Attitudes of Washington State Primary Care Physicians Toward Capitation-Based Insurance Plans

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Recent years have brought many changes in health care financing, including health care insurance plans based on capitation allowances to physicians. This study describes a survey examining physician attitudes toward such plans. The survey was distributed to a random sample of 30% of the family physicians, general practitioners, general internists, and general pediatricians in the Washington State Medical Association in 1986. Responses from 322 physicians (71%) indicated that most primary care physicians had a negative attitude toward such plans. Participants in capitation-based plans (48% of total respondents) had a nearly neutral attitude, which was significantly different from the attitude of nonparticipants. Respondents identified the main disadvantages of such plans as confusion about benefits, increased administrative demands, liability risks, altered professional relationships, and loss of autonomy. The main advantages perceived were increased physician awareness of cost, increased importance of the primary care role, and reduction of unnecessary health care utilization. Attitudes were significantly more negative among solo practitioners and physicians with more years in practice. Respondents rated selection of consultants, favorable economic arrangements, and benefits information as the features most likely to influence them to participate in capitation-based plans. **J FAM PRACT 1990; 30:89-94)**

In recent years health care plans have been developed in which primary care physicians receive a certain amount (capitation) per enrolled member per month and act as "gatekeepers" for enrolled members. Many of these plans are health maintenance organizations (HMOs) composed of a network of primary care physicians, either in solo or group practices, who see both HMO enrollees and patients with other types of health insurance. Both federal and state programs have implemented experimental gatekeeper-based plans during the 1980s, [1–3] and growing enrollment in such plans has been predicted for the future.[4]

The gatekeeper in medicine has been described as a case manager who provides medical care and oversees medical expenditures from a pool of money (capitation) provided by the plan to physicians for the care of enrollees assigned to those physicians. The gatekeeper role may include coordinating care,[3,5–8] controlling access to medical services,[3,5,7,8] evaluating technology,[8,9] and serving as a patient advocate, broker, confidante, educator, risk manager, or researcher.[8]

Several editorials and commentaries have discussed the gatekeeper role and capitation-based plans. Potential positive attributes of capitation-based plans include benefits related to health care delivery, such as better coordination of care,[1,5,10] increased control over unnecessary referrals and ancillary services,[1,3,5,11,12] improved continuity of care,[3] and economic benefits such as consistent cash flow, increased patient volume, improved collection rate,[12,13] and increased physician awareness of costs.[11] Cost savings have been observed in a few gatekeeper-based government demonstration programs, such as those for Medicare enrollees[1] and one program for Medicaid enrollees that was able to increase continuity of care and reduce

Submitted, revised, August 28, 1989.

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TABLE 1. PRIMARY CARE PHYSICIAN BELIEFS ABOUT POTENTIAL DISADVANTAGES OF PARTICIPATING IN CAPITATION-BASED INSURANCE PLANS, WASHINGTON STATE, 1986 (mean score on 5-point scale, where 1 = strongly disagree and 5 = strongly agree; standard errors shown in parentheses)

Capitation-Based Plan Would:	All Respondents		Participants in Capitated Plans (n = 154) Mean Score (SE)	Nonparticipants in Capitated Plans (n = 168) Mean Score (SE)
	Percent Agreeing With Statement (scoring 4 or 5)	Mean Score (SE)		
Stress my patients because of confusion about benefits	85	4.2 (.04)	4.2 (.06)	4.3 (.07)
Stress my office staff because of confusion about benefits	84	4.2 (.05)	4.2 (.06)	4.3 (.07)
Result in my spending more time explaining benefits to patients	82	4.1 (.05)	4.0 (.06)	4.2 (.08)*
Increase the amount of time my office spends on administration	81	4.2 (.06)	4.3 (.10)	4.1 (.08)
Reduce patient access to care	72	3.8 (.06)	3.8 (.09)	3.9 (.08)
Increase tensions among physicians	70	3.9 (.05)	3.8 (.08)	4.0 (.08)†
Increase my risk of being sued	65	3.8 (.05)	3.7 (.08)	4.0 (.08)*
Threaten my relationship with patients	65	3.7 (.06)	3.6 (.08)	3.9 (.08)*
Decrease the amount of control I have over my practice	62	3.6 (.06)	3.5 (.10)	3.8 (.10)†
Threaten my relationship with specialists	62	3.6 (.06)	3.6 (.09)	3.7 (.08)
Result in my providing less preventive care	37	3.0 (.07)	2.7 (.10)	3.4 (.10)*

*Significant at $P < .01$ on two-tailed t test
†Significant at $P < .05$ on two-tailed t test

outpatient utilization, hospitalization rates, and length of stay.[3]

Negative views about gatekeeper-based plans occur frequently in the literature, with concerns about quality of care,[2,5–7,14] economics,[3,5,6,9,12] physician-patient and primary-care–subspecialist relationships,[1,5,11–15] practice management issues,[9–16] liability risks,[16] and physicians' lack of preparation for the gatekeeper role.[10,15]

Despite these commentaries, little information exists regarding the range and depth of physician opinion about capitation-based plans. The purpose of this study was to determine how a representative sample of primary care physicians felt about such plans, focusing on issues of importance to primary care physicians. Issues studied were identified during open-ended interviews with primary care physicians, described elsewhere.[17] From these interviews a survey instrument was developed to measure physician opinion regarding specific issues related to capitation-based plans. The hypothesis was that physician opinion would be negative overall, but that their opinions would differ across specialties and practice situations.

METHODS

A survey instrument was developed to measure physician attitudes about gatekeeping using an open-ended interview technique described previously by the authors.[17] Confidential interviews were conducted with 18 primary care physicians practicing in the Seattle area during 1986. Respondents were asked to describe any positive and negative aspects of capitation-based insurance plans. Physicians were also asked to describe any features of capitation-based plans that would make it easier for them to act as gatekeepers. The information obtained from these interviews was recorded on audiotape, transcribed, and used to develop the survey instrument.

Opinions expressed frequently by the interviewed physicians were summarized as one-sentence statements on the survey instrument. The introductory paragraph on the instrument defined capitation-based systems as those in which physicians are paid a certain amount per member per month for the care of members assigned to them, where primary care physicians act as case managers or gatekeepers coordinating care and to some degree controlling the access to care, and where physicians work under a financial incentive to contain costs.

Physicians were asked to agree or disagree with the one-sentence statements on 5-point bipolar scales (1 = strongly disagree, 5 = strongly agree). Examples of these statements included, "If I participated in a capitation-based system and compared it with more 'traditional' health care insurance, my participation would allow me to better coordinate my patients' care" or ". . . restrict my

TABLE 2. PRIMARY CARE PHYSICIAN BELIEFS ABOUT POTENTIAL BENEFITS OF PARTICIPATING IN A CAPITATION-BASED INSURANCE PLANS, WASHINGTON STATE, 1986 (1 = strongly disagree and 5 = strongly agree; standard errors shown in parentheses)

Capitation-Based Plan Would:	All Respondents: Percent Agreeing With Statement (scoring 4 or 5)	All Respondents: Mean Score (SE)	Participants in Capitated Plans (n = 154) Mean Score (SE)	Nonparticipants in Capitated Plans (n = 168) Mean Score (SE)
Require that I think more about cost of care	67	3.7 (.06)	3.9 (.10)	3.5 (.08)*
Increase the importance of primary care physicians' role in medicine	62	3.5 (.06)	3.8 (.10)	3.2 (.08)*
Decrease unnecessary utilization of health care	54	3.2 (.07)	3.5 (.11)	2.8 (.09)*
Reduce my use of diagnostic tests for a patient with a given diagnosis	52	3.4 (.06)	3.2 (.10)	3.5 (.09)†
Decrease health care costs for society	45	3.1 (.06)	3.4 (.10)	2.8 (.09)*
Improve continuity of care for my patients	42	2.9 (.07)	3.2 (.10)	2.7 (.10)*
Better coordinate my patients' care	40	2.8 (.07)	3.1 (.11)	2.5 (.11)*
Increase the complexity of clinical problems I manage	39	3.1 (.06)	3.0 (.10)	3.1 (.10)
Increase my practice volume	32	3.0 (.06)	3.2 (.10)	2.8 (.08)*
Improve the quality of patient care	15	2.3 (.06)	2.4 (.09)	2.0 (.09)*
Would be consistent with my reasons for entering medicine	13	2.1 (.06)	2.3 (.09)	1.8 (.10)*
Benefit my practice financially	12	2.4 (.05)	2.6 (.08)	2.2 (.08)*

Difference between mean attitude score significant at P < .01 on two-tailed t test
†Difference between mean attitude score significant at P < .05 on two-tailed t test

patients' access to care" (Tables 1, 2) A single-item attitude measure was also included, asking respondents to rate their overall attitude about capitation-based systems on a 7-point scale (1 = extremely negative, 7 = extremely positive). A 7-point scale was used to increase the chance of identifying significant differences among groups on this important overall attitude question. Participants were also asked to rate on a 4-point scale (1 = not at all influential, 4 = extremely influential) 11 possible features that might influence them to affiliate with or continue with a capitation-based plan. Examples of such features included "co-payments or deductibles to reduce utilization" and "a broad selection of high-quality consultants." A total of 23 attributes of capitation-based systems, 11 possible features of capitation-based systems, and 1 overall attitude summary statement were included on the survey. Finally, the survey included questions about type and duration of medical training, practice organization and setting, community size, proportion of patients enrolled in capitation-based plans, the length of time the physician had been affiliated with capitation-based plans, and the length of time the physician had been in practice.

The survey was administered in late 1986 to a stratified random sample consisting of 30% of all family physicians, general practitioners, general internists, and general pediatricians listed as members of the Washington State Medical Association (WSMA). Physicians known to be practicing in Group Health Cooperative of Puget Sound, a large staff model HMO, were excluded from the study, since they would not be participants or potential participants in capitation-based systems. The resulting sample included 298 family physicians and general practitioners, 217 general internists, and 85 pediatricians. The survey was mailed to this sample of 600 physicians along with a cover letter from the president of the WSMA assuring confidentiality and asking for their voluntary participation. One month later a second copy of the survey was sent to all nonrespondents.

Bivariate analysis was used to compare physician groups with regard to individual belief items, overall attitude toward capitation, and demographic factors. Regression analysis was used to identify variables that would predict the score on the single question regarding physician attitude toward capitation-based plans.

RESULTS

A total of 425 physicians completed and returned the survey. Two surveys were returned undeliverable, for a total adjusted response rate of 71%. Of these respondents, 352 physicians indicated that they were acting as primary care physicians for the majority of their patients. The

remaining 73 physicians reported they were mainly providing specialty care and were therefore excluded from analysis. Also excluded were 30 physicians who indicated that they practice only in an HMO, the military, emergency departments, or urgent care centers. Thus the surveys included in the analyses consisted of those returned by 322 primary care physicians: 189 family physicians and general practitioners, 91 general internists, and 42 pediatricians. Forty-eight percent (154) indicated that they had some patients enrolled in capitation-based plans. The proportion of the respondent physicians' practices (per physician estimates) enrolled in capitation-based plans was 5.9% (9.6% among physicians who said they participated in capitated plans). For the group of respondents as a whole, the mean duration of affiliation with capitated plans was 1.6 years (3.2 years for respondents who reported that they actually participated in capitated plans).

The respondents had a mean age of 46.1 years and a mean of 16.0 years in practice; 88.7% were men. The most common practice organization among respondents was solo (34.5%), followed by multispecialty group (24.8%), single-specialty group (21.4%), and partnership (18.6%). The most common practice setting by far was private practice (94.7%). Only 5.3% practiced in other settings such as salaried teaching positions and other salaried practice. The largest proportion (38.8%) of respondents were from communities of over 100,000 population.

The mean overall attitude toward capitation was "slightly negative" (on a 7-point scale). Only 22% of primary care physicians had a positive opinion about capitation-based plans. Analysis of variance was used to compare various groups of primary care physicians with regard to attitudes toward capitation-based systems (Table 3). Physicians in group practice had significantly more positive attitudes than those in solo practice. Physicians with some proportion of their patients enrolled in a capitation-based plan had more positive attitudes than those with no patients enrolled. In addition, a slightly more positive attitude toward capitation was found among family physicians and general practitioners than among general internists and pediatricians, though not statistically significant.

Physicians' beliefs about capitation-based plans are presented in Tables 1 and 2, for the respondent group as a whole, and for capitation plan participants compared with nonparticipants. On most questionnaire items, physicians who already participated in capitation-based plans had a more positive opinion than did physicians who were not participating (Tables 1 and 2). Attitude toward capitated plans was significantly correlated with extent of experience with such plans, length of time in practice, and proportion of practice in capitated plans (Table 4). Physicians were significantly more likely to hold a positive opinion toward capitation-based plans on the single-item attitude question if they had more patients enrolled in such plans, more years of experience with capitation, and fewer years of experience in practice.

TABLE 3. WASHINGTON STATE PRIMARY CARE PHYSICIAN ATTITUDES TOWARD CAPITATION-BASED MEDICAL PLANS, 1986

Factor	Score* (SD)	Mean *P* Value†
Practice organization		
Solo	2.3 (1.4)	
Group	3.2 (1.7)	<.01
Percentage of practice enrolled in capitation-based plans		
0	2.2 (1.4)	
≥1	3.6 (1.6)	<.01
Specialty		
Family medicine and general practice	3.0 (1.7)	NS
Pediatrics	2.9 (1.7)	
Internal medicine	2.5 (1.5)	
All respondents	3.0	

**Based on mean score on question "Overall, how do you feel about participating in a capitation-based system," where 1 = extremely negative, 2 = quite negative, 3 = slightly negative, 4 = neutral, 5 = slightly positive, 6 = quite positive, 7 = extremely positive.*
†Analysis of variance

Various groups of primary care physicians were compared with regard to individual belief items, using a two-tailed *t* test. Family practice and general practice physicians were significantly less likely ($P < .05$) to perceive a loss of control over their practice under capitated plans, and more likely to feel that such plans would improve continuity of care ($P < .05$) and would be consistent with their reasons for entering medicine ($P < .01$). When solo practitioners were compared with non-solo practitioners, the solo group held a significantly less positive opinion toward capitation plans' potential benefits, eg, increasing the importance of the primary care role in medicine ($P < .01$), decreasing health care costs to society ($P < .01$), improving continuity ($P < .01$), coordination ($P < .01$), and quality of care ($P < .01$), and reducing unnecessary utilization ($P < .05$). Solo practitioners were significantly

TABLE 4. PEARSON CORRELATION COEFFICIENTS RELATING OVERALL ATTITUDE TOWARD CAPITATION-BASED MEDICAL PLANS WITH PRACTICE-RELATED FACTORS AMONG PRIMARY CARE PHYSICIANS IN WASHINGTON STATE, 1986

Factor	Correlation	*P* Value
Years in practice	−.10	<.05
Proportion of practice enrolled in capitation-based plans	.33	<.01
Years physician had participated in capitation-based plans	.18	<.01

TABLE 5. STEPWISE REGRESSION ANALYSIS OF FACTORS PREDICTING OVERALL ATTITUDE TOWARD CAPITATION-BASED MEDICAL PLANS FOR WASHINGTON STATE PRIMARY CARE PHYSICIANS, 1986 (n = 262)

Variable Entered	R^2	Delta R^2	P Value
Proportion of practice enrolled in capitation-based plan	.15	.15	.001
Practice organization (solo vs. group)	.17	.02	.02
Specialty (family medicine and general practice vs general pediatrics and general internal medicine)	.19	.02	.02
Population of community in which physician practices	—	—	—
Years of physician participation in capitation-based plans	—	—	—
Sex of physician	—	—	—
Years physician had been in practice	—	—	—

more likely to perceive two negative aspects of capitation-based plans: potential to increase their risk of being sued ($P < .05$), and potential loss of control over their practice ($P < .05$). There were no significant differences between mean scores for male and female respondents on individual items or overall attitude toward capitation.

Regression analysis was performed to determine which variables accounted for the most variance in the score on the single question inquiring about physicians' overall attitude toward capitation-based plans (Table 5). Stepwise regression revealed that the proportion of patients who were enrolled in capitated plans, the practice organization (group or solo), and specialty (family or general practice as opposed to other primary care specialties) together accounted for 19% of the variance in overall attitude toward capitation. No other physician or practice characteristics entered this regression equation.

With regard to features that might influence physicians to participate in capitation-based plans, the primary care physicians indicated that they were most likely to be influenced by the availability of a broad selection of high-quality consultants, favorable economic arrangements, more accessible information about benefits, and assistance with the art of negotiating with patients (Table 6). The responding physicians expressed little interest in training in gatekeeping skills or in treatment protocols.

TABLE 6. WASHINGTON STATE PRIMARY CARE PHYSICIAN RATINGS OF HOW INFLUENTIAL VARIOUS FEATURES WOULD BE IN THEIR DECISION TO AFFILIATE WITH OR CONTINUE WITH CAPITATION-BASED MEDICAL PLANS, 1986 (1 = not at all influential, 4 = extremely influential)

Feature	Mean Score
A broad selection of high-quality consultants	3.2
Larger capitation for enrollees who are more likely to use more services	3.1
Co-payments or deductibles to reduce utilization	2.8
An effective patient education program regarding benefits of the plan	2.8
Easily accessible information about coverage of services	2.8
Reimbursement for case management on a per case basis	2.7
Intermediate person to handle such tasks as denial of benefits and determination of whether a service is medically necessary	2.5
Marketing that targets low-risk populations	2.3
Meaningful and useful reports profiling physician performance within the system	2.3
Training in case management skills	2.0
Established protocols and guidelines regarding optimal management of common clinical problems	1.9

DISCUSSION

The introduction of capitation-based plans in recent years raises many concerns about physician and patient adaptation to such plans. Insurers and administrators need to recognize these issues. There are, however, potential benefits such as improved coordination and continuity of care if adjustments in practice style and professional relationships can be made.

The results of this study parallel some of the findings of other studies. An attitude survey of 146 primary care physicians in a independent practice association (IPA) found a high level of physician satisfaction and physician-perceived patient satisfaction with case-manager–based plans.[18] A survey distributed to a random sample of California Medical Association members in 1985–1986 revealed moderate or significant concerns among primary care physicians about the impact of gatekeeper-based systems on referral patterns and the financial implications of "contract medicine"—encompassing various sorts of managed health care, including gatekeeper-based systems. Among the primary care physicians who have chosen not to become involved in contract medicine, the most frequently given reasons for not participating were concern about contract demands, philosophical opposition, and inadequate fee levels.[19]

Capitation-based plans are not acceptable to every physician. Certain physicians are more likely than others to affiliate with capitation-based plans. As would be expected, physicians who elect to participate and continue to participate in capitation-based plans have a more positive attitude toward such plans. The longer they stay affiliated with the plan, the more positive their attitude. General practitioners and family physicians hold a slightly

less negative (but still not positive) opinion about capitation than do other types of primary care physicians. Reasons for this difference can only be postulated, but might include better financial experience with capitation, a different personality type, or a broader range of clinical skills resulting in a lower referral rate. Plan administrators are likely to continue to recruit generalists as primary care providers. The evidence that younger physicians and those in group practice are more positive about capitation-based plans has been noted by many of the plans, which actively recruit such physicians to act as primary care providers.

The more positive opinion among group as compared with solo practitioners may arise from the adaptability and available expertise in group practice. Solo practitioners may have been more negative toward capitation-based plans because some plans exclude solo physicians from participating. They may also be less able to absorb the financial risk of managing patients insured under a capitation-based plan, as they are less able to distribute that risk over a large patient population.

Health care administrators, anticipating the concerns of physicians and patients when enrolling participants in such plans, may ease the transition with measures such as orientation programs and information systems, financial incentives, increased administrative support, and "trial periods" with adequate numbers of enrollees. Much of the dissatisfaction with capitation-based plans could be reduced with measures such as provisions for good specialty services, adequate reimbursement for managing the medical care of assigned enrollees, better patient and physician orientation programs, and financial and consulting assistance with administrative tasks. Treatment protocols or training in case management skills may be perceived as infringements on professional judgment or physician autonomy and should be utilized with caution.

As purchasers of health care explore managed health care systems as remedies for rising health care costs, capitation-based plans deserve further study. Such research might examine the impact of capitation on quality of care, costs, and the physician-patient relationship. Further research might explore potential interventions to improve physician and patient adaptation to capitation-based plans and patient perceptions about the advantages and disadvantages of such plans.

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