Who Chooses Prepaid Medical Care: Survey Results from Two Marketings of Three New Prepayment Plans

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MAJOR MEDICAL EXPENSES, especially those for hospitalizations, are now widely covered through prepaid insurance. In the Rochester area the local Blue Cross-Blue Shield (BC-BS) plan provides insurance for more than 90 percent of the working population. In contrast to this success of hospital insurance, prepaid group practice plans, covering ambulatory care as well, have only slowly found acceptance among both patients and physicians, even though total health care expenditures seem to be lower in prepaid group practice than in the traditional fee-for-service practice *(1,2)*. Comprehensive care, provided through prepaid group practice, foundation plans, or at neighborhood health centers, has been shown to reduce hospitalizations although possibly increasing ambulatory care *(3,4)*.

The first prepaid group practice plans were limited to special occupational groups: the Longshoremen Union in California, the United Auto Workers' Union in Detroit, the Federal employees in Washington, D.C., and the city employees in New York City. The basic findings from these earlier plans have been summarized in a number of careful review articles *(1,2,5–9)*. Only recently have these plans been marketed to whole communities, as the Columbia Medical Plan has been *(10,11)*, or to the medically indigent (Medicaid) *(12–15)*. Although the earlier slow growth may also be attributed to unfavorable insurance legislation in various States, the recent Federal health maintenance organization (HMO) legislation now supports and encourages new prepayment plans as one effort to control cost in the health care sector. The Rochester experience is an example of the marketing of alternative prepayment plans, offered in addition to the standard BC-BS contract, under the new and more favorable conditions.

The Alternative Plans

Rochester witnessed the first simultaneous marketing of three new prepayment plans in the summer of 1973. They are the Rochester Health Network Plan (Network), initially sponsored by the Office of Economic Opportunity, offering services at various neighborhood centers, primarily in the inner city; the Genesee Valley Group Health Association Plan (Group Health), sponsored by the Rochester Blue Cross and Blue Shield and providing care at the new Joseph C. Wilson Health Center in the northern part of the city, easily accessible for most Monroe County residents; and Health Watch, a foundation plan, sponsored by the Monroe County Medical Society, which renders medical services through the private offices of participating physicians. These plans all have wider coverage than the normally available BC-BS plan, which is frequently offered with an optional major medical insurance. The new plans include outpatient hospital services, maternity care, and office visits to physicians. A special attraction was that no waiting period for maternity coverage was required when

switching from the old coverage to any of the new plans. The monthly premium for a family contract for the first 2 years was $58 for Network, $52 for Group Health, and $62 for Health Watch.

In contrast, the typical BC-BS contract, as offered by the largest company in the area, cost $35 per family contract per month. The optional major medical insurance offered by this company was $6 per month for a family contract.

Enrollment in the new plans was limited to employees of selected companies. The first marketing of the plans, commencing in the summer of 1973, offered employees the option to join one of the three new plans or retain the coverage provided by the traditional Blue Cross-Blue Shield plan. Seventeen companies joined in this first marketing effort; the firms ranged in size from 8 employees to approximately 47,000 employees in the largest local firm. A total of 52,000 employees from all firms (18 percent of the total labor force of Monroe County) were eligible for and were offered the plans for a specified signup period at each company (usually 1 month). Only 1,400 employees of the 17 companies had signed up by the end of the first 2 months of open enrollment. The disappointingly low enrollment was partly due to the minimal marketing efforts and their unfortunate timing during vacation months.

A review of the situation at the end of 1974, after 18 months of marketing, showed several changes, although none of them were dramatic. The largest company had just completed its second open enrollment period, again without a major sales effort; the penetration rate for the new plans increased from the previous 0.8 percent to a still low 2.2 percent. In contrast, the intensive marketing among employees of a much smaller company where both the union and the management had supported the plans had achieved a 25 percent penetration rate in the company's first enrollment period. Marketing representatives of Group Health, Network,

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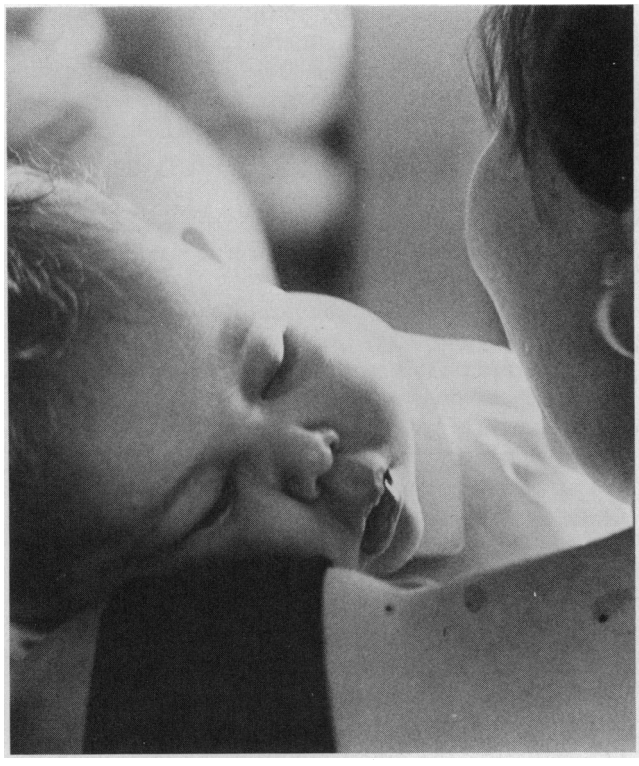

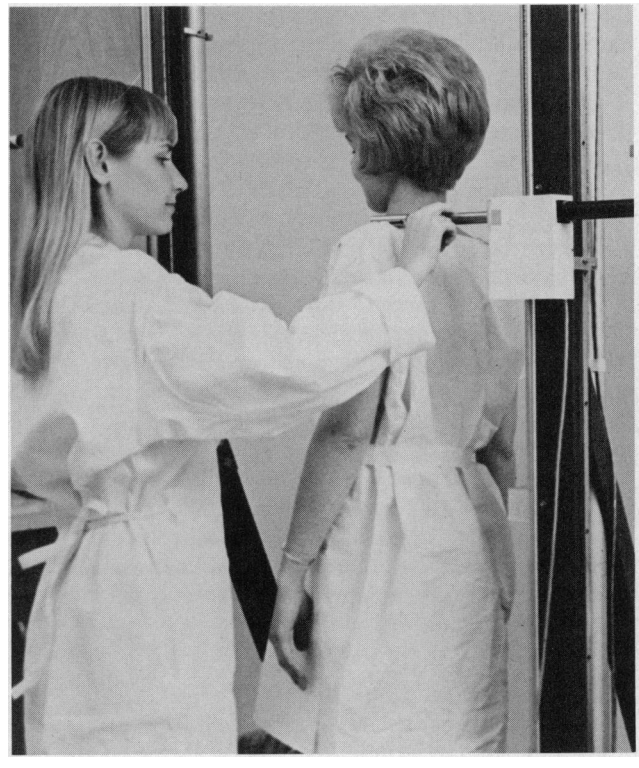

and Health Watch were invited to explain the benefits offered, and a generous company contribution to the premium kept the individual contribution low—$10 for Health Watch and $6 for Network—and eliminated it for Group Health. By December 1974 only one-third of all local companies had offered the plans to their employees. The penetration rates varied remarkably from company to company, and a tendency toward higher penetration with each enrollment period was apparent. By the end of 1974, 35,500 persons had enrolled, of whom 21,700 were in Health Watch, 10,300 in Group Health, and 3,500 in Network. Total community penetration was about 5 percent.

Background of Enrollment Surveys

This paper presents findings from two enrollment surveys. The first was conducted soon after the initial marketing in the summer of 1973. The second, conducted in the spring of 1975, was an effort to study enrollment choice at a later stage of marketing.

The objective of these surveys was to record the Rochester experience as seen by the consumer and the potential consumer of comprehensive prepaid health care. Parallel studies based on enrollment and claims files are in progress. No theory of enrollment choice was to be tested. We expected to replicate findings reported in studies elsewhere, adding only the special Rochester situation of a triple choice of prepayment plans in a community with ample medical services.

Obviously, risk vulnerability was hypothesized to be a major factor in an employee's enrollment choice, especially with the inducement of immediate coverage for maternity care. Information about age, family size, family income, previous out-of-pocket expenses, health rating of family members, and previous use of health services was obtained to test for this economic reasoning. Lack of integration in the present care system was also expected to be a major factor. Donabedian *(1)* has argued that "consumer acceptance of prepaid group practice plans is an expression of the absence of a prior patient-physician relationship or a breakdown in such relationships." Presence of a regular source of care and length of residence in the community were obtained to check for this factor. Finally, patient attitudes or "ideology," as reflected in preferences for various care characteristics, and specific factors relevant to the enrollment decision were probed for. No doubt some of the answers to attitude questions may only reflect rationalizations or explicit recognition of high risks, and these will not be treated as explanatory variables independent of risk vulnerability or lack of integration. It may suffice to say that we limited ourselves to exploring these three areas influencing enrollment choice and did not design the surveys to assess the isolated effects of any one causal factor.

1973 Enrollment Choice Survey

The initial survey was intentionally limited to employees of the largest firm participating in the first phase of marketing for three reasons. First, we expected a sufficiently large number of enrollees from this company to make the study a success even if the overall marketing was disappointing. Second, we wanted to limit the study to employees who were exposed to the same company contribution to the premium, the same basic BC-BS package, and the same marketing efforts. Third, we wanted to study the population immediately after the subscribers made their enrollment choices. The firm cooperated in the study by endorsing it in a separate letter, quickly drawing the samples, and providing statistical background data. The respondents returned the questionnaires to the university, identifying themselves only by a company 6-digit insurance number. The responses were kept confidential except (as explained to the respondents) that a listing of the insurance numbers of the respondents was given to the company to permit a second mailing to nonrespondent employees and for a statistical comparison of respondents and nonrespondents.

The questionnaire was kept short and simple. The final version was a folded 2-page form (4 sides). Six questions sought information on the subscriber and his decision to join or not. Another six questions were concerned with the health status and the use of health care facilities by each member of the family. The same questionnaire was sent to joiners and nonjoiners.

When the low enrollment totals became known, it was decided to mail questionnaires to all 380 employees of the company who had signed up for one of the three new plans during the initial marketing period from June 15 to July 15, 1973. A control sample of 850 persons was drawn from employees who had not enrolled. Questionnaires were mailed to the joiners 3 weeks after the end of the marketing period and 10 days after medical services had started. The mailing for the nonjoiners was delayed, because of sampling problems, until September. By November the returns had leveled off, and a second questionnaire was mailed to all those who had not yet responded.

The response rate was higher for the joiners than for the nonjoiners and for those who had family contracts than for those with single contracts. Thirty-eight percent of the joiners responded on the first mailing, and another 18 percent on the second. Nonjoiners had a response rate of 15 percent at the first mailing and an additional 15 percent after the second. If those with single contracts are excluded, the response rate was 58 percent for joiners and 38 percent for nonjoiners.

The possibility of biased results caused by nonresponse led to a careful analysis of respondents and nonrespondents. Respondents and nonrespondents in the nonjoiner sample were compared as to sex, age, length of employment, occupational rank, and work plant. Respondents tended to have a higher occupational rank than nonrespondents (43 percent of respondents had technical and professional status compared with 17 percent of nonrespondents; $P<.001$). The sex difference was significant; 23 percent of the

nonrespondents were female, but only 16 percent of the respondents ($P=.04$). All other comparisons yielded nonsignificant differences.

A comparison between respondents and nonrespondents in the joiner sample was later possible through access to the enrollment tape. Respondents and nonrespondents were compared as to family size and mean age of subscriber, spouse, and children. No significant differences were found.

The analysis is restricted to family contracts because of their higher response rate. The study group consisted of 568 persons in 149 joiner families and 802 persons in 224 nonjoiner families.

The results are presented in three sections. The first one reviews data obtained on the social integration of joiners and nonjoiners; the second reviews their risk vulnerability. The third section describes their care preferences and the reasons given for joining or not joining.

Social integration, 1973. The indicators for lack of integration in the medical care system mostly showed significant differences in the predicted direction. Length of residence in the Rochester community differed between joiners and nonjoiners. The nonjoiners had lived in the area for about 10 years on the average, but the joiners had lived there only about 7 to 8 years (table 1).

Answers to questions dealing with previous access to medical care discriminated well between joiners and nonjoiners and among the plans chosen. Nearly 15 percent of the Network joiners reported they had no regular source of care contrasted to only 3 percent for the nonjoiner group (table 1). But Health Watch joiners had a similarly low 2 percent with no regular source, and they also resembled the nonjoiner group very much as to access to family physicians, to specialized physicians, and to a regular place for care (for example, health center, outpatient clinic). The Group Health joiners held a position between Network and Health Watch joiners; about 15 percent of them had no regular source of care in the preceding 12 months, 56 percent had a family physician, and 68 percent had a specialized physician. The Network joiners had the highest proportion of respondents going to a regular place for care (32 percent).

There were significant differences as to demographic

Table 1. Family characteristics and previous use of health care resources, by health plan, 1973 survey

Survey item	Joiner sample				Nonjoiner sample (regular Blue Cross plan)	
	Network	Group Health	Health Watch	Total		
Average length of residence (years)	6.7	7.9	8.0	7.7	[1]10.0	
Average family income (dollars)	12,320	16,725	[2]19,735	17,050	18,290	
Family contracts:						
Number of subscribers	28	63	58	149	224	
Number of spouses covered	27	61	58	146	217	
Number of children under 19 years covered	58	100	115	273	361	
Total persons covered	113	224	231	568	802	
Average number of persons covered	4.03	3.56	3.97	3.81	3.58	
Average number of children per family	2.07	1.58	1.98	1.83	1.61	
Average age (years):						
Subscriber	37	38	38	38	[1] 42	
Spouse	35	36	35	36	[1] 40	
Children	9	9	9	9	10	
Family's regular source of medical care [3] (percent):						
Family physician or general practitioner	35	56	67	56	[1] 74	
Specialized physician	61	68	86	74	73	
Regular place	32	14	16	18	17	
No source of care	14	14	2	9	[1] 3	
Annual out-of-pocket expenses (dollars):						
Hospital	78	3	42	32	20	
Physicians, clinics	130	166	181	166	[1]134	
Laboratory and X-ray services	20	29	20	24	[1] 16	
Drugs	42	63	71	63	69	
Glasses	41	36	40	39	37	
Other	7	8	10	8	5	([4] 43)
Total medical expenses	318	305	364	332	281	([4]319)
Dental expenses	115	273	157	198	191	
Total health care expenses	433	578	521	530	472	([4]510)
Expected out-of-pocket expenses (dollars)	537	458	536	500	395	

[1]Significant difference between joiner and nonjoiner samples ($P<.05$; t test).
[2]Significant difference between the 3 plans of the joiner sample ($P<.05$; F test).
[3]Multiple answers permitted.
[4]Including an extreme value of $5,800 for open heart surgery.

characteristics. Subscribers to the new plans were younger than nonjoiners, having an average age of 38 years (table 1). The spouses of joiners were also about 4 years younger than the nonjoiner spouses, as would be expected, but the children in both groups seemed to be about the same age. The number of children covered by family contracts was not significantly different, ranging from about 2.1 for Network and 2.0 for Health Watch to 1.6 for the nonjoiners and those with Group Health contracts.

There were no significant differences in the family incomes of joiners and nonjoiners. Nonjoiners reported an average of about $18,300, joiners of about $17,000. The variation among the three joiner groups, however, was significant. The Network joiners had a family income of about $12,300; the Group Health joiners, about $16,700, and the Health Watch joiners, more than $19,700.

Risk vulnerability, 1973. The indicators for risk vulnerability showed few significant differences between enrollees and controls. Out-of-pocket health care expenses, the item providing the most rational argument for joining or not joining a prepayment plan, did not differentiate significantly between joiners and nonjoiners. The highest annual expenses were reported by the Group Health joiners, who averaged out-of-pocket health care expenses of $578 per year. The lowest expenses were reported by the Network joiners, who had expenses of about $433. The figures for the nonjoiners were in between, averaging $470 if an extreme value ($5,800 for open heart surgery, not covered by one family's insurance contract) is ignored, or $510 if this item is included. Significant differences were observed for payments for physician and clinic visits and for laboratory and X-ray procedures.

By using the national estimated per capita personal

Table 2. Health risk vulnerability of respondents, by health plan, 1973 survey

Survey item	Joiner sample				Nonjoiner sample (regular Blue Cross plan)
	Network	Group Health	Health Watch	Total	
Health rating (average [1])	1.61	1.46	[2] 1.36	1.45	1.47
Subscriber	1.89	1.47	[2] 1.29	1.48	1.50
Spouse	1.82	1.61	1.59	1.64	1.66
Children	1.38	1.37	1.27	1.33	1.35
Percent reporting disability in last two weeks	15.9	9.4	11.7	11.6	9.4
Subscriber	21.4	4.8	10.3	10.1	5.4
Spouse	14.8	11.5	5.2	9.6	10.1
Children	13.8	11.0	15.7	13.6	11.4
Average number of days of disability	.58	.31	.40	.40	.39
Subscriber	1.21	.21	.33	.44	.17
Spouse	.67	.30	.41	.41	.67
Children	.24	.38	.43	.37	.36
Percent with no visits to physicians last year	21.2	12.1	7.8	12.1	17.1
Subscriber	14.3	15.9	17.2	16.1	24.1
Spouse	14.8	6.6	[2] 3.4	6.8	10.6
Children	27.6	13.0	[2] 5.2	12.8	16.6
Average number of visits last year to private physician's office	2.10	2.20	3.81	2.84	2.44
Subscriber	2.89	1.87	2.03	2.13	1.75
Spouse	2.19	3.41	[2] 7.31	4.73	[3] 3.16
Children	1.67	1.67	[2] 2.95	2.21	2.44
Average number of visits to other sources of care	.98	1.02	[2] .51	.80	.61
Subscriber	2.29	1.48	1.38	1.59	1.44
Spouse	.63	1.26	.35	.78	.40
Children	.52	.58	.15	.39	.23
Percent hospitalized in last year	18.6	7.1	[2]14.3	12.3	[3] 8.5
Subscriber	14.3	1.6	[2] 5.2	5.4	9.8
Spouse	14.8	14.8	[2]32.8	21.9	[3]13.8
Children	22.4	6.0	[2] 9.6	11.0	[3] 4.4
Average number of nights hospitalized per year	1.09	.33	.79	.67	.74
Subscriber	1.21	.02	.24	.33	.96
Spouse	.33	.93	1.93	1.22	1.14
Children	1.38	.15	.49	.55	.37

[1]Scale used in rating was 1 excellent, 2 good, 3 fair, and 4 poor.
[2]Significant difference between the 3 plans ($P<.05$; F test).
[3]Significant difference between joiner and nonjoiner samples ($P<.05$; t test).

health expenditure in 1973 *(15)* of $167 for persons under 19 years and $384 for persons 19–64 years of age and applying these figures to the number of adults and children covered in each group, we can obtain the estimated health care expenses for our study population. Subtraction of their total premium costs ($420 for the BC-BS family contract and $72 for major medical insurance) provides us with their expected out-of-pocket expenses, that is, those not covered by BC-BS. This figure is remarkably close to that for the total out-of-pocket expense described in table 1. The slightly higher totals are probably due to the higher than average socioeconomic standing of the employees of the company.

The health status of family members that was reported in the survey did not differentiate between joiners and nonjoiners (table 2). Most health ratings were halfway between "excellent" and "good." There were some differences among plans (Network joiners reported the worst health and Health Watch joiners, the best health) and among family members (the spouse usually got the worst rating and the children the best). No significant differences were detected as to any disability over the last 2 weeks. Network joiners had the

Table 3. Health care preferences and enrollment decision, by health plan, 1973 survey

Survey item	Joiner sample				Nonjoiner sample (regular Blue Cross plan)
	Network	Group Health	Health Watch	Total	
Traditional preference factor[1]:					
High quality of care	2.96	2.98	3.00	2.99	2.96
Keeping costs low	2.82	2.59	2.74	2.69	2.68
Experience with or recommendation of a particular physician	2.54	2.18	[2] 2.83	2.50	2.50
Fee for service	2.39	2.08	2.21	2.19	[3] 2.47
Convenience factor[1]:					
Fast appointments	2.57	2.70	2.53	2.61	2.51
Short office waits	2.50	2.44	2.24	2.38	2.33
Convenient location	2.46	2.10	[2] 2.16	2.19	2.17
Characteristic of HMO factor[1]:					
Services available 24 hours a day	2.86	2.73	[2] 2.55	2.68	[3] 2.42
Prepayment of care	2.75	2.54	[2] 2.34	2.50	[3] 2.09
Comprehensiveness of care	2.57	2.54	[2] 1.72	2.23	[3] 1.83
Were options of the various plans clear? (percent)	100	100	100	100	100
Yes	75	83	93	85	87
Partially	14	9	.....	7	4
No	11	8	7	8	9
Discussed decision (percent)[4]	111	161	140	144	112
No	11	5	2	5	15
Nonspecific yes	32	32	43	36	67
Specific yes, with—					
Spouse	43	62	45	52	14
Physician	11	8	14	11	1
Friend	7	38	21	26	8
Health plan official	.....	.....	3	1	1
Company personnel	.....	8	9	7	4
Other	7	8	3	6	2
Specific answers to "why did you join (not join")[4] (percent):					
Financial consideration	21	32	45	35	69
Comprehensive coverage	29	16	24	21	11
Availability or access	14	35	7	20	6
Choice of own physician	.....	.....	9	3	7
Maternity coverage	7	8	21	13	.....
Quality of care	.....	13	5	7	.....
Preventive care	11	16	2	9	.....
Need or want a physician	4	13	.....	6	.....
Give it a try	4	2	2	2	.....
Prepayment	7	13	2	7	.....
High risk for medical care	14	2	9	7	.....
Other specific answers	.....	8	7	6	17
Nonspecific answers such as "good plan" to "why did you join (not join") (percent)	4	2	5	3	8
Total	115	160	140	139	118

[1]Scale used in rating was 1 not important, 2 important, 3 very important.
[2]Significant difference between the 3 plans ($P<.05$; F test).
[3]Significant difference between joiner and nonjoiner samples ($P<.05$; t test).
[4]Multiple answers possible.

highest figures (16 percent), and nonjoiners the lowest (9 percent). Similarly, the reported number of disability days did not differ significantly.

The proportion of joiner spouses and children hospitalized over the last year was significantly higher than the proportion of nonjoiner spouses and children. However, this finding did not hold for subscribers themselves, and no significant differences were found when nights of hospitalization per year were analyzed.

There were some significant differences as to the previous use of ambulatory care. The joiners had lower proportions of "no doctor visit in last year" than nonjoiners. Visits per year were higher for the adult joiners than for adult nonjoiners. The spouses of Health Watch joiners had a reported rate of 7.3 physician visits per year, compared with a rate of 3.2 visits for nonjoiner spouses.

Enrollment choice and care preferences, 1973. Three questions were used to determine the employees' level of information, consultation patterns, and reasons for their decision to join or not join. First, an open-ended question asked whether the options were clear to the employees. The responses were coded as "completely clear," "partially clear," and "not clear." More than 85 percent of the respondents indicated that the options were completely clear, about 5 percent indicated that they were partially clear, and less than 10 percent remarked that they were not clear (table 3). There were no significant differences between joiners and nonjoiners, nor within the joiner groups, among the different plans.

A second question asked whether the respondents had discussed the prepayment plans with anyone before making their decision. Again the question was open-ended, though "spouse, doctor, friends" were listed in brackets to suggest persons with whom this decision might have been discussed. The spouse was the person with whom the plan was most frequently discussed (52 percent of the joiners and 14 percent of nonjoiners), followed by friends (26 percent of the joiners, 8 percent of nonjoiners). Company personnel were mentioned by only 7 percent of the joiners and 4 percent of the nonjoiners. Discussions with physicians were reported by 11 percent of the joiners, but only 1 percent of the nonjoiners. Thus the physician had a larger influence on the joiners in this study population than both company and plan personnel combined.

A third question, again open-ended, probed why the employee finally decided to join or not to join. A coding scheme was devised that was general enough so that reasons for and against joining could be similarly classified. In more than two-thirds of the nonjoiner responses financial reasons (too expensive) were given for not joining. Only one-third of the joiners mentioned financial reasons (savings). The most important other reasons for joining were comprehensive coverage (21 percent) and the availability and accessibility of a physician (20 percent). Maternity coverage (13 percent) and the provision of preventive care (9 percent) were the next most frequent categories. In contrast, the nonjoiners indicated that the coverage provided by the basic BC-BS plan was sufficient and that they considered it the best option for them (8 percent).

There were major differences among the three respective plans for the joiners. Thus, the Health Watch joiners mentioned the financial consideration most frequently (45 percent) and emphasized the maternity coverage (21 percent) and choice of their own physician (9 percent). Group Health joiners emphasized the preventive care (16 percent), the need or desire for a new physician (13 percent), increased availability and accessibility (35 percent), and the prepayment character (13 percent) of the plan. Twenty-nine percent of the Network joiners gave as their main reason for joining the wide range of services offered by the Network plan.

Finally, the questionnaire included a 10-item listing of preference factors that might be relevant for selecting a physician or health plan. The respondents were asked to rate each item from "not important" to "very important."

A factor analysis of these 10 items yielded a three-factor grouping. The first factor contained all the convenience items such as "location of physician's office," "short waiting for appointments," and "short office waits " The second factor contained all the items characteristic of HMO organizations, such as availability of a physician 24 hours a day, prepayment, and a large range of services at one location. The third factor contained the items describing traditional practice patterns and traditional ways of selecting physicians. This factor also covered the high consensus items. Thus, nearly everyone wanted high quality of care and at the same time a low total cost. Fee-for-service payment and experience with or recommendation of particular physicians were the main items in this factor.

Ordering the items by factor, and within factors according to importance, showed the two high consensus items of the traditional care factor, namely high quality and low cost, at the top. There were no significant differences for these two items between joiners and nonjoiners or among the various plans. "Experience with or recommendation of a particular physician" differentiated between plans, and "fee-for-service" differentiated between joiners and nonjoiners.

The items in the "convenience of care factor" were rated in an intermediate position in their perceived importance. There were no significant differences between joiners and nonjoiners on these items, but among plans there was a difference for one item: Network joiners rated the convenient location of the centers highly.

The items of the "HMO factor"—24-hour-availability of physician, prepayment, and a large range of services—all showed significant differences between joiners and nonjoiners, as well as among plans. Joiners attributed more importance to these items than non-

joiners. Among the plans, the Group Practice enrollees gave them more importance than the Health Watch enrollees.

Discussion of 1973 survey. This first enrollment choice survey had limitations that make generalizations difficult. We studied only one community, one company, one "open enrollment;" we analyzed family contracts only; and we achieved only an overall response rate of just under 50 percent. We found no evidence that nonresponse was related to the independent variables, and whatever bias was introduced should have affected the enrollees and the controls equally. Most of the limitations inherent in the study were deliberately selected to control for confounding variables such as different proportions of family contracts, different marketing, and differences in the company's contributions to the premium. The respondents had relatively homogeneous backgrounds, and all were exposed to the same intervention.

We found strong evidence of a higher propensity to enroll among those who were not integrated into the present care system, scant evidence of the self-selection of persons with high-risk conditions, and some evidence of self-selection on ideologic grounds (that is, by those appreciating the care characteristics typical of prepaid care). Prepayment plan enrollees differed among the plans nearly as much as did joiners and nonjoiners. If there was a danger of self-selection of high risk employees, Health Watch, the foundation plan, was most exposed to this danger. Some respondents who selected prepayment probably made their decision on the basis of anticipated new expenses such as maternity care rather than on the basis of past expenses.

Although we found no strong evidence of self-selection of those with high-risk conditions, we did find economic reasoning dominant. Two-thirds of the nonjoiners gave high cost as a reason for not joining. In fact, economically speaking, the additional premium payments balanced the reported out-of-pocket medical expenses well. The new plans were not bargains, but neither were they more expensive than previously available care. In the absence of a financial incentive and very modest marketing efforts, most employees chose to keep their previous BC-BS coverage. Those who did join seemed to have joined for noneconomic reasons. They were willing to prepay in exchange for greater access, availability, comprehensiveness, or other improvements in their medical care.

1975 Enrollment Choice Survey

The second survey, conducted 18 months later, followed the design of the first one in the use of a short questionnaire, the limitation to family contracts, and the inclusion of a control group. The limitation to one company was dropped; the exposure to marketing ef-

Table 4. Family characteristics and previous use of health care resources, by health plan, 1975 survey

Survey item	Joiner sample				Nonjoiner sample (regular Blue Cross plan)
	Network	Group Health	Health Watch	Total	
Average length of residence (years)	7.7	9.2	[1]10.7	9.3	[2]10.5
Average family income (dollars)	13,000	15,600	16,100	15,200	[2]18,100
Family contracts:					
Number of subscribers	89	117	120	326	145
Number of spouses covered	80	112	112	304	141
Number of children under 19 years covered	144	167	160	471	197
Total persons covered	313	396	392	1,101	483
Average number of persons covered	3.52	3.38	3.27	3.38	3.33
Average number of children per family	1.62	1.42	1.33	1.44	1.36
Average age (years):					
Subscriber	35	37	[1] 41	38	[2] 45
Spouse	34	36	39	36	[2] 43
Children	8	10	9	9	10
Annual out-of-pocket expenses (dollars):					
Hospital	55	41	35	42	20
Physicians, clinics	125	124	126	125	128
Laboratory and X-ray services	28	23	27	26	22
Drugs	54	82	65	68	54
Glasses	26	37	38	34	41
Other	6	22	29	20	24
Total medical expenses	295	329	324	317	289
Dental expenses	100	199	[1]123	144	177
Total health care expenses	395	528	447	461	466
Expected out-of-pocket expenses (dollars)	665	645	605	635	635

[1]Significant difference between the 3 plans of the joiner sample ($P<.05$; F-test).
[2]Significant difference between the joiner and nonjoiner samples ($P<.05$; t test).

forts was more vigorous in Rochester by this time. For each of the three plans, 200 family contracts were chosen from the central enrollment tape by including every family contract becoming effective after December 1, 1974, until the desired sample size was achieved. The control group was randomly selected from a list of families who had been offered the three prepayment plans within the previous 2 months but had chosen not to join. This list was based on a brief community survey, conducted by postcard, in December 1974, that had yielded an 80 percent response.

The first mailing of questionnaires was done the third week of January 1975 and brought a response of 33 percent. A second questionnaire mailed 1 month later to nonresponders resulted in another 20 percent return. A telephone followup in early April brought the overall return to 60 percent. Families that moved out of town without leaving a forwarding address and clerical errors in the plans' enrollment lists reduced the number of eligible sample families from 800 to 791. Responders and nonresponders in the three enrollment samples were compared, on the basis of the enrollment file, as to family composition and average age of family members. Responders tended to be of somewhat higher socioeconomic status, to be about 3 years older, and to have somewhat smaller families than nonresponders. However, all three plans were equally affected by these tendencies. Responders and nonresponders in the control sample were compared as to family size and socioeconomic standing, known from the earlier postcard survey. No significant differences were found.

Although the first open enrollment survey was confined to the photographic industry, which has a heterogeneous work force, in this later effort employees from an automotive assembly plant with headquarters in Detroit were overrepresented. Most of the employees were blue collar workers. The company was unionized, and the marketing had strong support from both management and union. Previous health insurance coverage had been generous, including 80 percent coverage of dental expenses. In contrast, the photographic industry company was not unionized, had relatively less generous insurance, and was headquartered in Rochester. The study group in the later survey consisted of 1,101 persons in 326 joiner families and 483 persons in 145 nonjoiner families.

Social integration, 1975. The various indicators of respondents' lack of integration into the existing medical care structure showed significant differences again between enrollees and nonenrollees (table 4). Health plan enrollees were, on the average, more recent residents than nonenrollees; they had made greater use of ambulatory care at neighborhood health centers, outpatient departments, and emergency rooms, and less use of private office practices (table 5). The families of both enrollees and controls were somewhat smaller than those surveyed in 1973, but were not significantly different from each other. Again, the subscribers and their spouses were at least 4 years younger. Enrollees reported significantly lower family incomes than controls. This finding, especially when compared with the incomes reported 18 months earlier, confirms that the second survey reached a working population of somewhat lower socioeconomic status than that in the first survey.

Risk vulnerability, 1975. As in the previous survey, there were no major significant differences in risk vulnerability between enrollees and controls.

The out-of-pocket expenses reported for 1974 were actually about the same or slightly lower than those reported 18 months before. The lower out-of-pocket expenses, especially for the enrollee sample, reflect both the lower socioeconomic standing of this population and the more generous insurance that the company had previously provided, which even covered some dental and other ambulatory services.

The computation of the expected out-of-pocket expenses assumes the same insurance coverage and the same premium rate as in the earlier study. Because many companies were involved in this second survey, each with a different premium structure insufficiently known to the enrollees, a precise comparison was not possible. The expected expenses 18 months later were assumed to be 15 percent higher *(16)* than those used for fiscal year 1973, although the premium rate for both BC-BS and the prepayment plans had remained unchanged. (Both BC-BS and the new HMOs were operating at a loss because of the older, unchanged rates.)

There were no significant differences in the self-reported health rating between the two samples although, within the three joiner groups, the Health Watch subscribers consistently reported themselves in better health than other subscribers. There were no significant differences in use of ambulatory care resources as reported. Actually, nonjoiners reported more visits to private physicians than joiners, exactly opposite to what the risk vulnerability hypothesis predicts. However, this difference was cancelled out by a higher rate of utilizing health centers, outpatient facilities, and emergency room departments by the joiners. There were no consistent differences as to use of inpatient facilities. Only for the average number of hospital nights did we find significantly lower rates for the nonjoiners than for the joiners. Inpatient care, however, had been covered previously by Blue Cross, and this difference should have not affected the decision making.

Enrollment choice and care preference, 1975. The answers to our enrollment choice questions reflected the new situation 18 months later. Employers of 40 percent of the joiners paid the entire premium, and in the Health Watch group, the proportion was 73 percent—a remarkable change from 1973 (table 6). Also changed was the respondents' choice of discussants in reaching a

Table 5. Health risk vulnerability of respondents, by health plan, 1975 survey

Survey item	Joiner sample				Nonjoiner sample (regular Blue Cross plan)
	Network	Group Health	Health Watch	Total	
Health rating (average)[1]	1.60	1.40	[2] 1.61	1.53	1.53
Subscriber	1.70	1.50	[2] 1.73	1.64	1.56
Spouse	1.78	1.50	[2] 1.71	1.65	1.72
Children	1.44	1.26	[2] 1.44	1.38	1.34
Percent with no visits to physicians last year	18.5	24.7	[2]17.1	20.3	21.9
Subscriber	16.9	20.5	17.5	18.4	24.1
Spouse	17.5	18.7	14.3	16.8	17.0
Children	20.1	31.7	[2]18.7	23.8	23.9
Average number of visits to private physician's office in last year	2.16	1.78	[2] 3.14	2.37	2.81
Subscriber	2.19	1.68	[2] 3.68	2.56	2.25
Spouse	3.51	2.54	3.76	3.24	4.32
Children	1.40	1.34	[2] 2.30	1.68	2.15
Average number of visits to other sources of care	1.81	1.50	[2] .65	1.28	[3] .60
Subscriber	2.10	2.14	.51	1.53	.87
Spouse	1.60	1.41	.99	1.31	.79
Children	1.75	1.10	[2] .52	1.10	[3] .27
Percent hospitalized in last year	7.7	10.6	10.5	9.7	7.0
Subscriber	6.7	8.5	11.7	9.2	7.6
Spouse	15.0	16.1	17.0	16.1	10.6
Children	4.2	8.4	5.0	5.9	4.1
Average number of nights hospitalized per year	.39	.59	.87	.63	[3] .28
Subscriber	.27	.44	1.25	.69	.43
Spouse	.84	1.25	1.40	1.20	[3] .36
Children	.22	.25	.21	.23	[3] .10

[1]Scale used in rating was 1 excellent, 2 good, 3 fair, and 4 poor.
[2]Significant difference between the 3 plans ($P<.05$; F test).
[3]Significant difference between joiner and nonjoiner samples ($P<.05$; t test).

health plan decision: health plan representatives and company personnel had the greatest influence next to the spouse. The frequency of mentioning the physician or a friend did not change. The greater marketing efforts seem to have had a large impact on the enrollment choice (compare table 6 data for enrollees and controls). Also, the health plan agent was mentioned with the greatest frequency for the Network and Group Health subsamples and seldom for Health Watch enrollees and nonjoiners.

The decision to join or not to join was categorized separately in the more recent survey. The joiners of Network and Group Health rated the comprehensiveness of services and preventive care highest, followed by guaranteed access and expected savings. Health Watch enrollees put heaviest emphasis on expected savings and mentioned comprehensiveness of services, guaranteed access, and preventive care significantly less frequently than did the enrollees of the other two plans. The nonjoiners gave high cost as the main reason for not joining (49 percent); the two reasons cited next most frequently were satisfaction with the current coverage and present physician.

Finally, the questionnaire ascertained preference factors in a pattern similar to the 1973 survey except that high consensus items were dropped and a few new ones were added. Most items differentiated significantly between enrollees and controls, with the enrollees attributing a much greater importance to nearly all factors. Both enrollees and nonenrollees gave top preference to guaranteed access to care, while "recommendation by friends" and "type of patients going there" were at the bottom of the list. Within the prepayment groups, enrollees of Health Watch differed from enrollees of the prepaid group practice plans on a number of items, especially as to "recommended by friends," "comprehensive services," and "reasonable fees."

Discussion of 1975 survey. The setting for the second survey differed in several respects from that of the earlier one, but the conclusions were very similar. In the second survey, we were dealing with a population of somewhat lower socioeconomic status that had been exposed to stronger marketing efforts from both management and union and were dealing with marketing at a period when medical care costs had climbed approximately 15 percent while premiums had remained constant. However, we found that indicators for lack of integration in the traditional medical care system, such

Table 6. Health care preferences and enrollment decision, by health plan, 1975 survey

Survey item	Joiner sample				Nonjoiner sample (regular Blue Cross plan)
	Network	Group Health	Health Watch	Total	
Traditional preference factor[1]:					
Reasonable fees	2.77	2.81	[2] 2.65	2.74	[3] 2.52
Friendliness of staff	2.46	2.52	2.51	2.51	[3] 2.25
Recommended by friends	1.52	1.57	1.71	1.61	1.61
Type of patients going there	1.54	1.45	1.55	1.51	[3] 1.37
Convenience factor[1]:					
Fast appointments	2.62	2.62	2.62	2.62	[3] 2.37
Short office waits	2.47	2.64	2.62	2.54	[3] 2.40
Convenient hours	2.49	2.53	2.59	2.54	[3] 2.39
Convenient location	2.44	2.35	2.30	2.36	2.25
Characteristic of HMO factor[1]:					
Guaranteed access	2.87	2.90	2.87	2.88	[3] 2.80
24-hour emergency care	2.74	2.79	2.66	2.73	[3] 2.50
Comprehensiveness of care	2.58	2.68	[2] 2.40	2.55	[3] 2.31
Does your employer contribute to your health insurance premium? (percent)	100	100	100	100	100
No	15	11	5	10	10
Yes, partly	65	69	21	50	57
Yes, all	20	20	73	40	33
Discussed decision (percent)[4]	200	206	194	200	144
No	3	3	9	5	[3] 18
Yes, with—					
Spouse	73	74	66	71	[3] 53
Physician	6	10	13	10	[3] 3
Friend	23	31	34	30	33
Health plan agent	43	44	19	34	[3] 10
Company personnel	44	38	49	44	[3] 24
Others	8	6	4	6	3
Why did you join this plan? (percent)[4]	270	293	190	249	.....
Expected savings	57	62	62	61	.....
Wide range of services	73	77	48	65	.....
Guaranteed access	57	58	25	46	.....
Preventive care	67	71	32	56	.....
Others	16	25	23	21	.....
Why did you choose not to join a plan? (percent)[4]	.....	.....	.....	.....	178
Too expensive	.....	.....	.....	.....	49
Prefer current coverage	.....	.....	.....	.....	43
Rarely need a physician	.....	.....	.....	.....	22
Want to stay with present physician	.....	.....	.....	.....	36
Inconvenient location	.....	.....	.....	.....	18
Others	.....	.....	.....	.....	10

[1]Scale used in rating was 1 not important, 2 important, 3 very important.
[2]Significant difference between the 3 plans ($P<.05$; F test).
[3]Significant difference between joiner and nonjoiner samples ($P<.05$, t test).
[4]Multiple answers possible.

as age of subscriber and spouse, length of residence, and pattern of previous care, showed repeated and significant differences. Again, no differences could be shown as to risk vulnerability, out-of-pocket expenses, health status rating, and ambulatory care rates.

The reasons for joining the different plans, as well as the general care preferences, indicate that enrollees valued preventive and comprehensive care much more than nonenrollees. The control respondents were satisfied with their present physician and current coverage, and they were older, had a higher income, and had lived in the area longer. Whether these differences should be interpreted more as ideological preferences or different lifestyles is open for discussion. Enrollees seem to be more willing to buy a budgeted plan or package than a specific physician. They seem more mobile, more willing to sign up, but possibly also more willing to drop out.

Implications

The implications of these findings for the growth of prepaid plans in the near future are difficult to assess. Both the BC-BS rates as well as the rates for the three alternative plans increased in July 1975. However, the increase for Group Health, modeled after the typical prepaid group practice, was the lowest (15 percent) for both single and family contracts. The Network rates increased 12.7 percent for single contracts and 18.3 per-

cent for family contracts. Both these plans' increases were below the BC-BS increases of 18.4 percent for single and 18.8 percent for family contracts. However, Health Watch, the foundation plan, had to increase its rate by 53.8 percent for single and by 61.4 percent for family contracts. These increases reflect the different inpatient utilization rates for the different plan members (833.7 nights per 1,000 enrollees for Health Watch members in 1974, compared with 627.2 for BC-BS, 490.2 for Group Health, and 493.3 for Network). The now very different rates for the three plans (family contracts per month cost $97 for Health Watch, $57.14 for Group Health, and $66.88 for Network) will most likely cause a shift between plans, with Health Watch losing members and the other two gaining members. By the end of July 1975 the total enrollment in the three plans was more than 44,000, or 6 percent of the Monroe County population served by them.

We found no evidence that, overall, the HMO enrollees are at higher risk levels than the nonenrollees. On the contrary, their younger age and more favorable attitudes towards prevention may actually put the HMO enrollees at lower risk levels. However, the new prepayment plans do not seem to have as much appeal to established, older families in the community. Under the present legislation, our prediction then would be for slow but steady growth of the HMOs as they draw on a relatively small but steadily growing subsection of the population.

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SYNOPSIS

ROGHMANN, KLAUS J. (University of Rochester School of Medicine and Dentistry), GAVETT, J. WILLIAM, SORENSEN, ANDREW A., WELLS, SANDRA, and WERSINGER, RICHARD: ***Who chooses prepaid medical care: Survey results from two marketings of three new prepayment plans. Public Health Reports, Vol. 90, November-December 1975, pp. 516–527.***

Employees joining or not joining three newly marketed prepayment plans were surveyed during the first marketing period and during another open enrollment period 18 months later.

In the 1973 survey the respondents were 149 subscribers (family contracts covering 568 persons) to the new plans and 224 nonjoiners (a total of 802 persons in their families)—all employees of Rochester's largest industry. In the 1975 survey the respondents were employees of several companies. They included 326 joiner families (1,101 persons) and 145 nonjoiner families (483 persons).

There were no significant differences in previous out-of-pocket health expenditures between joiners and nonjoiners. Their self-reported health ratings did not differ; disability over the last 2 weeks was about the same. Physician utilization rates and inpatient rates were similar, except for the spouses of subscribers to one plan. However, the joiners were younger, had lived in Rochester for a shorter period, and had made less use of physicians in private practice.

The three prepayment plans appealed to different population groups. The Network joiners were young, low-income families, mostly from the city. The Group Health joiners were young families with few children who especially valued availability, accessibility, and comprehensiveness. Health Watch joiners were older couples who preferred to use the traditional avenues to health care.