BRIEF REPORTS

Managed Care, Attitudes, and Career Choices of Internal Medicine Residents

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The influence of managed care on internal medicine residents' attitudes and career choices has not yet been determined and could be substantial. In a survey of 1,390 third-year internal medicine residents, 21% believed that managed care was the best model of health care for the United States, and 31% stated they would be satisfied working in a managed care system. Those from high managed care communities (>30% penetration) were only slightly more accepting of managed care, but were more likely to choose general internal medicine as a career (54%, $p = .0009$) than those from communities with lower managed care penetration.

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Despite the emergence of managed health care systems in most regions of the United States, little is known of such systems' influences on resident physicians about to enter the practice community. Policy statements clearly outline physician workforce needs to accommodate an evolving managed care climate, specifying a shift to fewer subspecialists and more generalists.¹⁻³ Educational programs are encouraged to train students and residents for managed care systems.⁴⁻⁶ Practicing physicians increasingly find their clinical decisions shaped by managed care guidelines and incentives,⁷ and their career satisfaction compromised by conflicts of interest and loss of autonomy.⁸

These and other managed care forces are likely to influence attitudes and career decisions of resident physicians, which in turn impact the medical communities

they enter. This study reports attitudes toward managed care and perceived influences on career choice in a national sample of third-year internal medicine residents.

METHODS

This study was designed as a cross-sectional mail survey. A list of third-year internal medicine residents enrolled in accredited U.S. training programs was generated from the American Medical Association (AMA) Physician Masterfile in the fall of 1993. The directors of all 439 programs were then contacted by mail or telephone to confirm the residents' status in the identified programs and their mailing addresses, and enlist program directors' support for the project. A total of 4,970 third-year internal medicine residents identified through this process were eligible for the survey.

A questionnaire was developed from issues raised during three different focus groups of internal medicine residents. The questionnaire was reviewed by experts in health policy, medical education, and survey research, and then pilot tested. Characteristics and career choices of respondents were assessed by closed-ended questions. Managed care attitudes were determined by the degree of agreement with 15 statements, using a 6-point scale ranging from strongly disagree to strongly agree. Nine statements asked about general attitudes and six asked about perceived influences on career choice. The survey was sent to eligible subjects in March 1994 and followed by two reminder postcards and a second survey. A third survey was sent by express mail to 40% of nonresponders. A telephone survey of a random sample of 10% of nonresponders was conducted in June 1994 to estimate the extent of nonresponder bias. All responses received before July 30, 1994, were included in the analysis.

Survey data were merged with data estimating the penetration of managed care within U.S. Metropolitan Statistical Areas in 1994 based on the location of a subject's training program (Schwartz S. The InterStudy Competitive Edge, 4.1, 1994 data, personal communication). Statistical analyses were performed with JMP 3.1 Statistical Software (SAS Institute, Cary, NC). After assessing frequencies of questionnaire responses across the 6-point scale of agreement, ratings were collapsed into agree/disagree categories. Comparisons of responses between categories of res-

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idents defined by managed care penetration were assessed with the use of χ^2 tests. Univariate and multiple-logistic-regression modeling were used to analyze associations between resident characteristics, including managed care penetration and choice of a career in general internal medicine or subspecialties (dependent variables).

RESULTS

A total of 1,549 (31%) subjects responded to the survey. Respondents were more likely to be in a primary care program (8% vs 14%) and have graduated from a U.S. medical school (73% vs 60%) and were less likely to be classified as Asian (22% vs 26%) when compared with national data ($p < .05$); gender distributions and the percentage of respondents who were classified as white were identical to national data (Lyttle C. National Study on Internal Medicine Manpower, 1993 data, personal communication).

In this study we focus on 1,390 (88%) of the respondents who were in a community for which we had managed care penetration data. Subjects represented 321

training programs from a total of 340 responding and were located in 108 Metropolitan Statistical Areas. Median managed care penetration of these communities was 22% (0%–63.6%). Subjects were categorized in low (<15%), medium (15%–30%), or high (>30%) managed care groups based on the managed care penetration in their communities. Response rates varied from 23% in the low managed care group to 31% in the medium and 33% in the high groups.

Managed Care Attitudes and Perceived Influences on Career Choice

Residents shared similar attitudes toward managed care regardless of their managed care group (Table 1). Overall, 84% agreed with the statement that a physician must practice as his or her judgment dictates regardless of costs or guidelines, and only 4% believed nonphysicians should be the ones to determine how health care will be delivered. Seventy-seven percent believed limits should be set on the numbers of subspecialists, and 41% thought subspecialists should be retrained to provide pri-

Table 1. Managed Care Attitudes and Perceived Influences on Career Choice

	Percentage of Penetration of Managed Care in Community of Training Program				
Percentage of Agreeing with Statement	Total (n = 1,390)	Low (<15%) (n = 399)	Medium (15%–30%) (n = 647)	High (>30%) (n = 344)	p Value
Attitudes					
1. A physician must practice as his or her judgment dictates regardless of costs or guidelines.	84	85	84	82	.50
2. Nonphysicans should determine how health care will be delivered.	4	4	5	4	.72
3. Universal access to medical care in this country is an important priority.	90	86	92	93	.002
4. A managed care system or HMO is the best model of health care for our country.	21	15	22	26	.001
5. Limits should be set on the number of subspecialists in our medical system.	77	79	76	78	.45
6. Subspecialists should be retrained to provide primary care to their patients.	41	38	43	41	.31
7. Limits should be set on physician salaries.	28	22	28	34	.002
8. Subspecialists are entitled to earn more money than generalists.	51	57	50	47	.02
9. Financial incentives are the most effective ways to produce more general internists.	89	91	88	88	.35
Perceived influences on career choices					
1. The income potential of my field was an important factor in my choice.	39	46	38	33	.001
2. Dealing with referrals and acting as a gatekeeper turned me off to general internal medicine.	47	49	47	42	.15
3. Health care reform issues were important influences in my choice of specialty.	38	37	38	39	.85
4. Time for family life was a major influence on my choice of specialty.	63	63	64	62	.85
5. Managed care will limit how I practice.	77	79	76	78	.45
6. I would be satisfied working in an HMO and practicing medicine by its guidelines.	31	30	30	36	.17

mary care. A majority (89%) agreed that financial incentives would be the most effective way to produce more general internists. Residents from the high managed care group were most likely to agree that access to health care is an important priority (93%), a managed care system is the best model of health care (26%), and limits should be set on physician salaries (34%), and were less likely to agree that subspecialists are entitled to earn more than generalists (47%) ($p < .05$).

Overall, 47% of residents agreed that dealing with referrals and acting as a gatekeeper turned them away from general internal medicine, 38% believed health care reform issues and 63% agreed family considerations were major influences on specialty choice. Seventy-seven percent thought managed care would limit how they will practice, and 31% believed they would be satisfied working in an HMO. The low managed care group was more likely to agree than the others that income potential was an important influence in career choice (46%, $p = .001$).

HMO Penetration and Career Choice

Forty percent of the low managed care group chose general internal medicine as a career compared with 47% of the medium and 54% of the high groups ($p = .0009$) (Table 2). Several other resident characteristics differed between managed care groups and were found to be significantly associated with choice of a general internal

medicine career in univariate regression models including: type of training program (categorical vs noncategorical), U.S. medicine school graduate status (U.S. vs non-U.S. graduate), age, gender, marital status (married vs unmarried), and debt (none vs under \$50,000 vs \$50,000 and over) ($p < .05$). To determine associations of managed care group with choice of a career in general internal medicine, managed care group status (low versus medium versus high) was added to a multiple-logistic-regression model adjusting for those characteristics. Variables significantly associated with general internal medicine career choice included high penetration managed care group (odds ratio [OR] 1.71; 95% confidence interval [CI] 1.68, 2.22; $p = .03$), U.S. medical school graduate (OR 2.71; 95% CI 2.43, 3.43; $p < .0001$), noncategorical program (OR 2.57; 95% CI 2.32, 3.28; $p = .0001$), not married (OR 1.79; 95% CI 1.66, 2.24; $p = .0004$), and younger age (β estimate -0.10 , $p < .0001$) (R^2 for model = .097). Debt and gender were not statistically significant in the multivariate model.

DISCUSSION

We conclude that exposure to managed care during residency training influences attitudes toward acceptance of managed care and career choices toward generalism. However, the majority of residents have unfavorable attitudes toward managed care despite their impending roles as practicing physicians within managed care communi-

Table 2. HMO Penetration and Career Choice

Characteristic	Percentage of Penetration of Managed Care in Community of Training Program				p Value
	Total (n = 1,390)	Low (<15%) (n = 399)	Medium (15%–30%) (n = 647)	High (>30%) (n = 344)	
Internal medicine specialty choices, n (%)					.0009
General internal medicine	569 (47)	138 (40)	272 (47)	159 (54)	
Nonprocedural specialties*	281 (23)	94 (28)	142 (25)	45 (15)	
Procedural specialties†	359 (30)	109 (32)	160 (28)	90 (31)	
Training programs, n (%)					.001
Categorical programs	1140 (83)	344 (88)	530 (82)	266 (78)	
Noncategorical (primary care, med/peds)	266 (17)	47 (12)	113 (18)	76 (22)	
Medical school, n (%)					<.0001
U.S. medical school graduate	928 (67)	207 (53)	446 (69)	275 (80)	
Non U.S. medical school graduate	447 (33)	183 (47)	197 (31)	67 (20)	
Age, mean (SD) in years	31.5 (4.0)	31.9 (4.3)	31.3 (4.0)	31.4 (3.8)	.04
Gender, n (%)					.003
Male	939 (68)	288 (73)	440 (69)	211 (62)	
Female	437 (32)	104 (27)	202 (31)	131 (38)	
Marital status, n (%)					.02
Married	498 (36)	132 (33)	222 (34)	144 (42)	
Educational debt, n (%)					<.0001
No educational debt	527 (38)	185 (48)	241 (38)	101 (29)	
Under \$50,000	654 (48)	147 (38)	304 (48)	203 (59)	
\$50,000 and over	192 (14)	57 (15)	95 (15)	40 (12)	

*Nonprocedural internal medicine specialties include infectious diseases, endocrinology, rheumatology/allergy/immunology, nephrology, geriatrics, hematology/oncology, and other.

†Procedural internal medicine specialties include gastroenterology, pulmonary/critical care, and cardiology.

ties. Most believe financial incentives would effectively produce more generalists. Managed care systems will need to respond to these concerns in order to recruit and retain new graduates.⁹

This study is limited primarily by its response rate; however, the 1,390 subjects included in the study provided enough power for statistical comparisons and multiple-logistic-regression models, though not for further subgroup analyses. Managed care penetration data for communities was based on estimates from multiple sources subject to varying accuracy (Schwartz S, personal communication), although community data may not be the best measure of an individual's managed care exposure. Further investigation of these issues should include more accurate measures of managed care exposure both within and outside training programs. Determining how residents form their definitions and opinions about managed care would be helpful in understanding how this influences their decisions. A more complete survey sample and longitudinal follow-up of internal medicine residents entering practice would improve the methodologic limitations of this study.

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