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Satisfaction of Physician Assistants and Other Nonphysician Providers in a Managed Care Setting

SYNOPSIS

HEALTH MAINTENANCE ORGANIZATIONS have employed physician assistants, nurse practitioners, and other nonphysician providers for decades, yet there is little information on how satisfied these providers are with this form of practice.

This paper examines how physician assistants evaluate their experience practicing in a large group model health maintenance organization and compares their attitudes and satisfaction levels with those of other nonphysician providers—nurse practitioners, optometrists, mental health therapists, and chemical dependency counselors.

The data source is a 1992 survey of 5,000 nonphysician employees of a health maintenance organization. The survey instrument was a self-administrated questionnaire that included both structured and open-ended questions. The response rate averaged 88 percent for physician assistants and the other nonphysician providers.

Physician assistants expressed the most satisfaction with the amount of responsibility, support from coworkers, job security, working hours, supervision, and task variety. They were less satisfied with workload, control over the pace of work, and opportunities for advancement. Most physician assistants were also satisfied with pay and fringe benefits.

Compared with other nonphysician providers, chemical dependency counselors expressed the highest levels of satisfaction across the various dimensions of work and optometrists the lowest. Nurse practitioners, chemical dependency counselors, and mental health professionals also tended to be satisfied with most aspects of practice in this setting. In a number of instances, they were more satisfied than the physician assistants.

The findings are consistent with other studies that found health maintenance organizations to be favorable practice settings for physician assistants. The limits of physician assistant involvement and their role satisfaction and efficient use in HMOs are more likely to relate to physician attitudes and acceptance than to lack of support by coworkers and other attributes of the work environment.

Health maintenance organizations (HMOs) have been a part of the American health care scene for more than 50 years and since their inception, HMOs have sought to improve the delivery of health care. Recognizing that physicians represent one of the greatest items of cost, HMOs were quick to employ nonphysician providers such as physician assistants (PAs) and nurse practitioners (NPs).

Subsequent research has shown that PAs are cost effective and provide care comparable to that of physicians for many medical conditions. They are also well-accepted by patients (1,2). Nevertheless, less than 10 percent of PAs report that they practice in HMOs, and little is known about their reactions to the roles they play in the HMO work environment (3). PA recruitment and retention are crucial issues for HMOs because of the projected shortage of primary care physicians and because HMOs strongly emphasize ambulatory care (4).

Given this situation, HMOs will be wise to ensure reasonable levels of satisfaction among PAs and other nonphysician providers (NPPs). The expanding role of PAs in managed care systems and the growing emphasis on primary care highlights the importance of NPPs under health system reform (5). This article examines how PAs evaluate their work experience in a large HMO and compares their job satisfaction with that of NPs and other nonphysician practitioners.

Previous Research

The literature on job satisfaction in general is vast, but most research on job satisfaction in HMOs has concentrated on physicians (6). Studies are limited on the job satisfaction of PAs in HMOs, and, to our knowledge, none has compared PAs with other NPPs. Nevertheless, previous research on physicians offers some clues about the opportunities and problems PAs may encounter.

HMO primary care physicians, for example, are mostly satisfied with HMO practice, but they also express dissatisfaction with certain aspects of the work environment such as workload, control over their schedules, and time available for patients (7,8). PAs may also find these issues troublesome. In addition, several other issues may affect their satisfaction with HMOs. One issue is whether PAs can achieve a level of patient care responsibility (and degree of autonomy) that is appropriate to their level of training. Some studies, for example, suggest that HMO physicians may be reluctant to delegate duties to PAs or may not use them efficiently (9). Whether HMOs can provide PAs with the income levels, social status, and career opportunities they expect are other salient issues, as is the extent to which PAs are accepted and supported by nurses and other health professionals working in the HMO setting.

Research on PAs in non-HMO settings suggest that PAs are reasonably satisfied with their work experience and

practice conditions. PAs express an overall level of satisfaction that compares favorably with other professionals such as lawyers, accountants, and engineers (10). They report less stress and have lower turnover rates than nurses and many other health workers (11). PAs also are more satisfied than NPs, who regard themselves as better trained and more effective alternative practitioners. Within the health care hierarchy, PAs tend to have higher status than NPs and see themselves as assistant practitioners. Some analysts suggest that NPs resent the advantageous entry and rapid acceptance of PAs (12).

The major determinants of job satisfaction among PAs seem to be the professional and personal support the PA's supervising physician provides, the amount of responsibility for patient care, and opportunities for career advancement (13). Location in smaller communities is also associated with greater satisfaction, although a recent study found that satisfaction levels were equally high for PAs practicing in both urban and rural settings (14). Lack of opportunities for career advancement has been frequently cited as a major concern and the main cause of attrition from the PA profession (15). Inadequate financial compensation and control over income are other reported sources of dissatisfaction (16). Acceptance by patients and by other health workers has not been found to be a significant problem (1,2,17).

In one of the few HMO studies available, 276 allied health workers were surveyed to determine their level of job satisfaction and organizational commitment; this study included 17 NPs, but no PAs (18). The main finding was that both job satisfaction and commitment increased with age. Job stress (or tension) was low among allied health workers in this HMO, and overall job satisfaction was reasonably high. No data were reported on satisfaction with specific aspects of work or satisfaction by type of allied health worker.

Methods

Study setting and the role of PAs. The Northwest Region of Kaiser Permanente (KPNW), one of the nation's oldest and largest managed care plans, is the study setting for this analysis. KPNW is a prepaid group practice HMO serving more than 380,000 members in northwest Oregon and southwest Washington. KPNW is hospital-based with two medical centers and 17 ambulatory care facilities (19); it employs a wide range of health professionals including 140 PAs and NPs. Their roles and responsibilities in this setting are summarized subsequently.

KPNW is similar to many other health care organizations in that PAs and NPs are viewed as interchangeable (20,21). Both groups provide primary care and practice in the departments of internal medicine, family practice, pediatrics, and urgency care. PAs are expected to be able to perform a wide range of tasks and to treat the most frequently seen general medical conditions. PAs also perform a number of technical procedures such as suturing and minor biopsies.

The role of the PA is decentralized and determined at the department and medical office level. The department chiefs (who are physicians) have wide latitude in how they employ PAs. Consequently, PAs may be used as primary care providers in one setting, specialty care providers in another, and not at all in yet another. All KPNW primary care providers work in modules of 4-7 clinicians, and these working relationships are generally considered collaborative. For the most part, primary care patients are undifferentiated (not triaged), and the available provider does whatever needs to be done. Patients may elect to be part of the physician, PA, or NP panel of patients. If the patient's regular provider is not available for a specific visit, the patient will be seen by another member of the primary care module.

Although most PAs practice in primary care, they also specialize and work in areas such as surgery, neurosurgery, orthopedics, emergency care, pathology, dermatology, endocrinology, urology, obstetrics-gynecology, ophthalmology, gastroenterology, and rheumatology. Within these departments, PAs tend to have certain specialty skills (often procedure-oriented), and patients are directed to them for these skills and procedures (for example, flexible sigmoidoscopy, fracture setting, diabetes management, and so forth).

Compared with PAs, NP roles are more concentrated in certain areas, for example, in health assessment and disease prevention, and they perform general physical examinations, routine gynecological examinations, well-baby checks, and drug monitoring. However, the roles of the two groups overlap somewhat, in that some PAs work in the health assessment arena, and some NPs provide comprehensive medical care. Only a limited number of PAs or NPs has hospital admitting privileges or provide care to their patients in the hospital, but urgency care is predominantly staffed by PAs and NPs for after-hours and weekends. Finally, PAs and NPs sometimes treat elderly patients with complicated illnesses or patients with multiple system disorders, but such patients are managed mainly by physicians.

The roles of the other NPPs are more clearly defined; mental health and chemical dependency (alcohol-drug abuse) treatment NPPs assess, counsel, and follow KPNW patients with mental health and substance abuse problems. Physicians and NPs prescribe and monitor drug treatment (for depression, for example), provide detoxification, and admit patients to the hospital for these services.

Optometry is a department unto itself, and most KPNW medical offices have an optometry unit and optical services. Optometrists mainly perform eye exams (refractions) and write prescriptions for glasses. Ophthalmology is a separate department of physicians who are board certified in ophthalmology. Physicians from this department perform all of the eye surgery in KPNW.

Data source. The data source for this study is the Kaiser Permanente Employee Survey, which is conducted biennially by the Center for Health Research, a professionally independent research organization affiliated with KPNW (and the Oregon Health Sciences University). The survey instrument was a self-administered questionnaire that included both structured and open-ended questions. The

most recent survey (and data source for this analysis) was conducted in October and November 1992. Almost 5,000 of KPNW's employees (78 percent) participated. Respondents and nonrespondents were similar on basic sociodemographic characteristics (data not shown). Although the survey was anonymous, participants were asked to identify if they were PAs, NPs, or other types of NPPs.

The response rate for PAs and NPs was 80 percent (N=112). The rate for chemical dependency counselors was 97 percent, for mental health therapists, 88 percent, and for optometrists 88 per-

cent. In the subsequent section, we report our results on the job satisfaction of PAs and compare their level of satisfaction with that of other NPPs. These providers have similar levels of professional responsibility in KP.

Chi-square tests were used to test for statistically significant differences. Significance levels are identified in the tables. For comparison purposes, we present data on the entire employee sample (N=4,991). The chi-square tests, however, were performed only on the NPPs (N=225).

Results

Background characteristics. As shown in table 1, PAs (and optometrists) were mostly men, and the NPs were predominantly women; the majority of chemical dependence counselors and mental health professionals were also women. PAs and the other NPPs were similar with respect to age.

NPPs did differ in terms of their tenure with Kaiser Permanente. NPs and optometrists had longer tenure than PAs,

When asked, "Would you take the same job again?" only about a third of the PAs, NPs, and optometrists indicated that they would definitely take the same job again.

Table 1. Characteristics of nonphysician providers, Kaiser Permanente Northwest Region (percent)

Characteristics	All employees	Physician assistants	Nurse practitioners	Chemical dependence counselors	Mental health specialists	Optometrists	Chi-square ¹
Sex:							
Female	80.3	36.8	86.8	53.1	62.9	29.6	P = .01
Age (years):							
Younger than 40	45.7	40.0	32.1	37.5	32.1	39.3	...
40-49	38.0	49.1	49.1	43.7	52.8	32.1	P = .66
50 or older	16.3	11.9	18.8	18.8	15.1	28.6	...
Years with Kaiser:							
Less than five	44.1	40.0	37.1	28.1	59.2	24.1	...
5-10	25.7	28.8	18.5	40.6	20.4	27.6	P = .03
More than 10	30.2	31.2	44.4	31.3	20.4	48.3	...
Average number	4,999	58	54	32	52	29	

¹Chi-square tests were performed only on the 225 nonphysician providers.

chemical dependence counselors, and mental health professionals. For example, 44 percent of the NPs and 48 percent of the optometrists had been with KPNW for 10 years or more. Only 31 percent of the PAs had practiced 10 years or more in this setting. The longer tenure of NPs probably reflects the fact that some of them had been registered nurses at KPNW prior to becoming NPs.

Overall satisfaction. The majority of PAs (67 percent) were satisfied with KPNW as a workplace, and most (75 percent) were satisfied with their current jobs. NPs, chemical dependence counselors, and mental health staff members also had fairly high levels of overall satisfaction (table 2). Optometrists were the least satisfied, particularly in terms of their jobs (41 percent). When asked, "Would you take the same job again?" only about a third of the PAs, NPs, and optometrists indicated that they would definitely take the same job again, suggesting perhaps that these NPPs were ambivalent about their long-range careers or future with the HMO. In contrast, 60 percent of the mental health profes-

sionals and 71 percent of the chemical dependence counselors would *definitely* take the same job again.

In terms of retention, we know from administrative records that the five-year average turnover rate for PAs is five percent and 11 percent for NPs (20). The KPNW employee survey included a question on whether the employee planned to be working at Kaiser Permanente five years from now, and we used this question to measure expected retention. Although not statistically significant, NPs were less likely than PAs and other NPPs to report that they *definitely* plan to be working at Kaiser Permanente five years from now (table 2).

Pay and benefits. Most PAs (62 percent) and NPs (65 percent) were satisfied with pay (table 3). They were less satisfied, however, than chemical dependence counselors (84 percent) and mental health staff members (79 percent). Optometrists were the least satisfied with pay (41 percent). PAs as well as the other NPP groups were highly satisfied with health plan benefits (premiums are fully paid). All of

Table 2. Satisfaction by type of nonphysician provider (percent), Kaiser Permanente Northwest Region

Characteristics	All employees	Physician assistants	Nurse practitioners	Chemical dependence counselors	Mental health specialists	Optometrists	Chi-square
Kaiser as a workplace:							
Excellent, good (percent)	77.5	66.7	70.9	87.5	80.8	55.2	P = .15
Satisfaction with job:							
Very/satisfied (percent)	75.7	75.0	76.4	87.1	84.3	40.7	P = .01
Take same job again?							
Definitely (percent)	44.5	33.3	39.6	70.9	59.6	29.6	P = .01
Plan to be at Kaiser in five years?							
Definitely (percent)	37.0	23.3	11.5	40.0	31.4	38.5	P = .32
Average number	4,999	58	54	32	52	29	

Table 3. Percent saying pay benefits are very good/good, by type of nonphysician provider, Kaiser Permanente Northwest Region

Characteristics	All employees	Physician assistants	Nurse practitioners	Chemical dependence counselors	Mental health specialists	Optometrists	Chi-square
Pay	69.2	62.0	64.8	84.4	78.9	41.4	P = .01
Vacation	68.0	50.0	56.6	80.6	64.7	51.7	P = .05
Sick leave	62.8	62.1	66.7	87.1	73.1	55.2	P = .06
Health plan	85.7	87.9	87.0	86.7	86.5	93.1	P = .92
Retirement	49.0	69.0	66.7	79.3	82.7	60.7	P = .16
Average number	4,999	58	54	32	52	29	

the NPPs (and their dependents) are members of KPNW and receive their medical care in this managed care system.

PAs (and optometrists) were less satisfied than the other groups with vacation and sick leave. Optometrists were also less satisfied than the other NPPs with retirement (although the differences were not statistically significant).

Satisfaction with specific aspects of work. PAs expressed the most satisfaction with the amount of responsibility, support from coworkers, job security, working hours, supervision, and variety they have in their jobs. They were less satisfied with workload, control over work pace, and advancement opportunities. The patterns were similar for the NPs (table 4).

As before, satisfaction levels varied significantly by category of nonphysician provider. Compared with other NPPs, chemical dependence counselors expressed the highest levels of satisfaction across the various dimensions of work and optometrists the lowest. PAs, NPs, and mental health specialists tended to fall in between. Significant differences were not found in only three areas—coworker support, advancement opportunities, and supervision. All of the NPPs had relatively high levels of satisfaction with cowork-

ers and supervision but low levels of satisfaction with opportunities for advancement (table 4).

Optometrists were less satisfied than the other NPPs with control over the pace of work, workload, task variety, amount of responsibility, and continuing education. As shown previously, they were also less satisfied than the other NPPs with pay and with their jobs generally.

Discussion

Most PAs in this managed care plan were satisfied with their jobs and with specific aspects of work. Their levels of satisfaction also compared favorably with that of NPs and other NPPs. The majority of PAs were satisfied with salary and fringe benefits, supervision, level of responsibility, working hours, relationships with coworkers, job security, and opportunities for continuing education. They expressed somewhat lower levels of satisfaction with workload, control over work pace, and advancement opportunities.

Our results are very similar in terms of salary and responsibility level to the findings in a recent survey of MEDEX Northwest graduates, the PA training program at the University of Washington (14). For example, 66 percent

Table 4. Percentage saying very satisfied/satisfied with specific aspects of work by type of nonphysician provider, Kaiser Permanente Northwest Region

Characteristics	All employees	Physician assistants	Nurse practitioners	Chemical dependence counselors	Mental health specialists	Optometrists	Chi-square
Responsibility	69.6	84.7	89.1	71.0	78.8	51.8	P = .01
Coworkers	79.3	80.0	85.5	90.3	84.6	85.7	P = .48
Job security	64.9	79.7	65.5	60.0	51.9	85.2	P = .01
Hours	74.7	73.3	81.8	64.5	88.5	82.1	P = .01
Supervision	68.6	70.2	69.8	84.4	70.4	59.3	P = .53
Variety	68.7	65.0	74.5	77.4	73.1	35.7	P = .02
Continuing education	45.9	56.7	76.0	58.1	50.0	42.9	P = .04
Workload	53.4	53.3	50.0	55.8	46.1	28.6	P = .01
Control over pace	53.6	40.7	43.6	66.7	44.2	17.9	P = .01
Advancement	29.9	25.0	36.4	38.7	32.7	25.9	P = .41
Average number	4,999	58	54	32	52	29	

of the PAs in the MEDEX survey were satisfied with their salaries compared with 65 percent of KPNW PAs. About 85 percent of PAs practicing in KPNW were satisfied with their level of responsibility compared with 86 percent of the MEDEX PAs. Some differences are also apparent: KPNW PAs were less satisfied than MEDEX PAs with workload (53 percent versus 68 percent) and opportunities for continuing education (57 percent compared with 76 percent). Although satisfaction with advancement opportunities was not measured in the MEDEX survey, PAs are dissatisfied with this aspect of their jobs in many settings.

NPs, chemical dependence counselors, and mental health professionals also tended to be satisfied with the HMO and with most aspects of practice in this setting. In a number of instances, they were more satisfied than PAs.

The major limitation of our study is that it was limited to one HMO in the northwest section of the United States. Caution should be exercised in generalizing the results from a study of one HMO to other HMOs and other managed care systems. Our number of PA study subjects was also small (N=58)—of the more than 28,000 PA graduates, at least 80 percent (or 22,400) currently practice in the United States (3). Nevertheless, our results should be of interest to other HMOs that are considering hiring more PAs and to PAs considering practicing in an HMO setting.

We also did not ask PAs about whether they felt their roles were likely to be restricted or expanded in the future. Physician acceptance is a barrier to the role enhancement of PAs, and HMO physicians' attitudes play a major role in level of delegation and staffing decisions (9, 22, 23). Physicians' supervision behaviors also have the greatest influence on PA productivity. PA and physician perceptions about these issues should be further explored.

Our findings and other studies do suggest that HMOs are a favorable practice setting for PAs (24). The limits of PA involvement and their efficient use in managed care are more likely to relate to physician acceptance and the future supply of physicians competing for similar opportunities than to PA satisfaction.

References

- Record, J. C., et al.: Staffing primary care in 1990: new health practitioners, cost savings, and policy issues. Springer Publishing Co., New York, 1981.
- Record, J. C., et al.: New health professions after a decade and a half: delegation, productivity and costs in primary care. *Health Politics Policy Law* 5: 470-497 (1980).
- General census data on physician assistants. American Academy of Physician Assistants, Alexandria, VA, 1993.
- Freeborn, D. K., and Pope, C. R.: Promise and performance in managed care: the prepaid group practice model. The Johns Hopkins Press, Baltimore, 1994.
- Jones, P. E., and Cawley, J. F.: Physician assistants and health system reform. *JAMA* 271: 1266-1272, Apr. 27, 1994.
- Lichtenstein, R. L.: The job satisfaction and retention of physicians in organized settings: a literature review. *Med Care* 41: 139-179 (1984).
- Luft, H. S.: Health maintenance organization: dimensions of performance. John Wiley and Sons, New York, 1980.
- Freeborn, D. K.: Physician satisfaction in a prepaid group practice HMO. *Group Health J* 6: 3-12 (1985).
- Johnson R. E., Freeborn, D. K., and McCally, M.: Delegation of office visits in primary care to physician assistants and nurse practitioners. *Physician Assistant* 9: 159-169, January 1985.
- Perry, H. B.: The job satisfaction of physician assistants: a causal analysis. *Soc Sci Med* 12: 377-385 (1978).
- Holmes, S. E., and Fasser, L. E.: Occupational stress among physician assistants. *J Am Acad Physician Assistants* 6: 172-178 (1993).
- Wolinsky, F. D.: The sociology of health. Ed 2. Wadworth Publishing Co., Belmont, MA, 1988.
- Baker, J. A., Oliver, D., Donahue, W., and Huckabee, M.: Predicting the satisfaction among practicing physician assistants. *J Am Acad Physician Assistants* 2: 461-470 (1989).
- Larson, E. H., Hart, L. G., and Hummel, J.: Rural physician assistants: a survey of graduates of Medex Northwest. *Public Health Rep* 109: 266-274, March-April 1994.
- Clawson, D. K., and Osterweis, M., editors: The roles of physician assistants and nurse practitioners in primary care. Association of Academic Health Centers, Washington, DC, 1993.
- Willis, J. B.: Explaining the salary discrepancy between male and female PAs. *J Am Acad Physician Assistants* 5: 280-288 (1992).
- Nelson, E. C., Jacobs, A. R., and Johnson, K. G.: Patient's acceptance of physician's assistants. *JAMA* 228: 63-67, Apr. 1, 1974.
- Smith, H. L., and Mitry, N. W.: The quality of working life for allied health professionals in an HMO. *J Allied Health* 14: 305-315 (1985).
- Greenlick, M. R., Freeborn, D. K., and Pope, C. R., editors: Health Care Research in an HMO. The Johns Hopkins Press, Baltimore, 1988.
- Hooker, R. S.: The roles of physician assistants and nurse practitioners in a managed care organization. In *The roles of physician assistants and nurse practitioners in primary care*, edited by D. K. Clawson, and M. Osterweis. Association of Academic Health Centers, Washington, DC, 1993, pp. 51-67.
- Hooker, R. S., and Freeborn, D. K.: Use of physician assistants in a managed health care system. *Public Health Rep* 106: 90-94, January-February 1991.
- Weiner, J. P., Steinwachs, D. M., and Williamson, J. W.: Nurse practitioner and physician assistant practices in three HMOs: implications for future U.S. health manpower needs. *Am J Public Health* 76: 507-511 (1986).
- Johnson, R. E., and Freeborn, D. K.: Comparing HMO physicians attitudes towards nurse practitioners and physician assistants. *Nurse Pract* 11: 39-53, January 1986.
- Johnson, R. E., Hooker, R. S., and Freeborn, D. K.: The future role of physician assistants in prepaid group practice health maintenance organizations. *J Am Acad Physician Assistants* 1: 88-90, March/April 1988.