Physician Employment Status and Practice Patterns

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BACKGROUND. Many physicians today are employed by another physician, group, hospital, HMO, or other organization. However, the differences in the characteristics, practice patterns, and patient outcomes of self-employed and employed physicians are not well understood.

METHODS. The practices of 108 community family physicians in northeast Ohio were assessed using a multimethod cross-sectional design. Physician characteristics were assessed by questionnaire. Direct observation of 3536 consecutive patient visits was used to measure time use and the delivery of preventive services recommended by the US Preventive Services Task Force. Patient satisfaction was assessed with the Medical Outcomes Study (MOS) 9-item Visit Rating Form.

RESULTS. Employed physicians were more likely to be female, in group practice, work fewer hours, and see fewer patients. Job satisfaction was similar between the two groups, but employed physicians reported greater satisfaction with leisure and family time. Employed physicians spent more time per patient visit, scheduled a larger percentage of well-care visits, and were more likely to refer to specialists. Employed physicians also spent a greater proportion of their patients' visit time performing history-taking and eliciting family information, and a lesser proportion of time on physical examination, planning treatment, providing health education, and chatting. Recommended screening and health habits counseling preventive services were more likely to be delivered by employed physicians. Patient satisfaction was similar for the two groups.

CONCLUSIONS. Primary care physician characteristics and practice patterns differ by employment status. The consequences of the trend toward a largely employed physician workforce as reported in this study should be carefully considered.

KEY WORDS. Physician's practice patterns; patient satisfaction; physicians, family; managed care organizations. *(J Fam Pract 1998; 46:499-505)*

Recent pressures to join integrated health care delivery systems have caused many individual physicians to become employees.[1] The American Medical Association Council on Medical Services reports that 45% of practicing physicians were employed by someone other than themselves in 1995 as compared with only 25% in 1983.[2] The rate of increase in employed family physicians is particularly striking, rising 24% between 1983 and 1994.[1] A 1996 survey of family physicians found that 57% of family physicians received at least half of their income from a salaried position.[3] Simultaneously, the number of physicians practicing in a group setting has increased, and fewer physicians are in solo practice.[1,2]

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Such changes in the socioeconomic practice patterns of physicians have been partially attributed to the growth of managed care. Managed care contracts were engaged in by 83.5% of physicians in 1995, compared with 55.7% in 1986.[1,2] Concerns have been raised about the effect of the differing incentives in managed care on the practice of medicine and the physician-patient relationship.[4,5] A different set of incentives are likely to operate for physicians who are employed than for physicians who own their own practice. The effect, however, of the trend away from physicians owning their own practice toward physicians as employees has not been examined.

A limited number of previous studies have shown that employed physicians are more likely to be female, less likely to be board certified, and work an average of 56 hours per week, compared with 60 hours per week for self-employed physicians.[1,6,7] Little is known, however, about the effect of employment status on physician satisfaction, practice patterns, or patient outcomes.

The current transitional period from a health care system dominated by self-employed physi-

cians to one in which employed physicians predominate presents an opportunity to examine the effects of physician employment status on practice patterns in primary care settings. Therefore, we examined differences between the characteristics of family physicians who own their practice and those who are employees. In addition, we examined differences in patient visit characteristics and time use during patient visits for employed compared with self-employed physicians. Finally, we analyzed the effects of physicians' employment status on two patient outcomes: patient satisfaction and the delivery of clinical preventive services recommended by the US Preventive Services Task Force.

METHODS

Study Design and Data Collection

The Direct Observation of Primary Care (DOPC) study, a cross-sectional study of the content of outpatient visits to family physicians in northeast Ohio, was conducted from October 1994 through August 1995.[8,9] Each participating physician was visited by a team of two research nurses while physicians provided outpatient care; nurses observed for 2 days, each day being 4 to 5 months apart. Patients were informed about the study in the waiting room before meeting with their physician, and were enrolled if they gave verbal informed consent.

The research nurses collected data on the content and context of the office visit using the following methods: direct observation of the patient visit, patient exit questionnaire, medical record review of all directly observed visits, and questionnaires completed by the physicians following their participation in the study.

Measures

The physician's employment status was ascertained from a physician questionnaire. Physicians were classified as either owning their practice (full or partial owner) or employed (either by another physician, group, hospital, HMO or other organization). Data on physician characteristics were obtained from the physician self-report questionnaire, including age; sex; type of practice; number of years in practice; satisfaction with their job; feelings of control, leisure, and family time; number of hours worked per week; and self-reported mean number of patient visits per week.

Data on patient characteristics, including age, sex, number of visits to the physician within the previous year, and the number of problems addressed during the observed visit, were obtained from the medical record. The duration of patient-physician relationship and the patients' health status and insurance type were determined from the patient exit questionnaire. Health status was measured using a 5-item modified version[8,10] of the Medical Outcomes Study (MOS) 6-item General Health Survey.[11]

A direct observation checklist was used to measure visit characteristics, including length of visit, reason for visit (well care, acute illness, chronic illness, other), number of problems addressed during the visit, and whether a referral was made. The average number of patients seen by the physician per hour was tabulated from direct observation. Time use during patient visits was measured by the research nurse using a modified version of the Davis Observation Code (DOC) during the direct observation portion of the visit. The DOC categorizes time use during every 15-second interval into 20 different behavioral categories.[12] The DOC was also used to measure the duration of the visit.

Two patient outcomes were assessed: patient satisfaction and the rate of preventive services delivery. Patient satisfaction was measured with the MOS 9-item Visit Rating Scale[13] and assessed as part of the patient exit questionnaire. The preventive service delivery outcomes used in this study were based on the US Preventive Services Task Force (USPSTF) guidelines.[14] Patient eligibility for specific preventive services was determined using an age- and sex-specific algorithm[15] according to the USPSTF recommendations. Whether patients received services for which they were eligible was determined by direct observation.

Analyses

To test the differences in physician characteristics between physicians who own their practice and those who are employed, *t* tests were used for continuous data, and chi-square tests were used for categorical data. The unit of analysis for these comparisons was the physician. In addition, patients whose physicians own the practice and patients of employed physicians were compared across patient characteristics, visit charac-

teristics, and time use. The patient was the unit of analysis for these comparisons. Analyses of visit characteristics, including time use during patient visits as measured by the DOC, were adjusted for potentially confounding differences in patient characteristics, using analysis of covariance.

The patients of employed physicians and the patients of self-employed physicians who own their practice were also compared across the outcome variables of satisfaction and preventive service delivery. Adjusted group means were compared using analysis of covariance, and included adjustment for potential confounders that were associated with both patient outcome and physician employment status.

TABLE 1

Physician and Practice Characteristics of Physicians Who Own Their Own Practice and Physicans Who Are Employed by Others

	Physicians Who Own Their Practice (n=55) Mean or %	Employed Physicians (n=53) Mean or %	P
Physician Characteristics			
Age (mean years)	44.3	42.0	NS
Sex (% female)	16.4	39.6	.007
Years in practice site	12.6	8.6	.012
Satisfaction (1=very unsatisfied, 5=very satisfied)			
Overall job satisfaction	3.2	3.2	NS
Feeling of control	2.9	2.6	NS
Leisure and family time	2.8	3.4	.009
Hours per week			
Office	34.4	22.8	<.001
Hospital	7.2	4.1	<.001
Emergency department	0.9	0.7	NS
Nursing home	2.6	1.0	.048
Other settings	1.8	1.2	NS
Directly observed number of patients per hour	3.8	2.7	<.001
Self-reported mean number of patient visits per week	133.1	77.8	<.001
Practice Characteristics			
Solo vs group practice (% solo)	32.7	3.8	<.001
Evening hours (% yes)	54.5	41.5	NS
Weekend hours (% yes)	74.5	54.7	.031
No. of physicians in the practice	2.7	8.3	<.001

RESULTS

Of the 138 community family physicians enrolled in the DOPC study, 108 reported their employment status, and they constitute the sample for this study. These physicians are demographically similar to members of the American Academy of Family Physicians, but represent recent demographic trends and include a higher percentage of female and residency-trained physicians.[16] Among participating physicians, 55 (51%) reported being the full or partial owner of their practice, while 53 (49%) reported being employed. Only 3% of physicians reported being employed by an HMO; 11% reported being employed by another physician, and 35% reported being employed by a hospital or other organization. During the 2 separate days of observation of each physician, a total of 3536 patient visits were directly observed; 2185 visits were to physicians who owned their practice and 1351 were visits to employed physicians.

Table 1 shows differences in physician and practice characteristics between physicians who own their practice and physicians who are employed. Employed physicians were more likely to be female and less likely to be in solo practice. The average number of physicians per practice of the employed physicians practices was double that of the self-employed physicians' practices. Despite the two groups being similar in age, employed physicians had been at their current practice site for fewer years than those who their own practice. Physicians who were employed worked fewer hours, saw fewer patients per week, and were less likely to work weekend hours. Although there was

TABLE 2

Comparison of Patient and Visit Characteristics Between Physicians Who Own Their Practice and Employed Physicians

	Patients of Physicians Who Own Their Practice (n=2185) Mean or %	Patients of Employed Physicians (n=1351) Mean or %	*P*
Patient Characteristics			
Years with practice	5.7	4.8	<.001
Insurance			
Medicare	23.8	19.9	<.001
Medicaid	3.9	9.2	
Managed care	35.0	40.1	
Fee for service	23.0	15.3	
Other	6.8	8.4	
None	7.5	7.0	
No. of physician visits within the past year	4.3	4.3	NS
Visit Characteristics*			
Length of visit (minutes)	9.1	11.5	<.001
No. of problems addressed during visit	1.7	1.9	<.001
Reason for visit			
Well care	11.3	13.8	.008
Acute care	60.7	55.0	
Chronic illness	21.6	24.1	
Other	6.5	7.1	
Referral made to another physician	9.1	12.4	.002

* Additional analyses adjusting for patient mix (number of years as patient of the practice and type of insurance) yielded similar results.

no difference in overall job satisfaction or feeling of control over their practice, employed physicians reported significantly greater satisfaction with leisure and family time.

Patient characteristics were similar between employed and self-employed physicians in mean age (41 years), sex (61% female), mean number of visits in the past year (4.3), and self-reported health status. As shown in Table 2, patients of employed physicians had been with the practice for a slightly shorter time than patients seeing self-employed physicians (4.8 vs 5.7 years). In our sample, the payer mix between the two groups was somewhat different. Physicians who were employed had a larger percentage of patients with managed care or Medicaid coverage, and a lower percentage of fee for service or traditional nonrisk Medicare.

In the 3536 directly observed patient visits, visits to employed physicians were significantly longer (11.5 vs 9.1 minutes), and had a greater number of problems addressed per visit (1.9 vs 1.7 problems). This difference in the number of problems addressed during patient visits disappeared in an additional analysis controlling for visit length. Patient visits to employed physicians were more likely to result in referral to another physician. A higher percentage of patient visits to employed physicians were for well care and for care of chronic medical problems, as opposed to acute illnesses. These differences in visit length, referral rate, and reason for visit persisted after controlling for differences in patient characteristics.

Time use during patient visits is shown in Table 3 as the percent of the 15-second observation intervals spent in each of 20 different behavioral categories assessed by the DOC. These analyses controlled for potentially confounding differences in patient mix, and showed the same effects as uncontrolled analyses. Since multiple behaviors could be observed in each time interval (an average of 1.9 behaviors per interval were observed), the sum adds to more than 100%. Applying a Bonferroni correction for multiple hypothesis testing allows us to conservatively interpret a significant alpha level at <.0025. Using this criteria, the data show that employed physicians spent a higher proportion of time during patient visits in history-taking and obtaining family information, whereas physicians who own their practice spent a greater proportion of their time during visits planning treatment, performing physical examination, providing health education, and chatting. There were trends toward employed physicians spending a higher percentage of visits in counseling, negotiation, and provision of smoking and substance use advice.

Table 4 shows that patients' satisfaction with the visit was not different for patients seeing either employed or self-employed physicians. However, patients seeing employed physicians were more likely to receive the health habits counseling and

screening services recommended by the USPSTF.

DISCUSSION

The multimethod approach of the DOPC study presents a unique view of the effect of physician employment status on community family practice. An opportunity is also presented by the timing of this study; a period of transition in which the ratio of employed to self-employed physicians is approximately 50:50. The northeast Ohio health care market has been shown to be representative of health care markets in much of the northeast and midwest United States.[17] Since HMO penetration in this market is about 19%,[17] these findings are likely to be representative of most emerging managed care markets. Physician employment may have different effects in mature managed care markets, in which the majority of physicians are employed by HMOs or large physician multispecialty practice organizations.[3]

In a transitional health care market, the physician characteristics that differ between employed and self-employed physicians can be attributed to self-selection. That is, some physicians choose to independently run their own practice while others choose to be employed. Having a choice in selecting a practice arrangement may explain the similarity in

TABLE 3

Differences in Time Use Between Physicians Who Own Their Practice and Employed Physicians

Behavioral Categories*	% of Patient Visit Time†		
	Patients of Physicians Who Own Their Practice (n=2185)	Patients of Employed Physicians (n=1351)	*P*
History-taking	54.4	58.6	<.001
Planning treatment	33.1	29.8	<.001
Physical examination	23.7	21.7	<.001
Health education	20.8	14.5	<.001
Feedback on evaluation results	14.3	13.7	NS
Family information	9.5	10.7	.002
Chatting	8.7	6.9	<.001
Structuring the interaction	7.6	8.1	NS
Patient questions	6.9	6.7	NS
Preventive services	3.0	3.0	NS
Procedure	2.6	3.0	NS
Nutrition advice	2.1	2.1	NS
Exercise advice	1.6	1.5	NS
Counseling	1.4	1.9	.012
Compliance assessment	1.2	1.3	NS
Assessing patient's health knowledge	1.2	1.2	NS
Smoking behavior assessment or advice	1.1	1.6	.003
Negotiation	1.1	1.3	.010
Health promotion	1.0	1.2	NS
Substance use assessment or advice	0.4	0.6	.008

*Assessed by the Davis Observation Code.
†Adjusted for number of years as patient of the practice, visit type, and type of insurance.

TABLE 4

Patient Outcomes Compared Between Physicians Who Own Their Practice and Employed Physicians

Patient Outcomes	Patients of Physicians Who Own Their Practice (n=2185)	Patients of Employed Physicians (n=1351)	*P*
Patient satisfaction*	4.3	4.3	NS
% of USPSTF-recommended services delivered at observed visit†			
Screening services	14.2	16.9	.011
Counseling services	3.3	4.3	<.001
Immunizations	3.5	3.0	NS

*Measured with the MOS 9-item Visit Rating Scale, adjusted for physician sex, number of years physician in practice, solo vs group practice, type of visit, and number of years as patient or in practice.
†Delivery of US Preventive Services Task Force recommended services for which each patient was eligible, adjusted for physician sex, number of years in practice, and solo vs group practice.

professional satisfaction and sense of control between employed and self-employed physicians. Although physicians who are employed by others give up some control of their practice, the external constraints faced by self-employed physicians decreases their sense of autonomy.[18] The greater satisfaction with leisure and family time reported by employed physicians shows that their shorter hours result in greater opportunity for satisfying nonprofessional pursuits.

Our findings on the characteristics of employed physicians are largely consistent with previous data showing that employed physicians are more likely to be female, less likely to be in solo practice, and work fewer hours than self-employed physicians.[1,6,7] These shorter hours and fewer patients seen per hour resulted in fewer patients being seen per week by employed physicians. A 1996 survey similarly found that salaried family physicians spent less total time in direct patient care compared with all physicians who responded to the survey.[3] However, this survey also found that employed physicians, who were employed by HMOs and government organizations to a larger degree than in our sample, actually saw more patients per week than self-employed physicians. Thus, it is not just being employed that affects physician productivity; the identity of the employer is likely to matter. Our sample size did not allow us to address the effect of different employers.

The shorter duration of the patient-physician relationship among patients seeing employed physicians speaks to a possible detrimental effect of physician employment on the continuity of care. Physicians who own their own practice are more likely to remain at that practice for a longer time. This translates into a longer doctor-patient relationship. Although self-employed and employed physicians saw similar patient mixes, differences in patient insurance reflect the larger managed care and Medicaid population seen in large group practices in our study population.

A unique contribution of this study is the directly observed visit characteristics of patients seeing employed physicians compared with the visit characteristics of those seeing self-employed physicians. The findings show that practice style differs according to a physician's employment status. This is reflected in employed physicians having longer patient visits, during which a greater number of problems were addressed. The visits of patients to employed physicians were also more likely to end in a referral to another physician. Employed physicians were more likely to see patients for well care or chronic illness visits, whereas a larger proportion of patient visits to self-employed physicians were for acute illness. This implies that, in the transitional health care market in northeast Ohio, most self-employed physicians are still practicing in a fee-for-service style, in which brief acute illness visits dominate, and fewer visits are for illness prevention or chronic disease management.

Our findings also show that employed physicians devoted a larger proportion of their time with patients to history- taking and obtaining family information. These differences reflect the shorter duration of the physician-patient relationship among employed physicians. Employed physicians, having known their patients for a shorter time, compensate by spending more time during patient visits, and spend a greater proportion of that time on information gathering. Self-employed physicians, however, have known their patients longer, and spend a greater proportion of their shorter patient visit time in physical examination, planning treatment, providing health education, and chatting.

Previous studies have found a negative association between patient satisfaction and time spent on history- taking, and a positive correlation of patient satisfaction with time spent in physical examination and health education.[19] Thus, self-employed physicians seem to allocate their shorter time with patients toward satisfaction-enhancing behaviors. This has the effect of maintaining patient satisfaction despite the potential negative effect of shorter visits.[20,21]

The outcome of directly observed delivery of USPSTF-recommended clinical preventive services favored employed physicians, even after controlling for minor differences in patient mix. Indeed, employed physicians exhibited several indicators of a greater emphasis on preventive health care. They scheduled a higher percentage of their visits for well care, and their patients were more likely to receive health habits counseling and screening services recommended by the US Preventive Services Task Force.[14] This is further reflected in greater time spent in discussing tobacco and substance use during

patient visits to employed physicians. The greater attention to preventive services delivery by employed physicians may partially reflect the emphasis on population-focused practice that is reinforced by managed care organizations and many larger group practices. Previous studies[14] have shown that even small differences in preventive services delivery by primary care physicians, particularly health habits counseling,[22] can have an important public health impact.

CONCLUSIONS

Ongoing changes in the health care market are causing a rapid increase in the number of employed physicians.[1,3,7] The findings of this study show differences in the health care provided to patients by physicians who own their own practice and those who are employees. In a transitional health care market, physician employment status is associated with varying practice patterns, including patient visit duration, number of patients seen per week, time allocation during patient visits, and clinical preventive services delivery. Additional studies in other health care markets are needed. Policymakers, clinicians, and patients should consider the effect of physician employment status on patient care.

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