarily high. This again is probably partially related to the heavy concentration of women in the respondent population. In summary, group-practice patients are slightly more likely to have had what they define as a physical examination by a physician. Although neither group reports the physical exam as being particularly "complete," group practice patients report a higher proportion of procedures performed during such examinations. These findings are comparable to those of the WHO study, where a higher volume of diagnostic and radiologic services were reported for group-practice patients than for patients of solo practitioners.

### Patterns of Consumer Satisfaction

The measurement and interpretation of attitudes of consumers toward the care they receive present major problems of a methodological nature in most studies of this kind. The present study makes no special claim to success in the measurement of this variable. However, two separate indices of consumer satisfaction, one taken from the health-services literature, the other developed for this research, were included in the survey instrument and results of their use are summarized here.

TABLE 10

Mean Values on Satisfaction with Physicians  
Scale by Predominant Source of Physician Care

	PREDOMINANT SOURCE OF PHYSICIAN CARE		
	GHC	GHC/Solo	Solo
$\bar{X}$ values on physician satisfaction scale <sup>a</sup>	5.6596	5.6976	5.7221

<sup>a</sup>Mean difference between GHC and Solo is statistically significant ( $p = .04$ ). Other differences non-significant.

The index used to measure consumer satisfaction involved the use of a scale measuring "generalized attitudes toward physicians" developed by Hulka et al. (1970). This instrument consists of 42 attitudinal items arranged in an agree-disagree format. These items cover judgments by consumers of general levels of professional competence, personal qualities, and cost and/or convenience considerations associated with medical practice. It was hypothesized that consumers who experienced generally higher levels of satisfaction would agree with the items which presented a more positive image of the physician in society.

Results of the use of Hulka's instrument are displayed in Table 10. The Hulka instrument did reveal statistically significant differences between the GHC and Solo respondent groups in patterns of consumer satisfaction, but these differences were not great.

A second approach to the measurement of consumer satisfaction involved asking the respondent, no matter what source of physician care the household predominantly used, to rate separately the Group Health Centre and the solo-practice physicians on 20 different scales patterned after the "semantic differential" technique (Osgood, 1957). These scales ranged in value from one to five (with five the highest and most positive value in each) and dealt with a variety of aspects of the process of seeking and obtaining medical care. The format for these items is illustrated by the following example:

In order to see the doctor, one has to wait:  
a long time / / / / / a short time

TABLE 11

Tests for Significance of Difference Between Evaluations  
of Twenty Different Aspects of Medical Care with Respondents  
Evaluating Their Own Predominant Source of Physician Care  
(Score of "5" Represents Most "Positive" Evaluation)

<i>Aspect of Practice Setting Being Evaluated</i>	<i>Evaluations of GHC by GHC Patients</i>	<i>Evaluations of Solo by Solo Patients</i>
Parking Convenience	4.2245 <sup>a</sup>	3.4646
Receptionist's courtesy	4.6942	4.7147
Receptionist's helpfulness	4.7179	4.6726
Waiting Time to see M.D.	3.2544 <sup>a</sup>	2.8257
Concern of staff <i>re</i> wait time	3.0183 <sup>b</sup>	3.3007
Lab services convenience	4.8214 <sup>a</sup>	3.8997
Lab service courtesy	4.8151 <sup>a</sup>	4.6265
Lab service competence	4.8120 <sup>b</sup>	4.6711
X-ray convenience	4.7169 <sup>a</sup>	3.9791
X-ray competence	4.8800 <sup>a</sup>	4.7121
X-ray courtesy	4.8717 <sup>a</sup>	4.6605
Difficulty of telephoning for M.D. appointment	4.5101 <sup>b</sup>	4.3580
Pleasantness of telephoning for M.D. appointment	4.6378	4.6200
Ease of telephoning to talk with M.D.	3.0618 <sup>a</sup>	3.6891
Pleasantness of telephoning to talk with M.D.	4.1450 <sup>c</sup>	4.3977
Secretiveness of M.D. <i>re</i> hospitalization	4.5106	4.5369
Visitation by M.D. in hospital	4.7896	4.7122
In general, competence	4.7513	4.7500
In general, pleasantness	4.7332	4.7279
In general, impersonality	4.1948 <sup>c</sup>	4.3831

<sup>a</sup> $p = .0001$

<sup>b</sup> $p < .01$

<sup>c</sup> $p < .05$

The data derived from the use of this index are most useful if one selects only the evaluations of Group Health Centre physicians provided by GHC respondents and compares these scores with those of Solo respondents' evaluations of solo-practice physicians. By this means, a comparison is possible between two groups of consumers who are evaluating their *own* physicians.

Table 11 presents the mean scores for GHC respondents rating GHC physicians compared with the mean scores of Solo respondents rating Solo practice physicians. Several observations can be

made from these data. In the first place, it appears that physicians in general, whether GHC or Solo, are perceived to be rather inaccessible through informal relations, especially by telephone. Secondly, certain "patterns" of consumer attitudes seem to be associated with each source of physician care. Solo practitioners seem to receive consistently higher evaluations on the socio-emotional indicators, e.g., the concern of the doctor's staff with regard to waiting time in the doctor's office, the ease of reaching the doctor by telephone and the pleasantness of talking with him once he has answered, plus generally lower levels of impersonality associated with the receipt of care.

On the other hand, Group Health Centre physicians are evaluated higher for the convenience and accessibility of the services offered and for the competence and courtesy of the staff who provide these services. With regard to the "accessibility" of these types of services, there are good reasons for these perceived differences between the accessibility of these services from the Group Health Centre and the availability of these same services from the office facilities of the solo practitioners. At the time of the study, most of the 43 solo practitioners in Sault Ste. Marie were located in the same clinical office building. There were minimal laboratory or X-ray facilities or staff located in this building. These services were obtained through arrangements made by either the physician or the patient at one of the two community hospitals located adjacent to the doctors' building. Hence, laboratory and X-ray services were in fact less accessible and convenient for patients of solo practitioners.

## Summary

This paper has attempted to employ selected evidence from a household interview survey in Sault Ste. Marie, Ontario, conducted in 1973, and reference to previously published data from a similar study conducted under the sponsorship of the World Health Organization in 1967-68, in an effort to determine what changes may have occurred in the pattern of services utilization and consumer satisfaction in this community since the enactment of Ontario's universal health insurance plan. Although actual clinical records were not available for analysis at the time of the present study, the survey discovered essentially the same patterns of

health care organization and utilization after universal health insurance as before its enactment.

The movement that resulted in the establishment of the Group Health Centre was oriented toward the creation of an *alternative* form of health care delivery. While this social and political movement no longer occupies the position of prominence in the news and political affairs of the community that it once did, the essential differences between solo and group practice appear to have persisted, even if somewhat diminished.

The observation by Navarro (1973) that a national health insurance mechanism tends to function as a "consolidating force," adapting itself to the existing pattern of medical care delivery, rather than as a "stimulant for change," appears to be supported by the data from the Sault Ste. Marie experience. The insurance mechanism in Ontario seems to have adapted itself to the existing prepaid (capitation) and fee-for-service systems. By instituting the universal health insurance system in Ontario, complete coverage of the population has been assured. But the organization of services and the patterns of consumer utilization characteristic of these systems of medical practice have not experienced major change. Thus, one must conclude that it may not be possible to alter fundamental aspects of a health care delivery system through change in the financial mechanism alone. A national health insurance mechanism may, in this sense, be a new way "to pay the fiddler" *without* "changing the tune."

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## References

## Anderson, T. W.

- 1970 "Sault Ste. Marie Study." *Canadian Journal of Public Health* 61 (November-December): 554-555.

## Community Health Centre Project

- 1972 *The Community Health Centre in Canada. Report of the Community Project to the Conference of Health Ministers. National Health Grant 606-21-70 (July 21).*

## DeFriese, Gordon H.

- 1974 *Community Health Centres and Private Solo Practice Under Universal Health Insurance: The Consumer's View. A Final Project Report of The Sault Ste. Marie Community Health Survey of 1973 to the Minister of National Health and Welfare. Sault Ste. Marie and District Group Health Association: Sault Ste. Marie, Ontario*

## Donabedian, Avedis

- 1969 "An evaluation of prepaid group practice." *Inquiry* 6 (September): 3-27.

## Goldberg, Ted

- 1962 "Breakthrough in Canada." *IUD Digest* (Winter): 3-11.

## Greenlick, Merwyn

- 1972 "The impact of prepaid group practice on American medical care: a critical evaluation." *The Annals of the American Academy of Political and Social Science* 399 (January): 100-113.

## Hastings, J. E. F., F. D. Mott, A. Barclay, and D. Hewitt

- 1973 "Prepaid group practice in Sault Ste. Marie, Ontario: Part I: analysis of utilization records." *Medical Care* 11, 2 (March-April): 91-103.

## Hastings, J. E. F., F. D. Mott, D. Hewitt, and A. Barclay

- 1970 "An interim report on the Sault Ste. Marie study: a comparison of personal health services utilization." *Canadian Journal of Public Health* 61 (July-August): 289-296.

## Hollobon, Joan

- 1970 "Doctors and studies." *Toronto Globe and Mail* (May 28).

## Hulka, Barbara S., Steven J. Zyzanski, John C. Cassel, and Shirley J. Thompson

- 1970 "Scale for the Measurement of Attitudes toward Physicians and Primary Medical Care." *Medical Care* 8, 5 (September-October): 429-436.

**Korcok, Milan**

- 1972 "The Sault experience: after ten years a pioneer health centre feels the pinch." *Canadian Medical Association Journal* 107 (November 4): 897-902.

**Metzner, Charles A., Rashid L. Bashshur, and Gary W. Shannon**

- 1972 "Differential public acceptance of group medical practice." *Medical Care* 10 (July-August): 279-287.

**Mott, F. D., J. E. F. Hastings, and A. T. Barclay**

- 1973 "Prepaid group practice in Sault Ste. Marie, Ontario: Part II: evidence from the household survey." *Medical Care* 11, 3 (May-June): 173-188.

**Navarro, Vicente**

- 1973 "National health insurance and the strategy for change." *Milbank Memorial Fund Quarterly/Health and Society* 51, 2 (Spring): 223-251.

**Osgood, Charles E., George J. Suci, and Percy H. Tannenbaum**

- 1957 *The Measurement of Meaning*. Urbana: University of Illinois Press.

**Ottawa Citizen**

- 1970 "Doctor's fee key to care?" (May 21).

**Roemer, Milton I., and William Shonick**

- 1973 "HMO performance: the recent experience." *Milbank Memorial Fund Quarterly/Health and Society* 51, 3 (Summer): 271-317.

**Weinerman, E. Richard**

- 1964 "Patients' perceptions of group medical care." *American Journal of Public Health* 54 (June): 880-889.