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Professional Education in Medicine and Law: Structural Differences, Common Failings, Possible Opportunities

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THIRTY-FOURTH CLEVELAND-MARSHALL
FUND LECTURE
PROFESSIONAL EDUCATION IN MEDICINE AND LAW:
STRUCTURAL DIFFERENCES, COMMON FAILINGS,
POSSIBLE OPPORTUNITIES

ROGER C. CRAMTON*

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Medicine and law emerged in the early decades of the twentieth century as strong, highly organized professions with high status, increasing rewards, and growing autonomy.¹ Professional claims of esoteric knowledge, collegial solidarity, and disinterestedness were accepted by members of the profession and the general public. Professional schools in both disciplines forged university connections and achieved dominant positions in the preparation of new professionals. Patterns of medical and legal education established during this formative period, extending roughly from 1890 to 1920, have been highly persistent. Since then, the organization and activities of doctors and lawyers have changed markedly under the impact of increased specialization, growing bureaucratization, and expanded competition. Each profession is haunted by fears that fragmentation, commercialism, and excessive competition will undermine traditional professional values such as autonomy.

Despite these similarities, educators in the two professions have proceeded in isolation from one another. There has been little knowledge

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¹ Developments in medicine and medical education are discussed in P. STARR, *THE SOCIAL TRANSFORMATION OF AMERICAN MEDICINE* (1982); those in law and legal education in R. STEVENS, *LAW SCHOOL: LEGAL EDUCATION FROM THE 1850s TO THE 1950s* (1983).

or consideration by those in one profession of developments in the other. Little effort has been made to compare the two fields of professional education and to ask whether each could learn from the experience of the other. This paper is a preliminary exploration of this subject. It begins with an overview of persistent differences in medical and legal education, examines and attempts to explain some common failings, and concludes with some tentative comments on what each sphere of professional education might learn from the other. The focus in each case will be on preparation leading to the basic professional degree (M.D. in the case of medicine and J.D. in the case of law), rather than subsequent graduate or specialized education.

I. SOME PERSISTENT DIFFERENCES

Beneath the common ground of professional ideology, there are important differences between medicine and law. Health is a more important social value in contemporary America than justice, and there is much greater agreement on its content. Despite inequalities in the distribution of health care, doctors serve a larger range of the population—rich and poor—than lawyers, who primarily are employed by the well-to-do.

Whatever the force of the argument in medicine that the supply of physicians creates its own demand,² this argument has much greater plausibility in law because of the premises and effects of the adversary system. Legal exertions on behalf of one person have interactive and dynamic effects: they create legal costs for others, who must hire lawyers and defend proceedings, and social costs for the public. Imagine the effects on health care if one group of doctors were trying to make the patient well and another group were trying to keep him ill.

These differences explain a crucial variable—the willingness of the public to devote public funds to health care and to medical education. Unlike legal education, medical education need not support itself on tuition and philanthropy alone. Although the indirect support of medical education built into federal health-care programs is now threatened, the current problem of medical educators is how to present their arguments to taxpayer representatives so that public subsidies will be renewed and expanded. That option is not open to legal educators.

Apart from these global differences, medical and legal education differ in structure and form. Three important structural differences that have persisted over a long period of time are worth mentioning: (1) scale of

² Arguments of a supply-induced demand usually rest on an ability of suppliers to dupe consumers (e.g., performance of unnecessary medical services for an uninformed patient) and do not, strictly speaking, include the greater use that flows from the greater accessibility of suppliers. My comparison here is concerned with neither of these, but instead with the interactive effects of the use of lawyers in an adversary system.

resources; (2) emphasis on clinical education; and (3) specialization and apprenticeship patterns.³

Although the dimensions of legal and medical education are fairly similar in some respects (such as the number of schools and number of students),⁴ the resources devoted to medical education dwarf those devoted to legal education.⁵ The average cost of law study per student per year in the United States is about \$7,000 today; the comparable figure for medical education is harder to pin down because of joint-cost problems, but is probably five to seven times as large (\$30,000-\$50,000 per year, excluding patient care and research costs).⁶ There are approximately ten times as many medical faculty as there are law faculty, including clinical faculty in both cases.⁷ The typical student-faculty ratio in medical education is 3:1 (including graduate medical education as well as the M.D. program), while in legal education it is closer to 25:1.⁸ A typical medical college's budget will be at least ten times as large as that of the law school at the same university. Moreover, the range in resources within the law school world is larger than in medicine: law school budgets at the best funded schools are twenty times as large as the budgets at the worst funded, a much larger range than in medicine.

These vast differences in scale have many implications. Law schools

³ A fourth difference is too obvious to dwell upon: the J.D. program for lawyers requires three academic years while the M.D. program for doctors takes four academic years.

⁴ There are 127 nationally accredited medical schools in the United States and 173 nationally accredited law schools producing over 16,000 M.D. graduates each year and over twice that many law graduates. For most of the past one hundred years, there were more doctors than lawyers in the United States, but the more rapid growth of the legal profession since 1975 (when each profession numbered about 410,000) has resulted in about 1.2 lawyers for each doctor.

⁵ The statistics on medical education in this paper are drawn from the *Annual Reports* of the Association of American Medical Colleges (Washington, D.C.) [hereinafter cited as *AAMC Ann. Rep.*]; Association of Medical Colleges, *Medical Education: A Background Paper* (May, 1981) [hereinafter cited as *AAMD Background Paper*]; and Swanson, *Medical Education in the United States and Canada*, J. MED. EDUC. Nov. 1984, at 35. The statistics on legal education are drawn from the American Bar Association publication of the Section of Legal Education and Admissions to the Bar, *A Review of Legal Education in the United States, Fall 1983* (1984) [hereinafter cited as *ABA Ann. Rev. Fall 1983*]; C. AUERBACH, *HISTORICAL STATISTICS OF LEGAL EDUCATION* (1985).

⁶ The law school figure comes from conversations with James P. White, Consultant on Legal Education, American Bar Association; White derives it from confidential figures supplied to his office by each law school. The medical figure is an estimate based on the informed guess of insiders that about one-half of the non-research expenditures of medical colleges is devoted to undergraduate medical education.

⁷ In 1982-83 there were 54,972 fulltime medical faculty, about three-fourths of them clinicians, according to *AAMC Ann. Rep. 1983-84*; *ABA Ann. Rev. Fall 1983* reports 4,451 fulltime law faculty in the same year.

⁸ These averages conceal substantial variations. Faculty-student ratios at the largest medical research centers are closer to 1:1. They are considerably less favorable at those medical schools that are not significant research centers.

are largely dependent on tuition, which provides over eighty-five percent of their support as compared to about five percent in the case of medical schools. This has made law schools more oriented to the consumers of legal education, more interested in teaching, and lower in cost. Conversely, private medical schools now receive more than one-third of their income from faculty practice plans; it is not surprising that they are oriented more to patient care than are law schools to client care. Law schools receive virtually no income from the provision of client services.

Law schools have played a larger role than medical schools in raising the sons (and a few daughters) of immigrants to middle-class life; relative to other professions, law has been marked by open access. The downside vices accompanying the law's democratic virtue are mass-production classroom methods, evaluation exclusively by written final examination, very little clinical education, and limited social research by law faculty.

The differences in scale also affect the organization and incentives of the two professional schools. Law faculty meet in a single group, varying in size from fifteen to eighty at different schools; they are not organized in departments. Teaching takes much of their time and is probably the most important priority of most faculties in terms of peer attitudes and institutional rewards. Although law faculty are expected to do research, especially at the better university law schools, and there is some supplementation of income through outside consulting, teaching is a more central activity than with medical faculty, for whom research and patient care are larger commitments.

A second difference, related to the first, is the much greater emphasis placed on clinical education in medical schools. At least fifty percent of medical instruction is clinical education, a figure light years beyond the miniscule credit hours that law students are permitted, but not generally required, to devote to clinical experience. Although the proportion of clinical instruction at American law schools is highly variable—ranging from none at some law schools to perhaps as high as fifteen percent at a few—most law schools devote substantially less than ten percent of student credit hours to clinical education.

The patterns of student morale in medicine and law are related to differences in the timing and extent of clinical experience. Medical students are bored by the initial years of basic science and excited by the clinical years. The pattern in legal education is the reverse; high enthusiasm in the first year declining in the two upperclass years. Why this contrast? Medical school provides lecture, drill, and memorization in its initial phases. Rightly or wrongly, many medical students view this passive learning in large lecture halls as an obstacle they must overcome before getting to the real thing—the patient contact and practical application of the clinical rotations in the teaching hospital.

Law school, on the other hand, starts with problem-solving activity that is tough but exciting—the analysis and argumentative use of legal materials. In an important sense, this is a clinical method that forces

students to play lawyer roles and solve legal problems. But repetitious use of the same technique, lack of progression in the curriculum, and the failure to move deeply into either practical application or theoretical underpinnings has adverse effects on student motivation and morale. Law school, partly because of adverse student-faculty ratios, has difficulty building a sense of collegueship between teacher and student. The absence of an analog to the teaching hospital makes it difficult to organize and provide high-quality clinical experience to law students.

The third persistent structural difference is the formality, length, and universality in medicine of the process by which specialized practitioners are produced. Specialization is the name of the game in both medicine and law, but it is organized and regulated in medicine to a degree that is unknown in law. The extent and pervasiveness of specialization in medicine is probably greater than in law, with the vast majority of physicians today considering themselves a member of a specialty or subspecialty. Primary care is itself becoming a field of specialization, with family practice and emergency care as two subfields. Although most lawyers concentrate their practice in a few areas, the extent and degree of specialism is less than in medicine.

More importantly, in law today, there are almost no formal programs of specialism: no systematic apprenticeship requirements either as part of advanced education or early practice; no national certification of specialists (and very limited experimentation with state certification); and no restriction of practice to specialists through hospital-staff controls or referral arrangements. Some law graduates get excellent apprenticeship experiences during the first years of legal employment; others are left to trial and error in the school of hard knocks—learning from their adversaries at the expense of their clients.

II. SOME COMMON FAILINGS

Despite these structural differences, the common elements of medical and legal education, especially their common failings, are worthy of attention. Each form of professional training has persistent problems, similar in nature, that have resisted the exhortations of reformers for more than fifty years. Perhaps these problems derive from the underlying tension in professional education between graduate education—valuing the pursuit of knowledge for its own sake—and learning a trade, with aspects of rote learning and practical application that cannot always be intellectually interesting.

A. *Neglect of Self-Learning and Intellectual Curiosity*

First, self-learning and intellectual curiosity are not sufficiently fostered, despite their critical importance in the maintenance of professional competence over a long period of practice in a rapidly changing society.

The deadening effect of medical school comes from passive learning in large lectures, the glorification of facts in both teaching and examinations, and the emphasis in the clinic on routine tasks, test, and procedures—all to the detriment of critical thinking in professional problem-solving. Writers on medical education consistently lament that so few medical students, in their quest to memorize the facts required for the national boards, comprehend the underlying beauty and power of scientific inquiry and method in medicine.⁹

In law school also, the narrowing effects come from the method and content of the curriculum. The casebook imprisons the student, who rarely looks elsewhere and uses the library largely as a study hall. The daily march in most classes through fifteen to twenty-five pages of cases is stultifying enough, but it also communicates messages about what is and is not important: judicial decisions are more important than statutes; adjudication is more important than other modes of lawmaking or conflict resolution; and adversary litigation is more important than advising, counseling, planning, drafting, and all the other things lawyers do. Student objectives become limited: they seek to learn enough doctrine to spot issues on the written essay exams used in law school. The success, in both medicine and law, of inculcating the culture of a profession, comes at some cost in terms of a narrowed outlook.

B. *Lack of a Systemic View*

Second, both legal and medical education lack a larger perspective, a systemic view. The emphasis in medical school is retrospective diagnosis of the patient's ailment, which leads to selection of treatment alternatives. The focus is individual and curative, not social and preventive. When ethical issues arise, they are the individual dilemmas of microethics (i.e., which of two or more conflicting values should be served in individual doctor-patient situations). The broader issues of macroethics—who gets medical services of what quality and who does not, who pays for health care, and how the health care system might be improved—receive as little attention as preventive medicine, perhaps one percent of the medical curriculum.

Law school similarly focuses on the discrete controversy: a set of past events that create a problem for a lawyer who is representing a client. Usually the setting is one in which litigation is already underway. The effect of legal rules on behavior, the routine operation of legal institutions, the issues of macroethics such as who gets legal services and who does not, and the like, are largely ignored. Legal scholarship primarily addresses other questions. Law schools are aptly named. They are not

⁹ See, e.g., Eichna, *Medical-School Education, 1975-1979*, 303 *NEW ENG. J. OF MED.* 727 (1980); and Weissmann, *Are We Reverting to the Pre-Flexner Era?*, *HOSPITAL PRACTICE*, March 1976, at 35.

justice schools or lawyering schools, but schools primarily devoted to the study of law—analysis and argumentative use of existing legal doctrine.

C. *Retreat into Professional Role*

The third common failing is the narrow view medical schools and law schools take of the professional role. The medical school portrays the doctor as a scientist of disease, detached and objective, who does what is best for patients who are generally viewed as helpless, dependent, and incapable of making decisions for themselves. This model, even after the recent incursions of informed-consent ideas, is highly paternalistic; its absorption with the scientific and technical neglects the social and psychological aspects of health. Many health problems stem from environmental or behavioral factors such as diet, exercise, smoking, and the like—which often are far more important than any treatment a doctor can prescribe. In order to get information from patients and persuade them to follow prescribed treatments, doctors must possess good interpersonal and rhetorical skills. Much of the assembly-line processing of patients fails to elicit relevant information or neglects psychological difficulties that are more significant than physical symptoms.¹⁰ Even though much in medicine is cut-and-dried, in the sense that particular physical symptoms lead to specific treatments (more so than legal matters in which business judgments, social values, and the like are usually implicated), many medical judgments must be made on the basis of incomplete information. Medical practice, clearly, is and should be broader than the more restricted model emphasized by the standard curriculum.

The law student also is taught the convenience and comfort of a restricted legal role which takes the adversary system for granted, puts the lawyer in the position of giving technical support for the client's interest, and views justice not in substantive terms but as the outcome of existing processes.

D. *Disinterestedness*

Fourth, medical school and law school pretend that the exposure to professional school will convert students to a disinterested frame of mind—they will act as professionals in the interest of patients, clients,

¹⁰ See, e.g., Hulka, *Communication, Compliance and Concordance Between Physicians and Patients with Prescribed Medications*, 66 AM. J. OF PUB. HEALTH 847 (1976) (over 30% of patients fail to follow prescribed treatment, with failures in physician communication a principal factor); M. DiMATTEO AND H. FRIEDMAN, *SOCIAL PSYCHOLOGY AND MEDICINE* 106 (1982) (failure to elicit relevant information in patient interviews); S. Cohen-Cole, *On Teaching the New (and Old) Psychobiology*, NEW BIOLOGY AND MEDICAL EDUCATION 133-34 (Friedman and Purcell eds. 1983) (physicians more likely to overlook significant emotional disorders than physical symptoms).

and the public rather than in their own interests. Professional behavior within and after school suggests that no such mass conversions take place; doctors and lawyers, like most groups, tend to view the world from their own vantage points and most decisions are skewed in favor of self-interest. The elaborate professional effort to deny consumers new delivery forms, limit the information they receive, repress competition from within and without, and structure fee and payment arrangements so that professional interests are served—all belie the assumption of disinterestedness.

A growing body of studies, both of the medical and legal marketplace, and of the behavior of doctors, support this position. Physicians, for example, are influenced by the availability of compensation in making decisions as to the tests and procedures that will be employed. Now that physicians have become owners and investors in profit-making health care businesses, it is even more likely that their judgments will be influenced consciously or unconsciously by self-interest.¹¹

III. WHY IS PROFESSIONAL EDUCATION SO RESISTANT TO CHANGE?

Flexner's 1910 report on medical education and the subsequent reports of Reed and Redlich on legal education contain many of these criticisms.¹² They are echoed again in more recent reports such as those of Derek Bok on both legal and medical education¹³ and that of the GPEP report on physicians for the twenty-first century.¹⁴ Why are repeated efforts at reform and change seemingly so destined for failure?

One obvious response is that, despite faults, professional education in medicine and law has been enormously successful. The programs have attracted able people who have had remarkably successful careers. Although critics and reformers can identify failings and opportunities for improvement, the forces of change have been undermined by the success

¹¹ See Relman, *The New Medical-Industrial Complex*, 303 *NEW ENG. J. OF MED.* 963 (1980); and Relman, *The Future of Medical Practice*, *HEALTH AFFAIRS*, Summer 1983 at 5. The conflict of interest in fee-for-service practice between the professional and the consumer of professional services is unavoidable, but Relman argues that a variety of factors (*e.g.*, less visibility of the conflict to the consumer; and unutilized professional time resulting from an increased supply of physicians) make the ownership arrangements more dangerous.

¹² A. FLEXNER, *MEDICAL EDUCATION IN THE UNITED STATES AND CANADA* (1910); A.Z. REED, *TRAINING FOR THE PUBLIC PROFESSION OF THE LAW* (1921); J. REDLICH, *THE COMMON LAW AND THE CASE METHOD IN AMERICAN UNIVERSITY LAW SCHOOLS* (1914).

¹³ Bok, *President's Report, Harvard University* (1983) [hereinafter cited as *President's Report*]; Bok, *A Flawed System of Law Practice and Training*, 33 *J. OF LEGAL EDUC.* 570 (1983), reprinted from *HARVARD MAGAZINE* 38-45, 70-71 (May-June 1983).

¹⁴ ASSOC. OF AMERICAN MEDICAL COLLEGES, *Physicians for the Twenty-First Century, Report of the Panel on the General Professional Education of the Physician and College Preparation for Medicine* (1984) [GPEP Report].

of medical and law graduates and the public acceptance of present educational patterns.

Another obvious answer, especially relevant to law, is limited resources. Law schools are relatively small institutions with limited budgets and are highly dependent on tuition revenue (or state funding in the case of public schools). Except in crisis situations, educational change tends to come about gradually as new personnel and curriculum innovations are added to the existing program. But the limited resource argument is not really applicable to medical schools. The current unwillingness of public bodies to continue subsidization of medical education as part of research or patient-care may result in a funding crisis which will force change. At any rate, over a long enough period, the limited resource argument cannot be used as an excuse in either field.

A more important reason for resistance to change lies in faculty incentives and rewards. Here the argument takes a different form in the two fields. Medical schools are highly dependent on research funds and payments for patient care. The central concern of nearly all faculty is in these areas, not the teaching of medical students. In a very real sense, the M.D. medical program is a marginal activity in today's academic health center in which specialized research, patient care, and graduate medical education have a higher priority. For the scientific faculty, the important rewards are found in scientific advances and the adulation of peers in the scientific community; for the clinical faculty, patient care combines professional obligation and material reward.

In this setting, the loyalties of medical faculty are elsewhere—not to the medical curriculum or the teaching of students. Substantial change will have to rest on a reordering of these priorities. But how will that come about? Exhortation is easy, but a real shift in priorities will require a restructuring of incentives and rewards. Perhaps, as suggested by Rosemary Stevens, medical education will have to provide separate institutional support for the M.D. program through a distinct medical college with its own teaching faculty and budget.¹⁵

In law there is some diversion of attention towards scholarship directed at specialized peers and to provision of legal services through consulting arrangements with law firms. But teaching is highly valued by law faculty as well as by deans and students. The problem in law stems from the traditional conception of the casebook-centered class and the self-perpetuation of a faculty selected because they were good at parsing cases.

¹⁵ Paper delivered by Rosemary Stevens, *Medical Education in America: Continuing Themes* (Vanderbilt Health Policy Symposium, May 4, 1985), reprinted in *HEALTH AFFAIRS*, Fall 1986.

There is probably more agreement concerning desirable changes in legal education than is generally acknowledged.¹⁶ Most legal educators agree that legal education would be better if it were more diverse in method and content, more highly structured, and more intellectually demanding. Practice skills should be taught and integrated with social research on the behavior of legal officials and institutions. Theoretical underpinnings from other disciplines should be effectively integrated with legal education.

To do all of this, however, would require law faculties to do what medical schools did many years ago—diversify faculties by hiring individuals whose skills and interests lay in practice contexts, social research, and related disciplines.¹⁷ The character of law faculties would change, along with the curriculum. There would be more disunity and conflict, diverse interests, and a much greater variety of scholarly interests and methods. Law schools would be more interesting, but gatherings in the faculty lounge would be less comfortable, convenient, and clubby.

A final factor inhibits change in both law and medicine. Professional curricula were molded at the turn of the century in order to fit what was then viewed as the characteristic problem of the two callings.¹⁸ In law that meant teaching law students how to “think like lawyers,” an amorphous phrase encompassing an aggregation of knowledge, skills, and attitudes that deal with identifying legal issues in human situations, marshalling the evidence and arguments on all sides, and deciding on a solution appropriate to the problem. The medical counterpart—“thinking like doctors”—views “disease [as] a scientific phenomenon consisting of deviations from a biomedical norm.”¹⁹ The doctor’s job is to diagnose the ailment and then to cure it or at least ameliorate its effect by choosing a mode of treatment. As a prominent medical teacher has stated: “medicine [thus viewed] is a very narrow discipline.”²⁰ If humanism is wrung out and medicine is reduced to diagnostic scientism, it is a narrow discipline. These limited conceptions of the principal task, both in law and medicine, continue to influence the structure and content of professional education. Like the old forms of action in English common-law pleading, they rule us from their grave.

¹⁶ The degree of agreement is demonstrated by the papers of five writers who each addressed the law curriculum at the 1982 annual meeting of the Association of American Law Schools. See *The Law Curriculum in the 1980s*, 32 J. OF LEGAL EDUC. 315 *passim* (1982).

¹⁷ This point has been made very forcefully by Geoffrey C. Hazard, *Curriculum Structure and Faculty Structure*, 35 J. OF LEGAL EDUC. 326 (1985).

¹⁸ This paragraph draws heavily on Derek Bok’s report on medical education, see *President’s Report*, *supra* note 13, at 9-10.

¹⁹ *Id.*, at 9.

²⁰ Address by Donald Selden, 1981 Presidential Address to the Association of American Physicians, *quoted in President’s Report*, *supra* note 13, at 9.

It is fashionable when professionals get together to emphasize the public-interest orientation of the profession. Physicians talk about their dedication to public health, the social needs for improved primary-care service, and problems in the social distribution of medical services. Lawyers talk in similar terms about the advancement of justice and the legal needs of the poor. But professional behavior in each field is largely inconsistent with this moral exhortation. Professionals in both fields give the highest status to specialized professional work, not to the human contact and interpersonal aspects of meeting the routine problems of ordinary people.²¹ These status judgments are reinforced by the reward systems in both medicine and law. For example, third party reimbursement schemes in medicine reward new technological procedures but discourage expenditure of effort on counseling patients.²² It is very difficult to change these patterns because they are part of the profession's structure of values and prestige. Convincing statements of how current values and practices might be changed are rare.

IV. WHAT CAN LEGAL EDUCATION LEARN FROM MEDICAL EDUCATION?

Two aspects of professional medical education have direct relevance to legal education. First is the demonstration that a structured exposure to learning in professional settings can enliven and improve professional education. The scale and sophistication of clinical education in medicine provides models for the organization and evaluation of clinical experiences that can generate insights of great utility to legal clinicians. The absence in legal education of an institution analogous to that of the teaching hospital complicates any transfer of the medical experience to legal education. Nevertheless, the care and sophistication that has accompanied the organization and evaluation of clinical education in medicine make the medical experience a valuable source of insights and models.

A second lesson of medical education relates to the diversity and research orientation of the medical school complex. If the American law school is going to contribute a larger quantum of empirical knowledge and innovative theory to the understanding of law and legal institutions, it will need to enlarge and broaden its research interests and methods. The careful analysis of legal doctrine in particular fields, culminating in a traditional law review article, has continuing value, but it should become a smaller portion of the total research product of legal scholars. Empirical study of legal rules and legal institutions and theoretical analysis of underlying value choices must be given more emphasis. This will become possible only if law faculties become more diverse in

²¹ See Abbott, *Status and Status Strain in the Professions*, 86 AM. J. OF SOC. 819 (1981).

²² See Relman, *supra* note 11, at 969.

training, interest, and disciplinary focus. As this happens, law faculties, like current medical faculties, will become less cohesive, but the increased diversity will produce large dividends.

V. WHAT CAN MEDICAL EDUCATION LEARN FROM LEGAL EDUCATION?

What can medical education learn from legal education? The question presupposes that a medical faculty, under the pressure of declining resources, wants to involve itself more deeply in curriculum change and teaching activities.

First, law schools have demonstrated that critical thinking can be taught effectively and efficiently in large classes. The dialectical technique used in first-year law classrooms (usually referred to as the Socratic method) is a problem-solving exploration that cultivates critical thinking. It is an exciting intellectual experience for students, one that stretches their minds, encourages an attitude of skeptical inquiry, and requires them to assume a professional role and to solve professional problems. Although the technique is most effective and pleasant in classes of twenty to forty students, it can be employed effectively in groups of seventy-five to one hundred fifty students. Like most everything else in legal education, it is a relatively inexpensive teaching technique.

Use of this technique in the initial years of medical school, in tandem with lectures and laboratory exercises, would require students to take a more scientific and active approach to diagnosing medical situations and devising remedial strategies. In the medical school context, the "cases" on which discussion would focus would probably resemble the more elaborate case histories employed in business school teaching. Memorization of scientific detail would be downplayed; finding and using scientific information in a disciplined fashion would be encouraged.

Since a case or problem technique places greater pressures on students, especially if they are called upon to state their own views before their colleagues, its introduction would require considerable preparation and institutional support. This pedagogy also requires on the part of teachers special skills and more effort than are needed for the use of lecture techniques. But the use of dialectical methods, in the hands of skilled teachers who are sensitive to student reactions and do not create too much anxiety, can be highly effective as well as efficient.

Second, legal education's reduced emphasis on clinical education and absence of formal, prescribed modes of apprenticeship training raise questions that medical educators should consider. Legal education errs in giving too little exposure to clinical experience: Does medical education err at the other extreme by devoting too much time to routine patient care narrowly oriented to body organs rather than to the whole being of the patient? There are possibilities here both for improving medical education and reducing its length and cost.

Educational improvements are likely to flow from more effective integration of intellectual and practical activity; use of simulation techniques to provide all students with a controlled and uniform introduction to certain professional skills; use of interactive computer-assisted instruction to emphasize the knowledge and analytical aspects of professional care; and greater structure, feedback, and individualization of teaching in connection with patient-care activities.

Dramatic economies might be achieved by limiting the length and formality of the specialized programs of graduate medical education. Do all physicians need specialized training? Do the specialized tracks need to be as long as at present? The cost of medical care is probably affected as much by the length of professional training as by any other factor. The law model is one in which apprenticeship costs are largely absorbed initially by legal employers (and ultimately by their clients). Would a similar model be appropriate in at least some areas of medical specialization? The critical question is whether apprenticeships can be created that provide learning experiences of sufficient quality, coverage, and uniformity. Monitoring the educational experience from afar is difficult, and wide variations in quality can be expected in field situations in which supervisors have responsibilities and interests other than teaching. Issues of this kind clearly need to be explored in an effort to reduce the total costs of medical education and ultimately what the consumer pays.

Informed insiders will have to provide answers to these questions. It is doubtful whether the extreme position of the legal model, with its lack of any formal structure for apprenticeship training, is appropriate in medicine. Health is a more easily defined individual concern than justice, the consequences of error are more visible, and malpractice liability is omnipresent. A new lawyer's mistake, incurred while learning at the expense of a client, is tolerated by society, in part because most clients are fairly well-informed users of legal services. A new doctor's mistake, however, affecting individual patients, is socially less tolerable. Physicians deal with a much wider range of the population, and most patients are not informed consumers of medical services. But the increasing ability of third-party payers to act as surrogates for individual patients in selecting and supervising new doctors suggests that different conditions may exist in the years ahead. Measures that place the expense and risk of apprenticeship training on third-party payers might prove to be better as well as cheaper.

Finally, the current costs of medical education, as compared to legal education, raise questions about whether economies are not possible. The increasing desire of governmental authorities to separate the costs of medical education from its closely allied activities of medical research and low-income patient care, places pressure on medical educators to identify and justify these costs. Medical educators will encounter difficulty in persuading public officials to renew or increase public subsidies of medical education unless they can demonstrate that public goals, such

as the long term protection of public health, require annual costs of \$30,000-\$50,000 per student per year. The extensive laboratories and clinical activities of medical education justify costs that are substantially higher than legal education, but medicine must bear the burden of showing that present differentials are justifiable.