

Chapter 5

# Payment Issues

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In their areas of expertise, nurse practitioners (NPs), physician assistants (PAs), and certified nurse-midwives (CNMs) can provide safe care that meets generally recognized standards of quality, care that emphasizes personal and preventive dimensions often underemphasized by physicians, and care that would otherwise be unavailable in inner cities, remote areas, and certain settings where demand or ability to pay are insufficient to support physicians' practices. NPs, PAs, and CNMs could also reduce costs in certain settings.

Nonetheless, professional attitudes and restrictive statutes, regulations, and policies have hindered the ability of NPs, PAs, and CNMs to obtain employment in some settings and to practice at levels commensurate with their training (see box 1-A). One major constraint is that *many third-party payers, including many Federal programs, do not cover (authorize payment for) services provided by NPs, PAs, and CNMs in certain settings, if the services are typically and characteristically provided by physicians nor do they pay them directly for such services (see app. B)*. Although most third-party payers usually do not look beyond a physician's claim for payment as to whether the physician or NP, PA, or CNM have provided a particular service, uncertainties about coverage are partly responsible for some physicians' reluctance to hire NPs, PAs, or CNMs. Lack of direct payment limits the independent practice of NPs and CNMs. Third-party payers have been more generous in covering and directly paying for the services of CNMs than NPs. Although PAs, as well as NPs and CNMs, have actively sought coverage for their services, they differ from NPs and CNMs in not wanting direct payment.

Observers have suggested modifying the current rules for payment of such services by requiring coverage for NP, PA, and CNM services and by paying NPs and CNMs directly and not through the employing physician. Requiring coverage would be both an independent modification and a preliminary step toward direct payment. A third modification—establishing a payment level—could

apply even if payment were indirect, i.e., to the NPs', PAs', or CNMs' employer. ] These modifications would have several implications for employment and the scope of practice of these practitioners<sup>2</sup> and for the costs borne by third parties, patients, and society.

Some Federal health programs and private insurers provide coverage and direct payment for the services of NPs, PAs, and CNMs in some settings (see app. B). For purposes of analysis, this case study assumes that coverage and direct payment for such services would be offered by *all* the programs and insurers and that any new Federal legislation would not override State laws or regulations governing the licensing and practice of NPs, PAs, and CNMs.

The effect of the modifications would vary, depending on the setting in which the provider practiced and on the method of payment. Because these two factors are interdependent—in that payment method is usually typical of a type of practice setting—they are considered together.

The effect of these modifications also depends on the health-care environment, which is changing. The supply of physicians and the organization and financing of health care are changing in ways that are likely to bring about a more competitive market for health-care services.<sup>3</sup> These trends have implications for the future of NPs,

<sup>1</sup> During the publication of this case study, the Omnibus Reconciliation Act of 1986 (Public Law 99-509) was enacted. The act modifies Medicare and authorizes payment for (covers) services of physician assistants working under the supervision of physicians in hospitals, skilled nursing facilities, intermediate-care facilities, and as an assistant at surgery. The payment is indirect and at levels lower than physicians would receive for providing comparable services.

<sup>2</sup> Many other factors affect the employment and practice patterns of NPs, PAs, and CNMs. Several issues, especially *malpractice insurance*, are critical, but a discussion of them would be beyond the scope of this case study.

<sup>3</sup> The fact that the U.S. population is aging and consequently needing more health-care services would also affect the employment of NPs and PAs and, to the extent that they provide gynecological services, CNMs. The aging of the population has been discussed in detail in a number of previous OTA reports, notably in *Technology and Aging in America* (245).

PAs, and CNMs, regardless of whether payment for their services changes. Modifying payment for the services of NPs, PAs, and CNMs in a chang-

ing health-care environment, however, would certainly affect their employment and use and might alter the costs of health care.

## EFFECTS OF MODIFYING PAYMENT FOR SERVICES OF NURSE PRACTITIONERS, PHYSICIAN ASSISTANTS, AND CERTIFIED NURSE-MIDWIVES

Modifying the method of payment could be expected to have varying effects on the employment and scope of practice of NPs, PAs, and CNMs, depending on whether they were in independent practices or worked in physicians' practices, health maintenance organizations, hospitals, nursing homes, or other settings. Modifying the method of payment might also affect costs.

### Effects on Independent Practices of Nurse Practitioners and Certified Nurse-Midwives

Mandated coverage and direct payment to NPs and CNMs for providing services typically and characteristically performed by physicians would dramatically increase NPs' and CNMs' ability to establish fee-for-service practices that were administratively independent from physicians. Indeed, direct payment would be the most advantageous payment method for NPs or CNMs in independent practices. As autonomous providers, NPs and CNMs could provide the full range of services for which they were trained and licensed.

Such practices would be *administratively* independent but according to current modes of practice, they would not be *clinically* independent from physicians when NPs and CNMs were performing delegated medical tasks.<sup>4</sup> The nursing profession has agreed to clinical collaboration. For example, a joint statement of "practice relationships" calls for obstetrician/gynecologists and CNMs to adhere to clinical-practice arrangements that include the participation and involvement of obstetrician/gynecologists with CNMs as mutually agreed on in written medical guidelines or protocols. CNMs in administratively independent practice believe that they are adhering to the

joint statement, because it permits interdependent practice without calling for physicians to be present whenever CNMs are caring for patients (13). In addition, the American College of Nurse-Midwives requires that CNMs agree to work in clinical collaboration with physicians in order to obtain certification.

In addition to professional restraints, State laws and regulations that limit NPs' and CNMs' scope of practice and specify requirements for supervision by physicians serve as a formal control on clinical independence. NPs and CNMs in independent practice are also accountable for their mode of practice by the malpractice insurance they carry.

Although a few NPs have attempted to establish administratively independent practices, most NPs in such practices provide traditional nursing care rather than primary medical care (138). Among the barriers NPs face in undertaking independent practices are the necessity of making substantial financial investments and the lack of coverage and direct reimbursement for their services. The American Nurses Association (ANA) believes that many NPs would establish such practices if coverage and direct payment were more widely available (256).

CNMs are highly interested in administratively independent practice. Indeed, the proportion of CNMs in private midwifery practices increased from 2.4 percent in 1976 to 1977, to 14 percent in 1982 (9,10). During that period, the number of third-party payers that provided coverage and direct payment for CNMs' services increased. If additional third-party payers were to cover and pay for these services, more CNMs probably would be interested in independent practices

<sup>4</sup>NPs and CNMs may legally be clinically independent from physicians when performing nursing tasks.

<sup>5</sup>Problems with obtaining malpractice insurance coverage and high malpractice premium costs are significant limitations on independent practice by CNMs.

How coverage and direct payment for NPs' services would affect the establishment of administratively independent fee-for-service practices by NPs partly depends on the extent to which NPs seek and obtain direct payment. The impetus for direct third-party payment of nurses, an ANA priority since 1948, increased for organized nursing with the establishment of NPs as health practitioners (22). Indeed, the ANA has been actively involved in seeking and sometimes obtaining such payment at the State and national levels (23,232).

Little information is available as to how many practicing NPs receive direct payment. A 1983 survey of NPs, conducted 4 years after the passage of a Maryland law providing direct third-party payment for services not directly supervised by physicians, found that fewer than 1 percent were paid directly (99). In 1986, however, 7 years after the passage of similar legislation in Oregon, a survey of NPs in that State found that 25 percent were receiving direct third-party payment; 42 percent had been issued provider numbers; and 38 percent were signing the claims forms for the services they provided (102). The researcher who conducted both surveys suggests that the disparate findings might reflect the fact that more time had elapsed between the passage of the legislation and the survey in Oregon than had elapsed in Maryland (101).

The establishment of independent fee-for-service practices by NPs and CNMs could affect the costs of third-party payers. If the total volume of services by all providers did not increase, setting payment levels for services provided by NPs and CNMs lower than levels for comparable services provided by physicians might decrease the costs of third-party payers. Of course, the size of any savings to third-party payers would depend on the size of the gap between payment levels for physicians and payment levels for NPs and CNMs. Paying NPs and CNMs 10 percent less than physicians are paid would have a minimal effect on third-party costs in the immediate future, in part because the number of NPs and CNMs is so much smaller than the number of physicians. Savings to third-party payers would also depend on the extent to which patients chose to patronize NPs and CNMs in independent practices.

Patients' costs might be lower if the NPs and CNMs charged their patients lower fees than physicians charged for comparable services. For most primary care services, e.g., office visits, savings to most patients would be small, because fees for such services are not high and third-party payments cover a large part of them. Savings for maternity care could be appreciable however, because charges and patient liability for such services are high. Coverage and direct payment would allow patients to choose NPs and CNMs as providers without being penalized financially by lack of reimbursement.

Any savings to third parties and patients might be decreased or negated by duplicative visits. Patients who sought care from NPs or CNMs in independent practices might also see physicians for the same or related care, on their own initiative or on referral by NPs or CNMs. Seeing both physicians and nonphysicians could result in duplication of examination and laboratory procedures.

Although NPs and CNMs in independent practices could lower societal costs for health care, the extent of the savings is difficult to estimate. Societal costs would reflect, among other things, any decreases in program costs and beneficiary costs and any savings resulting from NPs' and CNMs' care that reduced the need for care in the future. For example, although CNMs might not find it feasible to charge patients lower fees than physicians charge (because CNMs spend so much more time with patients than physicians spend), CNMs might lower societal costs by decreasing the need for expensive neonatal intensive care for infants of women whose socioeconomic status puts them and their infants at high risk (193).

Scant evidence is available as to how much NPs in independent practices charge their patients. In an exploratory phase of a survey of Maryland NPs, Griffith (99) found that the median fees charged by NPs in independent practice were lower than the median fees charged by physicians for most services. However, 59 percent of NPs' fees were the same as physicians' fees for all types of visits (99). Charging lower fees than physicians charge for similar services appears to be the norm for NPs in many types of settings other than independent practice. Brooks (36) reported that the

fees charged by NPs in rural satellite settings are lower than those charged by a sample of rural physicians. Several national studies of NPs in organized settings confirm this finding (256). Patients were generally charged less for visits to Oregon NPs who received direct payment either in independent practices or in physicians' fee-for-service practices than for visits to salaried NPs (102). The difference between the charges for short initial visits and brief followup visits was statistically significant. Furthermore, charges for visits to NPs were lower than for visits to physicians in both Oregon and Maryland. The difference between charges for NPs and those for physicians was greater in Oregon than in Maryland, perhaps because the proportion of NPs receiving direct payment was greater in Oregon than in Maryland (102).

Whether NPs would increase their fees if they were in independent practice and received direct payment is unclear, although some evidence indicates that other groups that provide services typically provided by physicians have gradually increased their fees to the level of physicians' fees after receiving direct payment. The American Psychiatric Association (APA) has reported two studies that found this phenomenon to be true of psychologists and clinical social workers (256).

Some private insurers report that their total costs from CNMs for maternity care are lower than those from physicians. Of course, physicians' care includes care for complex cases that require more resources than normal maternity care. However, Mutual of Omaha has noted that CNMs provide a "valuable service at a reduction in costs from that charged by medical doctors or osteopaths," and the Blue Cross and Blue Shield Association found that CNMs were less costly than physicians in normal maternity care (256). Indeed, based on the current status of direct payment for services, insurers of CNMs appear to be less resistant to coverage and direct payment than do insurers of NPs (see table B-1). Insurers, such as Mutual of Omaha and Blue Cross, perceive that NPs would provide services in addition to those normally provided by a physician, whereas CNMs provide services that substitute for physicians' services (256).

Charges for CNM services in independent practice appear to vary by region—in some areas their fees are lower than those of physicians, and in other areas they are about the same (79). CNMs charge slightly less than obstetricians for normal maternity care (98) when services are provided in independent birthing centers (103,149). The total costs of maternity care by CNMs may also be less than total costs for care by physicians for similar cases, not necessarily because CNMs have lower fees, but because the care they provide is usually technologically less complex than physician care (98,201).

Costs to patients, third-party payers, and society would also be influenced by changes in the volume of services provided as a result of coverage and direct reimbursement for new providers. Historically, insurance companies have contended that covering and directly paying additional provider groups in fee-for-service settings increases the volume of services provided by the new providers, the physicians, or both and, consequently, increases costs for third-party payers, beneficiaries, and society. The evidence to prove or refute this argument is equivocal (246). The recent emphasis that public and private third-party payers have placed on monitoring the volume of health-care services may help to control potential increases in volume.

Direct evidence is unavailable as to how coverage and direct payment would affect the volume of services provided by NPs and CNMs. Indirect information, which consists only of anecdotal reports of private insurers' experiences with other groups, is conflicting. Mutual of Omaha and other insurers report that chiropractors increased their provision of services to consumers after being authorized for direct reimbursement but that psychiatric social workers did not increase theirs (256).

Whether coverage and direct payment for services by NPs and CNMs would increase the provision of services by physicians is unclear. Physicians might change their behavior in response to competitive providers. If NPs and CNMs charged their patients lower fees, some physicians might decrease their fees in order to compete but, to maintain their incomes, might increase the number of services they provided to their patients (in-

ducing demand for services). Although research on physicians' influence on the volume of services has been conducted for many years, none of the studies positively proves the magnitude or even the existence of induced demand for services (246). In the past, however, physicians in the United States and Canada have maintained their income level even with substantial increases in the supply of physicians (28).

## Effects on Physicians' Practices

In the 1970s, a major reason cited by physicians as a disincentive to employing NPs, PAs, and CNMs was that Federal payment policies did not authorize payment for services provided by NPs, PAs, and CNMs (138). Whether mandating coverage for such services would increase incentives for physicians in fee-for-service practices to employ these practitioners and delegate more services to them depends on several factors, including physicians' billing practices and the payment levels for NPs', PAs', and CNMs' services. The higher the payment level, the greater the monetary incentive a physician would have to employ an NP, PA, or CNM, but simultaneously the cost-saving potential to the third-party payer would decline.

Providing coverage and payment for the services of NPs, PAs, and CNMs (at any level) would increase practice incomes for physicians who have employed these practitioners without billing for their services. Such physicians might increase the range of services they delegate to NPs, PAs, and CNMs. Third-party payers' costs would probably increase, regardless of whether the practices' volumes of services increased. Whether increases in practice income would be passed on to patients in the form of lower fees is unclear.

If services by NPs, PAs, and CNMs were authorized for payment, physicians' practices that currently do not employ such practitioners might be more inclined to employ them rather than hire additional primary-care physicians. If the payment level was 100 percent of what a physician would receive for providing a comparable service, third-party payers probably would incur higher costs for such practices regardless of whether the new employees were NPs, PAs, CNMs, or phy-

sicians. If the payment levels set for NPs', PAs', or CNMs' services were lower than those set for physicians' services, the costs to third-party payers would be lower if NPs, PAs, or CNMs, rather than physicians, were employed.'

However, authorizing payment for NPs', PAs', and CNMs' services would not necessarily increase the opportunities for these providers to become salaried employees in physicians' practices. Allegations have been made that many physicians' practices, knowingly or unknowingly, submit bills under the physicians' provider numbers for uncovered NPs', PAs', and CNMs' services. The bills are seldom challenged by third-party payers. If the payment levels were the same for the services of NPs, PAs, and CNMs as for the employing physicians, coverage of NPs', PAs', and CNMs' services would not affect the revenues of physicians' practices that were already billing for such services. In these practices, coverage probably would affect neither the employment opportunities for NPs, PAs, and CNMs nor the services physicians delegated to such practitioners.

The revenues of these practices would decrease, however, if the payment levels were significantly lower for NPs', PAs', and CNMs' services than for physicians' services, if the volumes of services remained the same for the practices, and if the physicians billed for the services of NPs, PAs, or CNMs under the NPs', PAs', or CNMs' provider numbers. How physicians would respond to decreases in their practices' revenues is unclear, but employment opportunities for NPs, PAs, and CNMs might be jeopardized. The physicians might increase the volumes of services provided by their practices.

Coverage of NPs', PAs', and CNMs' services would not affect third-party costs if the number of services provided by practices remained stable; i.e., if the practices had billed for services under the physicians' provider numbers before coverage was expanded, and if the payment levels were the same for NPs, PAs, and CNMs as for the employing physicians. If the payment levels were lower for NPs, PAs, and CNMs than for

<sup>1</sup>It is not clear whether or not NPs would accept payment levels lower than those of physicians. As noted earlier, PAs are willing to accept levels of compensation lower than those of physicians.

physicians, third-party payers' costs for such practices might decrease. For physicians' practices, as for NPs' and CNMs' independent practices, the size of the difference between the payment levels for services provided by NPs, PAs, and CNMs and for comparable services provided by physicians would partly determine how lowering the payment level would affect the costs of third-party payers.

Because data do not exist as to how physicians bill for the services of NPs, PAs, and CNMs, the overall effect that required coverage would have on NPs', PAs', and CNMs' employment opportunities in physicians' fee-for-service practices is uncertain. Coverage might influence employment indirectly. NPs have argued that coverage establishes a collegial professional relationship. Furthermore, they claim that coverage can cause physicians to see that NPs', PAs', and CNMs' services generate revenue as well as costs (98). This perspective might increase the employment potential of these practitioners (98).

Direct payment would only indirectly affect the employment of NPs and CNMs as salaried employees of physicians. Direct payment would allow NPs and CNMs to choose to work as salaried employees, to undertake independent practices, or to enter into joint practices with physicians (i.e., partnership arrangements by NPs or CNMs with physicians). Paying NPs in physicians' practices directly, rather than indirectly, could be expected to decrease the fees for patients' visits to NPs (102).

### Effects on Health Maintenance Organizations

Because most third-party payers in the public and private sectors currently provide coverage for the services of these practitioners in health maintenance organizations (HMOs) (see table I-1), extending coverage is largely irrelevant to their employment in this setting. Also, most HMOs pay NPs, PAs, and CNMs a direct salary, which makes the issue of direct payment of little importance in the HMO setting.

The data suggest that NPs, PAs, and CNMs save costs for HMOs:

It is to their [HMOs] financial advantage to produce services with the most efficient combination of inputs, substituting lower priced physician extenders for higher priced physicians whenever possible (138).

Furthermore, past experience with HMOs has shown that:

... capitation<sup>7</sup> plans do care for [non-Medicare] enrollees at lower costs while maintaining quality at levels equal to or better than comparison practices (246).

### Effects on Hospitals

Payment for services delivered in inpatient hospital settings by NPs, PAs, and CNMs who are hospital employees is most commonly made either retrospectively on the basis of cost or prospectively on the basis of diagnosis-related groups (DRGs). There is no statutory permission or lack of permission under Medicare or Medicaid for payment of NPs', PAs', and CNMs' services as inpatient hospital services when the providers are employed by the hospitals. Most other third-party payers are also silent on this issue. Moreover, hospitals usually pay a salary to NPs, PAs, and CNMs that they employ.

Medicare, Medicaid, and most other third-party payers pay hospitals for total operating costs, and most hospitals' accounting systems simply lump the costs of NPs', PAs', and CNMs' services together with other types of operating costs. Nurses contend that coverage and direct payment as well as the identification of the services that coverage and direct payment would require, would influence hospitals interest in them as employees. Delineating the costs of these services might facilitate internal management decisions. Nurses have advocated the identification of the costs of nursing services in institutional settings, believing that identification would increase nurses' autonomy, encourage economic decisionmaking, enhance nursing efficiency, and spur hospital administrators to recognize that nurses generate revenue as

<sup>7</sup>Cavitation is a method of paying for medical care, in which a per capita amount is paid prospectively for all services received by an enrollee or beneficiary during a given period of time. The payment is not related to the quantity of service provided. Cavitation payment provides financial incentives to use resources more efficiently and even to underuse services.

well as costs (22,98,162). Nurses believe that recognition of their revenue-producing abilities could increase their employment opportunities in hospitals (161).

Extending coverage and direct payment for the services of NPs, PAs, and CNMs as hospital employees in the inpatient hospital setting most likely would require that the costs of the services be paid for as professional services, the category under which Medicare and other third-party payers currently pay for physicians' services. Such a move would run counter to most current thinking, espoused in both the public and private sectors, which is focused on containing costs by aggregating services. For example, some observers have expressed interest in aggregating physician services by adapting the DRG approach,<sup>8</sup> particularly for hospital-based physicians (63,165). The Omnibus Reconciliation Act of 1986 (Public Law 99-509), however, has extended direct payment for anesthetic services rendered by certified registered nurse anesthetists in hospitals. These services were originally to be paid for under Medicare as a component of a DRG but were passed through as a hospital cost.

Coverage of their services would affect the employment of PAs who are employees of physicians or physicians' practices but who work as surgical assistants in hospitals.<sup>9</sup> PAs assist in performing surgical procedures and also provide preoperative and postoperative care (7). Medicare does not cover PAs' provision of such procedures and care, although Medicare currently covers and pays at amounts equivalent to 20 percent of the surgeons' fees for the services of physicians who act as assistants at surgery. Some observers have



Photo credit: Geisinger Medical Center and the American Academy of Physician Assistants

PAs provide post-operative care as well as pre-operative care and assisting in performing surgical procedures.

expressed concern that the lack of coverage has restricted PAs' employment and the delegation of appropriate services to PAs at surgery. Using PAs rather than physicians as surgical assistants reduces practices' costs, but whether the savings are passed on to patients is unclear.

## Effects on Nursing Homes

Because virtually all NPs and PAs working in nursing homes are salaried employees, their employment would not be necessarily affected by coverage of their provision of services typically provided by physicians.<sup>10</sup> With coverage, NPs and PAs could supply primary-care services in nursing homes as employees of physicians' practices or as team members in group practices provid-

<sup>8</sup>Under the DRG approach, Medicare pays a fixed amount for the operating costs associated with treating patients in each diagnostic category. In applying the DRG approach to physicians, the payment unit would be a bundle of services rather than an individual service. This approach could control both costs and utilization by reducing the number of service units billed and encouraging the judicious use of services within packages.

<sup>9</sup>During the publication of this case study, the Omnibus Reconciliation Act (Public Law 99-509) was enacted. The act modifies Medicare and authorizes coverage of a physician assistant services furnished under the supervision of a physician as an assistant at surgery. The payment to the employer will be 65 percent of the reasonable charge for a physician when acting as an assistant at surgery and will be effective after Jan. 1, 1987.

<sup>10</sup>Several other Medicare and Medicaid regulations specific to nursing homes limit the role of NPs and PAs and specify services that must be performed by physicians in order for the nursing homes' services to be covered (see app. B). Many States have passed laws to "permit the delegation of these services to a physician assistant or nurse practitioner" (116). However, strict interpretation of these and similar rules prohibits the appropriate use of NPs and PAs in nursing homes. In addition to permitting coverage under Medicare and Medicaid, amendments to these regulations would be required in order for NPs and PAs to be used appropriately.



ing visits to nursing homes.<sup>11</sup> If NPs were paid directly, they could supply primary-care services to nursing homes as independent practitioners, similar to physical therapists.

Many nursing homes have difficulty supplying primary-care services because few physicians are interested in visiting patients in nursing homes to provide services (166). Furthermore, most physicians are poorly prepared to care for seriously ill elderly patients. The growing number of elderly people in our society, particularly those over 85 who most frequently need nursing-home care, has increased concerns about the quality and costs of such care. Many residents are medically stable but functionally impaired by chronic physical or mental conditions. Other residents are admitted from hospitals for recuperation and rehabilitation following surgery, or are terminally ill and do not require hospital care (245). NPs and PAs are uniquely suited to provide the types of care needed by nursing home residents with chronic conditions and their associated disabilities (see chs. 2 and 3).

<sup>11</sup>During the Publication of this case study, the Medicare law was changed as a result of the enactment of the Omnibus Reconciliation Act of 1986 (Public Law 99-509) during October 1986. The act authorizes the coverage of the services of PAs furnished under the supervision of a physician in skilled nursing facilities and intermediate-care facilities in States where the physician assistant is legally authorized to perform the services. The payment to the employer is to be at 85 percent of the prevailing charge of physician services for comparable services provided by a nonspecialist physician.

Except when more intensive care can be substantiated, the number of physician visits to nursing homes is limited under the Medicare program. Extending coverage, therefore, might not increase the costs attributable to nursing-home visits for third-party payers, assuming payment levels were the same, or lower, for the NPs and PAs as for the physicians. When physician-NP teams, rather than physicians alone, visited nursing homes, however, total costs to third-party payers were shown to decrease, mainly because of lower rates of hospitalization and fewer visits to physicians or clinics (128). A 1980 and 1982 study found that, as compared with physicians alone, a group practice of salaried physicians, NPs, and PAs showed substantially lower overall medical costs for nursing home residents even though the number of visits to the homes were not limited. Savings were realized from decreases in expensive hospital-based emergency and outpatient services and in the numbers of hospital days used (155,257). Furthermore, the quality of care increased, and the NPs acted as patients' advocates.

Although payment changes are a necessary step, innovative approaches to improving the care and reducing the costs associated with nursing homes need to include modifications of regulations concerning visit limitations and changes in other Medicare and Medicaid regulations that limit the role of NPs and PAs in nursing homes.

## THE CHANGING CONTEXT OF HEALTH CARE

### Financing

A growing trend is to set payment rates for health services before, rather than after, they are delivered. Prospective payment has been adopted in response to rapidly rising health-care costs and the recognition that cost increases have been partly caused by retrospective reimbursement. One of the most innovative approaches is Medicare's method of paying for beneficiaries' inpatient care on the basis of DRGs.

The other major trend is increased interest in the use of capitation, in which a per capita amount is set prospectively for all medical services received by an enrollee or beneficiary during a given pe-

riod. The health-care organization receives its payment, the amount of which is not related to the quantity of services provided, and must then pay physicians and other providers. Capitation payment provides financial incentives to prevent high-cost problems and to deliver services at low cost. Acceptable standards of care, or at least patient satisfaction, are essential if capitated plans are to maintain enrollment at sufficiently high levels to maintain financial viability (246).

### Supply of Physicians

In the mid-1960s, public policy in the United States began to focus on counteracting the short-

age and maldistribution of physicians. As a result, the number of medical schools increased from 89 in 1965 to 127 in 1984 (255), and the number of first-year medical students nearly doubled (240,255). Expected increases in the numbers of graduates from U.S. medical schools, combined with graduates of foreign medical schools, are resulting in physician surpluses, which the Graduate Medical Education National Advisory Committee predicts will be significant by 1990. Since 1982, enrollment in medical schools has declined slightly, as the Federal Government has reduced both its funding of subsidized loans for medical students and its support of medical schools (58). The growth rate in the supply of foreign medical graduates also is expected to decrease (255), but the effect of past efforts to increase the supply of physicians will be felt well into the next century.

Observers expect increases in the number of physicians to significantly outpace population growth. For every 100,000 people in the United States, there were 148 physicians in 1970 and 218 in 1983 (255). Estimates for 1990 range from 215 (240) to 224.4 (255) per 100,000. Estimates for the year 2000 range from 240 (240) to 245.2 (255) per 100,000. From 1981 levels, the numbers of physicians in primary-care specialties, including obstetrics and gynecology, are expected to have increased 28 percent by 1990 and 53 percent by 2000, outpacing the growth in the total supply of physicians (255). Although the need for physicians is expected to increase, the supply of physicians is expected to exceed the need by 1990, according to all estimates (94,240,251,255).

## Delivery Sites and Organizations

In 1983, for the first time, the main practice arrangement of less than half (48.9 percent) of all physicians in the United States was solo practice. Only 8 years previously, more than 54 percent of the Nation's physicians practiced individually. In 1984, the number of group practices (three or more physicians) was over 15,000—up 44 percent since 1980 (16). The number of physicians in group practices during the same period increased from

88,290 in 1980 to 140,213 in 1984 (4). Some physicians join group practices because the practices are established, they entail less financial risk than solo practices, and they provide access to the capital required for purchasing and using sophisticated medical technology (16). Group practices may be even more attractive to physicians in the future for a number of reasons including the capital required to purchase expensive technology and increased competition.

The types of organizations in which physicians practice—with or without other health-care providers—have also increased. HMOs have been growing rapidly in recent years. Enrollment in HMOs grew by 25.7 percent in 1985 to a total enrollment of 21 million (123). Although Individual Practice Association (IPA) models outnumbered all other kinds of HMOs combined, group-model plans retained the lead in enrollment (123). That enrollment is expected to increase rapidly in the next 5 years. Estimates of total enrollment in HMOs range between 25 and 50 million for 1990 (241). Part of the growth in HMOs has been attributed to the increased willingness of physicians to be employed in them (240). Recent changes that might affect the employment and use of NPs, PAs, and CNMs in HMOs are the increasing involvement of for-profit corporations in HMOs, and the joint purchasing and other cost-saving ventures undertaken by groups of HMOs (246).

Preferred-provider organizations (PPOs) include several types of arrangements between third-party payers and health-care providers, including physicians, hospitals, or both. In these arrangements, providers contract with insurers or employers to deliver care at reduced prices. The first PPO was organized in 1978; by June 1985, 334 had been organized and 229 were operating (118). Although PPOs were designed to reduce expenditures, no evidence currently exists that the care they deliver costs less than that delivered by other types of organizations.

The delivery of health services is also affected by the growth of the multihospital system—two or more hospitals owned, leased, controlled, or managed by a single for-profit or not-for-profit corporation. Indeed, the multihospital system has become an important component in the changing health-care-delivery system. Some 35 percent

<sup>12</sup>The total number of physicians in 1970 was 334,028 and in 1983 was 519,546 (255). Estimates for 1990 range from 537,750 (240) to 555,300 physicians (255). Estimates for 2000 range from 642,950 (240) to 655,920 physicians (255).

of the Nation's hospitals and 38 percent of all community hospital beds are now in multihospital systems (14). Since 1976, the number of multihospital systems has increased by more than 60 percent (2). A few observers believe that the growth of the for-profit component will eventually result in most services being provided by a few nationwide suppliers that might appropriately be labeled "megacorporate health care delivery systems" (85).

Another trend is toward increasingly diverse sites for providing care (see table 5-1).<sup>13</sup> For example, the first free-standing center was established in Delaware in 1973. By July 1984, there were an estimated 1,800 such centers in the United States and the total is projected to grow to approximately 4,500 by 1990 (152). In late 1983, about 9 percent of the Nation's physicians worked an average of about 13 hours per week in free-standing centers providing primary or emergency care. Some of these centers were operated by hospitals or chains and others operated independently (16).

<sup>13</sup>See *Medical Technology and Costs of the Medicare Program* (244) for a more detailed description of alternative sites of care.

**Table 5-1.—Selected Alternatives to Traditional Health-Care Delivery**

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| 1. Alternative sites:                   |
| Alcohol and drug abuse centers          |
| Ambulatory care centers                 |
| Ambulatory surgical centers             |
| Birthing centers                        |
| Diagnostic imaging centers              |
| Freestanding emergency centers          |
| Hospices                                |
| Mammography centers                     |
| Nurse-managed centers                   |
| Nutritional dietary centers             |
| Oncology centers                        |
| Pain management centers                 |
| Psychiatric centers                     |
| Rehabilitation centers                  |
| Sports rehabilitation centers           |
| Student health centers                  |
| Wellness programs                       |
| II. Alternative organizations:          |
| Competitive medical plans               |
| Extensive provider organizations        |
| Health maintenance organizations        |
| Independent practice associations       |
| Preferred provider organizations        |
| Social health maintenance organizations |

SOURCE Office of Technology Assessment, 1986

## Effects of Changes in the Health-Care Environment on Nurse Practitioners, Physician Assistants, and Certified Nurse= Midwives

How changes in the health-care environment will affect the integration of NPs, PAs, and CNMs in the health-care system is unclear. The changes, which generally reflect trends toward cost-containment and increased competition, are interdependent. For example, the increasing supply of physicians has heightened competition among medical-care providers (19,176,205,206), leading many young physicians to accept salaried positions and to enter into contractual arrangements with third-party payers (19,240). The number of physicians in salaried positions is twice as great for those in practice 5 years or less as for those in practice 6 years or more (18). In effect, the increasing supply of physicians is an important factor in changing medical practice arrangements in the United States and in fostering a willingness to practice in fee-for-service groups and in capitated and institutional settings, which many physicians avoided only a few years ago.

Competition in the health-care system could either limit or expand employment opportunities for NPs, PAs, and CNMs. Competition resulting from the growing supply of medical-care providers might reduce such opportunities, especially in physicians' office-based, fee-for-service practices. Physicians with declining patient bases might not have enough patients to justify employing additional providers (97). However, the American Medical Association (15) notes that, faced with increasing competition, rising practice costs, and cost-conscious patients, physicians are concerned about the cost-effectiveness of their practices and might attempt to improve the practices' productivity and increase the practices' income by employing NPs, PAs, and CNMs. Compared with practices that do not employ NPs and PAs, physicians' practices that do employ NPs and PAs have higher numbers of patient visits per hour and per week and higher incomes for the employing physicians (17). Because such practices charge lower fees per office visit (17), they might be more competitive with other practices. Physicians might also attempt to attract more patients by expanding the range of the services provided by their

offices, which could enable NPs and PAs to practice the full range of services for which they were trained.

Some physicians, however, might find it economically more advantageous to hire new physicians rather than NPs, PAs, or CNMs. The rate of growth in physicians' incomes has started to decline, a trend that is expected to continue (20). If new physicians' incomes decline sufficiently, and if their interest in salaried positions continue to increase, they might be more attractive than NPs, PAs, or CNMs to established physicians who want to expand their practices.

Competition among different types of health-care organizations might increase the employment and responsibilities of NPs, PAs, and CNMs (15, 143,144). For example, the growth of risk-sharing HMOs—which have used the services of NPs, PAs, and CNMs extensively in the past—would seem to ensure a larger role for these providers in the health-care system. But like physicians' practices, HMOs could turn instead to physicians, if their incomes are reduced enough. Anecdotal reports from California note “that clinics that had intended to employ NPs and PAs were having physicians arrive on their doorsteps saying they would work for **\$30,000** or **\$40,000**” (263). Clinic administrators, then, must consider whether to hire NPs or PAs at **\$25,000** or to hire physicians for only \$10,000 more. In addition to salary, however, other factors might enter into such decisions. NPs, PAs, and CNMs save costs for capitated entities and provide the types of services—health education, counseling, and preventive care—that HMOs emphasize. Indeed, observers generally agree that the opportunities for employment and full use of NPs, PAs, and CNMs are highest in capitated systems.

The increase in the numbers of IPA-model HMOs is another trend that might adversely affect the employment and use of NPs, PAs, and CNMs. Large group- and staff-model HMOs usually provide care at primary HMO sites and employ NPs, PAs, and CNMs because they are cost-saving, and because they provide health education and preventive services that meet standard levels of quality. The IPA model is less likely than other models to employ these practitioners, be-

cause the “plan is primarily organized around solo/single specialty group practices,” (123) which do not benefit as much from employing and using NPs, PAs, and CNMs as do larger practices.

The trend toward alternative providers, most of whom are profit-making entities, suggests possible new sources of employment. Anecdotal evidence indicates that ambulatory care centers are employing PAs and NPs. A survey of 250 individual ambulatory care centers, owned by 142 private organizations, found that PAs' salaries ranged from **\$20,784** to **\$35,000**, with an average of **\$25,946** (172). Humana, Inc., owns 150 ambulatory care centers (Medfirst) and employs NPs only in its high-volume centers, about 5 percent of the total (163). NPs, who receive salaries or hourly wages, have been found to provide standard care and to cost Humana one-third as much as physicians. Nonetheless, the organization perceives a demand from its clients for physician care and does not intend to change its staffing patterns.

The effects of payment changes, such as the DRG approach, on the employment and use of NPs, PAs, and CNMs in hospitals have not yet been well documented. From individual reports, the effects appear to vary among hospitals. Some hospitals have reportedly cut their nursing staffs and reduced the nurses' work schedules because of DRGs (163). Other hospitals reportedly have hired PAs to increase efficiency (48). The different responses were to be expected and might be attributed to differences in patient mix (and thus differences in DRGs), in the costs of the hospitals with respect to specific DRGs, and in DRG rates (based on geographic location—urban or rural). The aggregate effect on the employment and use of NPs, PAs, and CNMs is thus difficult to ascertain.

Reports also indicate that, as a result of DRG payment, some hospitals are dismissing NPs and PAs and shifting portions of their operations to their outpatient departments, where fee-for-service physicians deliver care (117). PAs' advocates suggest that eventually hospitals might seek more efficient outpatient operations and use PAs in an attempt to contain their costs (48). New roles could also emerge for PAs as utilization review specialists or DRG coordinators (48).

Nurses expect that prospective payment and its related cost management will bring about increasing attention to the contribution of nursing services in critical care and transplant units and will result in a much more realistic allocation of dollars for nursing services (233). Also, because prospective payment may result in the early discharge of patients into the community, followup services for patients after they are discharged are assuming increasing importance. Nurse-managed and nurse-owned organizations are emerging to provide nursing services in the community, and nurses are attempting to establish a mechanism of payment for community, nursing services (233). NPs are also assuming new roles in managing cases and reviewing the use of hospital services (96).

Studies are not available to show how the growth of investor-owned hospitals and multi-hospital systems has affected the employment and use of NPs, PAs, and CNMs. Studies on the differences in economic performance based on ownership (investor-owned or not-for-profit) and system affiliation (affiliated or free-standing) found no significant difference in costs for delivering comparable care to patients (260). Compared with other types of hospitals, investor-owned chain-hospitals had fewer employees per bed, but paid employees—except nurses—more (260). The years studied were 1978 and 1980, when payment methods cre-

ated incentives for maximizing the costs of providing services. The adoption of prospective payment by Medicare, some Blue Cross plans, and some State Medicaid programs has created incentives for minimizing such costs. In addition, private sector groups—HMOs, PPOs, employers, and insurers—are contracting with selected hospitals on the basis of price.

Hospitals, especially investor-owned hospitals, will need to lower their costs of production in response to the increasingly competitive new environment (194), but investor-owned hospitals are not hiring lower priced personnel, such as NPs, PAs, and CNMs, to substitute for physicians in inpatient settings (95). Indeed, investor-owned hospitals are not employing many physicians, either (170). Investor-owned chains are using department managers, who for fixed-price contracts provide services, including personnel, for hospital departments (95). Because the managers are at risk financially, however, they have incentives to save costs and, therefore, might employ appropriately trained NPs and PAs.

The growth of investor-owned hospitals might signal fewer opportunities for CNMs to be employed in hospital settings. Both system-affiliated and free-standing hospitals treated proportionately fewer maternity patients than not-for-profit hospitals treated (260).

## SUMMARY

The employment and use of NPs, PAs, and CNMs would be affected by changes in the methods of payment for their services and by other changes in the health-care system. Examining how particular changes in payment would interact with the other changes provides some indication of what roles NPs, PAs, and CNMs might play in particular health-care settings and how costs might change for health-care providers, patients, and society.

Despite anticipated changes in the methods of paying for physicians' services, fee-for-service will probably remain a major form of payment in the foreseeable future. Allowing coverage and direct

payment for the services of NPs and CNMs would significantly help them in administratively independent practices, could stimulate the growth of such practices to the extent permitted by State laws and regulations, and would increase opportunities for NPs and CNMs to provide the full range of services for which they are trained and licensed.

As independent providers, IPA-model HMOs might engage NPs as contractors for primary-care services (100) and CNMs as contractors for maternity services, PPOs also might treat these practitioners as contractors who agreed to provide services at a discounted fee. The opportunities for NPs

and CNMs to become contractors might be limited, however, by the increasing supply of primary-care physicians, including obstetricians, and by competition from physicians, who are lowering the amounts for which they are willing to work.

NPs' and CNMs' employment and the full use of their skills in administratively independent practices could decrease costs for programs, beneficiaries, and society. If the numbers of services NPs and CNMs and physicians provided did not greatly expand, and if the payment levels for NP and CNM services remained lower than those of physicians for comparable services, lower program costs would be likely. Furthermore, if the fees to patients reflected the lower payment level, costs to beneficiaries and society might be lower.

In any fee-for-service practice, including one operated by NPs or CNMs, the degree to which costs would decrease would depend on how much lower the level of payment was for these practitioners than for physicians and on the particular service. For example, the Congressional Budget Office found that covering the services of PAs at rates 10 percent below those of physicians would have negligible effects on costs or savings for the Medicare program or for society (177). Even if the savings occasioned by the lower payment level were passed on to beneficiaries, they would have only small incentives to seek treatment from lower priced PAs. At the margin, patients would pay coinsurance of only 20 percent. A reduction in the charge for an office visit from \$30.00 to \$27.00 would save a Medicare patient only **\$0.60**, an amount that might well be paid by Medicaid or a private Medi-Gap policy and would not provide an incentive to use such services. Similarly, most of the services provided by NPs are primary care services, such as visits, and would likely not provide much saving for a patient. Maternity care, however, is costly and patients' out-of-pocket costs could be high. If CNMs would accept lower payment levels than those of physicians, any savings passed on to the expectant mother would be considerable.

How covering their services would affect the employment and use of NPs, PAs, and CNMs in physicians' fee-for-service practices is unclear. Nu-

merous variables could affect physicians' decision to employ and appropriately use these providers. Such variables include the physicians' billing practices; the payment levels for services of NPs, PAs, and CNMs; the cost differentials between hiring physicians or hiring NPs, PAs, or CNMs; the competitive position of the physicians' practices; the practices' interests in expanding the range of services they provide in order to improve their competitive positions; the abilities—as well as the physicians' perceptions of the abilities—of NPs, PAs, and CNMs to improve the practices' productivity and income, and the physicians' perceptions of the noneconomic benefits these providers could bring to the practices.

Coverage might encourage fee-for-service practices, particularly group practices to use NPs and PAs in settings and for certain populations and settings where appropriate care currently is unavailable or inadequate. For example, physicians have been reluctant to make nursing home visits, and there is no evidence that an increased supply of physicians will decrease their reluctance. The increases in the elderly population and the growth of nursing homes have exacerbated an unmet need for services in this setting. Not only does the training of NPs and PAs enable them to provide the older population with care whose quality is comparable to that of the care provided by physicians, but evidence shows that teams of physician, NPs, and PAs visiting patients in nursing homes provide standard care and reduce total expenditures.<sup>14</sup> Elderly people and children with disabling conditions and other individuals with chronic conditions would also benefit from NP and PA care in the home setting.

The employment practices of HMOs, the health-care setting with significant growth potential, would not be directly influenced by changes in the current methods of paying for the services of NPs, PAs, and CNMs because most public and private third-party payers cover such services in HMO settings. Furthermore, whether payments were direct or indirect to the NP, PA, and CNM,

<sup>14</sup>The Omnibus Reconciliation Act (Public Law 99-509) enacted during the publication of this case study provides coverage for services of PAs provided in nursing homes under Medicare.

would not be an issue for organizations paid prospectively by a capitated amount.

However, the increase in the number of IPA-model HMOs does affect the employment of NPs, PAs, and CNMs. In 1985, although group model HMO plans retained the lead in total enrollment, IPA model plans outnumbered all other kinds of HMO plans for the first time (123). Because they are primarily solo or single-specialty practices, IPAs are less likely than group model HMOs to employ these practitioners.

The data suggest that NPs, PAs, and CNMs save costs for HMOs. In an increasingly competitive environment, the financial incentives promote passing onto consumers the savings generated by the employment and full use of NPs, PAs, and CNMs. Thus, as the environment becomes more competitive, the employment of these providers in capitated HMOs could benefit society financially. To the extent these providers are used to provide interpersonal care and preventive services, the types of services traditionally incorporated into the practice of these providers and of HMOs, the quality of care will also benefit.

Third-party payers pay hospitals an aggregate sum for operating costs, and the hospitals are responsible for paying salaried employees. Therefore, coverage and direct payment for inpatient hospital services provided by NPs, PAs, and CNMs would not directly affect their employment possibilities. This is especially applicable to Medicare, which pays for inpatient services on a DRG-rate basis. This payment method creates incentives for lowering the cost of resources, and the costs of NPs, PAs, and CNMs are included in calculating the costs of resources. Although coverage and separate billing for their services could clarify their revenue-producing abilities as well as their costs to the employing hospital, the use of these practitioners to provide patient care as hospital employees is likely to decline under DRG-based payment. PAs and NPs could be used in new roles, such as DRG coordinators.

In order for coverage and direct payment to affect the employment of NPs, PAs, and CNMs by hospitals for providing inpatient services, the costs of their services would be billed as professional services. If the payment levels for the services they provided were lower than those for physician's services, and if the volume of services were not increased, savings might be likely for Medicare and—if fees were lowered accordingly—for society. However, if Medicare paid NPs or CNMs for providing services for which hospitals were also paid under the DRG rate, paying for them separately might increase program costs, if DRG payment rates were not changed. Reducing DRG rates to account for eliminating the costs associated with the NPs' or CNMs' services would be extremely difficult because of the lack of data. In any case, because the proportion of the DRG rate ascribed to nursing costs is unknown, the effects of direct payment on organizational, program, or societal costs cannot be determined.

A major change in health-care delivery is the growth of investor-owned hospitals, particularly investor-owned chains of hospitals. These organizations are currently focusing their efforts on attracting medical specialists to their staffs and have evinced no interest in employing NPs, PAs, and CNMs. The advantages of coverage for the services of these providers do not appear to be sufficiently significant to spark such interest.

In the final analysis, it seems that extending coverage for the services of NPs, PAs, and CNMs in at least some settings could benefit the health status of certain segments of the population currently not receiving appropriate care. The immediate effects on third-party costs are unclear, although long-term effects could be a decrease in total costs. The advantages of direct payment for the services of NPs and CNMs are less obvious. Direct payment might encourage qualified NPs and CNMs to move into unserved and underserved areas to expand access to health care.