

Reimbursement Practices and the Primary Care Physician: An Economist's View

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There is general agreement among health policy analysts that the specialty and geographic distribution of physicians is currently the most serious of current health policy issues.¹⁻⁴ Too few physicians are delivering primary care services, especially in poor rural areas and inner cities. The reasons and solutions to this problem are complex and multi-dimensional; however, an important component of both the problem and the solution is found in the current methods of reimbursement. Thus it is important to understand the structure of the payment practices of public and private third party payors.

Reimbursement (payment practices) have three interrelated effects on graduate medical education. The level of fees that are paid to physicians will have an impact on the amount and type of services delivered. The higher the price paid for medical services, the greater the incentive will be to produce those services. Payment practices also influence residents in making their specialty decisions because some physicians consider the differences in fees and resulting incomes in making career decisions.

In addition, it is important to emphasize that the training of future physicians is dependent on hospital based residency programs. The number, type, and structure of residency programs depend on financial factors. Residency programs in specialties that provide higher reimbursements to hospitals will be able to grow more rapidly. Payment practices may also influence the site of training because of the differential reimbursement levels paid for in-hospital and out-of-hospital services.

Third Party Reimbursement

In 1976, 61 percent of physician revenues were derived from third party payors,¹ with Medicare and Medicaid accounting for about one third of revenues.^{5,6} Specialty care derives a larger share of its revenue from insurance than primary care. For example, pediatricians derived 20 percent of their practice revenues and general practitioners

42 percent from third party sources in 1970¹ as compared to 68, 75, and 77 percent for surgeons, radiologists, and anesthesiologists, respectively. Also, third party coverage for ambulatory care tends to be less complete than for institutional care (by a specialist). Medicare provides almost complete coverage for inpatient care (specialty care), but outpatient services (more primary care oriented) are reimbursed at 80 percent of the reasonable cost.⁷ The growth of private third party coverage (insurance) is encouraged by the preferential tax (federal) treatment that insurance premiums receive.¹ Health insurance paid as part of fringe benefits is not taxed as income.

The level of fees to be paid by third parties to a physician under a fee-for-service system uses the usual, customary, and reasonable method (UCR): the usual fee or customary fee (for public insurance) is based on the physician's average charge for similar services; the customary fee (or prevailing fee for public programs, such as Medicaid or Medicare) is the historical charge by physicians in the community; and a reasonable fee is allowed for special circumstances that may justify a higher fee (such as for the care of a more difficult than average case). The level is set at a rate that is the lowest of the usual or customary fees (prevailing for public insurance). Medicare sets the prevailing level at the 75th percentile of the distribution of the customary charges of physicians in a specific area. Private insurance programs pay the portion of the fee left after the deductible and copayment is paid. A commonly used definition of a customary fee by private insurance companies is the 90th percentile of the usual fee of physicians in a given area. According to a recent report, "between 125 and 135 million persons out of a total of 169 million in 1975 with private insurance for physicians' services had insurance coverage which used a UCR approach in reimbursing for physician service."¹ Medicare employs the UCR, as do about one half of the Medicaid programs.²

In 1976 Medicare "Economic Index" put a lid on the growth of prevailing (in the UCR system it would be called customary) fees, so that they cannot increase faster than the cost of medical prac-

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tice. Because cost (eg, rent, salaries, and interest) have generally risen more slowly than physician charges, prevailing fees have been restrained. With this change, the Medicare fee structure acts as a lid on fees. However, it locks in the higher fees for specialty care.

An alternative to usual, customary, and reasonable are fee schedules that set a maximum reimbursement level for each physician service. Private insurance companies use fee schedules, whereas some states pay all physicians the same rate for the same procedure and others reimburse different specialties at different rates for the same procedure.⁸ The level of fees in the schedule is set by a survey of physicians' billed charges, negotiations with physicians by insurance companies, or by applying a dollar conversion to a relative value scale. Many Medicaid agencies using fee schedules develop them with relative value scales. Relative value scales are important in determining customary or prevailing fees under the UCR or maximum reimbursement system when there is not existing fee information. Newly locating physicians may also use relative value scales in determining their fees.

The original relative value scale was developed in California in 1956 and adopted by the Council of the California Medical Association. Since then, two relative value scales have been developed: one by the Blue Shield Association, and one by the American Medical Association, which developed the current procedural terminology. The 1956 report that developed the relative value scale includes the following statement: "The objective of the committee on fees which produced the report presented here was to establish general principles for the formulation of proper fee schedules."⁶ Four elements that should be used to determine these "proper" fee schedules are (1) uniform nomenclature, (2) standardized code system, (3) relative values, and (4) corrected segmentation. The last two elements warrant comment. The relative values were developed by using the current fees that were being charged for these services (in 1956). The segmentation principle meant that a "proper fee" schedule be broken down into four segments: (1) a section describing medical services and establishing relative values for medical procedures, (2) a similar section for surgical procedures, (3) one for radiological procedures, and (4) one for laboratory and pathological procedures.

Since 1956 the California Relative Value Scale (CRVS) has been updated four times: in 1960, 1964, 1969, and 1974. There have been some minor changes and new procedures have been added, but the general structure remains in place.

An increasing number of physicians practicing in organized settings such as group practices or health maintenance organizations (HMO) are paid on a salary basis with the use of bonus payments. Currently about six million people are covered under HMO-type plans.¹

Structure of Physicians' Fees and Income

The historical payment practices described above have contributed to the current fee levels paid to physicians. In general, the fees charged patients without insurance are the highest; this is followed in descending order by reimbursements from Blue Shield plans, Medicare, and finally Medicaid.⁹ Moreover, by law, Medicaid fees cannot exceed Medicare fees.³

Table 1 presents the mean fees for two procedures: follow-up office visits, and appendectomy. It compares them across the United States for primary care physicians (general practice and family practice) and specialists in different urban areas. Specialists' fees are higher than general practitioner and family physician fees, even within the same size urban area. The same patterns have been found for the Medicare and Medicaid programs.⁷

Of interest are the income comparisons by specialists presented in Tables 2 and 3. Table 2 incomes in 1976 range from a low of \$51,030 for general practice and \$61,760 for family practice to a high of \$91,940 for orthopedic surgery.

A recent study of hospital based pathologists and radiologists shows that their incomes averaged approximately \$100,000 in 1975 (Table 3).⁹ The most significant fact, however, is that in teaching hospitals the income was significantly lower than in nonteaching hospitals, with those physicians on percentage arrangements earning over twice the income of those on salaries.

Rate of Return and Training

In making the decision to specialize, a physician considers the length of the training program and the benefits derived from the training, including economic benefits. Economists summarize the economic benefits and costs in a rate of return analysis, which compares the relative financial attractive-

County Population	Follow-Up Office Visit		Appendectomy	
	GP/FP Mean Fee	Specialist Mean Fee	GP/FP Mean Fee	Specialist Mean Fee
Nonmetropolitan Counties				
0 to 9,999	6.78	10.08	222.48	282.50
10,000 to 24,999	7.51	9.21	227.69	262.21
25,000 to 49,999	8.07	10.00	232.71	256.91
Greater than 50,000	8.95	10.35	235.62	276.74
Metropolitan Counties				
50,000 to 499,999	9.09	11.29	237.60	288.04
500,000 to 999,999	9.68	12.63	231.92	290.53
1,000,000 to 4,999,999	10.23	13.45	261.42	321.24
Greater than 5,000,000	11.37	16.17	347.68	426.51

Source: Redisch M, Gabel J, Blaxall M: Physician pricing, costs and income. Presented at the Western Economic Association Meeting, Anaheim, Calif, June 20, 1977

ness of different career choices. The rate of return is a percentage figure that equates the current or present value of future earnings with the current or future costs of training.³ It is important to understand that future earnings are worth less today because of the opportunity cost of money; that is, a return can be earned on today's dollars, such as in a savings account. Thus money that is due later is worth less than money in the hand today. For example, current costs of training are primarily the loss in income suffered by not working over the time of training period minus the salary earned or the stipend given to a resident. The economic benefits are the increase in earnings due to specializing (that is, the earnings difference between a primary care physician and a consulting specialist over the entire career of the physician).

The economic rate of return to residency training again demonstrates economic disincentives to train in primary care. In general, specialty training has a higher rate of return than training in a primary care specialty. Thus, given the current payment system, specialty training is a good investment for physicians.

The income figures reported earlier (Tables 2 and 3) clearly show that income differences for specialists are much higher than those for primary care

Physician Specialty	Median Income
General practice	51,030
Family practice	61,760
General internal medicine	66,140
General surgery	68,720
Obstetrics-gynecology	78,420
General pediatrics	54,180
Psychiatry	53,790
Cardiology	77,620
Ophthalmology	78,750
Orthopedic surgery	91,940
Otolaryngology	71,720
Urology	80,770
All surgical specialties	78,220
All nonsurgical specialties	62,650

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 Note: For unincorporated physicians, practice earnings represent individual 1977 income from practice minus tax-deductible professional expenses but before income taxes; for incorporated physicians, total 1977 compensation from practice (salary, bonuses, and retirement set-asides)

Table 3. Earnings of Hospital Based Pathologists and Radiologists, 1975 (dollars)*

Physician Group	Pathologists	Radiologists
All Physicians	98,400	102,300
Compensation arrangement		
Salaried physicians	49,200	52,600
Percentage arrangement	138,200	122,400
Teaching vs nonteaching		
Teaching hospital	67,200	81,200
Nonteaching hospital	133,300	118,900
Hospital size		
Less than 100-bed hospital	107,500	125,300
100- to 299-bed hospital	143,300	110,600
300-bed or more hospital	66,600	90,200
Reimbursement arrangement (%)		
Salary	27	16
Percent of gross or net revenue	37	37
Fee for service	14	28
Salary plus percent of gross or net	22	19
Total	100	100

*Excluding fee-for-service physicians, who bill patients directly
 Source: Dyckman A. A study of physicians' fees. Report prepared by the Council on Wage and Price Stability, Executive Office of the President. Government Printing Office, 1978

physicians. Hence, although specializing should provide some economic benefits, they appear to be much higher than is necessary to attract physicians to specialize. It is also apparent that an important factor in this calculation is the differential in fees collected by each specialty because they impact significantly on potential income.

Geographic Distribution

There is a body of literature which finds that the location decision process of physicians is quite complex and includes political, social, educational, and economic factors.^{4,5,10-13} However, there is agreement that the current geographic distribution of physicians is not acceptable. The Health Professional Assistance Act of 1976 declared that geographic distribution was one of the major health manpower problems in the United States.

The current financing system contributes to the distribution problem. Physician fees and reimbursement levels generally are lower in areas with relatively lower physician population ratios (Table 4),¹ and these areas tend to be in poor rural or poor inner city localities. In addition, incomes by specialty tend to be somewhat lower in areas with

lower physician population ratios. Moreover, fee differentials provide an economic incentive to locate in areas that have an abundance of physicians. Shortage areas are often less desirable to live in; therefore, an economic incentive to locate there may be necessary. The current financial system of physician reimbursement does not provide any economic incentive to locate in underserved areas.

There are numerous empirical studies which show that the supply of physicians (usually measured by the physician to population ratio) is higher in areas with higher fees.⁵ That is, more physicians means higher fees, or perhaps higher fees means more physicians. The direction of this causation is still being debated. One view is that as physicians become more numerous, they generate (or induce) a demand for their services so that they are able to maintain a "target" income level that is acceptable to them. Thus, they may provide some services that the patient may not need or that do not carry a significant medical benefit. The other view of this relationship between fees and the supply of physicians centers on the influence of time on prices and the demand for care. As the supply of physi-

Table 4. Physicians' Fees and Income by Physician Density, 1975 (dollars)

	Mean Follow-Up Office Visit Fees			Mean Annual Income		
	Physicians per 100,000 Population		Ratio of 150 and over to 0-100 (%)	Physicians per 100,000 Population		Ratio of 150 and over to 0-100 (%)
	0-100	150 and over		0-100	150 and over	
General practitioners	9.19	10.74	113.9	47,033	44,626	94.9
General surgeons	9.99	10.99	110.0	54,038	64,943	120.2
Pediatricians	9.46	11.04	116.7	49,737	51,772	104.1
Obstetricians-gynecologists	11.69	12.63	117.1	60,526	66,035	109.1
Internists	11.60	14.36	123.8	48,214	56,199	166.6
All physicians	10.09	12.17	120.6	50,497	55,445	109.8

Source: Redisch M, Gabel J, Blaxall M: Physician pricing, costs and income. Presented at the Western Economic Association Meeting, Anaheim, Calif, June 20, 1977

Physicians increases, they are more accessible to the patient; that is, appointment time and travel time are reduced. This results in an increase in demand for physician services. In addition, a higher physician density provides each physician with the opportunity to spend more time on each visit. Some believe that this increases the quality of service. It is likely that both explanations are correct to some degree and that the relative importance of each differs among specialties.

Thus it appears that higher fees go hand in hand with more physicians. Hence, the lower fees being paid in shortage areas may contribute to the physician distribution problem. In addition, it is clear that specialization may also worsen the problem because specialists find it difficult to establish and successfully run a practice in rural or poor urban areas. Moreover, there are few hospitals in rural shortage areas with the necessary equipment and the economic base that is needed to support a physician. In many of these areas, the delivery of medical care by new health practitioners (physicians' assistants and nurse practitioners) is an important alternative. However, the new health practitioners currently face a serious reimbursement issue.

New Health Practitioners and Their Reimbursement

Employment and utilization of new health practitioners was encouraged by the federal government with the passage of the Rural Health Clinics Service Act of 1977.^{5,14} The bill authorizes payment for services delivered by new health practi-

tioners in rural, medically underserved areas. For reimbursement purposes, a review of patient records by a physician on a weekly basis may be considered acceptable supervision. The Rural Clinics Act permits the use of demonstration projects for reimbursement in underserved urban areas.

There is a current problem related to reimbursement of new health practitioners by private third party payors as well as by Medicare Part B. Medicare Part B allows the payment of health practitioners services for services "incident to" the provision of services by a physician. However, these practitioners cannot receive payment for physician services. If this continues, it would defeat the main purpose of training new health practitioners because they are trained to provide many of the services usually delivered by physicians. For the most part, this problem has been ignored. In 1975, however, insurance carriers for Medicare Part B were told to notify physicians that "physician services rendered by physician assistants are not covered under Part B Medicare." Generally, these instructions have been ignored, but in North Carolina a carrier for Medicare is auditing physicians' practices and requiring repayment for services performed by new health practitioners that were not "incident to" those performed by the physician. Whether this trend will continue is unknown, but its potential for ending the utilization of health practitioners is enormous. In addition to Medicare and possibly Medicaid, some private insurance companies who also ignored this distinction could adopt the same position. The Rural

Clinics Act overrides this provision, but only in rural underserved areas as designated by the Department of Health and Human Services.

Conclusions

Undoubtedly reimbursement policies have an important impact on the specialty and geographic distribution of physicians. Fees paid to specialists, even for similar services, are higher than those paid to primary care physicians. The usual, customary, and reasonable system continues to favor procedure oriented specialties that historically charge higher fees. These scales are more easily applied to medical procedures and usually undervalue less technical services. They reimburse more for procedures and less for diagnosis and treatment as provided by primary care physicians.

Differences in fees between specialists and primary care physicians result in large differences in income levels. Even accounting for the longer training period of specialists, it does not appear that these large differences in income are required to compensate specialists for their extended period of training. Payment differentials contribute to the uneven distribution of physicians. Fees and reimbursements are usually lower in shortage areas as are the incomes of physicians in these areas. Reimbursement practices used today discourage the delivery of primary care in underserved areas.

The use of new health practitioners to help solve the distribution problem is threatened because of a recent development in reimbursement policies by Medicare which makes illegal the reimbursement of medical services that are not "incident to" the provision of services by physicians. Although the Rural Clinics Act exempts rural underserved areas, other areas may not employ new health practitioners if this reimbursement policy is enforced and is adopted by private insurers.

Although reimbursement policies are difficult to alter, the current climate that encourages cost containment and the increased need for primary care services may provide the opportunity for making some important changes.

The following recommendations are made in order to improve the delivery of primary care and to make the reimbursement system more equitable: The usual, customary, and reasonable system of reimbursement should be abolished because it discourages the provision of primary care in favor of

specialty care and it is inflationary; and a commission should be appointed to include physicians, third party payors, consumers, and government officials to find alternatives to the usual, customary, and reasonable system for determining fee level.

The geographic distribution of physicians would be improved if (1) physicians in underserved areas are reimbursed at a higher level than those in physician-rich areas, and (2) new health practitioners' services are reimbursed at the same rate as physician services if their quality of care is deemed acceptable.

To improve the training of primary care physicians, primary care residency programs should continue to receive government and foundation support. Facilities for training should be reimbursed for services of residents in nonhospital settings and reimbursement for outpatient care should be on the same basis as inpatient care.

References

1. Dyckman Z: A study of physicians' fees. Report prepared by the Council on Wage and Price Stability. Executive Office of the President, March 1978
2. MDSHAM Associates Inc: Development and evaluations of three major systems for third party payments. In Health Care Financing Research and Demonstration series, report No. 4. DHEW contract No. 500-78-0013, 1979, pp 4, 7
3. Scheffler RM, Paringer L, Ruby G, et al: The effect of economic incentives on the education and distribution of physicians: A review. *Health Policy Educ* 1:271, 1980
4. Scheffler R, Weisfeld N, Ruby G, et al: A manpower policy for primary health care. *N Engl J Med* 298:1058, 1978
5. Institute of Medicine: A Manpower Policy for Primary Care. Washington, DC, National Academy of Sciences, May 1978
6. Sloan FA, Cromwell J, Mitchell JB: Private Physicians and Public Programs. Lexington, Mass, Lexington Books, 1978
7. Gabel JR: Medicare-Medicaid reimbursement and the financing of graduate medical education. Discussion paper prepared for the Graduate Medical Education National Advisory Committee. Office of Research, Health Care Financing Administration. Government Printing Office, June 1978
8. Burney IL, Schiber J, Blaxall MO, et al: Geographic variation in physicians' fees: Payments to physicians under Medicare and Medicaid. *JAMA* 240:1368, 1978
9. Anderson A: Interstudy: Study of reimbursement and practice arrangements of provider-based physicians, Final report. Health Care Financing Administration. Government Printing Office, December 1977
10. Scheffler R: The regional distribution of physicians and specialties. *Rev Regional Studies* 23:19, 1971
11. Scheffler R: The relationship between medical training and the statewide per capita distribution of physicians. *J Med Educ* 46:995, 1971
12. Wilensky GR: Retention of medical school graduates: A case study of Michigan. *Health Econom* 1:153, 1979
13. Yett D, Sloan FA: Migration patterns of recent medical school graduates. *Inquiry* 11:125, 1974
14. Are enough physicians of the right types trained in the United States? Report to Congress of the United States. General Accounting Office Document No. (HRD) 77-97. Government Printing Office, 1978