

## Attitudes and Behavioral Intentions Regarding Managed Care: A Comparison of Academic and Community Physicians

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### **Abstract**

Physicians' attitudes toward managed care and the impact of these attitudes on behaviors that affect patient care are important factors in managed care reform. In addition, the attitudes of academic physicians may influence their willingness to reform medical education in an effort to prepare students to practice under managed care. Although it is a conventional opinion that the academic health center and its academic physicians are antagonistic toward managed care, there has not been a direct comparison of the attitudes of these physicians to those of practicing community physicians. We used a self-administered questionnaire to assess attitudes toward managed care and behavioral intentions regarding practices related to managed care; a sample of academic physicians (n = 129) was compared with a sample of community physicians (n = 307).

Community physicians were less negative in their evaluations of the quality of care in a managed care environment, but no differences were identified between the two groups with regard to the cost-effectiveness, inevitability, or need to adapt to managed care. Academic specialists were more likely than academic primary care physicians to rate managed care as something to which they needed to adapt. Community physicians were less likely to report a willingness to change their referral patterns. Aggregating across practice type, we also uncovered systematic differences between primary care and specialist physicians. The data suggest that opinions about quality and cost-containment in managed care are significant correlates of intentions to change practice behaviors.

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The far-reaching effects of managed care on the delivery of healthcare continue to increase in most regions of the United States. Competition and survival drive physicians to join networks and become managed care providers. They may, however, have little commitment to managed care philosophies or to the organizations for whom they are providers. While economic forces are clearly a prime mover in managed care reform, physicians' attitudes toward managed care and the way these sentiments relate to patient care behaviors are also important factors.

As they attempt to adapt to managed care, physicians increasingly find themselves in need of new skill sets and a different knowledge base pertinent to healthcare economics and cost-effective care. Medical education programs must address these issues and produce "physicians with different knowledge, attitudes, and skills".<sup>1</sup> In addition, the economic survival and successful future operation of many academic health centers (AHCs) may depend on physician willingness to comply with managed care requirements. Thus, attitudes of academic physicians regarding managed care are important because they may be central to both the survival of AHCs and to achieving necessary medical educational reforms.

We previously developed a questionnaire and elucidated the key components of physicians' attitudes toward managed care in a survey of practicing community physicians.<sup>2</sup> The questionnaire was then utilized to assess attitudes and behavioral intentions in a large group of academic physicians associated with a single institution (UC Davis Health System). The current investigation is based on an analysis of the two related data sets. It compares community physicians' attitudes toward, beliefs about, and behavioral intentions regarding managed care with those held by a comparable group of academic physicians. Both groups practice in the Sacramento Metropolitan area, a region in which more than four out of five citizens receive their healthcare through managed care.

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... METHODS ...

**The Data**

The sample of community physicians consisted of 307 individuals practicing medicine in Sacramento and surrounding areas. The sampling frame from which these physicians were drawn consisted of 753 volunteer clinical faculty of the UC Davis School of Medicine who were in private practice. Questionnaires were sent by mail to these physicians during the summer of 1996. The academic physicians group was comprised of 129 faculty physicians of the UC Davis School of Medicine. Data were collected from these individuals during their attendance at a 2-day educational program regarding managed care in the fall of 1996. These data were collected via a questionnaire distributed prior to the commencement of the program.

The two groups are described in Table 1. There was a significant difference between community and academic physicians in age [ $\chi^2(5) = 27.81, P < 0.001$ ]; the academic physician sample was somewhat younger. However, age was not related to the dependent measures and was thus not considered in our subsequent analyses. No difference was identified

between the academic and community physician groups with regard to sex, race, or the relative proportion of primary care providers and specialists.

**Independent Variables**

The independent (grouping) variables employed in this investigation were practice type (community physicians versus academic physicians) and specialization (primary care versus medical/surgical specialists). Physicians were classified as "primary care" if he or she indicated being in general internal medicine, family practice, or pediatrics. The "medical/surgical specialist" category was composed of physicians practicing in a medical subspecialty (eg, cardiology), general surgery, a surgical subspecialty, obstetrics-gynecology, neurology, physical medicine and rehabilitation, emergency medicine, or psychiatry.

**Dependent Measures**

The questionnaires administered to the academic physicians contained fewer items. Our analyses focused on those items common to both questionnaires. Both samples completed identical scales addressing five central constructs related to knowledge, evaluation of, and perceptions regarding managed care. These scales were developed on the basis of extensive factor and item analyses.<sup>2</sup> Responses to these items were made on 5-point Likert scales (1=strongly disagree, 3=undecided, and 5=strongly agree). Composite scores were computed for each scale by averaging across items (after applying reverse scoring to negatively worded items) to retain a 5-point range for all scales. Scale reliabilities for the combined samples were assessed via Cronbach alpha coefficients, which reflect the degree to which the items composing each scale provided consistent (highly intercorrelated) results. The alpha coefficient has a theoretical range of .00 to 1.00, with a larger number indicating greater reliability. The coefficient's size reflects the strength of the correlations among a set of items and the number of items in the measure.<sup>3</sup> The reliabilities reported below were considered quite acceptable, especially considering the small number of items composing four of the five measures.

**1. Self-Evaluation**

*Knowledge.* Physicians were asked to rate their personal knowledge of managed care

**Table 1.** Profile of Respondents

	Community Physicians (n = 307)	Academic Physicians (n = 129)
Age (years)		
21-30	0.3%	3.9%
31-40	20.2	34.9
41-50	44.6	41.9
51-60	22.1	17.1
Over 60	12.1	2.3
Declined to answer	0.7	0.0
Sex		
Female	19.9%	18.6%
Male	79.2	81.4
Declined to answer	1.0	0.0
Race		
Caucasian	77.5%	79.5%
Nonwhite minority	19.9	20.5
Declined to answer	2.6	0.0
Medical Specialty		
Primary care	32.6%	32.6%
Medical/surgical specialty	67.4	67.4

issues on three items. Sample: "I consider myself to have substantial expertise on the topic of managed care" ( $\alpha = .83$ ).

2. Evaluation of Managed Care

*Quality of Managed Care.* Respondents evaluated the quality of care in a managed care environment on 18 items. Samples: "managed care is mediocre care" and "the nation's move toward managed care will ultimately improve most citizens' health" ( $\alpha = .95$ ).

*Cost-Containment Effectiveness.* Physician opinion about the ability of managed care to control healthcare costs was assessed measured with a five-item measure. Sample: "managed care has not been very effective at reducing healthcare costs" ( $\alpha = .70$ ).

3. Perceptions of Managed Care

*Inevitability of Managed Care.* Perceptions of the extent to which a shift to managed care is an inevitable aspect of the future of American healthcare delivery were assessed with four items. Sample: "fee-for-service insurance plans will soon be relics of the past" ( $\alpha = .71$ ).

*Need to Adapt to Managed Care.* Physicians were asked for their perceptions of the need to adapt to managed care reforms with a five-item instrument. Sample: "physicians who fail to learn the details of managed healthcare economics can expect to see their

incomes suffer" ( $\alpha = .74$ ).

4. Behavioral Intentions

In addition to the above multi-item instruments, several stand-alone questions common to both questionnaires were examined. These items, which are detailed in Table 4, pertain to respondents' willingness to alter their practice behaviors.

Statistical Analyses

The primary analyses for this study were correlational analyses and analysis of variance (ANOVA). With regard to the latter, a series of 2 x 2 factorial ANOVAs were conducted in which the two factors were the grouping variables practice type and specialty. These analyses allowed us to isolate the effects of practice type, specialty, and their interaction. A significant two-way interaction between practice type and specialty would indicate that for the dependent variable in question the difference between community-based primary care and specialist physicians was not the same as the difference between academic center-based primary care and specialist physicians. All significant interactions were examined by means of analyses of simple main effects, which entailed using *t*-tests within each of the two practice types to compare primary care and specialist physicians on the dependent measure in question.<sup>4</sup>

Table 2. Correlations Among Measures, Stratified by Practice Type

	Community-Based Physicians				
	Knowledge	Quality	Cost	Inevitability	Adapt
Knowledge of Managed Care	—				
Quality of Managed Care	.19* (n = 292)	—			
Cost-Containment Effectiveness	.18† (n = 299)	.50* (n = 290)	—		
Inevitability of Managed Care	.16† (n = 300)	.44* (n = 291)	.35* (n = 298)	—	
Need to Adapt	.12‡ (n = 293)	.27* (n = 284)	.32* (n = 289)	.33* (n = 290)	—
	Academic-Based Physicians				
	Knowledge	Quality	Cost	Inevitability	Adapt
Knowledge of Managed Care	—				
Quality of Managed Care	.14 (n = 127)	—			
Cost-Containment Effectiveness	.20* (n = 129)	.37* (n = 127)	—		
Inevitability of Managed Care	.15 (n = 129)	.06§ (n = 127)	.23† (n = 129)	—	
Need to Adapt	.16 (n = 129)	.11 (n = 127)	.25† (n = 129)	.35* (n = 129)	—

\* $P < 0.001$  (two-tailed tests); † $P < 0.01$ ; ‡ $P < 0.05$ .

§Correlations are significantly different from each other, as determined by Fisher's *z'* transformation of *r* ( $P < 0.001$ ).

... RESULTS ...

**Intercorrelations**

Correlations among the five scales are reported separately in Table 2 for community and academic physicians. The correlations were modest to moderate in size. All of the correlations were statistically significant ( $P < 0.05$ ) for the community-based physician sample, due partly to this group's larger sample size and the corresponding greater statistical power.

Physicians working in the community perceived a greater coupling of quality and managed care inevitability than did academic physicians ( $r = .44$  versus  $.06$ ). The difference between these two correlations was significant ( $P < 0.001$ ), as determined by Fisher's  $z'$  transformation of  $r$  test for the comparison of independent correlation coefficients.<sup>5</sup>

**Mean Differences**

Table 3 reports means and standard deviations on the five scales for the two practice types, stratified by medical specialty. (The number of cases reported for these analyses differ slightly due to missing data.)

1. Self-Evaluation

*Knowledge.* Community-based physicians rated themselves as more knowledgeable about the intricacies of managed care than did the academic physicians (means: 3.65 versus 3.24,  $F(1, 429) = 21.25$ ,  $P < 0.001$ ). When data were collapsed across practice type, primary care physicians rated themselves as more knowledgeable than did medical/surgical specialists (means: 3.73 versus 3.43,  $F(1, 429) = 11.81$ ,  $P < 0.001$ ).

2. Evaluation

*Quality of Managed Care.* Community-based physicians rated the quality of managed care less negatively than did academic-based physicians (means: 2.83 versus 2.65,  $F(1, 416) = 4.27$ ,  $P = 0.04$ ). A significant main effect was also found for medical specialty, which was due to a neutral rating of managed care quality by primary care physicians and a mildly negative evaluation by specialists (means: 3.09 versus 2.63,  $F(1, 401) = 28.59$ ,  $P = 0.001$ ). As shown in Table 3, only primary care physicians practicing in the community rated the quality of managed care above neutrality (ie, 3.0).

*Cost-Containment Effectiveness.* There were no significant effects for this dependent measure. Community physicians did not differ from academic physicians [means: 3.43 and 3.42, not significant (NS)], and primary care physicians did not differ from medical specialists (means: 3.50 versus 3.39, NS) in evaluations of the ability of managed care to control costs. Across all groups, there was a modestly positive opinion about the ability of managed care to contain costs (grand mean: 3.42,  $n = 429$ ).

**Table 3.** Comparison on Measures of Community and Academic Physicians, Stratified by Medical Specialty\*

Measure	Community Physicians			Academic Physicians		
	Primary Care	Specialists	Combined	Primary Care	Specialists	Combined
Knowledge	3.84 $\sigma = 0.83$ $n = 99$	3.55 $\sigma = 0.86$ $n = 205$	3.65 $\sigma = 0.86$ $n = 304$	3.46 $\sigma = 0.87$ $n = 42$	3.13 $\sigma = 0.82$ $n = 87$	3.24 $\sigma = 0.85$ $n = 129$
Quality	3.17 $\sigma = 0.79$ $n = 95$	2.67 $\sigma = 0.94$ $n = 198$	2.83 $\sigma = 0.92$ $n = 293$	2.90 $\sigma = 0.66$ $n = 41$	2.53 $\sigma = 0.58$ $n = 86$	2.65 $\sigma = 0.63$ $n = 127$
Cost-Containment Effectiveness	3.49 $\sigma = 0.68$ $n = 97$	3.40 $\sigma = 0.69$ $n = 203$	3.43 $\sigma = 0.69$ $n = 300$	3.52 $\sigma = 0.55$ $n = 42$	3.37 $\sigma = 0.61$ $n = 87$	3.42 $\sigma = 0.60$ $n = 129$
Inevitability	3.70 $\sigma = 0.67$ $n = 98$	3.41 $\sigma = 0.77$ $n = 204$	3.50 $\sigma = 0.75$ $n = 302$	3.68 $\sigma = 0.59$ $n = 42$	3.55 $\sigma = 0.62$ $n = 87$	3.59 $\sigma = 0.61$ $n = 129$
Need to Adapt	3.75 $\sigma = 0.64$ $n = 95$	3.64 $\sigma = 0.70$ $n = 199$	3.68 $\sigma = 0.68$ $n = 294$	3.59 $\sigma = 0.63$ $n = 42$	3.81 $\sigma = 0.52$ $n = 87$	3.74 $\sigma = 0.56$ $n = 129$

\*For all measures the theoretical range is 1.0 - 5.0. Greater numbers reflect a more positive evaluation by the respondent of his or her knowledge of managed care, a more positive evaluation of the quality of managed care and of its ability to control costs, a stronger conviction about the inevitability of managed care, and a stronger felt need to adapt to it.

3. Perceptions

*Inevitability of Managed Care.* Community and academic physicians did not differ in their perceptions of inevitability (means: 3.50 versus 3.59, NS), but there was a significant main effect for specialization; primary care physicians perceived that managed care is more inevitable than did medical/surgical specialists (means: 3.69 versus 3.45,  $F(1, 427) = 11.24, P = 0.001$ ).

*Need to Adapt to Managed Care.* Community and academic physicians did not differ significantly from each other in their perceived need to adapt to managed care (means: 3.68 versus 3.74, NS). Nor did primary care physicians differ from specialists on this measure (means: 3.70 versus 3.69, NS). Academic center specialists did perceive a greater need to adapt to managed care than did academic center primary care physicians (means: 3.81 versus 3.59,  $t(127) = -2.07, P = 0.04$ ).

4. Behavioral Intentions

Results for the behavioral intention items are reported in Table 4 and organized around three distinct issues: practice guidelines formulation, unnecessary tests and procedures, and referrals to specialists.

*Practice Guidelines.* There was no significant difference between community and academic physicians on the question, "I would like to participate on a task force to create practice guidelines for my health care organization" (means: 2.96 versus 3.10, NS). When we aggregated across the two samples, primary care physicians reported a greater interest in such participation than did specialists (means: 3.16 versus 2.92,  $F(1,426) = 4.37, P = 0.04$ ).

*Tests and Procedures.* On the question, "I am willing to alter how I order tests and procedures for cost control purposes," there was no significant difference between community physicians and academic physicians. Among community physicians, primary care

**Table 4.** Behavioral Intention Items: Comparison of Community and Academic Physicians, Stratified by Medical Specialty\*

Question	Community Physicians			Academic Physicians		
	Primary	Specialists	Combined	Primary	Specialists	Combined
<b>Practice Guidelines</b>						
I would like to participate on a task force to create practice guidelines for my healthcare organization.	3.07	2.90	2.96	3.39	2.97	3.10
	$\sigma = 1.13$	$\sigma = 1.13$	$\sigma = 1.13$	$\sigma = 1.12$	$\sigma = 1.19$	$\sigma = 1.18$
	n = 99	n = 203	n = 302	n = 41	n = 87	n = 128
<b>Tests and Procedures</b>						
I am willing to alter how I order tests and procedures for cost control purposes	3.94	3.64	3.73	3.45	3.62	3.57
	$\sigma = 0.76$	$\sigma = 0.93$	$\sigma = 0.89$	$\sigma = 0.97$	$\sigma = 1.01$	$\sigma = 1.00$
	n = 98	n = 203	n = 301	n = 42	n = 87	n = 129
In the future, I will spend more time explaining to patients why tests or procedures they ask for are not medically indicated.	3.70	3.40	3.50	3.52	3.16	3.28
	$\sigma = 0.84$	$\sigma = 0.89$	$\sigma = 0.89$	$\sigma = 0.97$	$\sigma = 0.99$	$\sigma = 0.99$
	n = 98	n = 203	n = 301	n = 42	n = 87	n = 129
In the future, I will try harder to talk patients out of getting unnecessary tests	3.44	3.29	3.34	3.36	3.35	3.35
	$\sigma = 0.98$	$\sigma = 0.98$	$\sigma = 0.98$	$\sigma = 1.06$	$\sigma = 1.01$	$\sigma = 1.02$
	n = 96	n = 202	n = 298	n = 42	n = 86	n = 128
<b>Referrals</b>						
I am willing to alter my referral patterns in the interest of institutional survival	3.69	3.44	3.52	3.71	3.72	3.72
	$\sigma = 0.77$	$\sigma = 0.88$	$\sigma = 0.85$	$\sigma = 0.94$	$\sigma = 0.86$	$\sigma = 0.88$
	n = 98	n = 203	n = 301	n = 42	n = 87	n = 129
In the future, I will spend more time explaining to patients why they don't need to see a specialist for problems I'm comfortable handling.	3.69	3.10	3.29	3.55	2.89	3.10
	$\sigma = 0.82$	$\sigma = 1.01$	$\sigma = 0.99$	$\sigma = 1.06$	$\sigma = 1.03$	$\sigma = 1.08$
	n = 97	n = 201	n = 298	n = 42	n = 87	n = 129

\*For all measures the theoretical range is 1.0 - 5.0. Greater numbers reflect a stronger intention to adopt the behavioral change identified in the statement.

**Table 5.** Correlations Between Behavioral Items and Knowledge, Attitude, and Belief Scales, Stratified by Practice Type

Behavioral Intention Question*	Community Physicians				
	Knowledge	Quality	Cost-Containment	Inevitability	Need to Adapt
Practice Guidelines ...practice on a task force...	.14 <sup>†</sup> n = 301	.19 <sup>§</sup> n = 290	.08 n = 297	.05 n = 298	.22 <sup>§</sup> n = 292
Tests and Procedures ...willing to alter how I order tests and procedures...	.11 n = 300	.27 <sup>†</sup> n = 291	.37 <sup>§</sup> n = 298	.18 <sup>†</sup> n = 299	.40 <sup>§</sup> n = 292
...will spend more time explaining to patients why tests or procedures are not medically indicated.	.11 n = 301	.18 <sup>†</sup> n = 291	.20 <sup>§</sup> n = 296	.23 <sup>§</sup> n = 297	.37 <sup>§</sup> n = 293
...will try harder to talk patients out of getting unnecessary tests.	.03 n = 297	.12 <sup>†</sup> n = 288	.12 <sup>†</sup> n = 296	.12 <sup>†</sup> n = 296	.22 <sup>§</sup> n = 289
Referrals ...willing to alter my referral patterns in the interest of institutional survival.	.11 n = 300	.41 <sup>§</sup> n = 289	.31 <sup>§</sup> n = 296	.28 <sup>§</sup> n = 297	.37 <sup>§</sup> n = 293
...will spend more time explaining why they don't need to see a specialist...	.14 <sup>†</sup> n = 297	.35 <sup>§</sup> n = 288	.27 <sup>§</sup> n = 293	.30 <sup>§</sup> n = 294	.38 <sup>§</sup> n = 292

\*See Table 4 for complete wording of items.  
<sup>†</sup> $P < 0.05$  (two-tailed); <sup>††</sup> $P < 0.01$  (two-tailed); <sup>§</sup> $P < 0.001$  (two-tailed).

providers expressed more of a willingness to make such alterations than did specialists ( $t(299) = 2.81, P = 0.005$ ), but no significant difference was obtained between primary care physicians and specialists for the academic physician sample ( $t(127) = -0.90, P = 0.37$ ).

On the issue of spending more time explaining to patients why tests and procedures they requested were not medically necessary, community physicians were more enthusiastic about doing so (means: 3.50 versus 3.28,  $F(1, 426) = 5.42, P = 0.02$ ). There was also a significant main effect for specialization, with primary care physicians being more willing to offer such explanations than were medical/surgical specialists (means: 3.65 versus 3.33,  $F(1, 426) = 11.64, P = 0.001$ ). On the third "tests and procedures" question regarding physicians' willingness to talk patients out of getting unnecessary tests, no significant differences were obtained for practice type, specialization, or their interaction.

*Referrals to Specialists.* Community physicians expressed less willingness to change their referral predilections than did academic physicians (means: 3.52 versus 3.72,  $F(1, 426) = 4.72, P = 0.03$ ). All other effects were nonsignificant. No significant differences were identified between community and academic physicians on the item regarding spending more time in the future explaining to patients why a specialist wasn't

needed, but primary care physicians were more eager to offer such explanations than were specialists (means: 3.65 versus 3.03,  $F(1, 423) = 36.68, P = 0.001$ ).

### Behavioral Intentions/Scale Correlations

We also examined the correlations between the behavioral intention measures and the measures of self-attributed knowledge, quality, cost-containment effectiveness, inevitability, and adaptation needs (Table 5). Several findings merit attention. First, self-rated knowledge did not correspond highly with behavioral intentions (average correlation:  $r = .13$  for community physicians and  $.19$  for academic physicians), suggesting that these physicians' intentions to make changes in their practice behaviors were not affected much by their personal sense of understanding managed care issues. Second, the most consistent predictor of behavioral intentions for both physician groups was a perceived need to adapt to it (average correlation:  $r = .33$  and  $.41$  for community and academic physicians, respectively). Third, perceived quality of managed care was a stronger predictor of behavioral change intentions for community physicians (average correlation;  $r = .25$ ) than for academic physicians (average correlations:  $r = .17$ ).

Table 5. Continued

Academic Physicians				
Knowledge	Quality	Cost-Containment	Inevitability	Need to Adapt
.42 <sup>§</sup> n = 128	.10 n = 126	.08 n = 128	.17 n = 128	.25 <sup>†</sup> n = 128
.12 n = 129	.23 <sup>†</sup> n = 127	.26 <sup>†</sup> n = 129	.15 n = 129	.53 <sup>§</sup> n = 129
.14 n = 129	.15 n = 127	.25 <sup>†</sup> n = 129	.26 <sup>†</sup> n = 129	.40 <sup>§</sup> n = 129
.19 <sup>†</sup> n = 128	.22 <sup>†</sup> n = 126	.34 <sup>§</sup> n = 128	.14 n = 128	.46 <sup>§</sup> n = 128
.02 n = 129	.09 n = 127	.17 n = 129	.16 n = 129	.50 <sup>§</sup> n = 129
.24 <sup>†</sup> n = 129	.22 <sup>†</sup> n = 127	.34 <sup>§</sup> n = 129	.35 <sup>§</sup> n = 129	.33 <sup>§</sup> n = 129

... DISCUSSION ...

Economic forces have compelled physicians to join managed care networks. Although these provider networks are an extension of managed care organizations, the evaluation and perceptions of the physician providers regarding managed care may be distinctly different from the organization's philosophy and goals. The present investigation indicates that these attitudes and beliefs are important because they are related to physicians' behavioral intentions regarding patient care.

Physician training must address the issues of cost-effective practice of medicine and the ability to operate in a managed care structured environment. Numerous calls for reform in the medical education environment and process have included similar issues.<sup>6,7</sup> The educational experience of medical students and physicians in training is influenced by AHCs and their faculty, which may be resistant to managed care requirements and restrictions. Successful AHC adaption requires not just providing the medical care, but having providers (faculty) who understand the broad perspective of economics, have a commitment to its philosophy, and provide competitive, patient-focused,

cost-effective care. Some AHCs have pursued successful teaching affiliations with health maintenance organizations (HMOs). These endeavors are generally pursued while maintaining distinct separation of the organizations. It has been observed that the values and goals of the AHC's faculty remain generally unaltered by the distinctly different ones of the managed care organization.<sup>8</sup> AHCs generally use the HMO setting for an additional patient base in which to apply standard curriculum, rather than to teach a unique, managed care orientation.<sup>9</sup> Teaching of this managed care approach remains a separate need that must be supported by congruent attitudes of AHC faculty toward managed care.

Although conventional wisdom holds that academic physicians are antagonistic toward managed care, we know of no other study that has directly compared these physicians' sentiments with the attitudes of community physicians. One study of AHC physicians and housestaff documented negative attitudes toward utilization review, an important tool in managing care.<sup>10</sup> Of course, it is possible that this negative view reflects that utilization review is practiced with greater rigor at AHCs. Other studies, apparently based on samples that included both academic and community physicians, have found physicians to be unhappy with various aspects of managed care.<sup>11</sup> An investigation of first-year medical students also revealed negative sentiments toward managed care organizations.<sup>12</sup> Other studies have shown that community physicians operating within a managed care environment are generally satisfied with their practices.<sup>13,14</sup> These scattered findings raise the question of whether community and academic physicians truly differ in their sentiments toward managed care, and if so, how?

Our data show community physicians, in comparison with academic-based physicians, believed that they were more knowledgeable about managed care and were less negative in their evaluation of its quality. This difference stems largely from community-based primary care practitioners being the only group

with a positive (ie, greater than 3.0) ranking on this scale. No difference was detected on all of the remaining scales: cost containment, inevitability, and need to adapt. Thus, other than a specialty-driven negative evaluation of quality of care in the managed care environment, academic physicians' evaluation and perception of managed care do not appear significantly different from those of community-based physicians. When we aggregated across practice type, primary care physicians in comparison with specialists gave managed care higher quality ratings, and were more likely to perceive it as an inevitable outcome of current reform efforts. This is probably due to the (relatively) positive experience of primary care providers regarding managed care's changes. Additionally, academic physician specialists were more likely than academic primary care physicians to rate managed care as something to which they needed to adapt. This likely reflects their sensing the overall pressure of managed care forces to constrain access to specialists and procedures.

Perhaps more notable and revealing are the inter-correlation findings. We have previously discussed how physicians' attitudes toward managed care are organized in an intermediate level of generality along the two dimensions of quality and cost-control effectiveness.<sup>2</sup> The current data suggest that quality and cost-control effectiveness are positively correlated for both academic and community-based physicians. Conventional physician thinking has often been along the lines of an incompatibility or inverse relationship between quality and cost control. However, performance improvement processes and continuous quality improvement theory have long suggested that a quality process can cost less.<sup>15</sup> Interestingly, the current data suggests that, to some extent, this kind of thinking is the case for physicians in the managed care market. This observation must be tempered, however, by the fact that mean scores for attitudes toward quality in a managed care environment were below the neutral point of 3.0.

Evaluation of quality and perceptions regarding the inevitability of managed care were also positively correlated for both academic and community-based physicians. Community physicians who perceive managed care as inevitable may do so more as a result of attributing quality to this form of healthcare delivery. In contrast, academic physicians who perceive that managed care will ultimately dominate the American healthcare system appear to have attributed the ongoing shift to factors other than quality, namely, to cost control motivations.

In regard to test ordering behavioral intentions, as a group community physicians seemed similar to academic physicians, as evidenced by a significant difference in only one of three questions in this area. Community primary care providers were significantly more willing to modify ordering of tests and procedures to reduce healthcare costs and to make greater efforts to explain to patients who have requested unnecessary tests, procedures, or referrals why such requests were unfounded. Part of this difference may be related to more complex or rarer conditions in AHC patients for which the primary care physician may not always feel capable of explaining procedure or test issues. Surprisingly, community physicians were less likely to report a willingness to change their referral patterns for the sake of institutional survival. This difference likely reflects academic physicians' allegiance to their singular academic institution and its teaching research and patient care missions. In contrast, community physicians may have affiliations with a wide variety of "institutions" that may represent only a place in which ailing patients can be housed for short durations. Intercorrelations of the attitude scales with behavioral intentions reveal that knowledge of managed care may be less likely to motivate behavioral change than evaluation of its quality and cost-containment. The perception that managed care is something to which one must adapt was strongly and consistently related to behavioral intentions aimed at meeting its challenge. Although we cannot definitely demonstrate a cause-effect relationship, the data certainly suggest a potential association.

Our study is limited in focus to a single location. While the findings may therefore not be wholly generalizable to all settings, we feel they do offer some general insight that is applicable regardless of site. Second, it is conceivable that our results reflect, in part, the greater mobility of academic physicians. As a group, it is probably fair to say that academic physicians come to the typical AHC from a variety of locations across the nation, if not the world. The typical community physician is likely to have practiced in the same region for some time. With regard to the site for the present study, it is possible that the academic physicians at UC Davis had less experience in a managed care environment prior to their arrival at the university and thus may have had less total experience than their community counterparts. A third limitation is that we did not measure actual physician behavior. Even so, previous research has shown that behavioral intentions often do correlate with behavior, especially when the intentions are based on direct experience and the behaviors to be



predicted are personally important.<sup>16,17</sup> Fourth, while most physicians practicing in the Sacramento region have significant experience working in a managed care environment, we cannot quantify the extent for each physician and are not able to address the question of how the extent of these physicians' direct experiences with managed care influenced their attitudes toward and beliefs about it. Despite these limitations, we suggest that: physician sentiments play an important, distinct role in shaping the ultimate outcomes of managed care reform; academic and community physician sentiments are similar in many ways, and the ongoing assessment of attitudes should provide a useful tool in guiding managed care processes and predicting their success. Initiatives to address these issues probably need not create separate programs for academic and community physicians but may need to address differences between primary care and specialty physicians.

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