

Quality of Work Life of Independent vs Employed Family Physicians in Wisconsin: A WReN Study

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ABSTRACT

PURPOSE Family physicians in Wisconsin who are mainly employed by large health care organizations have voiced concerns regarding the quality of their work lives. We explored the quality of work life and its relationship to employment by health care organizations.

METHODS We conducted a cross-sectional survey of the 1,482 active members of the Wisconsin Academy of Family Physicians in 2000.

RESULTS A 47% overall response rate was obtained, and 584 respondents could be identified as independent or employed by a health care organization. There were no differences in age or sex between the 2 groups. The independent physicians worked longer hours, were in smaller work groups, and had been in practice longer and in their current practice longer than the employed physicians. Independent physicians reported better working relationships, more satisfaction with family time, more influence over management decisions, better satisfaction with being a physician, better perceived quality of the care they provided, greater ability to achieve professional goals, and lesser intention to leave the practice.

CONCLUSIONS Independent physicians have significantly more positive ratings of several aspects of the quality of their work life compared with physicians employed by health care organizations. Health care organizations need to address these issues if they are to have a satisfied and stable workforce.

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INTRODUCTION

I ncreasing numbers of family physicians are employed by large health care organizations (HCOs), such as hospitals, health maintenance organizations (HMOs), vertically integrated managed care organizations, multispecialty clinics, and other entities that employ large numbers of physicians. In Wisconsin, the model of large group practices, often associated with a vertically integrated HCO, is especially common. Because of concerns voiced by Wisconsin family physicians about their quality of work life (QOWL) in these large HCOs, the Wisconsin Research Network (WReN) (which was the research arm of the Wisconsin Academy of Family Physicians at the time of this study) collaborated with the University of Wisconsin Department of Family Medicine and Department of Industrial Engineering to do a study of the QOWL for family physicians in Wisconsin. As part of this study, we compared the QOWL for family physicians employed by HCOs with that of those in independent practices.

Our hypothesis was that independent physicians would report a generally higher QOWL than their HCO-employed counterparts. An awareness of potential problems with the quality of physician work life can help physicians and administrators in HCOs take steps to improve the QOWL for their employed physicians.

Conflicts of interest: none reported

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METHODS

The methods used in this study have been previously described in detail.^{1,2} The study was approved by the University of Wisconsin Institutional Review Committee. During the summer of 2000, we conducted a cross-sectional survey of active members (N = 1,482) of the Wisconsin Academy of Family Physicians, which comprises approximately 90% of all family physicians in the state. A total of 703 surveys were returned, of which 11 were undeliverable. The overall response rate was 47%, which was similar to that of another recent survey of a state's family physician association.³ Of the 692 delivered and returned surveys, 64 were returned completed by participants who were ineligible because they were retired, spent less than 20% of their time in clinical practice, were unemployed, or were not a family physician. In all, 628 eligible and completed surveys constituted the sample.

Study Groups

For analysis, we grouped the physicians who were solo family physicians and members of smaller independent groups (groups not owned by a larger parent organization) into a single group—the independent group. In general, members of this group ranged from solo family physicians (very few) to independent groups of up to roughly 20 physicians. We then grouped those physicians who reported having a parent organization, such as a managed care organization, a large multispecialty group, or a hospital, into a single group—the HCO-employed group. This group included family physician-only groups and single physician offices that were owned and managed by larger HCOs. Physicians working in academic teaching practices were included in the HCO group as well. We defined the work group as “the group of physicians you work with on a daily basis—generally, that is the people with whom you share call.”

Questionnaire

The questionnaire was developed using questions from the literature and from telephone focus groups of both family physicians and their clinical assistants. The questionnaire included a total of 77 content questions (for which responses were given on Likert scales with 5 points, excepting the scale for intention to leave, which had 7 points) plus 12 demographic questions. Space was provided for open-ended comments.

On the basis of the literature and concerns of the focus groups, we selected 13 questions in 3 categories for analysis.

Four questions addressed work satisfaction issues:

1. Satisfaction with income: “How satisfied are you with your current income?” (0 = not satisfied, 4 = very satisfied.)⁴
2. Amount of family time: “How satisfied are you

with the amount of family time you have?” (0 = not satisfied, 4 = very satisfied.)⁵

3. Quality of relationships within the work group: “How would you rate the quality of the working relationships among the physicians in your work group?” (0 = poor, 4 = excellent.)⁶

4. Continuity of care: “How satisfied are you with your ability to provide continuity of care?” (0 = not satisfied, 4 = very satisfied.)⁷

The following 5 questions addressed practice issues:

1. Often work under time pressure: “How often do you work under time pressure?” (0 = never, 4 = always.)⁸

2. Amount of paperwork is reasonable: “Do you agree or disagree that the amount of paperwork you process is reasonable?” (0 = strongly disagree, 4 = strongly agree.)⁹

3. Influence over management decisions: “How much influence do you have over management decisions that affect your practice?” (0 = very little, 4 = very much.)⁷

4. Ability to match time to complexity of patient: “How often are you able to match the amount of time you have to spend with patients to the level of complexity of each patient's case?” (0 = never, 4 = always.)¹⁰

5. Opportunity to fully use skills: “How satisfied are you with your opportunities to fully utilize your skills in your practice situation?” (0 = not satisfied, 4 = very satisfied.) (New item from focus group.)

The following 4 questions addressed outcomes:

1. Satisfaction with being a physician: “How satisfied are you with being a physician?” (0 = not satisfied, 4 = very satisfied.) (New item from focus group.)

2. Perceived quality of care: “Given your work situation in total, how would you rate the overall quality of the medical care you are able to provide?” (0 = poor, 4 = excellent.)¹¹

3. Ability to achieve professional goals: “To what extent are you able to achieve your overall professional goals within your current practice situation?” (0 = not at all, 4 = very much.)¹²

4. Intention to leave the practice: “I plan to leave my work group in the near future.” (1 = strongly disagree, 7 = strongly agree.) (New item from focus group.)

Statistical Analyses

We conducted statistical analysis with SPSS software version 11.5 (SPSS Inc, Chicago, Ill). To compare the 2 groups on demographic variables, we used the χ^2 test for dichotomous variables (eg, sex), and we used the independent sample *t* test with equal variance not assumed to compare means.

Three separate multivariate analyses of covariance (MANCOVAs) were used to examine whether independent physicians differed from physicians working for HCOs on the 13 study variables. The single independent variable for the 3 MANCOVAs was health care organi-

zation, which had 2 levels: independent or HCO. The 5 covariates in each of the 3 equations were age, sex, ethnicity, hours worked per week, and years at current practice. Although the groups differed significantly in years in practice overall, this measure was highly correlated with years in current practice, so only the latter was retained. The 3 groups of dependent QOWL variables were work satisfaction issues (4 variables), practice issues (5 variables), and outcomes (4 variables). The Box M test was used to assess homogeneity of covariance matrices. To further protect against type I error, if the omnibus F test for the MANCOVA was significant, it was followed by univariate F tests of the individual dependent variables with Bonferroni correction, after correction for the covariates.

The total N of 584 classified respondents (78 independents, 506 HCOs) was reduced in each of the 3 MANCOVAs (work satisfaction issues, practice issues, and outcomes) to 442 (55/387), 468 (63/405), and 451 (58/393), respectively, because of missing data. Multivariate normality was not directly assessed, as the sample size in both groups far exceeded 20, the minimum typically required for robust MANOVA in the case of violations of multivariate normality. The Box M test indicated violations of homogeneity of variance-covariance matrices for the work satisfaction and outcomes dependent variables, but not for the practice issue dependent variables. Inspection of the variances between the HCO-employed and independent groups for each dependent variable, however, showed that no ratios exceeded even 2:1, so the use of MANCOVA was not invalidated and the analysis proceeded as planned.¹³

RESULTS

The overall response rate after survey mailing and 2 follow-ups was 47%, with 628 valid surveys (42%). In all, 584 respondents could be assigned either as independent physicians or as

HCO-employed physicians. Forty-four respondents were in work situations that could not be categorized as either. Among respondents, 32% were female, 57% were younger than age 45, and 13% listed themselves as nonwhite and not of Hispanic origin. Work location was rural for 45% of respondents, urban for 23%, and suburban for 32%. Data from the American Academy of Family Physicians for that same period (American Academy of Family Physicians, G. Tollison, personal communication, June 9, 2004) confirm that the respondents were similar to the general population of Wis-

Table 1. Comparison of Independent and HCO-Employed Respondents

Variable	Independent	HCO-Employed	P Value
Sex, female, %	24	34	.09
Age < 45 years, %	49	58	.17
Hours worked per week, mean ± SD	54.2 ± 13.8	50.5 ± 12.6	.04
Number in work group, mean ± SD	9.4 ± 7.8	14.9 ± 35.8	.004
Years in practice, mean ± SD	14.4 ± 7.8	12.2 ± 8.1	.03
Years in present practice, mean ± SD	12.3 ± 8.7	8.2 ± 8.7	.001

HCO = health care organization.

Note: A χ^2 2-sided significance was used for sex and age. An independent samples t test (equal variance not assumed) was used for hours worked per week, number in work group, years in practice, and years in present practice. The N varies from 70 to 75 for the independent group and from 470 to 496 for the HCO-employed group because respondents left some items blank.

Table 2. Comparison of Independent and HCO-Employed Respondents: Means, Standard Deviations, and Correlations for Dependent QOWL Variables

Variable†	Independent		HCO-Employed	
	Mean	SD	Mean	SD
Work satisfaction issues				
Satisfaction with income	2.81	0.93	2.83	1.03
Amount of family time	2.33	0.96	2.19	1.16
Quality of relationships within the work group	3.30	0.83	2.80	1.01
Continuity of care	3.44	0.87	3.32	0.79
Practice issues				
Often work under time pressure	3.04	0.75	3.06	0.77
Amount of paperwork is reasonable	1.10	0.95	1.30	1.06
Influence over management decisions	3.25	1.07	1.90	1.12
Ability to match time to complexity of patient	2.62	0.69	2.44	0.81
Opportunity to fully use skills	3.36	0.92	3.16	0.88
Outcomes				
Satisfaction with being a physician	3.48	0.85	3.26	0.95
Perceived quality of care	3.35	0.62	3.02	0.63
Ability to achieve professional goals	2.99	0.96	2.44	1.01
Intention to leave the practice	1.68	1.35	2.31	1.85

HCO = health care organization; QOWL = quality of work life.

Note: See the "Methods" section for a description of the scales on which variables were rated.

consin family physicians with respect to age (56% of respondents and of Wisconsin Academy of Family Physicians members were younger than 45 years), sex (32% of respondents vs 28% of all Wisconsin Academy of Family Physicians members were female), and weekly work hours (mean of 51 hours for respondents vs 48.1 hours for family physicians in the Wisconsin region).

The physicians' level of satisfaction with being a physician was quite high; 83.5% of respondents were either satisfied or very satisfied with their occupation.

On classification, 78 (13%) of respondents were in the independent group and 506 (87%) were in the HCO-employed group. Fewer than 5% listed themselves as being in solo practice; in fact, some who did were, as noted above, really physicians employed by HCOs. These physicians were included in the HCO group.

Comparison of Independent and HCO-Employed Respondents

Table 1 shows a comparison of the independent and HCO-employed physician groups. There were non-significant differences between groups for sex and age. There were significant differences for number of hours worked per week, number of individuals in the work group, years in practice, and years in the present prac-

tice. The independents worked more hours per week in smaller work groups and had been in practice longer and in their present practice longer.

Comparison of the QOWL Dependent Variables Between Independent and HCO-Employed Respondents

Table 2 shows a comparison of the groups with respect to the 13 QOWL dependent variables; the values given for these variables in the text that follows are expressed in points as rated by respondents on the previously described Likert scales. Status as an independent vs HCO-employed physician was the independent variable.

Work Satisfaction Issues

For the work satisfaction issues dependent QOWL variables, the Wilks λ was significant ($F_{4,432} = 3.99, P = .003$). Subsequent univariate tests for each dependent variable, with Bonferroni correction, showed that the dependent variable "satisfaction with working relationships among the physicians in your work group" differed significantly between independent and HCO-employed family physicians ($F_{1,435} = 8.93, P = .003$), with independents having more satisfaction (adjusted mean = 3.22, SE = 0.14) than HCO physicians

Correlations*

d	1	2	3	4	5	6	7	8	9	10	11	12	13
0.02	1.00	-	-	-	-	-	-	-	-	-	-	-	-
0.12	.33	1.00	-	-	-	-	-	-	-	-	-	-	-
0.51	.11	.18	1.00	-	-	-	-	-	-	-	-	-	-
0.15	.16	.18	.21	1.00	-	-	-	-	-	-	-	-	-
0.03	-.08	-.34	.00	-.16	1.00	-	-	-	-	-	-	-	-
0.19	.17	.35	.08	.21	-.31	1.00	-	-	-	-	-	-	-
1.21	.22	.15	.26	.32	-.11	.09	1.00	-	-	-	-	-	-
0.23	.20	.27	.10	.31	-.31	.21	.32	1.00	-	-	-	-	-
0.23	.32	.24	.26	.39	-.10	.15	.34	.30	1.00	-	-	-	-
0.24	.23	.28	.22	.23	-.16	.14	.29	.29	.28	1.00	-	-	-
0.53	.17	.13	.29	.32	-.05	.06	.32	.33	.29	.33	1.00	-	-
0.55	.43	.31	.35	.39	-.16	.15	.46	.38	.48	.44	.41	1.00	-
0.35	-.15	-.16	-.36	-.17	.07	-.04	-.36	-.16	-.22	-.26	-.25	-.39	1.00

* All correlations >|0.09| have P ≤.05.

† The mean (SD) values shown are expressed in points. See "Methods" for a description of the rating scale for each variable.

(adjusted mean = 2.78, SE = 0.05). Also, the dependent variable "satisfaction with the amount of family time you have" differed significantly between groups ($F_{1,435} = 7.37, P = .007$), with independents having more satisfaction with family time (adjusted mean = 2.53, SE = 0.14) than their HCO-employed counterparts (adjusted mean = 2.13, SE = 0.05).

Practice Issues

For the practice issues dependent QOWL variables, the Wilks λ was significant ($F_{5,457} = 12.34, P < .001$). Subsequent univariate tests for each dependent variable, with Bonferroni correction, showed that only the dependent variable "ability to influence management decisions that affect your practice" differed significantly between independents and HCO physicians ($F_{1,461} = 58.88, P < .001$), with independents having more ability to influence such decisions (adjusted mean = 3.12, SE = 0.14) than HCO physicians (adjusted mean = 1.94, SE = 0.06).

Outcomes

For the outcomes dependent QOWL variables, the Wilks λ was significant ($F_{4,441} = 5.48, P < .001$). Subsequent univariate tests for each dependent variable, with Bonferroni correction, showed that all 4 of the dependent variables differed significantly between groups. The dependent variable "satisfaction with being a physician" was significantly different between groups ($F_{1,444} = 3.86, P = .05$), with independents having greater satisfaction (adjusted mean = 3.50, SE = 0.12) than HCO-employed physicians (adjusted mean = 3.24, SE = 0.05). The dependent variable "How would you rate the overall quality of medical care you are able to provide?" differed significantly between groups ($F_{1,444} = 13.68, P < .001$), with independents rating their quality of care higher (adjusted mean = 3.34, SE = 0.08) than HCO physicians (adjusted mean = 3.01, SE = 0.03). The dependent variable "Are you able to achieve your overall professional goals within your current practice situation?" also differed significantly ($F_{1,444} = 16.32, P < .001$), with independents rating their ability to achieve their professional goals higher (adjusted mean = 3.01, SE = 0.13) than HCO physicians (adjusted mean = 2.44, SE = 0.05). The dependent variable "I plan to leave my work group in the near future" was significantly different ($F_{1,444} = 3.85, P = .05$), with independents indicating that they were less likely to plan to leave (adjusted mean = 1.73, SE = 0.24) than HCO physicians (adjusted mean = 2.24, SE = 0.09).

Comments by Independent and HCO-Employed Respondents

A total of 120 physicians who could be categorized as either independent or HCO-employed physicians used

the "Comments" section of the questionnaire. These physicians did not differ significantly from those who did not make comments in level of satisfaction with being a physician (3.3 vs 3.2, $P = .14$), perceived quality of care (3.1 vs 3.0, $P = .64$), and ability to achieve professional goals (2.5 vs 2.4, $P = .23$), but those providing comments were more likely to agree with the statement "I intend to leave my work group" (2.6 vs 2.1, $P = .01$, where higher values reflect greater intention to leave).

Physicians often commented on satisfaction being related to having autonomy over their work life and being able to care for patients as they were trained to. Meaningful relationships with colleagues and patients added to satisfaction. Dissatisfaction was expressed over decreasing compensation despite seeing more patients, loss of autonomy over work life decisions, emphasis on productivity, overwhelming paperwork, documentation requirements, patient care decisions being made by business people, and time away from family. The number of comments expressing dissatisfaction greatly outnumbered those expressing satisfaction.

Table 3 contains some quotes from these doctors as they relate specifically to their independent or HCO-employed status. Comments relating to paperwork, payment problems, and other general issues, which did not differ substantively between independent and HCO-employed physicians, are not quoted here.

DISCUSSION

Studies have explored the relationship between payment systems and physician satisfaction^{14,15} and between staff-model HMO and other HMO systems. Some studies suggest HMOs are having more problems,¹⁵ while there is also evidence that employment in a staff-model HMO may have no effect¹⁶ or may be associated with greater satisfaction in some areas of practice.¹⁷ Only 1 study has explored the satisfaction of employed physicians in larger groups and found lower levels of professional satisfaction¹⁸; another study found decreased satisfaction in HMOs.¹⁵ Our study focused on the QOWL of physicians employed by differing types of HCOs—HMOs, hospitals, multispecialty clinics, or other large organizations.

The QOWL of physicians is important for HCOs as the cost of replacing a physician is about \$250,000.¹⁹ There is considerable evidence of a relationship between the QOWL for physicians and other health care professionals, and patient care variables.²⁰⁻²⁷

Linzer and colleagues²⁸ have applied the demand-control-support model to analyze physician stress and performance. This model suggests that the tendency to burn out generated by high demands can be balanced by greater levels of job control and social support,

Table 3. Selected Comments From Independent and HCO-Employed Physicians

Independent Physician Comments	HCO-Employed Physician Comments
"I started my own practice 10 years ago because I was unhappy with the parent organization ... to which I belonged ... they were making bad business decisions which were detrimental to both doctors and patients ... I'm happier, in control of my practice and I love all my patients. I'd never go back to corporate practice."	"You are a small unimportant cog in a giant wheel and realistically have no say in administrative overhead decisions or in business contract reimbursement, all of which affect your personal reimbursement. There is also no say in formulary and budgetary decisions."
"I'm happy in my practice because we are an independent, family practice only clinic. We completely control our own work schedules and clinic protocols. All 10 doctors in our group meet every 2 weeks ... to discuss problems and work divisions. Our patients love us and vice versa."	"I and the rest of my work group have resigned from our HMO effective. ... We will be returning to independent practice in order to reestablish control of our practices... I plan to spend the remaining 5-6 years of my career doing the right things rather than the organizationally determined things."
"Independent practice = freedom to cooperatively make decisions, determine income allocations, set ground rules—in exchange for less security. ... Since we are independent, nobody except ourselves sets the rules."	"...management who increases responsibilities of practice, not help reduce them. Makes me wonder why I work for them at all—except their remuneration right now is pretty good. ... I will no doubt leave because of their attitude, hassles with scheduling, medical records, requests for time off."
"I am in an independent all family practice group. This independence I believe allows me to be positive about my work environment. If I don't like any aspect of it, I can change it."	"Although we now have EMR and a few other 'luxuries' I now have very little control over much of my practice. The administrative managers control our department/practice setting. I was in a large multispecialty group prior to becoming ABC clinic. Even though we were large, there still was the ability to control or affect things that were important to me."
"Much of my practice satisfaction comes from being a self-owned corporation and this ability to determine our own rules and destiny."	"I am privileged to be a member of a physician run and owned organization. This comes with the responsibility of involvement. I sit on the board of directors and several other large committees. This is a lot of work, but it empowers me. I truly feel the only way physicians can maintain autonomy and some input into the practice of medicine is to be involved from Mission Statements to creation, implementation of practice guidelines and community health programs."
"My partner and I started our practice 10 years ago. I work hard, but I am able to choose when and what I do. I am in control—life is good."	
"Being a physician in an independent clinic, I and my colleagues and staff are forced to deal with an increasing % of our time negotiating with HMO administrators, insurance companies, and ancillary care services (pharmacies and home health care). This takes from patient care time and my personal time and family time."	

HCO = health care organization; EMR = electronic medical record; HMO = health maintenance organization.

at least within limits. In our study, the largest difference between the independent and HCO-employed respondents was in the level of influence over management decisions, where the HCO-employed physicians perceived that they had a much lower level of control. The second largest difference between the independents and the HCO-employed physicians among workplace satisfaction variables was in the working relationships in the group. These factors taken together suggest that physicians employed by HCOs are lacking both in control and in social support relative to their independent colleagues.

Our findings regarding outcome measures are cause for concern as more physicians move into employed status. Physicians employed by HCOs rated the quality of care they could provide as lower, were less able to achieve their professional goals, and were more likely to intend to leave their work group. Whether these physicians' subjective measures translate into an actual lower quality of care or greater likelihood of leaving the practice cannot be determined from this study, but the literature cited above certainly suggests a relationship between the physicians' reports and reality. The weight of the evidence suggests that if HCOs take steps to improve the QOWL of their physicians, they can antic-

ipate improved care, greater patient satisfaction, and decreased physician turnover. Existing guidelines outline how various employment factors can be modified to create healthier, more efficient organizations.²⁷

There are several limitations to this study. Although the respondents were representative of Wisconsin family physicians generally, there could have been response bias between the independent and the HCO-employed groups. In addition, the definition of independent vs HCO-employed was somewhat arbitrary. Some HCOs are physician owned and operated; others are not. Some independent groups were quite large, whereas some HCO physicians actually had very small work groups. In addition, the degree of control by the HCO could be very different in, for example, a rural satellite clinic vs the main facility. Finally, the division of the variables into somewhat arbitrary definitions of work satisfaction issues, practice issues, and outcomes suggests a degree of causality that may not be present. Future work will explore the relationship between the practice variables in various HCOs that influence physicians and the outcomes for the physicians' QOWL.

Independent physicians have more positive ratings for their relationships within the work group, the amount of family time, their influence over manage-

ment decisions, their overall satisfaction with being a physician, their perceived quality of care, and their ability to achieve their professional goals. In addition, they state a lesser intention to leave the practice than physicians employed by HCOs.

Physicians employed by HCOs face substantial problems relative to independent physicians. Problems such as the lack of input into management decisions affecting practice and the apparent suboptimal relationships between physicians in the work group can be resolved or mitigated. HCOs can have a more satisfied, effective, and stable workforce if they address these problems. These issues will become increasingly important as the trend toward more physicians working as employees of HCOs continues.

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Key words: Physicians, family; job satisfaction; primary care; health care economics and organizations; managed care programs; health care delivery/health services research; practice-based research

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