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# THE ROLE OF PROFESSIONAL MEDICAL SOCIETIES IN REDUCING PRACTICE VARIATIONS

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by J. Sanford Schwartz

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**Prologue:** *As a group and as individuals, physicians—like most professionals—jealously protect their autonomy and prerogatives. They have been slow to examine the implications of the phenomenon of variations on the cost of care. When physicians and professional groups have focused their attention on variations, the concern has revolved around the quality of medical care. One of the professional societies that has most aggressively examined the misuse of medical practices, including variations in its use, has been the American College of Physicians, through its Clinical Efficacy Assessment Project. The director of that project—which was funded largely by a grant from The John A. Hartford Foundation—was J. Sanford Schwartz, a board-certified internist who is also an assistant professor of medicine at the University of Pennsylvania Medical School. Schwartz, who also trained at Penn and served as a Robert Wood Johnson Clinical Scholar, is a firm believer in medicine taking greater responsibility for evaluating the safety and efficacy of medical practice. An evaluation of the college's clinical efficacy project is underway, but preliminary information suggests that its recommendations are important sources of information for health policymakers and third-party payers in their decision making. While Schwartz believes the medical profession must be centrally involved in any assessment of clinical efficacy, he also advocates the creation of a quasi-governmental body that would assume responsibility for the assessment of medical technologies. This body must not be directly related to a health financing or regulatory agency if it is to be credible in the eyes of physicians, Schwartz maintains.*

Large variations in the use of services by physicians have been identified. Service variation per se is not a problem; service misutilization is a problem. Service variation is important because it marks potential misutilization. If service variation is great, one might suspect that some physicians are overutilizing services or others are underutilizing services. Conversely, misutilization can occur without significant service variation when the whole profession accepts a standard of care which is inappropriate.

Some variation is necessary and even desirable in the practice of medicine, where a range of professional skills and resources and the unique presentation and preferences of each patient dictates an individualized approach to medical care delivery. However, most of the differences in utilization thus far identified cannot be explained by differences in the quality of medical care delivered and in patient outcomes. Variation of physician utilization of medical services is of concern because it represents costly and poor quality medical practice when patients are subjected to increased risks with no apparent benefit. Thus, it is in society's and the medical profession's interest to reduce wasteful and harmful practices.

Our knowledge of variation in physician services is limited. We have great difficulty defining appropriate and inappropriate utilization. We know little of what factors are responsible for significant practice variations. Our limited knowledge has restricted our ability to reduce undesirable service variations.

Reduction of unnecessary, marginal, or harmful physician practices requires modifying physician behavior. Most programs which have successfully modified physician behavior have shared one component— involvement of physicians in their development and implementation. Physicians, as do other professionals, resist attempts by outsiders to dictate how to practice their profession. While many factors influence physician behavior, peer respect and opinion are acknowledged to be among the most important motivating factors. Thus, physician cooperation and even leadership are necessary components of any program addressing the problem of service variation and misutilization. This paper reviews some of the activities undertaken by the profession to address concerns of service misutilization, and identifies new areas where future involvement by the profession is both desirable and necessary.

The medical profession should be concerned with inappropriate service utilization because such activity adversely affects the quality of health enjoyed by society. Three types of service misutilization can be identified: (1) overutilization of safe practices, (2) overutilization of practices which entail some risk to the patient, and (3) underutilization of effective practices. Overutilization of safe practices is the least harmful type of misutilization. Since the procedure performed poses no direct risk to the patient, the direct net result of such misutilization is the waste of societal resources.

This reflects on the health status of the population in that it represents a portion of the limited resources we devote to medical care that could have been spent more effectively elsewhere. However, overutilization of such practices actually may harm a patient's health if these practices lead to the unnecessary conduct of a subsequent practice which does entail some risk to the patient. In fact, this adverse effect of overutilized diagnostic tests and procedures is thought to be common. Overutilization of tests, procedures, and therapies which entail some risk to the patient directly reduces the health of the population, in addition to wasting resources. The third type of service misutilization, underutilization of effective practices, is not well understood and has received limited attention (particularly outside the medical profession). Such service underutilization deprives patients of the benefits of available practices. It is a particular problem with preventive and rehabilitative services.

Some groups within the medical profession have recognized the adverse health consequences of misutilization of physician services as reflected by large variations in physician practices. As might be expected, physicians and professional groups have focused on the implication of such variations on the quality of medical care. Until recently, underutilization of effective practices was of primary concern. More recently, however, the profession has been increasingly aware of service overutilization. A few professional societies have exhibited leadership in this area by initiating major programs aimed at reducing such overutilization.

The earliest professional society efforts to reduce variation of physician services resulting from service misutilization focused on the underutilization of vaccines and immunizations in children and was based on educating physicians to standards of appropriate care. For approximately thirty years the American Association of Pediatrics has issued recommendations to physicians caring for infants and children on the appropriate use of immunizations and vaccinations. The program was developed in response to evidence that pediatricians and general practitioners were confused and misinformed regarding the safety, effectiveness, and appropriate use of such preventive measures. Effective vaccines were being underutilized by many physicians; the effectiveness of others were being compromised by their use at inappropriate times and through inappropriate administration schedules. Recommendations for the appropriate use of immunizations were developed by a panel of experts based on their knowledge of the medical profession and were disseminated through the society's journal and the lay press. Unusual for a professional society was the organization's willingness to lobby publicly for its recommendations, seeking to reinforce its educational efforts with public pressure and, at times, the force of law or administrative regulation. More recently the society has extended its activities to developing guidelines for the use of other practices (tuberculin screening; neonatal screening; and neonatal,

infant, and childhood nutrition).

Other professional societies (the American Medical Association, the American Dental Association, and most of the medical subspecialty societies) have a similar mechanism to develop recommendations regarding the appropriate utilization of specific medical practices. However, the guidelines issued by these groups generally are motivated by a particular interest of a small group of members and are not part of a program which has any specific objective other than to encourage better quality medical practice.

The programs of most professional societies have two other characteristics in common. First, the guidelines generally are derived by consensus of experts through an informal process based primarily on the experts' knowledge and recall of the literature. One exception to this is the American Medical Association's Council on Scientific Affairs which develops occasional literature-based review papers prior to issuance of recommendations. Second, the intent of these programs is educational. The premise of these programs is that inadequate information on the part of the physicians is the primary reason for inappropriate variation and misutilization of services, and that appropriate utilization will follow if physicians are informed of the consensus of experts regarding the safety, efficacy, and appropriate use of specific medical practices.

Both of these program characteristics limit the effectiveness of professional efforts aimed at correcting service misutilization. Experts often are intimately involved in the development of a test, procedure, or practice. Thus, there is a tendency for them to exhibit substantial bias when assessing its appropriate role in clinical practice, usually on the side of overestimating its usefulness. Likewise, subspecialty societies may be subject to enormous pressures from parts of their constituencies which have a substantial economic or professional stake in the practice, also resulting in recommendations overestimating the benefit of a practice. In addition, there is substantial evidence which suggests that education alone is a poor motivator of physician behavioral change. Education coupled with peer opinion, as might occur if medical society recommendations are broadly accepted as the norm by the profession, is a more potent factor. However, more effective behavioral change is thought to occur if education and peer pressure are combined with incentives or penalties on physician practice, such as reimbursement guidelines and legal requirements.

A great deal of professional society activity in developing guidelines on appropriate service utilization has occurred in the past several years. This activity has been led by the American College of Physicians, the nation's major society of internists, which has developed an ambitious, broad-ranging, and widely respected program to encourage more appropriate utilization of physician services.

In the mid-1970s the American College of Physicians (ACP) became concerned that the misuse of medical practices was a major contributor to increasing medical care costs and reduced the quality of medical care delivered by physicians. In conjunction with the Blue Cross and Blue Shield Associations of America, the college reviewed the efficacy of a large number of diagnostic tests. Based on expert consensus, the college identified many tests and procedures judged to be without value or to be outmoded and superseded by improved methods. The Blue Cross and Blue Shield Associations used the college's recommendations as a major factor in deciding whether to reimburse for the practices. Thus, a professional society's educational efforts and peer opinion were, for the first time, linked to the incentive of reimbursement. As a result of this program the Blue Cross and Blue Shield Associations have claimed annual savings of millions of dollars. More recently, this Medical Necessity Project has been expanded by Blue Cross and Blue Shield to involve multiple specialty and subspecialty societies in one or two conferences annually which address service misutilization in various clinical areas, such as respiratory therapy, cardiac care, and laboratory tests.

However, the ACP soon recognized that most utilization assessments are more complex. Most tests and procedures are appropriate and useful when used in selected clinical settings for specific purposes but are of limited or no usefulness if used in other settings for other purposes. Assessment of these practices requires rigorous evaluation of the scientific literature. Several reasons for large variations in service use and service misutilization were recognized. Inadequate and incorrect information about the safety and efficacy of medical practices is a factor in the large utilization variation of selected medical practices. The extensive specialization of medical practice and research has led to a highly fragmented medical literature. Important information about the safety and efficacy of tests and procedures is dispersed among many specialty and subspecialty journals. It is difficult for experts, let alone practitioners, to keep abreast of major developments. The problem is compounded by the apparent lack of professional consensus for many practices, particularly for those used to diagnose or treat chronic diseases in which the natural history is poorly understood and for which convincing results from well-designed clinical trials are not available. Thus, to insure the development of more objective, more valid recommendations, to educate physicians to state-of-the-art medical practice, and to resolve some of the controversies regarding the clinical value of specific practices, the college (with a major grant from The John A. Hartford Foundation) established the Clinical Efficacy Assessment Project (CEAP).

CEAP is a broad-based program of a literature-based review process combined with expert opinion to evaluate the safety and efficacy of specified clinical practices to develop recommendations regarding their

appropriate use. The intent of the program is to identify consensus concerning service utilization where it exists and is supported by the medical literature, thus encouraging the adoption of valid utilization norms which might constrain variations in service utilization. Where there is insufficient information to resolve controversies, the process serves to limit the areas of disagreement and to identify the important areas where more information is required. The project suggests steps and encourages mechanisms to obtain the data necessary to answer unresolved questions.

A subcommittee of the ACP composed of physicians expert in the evaluation of medical practices selects tests and procedures for evaluation from among requests made by college members, the federal government, third-party payers, or the committee and its staff. Practices for review are selected based on the perceived extent of physician uncertainty about their appropriate use (as reflected, in part, by large variations in their use) and the impact of misutilization on patient health and medical care costs. A comprehensive review of the medical literature is conducted on each selected topic by either a physician on the CEAP staff or by an outside consultant, followed by the development of a draft position paper. This paper is circulated broadly to physicians expert in the topic being evaluated, supplemented by opinions from the various medical subspecialty societies which are affiliated with the ACP. The CEAP staff and subcommittee review this information and revise the draft statement accordingly. Differences in opinion and interpretation are resolved, where possible, by the literature. This process is repeated by the ACP's Health and Public Policy Committee and Executive Committee of the Board of Regents before a final statement is adopted. Final statements are disseminated widely to physicians through publication in the *Annals of Internal Medicine*, to the college's 57,000 members through the organization's own newspaper, to interested health policymakers through special mailings, and to the public through the lay press.

Evaluation of the first thirty-six months of the project is in progress. However, preliminary information suggests that its recommendations are important sources of information for health policymakers and third-party payers in their decision making. The impact of the statements on physicians is less clear, although it is apparent from the correspondence and comments generated by the statements that they are read widely. Moreover, the Clinical Efficacy Assessment Project has served as an important model for other professional organizations in developing their own programs. Many medical subspecialty professional organizations have requested information and assistance from the ACP in setting up their own counterpart activities. The European group of the World Health Organization is considering developing its own medical practices evaluation program modeled in large part on the CEAP. Thus, the ACP has developed a formal and rigorous methodology to evaluate physician



practices. By linking many of its activities with those of third-party reimbursers it is expected that physician adherence to college recommendations will increase. Moreover, its efforts and experiences stimulated acceptance by professional organizations of their responsibility in addressing the misutilization of tests and procedures. Today, it is the rare professional society which does not acknowledge that responsibility, a marked turnaround from just five years ago.

A different role for professional groups in reducing service misutilization is illustrated by the cooperation of the Pennsylvania Medical Society with Pennsylvania Blue Shield's utilization review program. Pennsylvania Blue Shield pays medical claims for two-thirds of that state's twelve million people through its own programs or as the Medicare carrier in Pennsylvania. Data are collected on billed services for almost all 20,000 providers in the state. With the cooperation of the Pennsylvania Medical Society, Pennsylvania Blue Shield developed a utilization review program which, in part, profiles the service utilization of medical providers in the state. Each provider is assigned to a "peer" group composed of physicians of the same specialty practicing in the same type of geographical setting. Each year the utilization of each physician is calculated for each billed service. Variations of service utilization within peer groups is large. Those physicians whose utilization for a service exceeds the ninety-fifth percentile level for their "peer" group are identified. The number of services above the ninety-fifth percentile are multiplied by the physician's mean charge for the service. Physicians whose charges for services beyond the ninety-fifth percentile exceed \$5,000 during the year receive a letter informing them of their high level of service utilization relative to their peers. The letter is educational. No action is taken on the basis of the letter (although the providers know that Pennsylvania Blue Shield also conducts audit programs and will, on occasion, require physicians to return funds for unnecessary service utilization).

The effect of the letter informing physicians of their high utilization levels has been evaluated in two groups of providers—internists and podiatrists. In both groups the effect of the letter was striking—a persistent increase in billing for services in the years prior to receipt of the letter was followed by a sharp and persistent decrease in billed charges after receipt of the letter for up to five years. Thus, it appears that merely informing physicians of their high levels of service utilization relative to other similar physicians influences some of them to decrease their subsequent service utilization.

Elsewhere in this issue John Wennberg describes the important role of state medical societies in Maine and Iowa in developing and implementing other feedback programs to reduce large variations in physician services which result from excessive use of medical services. The cooperation of professional societies in encouraging their members to participate in

the office record data collection phase of the Rand Study described in this issue by Robert Brook is central to that effort to investigate to what degree the utilization of selected procedures meet expert developed criteria for appropriate use. Thus, physician involvement, which is central to successful intervention programs, is readily accepted by most professional societies today if the societies are convinced that the programs will result in improved quality of care and assist physicians in improving their practice of medicine.

Review of the published literature, feedback of utilization practice patterns, and expert consensus represent only partial responses to the problems of variations in utilization and the misutilization underlying such variation. Misutilization of medical practices sometimes cannot be resolved by these methods because important information necessary to settle certain controversies is lacking—the natural history of the disease is not known or convincing clinical studies have not been performed. Many of the questions can be answered through well-designed clinical trials. Most research on the application of medical practices is conducted at large medical centers. However, the very atypical features of these centers severely limit the ability to generalize findings from such centers to the larger community of physicians, the vast majority of which practice in other settings. Thus, some controversies are based on questions which only can be answered through data collected in community practice. Unfortunately, researchers often are insensitive to the needs and problems of practitioners; practicing physicians often are wary of opening their practices and records to researchers.

Professional medical societies have the potential to play an essential and central role in resolving some of these problems. Most professional societies are composed of both researchers and practitioners who are loyal to and feel a responsibility toward the organizations. The larger specialty societies also possess the regional and local organizations to recruit their members to collect data on the safety of various practices (complications, survival) and on selected information of the diagnostic yield of various tests and procedures (the percent of cases in which the practice is successfully completed, the results of the procedure).

While large variations in physician service utilization have been documented frequently, the factors underlying such variation are poorly understood. We know little of what motivates physicians to order or perform specific tests or procedures. What is the influence of such factors as specialty and subspecialty training, physician or patient age, insurance reimbursement, disease severity, patient reliability, and the physician's clinical intent on service utilization? How much of the observed differences in service utilization are due to differences in case-mix, physician knowledge, physician thresholds for ruling out disease for instituting treatment, physician ability to interpret diagnostic tests, and the practice

of defensive medicine? Even basic descriptive information such as the frequency with which specific diagnostic tests and procedures are performed is not known. Until these and similar questions are answered we will not fully understand the reasons for variation in service utilization and how to deal with service misutilization effectively. These questions can be answered only by physicians as they collect data on their own medical practice. It is in the generation of such new information on the use of medical practices and on the impact of such practices on subsequent physician behavior that professional societies may have their most exciting and important role.

The ACP has recognized the importance of collecting such information from its members if it is to deal more effectively with the issues of variations in and appropriate utilization of physician services. Knowledge of what tests and procedures are being utilized and the cost implications of such utilization are necessary in selecting which practices to evaluate in order to maximize the impact of the college's CEAP efforts. Moreover, knowledge of the role of the various factors which motivate physician test ordering practices is necessary to structure recommendations to address the concerns and respond to the uncertainties faced by physicians in an effective manner.

To gather these data, the ACP is seeking a sample of its members to serve as field investigators. These physicians will collect carefully specified data on their use of specific tests and procedures. Postmarketing surveillance of the safety and level of performance of tests and procedures will be conducted. Insight into the factors influencing utilization decisions will be gathered. The prospective collection of information will ensure complete data collection to questions which generally cannot be addressed through retrospective examination of medical records. The results, in turn, will influence future responses and interventions to correct misutilization. For example, if many physicians appear to be using a test inappropriately for purposes of defensive medicine, a subsequent recommendation (representing the official position of a national professional association) can deal with the issue explicitly. On the other hand, if it is found that some tests are performed because physicians are not processing the information from prior tests correctly, that is, improper revision of probabilities, educational programs to deal with the problem might be developed. Thus, this proposed physician's network will contribute important information on service utilization, will aid in the selection of areas for future evaluation and investigation, will encourage the development of recommendations and guidelines which respond to the clinical needs of practitioners, and will stimulate development of more effective intervention programs.

While professional societies have exhibited leadership and cooperation in addressing issues of service misutilization, changes must occur in the

present environment if the potential contributions of the societies are to be realized. A major reason for the significant variation in physician practices is a lack of clear consensus among experts and within professional societies regarding appropriate service utilization. A portion of this problem can be dealt with by the profession. Physicians need to recognize and acknowledge the uncertainty which underlies much of medical practice. Once this is accepted, physicians and their societies will recognize more readily that recommendations can and must be made in the face of uncertainty. Uncertainty, while limiting consensus; cannot be used as an excuse for professional society inaction. Uncertainty always will be part of medical practice as long as innovations and growth continue. However, perfect agreement is not required to take action. Uncertainty merely serves to bound the extent of the recommendations made. Even where considerable uncertainty is present, sufficient data generally exist to permit agreement on the major portion of utilization—to identify when a practice is indicated, where no data exist to support its use, where it is contraindicated, and where true uncertainty exists.

Even if the medical profession engages in such evaluation activities on a larger scale, significant unnecessary practice variation will continue to exist. Simply put, there are inadequate data regarding the safety and efficacy of most medical practices. Several steps are needed to resolve this problem. First, physicians must place the burden of proof for medical practices on their documented safety and efficacy. Practices should not be adopted until they are shown to be of significant clinical value and of acceptable safety. Unfortunately, the converse often is true—practices are adopted without adequate evidence of safety and efficacy and are continued until they are shown either to be unsafe or of no marginal benefit.

More important is the need to expand the conduct of clinical trials significantly. Evaluation of the safety, efficacy, and performance of procedures, and other physician practices is a complex and time-consuming activity. Professional societies might be expected to undertake some of these activities using their own resources. However, substantial outside financial support will be necessary if such activities are to rise beyond a token approach to the problem. The public and its representative bodies (government, insurers, industry) must recognize that only they have the resources to sponsor and conduct the many high quality efficacy evaluations necessary to reduce professional uncertainty. Health insurers in particular (both governmental and private sector) have much to gain from such activities. They should be willing to provide financial support to assist the professional societies and clinical researchers in conducting these efforts. However, the fragmented insurance market discourages such support. The results of activities funded by one insurer become part of the public domain, from which all insurers can benefit. Thus, individual insurers have been reluctant to provide funding for such activities.

Private foundation and government research funds also will be required to facilitate the development of improved methods of evaluating practices and the development of new intervention programs, and to sponsor research about the factors underlying service variation and misutilization. While several foundations, including the John A. Hartford Foundation, the Commonwealth Foundation, the Robert Wood Johnson Foundation, and the Millbank Foundation have supported some activities in this area, much more support is needed. Government financial support has been conspicuously absent from such activities. It has been estimated that only about 5 percent of the budget of the National Institutes of Health is spent on clinical trials (and the bulk of that in the National Cancer Institute). This is surprising since the federal government is the largest single purchaser of health services. Activities in this are likely to be limited until the federal government accepts a larger role.

A third problem limiting the development and implementation of effective programs to reduce service misutilization is the absence of a central body to coordinate the various groups engaged in such activities. Medical societies tend to be relatively small with limited staff. Most represent small groups of physicians whose interests center about a medical discipline or a geographic region. However, most problems of service misutilization are interdisciplinary. Programs to deal with such problems require significant administrative and research support. Since the closing of the fledgling National Center for Health Care Technology in 1982, no organization exists which is capable of coordinating activities among professional groups, insurers, and policymakers. Such a body is necessary to collect data, facilitate diffusion of information and successful interventions, help set agendas, and stimulate communication among interested groups. Progress in combating misutilization and waste of medical services will be restricted severely until such a central body is established. Although some groups oppose the federal government assuming this role, many believe that the private sector will be unable to establish and support such a body and that governmental initiative will be necessary.

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## Summary

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Service variation is a problem insofar as it represents inappropriate service utilization. Professional groups can help identify when service utilization is appropriate and when it is not.

The Clinical Efficacy Assessment Project of the American College of Physicians and the Medical Necessity Project coordinated by the Blue Cross and Blue Shield Associations of America provide two examples of successful projects which serve to identify areas of both consensus and unresolved controversy regarding the use of specific medical services. Several medical societies recently have developed programs modeled in

large part on the CEAP. Today most professional societies acknowledge their responsibility for helping reduce unnecessary utilization of services within their realms of clinical expertise. However, there is a limit to the amount of resources that voluntary organizations can devote to such activities. If this service provided by professional groups is useful, those groups which stand to profit most from these activities (government and private sector health insurers) should provide financial support for such programs.

Programs which attempt to reduce variations in and misutilization of services require the endorsement and, preferably, the active cooperation of professional societies if they are to be successful. Several examples now exist which suggest that state medical societies are willing to support and participate in such activities.

An exciting future role for professional societies is to utilize their major resource—their membership—to collect primary data on the utilization of medical services and the factors underlying such use. Further understanding of the many subjective factors involved in the ordering and provision of medical services will be required in order to deal with the problem of service variation and misutilization more effectively. While most professional organizations lack the staff expertise to conduct such research, most researchers lack access to large numbers of practicing physicians. A joint effort between physician organizations and researchers along the lines of that proposed by the ACP represents an exciting and potentially rewarding venture.

Professional organizations have a central role to play in any program which seeks to learn more about the occurrence, extent, and implications of practice variations and service misutilization. Their cooperation is essential to developing and initiating successful intervention projects to correct these problems. Only physicians can identify the criteria for appropriate service utilization. Professional organizations have shown themselves to be willing and able to accept such roles. However, if their potential contributions are to be realized, sources of financial support and a central national body to help coordinate activities are necessary.