Use of Physician Assistants in a Managed Health Care System

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Synopsis

Kaiser Permanente Northwest Region is a prepaid group practice health maintenance organization. Among the employed are 65 physician assistants (PAs) who work in primary care and in certain subspecialties. Kaiser Permanente was one of the first managed health care systems to use PAs and has contributed to the historical documentation of their effectiveness. An interest in experimenting with new forms of health care delivery as well as enabling State legislation has contributed to an expanded role for nonphysician providers.

Together with nurse practitioners, PAs comprise 20 percent of the primary care staff and write 25 percent of the prescriptions for the membership. The use of PAs in managed health care settings will likely increase to meet growing primary care demands. Analysts have found the cost of a PA ranges from 25 percent to 53 percent of the cost of a physician. PAs are capable of providing care for 86 percent of the diagnoses seen in outpatient primary care setting, and patient acceptance is high.

PHYSICIAN ASSISTANTS (PAs) and nurse practitioners (NPs) were introduced into the American health care system in the late 1960s to improve access to primary care. The use of these nonphysicians to provide medical services has been extensively evaluated (*1–3*). The impact of these new kinds of health professionals is not limited to primary care. Furthermore, an increasing number of these providers are being used in large managed health care systems such as the military, prisons, Department of Veterans Affairs' (VA) hospitals, and health maintenance organizations (*4*).

In this article, we concentrate on one type of health provider, PAs, and describe how they are used in a large group practice health maintenance organization (HMO).

Research Setting

The setting is Northwest Region Kaiser Permanente (KPNW), a prepaid group practice HMO. This program provides prepaid comprehensive outpatient and inpatient care for an enrolled population of more than 385,000 persons. The members includes both Medicaid and Medicare recipients. With the increase in the proportion of elderly in recent years, the current age distribution of the Kaiser Permanente (KP) membership is similar to that of the local area (approximately 12 percent of the health plan members are 65 years of age or older). The KP membership is also similar to the area population in health status and sociodemographic characteristics (*5*).

KPNW maintains two hospitals with a combined 460-bed capacity. Ambulatory care facilities are located in various neighborhoods throughout the area. All facilities maintain outpatient pharmacies, optical services, laboratory, and radiology services. Physician services are provided by the Northwest Permanente, an independent professional corporation. Currently, the system employs more than 475 physicians and 65 PAs. These providers practice full-time in all the major specialties and subspecialties. The medical group receives a fixed capitation payment from the Kaiser Foundation Health Plan of the Northwest to provide needed medical services. All providers are paid a basic salary.

Members are encouraged to choose a personal physician and to return to that same provider when the need for medical care arises. Most older patients have an identified primary care provider. Family practitioners, internists, and the associated PAs within those departments provide primary care for adults. Physicians are responsible for maintaining continuity of treatment, including care for their patients when they are hospitalized. Both family physicians and internists see patients 65 years and older, and no formal mechanisms exist for allocating older patients to either specialty. That is, no protocols or algorithms are used to specify the type of provider, and patients can choose a provider from either specialty.

The majority of PAs are employed in the departments of family practice, pediatrics, and internal medicine, and they generally provide primary care. Although they are supervised by physicians, they treat a broad range of medical problems and have considerable professional autonomy, with the exception that they generally do not admit patients to the hospital. No systemwide protocols or algorithms exist for triaging certain patients to PAs (by diagnoses, disease severity, or other criteria) or for specifying how patients are to be managed. Liberal State prescribing regulations allow PAs wide discretion in the treatment of patients.

System constraints affect all providers equally. A region-wide quality assurance group exists and provides information to all medical staff. A regionwide pharmacy administration regularly provides information on the relative costs and indications for various medications as well as maintaining a drug formulary. The central laboratory provides information on the relative merits of various laboratory tests and procedures. Finally, the system maintains a unit medical record that includes information on the total care of the patient—both outpatient and inpatient. Every provider has access to the medical chart and thus can review the care provided by colleagues and all other medical personnel.

The focal point for medical care is the medical office, where most patients are seen by appointment, although provisions are made for seeing walk-in and urgent care patients. Emergency services are available at all hours, and house calls are provided for patients when medically indicated. In addition, home health services are provided to patients requiring these services. The medical care program also provides preventive care at little or no out-of-pocket costs to members.

History of PAs

The first PA program was developed at Duke University in 1965. This initial class brought together four medically trained servicemen, upgraded their knowledge and skills, and returned them to the health care field that was experiencing a physician shortage. Two other types of PA programs also were developed in the late sixties. The MEDEX program, like the Duke model, sought former military corpsmen to place in rural, medically underserved areas. A third type of program provided PAs with technical and specialty training in pathology, radiology, surgery, allergy, endoscopy, ophthalmology, orthopedics, and urology. Since 1972, Federal funds have been available to support only primary care PA training programs. By 1978 most of the original technical and specialty PA programs had closed or had been reorganized to provide primary care training. Surgery, orthopedics, and pathology are the only remaining specialized programs. Thus, this new profession was shaped by the Federal initiative to help solve the problems of access to primary care.

Primary care physicians in Kaiser Permanente Northwest Region had limited trauma experience and needed someone to treat outpatient injuries such as burns, fractures, lacerations, and contusions. To supplement the primary care staff, a Duke University physician assistant graduate was recruited in September 1970.

KPNW was the first HMO to use PAs. In the late sixties, the Department of Internal Medicine was experiencing a demand for more urgent care services. Primary care physicians in KPNW had limited trauma experience and needed someone to treat outpatient injuries such as burns, fractures, lacerations, and contusions. To supplement the primary care staff, a Duke University PA graduate was recruited in September 1970. Because of his extensive experience, he was able to assume a large share of the trauma problems as well as take care of certain urgent medical conditions (*6*). The PA gradually expanded his schedule to include blood pressure monitoring and followup care for patients with diabetes and other chronic illnesses. Six additional PAs were added within 18 months. Medication refills was another activity assumed by PAs. Preselection of patients for specific providers was eliminated, and the PA gradually filled a role previously held by a physician.

Scope of Practice for PAs

Enabling legislation contributes significantly to the PA scope of practice. In Oregon and Washington, the PA may diagnose and treat patients with supervision by a physician. Both the physician and PA must be licensed by the State's Board of Medical Examiners. While the PA's responsibility is technically delegated by the physician, the PA is considered a provider and dispenser of medical care and is subject to the same community medical standards as the physician (*7*). To meet the supervision requirement, a physician must be available to consult with the PA throughout the day. Some physicians choose to substantiate the review process by putting their initials below the PA's notes in the medical record.

Prescribing by PAs is authorized in both States and includes the use of Schedule II through V federally controlled substances in the outpatient setting (*8*). This right to prescribe, while administered by the Board of

Percentage of Physician Assistants in Primary Care and Nonprimary Care at Kaiser Permanente Northwest Region, 1990

Primary care:	
Internal medicine	20
Family practice	49
Pediatrics	8
Subspecialties	23
Administration	Ophthalmology
Biofeedback	Orthopedics
Cardiology	Pathology
Diabetology	Research
Emergency room	Rheumatology
Endoscopy	Sports medicine
Neurosurgery	Surgery
Obstetrics-gynecology	Trauma-urgency care

Medical Examiners, has generated little controversy. The ability to prescribe enhances the role of the PA, since more than 80 percent of KPNW members use KPNW pharmacies. At least 25 percent of all prescriptions submitted to KPNW pharmacies are written by PAs and NPs. Prescribing by PAs has not been an issue for the State Board of Medical Examiners, nor for Oregon's medical watchdog, The Foundation for Medical Excellence.

Within KPNW the majority of PAs are in primary care and are not generally associated with hospital care. Following is a list of characteristics of KPNW physician assistants for 1990:

Characteristic

Total number: 65
Full time equivalent: 54.3
Average age: 40 years (range 28–65-years-old)
Sex: 72 percent men
Length of KP service: 7.5 years (range 0.5–20 years)

One-fifth of the PA staff have trained at KPNW through a special affiliation arrangement with some of the university-based PA programs around the country. Three members of the physician staff have been faculty members at PA programs, and another physician began his career as a PA. This has aided in the development of expanded roles for PAs in KP. In addition, many of the physicians hired in the last decade trained alongside PAs. While the basic training for all PAs is primary care, nonprimary care specialties are developing nationally, and these specialties are represented to some extent by KPNW PAs. The percentages of PAs who practiced various specialties and subspecialties are listed in the accompanying box.

Research on PAs in HMOs

The development of the Kaiser Permanente Center for Health Research (CHR) in 1965 afforded a unique opportunity to study the early introduction of PAs into the system. More than 20 papers from CHR scholars have documented some aspect of PA utilization in terms of cost effectiveness, quality of care provided, and patient acceptance (*5, 9*).

In 1975, Record studied 5 PAs and 14 physicians and found that the PA cost the system $12.15 per hour compared with the physician's cost of $21.63 per hour on an outpatient basis. The PA calculation included physician time for supervising the PA. Record also noted a slight decrease in adverse drug effects when the PA prescribed (*10*). A similar study in 1977 concluded that the annual cost savings to the system resulting from the use of PAs was $15,000 per PA (Record, J. C.: Cost Effectiveness of Physician's Assistants in a Large HMO. Unpublished final report. HMEIA Contract No. 1–MB–44173–P, Department of Commerce. NTIS [HRA–09–0098] Springfield, VA, 1976). An overall examination of PA cost effectiveness was included in a report produced by the Congressional Office of Technology Assessment (*11*).

The CHR study by Record and coworkers determined that at least 83 percent of all office visits could be managed by PAs with minimal physician supervision (*12*). In a followup study Johnson, together with DKF, studied the willingness of physicians to delegate to PAs. There appeared to be wide gaps between what the physician perceived the PA was capable of performing and what the physician was willing to delegate (*13*). This and other investigations have shown that physicians tend to perceive the role of PAs as useful but limited, especially by situational and structural conditions (*14*). The expansion of the role of PAs appears to come from a minority of physicians who believe the increased delegation of patient-care tasks to PAs is both necessary and desirable (*15, 16*).

RSH reviewed the types of primary care patients that PAs and physicians see within the same department. Productivity was similar for PAs and physicians, with each averaging approximately 24 patients per day. Annually, PAs treat more ambulatory patients than their physician cohorts (4,500 versus 3,800 per year). Physicians, on the other hand, tend to see patients with illnesses that may involve a hospitalization. Both provider groups see equal proportions of patients with trauma and acute illnesses (*17*). While other HMO studies report that PAs deliver up to 75 percent of well-person care—56 percent of problem oriented care in adult medicine and 29 percent of problem care in pediatrics (*18*)—this wellness and health education role is considered mostly the domain of NPs in KPNW.

Little is known about how PAs and physicians compare in their use of resources for the management of chronic illnesses. A recent CHR study analyzed the rate of referrals for rheumatology consultations within KP. One finding from this study was that, when the type of provider was examined, PAs referred at half the rate of internists and family practitioners (*19*). It is unclear whether this finding reflects a better use of subspecialty services or whether PAs see less rheumatic diseases.

Quality Assurance

Quality assurance is a major concern to the health care industry. Two reviews of published studies concluded that PAs provide quality of care comparable to physicians (*20, 21*). The Fine and Silver study (1973) compared the quality of diagnostic and therapeutic processes for PAs with that of physicians. Concurrence of diagnosis was found in 91.6 percent of the cases examined (*22*). Another study concluded that PAs were competent in taking history and in performing physical examinations. This study also found that the quality of care had not decreased, and that 83 percent of the patients wanted to receive care from the PA again (*23*).

Annual KPNW membership surveys conducted inhouse consistently demonstrate that members are satisfied with PAs. This finding is consistent with the few available studies that indicate patients generally are highly satisfied with the care they receive from PAs (*11*).

The HMO Employer

The PA at KPNW is an employee of the Kaiser Foundation Health Plan, a nonprofit institution. However, PAs are recruited and managed by the physician corporation, Northwest Permanente.

PA staffing is determined on a department level, and it is influenced by physician attitudes as well as by membership demands. Considerations for recruiting physician versus PA providers include the demand imposed by more complex hospital patients, outpatient case mix, and the increasing demand for subspecialists.

The KPNW PA is a salaried employee. Annual salary estimates, on the average, have been above the 80th percentile of national earnings profiles for PAs (*24*). A benefit package—including vacation, sick leave, disability, life insurance, and retirement—averages 35 percent of salary.

Conclusion

Organized and comprehensive health care systems are a major feature of the current health care system. As HMOs continue to grow, there will be more experiments in health care organization and management. The use of PAs is only one of many mechanisms employed to reduce costs. The productivity advantages of PAs have been most clearly demonstrated in large organizations. A recent survey estimates that approximately 1,000 PAs are employees of HMOs (*24*)—more than 350 of them spread throughout the 12 Kaiser regions. The training PAs receive seems to prepare them for a role in a managed health care setting (*11*); at the same time, the economy of scale allows the cost advantages of PAs to be realized more accurately in HMO settings, especially as the demand continues to grow.

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