

Chapter 3

Overview of Alternative Physician Payment Methods Under Medicare: A Framework for Evaluation

If you don't know where you are going, you will probably end u p
somewhere else.

—Lawrence J. Peter, *The Peter Principle*

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Overview of Alternative Physician Payment Methods Under Medicare: A Framework for Evaluation

INTRODUCTION

Because of shortcomings in the present system, Congress and other policymakers are considering alternative arrangements to pay for physician services under the Medicare program. This report analyzes four sets of alternatives:

- modifications to the present system of payment according to customary, prevailing, and reasonable (CPR) charges;
- payment based on a fee schedule, with predetermined payment rates that would be the same for similar services;
- global payment for packages of related services; and
- cavitation payment, under which a predetermined amount would be paid for a beneficiary's care during a time period.

This chapter briefly outlines the sets of payment alternatives and variations among them. The second section of the chapter discusses the dimensions across which the alternatives are examined in chapters 4 (modifications to CPR), 5 (fee schedules), 6 (packaging), and 7 (cavitation); and introduces certain issues common to several payment alternatives. The chapter concludes with brief descriptions of five medical technologies: pneumococcal vaccination, clinical laboratory testing, cataract surgery, magnetic resonance imaging, and extracorporeal shock wave lithotripsy. These technologies are used in subsequent chapters to illustrate the effect of the various physician payment alternatives on specific technologies.

ALTERNATIVES FOR PAYMENT OF PHYSICIAN SERVICES

The sets of payment alternatives considered in this report vary according to the unit by which medical care is paid. Modifications in the CPR system and payment based on a fee schedule would continue the service as the unit of payment; the packaging approach would base payment on units that could range from ambulatory visits through therapeutic procedures to medical conditions; and cavitation (per capita) payment would pay according to the number of beneficiaries. The alternatives also vary according to the scope of medical services, the recipient of payment, and the methods of setting the payment level.

The core interest of this report is physician services, although some alternatives include payments for ancillary services and inpatient care. "Physi-

cian services" refers to services that are commonly provided by physicians but are sometimes provided by other professionals or organizations. An example is clinical laboratory tests, which may be performed in a physician's office, an independent clinical laboratory, or a hospital laboratory. Similarly, optometrists provide some services, such as refraction and fitting of corrective lenses, that may be provided by ophthalmologists.

The alternatives discussed in this report concern how the Medicare program could pay for physician services rather than how physicians receive payment for their work. For example, Medicare might pay a health maintenance organization (HMO) or hospital a per capita amount for providing physician services to beneficiaries, but the organization in turn could pay physicians on

a different basis, such as salary, fee-for-service, or some combination.

Modifications in Payment Based on Customary, Prevailing, and Reasonable (CPR) Charges

Under this set of alternatives, Medicare would continue to base its payment for physician services on reasonable charges calculated from the customary and prevailing charges billed by physicians and other providers (see app. C). The scope of services included in the payment and the recipients of payment would not change.

What would change is the method of calculating reasonable rates. One set of changes would limit the rates paid for physician services, with the intention of reducing the increase in Medicare expenditures. Some of the options would apply to all physician services, such as lowering the percentile of prevailing charges used to determine allowable charges. Medicare could also contract with preferred provider organizations to care for beneficiaries at discounted rates.

Other options would apply more selectively to services with perceived payment imbalances relative to others. Rates for procedural services could be lowered relative to nonprocedural services, specialists and generalists could be paid the same rates for similar services, or geographic differences in rates could be reduced. Changing relative payment levels for certain services would also be possible under payment based on fee schedule.

Payment Based on Fee Schedules

Like the previous set of alternatives, payment by fee schedules would retain the scope of services and recipients of payment of the present system, but it would alter the method of calculating rates paid by the Medicare program. The schedule of fees would be set in advance of the time period in which they were to apply, with similar rates set for services considered to be similar. Fees could be set on the basis of average charges billed in previous years, the cost of providing the services, or rates negotiated with providers. Fee schedules could also incorporate any changes desired in the relative prices paid for different services depending on their location or content.

Once developed, a fee schedule could be used in different ways. Medicare could treat the scheduled fee as the maximum allowable charge, but pay physicians a lower amount if they billed less. Or, Medicare could pay all physicians the applicable scheduled fee regardless of what was billed. In addition, Medicare could either require providers to accept the scheduled fee as full payment, or could pay beneficiaries the scheduled fee and permit providers to bill beneficiaries for additional amounts.

Payment for Packages of Services

This set of alternatives would package related services and pay for them as a unit. In comparison with the present system, changes could occur in the scope of services, recipient of payment, and method of calculating rates. Calculation of rates for most of the packages would require consideration of variation in resource use among patients and potential financial risk to the physician or other recipient of payment.

The scope of services included in a package could range from a visit under an ambulatory visit package to all physician, ancillary, and possibly facility services under a total episode of care for a particular illness. Collapsing procedure codes would reduce the number of billing codes for services that have little distinction, such as “brief” and “limited” office visits. The codes would be redefined as a single more comprehensive one (in this example, a short visit).

A more diverse package is the ambulatory-visit package, in which an ambulatory visit to a physician and all ancillary services associated with that visit would be paid at a single rate. The rate could vary depending on the patient’s diagnosis or reason for the visit. A third alternative, the special-procedure package, would pay a single rate for all physician services (including anesthesiologists and consultants) associated with a single procedure, such as cataract surgery. A variation of this alternative could include ancillaries and facility expenses for ambulatory procedures as well.

Other possible variations of packages are packages for an ambulatory episode of care, an inpatient episode of care, or a total episode of care, which would include both ambulatory and in-

patient services. Payment for inpatient physician services for the inpatient-episode-of-care package, for example, could be made according to diagnosis-related groups (DRGs) or other case-mix classifications. Such payments, which would include the services of attending physicians, anesthesiologists, and consultants, could be made to the attending physician, the medical staff, or the hospital.

The goal of this set of alternatives is to contain Medicare expenditures by giving providers financial incentives for the more judicious use of resources, whether they be ancillary services, consultants, or facilities. The intention of payment for a package such as cataract surgery is that the attending physician consider cost more heavily than at present when ordering ancillaries, seeking consultations, or choosing the site for the surgery.

Cavitation Payment

Under this set of alternatives, Medicare would pay a fixed amount set in advance and independent of the actual use of services for care to be provided beneficiaries during a certain time period. Although Medicare beneficiaries currently have the option of enrolling in HMOs paid on a capitation basis, cavitation payment for all beneficiaries would entail changes in the recipient of payment, scope of services, and method of calculating rates.

The recipient of cavitation payment could be a risk-sharing plan, such as a traditional HMO. Alternatively, the payment could be made to geographic fiscal intermediaries, which would receive payments for all beneficiaries in that region. In both cases, beneficiaries would continue to have as one option continuation of present coverage, cost-sharing, and receipt of care from providers paid fees for services. This report considers two variations in the scope of services: 1) all acute and chronic care that lies outside of Medicare's payment system for hospitals facility expenses, and 2) all ambulatory and inpatient services. Calculation of cavitation rates would require attention to differences in medical expenditures among beneficiaries and the potential financial risk to the recipients of payment.

Payment of a fixed amount per beneficiary is intended to curb expenditures by giving providers a financial incentive to use the most cost-effective level and mix of medical professionals, sites of care, and other resources in managing patient care. Payment by cavitation does not necessarily imply that individual physicians receive payment on a per capita basis, however. If the carrier received the cavitation payment, for example, it could still pay physicians by fee for service or some other method.

DIMENSIONS FOR EVALUATING PAYMENT ALTERNATIVES

The payment alternatives discussed in this report are evaluated across five dimensions:

- quality of care,
- access to care,
- cost,
- technological change, and
- administrative feasibility.

These dimensions emanate from the goals of the Medicare program and concerns about its present shortcomings. The Medicare program was intended to help elderly and disabled people who needed assistance in meeting medical expenses (491). Concern with access to good quality care

was evident from the start of the program in requirements that providers had to meet *in order* to participate (487). Later amendments to the Social Security Act added utilization review and quality assurance, first by professional standards review organizations (Public Law 92-603) and later by utilization and quality control peer review organizations (Public Law 98-21). Cost is now a primary issue because current interest in reform of Medicare physician payment has been aroused by ever-rising program expenditures. These three dimensions—quality, access, and cost—are ones by which the medical care system in general and programs in particular are typically evaluated.

Technological change merits attention as a separate dimension because of the great influence that the Medicare program has on this activity as part of Medicare's impact on the financing and delivery of medical care throughout the United States. In addition, administrative feasibility is examined separately from cost and quality, to which it relates, because it pertains to the ease with which changes in physician payment could be implemented.

Quality of Care

Quality of care, given the existing state of medical science and art, is the degree to which actions taken or not taken maximize the probability of beneficial health outcomes (health improvements) and minimize risk and other untoward outcomes. Health improvements include changes in the level of physical, psychological, and social functioning (108).

Quality is a multidimensional concept that depends on both technical and interpersonal aspects of medical care. Technical care entails the application of science and technology and encompasses the preventive, diagnostic, and therapeutic procedures performed for a person's medical condition. Interpersonal aspects or the art of care concerns the demeanor of the provider in delivering care and communicating with the patient, (63,108).

Unlike recent definitions (108,194), this conception of quality does not include clinical efficiency, that is, "the ability of the physician to arrive at a favorable solution to the patient's problem while consuming the minimum amount of resources necessary" (61). Consideration of what care is appropriate for a person's medical condition certainly entails weighing the implications for the use of resources and their costs against the net health benefits that are expected. However, this report considers net health benefits, costs, and efficiency as different concepts. The approach in this report permits examination of the multiple effects of a payment alternative and identification of the tradeoffs that may be needed among cost containment and added health benefits.

This approach is also consistent with the present situation, in which deficiencies exist on clinical as well as efficiency grounds (483). Numerous

reports and commissions have concluded that much medical technology has been used with insufficient evidence of its efficacy. In addition, some technologies, such as diagnostic tests or hysterectomy, have been used when they provide little or no additional health benefit and may even harm the patient, while other technologies, such as vaccinations and hypertension monitoring, could greatly improve health if used more extensively (481,482).

Studies to evaluate quality of care have often had difficulty measuring and evaluating outcome, especially the effect on the patient, because information was not available or because a person's health status depended on factors other than medical care. Patient outcome is also difficult to evaluate because it may change over time; whether a patient's health status is judged to be improved may depend on when it is measured. Therefore, many studies have used the process of care, what a provider does for a patient, and the structure of care, the characteristics of facilities or providers, as proxies to evaluate the quality of care. However, specific process measures, such as the use of a certain test, and structure measures, such as board certification of a specialist, are valid proxies only if they are associated with better quality care.

Access to Care

Access is the ease with which a beneficiary can obtain medical care. Access depends in part on the ability of people to overcome financial, spatial, psychological, or social obstacles to obtain care. It also depends on the accessibility of the medical care system to people, which in turn depends on the characteristics of the organizations and individuals that provide care.

Access is related to both quality and cost. The ease with which people are able to obtain medical care affects the kinds of services that they receive and hence affects quality. The extent of patient cost-sharing when services are performed is part of financial access and directly affects the implications of a particular payment alternative for beneficiaries' cost.

Despite its close relationship to these other dimensions, access is considered separately here

because of its importance to equity. Not only do physician payment alternatives vary in the financial and bureaucratic barriers to obtaining care that they present, but these barriers may well impede access for some groups, such as poor and frail people, more than others. Separate consideration of access will highlight any such problems for equitable treatment of beneficiaries.

The extent to which physicians accept assignment for Medicare claims is closely related to patients' access to care. If a physician does not accept assignment for a service, he or she can bill that patient for an amount greater than the Medicare-determined allowed charge for the service. This additional amount could impede access to care for patients to whom it presents a financial barrier. However, as discussed in chapter 2, access and assignment are not synonymous. The relationship between the level of assignment and degree of access is not clear because it is not known whether the current rate of assignment represents a real barrier to many patients' ease in obtaining physician services. Nevertheless, it is reasonable to assume that an increase in assignment rates will improve access for at least some patients, and a decrease in assignment rates will reduce access. Thus, changes in assignment rates may be interpreted as changes in the accessibility of the medical care system, even though the current degree of accessibility has not been quantified.

Costs and Efficiency

In subsequent chapters, the implications of physician payment alternatives for medical care expenditures are considered from several perspectives. One is that of the Medicare program. As documented in chapter 2, expenditures on physician services have been rising by as much as 20 percent per year, a particularly disturbing trend in times of growing budget deficits and a particularly noticeable one in light of recent declines in the growth of hospital expenditures.

Another perspective is that of Medicare beneficiaries. The financial implications of a physician payment alternative for beneficiaries may well differ in magnitude and direction from the implications for the Medicare program. Beneficiaries'

costs now consist of premium payments for Part B coverage, a deductible amount, coinsurance for certain assigned services (see app. C), and, if the physician's charge exceeds the Medicare approved charge, any balance that the physician bills the patient for unassigned services. Under the current system, in which fees are paid for services performed and physicians have the option of taking assignment, a beneficiary's out-of-pocket costs depend on the volume of services used, the prices charged, and physicians' decisions about accepting assignment and billing beneficiaries above the approved charges.

Costs may also be considered from the perspective of society as a whole. It is possible that Medicare's payment policies or physicians' billing and practice patterns may shift costs from Medicare or beneficiaries to (or from) other payers, such as employers who buy health insurance or State and local governments that are responsible for the medical care of indigent people. Of course, expenditures for medical care constitute income from the perspective of physicians and other medical providers. The payment alternative chosen affects whether these groups gain or lose income compared to the present situation.

The level of costs matters to policymakers who are concerned about Medicare's budget and to beneficiaries who are living on fixed incomes. An issue in addition to the level of costs, however, is the efficiency with which resources are used to deliver medical care. There are two types of efficiency. Productive efficiency describes the performance of a service or delivery of medical care of a given quality with the least expenditure of resources. Allocative efficiency concerns not only whether care is provided as cheaply as possible given its quality and quantity, but also whether the costs expended for the additional care are worth the expected benefits to be gained. Efficiency rather than the level of costs addresses whether resources are being used appropriately in medical care or whether more benefit could be gained from applying them to different uses in medicine or elsewhere in society.

A major shortcoming of present physician payment has been the lack of cost consciousness and financial incentives for efficiency among providers, patients, and payers (129,367). As a result, indi-

vidual services have often been performed inefficiently, such as using unnecessary consultants and assistants for surgical cases and ordering duplicative laboratory tests to diagnose myocardial infarctions. Inefficiency also exists in the treatment of medical conditions with an inefficient mix of services, such as performing surgery for a cardiac condition that could be treated medically with a better or equal outcome or treating a case of influenza that could have been prevented with prior immunization.

Technological Change

Since Medicare pays 17 percent of the income of physicians as a group and as much as 35 percent for some specialties, such as thoracic surgery (353), that care primarily for elderly people, how Medicare pays for physician services and associated medical care can exert substantial leverage over prices and uses of medical technologies throughout society. The adoption of Medicare's payment methods by other payers reinforces these direct effects. Through its influence on the market for medical care, Medicare in turn shapes the market for medical devices and other technologies and affects the direction and extent of medical innovation (487).

Until recent changes in Federal and State payment for inpatients, payment policies encouraged manufacturers to develop and market sophisticated products that increased quality of care and that were directed to acute hospital care. Technological development has slighted cost-saving devices, since potential purchasers had little incentive to adopt them, and preventive and rehabilitative devices, which have been much less

likely to be covered by Medicare and other insurance.

With the greater payment limitations on inpatient care and clinical laboratories, market incentives are now fostering the development of devices for ambulatory settings, especially for physicians' offices. State certificate-of-need laws, which regulate the purchase of expensive equipment and construction of facilities, contain similar incentives since they have applied to hospitals and certain other facilities, such as dialysis centers, but rarely to physicians' offices. As of April 1985, only 13 States and the District of Columbia had certificate-of-need laws that applied to some or all major equipment acquired by non-hospital ambulatory care facilities and one State (Maryland) required that costly technologies in all settings be licensed (11).¹

Administrative Feasibility

Although all of the physician payment alternatives considered in this report are feasible to administer, they all require some changes in administration, especially for the Medicare contractor or carrier (see app. D). These changes range from different methods of determining Medicare's approved charges and different coding procedures to negotiating with providers and assuming financial risk for utilization. Consideration of these differences will highlight changes necessary to implement the alternatives.

¹The 13 States are Colorado, Connecticut, Iowa, Missouri, Montana, New Hampshire, North Dakota, Rhode Island, Utah, Virginia, West Virginia, Wisconsin, and Wyoming (11).

SPECIFIC MEDICAL TECHNOLOGIES FOR SUBSEQUENT ANALYSIS

In order to provide some concrete examples of the way in which different physician payment methods might affect medical technologies, subsequent chapters on specific payment alternatives will consider the implications of payment reform on five technologies:

- pneumococcal vaccination,
- clinical laboratory testing,

- cataract surgery,
- magnetic resonance imaging (MRI), and
- extracorporeal shock wave lithotripsy (ESWL).

These five examples can illustrate potential payment effects on a diverse set of technologies. Pneumococcal vaccination is a preventive technology that is low in cost and underused by the Medicare population (485). Clinical laboratory testing

is a diagnostic technology, consisting of many high volume, relatively low-cost procedures. Cataract surgery is a well-established therapeutic technology also performed at high volume on Medicare patients. Finally, MRI and ESWL are diagnostic and therapeutic technologies, respectively, that are new, expensive to purchase, and undergoing rapid technological change. All five technologies can be provided in more than one setting: hospital outpatient departments, inpatient settings, freestanding ambulatory facilities, or physicians' offices. Thus, these examples can illustrate the ways in which alternative physician payment methods might affect the site of care.

Pneumococcal Vaccination

The vaccine to protect against pneumococcal pneumonia, which represents about 14 percent of all pneumonias, is the only preventive technology that is part of Medicare's benefits for all beneficiaries. Covered by Medicare since July 1, 1981 (Public Law 96-611), the vaccine is indicated for use among persons with certain chronic illnesses, who are at a higher than average risk of contracting pneumococcal infection. The Centers for Disease Control's Immunization Practices Advisory Committee also recommends that all older persons, particularly those over age 65, receive the vaccine even if they are otherwise healthy (386). Nevertheless, estimates based on vaccine sales and physician surveys suggest that only 10 to 25 percent of elderly people have been vaccinated (397, 485).

Pneumococcal vaccination is a relatively stable technology. Since its approval by the Food and Drug Administration (FDA) in 1977, the vaccine has undergone one major change: In 1983, FDA approved a vaccine with capsular polysaccharides of 23 of the 83 pneumococcal types, an increase from the previous vaccine with 14 types (545). The 23-valent vaccine provides coverage against types that cause 90 percent of pneumococcal bacteremia and is marketed by two manufacturers (485). A single injection probably provides effective coverage for at least 3 to 8 years in elderly adults (485).

The vaccine is an inexpensive technology as well, though the average Medicare allowed charge is probably lower than the average physician's

charge for administering a dose. The average charge per dose was estimated at \$11.37 in 1978, \$4.90 for the vaccine and \$6.47 for the physician's fee to administer it (485). In 1983, the average price for the vaccine had actually decreased to \$4.43. If physicians' charges had increased at the same rate as the Consumer Price Index over those 5 years (57.9 percent), the average physician's injection fee would have increased to \$10.22. Total average charge for the vaccine in 1983 was therefore approximately \$14.65 per person. Medicare approved charges vary by carrier and geographic region; in 1985, the approved charges of four carriers ranged from \$7.00 to \$11.10 (397), which assumes a low approved charge for injection. One Florida Medicare carrier, for example, reimbursed for pneumococcal vaccination at a rate of \$5.50 for the vaccine itself plus \$2.00 for the injection fee (105).

It has been estimated that pneumococcal vaccination for a person age 65 or older could provide on average an additional 0.5 day of healthy life for about \$8.00, or a rate of about \$6,000 to gain a year of healthy life (485). The cost to the Medicare program was higher, estimated at about \$8,000 per year of healthy life gained because Medicare does not pay for the total medical expenditures of program beneficiaries and therefore reaps only part of the savings in treatment costs due to a reduction in pneumococcal pneumonia.

Medicare pays 100 percent of the allowed charge for pneumococcal vaccination; beneficiaries are liable for neither deductible nor coinsurance. They are, however, liable for any charges in excess of the allowed charge if the physician does not accept assignment. Since pneumococcal vaccination is a Part B service, hospitals can bill Medicare for the vaccine separately from inpatient facility services, which are paid according to DRGs (485).

The use of preventive technologies for adults, such as pneumococcal vaccination, has characteristically been low, even among the patients of physicians who support their use (363). Neither adults nor the clinicians who care for them have been attuned to prevention in the way that parents and pediatricians have been for children. Although the extent to which financial incentives can affect physicians' decisions to use preventive technologies including vaccines is unknown, pneumo-

coccal vaccination has faced special barriers. Uncertainty surrounded efficacy when the vaccine was first marketed in 1978. Although the Immunization Practices Advisory Committee strengthened its recommendations in 1984, the initial situation may have discouraged clinicians from recommending its use. In addition, people are unlikely to feel threatened by pneumococcal pneumonia because public awareness of the disease is low. Nor is it clear that clinicians perceive that elderly people are at higher risk from the disease (485).

In September 1985, the Health Care Financing Administration awarded two demonstration projects to organizations that will offer packages of preventive services to Medicare beneficiaries and assess the cost-effectiveness of these services over a 6-year period. Payment for the package is limited to \$100 per year. The package to be offered by the University of North Carolina includes both pneumococcal and influenza vaccinations (441).

Clinical Laboratory Testing

Clinical laboratory testing is of interest because it is an example of a technology that has low per-unit but high aggregate costs (145) and may at times be overused or inappropriately used. In addition, it is a technology that is undergoing rapid and significant change.

Laboratory tests are ordered by physicians for a wide variety of reasons. Test results may be used to assist in diagnosis, as with fecal tests to detect colon cancer; to establish clinical baseline values, as with tests of blood components; to monitor therapy, as with tests for drug levels in the blood that can indicate whether a patient is adhering to a prescribed drug regimen; or simply to reassure patients that a disease is absent or under control. An increase in "defensive medicine" may also play a role in physicians' decisions to order tests (284). Total revenues for clinical testing services in the United States have been estimated at \$20 billion, making it a highly important component of the health care market (159).

Most clinical laboratories today are highly automated, and current technological trends are to make them more so. The increasing automation combined with smaller equipment and a va-

riety of diagnostic test kits has made the performance of most routine tests practical for group practices and even for individual physicians' offices. Advances in biotechnology have supported rapid change in testing methods through the use of monoclonal antibodies and other technologies to enable rapid, simple, and accurate *in vitro* diagnostic testing (484), and more dramatic changes are imminent.

Historically, most testing has been done in hospitals, and about half of it still is (159). Independent and reference laboratories perform about a quarter of clinical tests. The most significant change in site of testing, however, is the return toward testing in physicians' offices, which accounts for the remaining 25 percent of clinical laboratory tests. Approximately 50 to 60 percent of all office-based physicians conduct some clinical laboratory tests in their offices, drawing approximately \$5 billion in clinical testing revenues (159). Many of these physicians are in group practices, a target market for new technologies such as a recently developed blood analyzer (114). Some tests, such as those that indicate the possible presence of colon cancer or diabetes, have even been developed for home use by patients.

Payment for clinical laboratory testing has been as dynamic an area as changes in the technology. Before July 1984, physicians could bill Medicare for the laboratory services they ordered, regardless of whether the tests were actually performed in the physician's office or in an outside laboratory (332). If a physician's claim indicated that the test was performed in the physician's office, Medicare paid physicians 80 percent of the reasonable charge (less any beneficiary deductible) (487). If the test was performed outside the physician's office, Medicare would pay the physician laboratory's approved charge plus a \$3 handling fee. The physician would then pay the laboratory. If the physician did not accept assignment, the beneficiary in either case would be liable for all physician charges above the Medicare reasonable charge. Thus, the total payment to the physician for the test could be considerably higher than the laboratory's charge. Under this system, the physician might reap a financial reward for ordering the test even though it was actually performed elsewhere.



Photo credit: American College of Physicians, HEAL THSCOPE film series

Some devices for clinical laboratory testing, such as this blood glucose monitor for diabetic patients, have been developed for home use.

More recent changes in the law have eliminated this financial reward to physicians who act as intermediaries, increasing the incentives for physicians to perform tests themselves (487). The Deficit Reduction Act of 1984 (Public Law 98-369) prohibited physicians from billing for laboratory services unless they are performed in a physician's office. It also established Medicare maximum payment levels for laboratory services, for a 3-year period beginning in 1984, at a fixed percent of the prevailing fee levels for each service (60 percent for physicians' offices, independent laboratories, and hospital laboratories serving nonhospital patients; 62 percent for hospital laboratory services to hospital outpatients). These fee levels are adjusted annually according to the Consumer Price Index; the maximum increase in payments for laboratory services provided from July 1985 through

June 1986 has been set at 4.1 percent (351). In 1987, a national fee schedule, presumably based on a method other than prevailing charge levels, will be developed for tests performed in physicians' offices and independent laboratories (487). Hospital laboratories, however, will revert to cost-based payment (as before 1984) unless an alternative payment mechanism is devised.

The Deficit Reduction Act also changed arrangements regarding assignment for tests in physician's offices and independent laboratories. Independent laboratories and hospital laboratories serving outpatients must accept assignment, but Medicare will pay 100 percent of the fee schedule, thereby waiving coinsurance and deductible requirements for tests in these settings. Physicians who conduct their own tests may choose to accept or decline assignment, but if they accept, Medicare will again pay 100 percent of the fee schedule, waiving coinsurance and deductible. If they decline assignment, of course, the beneficiary is liable for both the deductible and a coinsurance equal to 20 percent of the Medicare-approved rate for the tests, plus any excess about the fee schedule amount. If the physician does not actually perform the test, Medicare payment to the physician is limited to a maximum payment of \$3 for specimen collection, handling, and test interpretation.

Hospital laboratory services to nonhospital patients are considered to be identical to independent laboratory services, and assignment is mandatory. For services to the hospital's own outpatients, the hospital is constrained by its Medicare provider agreement to accept Medicare payment as payment in full, effectively mandating "assignment" in these cases as well. In both cases, Medicare pays 100 percent of the fee schedule rate, so no beneficiary deductible or coinsurance is necessary (88).

Cataract Surgery

As one of the most frequent surgical procedures performed on the elderly (69,468), the removal of cataracts—a clouding of the lens of the eye—receives considerable attention from the Medicare program. The practice of cataract surgery has undergone major changes in the past few years. Once a major hospital procedure that involved a long

stay and post-surgical vision correction with heavy spectacles, cataract removal is now a delicate but streamlined procedure that is commonly performed on ambulatory patients (161). In about 85 percent of cases, it now also includes the implantation of a prosthetic intraocular lens (IOL) to replace the natural one extracted from the eye (385). By comparison, in 1980 fewer than half of cataract extractions included an implantable lens (385).

Medicare is the foremost payer of cataract surgery; persons over 65, most of whom are covered by Medicare, account for nearly 83 percent of inpatient cataract extractions (69). Concern has been expressed that in a few cases, this procedure is performed unnecessarily in patients whose cataracts did not yet impede their everyday activities (479).

Cataract surgery is a particularly interesting procedure because of the wide variety of settings in which it can be performed under Medicare. These include hospital inpatient settings, hospital outpatient departments,² ambulatory surgical centers (ASCs), and other ambulatory settings not certified by Medicare as ASCs. (These settings are often referred to for Medicare purposes as “physicians’ offices,” although they may look nothing like the traditional office of a physician in solo

practice.) Table 3-1 summarizes Medicare reimbursement for cataract surgery in various settings.

Reimbursement for costs associated with cataract surgery fall into three categories. First are the facility costs, which include surgical equipment, routine medical supplies, and nonphysician staff. Second are the professional costs for ophthalmic surgeons and surgical assistants. Third is the cost of the IOL, which is reimbursed as a prosthetic device. In certified ambulatory settings, these three components are reimbursed separately under Part B. For hospital inpatients, the facility and IOL costs are reimbursed under the Part A DRG rate; only professional fees are reimbursed under Part B. In noncertified ambulatory settings, Medicare Part B pays the approved portion of the physicians’ professional charge and the charge for the IOL. Medicare will not make any additional payment for the technical (facility and equipment) charges of physicians performing cataract surgery in this setting.³

Medicare hospital payment incentives and utilization controls have encouraged the trend toward ambulatory rather than inpatient cataract surgery. Hospitals are now paid a fixed rate for all services associated with the procedure when it is performed on inpatients, giving hospitals an incentive in many cases to provide it to ambulatory patients instead, for whom costs in most

²Hospital outpatient departments can choose if they wish to be certified and treated for payment purposes as ambulatory surgical centers (ASCs). However, once this choice is made the outpatient department is subject to all of the constraints and payment methods imposed on ASCS (47 FR 34082).

³Medicare will pay a technical fee to the physician only for certain services, such as radiology, that are “incident to” treatment and have high equipment costs (202).

Table 3-1.—Medicare Payment and Beneficiary Liability for Cataract Surgery With Intraocular Lens (IOL) Implantation in Four Sites of Care

	Site of care			
	Hospital inpatient	Hospital outpatient	Ambulatory surgical center	Other ambulatory
Medicare payment				
Facility payment	100% DRG rate	80% reasonable COST	100% ^b class 4 rate	0
Physician payment ^c	80% approved charge	100% ^b approved charge	100% approved charge	80% ^b approved charge
Intraocular lens (IOL) payment	Included in DRG rate	80% ^b approved charge	80% ^b approved charge	0
Beneficiary liability ^c	20% ^b physician's charge	20% facility cost + 20% IOL charge	200% IOL charge	20% ^b physician's charge + 200% IOL charge

^aExcept for those hospital outpatient departments that have chosen to be certified as ambulatory surgical centers.

^b150% if intraocular lens implanted.

^cIf physician accepts assignment. If not, beneficiary is liable for all charges over Medicare's approved charge.

SOURCE: 47 FR 34082; 47 FR 34099.

cases are still reimbursed as incurred. Inpatient cataract surgery is also being monitored by many utilization and quality control peer review organizations, the prospective payment system's utilization control mechanism, which is intended to prevent hospital admissions of low-risk cataract patients that would otherwise be profitable for the hospital.

Unlike hospital outpatient departments, which are paid according to their costs, ASCs are paid according to a fixed rate schedule (47 FR 34082). The facility cost portion of the cataract surgery procedure in an ASC is reimbursed at a single per-case (class 4)⁴ rate under Medicare Part B. Beneficiaries receiving cataract surgery services in this setting are subject to neither deductibles nor copayments.

At present, Medicare physician payment incentives for cataract surgery also tend to reinforce the trend toward ambulatory surgery. Since beneficiaries who undergo cataract surgery in hospital outpatient or freestanding ambulatory surgical settings are not liable for any copayment (47 FR 34082), physicians who accept Medicare assignment have a more assured reimbursement if they perform the procedure in these settings.

Beneficiaries probably pay the least when they undergo cataract surgery performed in certified ASCs by physicians accepting assignment; in this setting beneficiaries are liable only for a portion of the charge for the IOL. In all other settings, beneficiaries are responsible for the Medicare Part B deductible and at least a 20-percent coinsurance of the physician's charge (in hospital inpatient and noncertified ambulatory settings) or the facility and IOL costs (in non-ASC hospital outpatient sites).

Magnetic Resonance Imaging (MRI)

MRI has gained attention as a potentially powerful new tool to complement the current diagnostic imaging armamentarium. Two characteristics make it particularly attractive. First, it uses electromagnetic fields instead of ionizing radiation to

⁴Class 4 has the highest payment level of the four ASC rate categories. If the cataract extraction includes implantation of an IOL, the ASC received 1.50 percent of the class 4 rate.

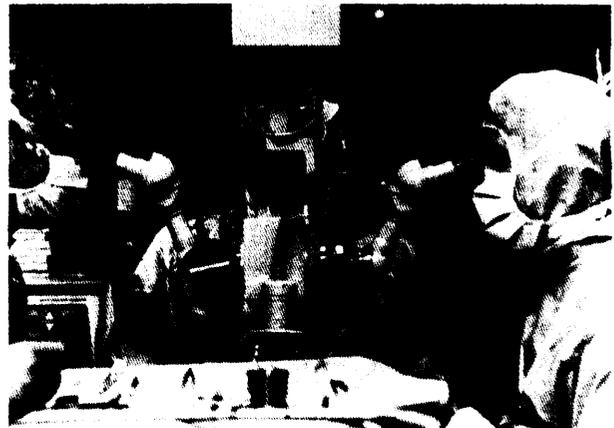


Photo credit: Georgetown Medical Bulletin

Medicare payment incentives reinforce the trend for cataract surgery, shown here, to be performed in ambulatory settings.

produce images, so it lacks the ionizing radiation dangers of traditional X-ray and X-ray computed tomography (CT) scanning. Second, MR images are not distorted by signals from bone, a problem with conventional X-rays. But the powerful magnets that make MRI a novel and promising technology come at great expense. The cost of MRI, the logistical problems involved in providing it, and the uncertainty about the scope of its future applications have acted to slow its diffusion (234,449).

Although MRI holds tremendous potential to advance diagnostic science and to replace other riskier modalities, it is largely unclear what the clinical role of MR imaging will or ought to be (234). At present, there are special indications for MRI only for anatomic areas that have never been adequately imaged by conventional modalities. For example, MRI is the modality of choice for scans of the posterior fossa region of the skull and the cervical spine and is a promising modality for imaging the pelvis, where the absence of ionizing radiation is particularly important (234). In the near future, most clinicians are likely to view MRI as a complement rather than as a substitute for X-ray CT or other diagnostic technologies.

It is possible for the use of MRI to skyrocket as its uses become better defined. The central nervous system, as the most heavily explored area to date, offers the greatest potential for extensive

MRI use. Some researchers already consider MRI the modality of choice for initial screening of suspected brain disease. MRI's well-documented ability to delineate the plaques of multiple sclerosis may lead to its use for nonspecific complaints, mostly for patients younger than most Medicare beneficiaries. If MR technology improves as expected in cardiac and tumor imaging, the potential for widespread applicability in a Medicare population would also grow. At present, however, much of the clinical experiences is anecdotal, not from controlled trials (234).

MRI at this point in its development is a classic case of diagnostic methods' outstripping therapeutic options. Obtaining a definitive diagnosis may be a desirable outcome in itself, but therapeutic limitations may make it unlikely that diagnosis will change the course of a patient's illness. For cerebella and brainstem infarctions, for example, which by virtue of their location in the posterior fossa offer indications for MRI, little can currently be done to alter the prognosis for most patients (234). MRI has the potential to be useful in certain diseases such as some tumors for which treatments have been more successful, and greater knowledge about disease processes may ultimately lead to therapeutic advances. However, because the value of MRI in altering therapy or improving quality of care has not been adequately studied, it is difficult to ascribe an appropriate position for MRI in the provision of good quality medical care (234).

Another major source of uncertainty to MRI purchasers concerns technical developments (449). Prospective buyers must choose among MRI systems with different types of magnets (resistive, permanent, and superconducting) and different magnet strengths, and considerable debate surrounds the relative efficacy and cost effectiveness of the different systems. The costs of equipment and site preparation range from about \$1.7 million to \$2.4 million, depending on the type and field strength of the magnet (447). An additional complicating factor is that magnetic resonance is also used to perform MR spectroscopy, which indicates relative concentrations of different compounds in tissues or organs. MR spectroscopy requires high field strengths and, although it has great promise, it is still in a research phase and

its clinical importance is unclear (449). Providers do not want to purchase an unnecessarily expensive imager, but neither do they want to purchase a (still costly) less expensive device that will be outmoded in a few years. Nonetheless, a variety of physicians, including radiologists, neurosurgeons, neurologists, and cardiologists, envisage MRI as an important future component of their practice and are learning to perform it (234).

Governmental policies have most likely slowed the diffusion of MRI and affected its distribution. By the end of 1984, 4 years after MRI's introduction into the United States, 108 MRI units were installed in the United States, 39 percent in ambulatory settings (449). MRI diffusion has been occurring during a period when payment for inpatient services has been undergoing great change. Medicare's payment of operating expenses by DRGs has constrained its payments to hospitals and given hospitals a financial disincentive to use technologies such as MRI that are likely to increase the cost of caring for patients. Although capital expenses connected with the purchase and installation of equipment have continued to be paid on a cost-reimbursement basis, approaches are being developed to include capital in the prospective payment system. In addition, as mentioned above, State certificate-of-need laws for the most part apply to hospitals but not to ambulatory sites, such as physicians' offices or ambulatory diagnostic imaging centers. Since both payment and planning policies constrain hospitals much more than ambulatory settings, the predictable result is an increased tendency to install expensive new technologies such as MRI outside of hospitals. It is noteworthy that after a comparable period of diffusion in the United States, 18 percent of X-ray CT scanners v. 39 percent of MRI units were in nonhospital settings (449).

Total charges for MRI scans, consisting of a technical (facility) fee and a professional (physician) fee, have ranged from \$450 to \$1,000 (234). There is virtually no Medicare experience in paying for MRI. HCFA has approved paying for the use of MRI for certain purposes only since November 22, 1985 (20), although a few Medicare carriers apparently chose to accept MRI claims before this date (234). At present, the use of MRI does not increase payment to ASCs or to hospi-

tals using it to diagnose inpatients.⁵ HCFA is developing guidelines for carriers regarding paying physicians a technical as well as a professional fee for MRI performed in nonhospital settings (55).

Eighty percent of the top 30 commercial insurance companies were paying for MRI services on a routine or case-by-case basis in January 1985 (234), but only 20 percent of the 70 Blue Cross-Blue Shield plans were paying for MRI in July 1985 (210).

Extracorporeal Shock Wave Lithotripsy (ESWL)

Like MRI, ESWL is a new and expensive procedure that has excited considerable interest. Unlike MRI, its costs and applications are relatively simple to define. It has only recently been approved as a reimbursable procedure by Medicare (301), and most carriers do not yet have any experience paying for it. Its cost-saving potential, however, has made most payers—including Medicare—eager to include it as a covered service.

ESWL uses shock waves produced outside the body to disintegrate kidney and other upper urinary stones, eliminating the need for traditional open surgery in most cases (18). The current model of the device used for ESWL is large and expensive to purchase and requires its own facility. Nevertheless, if used by enough patients (over 1,000 per year), it results in a per-patient treatment cost considerably lower than that for open surgery, primarily because it requires a very short hospital stay (18). Some centers even offer ESWL to ambulatory patients.

Because of anticipated lower costs per treatment, ESWL promises to be a profitable technology for those hospitals that provide it, particularly if these cases are reimbursed at the same rate as open surgery. However, the high fixed costs of the extracorporeal lithotripter (about \$2 million for purchase and installation of the current model) make it less expensive than the alterna-

tives only at high volumes of use. Because the number of kidney stone patients is limited, it is probable that more devices will become available than are justified strictly by the number of patients who would have undergone stone surgery otherwise. If this is the case, the eligibility criteria for ESWL might be expanded to include many patients with less serious stones in addition to those otherwise eligible for surgery, leading to an increase in demand for the service (431). In the future, the technology itself may be applied to patients with lower urinary stones and gallstones, but the present device is not approved by the Food and Drug Administration for these purposes (379).

Medicare reimbursement for ESWL is similar in structure to that for surgery. Medicare's share of the capital costs of its purchase and installation are reimbursed at cost through Medicare Part A, though it is possible that these costs will be incorporated in the DRG rate in the future. The hospital's costs of operating the device and of caring for lithotripsy patients are reimbursed (also under Part A) at the rate of the applicable DRG (#323 or #324 if no adjunct surgical procedures are performed). Physicians' charges for performing the procedure, of course, are reimbursed under Part B.

ESWL technology is undergoing rapid change. Although only one manufacturer, Donnier Systems, currently has approval from the Food and Drug Administration to market the device, a number of other companies are developing competitive devices. Medicare's per-case hospital payment system, which presently pays for ESWL at a DRG rate that is much lower than the rate for open surgery for kidney stones, makes these alternatives highly promising and has probably helped stimulate their development. Only a few hospitals can provide extracorporeal lithotripsy; fewer than 60 devices will be in place in the United States by the end of 1985 (378). A few nonhospital ambulatory centers are providing ESWL, but it is not an approved procedure in ASCS, and Medicare will not pay for its facility-related costs in this setting.

Other alternatives to open surgery besides ESWL are also expanding rapidly. Endoscopic procedures that can withdraw kidney stones through a narrow tract, rather than a large inci-

⁵At present, the use of MRI itself does not increase Medicare payment to a hospital, even though use of MRI for a patient may increase that hospital's costs. A possible alternative form of payment for MRI, which has been recommended in principle by the Prospective Payment Assessment Commission, is a budget-neutral DRG add-on for cases in which MRI is used.

sion, are proliferating simultaneously with ESWL. Like traditional surgery, these procedures require a surgical suite and require specialized endoscopic instruments costing up to \$50,000 as well (3).

A major issue at present is what and how physicians should be paid for ESWL. More specifically, payers are questioning whether physicians should be paid the same for performing ESWL as for the open surgery it replaces, since ESWL requires additional training on the part of practicing physicians but appears to take less time to perform (18,431). The few carriers thus far with any ESWL reimbursement experience are reimbursing the procedure at rates ranging from approximately \$1,200 to \$2,000, at or slightly lower than the surgical rate. In most cases, the rates were based on consultations with outside urology experts and negotiations with the respective lithotripsy centers (431). HCFA is developing guidelines to help car-

riers establish an approved charge for the service (431).

For the most part, kidney stone surgery, like most other surgical services, is reimbursed as a package that includes some preoperative and postoperative care by the urologist. Under the present system, an effort to reimburse for lithotripsy at a lower rate might stimulate some "unbundling," or redefinition of the service that results in physicians' billing for the procedure separately from some of the preoperative or postoperative visits now included in a single bill. Conversely, if ESWL is reimbursed at the same rate as major surgery, the physicians who perform it will reap a considerable profit. The existence of ESWL in a few regional centers, if it continues, could result in some form of price level negotiations between carriers and urologists performing ESWL, regardless of the structure of physician payment (431).