THE RELATIONSHIP BETWEEN MEDICAL MALPRACTICE AND QUALITY OF CARE

Robert H. Brook, M.D., Sc.D.
Rudolf L. Brutoco
Kathleen N. Williams

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The Rand Corporation
Santa Monica, California 90406
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The Rand Corporation, Santa Monica, California

I. INTRODUCTION

Medical malpractice claims are increasing at a rate of about 10 percent per year. (1) Seven chairmen of neurosurgery departments in leading New York hospitals have a combined total of 25 malpractice suits filed against them for an aggregate total of $6.3 million. (2) In 1960, total malpractice premiums in the United States were $60 million; by 1975, the total will be about $1 billion. (3) Many insurance companies have stopped providing professional liability coverage and some physicians have been temporarily unable to obtain malpractice insurance at any price.

California, although perhaps at the frontier of the medical malpractice issue, is not atypical. The number of claims per 100 physician policy years there have increased from about 12 in 1968-69 to about 25 in 1975. In 1974-75, six jury awards in California were for over a million dollars each; in the state's entire history, there have been only 16 awards of over a million dollars each. (4) Rates for malpractice insurance have increased by 400 percent between 1968 and 1970, and in Southern California, physicians in high-risk specialties such as orthopedics or neurosurgery may have premiums in the $30,000 range. (4) In other states such as Ohio, rate increases as high as 750 percent in one year have been requested. (5) Physicians, in turn, are turning the malpractice issue back on itself. Suits have been filed against insurance companies charging that they are conspiring to limit the availability of malpractice insurance, thus making it easier for these companies to sell policies which contain provisions favorable

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to them. (3) A Florida orthopedic surgeon has filed a $2.5 million suit against two former patients and their attorneys, who had previously sued him for alleged malpractice. (6) Physicians have also begun to strike for legislative intervention to solve the malpractice crisis. These strikes have resulted in economic chaos, if not potential ruin, for some hospitals, and at least temporary dislocations in the usual pattern of obtaining medical care for some people.

In response to these pressures from all sides, legislation which would affect some aspect of malpractice has either been introduced into the legislature or is in preparation in all but three states (Mississippi, Vermont, and Virginia). In addition, four Federal bills are pending for consideration by the U.S. Congress. Much of the proposed legislation would radically alter the malpractice system, the principal elements of which include: 1) patient responsibility to recognize when an injury has occurred; 2) patient responsibility to determine whether that injury might be due to negligence; 3) patient responsibility to approach the legal system to determine if he should receive a settlement for the injury which has occurred; and 4) resolution of the claim through the tort system which pits the physician and his insurance company against the patient and his lawyer.

Some of the arguments for or against changes in the malpractice system are concerned with the impact of the present and future malpractice system on the quality of medical care provided, and this paper is addressed to that issue. The paper is divided into four parts: 1) consideration of quality-of-care constructs; 2) an overview of those issues of medical malpractice which are pertinent to quality of care considerations; 3) examination of the relationship, both theoretical and empirical, between malpractice and quality-of-care; and 4) development of policy and research suggestions for understanding and/or altering the current malpractice system.
II. QUALITY OF CARE CONSIDERATIONS

Interest in measuring quality of care and then using the results of this assessment to improve the quality of care delivered is at least 100 years old. Nightingale studied the medical facilities available to the British Army during the Crimean War. She developed a simple reporting system to highlight the unsafe conditions which existed in Army field hospitals. Her work indicated that changes in sanitary conditions in these hospitals could produce dramatic decrements in case-fatality rates. In order to promote changes, she developed charts which graphically depicted the high death rate of soldiers in these hospitals, and these charts received wide publication.

About one-half century later, in 1908, Groves issued a plea for the uniform registration of results of operations. The basis for this plea was: "If...a surgeon makes a specialty of some disease or operation and tabulates all his own results, or another by chance has some notable successes and records them, or the author of a textbook collects published records of various writers and summarizes them, is it not obvious that such collection of figures will represent the best and not the average results?"

In order to obtain information about the average results, Groves conducted a survey of the 50 British hospitals with over 200 beds. He received replies from 27 hospitals. Results of this survey showed that there was a 44 percent operative mortality from radical operations for malignant diseases of the stomach, a 24 percent mortality from prostatectomy, and a 9 percent mortality from an operation to cure appendicitis. The personnel in the hospitals which responded to his questionnaire considered it desirable and feasible to institute a system for routinely recording results of operations, but little came of this sentiment.

Not too many years later (1914) in the United States, Codman, a surgeon at the Massachusetts General Hospital, lamented:
"One might say that the instruction of the students is irrespective of the results to the patients, but let us suppose, in surgery, for example, that all the operations which have been watched by these students have been mis-directed efforts at the cure of disease, and the students have learned to do something which is not worthwhile and does not really improve the patients. The product of the hospital in this case, even as regards student instruction, would be nil—even worse than nil. We are, therefore, referred again to the classification of disease and the results to the patients, because a student would naturally wish to receive his instruction at a hospital where the treatment was shown to be of benefit to the patient. We may then say that the product of the hospital in medical education, like the product in the number of cases treated, depends on whether or not the cases are well treated..."

In an effort to determine whether patients were well treated, Codman attempted to institute a follow-up system at the Massachusetts General Hospital. The objective of this system was to raise his own level of performance by examining all the patients on whom he had operated, one year post-operation. After being thoroughly frustrated in these efforts, he resigned his position as a Professor of surgery and started his own hospital in which he instituted a follow-up system. Each patient on whom he had operated was recalled a year later and his health reassessed in terms of the original objectives of the initial operation. From this assessment, Codman determined whether his original diagnosis was correct, his operation was a technical success, the patient benefited from the operation, and/or whether he had produced some untoward or iatrogenic effect by operating on this patient.

Despite this century-old interest in quality of care, there is little agreement on a definition of quality of care; how to measure it; what, if any, deficiencies exist in the care provided; and how, if necessary, to improve it. Nevertheless, certain generic principles are relevant to the discussion which will follow in subsequent parts of this report.

ART-OF-CARE

The definition of quality of care contains at least two constructs: the art-of-care provided and the technical aspect of the care provided.
The art-of-care refers to what Donabedian would call the socio-economic management of health and illness and the client-provider relationship. Increasing the art-of-care would result in: 1) adoption by the patient of life styles conducive to longevity; 2) increased compliance by the patient with regimens for controlling asymptomatic or mildly symptomatic chronic disease; 3) willingness on the part of the patient to discuss "sensitive" symptoms and health problems with the physician; and 4) utilization of health services in a timely manner so that symptoms or problems are dealt with at a stage when they could be cured or ameliorated.

Valid measures for assessing the art-of-care are just now being developed. Thus, there is a dearth of information on how the art-of-care varies as a function of physician or medical care system characteristics. For instance, the question of whether an internist or family practitioner provides, in general, a higher level of art-of-care cannot be answered by available information. Likewise, no information is available to answer the question of whether the physician-patient relationship has deteriorated in the last decade. Clearly, the belief that malpractice suits have increased because the doctor-patient relationship has deteriorated cannot be confirmed or denied by objective information.

TECHNICAL CARE

Measurement of the technical aspect of care concerns whether 1) the diagnosis was adequately established; 2) therapy was appropriate; 3) diagnostic and therapeutic procedures were applied in an efficient manner; 4) medical technology was reasonably exploited; and 5) appropriate professional measures and facilities were used. Perhaps a few thousand research or quasi-research studies have been performed in order to assess the technical aspects of care. Most of these studies have reported gross deficiencies in the care provided. Examples of such deficiencies include the following cases: anemia went unrecognized and untreated in 45 percent of anemic children being cared for at a Children and Youth project which was providing "comprehensive" care; one-half of these children were anemic at the end of the study.
One-eighth of all hospital admissions of Teamster family members in New York City were considered medically unnecessary; two-fifths of those admitted received only fair or poor care. Only one-quarter of patients with severe gastrointestinal symptoms who presented to the emergency room of either a university or city hospital were judged to have received a level of care which met even minimum standards. One-third of North Carolina general practitioners were found to be delivering a poor or marginal level of care. Fifty-one percent of a sample of Ontario physicians and 26 percent of a sample of Nova Scotia physicians were found to be practicing medicine of satisfactory quality. Examination of the quality of care given by Hawaiian physicians demonstrated deficiencies in both the hospital and ambulatory setting; provision of good care would have required doubling the number of ambulatory procedures and increasing by one-half the number of procedures performed in the hospital.

Technical care, therefore, has been shown to be deficient regardless of how it is paid for, who provides it, or in what setting it is provided. In the absence of adequate mechanisms and finances (less than 0.1 percent of expenditures on the delivery of medical care is devoted to evaluation of its quality) to assess and improve the quality of care provided, this situation should not be unexpected.

QUALITY OF CARE ASSESSMENT

Quality of care assessment is hampered by methods and problems of real policy relevance. Quality of care can be assessed by three different variables: structural, process, and/or outcome. Structural variables are innate characteristics of facilities and/or physicians, such as whether a poison chart is posted in an emergency room or the age or board certification status of the physician. Process variables refer to what a physician or other health provider does to or for a patient, such as whether a cardiogram is ordered for a patient with crushing chest pain. Outcome variables are those concerned with what happens to a patient and are measured by any of the following: mortality, morbidity, disability, and/or psychosocial functioning.
The purpose of the medical care system is to improve the health of people, which is not necessarily synonymous with increasing the number of services provided or with raising the qualifications of providers. Clearly, the most valid assessment of quality of care is gained with outcome information. Regulation of the medical care system, however, depends upon information which can be collected inexpensively. Up to now, this has meant relying on structural and process information which can be obtained from routine reports, insurance claims forms, or the medical record. Collection of outcome information usually requires arranging for a follow-up interview with the patient, an extremely expensive procedure. Unfortunately, many structural and process items used to assess care have been shown not to be valid, i.e., not related to improvement in patient health. For example, physicians who are specialists, who subscribe to (and read) journals, who graduated high in their medical school class, and who attend continuing education courses are not necessarily better physicians.\(^\text{17}\) Comprehensive care clinics do not necessarily provide better technical care than do hospital outpatient clinics.\(^\text{21}\) The only two physician structural variables which consistently seem to relate to better quality of care are whether the physician is a "modal" specialist and whether he is young.\(^\text{20}\) The modal specialist refers to treatment of a patient by a physician who is trained to treat the specific problem the patient has. (The modal specialist for a child with a kidney stone is a urologist, not a family practitioner. In some but not all studies, board-certified physicians performed better than their noncertified colleagues.\(^\text{14,20,22}\)

Similarly, much of what is known about which processes of care are related to improved health is based on conventional wisdom. Tests of conventional wisdom sometimes produce disturbing results. For instance, 1) all women with breast cancer probably do not need a radical mastectomy;\(^\text{23}\) 2) treatment of adult onset diabetes with oral hypoglycemic agents probably does more harm than good;\(^\text{24}\) 3) some groups of patients who have an acute heart attack will on the average have a higher probability of survival when treated at home than when treated in a modern coronary care unit;\(^\text{25}\) and 4)
many women with varicose veins will obtain an equally acceptable cosmetic result with less morbid complications when treated with a simple outpatient procedure as opposed to the conventional operation which requires hospitalization.\(^{(26,27)}\) Yet all the more aggressive procedures are still standard accepted therapy, by which acceptable quality of care would be judged.

Regulation on the basis of structural or process information must be done carefully. No matter what variable (structural, process, or outcome) is used in the assessment, gross deficiencies in care will be found, but the level of those deficiencies will vary considerably as a function of the assessment method used. Using process and outcome data, Brook\(^{(12)}\) assessed the quality of care delivered to 296 patients with either an ulcer in the stomach or duodenum, hypertension, or a urinary tract infection. Process assessment indicated that 2 percent of patients received acceptable care; outcome assessment indicated that 67 percent of the patients received acceptable care. The truth undoubtedly lies somewhere in between and the decision of how care should be improved is dependent upon which number is accepted. Acceptance of the results of the process assessment, which are somewhat invalid, could lead to doubling the amount of money spent on personal medical care without substantially improving the health of the American people.

**QUALITY ASSURANCE PROGRAMS**

Attempts to assess quality of care have been confined largely to research endeavors. Institutionalization of quality assessment activities into attempts to improve the quality of care have rarely been accomplished. In the last two years, however, two major quality assurance programs have been developed. The first is the Professional Standards Review Organization (PSRO) program, which has been established to review and improve the quality and efficiency of hospital care given to Medicare and Medicaid recipients.\(^{(28,29)}\) The second is the Physician Evaluation Performance (PEP) program of the Joint Commission on the Accreditation of Hospitals (JCAH) which requires the performance of process and outcome audits for the maintenance of hospital accreditation.\(^{(30,31)}\)
Both programs contain similar features: 1) review of hospital care only; 2) selection of a few diagnostic categories for audit; 3) local determination by physicians of the diagnostic categories for audit and of the criteria and standards against which care will be audited; 4) reaudit to determine if deficiencies have been corrected; and 5) reporting of results to an external body—the Federal government or the JCAH. Both PSRO and PEP have virtually excluded the public from any real role in quality assurance. For instance, in order to implement the PSRO program, the United States has been divided into 203 areas. In each of these areas a group composed solely of physicians has the right to organize the PSRO. The public is excluded from any role at the local level. Finally, the determination of whether local PSROs or PEPs work is left mostly to imagination, since the system by which PSROs and PEPs are evaluated is weak. It is too early to tell whether either one or both of these programs will contribute to improving the health of the American people.
III. ISSUES IN MEDICAL MALPRACTICE RELATED TO QUALITY OF CARE

PHYSICIAN-ORIENTED ISSUES

Facts about the malpractice system are sparse. Those that both relate to the quality issue and are consistent across observers of the malpractice system are even more sparse. Nevertheless, the following facts are germane to the discussion below:

Malpractice premiums have increased dramatically in the last few years and even larger issues have been proposed for this year. In Ohio, increases of 750 percent in a year have been proposed. (5) This increase in premiums has paralleled a rise in the number of malpractice claims, and there are predictions that any practicing physician will be sued at least once in his lifetime.

Premiums vary by area of the country. (4)

Malpractice premiums are set principally on the basis of the amount and type of surgery a physician does. A general practitioner, pediatrician, or internist who does not perform even minor surgery may have a premium one-seventh that charged an orthopedic surgeon. (32) Specialists in the areas of orthopedic surgery, neurosurgery, anesthesiology, and obstetrics-gynecology have the highest premiums. This variation in premium appears justifiable since in Maryland (33,34) during the decade 1960-1970, slightly over one-half of the malpractice claims were associated with four high-risk specialties: general surgery—86 claims; obstetrics-gynecology—68 claims; anesthesiology—36 claims; and thoracic surgery—9 claims; these specialists, however, comprised only one-quarter of the physician membership insured under the Med-Chi program.

Examination of all claims closed throughout the United States in 1970 substantiated the above findings. (35) For example, anesthesiologists produced 7.9 percent of the malpractice claims, but represent 3.6 percent of the U.S. physician pool; orthopedic surgeons produced 8.8 percent of the claims, but represent only 3.2 percent of the pool. Similar figures for internists are 6.9 and 14.0 percent, respectively, and for pediatricians 2.3 and 6.0 percent.
Malpractice premiums are, in general, not experience-rated at the individual physician level. A physician who practices part-time is likely to have a premium similar to one who practices full-time. A pediatrician who sees a hundred patients per day will have the same premium as one who sees ten patients per day. A physician with a malpractice claim pending will have the same premium as one who does not.

The likelihood of a physician's being sued does not vary markedly with personal or professional characteristics, with the exceptions of specialty and area of the country in which he practices. Examination of malpractice claims closed in 1970\(^{(35)}\) indicated that 60 percent of the physicians involved in a claim were board-certified; the age distribution of physicians who were sued did not differ from that of the U.S. physician population as a whole.

Examination of 3166 physicians insured under the Med-Chi program from 1960-1970\(^{(33,34)}\) indicated that of the 322 physicians sued, 49 percent were board-certified. Board-certified physicians were just as likely to be sued multiple times as were nonboard-certified physicians. Furthermore, urban physicians were only slightly more likely to be sued than were rural physicians. Fifteen percent of the claims were against graduates of foreign, non-English-speaking medical schools, but 19 percent of the physicians had been educated in such schools. Thus, physicians who were older, not board-certified, or foreign trained—characteristics which have been associated in some studies with the provision of a lower level of quality of care—do not appear to account for a larger proportion of malpractice claims than would be expected by chance alone. (This conclusion is weakened somewhat by the manner in which the data from the studies quoted above were analyzed. When the relationship between age or board certification and the number of malpractice claims was determined, specialty was not taken into account. Specialty is highly correlated with the number of malpractice claims. If specialty also has a high correlation with age or board certification status, then a significant relationship between age or board certification status and the number of malpractice claims could have been missed.)
Although data are sparse, it appears that the likelihood of a physician's being sued more than once is related as much to chance as to his being a poor physician. Of the 3166 physicians insured under the Med-Chi program in Maryland from 1960-1970, 2844 (90 percent) were not sued; 276 (9 percent) were sued once; and 46 physicians (11 percent) were sued a total of 105 times. Chance alone would predict that 28 physicians would have had more than one claim filed against them. (If the analysis by which 28 was obtained had corrected for the variation in suit by specialty, then the deviation from chance would have been even less.) Generalization of the results of this study performed in one state is dangerous, however, and more studies are required before definitive conclusions can be drawn.

The likelihood of being sued varies as a function of the practice site in which care was given. Seventy-five percent of the malpractice incidents in Maryland occurring between 1960-1970 were in the hospital while 14 percent of the claims came from emergency rooms.\(^{(33,34)}\) Hospital accreditation by the JCAH did not protect the hospital from being sued, since 91 percent of the hospitals which settled a malpractice claim in 1970 were JCAH-accredited.\(^{(35)}\)

PATIENT-ORIENTED ISSUES

The previous findings have considered the malpractice system from the point of view of the physician or facility. Facts from the patients' perspective are equally revealing. For example, a study of a sample of medical records of patients hospitalized at two typical community hospitals indicated the following: 23,750 patients discharged during one year, 1780 patient injuries occurred; 517 of the injuries were due to negligence; and 31 malpractice claims will be filed against the hospital or medical staff.\(^{(36)}\) These injury and negligence figures are lower bound figures, since detection of injury was dependent upon its having been noted in the medical record.

The analysis of the above data can be extended if principles established in other studies are applicable. For instance, the negligence resulting in the 517 injuries for which a claim will be
filed was based on improper treatment in 445 (86 percent) of the cases and on failure to diagnose properly in 72 (14 percent) of the cases. Forty percent of claim incidents will result in eventual payment to the claimant. Although the median payment will be small ($2000), 3 percent of payments will exceed $100,000. (35)

Of all patients who suffered an injury in a hospital, 0.7 percent will be compensated; of all patients who suffered an injury due to negligence, 2.4 percent will be compensated. When these figures are coupled with the figure that only 16 to 20 percent of the premium dollar is returned to the patient, (37) the current restitution for malpractice does not appear to be a particularly effective or rewarding process.
IV. RELATIONSHIP OF MALPRACTICE TO QUALITY

Interactions between malpractice issues and quality of health care are based mostly on logic since data are sparse. It would seem that the malpractice system would affect quality of care in three principal ways: 1) premiums' differentials could influence the types of physicians available in various areas of the country; 2) unsuccessful defense of a malpractice claim could lead to direct sanctions against a provider or facility; and 3) the atmosphere of the malpractice crisis, even in the absence of a claim could affect the physician-patient relationship.

Before discussing each of these three effects in detail, it is necessary to place the whole issue in some historical perspective.

Forty years ago, the primary function of the medical care system was the compassionate caring for patients. Malpractice resulting from an injury caused by improper therapy was almost an impossibility, since most therapies were placebos and capable neither of alleviating a disease nor of causing harm. Today, due to advances in the biomedical sciences, another function of medical care must also be considered: efficient delivery to the entire population of efficacious medical services that result in cure or control of disease and maintenance or improvement of health. Unfortunately, new therapies—antibiotics, intensive care units, radical surgical procedures, antineoplastic drugs—which have improved the health of the American people are also capable of producing serious iatrogenic disease. The effectiveness of these therapies is dictated by the methods and manner by which they are applied; in short, by the level of quality of care. The apparent paradoxical result, i.e., improvement in the health of the American people due to better medical care accompanied by an increase in malpractice claims, is not too difficult to explain: modern medicine has geometrically increased the physician's chance of doing harm and the probabilistic nature of medicine would indicate that malpractice claims would dramatically increase. Variation in physician performance or choice of therapy which in 1935 was relatively
meaningless, today, can be deadly. This variation, coupled with the
rising public expectation of increased longevity (if not immortality)
fostered by the biomedical revolution, renders the atmosphere for
filing malpractice claims even more suitable.

Having briefly considered the historical relationship between
quality of care and the malpractice issue, the central question of
this report will be considered. In the absence of the present
restitutio system for medical malpractice, would the quality of
medical care and thereby the health level of the American people
increase more or less than it would if the present malpractice
system were kept in place? A direct and simple answer to this
question is impossible, but approximations can be obtained by
examining in detail possible effects of the malpractice system on
quality.

MALPRACTICE PREMIUMS AND AVAILABILITY OF PHYSICIANS

Given that both the amount of malpractice premiums will continue
to rise dramatically and that differentials in premiums will continue
to occur as a function of physician characteristics, then major system
effects such as the following might be hypothesized:

1. decrease in the number of applicants to medical school;
2. decrease in number of physicians who specialize in high-
risk specialties (e.g., orthopedics);
3. migration of physicians from areas in the country which
have high premiums to those that have low premiums;
4. decrease in the number of part-time practicing physicians;
5. decreases in the performance of surgery or special
   procedures;
6. increase in the cost of care;
7. decrease in the number of young physicians who go directly
   from training into solo fee-for-service practice; and
8. an increase in physician slowdowns or strikes which will
   either temporarily or permanently make medical care
   unavailable.
Application Rate to Medical School

In the near future, primary care physicians in private fee-for-service practice may be paying $5000 to $10,000 for malpractice insurance; this would be the lower end of the premium scale. It is unlikely that this fact, in and of itself, would cause the number of applicants to medical school to drop. (If it did, it would produce little effect, since the number of qualified applicants to medical school far exceeds the number of positions.) Whether some or many students enter medical school for economic reasons is debatable. Not debatable, however, is that these "high" premiums on average represent a very small percentage (less than 5 percent) of the physician's gross salary; on the whole, physicians will remain at the top of the economic ladder, regardless of the level of malpractice premiums. During hard economic times, the M.D. degree is the only degree which guarantees job stability. This alone will continue to lead to a large excess of highly qualified applicants to medical school. High malpractice premiums will not cause (or aggravate) a "physician shortage," even if this phenomenon really exists.

Training of Physicians in High Risk Specialties

In Southern California, by 1976, the premium differential between a surgeon and an internist may be $30,000. One might argue that this discrepancy would lead to fewer medical school graduates being trained as surgeons, but there is no evidence that this outcome would occur; if it did, it would be a social good. In this country many surgical procedures are unnecessary, and the amount of surgery performed in any geographic area is related to the number of surgeons in that area.\(^{38,39}\) On the other hand, the number of physicians willing to give first contact primary or family care is in short supply. Moreover, the differential in income between surgeon and primary care physician is greater than the differential in malpractice premiums, and for those physicians who choose to specialize in surgery for purely economic reasons, the economic incentive remains. The differential in malpractice claims places the incentive in the right direction, but the incentive is not strong enough to alter the distribution of the physicians who are being trained in oversupplied specialties. (This assertion should be subjected to empirical verification.)
Physician Migration

Differentials in insurance premiums by geographic area could have an effect on quality by causing physician migration from areas of excess physician supply to those which are undersupplied or vice versa. This effect, however, is unlikely to be observed, due to the large size of premium areas. A doctor practicing in an inner city area where there is an undersupply of physicians is likely to pay the same malpractice premium as one who practices in the over supplied suburbs of the same city.

Discouragement of Part-Time Practice

Malpractice premiums which are not adjusted for part-time practice could force many part-time physicians out of practice. Insofar as these physicians have characteristics which are associated with being less technically competent, such as being older or simply not doing enough procedures to remain competent, then their removal from practice would raise the level of care provided. Unfortunately, there is little systematically collected information about the characteristics of physicians who choose to work part-time. However, many physicians may practice until they die at the age of eighty or so; others may do no more than one surgical operation per month. Thus, on average, discouragement of part-time practice may be a positive result on the medical care system of high malpractice premiums. On the other hand, the practice of medicine by competent, young female physicians and by academic physicians, many of whom see patients on a part-time basis, would also be eliminated. Other less discriminatory means should be found to accomplish the objective of removing from practice the incompetent part-time practitioner.

Performance of Surgery by Primary Care Physicians

Premium differentials between primary care specialists who do not perform surgery and those who do are large. For instance, a general practitioner in Southern California who does not do surgery will have a premium of about $7000; one who does will have a premium of about $21,000. An internist in the same area will pay about $5000, but if
he does bronchoscopy his premium will increase to $10,000. Since general practitioners do surgery less frequently than do surgeons, this could make surgery by general practitioners unprofitable. To make it profitable, they could choose to increase either the amount of surgery they do or prices. The surgery market in many areas is becoming saturated and prices for surgery are likely to be fixed by surgeons and fiscal intermediaries. It is unlikely, then, that general practitioners will be able to increase either the amount of price of their surgery. High malpractice premiums may increase the likelihood that more surgery will be done by surgeons and less by general practitioners. Insofar as the surgery performed by family practitioners is of poorer quality than that performed by surgeons (this is the accepted belief), then the level of quality of care will rise as general practitioners are drawn out of the surgical market.

The performance of special procedures is another matter. A specialist in pulmonary disease may be called upon to do only about 30 bronchoscopies a year. If he receives $200 per bronchoscopy, then his gross receipts would be $6000. His net receipts would be less than the additional malpractice premium he must pay. The incentive would be either to do more (presumably unnecessary) bronchoscopies, or to stop doing them. Either result is bad. In the first case, patients will be subjected to an unnecessary risky procedure, and in the latter a necessary procedure may become relatively unavailable, at least in some communities or facilities, necessitating the transfer of perhaps seriously ill patients in unstable condition to referral hospitals.

Cost of Care

Physicians faced with rising malpractice premiums will likely try to pass that cost on to their patients. A primary care physician seeing 20 patients a day for 200 days per year has 4000 patient visits. If his premium increases $5000 for that year, then he may well increase his office visit charge by $1. This is not an insignificant increase. For groups of patients such as the poor who are eligible for Medicaid, the desire on the part of the physician to raise fees may be particularly burdensome. This is because fee schedules are determined by the
state, not by the physician. Thus, the option of raising fees is not really open to those physicians who practice in areas with large numbers of Medicaid patients. In order to maintain income, then, those physicians could move to non-Medicaid areas, refuse to take Medicaid patients, see more patients more quickly, increase the number of procedures ordered, raise fees to non-Medicaid patients, or some combination of the above. All these options would seem to be deleterious to the general level of medical care, by making care more unavailable to those who need it most or by decreasing the quality of care provided.

Entrance to Solo Practice

High malpractice premiums may make it harder for young physicians to enter solo fee-for-service practice. Physicians just entering practice might of necessity take positions in group practices or Health Maintenance Organizations (HMOs), even if such positions were not the career paths of choice. This result could be viewed as an infringement on the right of a physician to practice medicine in the setting of his choice. At present, however, there is no evidence to suggest that such a result will occur. Nevertheless, if it did, the effect on quality might be positive. HMOs, probably deliver slightly better care, on the average, than does the fee-for-service system.\(^{(40, 41)}\)

High malpractice premiums, then, might increase the competitive advantage of HMOs \(\text{vis-\-à\-vis}\) the fee-for-service system.

Physician Strikes

Finally, the possibility remains that in protest over high premiums, many physicians may stop or curtail providing services. Why physicians have chosen to strike on this issue is unclear. Other equally important cost issues, such as the rising prices of a hospital day, a medical instrument, or a drug, have been ignored. Physician strikes are likely to generate onerous solutions to the malpractice crisis, ones requiring greater government regulation of physicians (an outcome strenuously opposed in the past by organized medicine). In the short run, the most important effect of high malpractice premiums on quality may be that of causing physician strikes,
making care unavailable to many people in time of need. Long-range solutions to the problems of malpractice need to be designed, but the current crisis must be controlled before it produces a substantial amount of harm.

In summary, the direct effects on the quality of medical care in the United States of the increasing cost of malpractice premiums appear to be minor and somewhat unpredictable. Minor changes that favor improved quality, such as decreasing the number of family practitioners who do surgery or decreasing the number of part-time physicians, may occur. On the other hand, some necessary procedures may become less readily available, and care in general may become less available to disadvantaged members of society. On balance, changes in current malpractice premium-setting should be formulated without considering the potential effects discussed above, because they involve fundamental questions about health care delivery which should be addressed on their own merits and because the relationships between higher premiums and those effects is ambiguous at best.

DISCIPLINARY ACTIONS AGAINST PHYSICIANS

A major effect of the current malpractice system on quality could occur after the resolution of a malpractice claim, in terms of disciplinary action (or inaction) against either a physician or hospital by some official organization. In examining this contention, three principal factors need to be considered: First, results from analysis of data collected even five years ago may be irrelevant. Second, contemplated disciplinary actions can vary widely, from loss of license to suspension or restriction of licensure to mandated continuing education. Third, no longer will a small subgroup of physicians be identified by malpractice insurance claims; thus, disciplining physicians on the basis of their having been sued turns into the more generic issue of disciplining physicians in general. Data from a study performed in Maryland\(^{(33,34)}\) indicated that only 10 percent of the physicians in that state were sued in the decade 1960-1970. In the past decade the probability of a physician being sued was a relatively rare event; however, the respective figure for
the 1975-1985 decade could be 50 to 75 percent, which would translate a rare event into a common phenomenon.

**Disciplinary Measures Past and Present**

Disciplinary actions in the past have been few in number, especially at the level of state licensure boards, where disciplinary measures range from notices of deficiency to license revocations. Except for completing a routine registration process, physicians in all but three states (Kansas, New Mexico, and Maryland) are licensed for life. (42) In the last ten years, 0.66 percent of U.S. physicians had difficulty with licensing boards; about one-half of these physicians suffered a major disciplinary action such as suspension of licensure. Most disciplinary actions are for drug and/or alcohol abuse, unethical behavior, or advertising infractions; only rarely is a disciplinary action initiated on grounds of medical incompetence or malpractice. (43) Only 18 states have statutes which specifically mention professional incompetence as justification for removal of a medical licensure. (44)

State medical societies have not been significantly involved in physician discipline. Their actions are not public, and only rarely are the consequences severe; ultimate punishment would be expulsion from the society. Only seven state medical societies even specify incompetence as a reason for disciplining a member. In 1969, only 14 physicians in the United States were expelled from their respective state medical societies; another 14 were suspended. (44)

**Extent of Disciplinary Action**

In the past ten years, perhaps 0.1 percent of United States physicians have been disciplined on the grounds of medical incompetence. Between 1969 and 1973, seven states with a physician population totaling 23,000 reported no disciplinary action whatsoever. At the other extreme, California disciplined 0.58 percent of its physicians; while in the five states with the most physicians other than California, 0.11 percent of the physicians were disciplined.

Estimates of the number of medically incompetent physicians range from 3 to 5 percent. (45) A recent study by Brook and Williams (22)
indicated that 6 percent of the physicians who were treating Medicaid patients in the State of New Mexico gave 40 percent of injections judged to be medically inappropriate. Thus, the current system disciplines one-thirtieth to one-sixtieth of the incompetent physicians. Clearly, all disciplinary systems, including the malpractice system, have not been very effective in dealing with incompetence.

There is little hope that the malpractice system will contribute to solving the problem of the incompetent physician. Even if licensure boards were to review routinely those doctors who lost a malpractice claim, the use of this information as a screening device for instituting disciplinary actions would be very inefficient and possibly misleading, since ever greater numbers of physicians are being sued. Eventually, the state licensure board might be reviewing virtually all physicians. Furthermore, the social stigma of being sued will decrease as the percentage of doctors being sued increases. Finally, in the absence of other information concerning a physician's practice, analysis of malpractice claims is unlikely to be a useful mechanism by which physicians could be disciplined. This function should be part of a quality assurance system which will have extensive data about the nature and quality of a physician's practice. The addition of information about malpractice claims to these extensive data will be redundant. The crucial issue is whether the quality assurance system will use the data to improve care or if necessary discipline physicians.

THE EFFECT OF THE MALPRACTICE SYSTEM ON THE DOCTOR-PATIENT RELATIONSHIP

Most of the arguments which relate changes in the current malpractice system to changes in the level of quality provided center on altering the doctor-patient relationship. Alterations which have been postulated to occur are: 1) increased responsibility of the provider for assurance of adequate patient outcomes; 2) performance of more laboratory procedures and tests to verify or correct clinical judgments; 3) discouragement of the use of innovative procedures; 4) increased use of consultants; 5) discouragement of the delegation of
responsibility (for instance to physician assistants); 6) raised level of caution manifested by increased medical recordkeeping; and 7) development of a suspicious and adversary environment between patient and doctor.

That each of these statements is value-laden is obvious. Virtually, all the positive statements could be written in a negative formulation and vice versa. Both facts and an explicit value system are needed if an adequate understanding of the impact of malpractice on the doctor-patient relationship is to occur. Unfortunately, there is a dearth of information available on the subject.\(^{(46)}\)

The central features of many of the points (1 to 4) raised above concern the notion of defensive medicine. Modern medical science has produced an ever increasing number of costly procedures and tests which can in some cases supply vital medical information and are for the most part harmless. A skull X-ray series for a child whose head has been hit is an example. The issue at hand is whether these tests are performed to protect against malpractice suits or to benefit the patient. Some data suggest that virtually no procedures are done to protect against malpractice,\(^{(46,47)}\) but the former Secretary of Health, Education, and Welfare has stated that $3 to $7 billion may be spent on defensive medicine which is of no benefit to the patient.\(^{(48)}\) Resolution of this controversy depends on knowledge of the sensitivity and specificity of the test being considered and on the value the public places on identifying every person who has the disease.

**Use of Tests, Procedures, and Consultants**

Consider, for instance a cancer screening test. Assume that the prevalence of the cancer in the population is one in a hundred, the sensitivity of the test (the ability of a test to detect a disease if it is present) is 0.99, and the specificity of the test (the ability of a test to determine that the person does not have the disease given that the disease is absent) is also 0.99. (The three statistics chosen represent a very favorable screening situation. Virtually all tests are neither that specific nor sensitive; prevalence of the disease is usually on the order of one in a thousand.)
The following table indicates what would happen if the screening test were applied to 10,000 people:

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<th>Test Result</th>
<th>True Result</th>
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<td>Disease present</td>
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<tr>
<td>Total</td>
<td>100 = a + c</td>
<td>9900 = b + d</td>
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Sensitivity = 0.99 = a/(a+c) = a/100
a = 99; c = 1

Specificity = 0.99 = d/(b+d) = d/9900
d = 9801
b = 99

Thus, for every person who truly has the disease (in cell a above), an additional person would be identified who did not have the disease (in cell b); that is, one true positive would be identified for each false positive. One person who truly had the disease would be missed (cell c). If it were desirable to identify every person who has the disease, then the 9802 people in whom the disease was declared absent must be rescreened. The prevalence of the disease in this smaller population is 1/9802 or 0.001; the results of the rescreening are as follows:

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<td>Total</td>
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Sensitivity = 0.99 = a/(a+c) = a/1
a ~ 1, c = 0

Specificity = 0.99 = b/(b+d) = d/9801
b = 98
d = 9703
Applying the test to this population twice (in the iteration just described) would result in the identification of 100 true positives, zero false negatives, and 197 false positives. In order to decide whether applying this test to a population twice is worth the cost, society must place a value on the desirability of detecting every patient with the disease; and the value of the harm done to patients falsely labeled as positive must be compared to the good done to those labeled as true positives. Physicians, regardless of the "malpractice crisis," are trained to err on the side of aggressive therapy. Given uncertainty, they prefer to act, not to wait. Determination of whether this represents "good" or "bad" defensive medicine must await a value judgment by society. Without an explicit value judgment, some people will argue that dual application of the hypothesized screening test is evidence of the harmful effects of the malpractice issue on quality of care, and other observers will take the opposite view.

The situation is even more complex than that illustrated by the application of a no-risk screening test to the population. Modern therapeutics have produced potent medicines which may, at great monetary cost, extend the life of a few while producing suffering to many. How should these therapies be applied? If they are not considered by a physician, is a malpractice claim justified? If they are used and produce unexpected harm, as they certainly must, is a malpractice claim justified? Unless society develops an explicit value system to address these questions, value judgments concerning the relationship between malpractice and the level of quality-of-care delivered will be difficult to make in the future.

In the past few years, physicians have begun to set process criteria, which describe what they should do to the patient in order to deliver good care. When these criteria have been applied to actual medical practice, the number of procedures performed appears to be inadequate by a factor of two or three. \(^{(19,20)}\) This is true even of X-ray procedures. From the viewpoint of the malpractice issue, no evidence supports the contention that procedures which otherwise have no social value are performed simply for the sake of avoiding malpractice suits. On the other hand, evidence to support the
notion that the threat of malpractice litigation increases the performance of useful procedures is also absent, at least in part because changes in physician behavior are difficult to accomplish and require concerted effort. Substantial modifications in physician behavior are certainly not produced by the threat of malpractice sanctions; otherwise major deficiencies in medical practice would not continue to be identified in quality-of-care studies.

Medical Recordkeeping
Some observers have suggested that the threat of malpractice suits has led to increased medical recordkeeping and thereby to better quality of care. No studies have been performed to support this opinion. Clearly the value of greater recordkeeping is related to the use of this information in future patient management. Recording information just as a protection for court proceedings is a waste of expensive physician time. Unfortunately, the threshold beyond which recording findings becomes wasted effort is unknown. Moreover, evidence suggests that the critical element in medical care delivery may be the reliability with which a history is taken and physical findings are elicited; the recording of information then becomes of secondary importance.

A definitive answer to whether malpractice leads to better quality care via increased recording of medical information must await the results of studies which determine the value of this additional information. The results of these studies probably will indicate that detailed recording of information produces little patient benefit. Thus this malpractice effect will be one of decreasing slightly the efficiency of the medical care system.

Traditional Doctor-Patient Relationship
Finally, it is asserted that the malpractice situation is aggravating the dissolution of the "traditional" doctor-patient relationship. Again, in the absence of data to test this assertion, one can only argue that all institutions of society are in a state of decay—whether they be marriage, the family, or government. The times suggest that,
even in the absence of the malpractice crisis, the conventional doctor-patient relationship (authority figure versus dependent figure) would be deteriorating rapidly; in the future, the status of the patient and the physician may be more nearly equal. Disappearance of the conventional doctor-patient relationship, whether or not aggravated by the malpractice crisis may be a social good which will lead to a greater willingness by the patient to assume more responsibility for his own health.

In summary, there is little information available to answer the question of the effect of the current or future malpractice system on quality. Furthermore, even if such information were available, its interpretation would be impossible if society does not determine what amount of health it wants at what price. In absence of such information, rhetoric which supports either side of the issue will be heavy, but its impact on policy hopefully will be minimal.
V. POLICY AND RESEARCH IMPLICATIONS

The discussion above is characterized by a marked lack of data. Indeed, any relationship between the malpractice crisis and deterioration or improvement in quality of care is established mainly through inappropriate generalization from sparse data and deductive reasoning, except insofar as malpractice is a crystal-clear reflection of poor quality of care in general. The impact of the threat of a malpractice claim on improving the level of quality of care appears to be miniscule when compared to the impact of other factors in the medical care system which dictate the level of quality of care provided. Similarly, no evidence substantiates the assertion that the threat of a malpractice claim seriously impairs the level of patient care provided. The immediate conclusion, then, is that in resolving the malpractice crisis of the 1970s, considerations other than quality should be given a much higher weight.

Nevertheless, some tentative conclusions can be advanced which permit suggestions for research studies and policy to be made. First, the issue of sanctioning the physician should be separated from that of compensating the patient. A fair system for compensating the patient must be developed whether that be through a no-fault insurance system or through some form of life or disability insurance. Second, separation of physician sanction from patient compensation should be done carefully, so that the solution to the first question does not lead to the distortion of the quality of care provided. Third, the opportunity that the malpractice crisis of 1975 provides for increasing the accountability of the medical care system, especially physicians and hospitals, should not be squandered. Physician insistence on having the government involved in solving a medical care delivery problem is not likely to occur again in the near future. Unfortunately, early attempts by state legislatures and the Federal government to solve the malpractice crisis may have worsened the quality of care problem.
All but three state legislatures have dealt with the malpractice issue in 1975. Twenty-eight states have enacted laws; 24 states have established malpractice study commissions. In examining these bills (see Table 1), it is obvious that the state legislators feel the need to make changes in the medical care system which will increase the quality of care provided when they modify the malpractice system in favor of the physician by, for example, decreasing physician liability or limiting the award size. Ten state laws (Table 1, item 1), require all malpractice claims to be reported to appropriate state boards, the insurance committee, and/or the legislature. In one state, only those claims which have been settled for some award amount need to be reported. Michigan, Ohio, and Oregon have enacted legislation (item 2) which requires health care providers, screening panels, medical societies, and hospital review committees to report instances of possible malpractice, questionable professional conduct, or professional incompetence to the state licensing board. The intent of this requirement is to investigate such providers when reports of sufficient urgency or number about one provider are received. Such communications are confidential; individuals making these reports are protected from liability, as are members of the review committee. Patient grievance mechanisms are also being implemented in some states. Colorado, for instance, by statute requires an investigation of any sworn complaint for reasonable cause. Ten states have substantially broadened the basis for disciplinary actions by including substandard or incompetent care as sufficient cause for disciplining a physician (item 4).

The range of disciplinary actions available to state licensure boards has also been increased (items 5 to 8). Previously, probation, suspension, and revocation of license were the basic means of punishment. Certain state boards can now fine a provider, require specific additional schooling, or issue public reprimands. The availability of these less drastic disciplinary measures is important because, when only relatively severe sanctions are available and discipline is essentially all or none, the tendency (which is rather well documented) is to take no action at all except in the most extreme
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Action in 1975: 1 P = Proposed
V = Vetoed by Governor
L = Enacted into Law
E = Existing
G = Awaiting Governor's action

Legend:

1. Requires all malpractice claims and/or settlements to be reported
2. Requires reporting of repeated or gross malpractice and/or professional incompetence and/or disciplinary actions to State Board by screening panels, medical societies, or hospital review committees
3. Medical review boards established
4. Broadens basis for disciplinary action
5. Provides for restriction of practitioners' license
6. Provides for competency examinations for continued licensure at State's discretion
7. Periodic relicensure
8. Requires continuing education
9. Requires PSRO review of services of participating providers
10. Specifies criteria for informed consent
cases. Oregon has empowered the Board of Medical Examiners to suspend the physician's license temporarily without a hearing when to continue to practice medicine would constitute an immediate danger to the public, thereby preventing in the most extreme case the occurrence of additional injury during the process of formal litigation and hearings. In 1971, New Mexico became the first state to require continuing education and periodic relicensure. Six states require post-licensure education (ranging from 15 to 50 hours per year). Five states have given a new power to their licensing board to limit a physician's practice if he is deficient in certain areas. In these states, a family practitioner can now be excluded from the performance of surgery. Five states have passed laws which require physicians to take a comprehensive examination upon demand by the licensing board.

At the Federal level, the Kennedy-Inouye bill (Senate Bill 215) contains several quality assurance provisions, including: 1) the establishment of national licensure and relicensure standards; 2) the requirement of PSRO review of participating physicians; 3) the evaluation of practitioners who lose a large number or amount of malpractice claims; 4) the requirement of concurring consultation for any elective surgery; and 5) the establishment of provider responsibility for informing patients of adverse results, on the threat of personal liability.

This survey of the laws which have been passed or are pending in State legislatures and the U.S. Congress produced the expected results. Emphases are on reporting instances of incompetency, continuing education and relicensure, and broadening the effectiveness of state licensure boards. In many ways these legislative actions foster a piece-meal approach to quality assurance. In part they duplicate the activities of the PSRO and JCAH, and, except for the Kennedy-Inouye proposals, do little to strengthen them. Relicensure and educational activities will improve care only if deficiency in cognitive knowledge is the major problem in the delivery of better health care. If a physician's habits and behavior, such as his willingness to see a patient in the middle of the night, are more important in determining
quality than in attending courses, the impact of the relicensure procedures on quality is likely to be severely limited. Mandatory continuing education, which usually contains material of interest to the educator and not relevant to the practicing physician, and relicensure requirements\(^{53}\) may lead to the mastery of material which is not relevant to the practicing physician or is quickly forgotten.

Tabulation and reporting of the number of physician-specific malpractice events are also not likely to improve the quality of medical care. In the absence of knowledge about the physician's case mix or the number of patients he treats, the physician malpractice claim rate will be virtually useless. Substantial time and money would be spent in investigating such incidents, and this expenditure of resources would likely duplicate the work being performed by whatever quality assurance system exists in the area, such as PSRO. If malpractice claims must be reported, they should be reported directly to the PSRO. This would at least concentrate the data in the hands of one organization which could then generate physician profiles. (The PSRO would know the number of patient care activities of each physician.) These profiles would be used to determine if the malpractice incident was a fluke or represents a typical pattern of practice.

One state bill (Washington) and one Federal bill (S. 215) propose the establishment of a no-fault insurance system. The system would identify events that more often than not are due to physician negligence and would compensate patients who have suffered these events without their having to prove physician negligence. A record would be kept of the number of physician-specific compensated events. This record could be used as a quality of care measure. Again the utility of this measure is limited without the collection of simultaneous data which describe the physician's patient care activities.

The no-fault insurance system could produce one major paradoxical effect as the definition of a compensable event is broadened. Suppose a patient presents to a physician with terminal cancer. If this patient died from his disease, his family would not be compensated.
If, however, he were treated with powerful drugs which perhaps could be beneficial but were not in this case, and this treatment regimen produced death, then the patient has suffered a compensable event and his family would be awarded restitution. Since the future economic stability of the family is considered by many physicians when decisions about the care to be given to a terminal patient are made, the pressure would be on the physician to make some deaths that would occur anyway appear to be a compensable event.

**RESEARCH OPPORTUNITIES**

It would have been desirable to have more information to support the conclusions stated above. Even at this late date in the policy debate over malpractice, it would be useful to conduct studies to determine (in a more precise manner) the relationship between malpractice and quality of care. Basic epidemiologic information about the incidence and prevalence of poor physician practice and how it relates to physician characteristics is sorely needed. Studies determining the impact of a large malpractice claim on the patterns of practice in an area easily could be done. For instance, emergency care provided to injury victims could be studied in selected sites. Within a couple of years, at least one large malpractice suit would probably occur in one or more of these sites. Following such a suit, the quality of emergency care could be reassessed to determine the effects, if any, of the malpractice suit. Similarly, studies could be designed which examine the change in physicians' practices when they move from a high-malpractice situation to a low-malpractice situation (or *vice versa*). For example, what changes occur when doctors leave military practice where the malpractice claim rate is low and enter the fee-for-service system where it is high? What happens when doctors move either into or out of a prepaid group practice which has a low level of malpractice claims, or into or out of the fee-for-service system which has a higher level of malpractice claims? Finally, perhaps the most important question on which research is desperately needed involves the relationship between the commission of events which would be legally compensable *via-vis* the general
level of quality of care that a provider renders? Research which
answered these questions could greatly facilitate the development
of a system for compensating patients which would both provide jus-
tice to the patients who have suffered untoward events and would
increase the level of quality of care rendered to all patients, even
those who have not suffered untoward events.

CONCLUDING REMARKS

Up to this point, the conclusions reached are of little use to
policymakers. They suggest that more research is needed and that
proposed changes in the malpractice system which would include
relicensure and mandatory education are likely to be expensive and
produce little alteration in the quality of medical care. What then
should be done to take advantage of the current crisis and increase
the accountability of the medical care system?

The answer lies in trading off lower malpractice premiums with
fundamental alterations of the current quality assurance system in
the United States, the PSRO. When the law containing PSRO was passed,
many compromises were necessary in order to gain some cooperation by
the medical profession. These compromises make the PSRO system both
less public and less accountable than it could be. Furthermore they
limit the depth and breadth of the quality assessment activities that
the PSRO is permitted to perform. Instead of building an expensive
duplicate quality assurance system based on reporting malpractice
claims or on relicensure, the current PSRO quality assurance system
should be made more accountable by altering it in the following ways:

1) local PSROs should have elected public members and these public
members should observe (if not participate in) the technical review
of quality of care; without such public participation bad care can
too easily be hidden; 2) the authority of PSROs should be extended
to include the review of care given to all patients whether or not
their care is financed by the Federal government; Medicaid and
Medicare patients should not be the only ones to benefit from a
quality assurance program; 3) the authority of PSROs should be

*Additional evidence which supports these modifications of the
PSRO program is contained in Reference 54, which is a detailed
description of current quality assurance activities in the United States.
extended to cover the review of ambulatory as well as hospital care; 4) the results of the quality audits should be made available to the public by PSRO area, hospital, and if necessary, by physician or at least by a physician characteristic—such as age or board certification status; (this assumes that such analyses would be placed in proper context, so that hospitals or physicians caring for sicker patients are not penalized); 5) standards and criteria of care should be set nationally instead of locally, otherwise Americans in different medical care areas will be receiving different levels of care; 6) licensed physicians should be required to participate actively and without compensation in the peer review activities of the PSRO; otherwise their license should be revoked; *7) the effect of the PSRO on altering the quality of care of its community should be determined by means of an external audit prepared by an agency such as the National Center for Health Statistics of the Department of Health, Education, and Welfare; without such an audit the validity of the PSRO's results cannot be substantiated; and 8) the PSRO should be given the authority to revoke, if necessary, the license of a physician.

In the long run, improving the quality of care depends on increasing the public awareness of the medical care system and what is required to maintain one's health. This will necessitate access to information which to date has remained hidden from public view. If the malpractice crisis of 1975 produces legislation which alters the PSRO system to accomplish these objectives, that outcome will go a long way to improving the quality of care delivered and thereby the health of the American people. Unfortunately, these rather sweeping alterations in the PSRO program by themselves may not increase the health of the American people; unless the public demonstrates its interest in improving its health by vigorously monitoring, through its elected constituency, the PSRO program.

*Of course, physician time will not be free as perceived by the medical care system. It is imperative that physician time for peer review not be considered a "reimbursable" professional activity, but rather a professional responsibility akin to attending grand rounds or keeping abreast of the medical literature.
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