

## Introducing Managed Care to the Medical School Curriculum: Effect on Student Attitudes

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### **Abstract**

In order to assess the effect of clinical training and didactic instruction on medical student attitudes toward managed care, we conducted a survey of all medical students at the midpoint of their third year clerkships at the University of Massachusetts Medical School. The students were exposed to clinical training in managed care settings and a 2-day required course on the principles underlying managed care. The main outcome measures were student attitudes toward the concepts of managed care, managed care organizations, and future careers in managed care. Students also assessed the attitudes of medical faculty toward managed care. Attitudes of students with previous clinical training in managed care settings did not differ from those of students without such exposure toward the concepts underlying managed care or managed care organizations and were less positive about careers in managed care. Student responses before and after the 2-day course on managed care demonstrated that attitudes moved in a significantly positive direction. Seventy-one percent of students reported that the opinions they had heard from medical faculty about managed care were negative. Preparing medical students to practice medicine effectively in managed care settings will require focused attention on managed care issues in the medical school curriculum and the combined efforts of academic health centers and managed care organizations.

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As managed care continues to reshape the delivery of healthcare in the United States, it has become increasingly clear that physicians completing their training are not fully prepared to practice medicine in this setting.<sup>1,2</sup> A series of attempts have been made to define the special knowledge, skills, and attitudes trainees need to practice successfully in this new environment.<sup>3-6</sup> Medical schools are seeking to enlarge the opportunities available to their students to allow them to acquire these attributes. Initial attempts usually are focused on placement of students and residents in managed care environments for part of their clinical training.<sup>7-9</sup> However, as noted in several recent publications, such experience may not be adequate to serve this purpose.<sup>10,11</sup> Thus far, suggestions of how best to achieve the new goals of medical education have been based largely on personal opinion.

A handful of medical schools, located primarily in mature managed care markets, have had the opportunity to develop and try several approaches to managed care education. Typical patterns have included placement of students in managed care settings for portions of their clinical training, enhancement of relevant portions of long-standing courses, and, less frequently, new didactic sessions specifically focused on managed care issues. In one school that recently added a mandatory third-year course on managed care to its previous focus on clinical placements, we assessed the impact of these alternatives on the knowledge and attitudes of third-year medical students. Our intention was to provide insight into the process of planning new curricula on this topic.

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### ... METHODS ...

In central Massachusetts, 70% of the population is currently enrolled in a managed care health plan. The University of Massachusetts Medical School (UMMS), located in Worcester, is the only publicly funded medical school in the state, and a principal focus is on training students to practice primary care. Sixty-five

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percent of the students graduated in 1994 through 1996 entered primary care training programs, the second highest rate among United States medical schools.<sup>12</sup> Students have long been placed in ambulatory care settings for substantial proportions of their clinical training experiences in pediatrics, family medicine, and internal medicine.

UMMS has had a long-standing relationship with the Fallon Healthcare System, which includes a mixed-model health maintenance organization with more than 200,000 enrollees (the Fallon Community Health Plan), a multispecialty group practice, and a community hospital. UMMS students are routinely placed in clinical care settings within the Fallon Healthcare System for their ambulatory and inpatient experiences during the clinical and preclinical years.

### The Managed Care Course

In January 1997, UMMS added a 2-day course on managed care to the third-year curriculum; attendance was required from all students. The course goals, jointly developed by a planning team that included medical school faculty and physicians and administrators from the Fallon Healthcare System, were to provide students with a basic understanding of managed care principles, including considerations for providing high quality, cost-effective care, and to encourage a proactive, open-minded approach to their future in a managed care environment (Table 1).

Planners specifically focused the course on conveying the concepts underlying managed care rather than on the processes used by current managed care organizations. They agreed on a fundamental conviction that students would need to hold positive attitudes toward those concepts to provide effective patient care in the working environment they would be entering. With a 2-day limit on the time available for specific managed care instruction, planners viewed an effect on attitudes as a sign that students would be more likely to attend to managed care issues in the context of their remaining clinical experience. The group recognized the difficulty of achieving attitude change and took advantage of ideas on cognitively based attitude change<sup>13</sup> in the design of the course. The course was structured to include panel discussions from stakeholders with widely varying but strongly held viewpoints, presentations from clinicians with experience providing managed care to populations at high risk, and small-group sessions in which students were placed in the position of expressing a variety of views on ethical issues relevant to managed care.

We determined students' prior training in managed care settings by reviewing records of their placements for longitudinal clinical experiences with physician preceptors during the first and second year and the locations in which they had been placed for clinical clerkships during the first half of the third year. We assessed student impressions of the medical school faculty's perceptions of managed care through the following question: On the whole, which of these best describes the attitude toward managed care which you have heard expressed by medical faculty at the University of Massachusetts? The response scale included very positive, somewhat positive, balanced, somewhat negative, very negative, and too mixed to summarize. As part of the course evaluation, students were surveyed about their perception of the overall importance of the topic of managed care in their medical education.

Students' attitudes toward managed care were assessed through questionnaires administered at the beginning and end of the 2-day course. The nine-item attitudinal questionnaire, shown in Tables 2 and 3, was developed by the planning group to focus on three main areas: attitudes toward the concepts underlying managed care, attitudes toward managed care organizations, and attitudes toward their own future

**Table 1.** Student Goals of the Managed Care Course

<ul style="list-style-type: none"> <li>■ Understand the problems currently facing the US healthcare system and how managed care might ideally address these problems</li> <li>■ Understand the underlying principles and philosophy of managed care, particularly the concepts of caring for a population and resource management</li> <li>■ Become familiar with the techniques commonly used to reduce the costs and potentially improve the quality of healthcare (eg, utilization review, case management, evidence-based clinical guidelines, and drug formularies)</li> <li>■ Become familiar with approaches for providing cost-effective healthcare to special populations (eg, elders, persons with disabilities, patients with human immunodeficiency virus infection)</li> <li>■ Understand the ethical dilemmas that underlie the provision of healthcare in a managed care environment</li> <li>■ Understand the effect of managed care on the career opportunities and earning potential of physicians</li> <li>■ Develop effective communication skills to guide discussions with patients about treatment decisions that have a cost component</li> </ul>
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careers in an era of managed care medicine. The group regarded movement in a positive direction in the first area as a main goal. Within each area, individual items were designed to include issues planners agreed were most important. Specific wording was drawn from statements in recent medical literature and the popular press. Face validity of the items was assessed through review by the planning group. The resulting questionnaire was

not intended to be a scale; each item was of individual interest. The responses for each item ranged from strongly agree to strongly disagree with no neutral or undecided point. Scores for each attitude question were ranked from 1 for strongly agree to 6 for strongly disagree. Both the pretest and the posttest included student identifiers to facilitate linkage and enable the calculation of individual change scores.

**Table 2.** Responses to Attitude Items on the Pretests and Posttests

Item	Test (%)	Strongly Agree (%)	Agree (%)	Somewhat Agree (%)	Somewhat Disagree (%)	Disagree (%)	Strongly Disagree (%)	P Value*
<b>■ Attitudes toward the concepts underlying managed care</b>								
Physicians have an ethical obligation to provide cost-effective care (97) <sup>†</sup>	Pre	10.6	36.5	43.3	6.7	2.9	0	0.058
	Post	11.0	47.0	37.0	5.0	0	0	
Managed care can provide severely disabled patients with the ability to live independently (89)	Pre	0	10.5	42.1	29.5	17.9	0	0.0001
	Post	4.0	26.0	42.0	16.0	11.0	1.0	
The use of practice guidelines in treating patients is not helpful because each patient is unique (93)	Pre	0	8.0	16.0	43.0	32.0	1.0	0.0001
	Post	0	2.0	5.0	36.0	49.0	8.0	
Managed care places the doctor-patient relationship at great risk (96)	Pre	9.7	17.5	46.6	15.5	10.7	0	0.0001
	Post	5.0	15.0	33.0	27.0	18.0	2.0	
<b>■ Attitudes toward managed care organizations</b>								
Managed care organizations do a better job with prevention and care coordination than fee-for-service medicine (96)	Pre	3.8	31.7	38.5	14.4	8.7	2.9	0.014
	Post	13.1	33.3	37.4	8.1	7.1	1.0	
The major way that managed care organizations save money in comparison to fee-for-service medicine is by limiting needed medical procedures (96)	Pre	0.0	7.8	30.4	40.2	20.6	1.0	0.309
	Post	3.0	5.0	23.8	35.6	28.7	4.0	
Managed care organizations unduly limit physician decision making (94)	Pre	8.8	22.5	56.9	8.8	2.9	0.0	0.012
	Post	7.1	17.2	47.5	20.3	8.1	0.0	
<b>■ Attitudes toward future careers</b>								
I believe I would feel as strong a sense of accomplishment working in a managed care setting as in fee for service (96)	Pre	2.9	17.5	30.1	34.0	11.7	3.9	0.001
	Post	6.0	23.0	41.0	22.0	4.0	4.0	
The influence of managed care on the delivery of healthcare will have a significant negative impact on my choices of medical specialty and working environment (99)	Pre	6.7	12.5	38.5	25.0	13.5	3.8	0.933
	Post	7.8	11.8	30.4	35.3	11.8	2.9	

\*Paired *t* test

<sup>†</sup>Numbers in parentheses indicate total respondents to the item

**Analysis**

For each item on the pre- and posttests, we determined the overall distribution and the total proportion who agreed with the item before and after the course, assessed the size and direction of changes for individual students, and calculated the average change. Significance testing was accomplished through paired *t* tests.<sup>14</sup> We used unpaired *t* tests to compare the pretest attitudes of students with prior clinical training experi-

ence in a managed care setting with those of students without such experience.

... RESULTS ...

All 106 students attended the managed care course. Of these, 103 submitted completed pretest and demographic information forms. The nonrespondents were women, and one of the three had prior

**Table 3.** Responses to Attitude Items on the Pretest for Students With and Without Clinical Placement in a Managed Care Setting

Item	Clinical Training in MCO	Strongly Agree (%)	Agree (%)	Somewhat Agree (%)	Somewhat Disagree (%)	Disagree (%)	Strongly Disagree (%)	P Value*
■ Attitudes toward the concepts underlying managed care								
Physicians have an ethical obligation to provide cost-effective care	Yes (32) No (71)	6.3 12.7	50.0 31.0	40.6 43.7	3.1 8.5	0.0 4.2	0.0 0.0	0.23
Managed care can provide severely disabled patients with the ability to live independently	Yes (29) No (66)	0.0 0.0	6.1 20.7	45.5 34.5	30.3 27.6	18.2 17.2	0.0 0.0	0.34
The use of practice guidelines in treating patients is not helpful because each patient is unique	Yes (31) No (68)	0.0 0.0	7.4 9.7	14.7 16.1	47.1 35.5	29.4 38.7	1.5 0.0	0.99
Managed care places the doctor-patient relationship at great risk	Yes (32) No (70)	7.1 15.6	20.0 12.5	48.6 43.8	12.9 18.8	4.4 9.4	0.0 0.0	0.74
■ Attitudes toward managed care organizations								
Managed care organizations do a better job with prevention and care coordination than fee-for-service medicine	Yes (32)* No (71)	0.0 5.6	37.5 29.6	37.5 38.0	18.8 12.7	6.3 9.9	0.0 4.2	0.66
The major way that managed care organizations save money in comparison to fee-for-service medicine is by limiting needed medical procedures	Yes (31) No (70)	0.0 0.0	6.5 8.6	25.8 32.9	45.2 37.1	22.6 20.0	0.0 1.4	0.58
Managed care organizations unduly limit physician decision making	Yes (31) No (70)	9.7 8.6	22.6 22.9	54.8 57.1	12.9 7.1	0.0 4.3	0.0 0.0	0.80
■ Attitudes toward future careers								
I believe I would feel as strong a sense of accomplishment working in a managed care setting as in fee for service	Yes (32) No (70)	0.0 4.3	12.5 20.0	25.0 31.4	40.6 31.4	15.6 10.0	6.3 2.9	0.051
The influence of managed care on the delivery of healthcare will have a significant negative impact on my choices of medical specialty and working environment	Yes (32) No (71)	12.5 4.2	18.8 9.9	40.6 36.6	15.6 29.6	9.4 15.5	3.1 4.2	0.03

\*Numbers in parentheses indicate total respondents to the item.  
MCO = managed care organization

clinical training in a managed care organization. Ninety-nine students returned both the pre- and posttests with adequate linking information, and 98 completed the course evaluation.

Forty percent of the students were 22 to 25 years of age, 40% were 26 to 30 years of age, and 20% were older than 30 years. Fifty percent of the students were women. Eighty-nine percent of the students had been enrollees in managed care plans, and 32% had received clinical training in managed care settings before the 2-day course. This group reflects the overall UMMS student population with its higher proportion of female students and slightly older students than US medical students as a whole.<sup>15</sup> In the most recent published data from the Liaison Committee on Medical Education, 18% of medical schools required students to spend some time in a group- or staff-model health maintenance organization. In an additional 44% of schools, students spent some time in this environment. Thus the UMMS students appeared to have a slightly higher rate of managed care experience than is typical.

When asked to summarize the attitudes toward managed care expressed to them by medical school faculty, 1% of the students reported very positive attitudes, 4% somewhat positive, 23% balanced, 60% somewhat negative, 11% very negative, and 4% too mixed to summarize.

Responses to the attitude section of the pretest, shown in Table 2, suggest that students began with somewhat positive attitudes toward the concepts underlying managed care except for agreement with the statement that managed care places the doctor-patient relationship at great risk (74%). Agreement was particularly strong with the statement that physicians have an ethical obligation to provide cost-effective care (90%). Attitudes toward current managed care organizations were rather positive, except that 88% agreed that managed care organizations unduly limit physician decision making. On those items related specifically to their future role as physicians in a managed care environment, students held more negative views, most believing that managed care would have a negative effect on their specialty choices and working environment (58%). Students split evenly on the statement about their potential sense of accomplishment working in a managed care setting (50.5% agreed, 49.5% disagreed).

At the conclusion of the course, student attitudes toward the underlying concepts and possibilities of managed care had moved in a strongly positive direction. For each item on the attitude survey, this move was significant with the exception of the statement

regarding a physician's ethical obligation to provide cost-effective care. There was a marked shift away from the belief that managed care places the doctor-patient relationship at great risk, but 53% still agreed with this statement. Several attitudes toward managed care organizations also moved significantly in a positive direction. However, 72% of students continued to agree that managed care organizations unduly limit physician decision making. Although there was no significant change in agreement that managed care organizations save money by limiting needed medical procedures, attitudes tended to move toward stronger levels of both agreement and disagreement. On statements relating to their own future roles, student responses were mixed. At the conclusion of the course the percentage believing that their sense of accomplishment working in a managed care setting would be equal to that in fee-for-service medicine had increased from 50.5% to 70%. However, 50% still agreed that managed care would have a negative effect on their career choices and working environment.

We compared the pretest responses of students with prior clinical training in a managed care setting with those of students without training in this setting. Students with prior managed care experience were nearly indistinguishable from those without such experience in their attitudes toward the concepts underlying managed care and managed care organizations. However, students with prior managed care experience were more negative in their attitudes toward future careers in managed care (Table 3).

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#### ... DISCUSSION ...

If newly trained physicians are to be prepared to practice medicine in a managed care environment, they will need an understanding of the principles that underlie this environment and the special opportunities these principles offer for providing effective and responsive patient care. In addition, they will need an open-minded attitude toward the concepts of managed care to allow them to make full use of these opportunities. The students in this study overwhelmingly recognized these needs; at the end of the 2-day course, 97% agreed that learning about managed care should be an integral part of their medical education.

Several aspects of our findings suggest that adding clinical training in managed care settings to the medical school curriculum is not an adequate response to this need. An important issue is that 71% of students in our study reported that the opinions they had heard from medical school faculty about managed care dur-

ing the first 2.5 years of their education were negative. Despite the long-term predominance of managed care in central and eastern Massachusetts by nonprofit organizations that consistently rank among the nation's best,<sup>16,17</sup> faculty continue to convey to students a profoundly negative message. As competition between academic health centers and managed care organizations mounts, and as pressures increase on the clinical careers of specialist faculty, the effect on students may become even more negative. If students are to overcome this influence and adjust productively to careers shaped by managed care, focused attention on faculty issues is required.

The possibility that placement in managed care settings for clinical training would be sufficient to offset negative faculty influence was not found to be true among these students. The attitudes of students with this experience toward the concepts underlying managed care and toward managed care organizations were nearly indistinguishable from those of students without such training. During their clinical training, medical students focus largely on developing and honing their skills in treating patients and managing disease. It is unlikely that students will simultaneously attend to the environment in which these experiences occur unless they are specifically aimed in that direction. The use of managed care organizations simply as additional clinical sites is not likely to enhance student understanding of managed care principles. Our results, however, suggest students in managed care settings do notice one element: the exposed group had less positive attitudes toward possible careers in managed care, attitudes possibly based on the circumstances in which they viewed their preceptors working.

The suggestion that clinical training in managed care settings is an inadequate response to students' need to understand managed care is further reinforced by the responses of the UMMS class of 1996 to the American Association of Medical Colleges *Medical School Graduation Questionnaire*.<sup>15</sup> Despite the substantial amount of time they had spent in managed care settings, most of the class continued to highlight areas relevant to managed care, including practice management, utilization review and quality assurance, and medical care cost control, as subjects in which they were inadequately prepared.

In contrast to clinical experience in a managed care setting, 2 days of didactic instruction on managed care with specific, clearly defined objectives did produce an immediate increase in positive attitudes toward managed care principles. It is possible to counter previously formed negative opinions through information and discussion, despite time constraints and the

enforced nature of the program and despite the inclusion of presenters with negative attitudes toward current managed care organizations. With confidence derived from the short-term success of this program, the next development will be the union of clinical faculty serving as preceptors in managed care settings and academic faculty to plan interwoven clinical and didactic experiences with focused objectives and ongoing evaluation.

These students may not be typical of students in other US medical schools. Most of the students in this study were planning careers as primary care providers. They had opportunities for clinical training in managed care settings and were studying in a region with a long history of intense managed care penetration by organizations with quality and patient satisfaction ratings that consistently rank among the highest in the United States. Eighty-nine percent of these students also experienced managed care as patients. This is in sharp contrast to an earlier study of medical student attitudes toward managed care conducted among first year students in California medical schools. In that study investigators found that only 10% would choose to receive care in health maintenance organizations.<sup>18</sup> This combined exposure may be responsible for the positive responses toward managed care with which students began the course, their overwhelmingly positive response to the suggestion that physicians have an ethical obligation to provide cost-effective care, and their agreement that managed care is an essential topic in their medical education.

Medical students studying in regions with less managed care presence and with managed care organizations that have lower patient satisfaction and quality ratings are likely to be less positive about both the underlying principles and the operations of current managed care entities. As managed care penetration increases in their regions, they may be exposed to increasingly negative attitudes from their teachers. The experiences described herein may serve as a harbinger of the future for these schools as their students shift toward primary care and begin to ponder futures that are likely to be spent working in managed care environments. Providing a medical education that prepares these students with the knowledge, skills, and attitudes they need will require focus on managed care issues in the medical school curriculum and the combined efforts of academic health centers and managed care organizations.

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