JUNE 2002

REPORT TO THE CONGRESS

Medicare Payment to Advanced Practice Nurses and Physician Assistants

MEDPAC Medicare Payment Advisory Commission

JUNE 2002

REPORT TO THE CONGRESS

Medicare Payment to Advanced Practice Nurses and Physician Assistants

MEDPAC Medicare Payment Advisory Commission

1730 K Street, NW• Suite 800 • Washington, DC 20006
(202) 653-7220 • Fax: (202) 653-7238 • www.medpac.gov

Table of contents

Tables

Medicare payment to advanced practice nurses and physician assistants

Appendixes

Medicare payment to advanced practice nurses and physician assistants

RECOMMENDATION

The Congress should increase Medicare payment rates for certified nurse-midwives to 85 percent of the physician fee schedule. The conversion factor for physician services should be adjusted to make this change budget neutral.

***YES: 14 • NO: 0 • NOT VOTING: 0 • ABSENT: 3**

***COMMISSIONERS' VOTING**

The Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 required the Medicare Payment Advisory Commission (MedPAC) to study the appropriateness of Medicare payments for services provided by certified nurse-midwives (CNMs), nurse practitioners (NPs), clinical nurse specialists (CNSs), and physician assistants (PAs). The Congress also directed the Commission to examine the appropriateness of payments for orthopedic physician assistants (OPAs), taking into consideration requirements for their accreditation, training, and education.

CNMs, NPs, CNSs, and PAs are health care practitioners who furnish many of the same health care services traditionally provided by physicians, such as diagnosing illnesses, performing physical exams, ordering and interpreting laboratory tests, establishing and carrying out treatment plans, suturing wounds, and providing preventive health services (Sekscenski et al 1994). In many states, advanced practice nurses (CNMs, NPs, and CNSs) are permitted to practice independently or in collaboration with a physician and receive direct reimbursement for their services.[1] PAs are salaried employees who by law must work under the supervision of a physician. OPAs assist orthopedic physicians in their practice, including assisting at surgery, but unlike the other nonphysician practitioners (NPPs) discussed in this report, they may not bill for Medicare services. (An appendix provides more detailed information about all these practitioners.)

In contrast to physicians—who are paid 100 percent of the physician fee schedule rate with no differentiation by specialty—the payment rate for nonphysician practitioners who bill independently for their services differs by the type of practitioner. NPs, CNSs, and PAs are paid at 85 percent of the physician fee schedule and CNMs are paid at 65 percent of the physician fee schedule.[2] These payment differentials have no specific analytic foundation. When services provided by these nonphysician practitioners are billed as "incident to" the professional services of a physician, physicians are paid the full fee schedule amount as though they personally performed the service. OPAs are not currently eligible for separate payment, and MedPAC has been asked to assess whether they should be treated similarly to other nonphysician practitioners.

Medicare's payment policies for nonphysician practitioners raise several issues. Should NPPs be paid less than physicians for the same service when they bill independently and, if so, what differential would be appropriate? Should CNMs be paid at a lower rate than other NPPs for providing the same service? Should physicians be paid the full fee schedule amount when billing Medicare for services provided by NPPs even if they do not see patients during the visit?

In addressing these questions, the Commission first asked whether physicians and NPPs produce the same product. In principle, Medicare should set its payment for a service equal to the cost that an efficient provider would incur in furnishing that service. If both physicians and NPPs provide the same service, then the payment appropriate for the lowest cost provider—that is, the one who uses the least resources to provide the service—would be appropriate for all providers of the service.

1 Certified registered nurse anesthetists are also considered advanced practice nurses but are not a part of this study.

2 The lower payment rate for CNMs results from their exclusion from the legislation that changed Medicare's payment policies for the other nonphysician practitioners. The Balanced Budget Act of 1997 removed restrictions on the geographic areas and settings in which NPs, CNSs, and PAs could be reimbursed and raised limits on payment levels for these practitioners. The legislation did not affect payment policies for CNMs.

In some cases, we can determine directly that physicians and NPPs provide different services. For example, although both provide the full range of evaluation and management services, NPPs tend to provide more of the lower complexity services.[3] In addition, many specialty and surgical services are beyond the scope of practice of individual NPPs, and thus are generally only provided by physicians. To the extent that differences in resource costs are reflected in the relative values of the physician fee schedule, no additional adjustment by type of provider is warranted.

In other cases, the imprecision of billing codes leaves open the question of whether the same service is being provided. Physicians may see sicker patients, and also may be better prepared to diagnose and treat patients with severe illness of an acute, chronic, or recurrent nature. Because we cannot directly observe differences in output within billing codes, we examine outcomes. The research on outcomes is limited, however, because many studies have focused only on patient satisfaction and because studies on clinical outcomes generally have not been able to control fully for differences in the complexity of patients.

In addition, because of limitations in data on outcomes, we also look at input data, such as level of training. It is difficult to know how differences in training relate to patient care, however. When we observe physicians and NPPs billing for the same services, we cannot tell whether the physicians saw a sicker or more complex patient (who may have been beyond the scope of practice of an individual NPP) or whether the service could have been furnished by a nonphysician practitioner.

In view of uncertainty about product differences, the Commission is reluctant to recommend changes to the current differential in payments between physicians and NPs, CNSs, and PAs until further study is completed.

At the same time, the Commission found no justification for paying CNMs less than other NPPs. Accordingly, we recommend that payment rates for CNMs be increased to 85 percent of the physician fee schedule. Because CNMs account for such a small share of Part B services, raising their payment to 85 percent of the physician fee schedule in a budget-neutral manner would have a negligible impact on Part B payments for physicians and other nonphysician practitioners.[4]

We also conclude that services provided by NPPs but billed as incident to a physician's services should continue to be paid at 100 percent of the physician fee schedule. Under this form of payment, care is provided by a team, with the nonphysician practitioner providing the direct patient care services and the physician taking overall responsibility for the care of the patient. The Commission believes that this team approach to care provides value that warrants payment at the full rate.

Finally, though OPAs may provide valuable assistance to orthopedic surgeons, the Commission concluded that OPAs should not be recognized for separate reimbursement because their training and licensing are unlike those of other NPPs currently recognized for reimbursement.[5]

3 For the purpose of this discussion, lower complexity evaluation and management services require straightforward or low-complexity decision making.

4 This change should be made budget neutral through an adjustment to the conversion factor, which is used to translate relative value units in the physician fee schedule into dollar amounts.

5 For instance, there are no accredited training programs for OPAs currently operating and only three states provide licensure.

The balance of this report provides additional information regarding Medicare payments rates for services provided by the various NPPs. The discussion begins with descriptive information about NPPs and Medicare payment for their services. Next, it considers payment rates for services directly billed by NPPs and whether services billed incident to physician services should be reimbursed at the NPP rate or the physician rate. The final section of the report discusses whether OPAs should be permitted to bill separately for the services they provide to Medicare patients.

Nonphysician practitioners in the health care workforce

NPPs represent a growing share of the health care provider workforce. The number of providers who are certified and practicing more than doubled over the past decade, from about 60,000 in 1992 to 124,000 in 2000 (AAPA2001, Spratley et al 2000, Sekscenski et al 1994, Moses 1992). In contrast, the number of active physicians grew 27 percent, to 772,000, over the same period (Cooper et al 2002). Currently, about 55,000 of these NPPs have Medicare provider numbers, which allow them to bill directly for Medicare services (Non-Physician Practitioner News 2002). In 2000, they provided about 8.5 million separately billed services to Medicare patients.

Because physicians also may bill (under their own provider number) for services provided by NPPs in their offices, information on the total number of services provided by NPPs is limited. According to one analysis, about 25 percent of primary-care office-based physicians used NPs or PAs during the 1995-1999 period. When NPs or PAs were used, they saw patients for an average of 11 percent of visits and in almost half of these visits the patient was not seen by a physician (Hooker and McCaig 2001). The use of NPs and PAs is much higher in rural areas. One study, for example, showed that NPs and PAs were present at 37 percent of rural outpatient hospital visits compared with only 5 percent of urban visits (Anderson and Hampton 1999).

PAs must be supervised by a physician, but CNMs, NPs, and CNSs may practice independently if state law allows. State regulation of CNMs, NPs, and PAs varies widely. Favorable practice environments are strongly associated with a larger supply of these practitioners (McCaig et al 1998, Sekscenski et al 1994).

Training programs for NPPs typically last two years and require prior health care experience. Training for CNMs, NPs, and CNSs is generally at the master's level and requires a license as a registered nurse and bachelor's degree (generally a bachelor's of science degree in nursing). PAtraining can be at the certificate, associate's, bachelor's, or master's level—although the majority of PAs have a bachelor's degree before entering a training program—and most programs require prior experience in health care or a related field.

About 90 percent of NPs and 50 percent of PAs provide primary care (Hooker and McCaig 2001). CNMs focus on childbearing, family planning, and gynecological care for well women, although they also may assess and manage common acute episodic illnesses and care for newborns and infants up to one year of age. The majority of CNSs specialize in clinical psychiatry-mental health nursing or medical-surgical nursing, but others specialize in pediatrics, gerontology, community health, and home-health nursing.

Most services provided by NPPs are in the office setting, although NPs and CNSs provide substantial shares of their services in nursing homes. PAs perform a substantial share of their services in hospitals.

Medicare payment for services of nonphysician practitioners

Medicare pays for NPP services in one of three ways. First, NPPs may bill directly for their services under the physician fee schedule.[6] In this case, NPPs or their employers receive a percentage of the fee schedule payment. Second, services may be billed incident to physician services, in which case physicians bill for the services at 100 percent of the fee schedule payment, even though NPPs provided the services. Third, the services of NPPs may be included in the payment bundle for services provided in hospitals and skilled nursing facilities. The accompanying box provides additional detail on the first two payment paths.

Payment for nonphysician practitioners

Medicare payment for services provided by nonphysician practitioners depends on whether the service is directly billed by the nonphysician practitioner under his or her own billing number or billed "incident to" under the physician's billing number.

Direct billing under the physician fee schedule

Before enactment of the Balanced Budget Act of 1997 (BBA), Medicare paid for services of nurse practitioners (NPs) and clinical nurse specialists (CNSs) only when provided in rural settings, in nursing facilities, or when assisting at surgery. Services were paid at 75 percent of the physician fee schedule amount when furnished in a hospital and at 85 percent of the fee schedule amount when furnished in other settings. Payments for assisting at surgery were 65 percent of the rates for physicians who assist at surgery. Finally, payment for services provided in an urban nursing home was made to the NP's or CNS's employer, rather than directly to the NP or CNS.

Physician assistant (PA) services—when provided under the supervision of physicians—were covered in hospitals and nursing facilities and in physician offices in rural areas designated as health professional shortage areas. Services also were covered when the PA acted as a first assistant at surgery. Payments were made to the employer at 65 percent of the physician fee for assisting at surgery, 75 percent of the physician fee for services provided in a hospital, and 85 percent of the physician fee for services in other settings.

The BBAexpanded payment for services provided by NPs, CNSs, and PAs by removing restrictions on geographic areas and settings in which these providers could be paid by Medicare. The legislation also increased the payment for these providers to a uniform 85 percent of the physician fee schedule.

The BBA did not change payment policies for certified nurse-midwives (CNMs), who were not subject to the same geographic and setting restrictions as the other nonphysician practitioners. Services of CNMs are paid at 65 percent of the physician fee schedule.

Medicare also allows direct payment for some other nonphysician providers. Certified registered nurse anesthetists receive payment at 100 percent of the physician fee if not medically directed, but 50

(continued on next page)

6 NPs, CNSs, and CNMs also may reassign payment for their professional services to their employer. In this case the employer bills for the services under the NPP's billing number.

Payment for nonphysician practitioners (continued)

percent if medically directed (in which case the anesthesiologist providing medical direction receives the other 50 percent). Physical and occupational therapists and clinical psychologists are reimbursed at 100 percent of the physician fee schedule. Clinical social workers are reimbursed at 75 percent of the physician fee schedule.

Billing incident to a physician service

Services provided by NPs, CNSs, PAs, and CNMs are paid at 100 percent of the physician fee schedule if they are billed by the physician as incident to services in a physician's office or clinic. Incident to services must be provided by employees of a physician under the physician's direct supervision. In addition, the physician must be in the office suite while the service is being provided and be immediately available to provide assistance and direction. The physician also must have provided direct, personal professional services to initiate the course of treatment and must furnish subsequent services at a frequency consistent with active management of the course of treatment. Incident to billing is not allowed for the first visit for a new patient or for subsequent visits that present a new problem. In these cases, physicians must personally examine patients to bill for services at the physician rate; otherwise, services are billed at the nonphysician practitioner rate. ■

Who may bill for what?

NPs and CNSs may bill for covered physician services that are within their legal scope of practice. Services must be provided in collaboration with a physician as defined in jointly developed guidelines or other mechanisms provided for by state law. Collaboration is an arrangement in which a practitioner works with one or more physicians or other health care providers to deliver health care services within the scope of the practitioner's expertise. Collaboration is shown through written documentation of practitioners' scope of practice and of the relationship between practitioners and physicians when issues arise that are outside the practitioners'scope of practice. Collaborating physicians need not be present when services are furnished nor make an independent evaluation of each patient seen.

Services of CNMs are covered if they are within the scope of practice authorized by the state in which the CNM practices. CNMs need not be supervised by a physician or associated with a physician or health care provider for their services to be covered, although the majority work in collaboration with physicians or in hospital-based practices.

Payments for services provided by PAs are made to their employers. PAs must be supervised by a physician. Although supervising physicians need not be present when PAs perform services, they must be available for consultation either by telephone or by another effective, reliable means of communication.

State scope-of-practice guidelines are very broad. Most contain only general statements about the responsibilities and education requirements of practitioners. Lists of allowed duties and services that are beyond practitioners'scope of practice are also not highly specific (OIG 2001, Cooper et al 1998). Most states permit NPs, PAs, and CNMs to perform physical exams and make diagnoses throughout the range of diseases that fall within their training and expertise. They also are given broad latitude in ordering and interpreting laboratory tests and X-ray films, performing venipunctures and immunizations, suturing wounds, and doing some invasive procedures such as lumbar punctures and joint aspirations.

CNMs are permitted to care for normal pregnancies and perform normal deliveries in all states, to perform simple episiotomies and provide routine gynecological care in most states, and to provide care for complicated pregnancies in many states.

State scope-of-practice guidelines also differ on prescribing rights. Almost all states allow NPs, CNMs, and PAs to prescribe noncontrolled medications.[7] About 80 percent of states also allow these NPPs to prescribe controlled substances, although some states limit the class of controlled substances that can be prescribed. Most states require NPs, CNMs, or CNSs to have a collaboration agreement with a physician before they can prescribe medications, although some states require physician supervision. Other states give NPs, CNSs, and CNMs independent prescriptive authority, without any physician supervision or collaboration required. Supervising physicians must delegate prescribing authority to PAs.

Should payment rates differ when services are provided by nonphysician practitioners instead of physicians?

The physician fee schedule does not differentiate among specialties in the payments provided for particular services, although payments for more complex services are higher to account for the additional time, effort, skill, and stress that may be required to provide care. If payment rates adequately account for differences in resource costs among services, paying different amounts for services when they are provided by NPPs may not be justified.

Whether payment rates should differ between physicians and NPPs depends on whether they produce the same product. The product can be characterized by the services provided, the locations in which they are provided, and the patient outcomes that result. The inputs used to produce a service also may differ, and this can affect the cost of the product. Inputs are the resources to provide the service: providers' education and training; practice expenses, including support staff, office space, supplies, and equipment; and professional liability insurance. These inputs, along with the time, effort, skill, and stress required to provide the service, are the components used in the physician fee schedule to determine payment rates.

Some of these factors may justify a payment difference while others may not. On the one hand, data on the type of service, location of service, and outcomes provide evidence of many similarities between NPPs and physicians. On the other hand, some argue that differences in the length and content of training between NPPs and physicians support a payment differential. Consideration also should be given to differences in rates for professional liability insurance between physicians and NPPs. Practice expenses, however, may be the same regardless of who provides the service.

Does the product vary by the type of practitioner?

To help assess whether physicians and nonphysician practitioners provide different products, MedPAC examined Medicare data on the types and location of services provided by NPPs. We also reviewed research on quality and patient outcomes and information on other payers. In general, NPPs provide more evaluation and management (E&M) services that are slightly lower in complexity than physicians on average. Both provide a majority of their services in office based settings, although NPPs tend to provide a higher proportion of their services to patients in nursing facilities. Outcomes of care provided by NPPs for equivalent patients have been shown to be comparable to those of physicians.

7 Prescriptive authority for CNSs is generally more limited than for other NPPs.

Types of services

CNMs, NPs, CNSs, and PAs directly billed for about 8.5 million services to Medicare beneficiaries in 2000. These services accounted for about 1 percent of the Part B services billed under the physician fee schedule. The majority of services provided by NPs, PAs, and CNMs were for E&M services, which include taking patient histories, examining patients, making medical decisions of different levels of complexity, counseling patients, and coordinating care (Table 1). E&M services accounted for only about one-third of the services provided by clinical nurse specialists.

The complexity level of the E&M services provided by NPs and PAs tends to be slightly lower than that of services provided by primary care physicians. For office-based E&M services, 84 percent of services provided by NPs and CNSs and 86 percent of services provided by PAs were of low complexity, compared with 76 percent of the services provided by primary care physicians. Across all settings in which E&M services were provided, NPPs tended to provide a smaller share of high-complexity visits. For example, 9 percent and 7 percent of E&M services provided by NPs and PAs, respectively, were rated as highly complex, compared with 11 percent of services provided by primary care physicians (Table 1). In contrast, CNSs provided a higher proportion of high-complexity E&M services, likely because more than half of CNS visits are for evaluating and managing clinical psychiatric conditions. The complexity rating for E&M services for CNSs is similar to that for psychiatrists.

NPPs also provide other primary care diagnostic and treatment services. In addition, they provide some noninvasive cardiovascular procedures (including electrocardiograms, stress tests, and electronic analysis of pacemakers) and basic rehabilitation procedures (such as therapeutic exercise, massage therapy, electrical stimulation, and ultrasound therapy).

TABLE 1

Evaluation and management services, level of complexity and share of services, by type of practitioner

Practitioner	Evaluation and management services as a portion of all services	Complexity level of evaluation and management services		
		Low	Moderate	High
Primary care physician	48%	55%	34%	11%
Nurse practitioner	57	57	35	9
Physician assistant	50	59	34	7
Obstetrician/gynecologist	45	58	32	10
Certified nurse-midwife	55	77	19	4
Psychiatrist	23	26	52	22
Clinical nurse specialist	32	35	44	22

Note: Primary care physician includes family practice and internal medicine. For evaluation and management services, low-complexity services were defined as those requiring straightforward or low-complexity decision making, moderate-complexity services were those defined as requiring a moderate level of decision making, and high-complexity services were defined as those requiring a high level of decision making. Numbers may not add to 100 due to rounding.

Source: MedPAC analysis of 2000 Part B physician/supplier procedure summary master file from the Centers for Medicare & Medicaid Services.

NPPs frequently draw blood for analysis and provide various injections, such as influenza vaccine, epoetin, and morphine sulfate. They also order laboratory tests (such as urinalysis, prothrombin time, platelet counts, and lipid panels) and radiologic procedures (such as chest X-rays, bone density scans, mammography screening, and X-rays of different joints). The NPP interprets the test results and provides treatment protocols for the patient, although other office staff may actually collect the blood and urine samples, provide the injections, or administer the radiologic tests.

A small portion of services provided by NPs and CNSs are minor surgical procedures, including various levels of debridement, lesion removal, joint aspirations, and removal of impacted ear wax. PAs, and occasionally NPs and CNSs, also serve as first assistants at surgery, with the most common procedures including cardiac bypass surgeries, joint replacements, and laminectomies.[8]

CNMs directly billed for less than 9,000 services to Medicare beneficiaries in 2000. As with other NPPs, however, an unknown number of services they provided were likely billed as incident to care by a collaborating physician. Some of the most common services provided, besides E&M, include cervical and vaginal cancer screening, Pap smears, and routine obstetrical care.

Location of services

The office setting is the most common location for services provided by most nonphysician practitioners and physicians (Table 2). NPs and CNSs also provide a substantial share of their services to patients in skilled nursing and custodial care facilities. These facilities account for 28 percent of services provided by NPs and 39 percent of services provided by CNSs to Medicare patients, compared with less than 5 percent of the services billed by primary care physicians. NPs and CNSs also provide a larger proportion of their services to patients in the home (2 percent and 5 percent, respectively), compared with less than 1 percent for physicians.

TABLE 2

Location of services by type of practitioner

	Office	Hospital	Skilled nursing facility	Other nursing or extended care facility	Home	Other
Family practice physician	80%	14%	3%	2%	1%	*
Internal medicine physician	70	25	3	1	1	1%
Nurse practitioner	59	9	17	11	2	2
Clinical nurse specialist	38	10	26	13	5	7
Physician assistant	55	31	7	5	1	1
Obstetrician/gynecologist	91	8	*	*	*	*
Certified nurse-midwife	88	11	*	*	*	*

Note: * less than 0.5 percent.

Source: Medicare analysis of 2000 Part B physician/supplier procedure summary master file from Centers for Medicare & Medicaid Services.

8 More than 10 percent of the services billed by PAs were for assisting at surgery. PAs accounted for 27 percent of all assisting at surgery claims and NPs and CNSs together accounted for less than 2 percent, while surgeons and obstetricians/gynecologists accounted for 62 percent.

In contrast, PAs provide about 31 percent of their services in hospitals (15 percent inpatient, 5 percent outpatient, and 11 percent emergency department), a much larger proportion than for primary care physicians. They also provide about 11 percent of their services for Medicare patients in nursing or extended care facilities and less than 1 percent of services in patients' homes.

Outcomes and quality

Several studies have shown comparable patient outcomes for the services provided by nonphysician practitioners and physicians (Mundinger et al 2000, Brown and Grimes 1993, Ryan 1993, OTA 1986). Within their areas of competence, NPs, PAs, and CNMs generally provide care that is equivalent in quality to the care provided by physicians for similar problems (OTA 1986). Physicians and nurse practitioners in ambulatory care settings who had the same authority, responsibilities, productivity, and administrative requirements were shown to have comparable patient outcomes (Mundinger et al 2000). CNMs have been shown to have excellent birth outcomes with lower infant mortality and a smaller risk of delivering low-birthweight babies, compared with physicians, after controlling for sociodemographic and medical risk factors (MacDorman and Singh 1998).

Nonphysician practitioners are undertaking many elements of care that previously were provided by physicians. Overall, NPs and PAs provide primary care in a way that is similar to physician care. No difference was found, for instance, between NPPs and physicians in the average number of diagnostic or screening services, therapeutic and preventive services, or number of medications ordered or provided (Hooker and McCaig 2001). Their involvement in care is generally cost effective and is met with a high degree of patient satisfaction (Cooper 2001). Studies also have shown that NPs spend more time per visit with patients and families than do physicians or PAs (Sullivan-Marx and Maislin 2000, Scheffler et al 1996). Finally, analysis suggests that NPs emphasize health promotion and provide more counseling to patients (Mills et al 1998, OTA 1986).

Other payers' policies

Another method for judging Medicare policies is to consider how other payers, such as private insurers and Medicaid, pay for services provided by NPPs. Here too, the evidence is ambiguous. Payment and coverage policies for private payers vary, and can even differ from contract to contract. Some plans reimburse nonphysician services at 100 percent of the amount paid for physician services, some follow Medicare practices, and some do not cover the services of NPPs. A number of states have insurance mandates requiring direct reimbursement for NPPs—37 states have such mandates for CNMs, 29 have them for NPs, and 11 have them for PAs (Powe 2002a, Cooper et al 1998).

Currently, all state Medicaid programs cover medical services provided by NPs, CNMs, or PAs in their fee-for-service or managed care plans at either the same rate or a lower rate than that paid to physicians. Payment for NPs ranges from a low of 60 percent of the physician fee in Arizona to 100 percent in at least 19 states (Pearson 2002). For CNMs, payments range from a low of 70 percent of the physician fee schedule in Illinois and New Jersey to 100 percent in 26 other states (ACNM 2001). Reimbursement rates for PAs range from 75 percent of the physician fee in Kentucky and North Dakota to 100 percent in 32 states (AAPA 2000). Four states require a physician on site when a PA provides a service before Medicaid will pay for that service (Powe 2002a).

Do inputs vary by the type of practitioner?

To help assess whether the inputs used by providers to deliver patient care differ depending on the type of practitioner, MedPAC examined the education and training requirements (inputs to the work component), practice expenses, and professional liability insurance of physicians and nonphysician providers.

Education and training

The education and training of NPPs and physicians differ. The models of training are different, leading to qualitative differences in both course content and clinical training for NPPs and physicians. The total length of post-undergraduate education and training required by each profession also differs substantially.

Advanced practice nurses are trained in medical/nursing or medical/public health models, with emphasis on disease adaptation, health promotion, and prevention, as well as diagnosis and treatment of acute episodic and chronic illnesses. The training of NPs generally is focused on caring for a specific population (children, families, adults, or the elderly). CNM training focuses on women's reproductive health and infants, and CNS training focuses on specialty care (mental health, oncology, or critical care, for example). PAs are trained in a medical/physician model that, like physician training, is disease centered, with emphasis on the biological and pathological aspects of health assessment, diagnosis, and treatment. Both NPs and PAs are trained as primary care providers.

The length of training for NPPs is shorter than for physicians. Most advanced practice nurses are master's prepared and have bachelor's degrees along with a few years of practice experience as registered nurses (RNs) before they enter a training program.[9] PA programs are typically two years long, but they range from associate's degree programs to master's level, as well as certificate programs. Most programs require previous patient care experience before entering. In contrast, the average physician typically has a bachelor's degree, four years of medical school, and a minimum of three years of residency training.

In addition to these education requirements, to bill independently for Medicare services NPs, CNSs, and CNMs must be licensed or authorized to practice as a registered professional nurse in their state and must be certified in their respective advanced practice profession. PAs must have passed a national certifying exam and also be licensed to practice in the state.

Practice expenses

Practice expenses are another major cost of providing clinical services. Whether provided by an NPP or a physician, it is probably reasonable to assume that practice expenses for specific services are roughly the same. Both NPPs and physicians likely use similar inputs—such as office space, supplies, equipment, and clerical help—for most services. Because most NPPs are integrated into physician practices, however, it would be virtually impossible to estimate any differences.

One of the largest components of practice expense for physicians is salaries for nonphysician employees, such as nurses and allied health personnel. Because NPPs tend to spend more time than physicians with patients, NPPs may be substituting their own time for other health personnel, effectively lowering their practice expense but raising the work component.

[9] Some NPs and CNMs were trained in post-RN certificate programs and thus do not have master's degrees. As of 2003, Medicare will require that NPs applying for a Medicare billing number for the first time be nationally certified and master's prepared. All but one CNM program currently is at the master's level. Medicare requires CNSs to be master's prepared.

Professional liability insurance

Professional liability insurance is less costly in general for NPPs than for physicians, although different types of NPPs face substantially different costs. In particular, CNMs face higher premiums because of their role in caring for pregnant women—data from the American College of Nurse-Midwives show a more than 10-fold difference in premium rates between CNMs and NPs. While CNMs' premiums are lower than those for obstetricians and gynecologists, midwives in mature practices have professional liability rates that are similar to or even higher than rates for internists or family physicians and gynecologists who do not practice obstetrics (Fennell 2002, Medical Liability Monitor 2001).

In general, premiums for physician assistants are about 25 to 40 percent of those for physicians in the same specialty (Powe 2002b). The lower liability insurance rates for NPs and PAs may partially reflect a lower level of risk for the services they provide.

Conclusion

Given the design of Medicare's payment system for physician services, we cannot assess the appropriateness of the current 85 percent payment differential for NPs, PAs, and CNSs. A payment differential is appropriate if NPPs and physicians are producing a different product. We cannot judge whether NPPs are producing the same product as physicians, however. On the one hand, studies have shown comparable patient outcomes for the services provided by NPPs and physicians, which argues against a differential. On the other hand, the payment system's billing codes are too imprecise to capture what may be subtle differences between the services provided by the two types of practitioners. We conclude, therefore, that further study is necessary before the 85 percent payment differential is changed.

In contrast, payment rates for CNMs should be increased to be consistent with other nonphysician practitioners. There is no rationale for paying CNMs a lower rate than other nonphysician practitioners; their education and training are similar to the other nonphysician practitioners and research studies show quality and outcomes of care at least comparable to obstetricians and gynecologists (MacDorman and Singh 1998, OTA 1986). CNMs also face much higher professional liability insurance costs than do other NPPs, even higher than some physicians. So as to not increase total Medicare spending for Part B services, the conversion factor should be adjusted after increasing payment rates for CNMs. The net impact of raising CNMs payments to 85 percent of the physician fee schedule on the conversion factor would be trivial because their share of Medicare Part B spending is very small.

RECOMMENDATION

The Congress should increase Medicare payment rates for certified nurse-midwives to 85 percent of the physician fee schedule. The conversion factor for physician services should be adjusted to make this change budget neutral.

Reimbursement for services provided incident to physician care

Under incident to billing, the NPP provides the service, but the service is billed as though the physician furnished it. This type of billing requires the physician to be in the office suite and to have previously seen the patient for the condition being treated. The physician also must demonstrate continuing active participation in the management and course of treatment for a patient served by nonphysician employees. The original intent of the incident to provision was to pay for services not traditionally performed by physicians, services normally delegated by physicians, and services performed under the direct supervision of physicians (OTA1986). As the role of NPPs has expanded, interpretation of this provision has widened to include the coverage of evaluation and management services (PPRC 1991). Implicit in incident to billing is a team approach to care: NPPs provide the services but the physician assumes overall responsibility for the care and should maintain an active role in caring for the patient.

Paying NPPs 85 percent of the fee schedule amount when they bill Medicare directly, but 100 percent of the amount when they bill incident to, raises the potential for inappropriate billing. Examples of such billing include services provided by an NPP billed incident to when the supervising physician was not present in the office or when a patient presented with a new illness and the physician did not see the patient. Notwithstanding this possibility, the Commission has concluded that services provided by NPPs that are billed incident to should continue to be reimbursed at 100 percent of the physician fee schedule. The higher reimbursement physician practices receive when billing incident to for the services of qualified nonphysician practitioners accounts for the team approach to care, including the continued responsibility of the physician in caring for patients seen by NPPs. Better data are needed to improve our understanding of the services for which incident to billing occurs, the frequency of such billing, and the appropriateness of payment rates.

Reimbursement for services provided by orthopedic physician assistants

Currently, orthopedic physician assistants are not eligible for separate reimbursement from Medicare. In the regulations that implemented the payment expansions mandated by the Balanced Budget Act of 1997 for PAs, NPs, and CNSs, the Health Care Financing Administration (now the Centers for Medicare & Medicaid Services) proposed changing the qualifications for physician assistants to include OPAs, but the agency withdrew its proposal after commenters noted that the training and scope of services for these providers is not similar to that of physician assistants (HCFA 1998a, HCFA 1998b). The Congress asked MedPAC to study payment for OPAs and the Commission has concluded that they should not be permitted to bill Medicare directly.

Within the practice of a supervising orthopedic surgeon, OPAs work with patients preoperatively, perform pre-surgical histories and physicals, provide patient education, and make sure that proper equipment is present at the time of surgery. They function as first assistants at surgery, follow patients in the postoperative hospital settings, and are involved in patients' rehabilitation. OPAs also provide follow-up care in the office setting.

No programs currently exist to train OPAs. At one time as many as 10 programs were accredited by the American Medical Association (AMA), but the AMA withdrew its accreditation for these schools in 1974 after the American Academy of Orthopedic Surgeons withdrew its sponsorship because of a lack of manpower to support the accreditation process. This withdrawal of support came at a time when the

AMA was developing and supporting training for general physician assistants. The last OPA program closed in 1990, but individuals can still receive training to become certified OPAs by working with an orthopedic surgeon for five years.

To become certified, OPAs must pass a national certifying exam. This exam is offered to graduates of an OPAprogram, a PAor NPprogram, and to those who show proof of five years of experience in orthopedics, documented by a sponsoring orthopedic surgeon. Currently, only three states—California, New York, and Tennessee—recognize OPAs to some extent in state licensing bodies.

Medicare provides no separate payment for the services provided by OPAs. They are paid either by orthopedic surgeons (out of the physician fees) or hospitals (where the cost of OPA services is part of the inpatient or outpatient bundle). The lack of separate reimbursement has put OPAs at a competitive disadvantage relative to PAs in providing surgical first assistant services because OPA services are not separately reimbursed. In contrast, neither the physician nor the hospital has to incur these expenses for first assistant services if a PAis the first assistant and receives separate payment.

Orthopedic physician assistants should not be recognized for separate reimbursement. Other nonphysician practitioners recognized for separate reimbursement must maintain some form of state licensure to be recognized by the program. Because OPAs are licensed in only three states, carriers cannot rely on state licensing and regulatory agencies to maintain and enforce standards for these providers. ■

References

American Academy of Physician Assistants. Facts at a Glance. Alexandria (VA), AAPA. May 7, 2001.

American Academy of Physician Assistants. Physician assistant third party coverage. Alexandria (VA), AAPA. May 2000.

American College of Nurse-Midwives. Nurse midwifery today: a handbook of state laws and regulations 2001. Washington (DC), ACNM. 2001.

Anderson DM, Hampton MB. Physician assistants and nurse practitioners: Rural-urban settings and reimbursement for services, The Journal of Rural Health. Spring 1999, Vol.15, No. 2, p. 252-263.

Brown SA, Grimes DE. Nurse practitioners and certified nurse midwives: a meta analysis of studies on nurses in primary care roles. Washington (DC): American Nurses Association, March, 1993.

Cooper RA, Getzen TE, McKee HJ, Laud P. Economic and demographic trends signal an impending physician shortage, Health Affairs. January/February 2002, Vol. 21, No. 1, p. 140-154.

Cooper RA. Health care workforce for the twenty-first century: the impact of nonphysician clinicians, Annual Review of Medicine. 2001, Vol. 52, p. 51-61.

Cooper RA, Henderson T, Dietrich CL. Roles of nonphysician clinicians as autonomous providers of patient care. The Journal of the American Medical Association. September 2, 1998, Vol. 280, No. 9, p. 795-802.

Fennell K, American College of Nurse-Midwives. Data from Professional Risk Advisors, Inc. on 2002 professional liability insurance rates for certified nurse midwives, obstetricans and gynecologists, gynecologists, and nurse practitioners. Personal communication with Craig Lisk, MedPAC. Washington, (DC), ACNM, March 8, 2002.

Health Care Financing Administration, Department of Health and Human Services. Medicare program: revisions to payment policies and adjustments to the relative value units under the physician fee schedule for calendar year 1999, proposed rule. Federal Register. June 5, 1998a, Vol. 63, No. 108, p. 30867-30916.

Health Care Financing Administration, Department of Health and Human Services. Medicare program: revisions to payment policies and adjustments to the relative value units under the physician fee schedule for calendar year 1999, final rule. Federal Register. November 2, 1998b, Vo. 63, No. 211, p. 58663-58862

Hooker RS, McCaig LF. Use of physician assistants and nurse practitioners in primary care, 1995-1999, Health Affairs. July/August 2001, Vol. 20, No. 4, p. 231-238.

MacDorman MF, Singh GK. Midwifery care, social and medical risk factors, and birth outcomes in the USA. Journal of Epidemiology & Community Health, May 1998, Vol. 52, No. 5, p. 310-317.

McCaig LF, Hooker RS, Sekscenski ES, Woodwell DA. Physician assistants and nurse practitioners in hospital outpatient departments, 1993-1994, Public Health Reports. 1998, Volume 13, No. 1, p 75-82.

Medical Liability Monitor. Trends in 2001 rates for physicians' medical professional liability insurance. October 2001, Vol.26, No.10.

Mills AC, McSweeny M, Lavin MA. Characteristics of patient visits to nurse practitioners and physician assistants in hospital outpatient departments, Journal of Professional Nursing. November-December, 1998, Vol. 14, No. 6, p. 335-343.

Moses EB. Health Resources and Services Administration, Division of Nursing, Department of Health and Human Services. The registered nurse population: findings from the national sample survey of registered nurses. Washington (DC), HHS. March 1992.

Mundinger MO, Kane RL, Lenz ER et al. Primary care outcomes in patients treated by nurse practitioners or physicians, a randomized trial. The Journal of the American Medical Association. January 5, 2000, Vol. 283, No. 1, p. 59-68.

Non-Physician Practitioner News. Current list of NPPs with PINs. Rockville (MD), UCG. March 2002, Vol. 5, No. 3, p.5.

Office of Inspector General, Department of Health and Human Services. Medicare coverage of non-physician practitioner services. New York (NY), OIG. June 2001.

Office of Technology Assessment, US Congress. Nurse practitioners, physician assistants, and certified nurse midwives: a policy analysis. Health technology case study 37. Washington (DC), US Government Printing Office, 1986.

Pearson, L. Fourteenth annual legislative update, The Nurse Practitioner. January 2002, Vol. 27, No. 1, p. 10- 52.

Physician Payment Review Commission. Annual report to Congress 1991, Chapter 10, Paying nonphysician practitioners under the Medicare fee schedule. Washington (DC), PPRC. March 1991.

Powe, M, American Academy of Physician Assistants. Memo to MedPAC. June 10, 2002a.

Powe, M, American Academy of Physician Assistants. Personal communication with Craig Lisk, MedPAC. Alexandria (VA), April 22, 200b.

Ryan SA. Nurse practitioners: educational issues, practice styles, and service barriers. In: Clawson DK, Osterweis M, eds. The roles of physician assistants and nurse practitioners in primary health care. Washington (DC), Association of Academic Health Centers, 1993.

Scheffler RM, Waitzman NJ, Hillman JM. The productivity of physician assistants and nurse practitioners and health care work force policy in the era of managed care, Journal of Allied Health. Summer 1996, Vol. 23, No. 3, p. 201-217.

Sekscenski ES, Sansom S, Bazell C, Salmon ME, Mullan F. State practice environments and the supply of physician assistants, nurse practitioners, and certified nurse-midwives, The New England Journal of Medicine. November 10, 1994, Vol. 331, No. 19, p. 1266-1271.

Spratley E, Johnson A, Sochalski J, Fritz M, Spencer W. Health Resources and Services Administration, Division of Nursing, Department of Health and Human Services. The registered nurse population: findings from the national sample survey of registered nurses, Washington (DC), HHS. March 2000.

Sullivan-Marx EM, Maislin G. Comparison of nurse practitioner and family physician relative work values. Journal of Nursing Scholarship. First quarter 2000, p. 71-76.

APPENDIX

Characteristics of nonphysician providers

TABLE A-1

	Number of providers			
	Certified & practicing	w/Medicare billing numbers	Average earnings	Description of practice
Nurse practitioner	69,523[1]	29,139	$60,100	Diagnose and treat common acute and chronic illnesses. They provide diagnostic services (history taking, physical assessment, ordering tests), therapeutic management (outlining care, providing prescriptions, coordinating consultations and referrals), and health promotion activities. NPs have independent practice authority in 21 states.
Certified nurse-midwife	7,144	2,267	$64,900	Provide a range of health care services for women and newborns. They provide diagnostic services (history taking, physical assessment, ordering tests), therapeutic management (outlining care, providing prescriptions, coordinating consultations and referrals), and health promotion and risk reduction activities. Most CNMs focus on childbearing, family planning, and gynecological care. Most states require CNMs to maintain a relationship with an obstetrician.
Clinical nurse specialist	18,277[1]	2,352[2]	$50,800	Train in specific specialties, such as mental health, critical care, oncology, and cardiology. They divide their time among five areas—clinical practice, teaching, research, consulting, and management. CNSs have independent practice authority in 20 states.
Physician assistant	40,469	20,651	$68,800	Practice medicine under the direction and supervision of a doctor of medicine or osteopathy. PAs make clinical decisions and provide a range of diagnostic, therapeutic, preventive, and health maintenance services. PAs' clinical role includes primary and specialty care in medical and surgical practice settings. About half of PAs are in primary care practice.
Orthopedic physician assistant	Unknown	0	Not available	Assist orthopedic surgeons by assisting at surgery, performing pre-surgical physicals, and providing post-surgical care and rehabilitation.

Notes: CNM (certified nurse-midwife), CNS (clinical nurse specialist), NP (nurse practitioner), PA (physician assistant), OPA (orthopedic physician assistant), RN (registered nurse).

1 11,579 of the nurse practitioners are classified as both nurse practitioners and clinical nurse specialists.

2 Many clinical nurse specialists are also recognized as nurse practitioners and may participate in Medicare as nurse practitioners rather than CNSs.

3 Education required for providers to be eligible to sit for their national certification examination.

4 The last program closed in 1990.

5 Medicare program requirements are generally more stringent than the minimum required for state licensure as a nonphysician provider.

Nonphysician providers: training and licensure

Education[3]	Certification	Licensure[5]	Prescriptive privileges
Most NPs complete a two-year master's level program. Almost all NP programs require an RN license and a bachelor's degree. The Commission on Collegiate Nursing Education and National League for Nurse Accrediting Commission together accredit 325 programs.	Medicare recognizes five national certification bodies that offer exams in specialty areas such as family nurse practitioner, adult nurse practitioner, and geriatric nurse practitioner. Recertification required every five years through continuing education credits or by sitting for the national certification exam for their specialty.	Recognized as RNs in all states, with secondary recognition as NPs. Regulated through state boards of nursing, or jointly with boards of medicine.	Prescribing authority in 49 states; 40 allow prescribing of some controlled substances. 15 states grant independent prescriptive authority.
CNMs train in graduate programs in schools of nursing, public health, and medicine. The American Colleges of Nurse-Midwives Division of Accreditation recognizes 47 programs.	American Colleges of Nurse-Midwives Certification Council provides certification. CNMs first certified after 1995 must be recertified every eight years.	Recognized as RNs in all states, with secondary recognition as CNMs in some states. Regulated through state boards of nursing, medicine, or both.	Prescribing authority in 48 states; 38 allow prescribing of some controlled substances.
CNSs receive master's level training (with a minimum of 500 hours of clinical education) in one of 184 programs accredited by the Commission on Collegiate Nursing Education or the National League for Nurse Accrediting Commission. RN licensure is a prerequisite.	American Nurse Credential Center and the American Association of Critical Care Nurses Credentialing Corporation provide certification that lasts five years. Other organizations certify CNSs as advanced practice nurses in selected specialties.	Separately licensed or recognized in most states. Eight states limit recognition to CNSs in psychiatric and mental health care practices.	More limited than other advanced practice nurses, 33 states grant some prescribing rights to CNSs.
PA training can be at the certificate, associate's, bachelor's, or master's level, with most programs lasting two years. Students typically have four years of health care experience before entering. PAs train as generalists in medicine with emphasis on primary care in one of 129 programs accredited by the Accreditation Review Commission on Education for Physician Assistants.	The National Commission on Certification of Physician Assistants certifies PAs. To remain certified, PAs must complete 100 hours of continuing medical education every two years and pass a recertification exam every six years.	Must have completed approved PA training program and passed national certification exam.	Prescribing authority in 47 states; 40 allow prescribing of some controlled substances.
No educational programs currently exist.[4] To sit for the certifying exam, OPAs must have worked with an orthopedic physician for five years who attests to their training.	The Professional Testing Corporation for the National Board for Certification of Orthopedic Physician Assistants administers a national certification exam. Certification lasts for four years.	Only Tennessee, California, and New York have practice guidelines or some form of recognition of OPAs.	None.

Sources: Non-Physician Practitioner News 2002, Pearson 2002, Spratley et al 2002, American College of Nurse-Midwives 2001, Cooper 2001, American Academy of Physician Assistants 2000, Cooper et al 1998.

TABLE A-2

Source of payment	Medicare	Medicaid	TRICARE/CHAMPUS
Nurse practitioner	Pays 85 percent of physician fee schedule, 100 percent if billed incident to in a physician office or clinic.	Pays in all states, ranging from 60 percent of the physician fee schedule to 100 percent in 19 states.	Follows Medicare rules.
Certified nurse-midwife	Pays 65 percent of physician fee schedule, 100 percent if billed incident to in a physician office or clinic.	Pays in all states, ranging from 70 percent of the physicians fee schedule to 100 percent in 26 states.	Follows Medicare rules.
Clinical nurse specialist	Pays 85 percent of physician fee schedule, 100 percent if billed incident to in a physician office or clinic.	Pays in 36 states. CNSs treated as RNs in 15 states and not eligible for reimbursement.	CHAMPUS pays only for psychiatric CNSs.
Physician assistant	Pays 85 percent of physician fee schedule, 100 percent if billed incident to in a physician office or clinic.	Pays in all states, ranging from 75 percent of physician fee schedule to 100 percent in 30 states.	85 percent of physician fee schedule; first assistant is reimbursed at 65 percent.
Orthopedic physician assistant	No separate payments to OPAs. Physicians may bill incident to for some services provided in offices or clinics. No payment for assistant at surgery.	Not available.	Not available.

Private payers	Medicare supervision requirements
Varies. Some states mandate payment at physician rate. Some payments made to the physician or employer. 29 states require insurers to reimburse directly.	Supervision requirements defer to state law for advance practice nurses. NPs must collaborate with a physician, meaning that the "NP works with a physician to deliver health care services within the scope of the practitioner's professional expertise, with medical direction and appropriate supervision as provided in jointly developed guidelines or other mechanism as defined by the law of the State in which the services are performed."
Varies. Some states mandate payment at physician rate. Some payments made to the physician or employer. 37 states require insurers to reimburse directly.	Supervision requirements defer to state law for advance practice nurses. CNMs may practice independently, but most states require some form of collaboration.
Varies. Some states mandate payment at physician rate. Some payments made to the physician or employer. No states require direct reimbursement.	Supervision requirements defer to state law for advance practice nurses. CNSs must collaborate with a physician, meaning that the CNS "works with a physician to deliver health care services within the scope of the practitioner's professional expertise, with medical direction and appropriate supervision as provided in jointly developed guidelines or other mechanism as defined by the law of the State in which the services are performed."
Varies. Some states mandate payment at physician rate. Some payments made to the physician or employer. 11 states require insurers to reimburse directly.	PAs are required to have physician supervision.
Not available.	Supervised by orthopedic physician.

Notes: CHAMPUS (Civilian Health and Medical Program of the Uniformed Services), CNM (certified nurse-midwife), CNS (clinical nurse specialist), NP (nurse practitioner), PA (physician assistant), OPA (orthopedic physician assistant). TRICARE is not an acronym; we present the name in all capital letters because it appears this way in statute.

Sources: Non-Physician Practitioner News 2002, Pearson 2002, Spratley et al 2002, American College of Nurse-Midwives 2001, Cooper 2001, American Academy of Physician Assistants 2000, Cooper et al 1998.

Commissioners' voting

Commissioners' voting

In the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 (BIPA), the Congress required MedPAC to call for individual Commissioner votes on each recommendation, and to document the voting record in its report. The information below satisfies that mandate.

Recommendation

The Congress should increase Medicare payment rates for certified nurse-midwives to 85 percent of the physician fee schedule. The conversion factor for physician services should be adjusted to make this change budget neutral.

Yes: Braun, DeBusk, Feezor, Hackbarth, Loop, Muller, Nelson, Newhouse, Newport, Raphael, Reischauer, Smith, Stowers, Wakefield

Absent: Burke, Rosenblatt, Rowe

More about MedPAC

Commission members

Glenn M. Hackbarth, J.D., Chairman
Independent consultant
Bend, OR

Robert D. Reischauer, Ph.D., Vice chairman
The Urban Institute
Washington, DC

Term expired April 2002

Beatrice S. Braun, M.D.
AARP Board of Directors
Spring Hill, FL

Floyd D. Loop, M.D.
The Cleveland Clinic Foundation
Cleveland, OH

Janet G. Newport
PacifiCare Health Systems
Santa Ana, CA

Carol Raphael
Visiting Nurse Service of New York
New York, NY

Mary K. Wakefield, Ph.D., R.N., F.A.A.N.
Center for Rural Health
University of North Dakota
Grand Forks, ND

Term expires April 2003

Autry O.V. "Pete" DeBusk
DeRoyal
Powell, TN

Glenn M. Hackbarth, J.D.

Alan R. Nelson, M.D.
American College of Physicians-American Society of Internal Medicine
Washington, DC

Robert D. Reischauer, Ph.D.

David A. Smith
AFL-CIO
Washington, DC

Ray E. Stowers, D.O.
Oklahoma State University College of Osteopathic Medicine
Tulsa, OK

Term expires April 2004

Sheila P. Burke, M.P.A., R.N., F.A.A.N.
Smithsonian Institution
Washington, DC

Allen D. Feezor
California Public Employees' Retirement System
Sacramento, CA

Ralph W. Muller
University of Chicago Hospitals and Health Systems
Chicago, IL

Joseph P. Newhouse, Ph.D.
Harvard University
Boston, MA

Alice Rosenblatt, F.S.A., M.A.A.A.
WellPoint Health Networks
Thousand Oaks, CA

John W. Rowe, M.D.
Aetna Inc.
Hartford, CT

Commission staff

Murray N. Ross, Ph.D.
Executive director

Lu Zawistowich, Sc.D.
Deputy director

Jennifer Jenson, M.P.H., M.P.P.
Special assistant to the executive director

Helaine I. Fingold, J.D.
General counsel

Research directors

Jack Ashby, M.H.A.
Jill Bernstein, Ph.D.
Scott Harrison, Ph.D.
Kevin J. Hayes, Ph.D.
Sally Kaplan, Ph.D.
Karen Milgate, M.P.P.
Julian H. Pettengill, M.A.
Nancy Ray, M.S.

Administrative staff

Reda H. Broadnax, B.S.
Wylene Carlyle
Diane E. Ellison
Plinie (Ann) Johnson
Cheron McCrae
Rachel Vallieres, B.A.
Cynthia Wilson

Analysts

Sharon Bee Cheng, M.S.
David V. Glass, M.S.
Timothy F. Greene, M.B.A.
Craig K. Lisk, M.S.
Marian Lowe
Anne Mutti, M.P.A.
Susanne Seagrave, Ph.D.
Mae Thamer, Ph.D.
Ariel Winter, M.P.P.
Chantal Worzala, Ph.D.
Daniel Zabinski, Ph.D.

MEDPAC Medicare Payment Advisory Commission

1730 K Street, NW • Suite 800 • Washington, DC 20006
(202) 653-7220 • Fax: (202) 653-7238 • www.medpac.gov