Administration of the Vascular Laboratory: Headaches for the 1990s

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As has been the case in many fields in medicine, noninvasive vascular testing techniques originated in research projects to provide more exact definition of normal and abnormal physiology. Early tests were cumbersome to perform, due in part to the lack of dedicated equipment. The introduction of Doppler ultrasound technology in the late 1960s expanded the horizon for vascular testing. By the early 1970s, vascular testing had moved out of the research laboratory into the clinical arena. Dedicated noninvasive laboratories were established within hospital settings as well as part of office practices. The addition of duplex scanning greatly enhanced the capability of noninvasive laboratories and contributed further to growth of noninvasive testing. By the end of the decade, the vascular laboratories were well established across the country. The 1980s saw a great increase in the number of vascular laboratories, as well as the number of tests performed. There appeared to be unrestricted potential for growth and, unfortunately, increasing examples of abuse were encountered. As could be expected, excesses did not remain unchallenged and increasing restrictions were placed on the vascular laboratories, primarily in the areas of payment policy and levels of reimbursement.

INCREASING EXPENSES

In the 1980s, the costs of providing vascular laboratory services were at a plateau; however, in recent years a number of factors have substantially increased the cost side of the balance. To develop reasonable budget projections for the present and future, it is important to understand this upward spiral. For many laboratories, one of the most important factors in the increasing cost has been the introduction of color-coded duplex technology. The new scanner costs at least twice as much as the conventional equipment it replaces. Not only is there the added cost of the initial purchase, but the continuing cost

of service contracts required to maintain the equipment in optimal condition has doubled. The color duplex is not necessary for some applications, but many laboratories have felt the need to invest in the new technology. The new equipment facilitates some studies and decreases the time required; however, in most settings the time saving is not of a sufficient magnitude to offset the equipment purchase and maintenance cost. Overall, clearly the cost per test with the state-of-the-art equipment is higher than before its introduction.

Increasing demands for availability of services have been responsible for major cost increases for some laboratories. One area where this has been particularly noticeable is in the demand for emergency duplex scanning after regular laboratory hours. In many settings, this became a problem only after duplex scanning became the technique of choice for diagnosis of deep vein thrombosis in the legs. Currently, this one test represents the vast majority of after-hour work. It is not only difficult to find the personnel to provide this coverage but it is also very expensive. In most settings the technologists are not only paid an hourly rate for being on-call but are usually paid a substantial bonus when they come in to do a test. The largest problem is that, in many cases, it is not possible to bill an additional amount to cover the cost of providing the after-hour service. When an additional billing is allowed, the level of reimbursement rarely covers the actual cost of providing the service. In many cases, the laboratory director has felt forced to provide the capability for emergency testing in response to an occasional legitimate emergency indication. Unfortunately, when the service is available, more of the emergency examinations are ordered for marginal or inappropriate indications. Where providing on-call services results in a significant loss to the laboratory, the director must consider implementing guidelines or directives to minimize the inappropriate use of emergency testing. In some situations, draconian measures may be required to effect any change in physicians' behavior!

Some laboratories suffer from responding to the pressure to provide "service on demand," such that the patient can be tested exactly when the referring physician desires rather than when time is available in the schedule. An example of this problem can be seen in an office-based vascular laboratory where surgeons may be seeing patients only at certain times during the week. To provide the testing at the same time the patient comes in for a physician visit, the staffing and equipment needs will be greater than if testing was spread out throughout the week. This results in a low average productivity for the laboratory staff and a resultant increased cost per examination. Any laboratory that has major daily fluctuations in the workload needs to reassess the scheduling policy and develop a realistic understanding of the additional cost of providing "service on demand."

Other items contributing to the increasing cost of vascular laboratory operations are the same factors causing the increased cost of the practice of medicine in general. One obvious problem area is in billing for services. The multiplicity of reimbursement policies and forms required by different agencies has required increasing clerical staff over the past years. Obviously, these are widely based problems and cost-savings will only be possible with streamlining of the entire billing process. The high cost of administrative overhead in medical reimbursement has been identified as a major problem by the national government, but it remains to be seen how much improvement will be brought about by upcoming health care reforms.

PAYMENT POLICY

In the early days of clinical vascular laboratories, the physicians managing them dealt individually with insurance companies regarding payment for services. As the modality became more widely accepted, reimbursement became less of an issue. To no one's surprise, the insurance companies began to realize that a growing amount of inappropriate, and in some cases fraudulent, testing was being carried out, resulting in development of policies restricting payments. Limits were established on which tests could be performed, for what indications, and with what frequency. In some cases, certain tests were denied coverage based on a conclusion that clinical efficacy of the test had not been established (eg, the Medicare ban on payment for venous reflex testing by photoplephysmography). The largest problem in this area resulted from the fact that no single accepted standard existed as to which tests should be performed and for what indications. This resulted in implementation of a wide range of policies. Ironically, even the Medicare system had great variations in payment policy. Generally, policies are not mandated by the Health Care Financing Administration (HCFA), but are established individually by each carrier that has the contract to provide coverage in a given region. This can result in the anomaly that a laboratory on one side of a county line may be reimbursed for a variety of tests that are denied to a laboratory on the other side of the county line. Not only do policies define indications, but they also specify how frequently a test will be reimbursed. The frequency issue can be very important, because carriers may have a liberal policy as to which test can be done, but will only pay for one examination a year.

One of the reasons for the wide variation in payment policies relates to the fact that, in the past, no established reference on testing indications and frequency has been developed by the profession. Indications for a specific test in a specific cohort of patients may be found in a wide variety of journal articles; however, until recently no overall guidelines have been published. One attempt to fill this void was the position paper developed by the members of the Western Vascular Society, one of the regional societies in the country. This publication provides at least one unified set of guidelines regarding appropriate use of vascular testing. An important step forward occurred in 1992 with the establishment of an ad hoc committee of Medicare Carrier Medical Directors charged with developing specific recommendations regarding reimbursement for noninvasive testing. Fortunately, this committee chose to seek advice from different professional groups involved with vascular laboratory testing. In early 1993, the Committee presented the recommended guidelines to Carrier Medical Directors. It is important to realize that these guidelines are not a HCFA mandate, but simply represent recommendations that individual carriers can accept, modify, or ignore. To date, it appears that approximately one third of carriers have adopted the guidelines as presented or with limited changes. It is our hope that in the near future most or all the carriers will adopt the guidelines to provide uniformity on payment policy across the entire Medicare program.

Major changes have occurred in the way the review for appropriateness is carried out on Medicare billings. Traditionally, much of the review process occurred at the time when the claim was reviewed initially. Beginning in 1993, the Congress required HCFA to implement a rapid transition from claims submitted as paper records to claims submitted by electronic transmission (this requirement was enacted as a response to widely based complaints from physicians regarding the length of time for reimbursement under the Medicare program). Under the new system, the carrier only receives the procedure code and indication code, so it is more difficult to evaluate appropriateness. The carriers have now shifted the emphasis to a post-payment review process. Each laboratory is required to maintain the appropriate records to justify the indications for every test billed. Individual facilities will be selected for audits and if the appropriate documentation is missing, they will be required to refund all payments made for those examinations for which proof of appropriate indications is lacking. Another effect of this change is that it places the responsibility for appropriate indication directly on the laboratory performing the tests.

PAYMENT SCHEDULES

When reimbursement for noninvasive testing began, the level of payment was either negotiated by individual physicians or established on some arbitrary formulas. Over time, reimbursement became based on the "usual, customary, and reasonable charges" principle, which was used to determine payment for most aspects of medical care. Levels of payment were based, largely, on previous history of charges. This approach often resulted in a wide range in the level of reimbursement. Payments for carotid duplex scan might vary as much as $100 within the same community. Likewise, great variation in payments between different parts of the country existed, even within the Medicare program.

The first major steps toward uniformity of reimbursement, unfortunately, came with a serious cutback in reimbursements under Medicare. Beginning in the late 1980s, growing pressure was applied to bring the rising cost of Medicare under some degree of control. In 1989, Congress mandated the creation of a new fee schedule that was to be based on the Resource-Base Relative Value Scale (RBRVS). A baseline reimbursement was established for each code in the AMA Current Procedure Terminology (CPT) listing. A geographic modifier, used to compensate for differences in cost in different parts of the country, provides an adjustment of the basic rate from -18% to +28% (this represented a much lower variability than existed in reimbursement rates in different parts of the country). The vascular laboratory was severely affected by the new levels of reimbursement. In many cases, while the payments allowed for physiologic tests were comparable to the amount paid before, that for duplex scanning was greatly reduced. A survey of cost factors in the vascular laboratory in 1991 showed an average of reimbursement for carotid duplex scanning of $238, contrasting sharply with the $148 allowed under the new fee schedule—a 38% drop. The explanation given for this undervaluation was two-fold. Although the new fee schedule was supposed to be "resource-base," only the physician's work component was related to resource or cost basis. Other components, including the entire technical components for the scanning procedures, were supposed to be based on historic charge data. Unfortunately for the vascular laboratory, the database on which the calculations were made was not only incomplete but contained erroneous data. Further injustice occurred with the failure to allow the Adjusted Historical Payment Basis (AHPB) for the duplex scanning CPT codes. This part of the initial legislation provided that a reimbursement rate should not change more than 15% from the prevailing charge in 1991. Unfortunately, the same flawed data that led to the undervaluation in the fee schedule also was used in calculating the AHPB. As a result, the entire 38% drop was suffered in the first year. The severe drop in reimbursement has had a major impact on laboratories, especially those operating with a relatively low volume. The 1991 cost of survey indicated that the average cost for a full duplex scan was $181, making the cost of performing the task considerably higher than the global or total reimbursement (including that portion allocated to the physician interpretation). Since the introduction of the fee schedule in January 1992, two relatively small adjustments were made for the scanning codes so that the current global rate is $160.

Even before the Medicare fee schedule was formally adopted, it became obvious that this nation-wide formula would serve as a guideline for other health care systems. The fee schedule was used as a basis for negotiating discounted contracts for physicians' services as early as the Spring of 1992. Although the contracts initially negotiated were not as low as the Medicare rates, there was a drop from previous payments. By 1993, several insurance carriers had redefined their payments at or a little above the Medicare rates. Continually, more examples are seen of insurance programs following the lead of Medicare.

CHANGING MODELS OF PAYMENT

Traditionally, most payments for medical care in our country have been based upon the fee-for-service concept. Classic indemnity health insurance paid for most services, with the amount determined by a profile established for the provider. This has certainly been the case for noninvasive tests. The first major blow to the laboratory came in the 1980s when Medicare established the diagnosis related group (DRG) approach to payment for nonphysician services to hospitalized patients. The technical component of a noninvasive procedure, which represents much of the total, is considered to be a part of the overall costs of hospitalization so that no separate payment is allowed. Presumably, a part of the overall hospital payment is credited to the laboratory's cost center; however, this often does not occur. Only the physician component could be billed, which is the first example of bundling of services.

In recent years, private insurance companies have resorted to contracting in an attempt to slow the rising costs of medical care. One tactic has been the preferred provider program in which the customer pays a lower premium in exchange for a limited choice of physicians and hospitals. The providers chosen for participation in such a plan are those who contract to provide services at discounted rates. Because of the lower premium charged, this type of insurance policy is attracting an increasing percentage of insured people (the ultimate case of a preferred provider is

the health maintenance organization [HMO]). Although in the past the noninvasive laboratory has not usually been involved in these contracted discounts, its volume of tests can suffer substantially if the facility in which it is based is not a preferred provider. One distinct possibility is that future contracting will require discounting for services such as noninvasive testing, so it is critical for directors of hospital-based laboratories to be involved in any negotiations that might affect them. Office-based facilities are not exempt from these pressures and it is likely they will have to get involved with discounting.

A recent development has been the package deal to pay for specific operations. These contracts provide a fixed reimbursement to cover all the costs (physician as well as hospital) related to the operation. Medicare has carried out a pilot study of global payment for coronary artery bypass grafts. The agency has reported a favorable initial experience and is considering expanding the program. Increasingly, HMOs are negotiating package contracts for specific operations such as organ transplants. Vascular laboratories should expect that this type of contract will be expanded to carotid endarterectomy. In such a situation, pre- and postoperative duplex scanning would probably be included under the contract and could not be billed separately.

The latest direction in health care payment is toward increasing use of capitation. Different entities (hospitals, professional groups, HMOs) would contract to provide all the services required to treat a specific range of conditions at a fixed rate per person per year for all the members of a given coverage group. For vascular problems, a model might be that a group of vascular surgeons (and possibly interventional radiologists) would contract to provide all needed diagnoses and treatments. It is likely that vascular laboratory services would be included in such a scenario. Critical to capitation is the concept of risk-sharing. If the cost of providing all the services exceeded the total payments in a given period, the contracting group rather than the insurance organization would have to absorb the deficit.

Both the package contract and the capitation model provide a strong disincentive to use of noninvasive testing. The laboratory might represent a risk. Only in those situations where a noninvasive test replaces a more expensive test is the laboratory an asset. While to date there is no experience with either of these models, it is critical for laboratory directors to study the implications these new approaches would have to their own operations and to be actively involved in the contracting process.

REGULATIONS

Legislative regulation is beginning to involve the vascular laboratory. The most prominent example to date is the ban on self-referral. This campaign has been led by Representative Fortney "Pete" Stark (D, California). His most recent effort, the Comprehensive Physician Ownership and Referral Act of 1993 (HR 345) prohibits referral of any Medicare patient to an entity in which the referring physician has a financial interest. Excluded from the ban are services provided within the office practice. The main problem for noninvasive testing occurs in the setting where physicians have established a laboratory clearly separate from their office practice. Although the current legislation applies to the federal programs, a section in the current health care legislation would extend the self-referral prohibition to all health care programs.

Currently, vascular testing is one of the few areas in medicine totally unregulated. With the growing interest in the quality of work for which health care programs are paying, growing interest exists in establishing some level of regulation. Vascular laboratories should anticipate legislation requiring either (a) proof of expertise of the individual technologists by mandatory certification, or (b) proof of the overall quality of the laboratory by an accreditation process.

The many pressures being placed on vascular laboratories in the 1990s represent major changes from the previous decade when noninvasive testing flourished. Reduced reimbursement has caused closure of some facilities, and others are threatened with the same fate in the near future. While large operations can achieve some savings through cutbacks, smaller ones do not have this option. Bans on self-referral will force some physicians to divest of financial interests in free-standing laboratories. It is difficult to predict the effects of further changes in health care legislation. It certainly will remain critical for those people responsible for administration to have a detailed understanding of a laboratory's costs and income structure and to become actively involved in contracting for services. STI