program. These kinds of expressions of interest are acceptable; however, remember that no verbal agreements are binding nor should they interfere with your confidential rank ordering of programs.

Students with limited financial resources who plan a lot of interview travel must be extremely circumspect and inventive. First, find out from the financial aid officer the dollar amount which your school budgets for interview travel. Next, itemize the costs of visiting each program you would like to and compare the totals. If the latter exceeds the former, try to think of ways to stretch your money, e.g., bus tours, university housing. Assess with your advisor which programs appear to be "must interview" versus less important prospects. If you are extremely interested in a program which you cannot afford to visit, ask your dean to write a letter to the program director explaining that it is only financial circumstances which prevent a much desired visit to the institution.

A few last tips: 1) It is important to coordinate the interview schedule with the dean's office to avoid problems with the timing of the Dean's Letter and potential conflicts with course work. 2) An important, but under-utilized, procedure is to send a follow-up letter to program directors after the interview to express your continued interest in the program and your feelings about your visit. 3) If you are unable to make an appointment, call and cancel out of consideration for other applicants who may be on a waiting list to obtain an interview.

THE MATCH

Because of increased medical school enrollments, programs which previously had to recruit applicants are now faced with selecting among many. This situation increases the already heavy responsibilities of students affairs deans in realistically counseling students about the residency selection process and begets the need for more information on the areas of greatest importance to program directors. In 1978, Drs. Wagoner and Gray conducted a survey of program directors in internal medicine, family medicine, surgery and pediatrics to gather data about selection parameters (8). As with any research, an understanding of the methodology employed is prerequisite to appropriate interpretation of the results, and, therefore, you are urged to read the entire journal article if the following interests you. The variables most important to program directors appear to be: 1) outcome of interview, 2) clinical recommendations from the residency director's institution, and 3) the student's overall clinical achievement. The relatively low weights given to high grades in the preclinical years and to scores on Part I of the Boards are of interest considering the high degree of pressure students feel to achieve in these areas. However, the larger the program, the more emphasis was likely to be placed on cognitive values, whether they be preclinical or clinical, and the less emphasis on the interview as a selection factor. An additional interesting finding was that program directors do not seem to differentiate pass-fail from other forms of grading in preclinical courses.

Another important area of investigation is the possibility of significant differences occurring in specialty and program selection and match as a result of sex differences. It will come as no surprise that an analysis of 1976 NRMP data show that women's specialty preferences are different from men's (9). The good tidings from this analysis are that—in terms of a) match to first-choice specialty, b) match to first-choice program, and c) "attractiveness" of hospital —women fare just as well as men. This study also implies that men and women medical students have similar aspiration levels for their residency training.

An important caveat must be kept in mind in interpreting the results of these studies: the differences among hospitals and specialties, especially in terms of geographic location and number of applicants per position, are great. Generalizations based on aggregate data will, therefore, not have much meaning for individual students as they go through the selection and rank-ordering process.

Not much advice can be given about rank-ordering your preferences for the Match except to study carefully the algorithm and information provided in the *NRMP Directory*. One frequently heard question is "will ranking 'high flyers' high on my list hurt my chances of getting into the programs I seem more likely to get into?" A study of the match algorithm reveals that the answer is "absolutely not". You should, however, recognize that if you do "shoot for the moon," you should also include on your rank-order list all programs which you find acceptable. At the other end of the spectrum are questions about going unmatched. Preventive medicine, such as seeking out the best advice available and not relying on promises, is the best way to forego this potentially anguishing experience. At the same time, remember that it is probably better to go unmatched than to match with a program which you clearly don't want to attend; so don't list unacceptable "safeties" just to fill up space. By and large, unmatched students don't have to change directions completely; the most recent figures available show that 63% obtain a position in a type of program which had been their first choice of specialty (4). Deans are ready to assist in any way possible to help their unmatched students obtain desirable positions.

A final word of advice by way of summary: The transition between undergraduate and graduate medical education, especially for those who are relocating and who face an enormous increase in the number of hours on per week, cannot but be filled with anxiety and stress. As graduation approaches and with the selection process and match behind you, you may even feel reluctant to leave the institution where you received your initiation into physicianhood. But change stimulates growth, professional as well as personal. In order to benefit rather than suffer from the changes ahead, your approach to this transition will need to be as flexible and adaptable as possible. In that frame of mind, you will put your challenges into perspective and develop into the kind of physician you aspire to become.

FUTURE OSR MEETINGS

OSR Southern Region Meeting
March 20-22, Memphis, TN

OSR Western Regional Meeting
April 13-16, Pacific Grove, CA

OSR Central Region Meeting
April 24-26, Milwaukee, WI

OSR Northeast Region Meeting
May 14-16, Hanover, NH

OSR/AAMC Annual Meeting
October 25-28, Washington, DC

OSR REPORT

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OSR Report

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Special Issue

The Residency Selection Process: Some Organizational Strategies

CHAIRMAN'S PERSPECTIVES

By now, all of us realize that there are many difficult transitions separating the decision to become a physician and the actual practice of medicine. In recent years, OSR and AAMC have focused on the transition from medical school to graduate training in attempts to bring some order to this increasingly chaotic and confusing process. The Spring 1978 issue of *OSR Report* contained information on the chronology and mechanics of the residency selection process; that it was so well received is evidence that a little basic information can go a long way toward helping students approach this process in a prospective and orderly fashion. Because helping students in this regard is an important goal of OSR and because there's a lot more to say than was presented in the earlier report, we decided to devote another issue to this topic.

Having recently completed the residency selection process, as well as having moderated a session at the 1979 OSR Annual Meeting called "Coping with the Residency Selection Process", I feel qualified to offer my perspectives about the challenges which that process presents to medical students. For example, the discussion session dealt, in part, with the various directories providing information about residency programs. Other fourth year students will not be surprised to hear that I spent a week trying to track down all these directories—only to find them limited in their usefulness. Even with the benefit of having prepared for that discussion session, I still encountered many hurdles in my personal search for a residency program. I've learned a lot about the process in the past nine months, some of which I believe is of general value and which is incorporated into this issue. The stress associated with the residency selection process seems to be directly related to fear of the unknown. Therefore, the more information you can obtain about the process itself and about the programs you are considering, the more rational your strategies and choices will be. It is true that this issue of *OSR Report* will be of greatest use to juniors, but I also urge freshmen and sophomores to read and save this issue and to start thinking about the many variables involved with locating a graduate program which will meet your educational and personal goals.

Good luck to all of you. I hope this issue will be helpful. As always, if you have further questions or need specific advice, feel free to contact me or any member of the OSR Administrative Board.

Dan Miller
OSR Chairperson

GETTING A FIX ON THE VARIABLES

The extent to which graduate medical education has grown in the recent past may surprise you. Between 1940 and 1976, the number of residency positions offered by U.S. hospitals increased from about 5,000 to over 65,000 (1,2). The demand for education beyond the M.D. degree has grown as the complexities of medicine and health care delivery have necesitated additional years of training. In 1979, 93% of the graduating seniors reported an intent to continue in graduate training until they fulfilled the requirements of a certifying board (3). While you may not have given it much thought as a premed, your graduate training experience is as important as your undergraduate experience—if not more so —in shaping the physician you will become. The characteristics of the hospital and program you enter after medical school will determine to a large degree what specialty you will practice, your capacity and inclination to do research, your concept of medicine and where you fit in. And,

thus, the importance of finding a program where *you* fit in.

With the increasing demands on teaching hospitals and their patients and faculty (the number of graduating seniors has grown by more than 60% since 1970) and with increasing governmental scrutiny of the means by which graduate training is financed, program directors and all involved with this phase of training have an enormous array of new concerns to address and challenges to meet. Rank-ordering the many talented applicants to their programs is only one of many tasks; and it is probably fair to say that many programs have been remiss in evaluating the equitability and reliability of their acceptance criteria, not to mention the usefulness of their program brochures. At the same time, as most fourth year students can attest, counselling and informational resources at the medical schools are stressed by the larger enrollments; the preparation and mailing of the Dean's Letters alone represent a mammoth undertaking. Thus, it is no wonder that the transition between the two phrases is difficult and frustrating, recalling to the minds of many the application process to medical school. However, despite the occasional temptation to compare the graduate program application process with the medical school one in terms of paper work, interviewing and what seems to be an inordinate interest in your numerical achievements, the similarities end there. First of all, no descriptive directory of programs, along the lines of *Medical Schools Admission Requirements*, exists. Secondly, the variation in terms of quality is enormous among residency programs, dwarfing the differences among U.S. medical schools; this means that students must accept responsibility for assessing the programs they are considering. Related to this consideration is the much greater range in applicant per opening ratios at the graduate level; while no U.S. medical school need accept foreign students to fill its classes, a substantial number of residency programs must because no U.S. graduates apply to them. Nationally, the number of first-year positions offered by programs traditionally found to be 'acceptable' to U.S. graduates has become almost equal to the number of graduates seeking these positions (4). Although this statistic sheds no light on the dynamics of the selection process, it does indicate the end to assurances that each student will have the opportunity to enter the field of his or her first choosing.

The preceeding should give you some small idea of the complexities characterizing graduate medical education and entrance into it. For those of you interested in learning more about the challenges and controversies, an excellent source of information is the recently completed three-year study conducted by the AAMC, titled "Graduate Medical Education: Proposals for the Eighties" (5). While it is important to be aware of the changing parameters of graduate education and the country's health care needs, the fact of life is that career decisions evolve from a searching personal assessment of abilities and preferences. Clearly, the first hurdle is deciding upon a specialty. Students who do not feel ready to leap this hurdle prior to entrance into graduate

training may seek a "flexible" first-year position. In 1979, less than 7% of the 84,700 applications submitted for first-year positions were to such programs; the reasons for the lack of enthusiasm on the part of hospitals to offer and students to accept flexible first-year positions are unclear (6). At the other end of the scale are students who have known since childhood that they were destined for orthopedic surgery or some other specific specialty. A study of the career choices of 1976 graduates showed that 14% of those indicating a specific specialty at time of application to medical school chose the same specialty four years later (7). Students who are certain about a subspecialty may face the challenge of obtaining a G-2,R-1 position, e.g., first-year in an ophthalmology program requiring the G-1 year in internal medicine, prior to selection of the medicine program.

Once you've reached a decision with regard to specialty, you will begin asking the following types of questions: How shall I decide where to interview? How can I maximize my

chances of matching high on my list? Will my Board scores (or basic science grades, etc.) detract from my application to thus-and-so program? Of course, there is no handbook or counselor that can definitely answer such questions for you. *You* must take the initiative in mapping out a plan of action based on your own, however tentative, career goals and an assessment of your strengths and weaknesses. About all that can be offered here by way of guidelines is a discussion of potentially helpful sources of information and some organizational tips.

SOURCES OF INFORMATION ON RESIDENCY PROGRAMS AND THE MATCHING PROCESS

It would not be exaggerating to say that your search for information must be characterized by a single-minded persistence. But you should also try to keep in mind that you'll never feel as if you have *all* the information you need in order to make the Best Decisions. It is probably impossible to know what a Best Decision is at this stage anyway, given the myriad influences which will have a part in shaping where you find your niche in medicine and with regard to community, family and other interests.

Where to begin? Potential sources of information fall into three categories:

A. *Resources at Your School:* The resources at your school include upper-classmen and residents, faculty advisors, and student affairs deans. Although the advice you receive from those who have recently completed the residency selection process will be subjective and primarily anecdotal, these people can also serve as sounding boards, so share with them your observations and ideas. Naturally, you will want to take full advantage of the knowledge and experience of faculty members at your school, but keep in mind that programs change and that some of what they tell you may no longer be accurate. If you're lucky, your students affairs office will include in its career counseling services a system of collecting feedback from alumni on a variety of program parameters. A look at the comments of recent graduates is especially helpful during the initial stages of deciding where to apply. Last year OSR developed and distributed to schools a model survey form for this purpose, with the suggestion that schools that do not have a system to collect evaluations from alumni might adapt this form and begin doing so. Schools with such a system already in place were urged to evaluate it to see if any improvements could be made. A copy of the model survey form should be available from your OSR representative or student affairs dean.

B. *Individual Programs:* Some programs publish descriptive brochures which contain very useful, up-to-date information; others publish high-gloss propoganda; others have not revised their materials for many years. So this source of information is highly variable and not to be relied upon.

C. *Directories:* Annual publication of one directory of all programs offering first-year positions containing as much information as possible is a recommendation of the AAMC report on graduate medical education (5). Unfortunately, as desirable an event as that would be, it's day has not yet come; thus, students must rely on a number of different directories to obtain the data necessary to differentiate among programs:

1. **National Resident Matching Program (NRMP) Directory** (the "White" book): Published each October and distributed to seniors via the dean's office, this booklet contains a list of programs participating in the Match Program with their NRMP codes and the number of positions being offered through the Match. It also contains an informational grid with type of data, e.g., number of admissions, salary-benefits, on one axis and source of information on the other axis. The introduction to this directory contains essential information for optimum use of the Match.

2. **Liaison Committee on Graduate Medical Education Directory Accredited Residencies** (the "Green" book): This AMA publication is also distributed via the dean's office. It lists residency programs by specialty and provides name and address of program director, average daily census, annual number of admissions, annual outpatient visits, and number of first-year total positions offered. In a consolidated format it also provides information about the medical center or hospital as a whole.

3. **American Hospital Association Guide to the Health Care Field:** Published annually by AHA and available in most medical school libraries, this booklet includes data on control, average length of stay, number of beds, census, % occupancy, newborn statistics, expenses, and number of personnel for all AHA-registered hospitals.

4. **Council of Teaching Hospitals (COTH) Directory:** Published annually by AAMC and available in all deans' offices, it provides data similar to that included in the AHA Guide as well as data on residency programs (number of positions offered/number filled/number filled by foreign medical graduates) for the 400 COTH member hospitals.

5. **Guide to Family Practice Residency Programs:** Published for the first time in 1979 by the American Academy of Family Physicians and AMSA, this guide contains a program-by-program description of family practice residencies in a more descriptive fashion than is provided by other directories. It also contains a chapter on evaluating the family practice characteristics of family practice residencies and a list of sources of additional information. This Guide may be ordered from AMSA, 14650 Lee Road, P.O. Box 131, Chantilly, VA 22021

YOUR APPLICATION: SOME TIPS ON GETTING ORGANIZED

1) Begin obtaining and completing applications early, no later than midsummer following your junior year. Try not to be dismayed by the variations in format and information requested. The good news is that members of the Class of 1982 may only need to complete one application: The AAMC has developed and distributed to program directors a draft of a Universal Application Form; responses have been very favorable and if plans proceed as expected, this form will be available to students next spring.

2) Allow yourself enough time to prepare a thorough but concise autobiography and curriculum vitae. These are very important components of your application because they represent your only unpressured opportunity to describe yourself, your priorities and goals, in the manner best befitting you. Try to tailor the information you provide to the program to which you are applying; for example, extracurricular activities and community service may be less important to program directors in surgery than in family medicine. Also seek an assessment of your autobiography

SAMPLE BOOKING SYSTEM

Program Name _____

Appn: deadline _____; sent _____;
rec'd _____

references (required besides Dean's _____

References: (requested = *; lttr. rec'd = √)

Dean ____; AA ____; BB ____; CC ____

copy of appn to Dean required? _____

Transcript:
needed? _____; sent _____; rec'd _____

Photo:
needed? _____; sent _____; rec'd _____

Autobiog:
needed? _____; sent _____; rec'd _____

Interview deadline: _____

Called for: _____

Date of Interview: _____

Address of Program Director:

Names of Interviewers:

Follow-up letter sent: _____

Additional calls:

from those who know you best, just in case you haven't portrayed yourself to your best advantage.

3) Because of the wide variability among schools in their approach to preparation of the Dean's Letter, it is difficult to offer any advice here except to be patient with the personnel who are responsible for this enormous operation. These letters are usually primarily based on your grades and the written evaluations of your course and clerkship performance. Thus, you will want to assure yourself that these evaluations accurately and adequately represent your work. You may want to meet with your dean to discuss them.

4) With regard to soliciting letters of reference in addition to the Dean's Letter, be selective, courageous and candid in approaching the faculty members with whom you've worked. Ask if he or she feels able to write a favorable and informational letter; if you sense hesitation, pursue the matter until you're comfortable one way or the other. Quality of letters not quantity is the best policy here.

5) Don't sit on your applications once they're completed even if you're well in advance of the deadline. The later you return the applications, the more likely the interview schedule will be inflexible or even filled.

6) Develop a system to keep track of your applications. A sample bookkeeping system is shown to the left. Keep photo copies of all your correspondence and keep track of telephone calls.

THE INTERVIEW

Programs vary in their policies regarding scheduling interviews. Some programs interview by invitation only; others designate a period of days or weeks during which all interviews are scheduled; others are more flexible. Most programs will try to be accommodating but careful advance planning is necessary especially if a lot of travel is required. The interview represents your only real opportunity to find out the facts about a program first-hand. You should therefore prepare your questions in advance and not be reticent in seeking answers. Leave yourself enough time during your visits to talk with housestaff and other faculty. Try to get a feel for the hospital and the community or city while you are there. The OSR model survey form mentioned earlier can be easily adapted to serve as a schedule of questions. Another helpful document in this regard is AMSA's "Student Guide to the Appraisal and Selection of House Staff Training Programs".

The interview also represents the program director's only opportunity to get first-hand information about you. He is likely to be very interested in your reasons for wanting to enroll in the program and in your assessment of the program's strengths and weaknesses in comparison with others. If he is impressed with your credentials, he may try to elicit an indication of how you intend to rank the program and of how serious you are about completing the

[15]*State Health Legislation Report,* Vol. 8, #1, Chicago, Ill.: American Medical Association, 1980.

[16]For more information, write MECO Project Staff Liaison, AMSA Foundation, P. O. Box 131, 14650 Lee Road, Chantilly, VA 22021.

[17]G.P. Fulton, et al, "Strategies for Statewide Approach to Improving Geographic Distribution of Health Professionals," *Journal of Medical Education,* 55: 865-71, 1980.

[18]"Graduate Medical Education in California—A Position Paper," California Office of Statewide Health Planning and Development, California Health and Welfare Agency, 1978.

[19]W. B. Schwartz, et al, "The Changing Geographic Distribution of Board-Certified Physicians: Facts, Theory, and Implications for the Future," *New England J. of Medicine,* 303: 1032-37, Oct. 30, 1980.

[20]A. R. Tarlov, "The Increasing Dispersion of Specialists," *New England J. of Medicine,* 303: 1058-59, Oct. 30, 1980.

[21]Combining AAMC Faculty Roster System data with that obtained from the AMA, we see that in 1979, 28% of the active physicians in this country held medical school faculty appointments, up from 15% in 1965.

[22]G.L. Glandon and J.L. Werner, "Physicians' Practice Experience During the Decade of the 1970's," *Journal of the American Medical Association,* 244: 2514-18, Dec. 5, 1980.

INVITATION TO HEALTH MANPOWER CONFERENCE AT YALE UNIVERSITY

The Yale University School of Medicine in collaboration with the local AMSA chapter is planning a series of symposia addressing issues in contemporary medicine. The first of these symposia, entitled "Health Manpower: Challenge for the Eighties," will be held on February 28, 1981 at Yale University in New Haven, Connecticut. This conference will provide a unique opportunity for medical students to discuss and analyze key medical manpower issues. Major addresses will be given by Alvin Tarlov, M.D., chair of the Graduate Medical Education National Advisory Committee (GMENAC), and Rashi Fein, Ph.D., noted health economist from Harvard. In the afternoon, small workshops will address a number of manpower issues, including financing, specialty selection, admissions, licensure, impaired physicians, legislation, and physician extenders. Workshop participants include Brian Biles, M.D., Professional Staff Member, Subcommittee on Health, U.S. House of Representatives; John Graettinger, M.D., Executive Vice-President, National Resident Matching Program; and George Lythcott, M.D., Chief Administrator, Health Services Administration. Further information about attending this important event can be obtained by writing to Health Manpower Conference, c/o Arthur J. Viseltear, Ph.D., History of Medicine, Yale University School of Medicine, 333 Cedar Street, New Haven, Connecticut 06510.

OSR Report

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Special Issue:

Facing the Challenges of the Physician Manpower Scenario

CHAIRPERSON'S PERSPECTIVES

Those of you who've seen this publication before will know that in the recent past we have tried via *OSR Report* to offer you pragmatic information and advice on subjects of immediate or imminent concern to students. For instance, the Spring 1980 issue was devoted to selection of a residency and included tips on the efficient handling of the application and interviewing processes. One year earlier we employed *OSR Report* to offer you a guide to financial planning, budgeting and debt management. With this issue we explore a more intangible set of subjects, and I would like to explain why.

One of the most educational and rewarding aspects of serving as OSR Chairperson is the opportunity to hear what's on the minds of medical students across the country. The most frequently voiced concerns are predictable—rising tuition, availability of financial aid, schools' over-reliance on National Board exams, selecting a residency, curricular reform, the special challenges of minority and women students. One critical issue which I hear very few students talking about is the physician manpower situation in this country. Though you may have noticed recent newspaper headlines, e.g., Government Takes Steps to Avert Glut of Doctors (*New York Times,* September 12), Will Surplus of M.D.'s Be Good For Patients? (*Wall Street Journal,* March 13), you may well not be aware of the scope and relevance of the escalating health manpower debates that are occurring at both the national and state levels. Not only do the issues seem impossibly complex and beyond our purview but also seem to have no direct impact on our day-to-day activities and personal goals. However, we cannot afford to ignore them. I fear that many of us believe that all our work during medical school and in the graduate phase to come will earn us the right and ability to practice where and what type of medicine we choose. We need to broaden our perspectives. The sooner we become aware of the forces at work, the more rational will be the career plans we are formulating, however tentatively, at this stage in our professional development.

I urge you to give the information contained in this issue serious consideration. The other members of the Administrative Board (listed on page two) and I enthusiastically welcome your reactions to what is presented here and will be glad to offer assistance in following up any of the topics addressed. Please let us hear from you.

Lisa Capaldini
OSR Chairperson

P.S. On behalf of OSR, I wish to thank Janet Bickel, Staff Associate, AAMC Division of Student Programs, for the hard work of developing this particular issue of *OSR Report.*

CAREER PLANS OF THE CLASS OF 1980

While the majority of Americans give high marks to our health care system, we all recognize that numerous problems continue to exist in terms of quality, accessibility and cost of care. To be sure, the challenges presented by these problems exceed the authority and capability of individual physicians, even of the profession as a whole; Congress, insurance companies, hospital administrators and the other health professions also play major roles in the health care scenario. Certainly, some individuals enter medicine with the goal of righting some of the present inequities, of serving where most needed. However, for most, the decision to enter medicine is based primarily upon a perceived congruence between personal abilities and preferences and the career opportunities which accompany the M.D. degree. These understandable and realistic motivations sharpen in focus as the student progresses with his or her education. Those who are uncertain about choice of specialty eagerly and sometimes anxiously solicit the advice of friends, faculty and deans about finding the best match between their personal characteristics and goals and the characteristics and demands of the various specialities they are considering. Implicit in this process is the belief that, whatever specialty training the student chooses, a population exists in a "desirable" location in this country in need of his or her professional services. Students can no longer rest assured that this will remain true and, to a greater degree than ever before, ought to factor into their career plans the manpower needs of the country.

What are these needs? While discussions about what constitutes an optimal number, mix and distribution of physicians and what can be done to achieve these goals have been taking place for years, approaches to and questions about these topics abound. What, for instance, should be the role of the federal government in attempting to equalize the distribution of medical manpower? Should medical educators accept greater responsibility for students' career choices? If so, what can be done at the undergraduate and graduate levels to enhance the likelihood that doctors will practice where they are most needed? Given the increase in numbers of medical students being graduated, will the distribution problems take care of themselves? Will this influx in turn foster intense competition for patients and will such competition have positive or negative consequences for our society? As you might expect, there are no easy answers to these questions. Dialogues about our medical manpower situation are, however, heightening in intensity. Only one thing is certain: the decades ahead will be decades of change.

While a good proportion of the M.D. Class of 1980 probably completed their undergraduate studies oblivious to these dialogues, a likely place to start in an examination of the manpower situation is a look at their career expectations. A major and relatively recent data collection effort of the AAMC is the Graduation Questionnaire. This survey is distributed via

the Dean's office to senior medical students; analysis of the returns provides a profile of the future training and career goals of the country's medical graduates. If it is not already, the importance of collecting such information will become evident as you read on, and you are urged to keep this in mind when it becomes your turn to complete the survey. The following reporting of data about the Class of 1980, obtained from 67% or 10,215 members of the class, represents only a small portion of that collected; a more comprehensive presentation is contained in the 1980 *NRMP Directory*.[1]

Internal medicine was the top choice of first-year residency training for 22% of the graduates; of those opting for this kind of graduate training, 65% aim for specialty certification in general internal medicine. Twenty percent of graduates chose family practice residency programs, 99% of whom intend certification in this specialty. Pediatrics and general surgery were the choices of 10% each of the graduates, with 84% and 63% respectively desiring certification in general pediatrics and general surgery. The average anticipated length of residency is such that 1984 is the year that the highest proportion of the 15,246 graduates will seek to enter the job market. With respect to intended career activities, 65% indicated plans to engage in private clinical practice; the preponderance of these individuals anticipate group practice. Twenty-one percent listed full-time teaching careers as their first choice, and salaried clinical practice is the goal of 11% of the graduates. Only 10% of the seniors indicated that they were undecided about the region of the country in which they plan to practice; 25% are planning on locating in the Northeast, 23% in the South, 19% in the Midwest and 21% in the West. In terms of preferred practice setting, the Class of 1980 is not attracted to deprived inner cities (4%), small towns (2%) or rural/unincorporated areas (1%). Nor do graduates project being much influenced by a community's effort to recruit their services; asked to weigh thirteen influences on their choice of work location, respondents ranked this factor twelfth. The two influences projected to be most important in this regard are geographic location and characteristics of the community, e.g., cultural, educational, with availability of adequate hospital facilities a close third.

The profile which emerges from these percentages indicates that a good proportion of the Class of 1980 appears bent in the direction of primary care. Most know which part of the country they desire to practice in; however, their goals in this regard are much more influenced by the perceived attractiveness of the area than by a need for their services. You will want to keep this brief overview of their intentions in mind as you digest what follows about the physician manpower scenario as it appears today.

THANKS TO UNCLE SAM . . .

Forecasting of any type is tricky business. Tomorrow's weather is hard enough to predict. But when the variables are growth rates of the population, availability of and demand for medical services, and practice patterns of physicians—to sketch the picture in the broadest possible strokes—the margin for error looms large. An examination of efforts to predict this country's medical manpower needs and capabilities logically begins with an overview of the federal government's role in the expansion and improvement of our medical schools. While relatively brief, the legislative history of federal support of medical education is a very complex one, not lending itself to exposition. From one perspective it unfolds, as do many other legislative histories, as a story of unintended consequences. Another point of view is that it is a partnership that has been enormously effective and successful. Most would agree, however, that the tale is characterized by inconsistent goal-setting accompanied by great expectations.

Accustomed to the federal presence in health and education, many of today's students may be surprised to learn that 1963 marked the beginning of federal support for medical education. Prior to this time, the federal government's involvement in the health field was almost entirely confined to support for biomedical research. The commitment of funds to medical school was prompted by events begun in the 1950's—a rapid growth in national population, spectacular advances in the treatment of disease, and a heightened public interest in medicine and health. It should be noted here that as early as 1948, the Association of American Medical Colleges (AAMC) had begun emphasizing the need for federal support in order to increase the supply of physicians; other organizations as well conducted studies showing that our supply of physicians and other health professionals had fallen behind our needs. Congress finally did respond to this demonstrated need with a succession of acts, beginning in 1963 with funds for construction of health science schools and student loan support and continuing in 1965 and 1968 with funds for medical school operating costs and scholarships. Clearly the objectives of this early legislation were to expand and strengthen the nation's medical schools toward the end of increasing the country's supply of physicians. It was also expected that significant public support of health professions education would increase access to these careers by students from lower-income levels.

The Comprehensive Health Manpower Training Act of 1971 extended and expanded programs created by the previous Acts and also the numbers and types of strings attached to the funds. The medical schools had successfully argued that their multiple missions, yielding a wide variety of social benefits, required nonrestricted operating funds, and under this Act capitation, i.e., institutional support calculated on the basis of enrollment, was substantially increased. The condition that schools further expand enrollments was set forth even though, between 1960 and 1970, first-year enrollment in medical school had already increased by 37%. In addition, this Act induced schools to shorten their curricula and states to start new schools and to convert two-year basic science schools to four-year curricula. At the same time, the 1971 legislation reflected the realization that producing more physicians would not necessarily translate into improved health care in rural areas and inner cities nor into increased numbers of doctors prepared or inclined to practice primary care and included several provisions designed to address these problems.

This Act expired in 1974, and disagreements were many and protracted about the form the renewal legislation should take. Congress voiced impatience with the rate of development of primary care physicians and pointed

and professional motivations of physicians? In terms of equalizing distribution among specialities, should program directors in specialties predicted to be in oversupply reduce the number of training slots, close down some programs? If so, which ones go first and how will the service requirements of these teaching hospitals be met? In terms of improving the geographic distribution of physicians, will the wide variety of efforts on the parts of schools and the federal and state governments be effective in changing the goals of students? Remember the low percentages of the Class of 1980 reporting a preference for inner city and rural practice. Or, as their numbers increase, will physicians disperse themselves more equitably across the country?

All of these are hard questions. A major difficulty in formulating answers is how little is known about how doctors will behave under oversupply conditions. It has long been held that physicians are relatively immune to market forces because they to a large extent can control both their fees and the demand for their services. A recent study, however, offers evidence that an increased supply of doctors has activated market forces and accounted for observed changes in patterns of location.[19] Between 1960 and 1977, the pool of board-certified specialists nearly tripled in size. Over the same period, in the states included in this analysis, the percentage increases in numbers of specialists in small towns significantly exceeded that in cities. More specifically, the study showed that, by 1977, for each of the five largest specialties (internal medicine, surgery, pediatrics, ob/gyn, and radiology), at least 80% of towns with a population between 20,000 and 30,000 had acquired a board-certified specialist, and many towns as small as 10,000 had acquired specialists.

The skepticism with which the results of this study have been greeted[20] illustrates the general lack of agreement about the implications of a doctor surplus. In and of itself this evidence of self-dispersement is an encouraging sign. Many of those who believe that an abundance of medical manpower is attaching medicine to supply-and-demand forces also gladly point to turf wars which are beginning to be seen in areas of high physician density; in some cities in the Sun Belt, competition among doctors is leading to price cutting, extended hours, and location of offices in places most convenient to patients, e.g., shopping centers. However, others point at evidence that physicians living in areas where their numbers are abundant tend to raise their fees, see fewer patients, and maintain their standard of living. Such behavior will inevitably escalate the aggregate cost of medical care; and with health care expenditures in this country already approaching 10% of the Gross National Product, any further escalation must be viewed as extremely problematic. Other potential untoward effects of a doctor surfeit which have been noted are excessive visits and over-utilization of procedures, a professional orientation based on economic self-interest, and physicians replacing physician-extenders, thereby introducing an unhealthy competition among different types of health care providers.

Many feel that *the* major challenge facing the health care establishment today is to moderate use of our medical resources without sacrificing gains in equity, access and quality. In fact, the extraordinary inflation which health care has experienced during the past few decades, not just in prices but in the use of services, has alarmed legislators, health economists and business groups alike. Fundamental changes in the ways that health insurance and services are selected and purchased are being advocated as a means to stimulate cost consciousness among providers and consumers of health care. These proposals, commonly referred to as the "competitive" approach to cost containment, call for employers to offer multiple health plan choices to their employees. If, or perhaps more accurately when, put into effect, such proposals would stimulate rivalry among physicians and hospitals to an extent never seen before in this country exacerbating that which could be predicted on the basis of expanded numbers of providers. This is not the place to explore the potentially numerous negative consequences which price competition will have for our teaching hospitals, whose costs are understandably higher than non-teaching hospitals, and thus for medical education—although, as almost 30% of you will likely accept medical school teaching responsibilities, you should be very concerned about such consequences.[21] It may, however, be worth noting—if only to tie some of the projections presented here to recently collected data—that, compared to 1970, in 1980 the average physician worked 3.7% fewer hours per week and saw 12% fewer patients; the average income rose from $41,800 to $80,000. As with any such statistically documented trends, the causes and implications of these changes are open to debate. Another corresponding and notable trend is that patients did not have to wait as long to get an appointment—4.5 days in 1980 as compared to 5.6 in 1971—and that office waiting time declined by 10%.[22] What's next? House calls?

The only "unmixed" message resounding from this compilation of developments in and projections about our physician manpower scenario is that the times they are achangin'. And, as you are probably well aware, your program of study is not geared toward preparing you to deal with such changes. In fact the many demands and constraints of medical education, not to mention the curriculum itself, work against the formation of a flexible, future-oriented philosophy. Your energies are focused on passing exams, finding next month's rent and, in one way or another, garnering a desirable residency. You develop short-term perspectives to deal with your immediate challenges. It is hard to stand back, to get even a glimpse of the big picture, to pay attention to what's happening to your own values and long-range hopes much less to developments in this country's health care needs and capabilities. In the back of your mind you know that more doctors are needed who will serve the indigent population of our inner-cities, who will take leadership roles in integrating health activities within communities, who will practice cost-consciously, who have the skills and desire to treat our increasingly aging population. Incentives in these directions are few and far between. Therefore, if we are to witness a more equitable distribution of the enormous medical talent and resources which this country continues to amass, physicians-in-training must not only supply the motivation but also vote with their feet. Creativity, adaptability, and a social conscience are required, as well as a continuing willingness to stand back and reassess your goals. Facing these challenges is accepting responsibility for your own professional development. And it has never been truer that if you're not part of the solution, you may well be part of the problems to be dealt with in the turbulent times ahead.

FOOTNOTES

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[12] *Programs and Problems in Improving the Availability of Primary Care Providers in Underserved Areas*, (HRD-77-135), Washington, D.C.: Government Accounting Office, 1978.

[13] "National Health Service Corps," *Medical World News*, Nov. 13, 1978.

[14] *Short-Term Evaluation of State Educational Service Conditional Support Programs for Allopathic, Osteopathic and Dental Students*, Silver Spring, Md.: Macro Systems, 1980.

Medicine Manpower (NSIMM).[5-8] In 1974, the Association of Professors of Medicine (APM) established a Task Force on Manpower. The Task Force noted the paucity of data on internal medicine training and recommended that a large scale study of internal medicine training be undertaken. Sponsored by the Federated Council of Internal Medicine (an organization representing the American Board of Internal Medicine, the American College of Physicians, the American Society of Internal Medicine and the APM), the study's goals were to facilitate the creation of a national policy regarding the training of general internists and subspecialty internists to meet the needs of the country most effectively. The NSIMM study is unique in that a major focus of the study was on residency and fellowship trainees, tomorrow's practioners; the second phase of the study was an investigation of the practice of internal medicine. The results of these studies led the Federated Council to recommend that the number of trainees in the subspecialties be reduced while increasing the number of general internists. In some quarters this recommendation has been viewed as controversial since agreement has not been reached on the role played by the subspecialist internist in providing primary care.[9]

A third manpower study, undertaken by the American Academy of Dermatology, deserves recognition because it added another dimension, that of geographic distribution, to physician manpower projections. This investigation focused on board-certified dermatologists, and findings suggest that the location of residency training is the most important factor influencing physician location. Evidence of the influence of training location on geographic distribution of dermatologists is that the number of residency programs and residency positions per state and corresponding dermatologist-to-population ratios showed a positive correlation of 0.46.[10] As a step toward redistributing dermatologists and their services, the Academy has established a placement bureau and has provided to training programs a wall-sized map depicting the distribution of dermatologists relative to population across the U.S.

The investigators in the dermatology study recognized that the correlation found between location of training programs and location of practice is open to differing interpretations. The heavy concentration of dermatologists in an area may be as much cause as effect of the location of training programs. Residency programs may develop in places that are rich in the number of patients and where there is an established cadre of practitioners. The authors of the study observe that many medical schools without a residency in dermatology are in relatively underserved areas and that it may be appropriate to consider establishing programs at some of these institutions. In places where it is not feasible to establish a residency training program, another approach may be to introduce work experiences or externships. A scheme such as this may achieve some of the benefits of distributing training programs without the attendant inefficiencies.

The most comprehensive study of physician requirements, and the one which has recently received the most attention, was conducted by GMENAC, the Graduate Medical Education National Advisory Committee. Chartered in 1976 by then Health, Education and Welfare Secretary, David Mathews, the Committee was composed of representatives from M.D. physician specialties, osteopathic medicine, teaching hospitals, and the health insurance industry. When GMENAC was rechartered in 1979, its membership was broadened to include more representation by nonphysician providers of health care. GMENAC's charge was "to advise the Secretary of (HEW) on the number of physicians required in each specialty to bring supply and requirements in balance, methods to improve the geographic distribution of physicians, and mechanisms to finance graduate medical education." The Committee examined the financing of graduate medical education, the roles of the nonphysician providers of health care, the geographic distribution of physicians, and the effects of the educational environment on specialty choice.

Central to the GMENAC methodology is the physician requirements model. This complex model employs data on the incidence and prevalence of disease and estimates of the need for physicians to provide services for various conditions, of the services that could be provided by other health professionals and of the productivity of physicians and other health professionals, all of which are based upon projections for the year 1990. One of the strengths of the GMENAC model is that it is the first contemporary physician manpower study to consider the need for physician services in all medical specialties simultaneously. The major weaknesses of the GMENAC model are its reliance on subjective adjustments of data used to project needs for physician services and the assumptions that GMENAC panelists were required to make regarding future consumer preferences, resources to be allocated to medical services, and changes in medical science and technology which could affect health care delivery.

Relying upon the GMENAC model, the Committee predicts that by 1990 there will be 70,000 more physicians than will be required. The following specialities are projected to be in oversupply:

Urology	Orthopedic Surgery
Ophthalmology	Thoracic Surgery
Obstetrics/Gynecology	Infectious Disease—Internal Medicine
Plastic Surgery	Allergy/Immunology—Internal Medicine
General Surgery	Endocrinology—Internal Medicine
Rheumatology—Internal Medicine	
Neurosurgery	
Pulmonary Disease—Internal Medicine	

Shortages are predicted for these specialties by 1990:

Child Psychiatry	Emergency Medicine
General Psychiatry	Preventive Medicine

GMENAC expects the following specialties to be near balance by 1990:

Hematology/Oncology—Internal Medicine	Family Practice
Dermatology	General Internal Medicine
Gastroenterology—Internal Medicine	Otolaryngology
	General Pediatrics and Subspecialties

GMENAC did not model the specialties of Physical Medicine and Rehabilitation, Anesthesiology, Nuclear Medicine, Pathology, Radiology, and Neurology.

As a result of these predictions, GMENAC recommends that the number of first-year residency positions in several specialties be increased or decreased in order to bring about balance between the supply of physicians and requirements. It suggests an upper limit of a 20% increase or decrease in the number of first-year positions in a specialty since changes of a greater magnitude could disrupt education programs. Following are the specialties in which GMENAC suggests a decrease in the number of first-year residency positions:

Obstetrics/Gynecology	General Surgery
Ophthalmology	Orthopedic Surgery
Neurosurgery	Urology

According to GMENAC, more first-year positions are needed in Psychiatry and in flexible programs. In view of the aggregate surplus of physicians in 1990, GMENAC recommends that the "surplus" of those receiving the M.D. be encouraged to enter training in one of the three primary care fields once the shortages in other specialties appear to have ameliorated.

GMENAC's Final Report, containing 107 recommendations, was presented to Health and Human Services Secretary, Patricia Roberts Harris, on September 30, 1980.[11] The changing political scene, a new administration and massive changes in Congress due to the November election, make prognostication about the fate of these recommendations and the future of GMENAC quite difficult. Nevertheless, you may be interested in reading a few more of them:

- Allopathic and osteopathic medical schools should reduce entering class size in the aggregate by a minimum of 10% by 1984 relative to the 1978 enrollment or 17% relative to the 1980 entering class.
- The number of graduates of foreign medical schools entering the U.S. yearly, estimated to be 4,100 by 1983, should be severely restricted.
- All federal and state assistance given through loans and scholarships to U.S. medical students initiating study abroad after the 1980-81 academic year should be terminated.
- Medical students should be encouraged to select a location for practice in underserved rural and urban areas by several approaches: (1) urban and rural preceptorships should be continued and expanded by those schools having an interest, (2) governmental loan and scholarship programs should be catalogued and evaluated to determine their effectiveness in improving geographic distribution, (3) loan forgiveness programs modeled after those which have been successful should be used, and (4) the National Health Service Corps and its scholarship program should be supported.
- Family practice residency training programs should be supported since these programs tend to train providers who are more likely to choose to practice in underserved areas. A similar rationale underlies support needed for resident experiences in underserved areas and for certain nonphysician provider training programs.
- Information about physician manpower needs in the various specialties and in different geographic settings should be disseminated broadly to medical schools; administrators; faculty; and medical students, residents, fellows, and spouses.

WORKING TOWARD A BETTER DISTRIBUTION

Certainly these studies are commendable for developing recommendations based on data which did not previously exist. But recommendations, especially controversial ones, do not yield action. And changes in specialty distribution will not necessarily lead to changes in geographic distribution. The federal and many state governments and the medical schools themselves have already put into place a variety of mechanisms to improve the distribution of physicians. Some of these have already been mentioned; let's look at them in greater depth.

The program on which Congress has placed its highest hopes is the National Health Service Corps (NHSC). Founded in 1970 to provide care to people living in underserved areas (as designated by the Department of Health and Human Services), it employs two kinds of doctors: volunteers and those committed to serve through acceptance of a scholarship. During the period 1974-79, over $245 million was appropriated to support the 9,061 students awarded scholarships, of which 7,096 were medical students. Because scholarship recipients did not begin to enter service until 1976, it may be too early to assess whether many will remain in the areas where they discharge their commitment. However, since to date only 10% have done so, the scholarship program and the Corps are not without critics. A 1978 Government Accounting Office (GAO) report cited the expense of this approach to the maldistribution problem and claimed moreover that Corps physicians are underused and that patients only go to them for emergency care.[12] Fitzhugh Mullan, Director of the Corps, has responded: "We go into areas private doctors won't. The GAO has a naive concept of what it takes to establish a practice, to build credibility in a poverty area. Considering the litany of problems, I think we're doing pretty well."[13] Private doctors are voicing another set of complaints: that in some areas Corps doctors are in direct competition with established practitioners and that this situation will inevitably worsen as more and more scholarship recipients enter the field. One Corps official has admitted that it's going to be difficult to place all of the scholarship enrollees and that once people from borderline shortage areas find that they can get good, inexpensive care from Corps physicians, they will opt for their services. Inevitably, then, questions about the cost of the Corps and when is a shortage area really a shortage area will continue to be raised. Given, however, the apparent unwillingness of American physicians to practice in prisons, state institutions, ghettos and isolated rural areas, the Corps may be the only sure way of providing care to these populations.

Area Health Education Centers (AHECs) represent another federally-funded, local initiative which directly addresses the maldistribution problem. Under contracts first funded in 1972, university health science centers join with community hospitals and other health institutions some distance away to provide education and training in health manpower scarcity areas. AHEC programs include continuing education for physicians, residency training in primary care, and clinical instruction of medical students; their goal is to improve the geographic distribution of health care personnel by providing decentralized education and improving the practice environment. Through 1979, 21 AHECs have been created and received approximately $124 million in federal funds. While these have been applauded as having a great deal of promise for improving health care in rural areas, the program has been criticized for not addressing the, in many cases, more severe health manpower problems of inner cities.

Supported also by state and community resources, the North Carolina AHEC Program is an example of expansion and enhancing of regional training capabilities bearing fruit. During the period 1970-77, the physician manpower situation in North Carolina showed significant improvement, with 80 of the state's 100 counties showing increased physician/population ratios; 62 of these were non-metropolitan. Moreover, according to its 1979-80 Progress Report, the North Carolina AHEC Program is positively affecting the attitudes and practice plans of medical students and residents. While there are probably many reasons for the success of this program in this state, it does provide evidence that cooperative efforts among institutions can create better practice and educational environments in rural communities and thereby increase their supply of physicians.

States' efforts to improve their delivery of health care have varied enormously in approach, intensity, and levels of coordination and funding. One fairly common attempt to providing health practitioners to underserved areas has been the development of state-sponsored service conditional support programs. Thirty-two states presently operate such NHSC-like programs. They all share the objective of retaining health professionals in the state; most also aim to improve access to medical school and to provide financial assistance. Beyond these commonalities it is impossible to generalize. There are several program types: loans, scholarships, tuition waivers, loan redemption, and contracts with out-of-state schools. There are also broad variations among states in conditions of service obligation, eligibility, placement, designation of shortage areas, program administration, and completeness of data on retention.[14,15] Some states have put the lion's share of their resources into developing new medical schools; in Ohio, for instance, three new schools have opened their doors since 1969. A more unusual approach, focused at the other end of the pipeline, is to be found in Virginia's Council on Health and Medical Care, Inc. The Council, supported entirely by voluntary contributions and working closely with the state's medical society and three medical schools, operates a physician referral service which is designed to bring areas looking for physicians together with physicians seeking practice locations. According to the Council's 1979 Annual Report, many physicians using this service are choosing rural areas in which to locate.

One would expect that, within a given state, elected officials would work closely with the administrators of its medical schools in addressing its physician manpower inequities. While such collaboration appears to be occurring in most states, it is also clear that the schools themselves —with varying degrees of state and federal support—have initiated efforts to improve the geographic and specialty distribution of physicians. In 1975, the AAMC asked the medical schools to describe their activities designed to improve the geographic distribution of physicians within their states. Although the reply time was only two weeks, 67 schools submitted a total of 470 pages outlining their activities. Most schools had altered their selection procedures to the extent that special efforts were being made to accept, if not to recruit, students from rural areas and from socio-economically disadvantaged families with the hope that these students would be prone to return to their communities. Schools reported different types of scholarship and loan arrangements designed to improve such students' access to a medical education and to encourage practice in underserved areas. All schools described special educational emphases directed toward stimulating students to develop careers in shortage areas; these took the form of usually elective but in some cases required clerkships in rural areas and inner-cities. Some deans were more sanguine than others about the extent to which increased student exposure to effective practice in underserved areas would influence the career patterns of those students who participate, but it is clear that all were committed to trying this approach. Schools have also been vigorous in their response to the nation's need for more primary care physicians. For instance, in 1966 fewer than five medical schools had departments of family medicine; by 1976 more than seventy additional schools had created such departments, albeit with encouragement provided by federal funds. Most also have introduced greater emphasis into the undergraduate curricula on behavioral factors,

1981 OSR MEETINGS

OSR Southern Region Meeting
April 16-18, St. Simons, GA

OSR Western Region Meeting
March 29-April 1, Pacific Grove, CA

OSR Central Region Meeting
April 23-25, Dayton, OH

OSR Northeast Region Meeting
April 29-May 1, Buckhill Falls, PA

OSR/AAMC Annual Meeting
October 30-Nov. 3, Washington, D.C.

OSR REPORT

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prevention of illness, and other subjects key to the education of the generalist.

Another effort worthy of mention here is the AMSA Foundation's Medical Education and Community Orientation Project (MECO). Initiated in 1969, MECO has provided more than 4,000 students an educational experience in a community under supervision of a practicing physician. The goal is to orient students to community and primary care practice early in their education in the hope that the experience will affect their eventual geographic location and specialty choice. Auxiliary goals are to provide preclinical students with exposure to the organization of health services, a patient-oriented approach to health care, the roles of other health professionals, and mechanisms for continuing education in a non-academic setting.[16]

At the graduate level, many institutions have created generalist tracks in internal medicine and pediatrics in addition to their family practice training programs. Some also have established graduate training sites in rural areas. The Nebraska Statewide Residency Training Project is a good example of such an effort; this Project was established in 1978 to promote the development of off-campus training for residents in primary care. By spending one-to-two months on rotation in rural communities, residents develop contacts in these communities while providing supplemental medical services. Another goal of this Project is to conduct workshops for these communities to help in the assessment of whether they have the resources to support a physician and in the recruiting and health planning processes. Local, collaborative efforts of this type appear to be particularly promising, and more of these are emerging. South Carolina, for instance, is coordinating a combination of several strategies for improving physician distribution; these include a medical education consortium, an AHEC, a state-supported family practice residency program, a physician-recruitment effort and a modified state-level version of the NHSC.[17]

There are two sides to the doctor distribution dilemma. A few states are devising proposals to regulate more strictly the number and types of physicians' setting up practice within their boundaries. The California Office of Statewide Health Planning and Development has released a report showing that the number of medical specialists in California increased at a rate of two to three times greater than the rate of population increase.[18] The report states that "an excess supply of specialized physicians is considered to be contrary to the public interest and contributes to the spiraling cost of medical care" and that "the distribution of California physicians among medical specialties is strongly determined by the distribution by specialty in the state's graduate medical education programs." It therefore recommends that there should be a phased-in reduction in the first-year residency positions in all specialties showing a present and projected surplus. The fate of this report and its recommendations is still uncertain. A somewhat different proposal has emerged in New York. In its 1979 health plan, the New York Statewide Health Coordinating Council recommended that the state curtail reimbursements for costs of residency training programs in areas of physician oversupply. This proposal is based upon the findings that "all health services areas in New York have a considerable surplus of physicians in the nine surgical specialties" and that "most of the medical and surgical specialty residency programs are located in areas with surplus specialists." There has also been no final action taken on this proposal.[15]

Another approach has surfaced in Rhode Island and Hawaii, though it has already died in the latter state. This approach would make the process of physician licensure dependent upon predetermined estimated physician manpower requirements on a "certificate of need" basis. Under such proposals, a designated state agency would periodically determine the number of physicians deemed appropriate for the time period under consideration. Physicians would be issued licenses on the basis of whether the particular kind of medical services which they wished to offer conformed with state needs; otherwise qualified applicants for medical licensure would be denied a license to practice in the state.[15] While this approach may sound severe and perhaps overly protective of already established physicians, it would be effective in preventing doctor surpluses in a given area.

MIXED (AND NOT SO MIXED) MESSAGES TO THE NEW DOCTOR

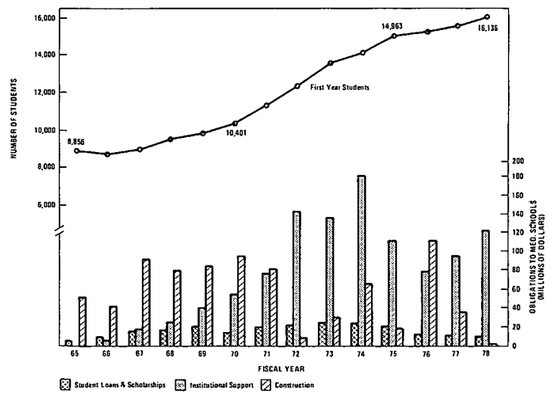
The preceding attempt at outlining the physician manpower scenario in this country is indeed replete with guesses and unwieldy questions. The scenario itself is likewise enigmatic, characterized in turn by fruitful partnerships and by situations in which it appears that the right hand doesn't know what the left is doing. We find evidence of cooperation, coordinated planning, efficient use of available resources; there is also evidence that policy making in the health manpower arena has been fragmented, politically oriented and ineffective. As we have seen, establishment of optimal numbers of each kind of health care provider is complicated business. And even if everybody could agree about the numbers arrived at, who is to say what methods should be employed to approximate the goals? Is achieving an optimal mix primarily the responsibility of the federal government? Or are the differences among states such that national policies are doomed to generate inequities? Should the medical profession be taking more of a leadership role? If in the aggregate there are too many doctors in the pipeline, shouldn't schools be reducing class sizes? Or is it better to err in the long run on the side of plenty than on the side of scarcity? And how might our already financially strapped schools recover the tuition income lost by reducing enrollment? If tuition increases result from such cuts, will not access to the profession on the part of minorities and economically disadvantaged groups be rendered more difficult than it already is? And what will be the effects of escalating debt levels on the career decisions at the country's many still underserved areas, overlooking both the length in years of the training program for physicians and the time required to modify curricula. The medical schools argued that they had responded in good faith to federal incentives with the understanding that continued support would be forthcoming. At the same time educational costs were rising dramatically as were students' requirements for financial aid. Another aspect of the controversy was schools' resistance to federal proposals to dictate certain admissions requirements and changes in curriculum and department structure.

The renewal legislation which finally passed, the Health Professions Educational Assistance Act of 1976 (P.L. 94-484), through its creation of a broad variety of special programs and projects focusing on the maldistribution problems, increased federal control over schools' activities. It attached additional conditions to receipt of capitation funds, e.g., specified percentages of primary care residents in affiliated programs. Another development was that the National Health Service Corps Scholarship Program, intended to remedy the distribution problem, became the centerpiece of student assistance programs by virtue of lack of funding for time-tested financial aid mechanisms and the odious terms of the new Health Education Assistance Loan program. While this Act proclaimed that "there is no longer an insufficient number of physicians and surgeons in the United States," schools were nonetheless required to maintain their 1976 first-year enrollment and even to increase third-year enrollment for 1978 by 5%; this latter provision required schools to accept U.S. citizens studying at foreign medical schools.

So where do we stand today? Figure 1 displays much of the numerical side of the answer. Since 1965, U.S. medical schools have received from the federal government over $2.1 billion in student and institutional support and construction grants and, as you can see, have dramatically expanded enrollment with these funds. In 1964, 32,000 students were studying at 87 U.S. medical schools; in 1980, 126 schools reported a total enrollment of 65,189. Thus, it is clear that with the help of Uncle Sam, the medical education community wholeheartedly responded to the call for more physicians and, as we see from the Graduation Questionnaire results, to the urging that more of these be trained in the primary care specialties. It is also obvious that the costs associated with the commitments made by the medical schools are recurrent, e.g., facilities constructed, faculty hired, and that there is a limit to the extent to which these costs can be passed on to students without jeopardizing access to a medical education and students' ability to manage debts incurred.

The legislative picture is a cloudy one. This fall the House and Senate passed health manpower bills, many months in preparation, to replace the expiring 1976 Act. These bills embodied very different approaches to the provision of institutional support and student assistance, and conferees were unable to reach a compromise before adjournment of the lame duck session. The programs authorized under P.L. 94-484 will therefore remain in place and probably receive funding at their FY 1981 level. Now with so many new conservative faces on Capitol Hill, when the next round of debates over renewal of health manpower legislation will begin and what the outcome will be are at this point anybody's guess. One thing seems sure, however; medical schools face an uphill battle procuring the federal funds they have come to rely upon. While this is not the place to explore the many dimensions of this dilemma, you will want to keep an ear open to these debates because tuition levels and availability of financial aid will be directly affected by their outcome. Suffice it here to say that there are neither ready solutions nor clear and simple ways to describe the current situation—though John A. D. Cooper, AAMC President, has volunteered one particularly vivid analogy. He has likened the encounter between the federal government and the medical schools to "a fellow who gets a girl pregnant and then walks away claiming it's no longer his responsibility." We will not speculate about whether or not she can depend on this fellow. The fact is that, in the meantime, so many thousands of medical students have been conceived that the practice of medicine in this country is bound to change as a result. In 1960, the number of active M.D.'s in this country equaled about 247,000; in 1990, this number will exceed 568,000. Two decades ago the ratio of physicians per 100,000 people was 143; by 1990, it is projected to be 242.[2] What this dramatic increase portends in terms of access to, quality, and cost of health care is unknown. Does this increase represent an expensive surplus or a national resource? Naturally, the answer to this question depends largely upon what kind of medicine and where all these new physicians choose to practice. What types of specialists will the country have the greatest need for in 1990, 2000? Such projections are difficult to formulate. The following section will give you some idea of what's involved in assessing physician manpower requirements.

Figure 1
FEDERAL SUPPORT FOR MEDICAL EDUCATION
FIRST YEAR MEDICAL STUDENTS



GAZING INTO THE CRYSTAL BALL

Through the years there have been numerous studies of the number and types of physicians required to deliver medical care. Among the first of these was the Lee-Jones study published in 1933.[3] Lee-Jones provided an estimate for the number of physicians required to prevent, diagnose, and treat given diseases. Research into the requirements for physician manpower continued through the 1960's when several federal and private sector studies demonstrated a need for increasing the total number of physicians. During the 1970's many of the national specialty societies became active in the area of physician manpower planning and commissioned their own manpower studies. These included orthopedic, general and thoracic surgery, cardiology, neurosurgery, radiology, otolaryngology, pediatrics, and obstetrics-gynecology. As a result, during the period from 1970-80, a spate of manpower studies, all investigating physician requirements for a single discipline, were published.

Assessments of manpower needs by medical professional groups have been criticized because the studies failed to consider other relevant disciplines, both medical and non-medical. Others have suggested that many of the surveys sponsored by specialty societies have taken an expansionist stance, projecting a need for growth in their own numbers. Further, it has been said that some specialty groups have ignored their own research in reaching policy recommendations. In spite of the criticisms of this genre of manpower study, three at least deserve a brief description here.

One of the most comprehensive manpower studies was SOSSUS—the Study of Surgical Services for the United States.[4] Two major surveys were undertaken; first, a questionnaire and log-diary were sent to a random sample of all physicians in the U.S. who performed operations. In the second part of the study, data were obtained on all in-hospital operations in four selected regions. After analyzing the data, the SOSSUS Manpower Subcommittee recommended a reduction in the number of physicians performing operations by reducing the number of surgical residents. While this reduction did not occur and while some surgeons continue to maintain that the problem of excess surgery will not be solved by reducing the number of trained surgeons, this 1975 study is worthy of note if for no other reason than it was published at a time when most professional societies were suggesting increases in the number of practitioners.

Another study that should be recognized is the National Study of Internal

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OSR Report

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Special Issue:

COMING TO TERMS WITH YOUR FAILED EXPECTATIONS: A NON-CREDIT COURSE FOR PHYSICIANS-IN-TRAINING

CHAIRPERSON'S PERSPECTIVES

In spite of mounting criticism on many fronts, medicine is still apt to be idealized by patient and practitioner alike. Even medical students tend to harbor a somewhat romanticized view of their chosen career. Certainly most of us entered medical school with great expectations and an almost idyllic view of what lay ahead. Fortunately, much of the vision we conjured up has proven accurate, and our experiences are as rewarding as we could have hoped. But there is another side of medicine we encounter, a side that is strikingly at odds with the image that we held. It is this aspect which we examine in this issue of *OSR Report.*

Increasing attention is being focused on what might be called the occupational hazards of the medical profession. Disproportionately high rates of suicide, drug abuse and divorce among physicians are frequently cited and sometimes virtually attain the status of folklore among medical students. These phenomena are unquestionably difficult to address and can easily invite denial. For any group, recognizing its fallability is an unpleasant task; this seems to be particularly true for physicians whose intimate involvement with human life has traditionally set them apart.

The hazards of the medical profession do not await award of the M.D. degree. The most painful and bewildering moment of my medical school career occurred when I learned that a fellow student had committed suicide. That such a tragedy could befall someone in a situation so like my own, one that had been portrayed as a "success," came as a staggering blow to me and irrevocably altered my view of the educational process and of the profession. Suicide is the most disturbing and tragic peril and, thankfully, it is infrequent. There are many other subtle manifestations of the same problem however—anxiety, depression, friction in personal relationships, overuse of alcohol, among others. When viewed in this broader light, it is apparent that very few of us have gone entirely unaffected.

I urge you to give careful consideration to what follows. The statistics that you are about to read may seem a bit overwhelming, may even inspire disbelief. But they reflect the fact that these aspects of our present and future experience cannot be viewed merely as aberrations. The future need not be so bleak. Medical students can accept significant responsibilities for improving the outlook. For many, reading this report may be a first step toward recognizing our role. I encourage you to contact me or the OSR representative at your school with your thoughts on measures that we can take. We must work together to solve these problems if we are to live up to our commitment to promote health.

Grady Hughes
OSR Chairperson

A PAINFUL SUBJECT

As a student of science and of humanity, you've become accustomed to paradoxes and incongruities. Sometimes life seems so full of them that many slip by unnoticed, unexamined. But stop for a moment and consider the following: There are thousands of practicing physicians in this country dependent on drugs and alcohol who have never sought treatment. The profession of medicine, devoted to healing of others, does little to help those of its members most in need. Sick persons expect assistance in dealing with their fears and anxieties, yet doctors and medical students are often afraid of expressing their own.

While you won't find such subjects mentioned in your school catalogue, documentation of these disquieting facts is beginning to appear—usually under the rubric of "physician impairment." It is easy to be put off by this label. It has a pejorative, uncomfortable ring. Moreover, the range of behaviors and problems it seeks to encompass eludes strict definition. How does one measure impairment? Against what standard? From whose point of view? Reservations stemming from such questions augment the inherently strong tendency to soft-pedal the health problems of physicians. But—reliable criteria or not—this difficult, painful subject merits investigation.

If we put aside for the moment considerations of patient welfare, there can be little disagreement that the most extreme manifestation of impairment in physicians is suicide. However there is a lot of disagreement about the antecedents and rate of suicide among physicians. Among the least enlightening views is the following:

> It is not remarkable . . . that failures must occur, that many of our professional brethren have to drop out of the profession in one way or another, and that weaklings, those morbidly disposed, and those lacking in high principles and moral inhibitions, might very easily adopt suicide as the most direct way to end their troubles. That more do not do this we think speaks well for the profession. . . . If we know that physicians are disproportionately given to suicide under the stress of modern life, while other professions also suffering from overcrowding are not, it is well to look for the reasons. The real main factor is, we believe, the business negligence of the profession as a whole. It does not look out for its own interest as it might very properly do without in the least disregarding the interests of the public. With proper organization and regulation, which is now, we believe, fairly well inaugurated, though far from being perfected, there will be less reason, we trust, in the future than there has been in the past for suicide among physicians.[1]

The hopeful note upon which this 1903 editorial ends strikes us today as ludicrous. But, while it is safe to say we have come some distance in understanding the causes of such failures among our "professional brethren," this area of inquiry still lacks a scientific base and conflicting reports of incidence among physicians abound. It is easy to become alarmed by articles in the newspaper which begin:

> Three times as many doctors in Britain and the United States commit suicide or become alcoholics as the rest of the population, Sir John Walton, president of the British Medical Association, said today. (10/31/81, *The Washington Post*)

A statement as global as this is relatively useless. Age, religion and intelligence are just a very few of the variables known to influence suicide rates, and the numbers in any given subgroup are often so small that comparative rates can be misleading. An additional methodological problem is that rates are usually calculated from death certificates or obituary notices and are thus likely to be underestimated. Nonetheless, it may be useful to consider selected results of a few studies.

According to one published in 1963, physicians do not commit suicide more frequently than attorneys or dentists, but this rate is three times that of other white collar workers; the suicides tend to occur at a point in life when the professional would be expected to be the most socially productive.[2] A 1974 study compared the rates between men and women physicians; one of its findings is that while less than 10% of the suicides among men occurred during training, this figure was 27% for the women.[3] Analysis of cause of death among women physicians between 1967 and 1972 revealed that almost 7% committed suicide; this rate is four times that for white American women of the same age and about twice that of divorced women over age 70, the demographic group with the highest known rate.[4] Examination of records over this same time period corroborated the common belief that psychiatrists commit suicide more frequently than physicians in other specialties.[5]

Substance abuse can also be considered a measure of impairment. Here too underreporting of cases is a problem and reliable comparative data are scarce. It appears that the incidence of narcotics addiction in male physicians is 30 to 100 times that in the general population.[6] Most studies conclude that the incidence of alcoholism in physicians is similar to that in the adult population of comparable socioeconomic status—seven to ten percent. One set of investigators gathered background information on alcoholic physicians: 54% reported graduating in the upper-third of their class and 53% were addicted to at least one drug in addition to alcohol. This group of 98 doctors accumulated a total of 219 arrests and 170 jailings. Yet 54% did not experience an obvious change in job status and only 8% lost their medical licenses.[7] One longitudinal study of a sample of physicians preselected as students for psychological soundness showed a greater use of psychoactive drugs than matched non-physician controls. Another finding from this study is that self-medication caused one-third of the total time these doctors spent as patients in the hospital.[8]

While the converse is certainly not true, most individuals who resort to suicide or become drug abusers are probably handicapped by an emotional disorder. Some observers have speculated that characteristics which propel certain people toward medicine, e.g., high aspirations, compulsive attention to detail, lack of pleasure seeking, may predispose them to such disorders. Psychiatrists of doctors report that the motivation to help other people is often much less altruistic than it appears and that compensatory personality traits can develop as defenses against the anxieties and conflicts involved in taking care of patients.[9,10] One-upmanship, perfectionism, and seduction into believing that the M.D. confers some form of superhuman power mitigate recognition of personal limitations and illnesses. Some physicians are even reluctant to record psychiatric disorders diagnosed in other physicians, attributing distress to physical causes.[11] Thus, assessment of the incidence of psychological impairment among physicians is extremely difficult.

It can be argued that anxiety and depression are healthier responses than denial of conflicts which physicians almost inevitably experience at certain points during their careers. The most obvious of these is the transition between undergraduate and graduate medical education. One study of doctors just completing their first year as residents found that 30% experienced depression during the year; most of the episodes occurred in the first two months of the residency and a correlation was discovered between the number of working hours and onset of depression.[12] There is evidence that for many women M.D.s conflict may be a way of life. One study of women physicians found that 51% had a primary affective disorder.[13] A recent examination of this and other studies of impairment in women physicians, while noting methodological problems, concludes that those at greatest risk for a depressive episode are in their 20s, 30s and 40s, when the psychosocial stressors involved with training, career choice and role conflicts are maximal.[14]

internship reinforced a tendency in many toward self-protectiveness which caused them to feel their caring must be directed toward themselves at the expense of their patients; for others the caring remained patient-oriented at the expense of themselves and their families. The ability to give care in both realms simultaneously appeared to be seriously hampered at this point in training. Judging from the research on the mental health of physicians . . .these two are prevalent patterns which appear to continue over time. When this occurs, both personal and professional development suffer a loss. . . . (Moreover) there is the distinct possibility that many physicians become so accustomed to the kind of schedule required during their training that they continue to impose the same kinds of restrictions on themselves once no one else does. It is almost as if they have forgotten there was an alternative; for many, depending on how long this pattern existed prior to medical training, perhaps there never was. Such a passive stance to one's life has been labelled as "the escalator phenomenon," intended to convey the sense of someone who sees himself moving onward and upward in a continual motion, whether or not he is really ready, and often with surprisingly little effort other than staying within the confines of the escalator. The result of this may be the sense of arrival at each of a variety of levels without knowing exactly how he got there, and without consideration of his goals other than to immediately begin the ascent to the next level.[37]

Some individuals appear to have few problems keeping their long-term goals and values in view, setting appropriate levels of self-expectation, ordering priorities. But medical education puts these abilities to a severe and almost constant test. Some may need assistance remaining active agents in their own professional socialization and learning rather than just suffering from conflicts that arise. Perhaps some of the following advice may prove helpful. Investigators of physician-suicide recommend that it is imperative for physicians to understand and accept their emotional needs early in their career, since their emotional vulnerabilities, coupled with the incessant demands of their ways of life, will determine the success or failure of their professional and emotional adjustment.[38] You may find it useful in this regard to discuss your questions about taking care of yourself vis-a-vis taking care of others with someone you can trust. As an example is offered an experiment at the U. of Arizona. A group of medical students created a support network based on the principle of encouraging expression of conflicts; individuals formed pairs, taking turns being client and counselor, with the counselor's main responsibility to create a safe environment in which the client could express his or her feelings and then to *listen*, providing advice only when sought. Certainly some persons need professional help in recognizing their emotional needs and in coming to terms with their limitations and frustrations. Unfortunately many such individuals avoid therapy by relying on an inappropriate mechanism known as "hoping things will get better"; try this one out on a first-year resident. More concrete are the following suggestions:

1) When a faculty member's teaching or evaluation methods stymie or frustrate you, request an appointment to discuss the problem. Don't assume that he or she is deliberately making your life harder and don't wait until you have an examination score to contest. If the only time students approach faculty is when they believe they deserve a higher mark, faculty will come to believe that grades are all students care about and that material will have to be force-fed. Try to examine the situation from the facultys' point of view. They may be aware that they are deficient as teachers and evaluators for they received no instruction in these areas. But rational evaluation methods and good lectures do not prepare themselves, and faculty members are pressed for time from many quarters—numerous committee meetings, the search for outside funding, publishing their research in order, for one thing, to increase their job security. Bricklayers earn more than many assistant professors. Remember also that there is seldom unanimity within and among departments about apportionment of curriculum time or educational goals. It is therefore important for students to do what is possible to prevent adversarial relations from developing in the classroom. Present your expectations with an open mind, ascertain what the faculty member expects from you, and attempt in a collegial fashion to resolve the differences.

2) Sound financial management and planning is a must. Borrowing more than you can expect to be able to repay on schedule is a sure way to increase your problems even if it presently appears to be the only solution. As tuition and interest rates rise and sources of financial aid dry up, paying for a medical education is becoming more and more of a challenge for more and more students. There are no easy answers, but it is up to you to devise a feasible plan. You may receive assistance from your school, your family and Uncle Sam, but paying for a medical education is ultimately your responsibility. Design and live within a budget. Keep good records. Be sure you understand the provisions of any financial aid you receive, especially how much you have to repay and the repayment schedule. Approach your financial aid officer about arranging for seminars or occasional programs on financial management and debt repayment.

3) Keep abreast of what's going on outside medical school. The practice of medicine is changing in response to technological, scientific, demographic, political and economic developments—not to mention higher than ever physician/population ratios. In order to prevent being taken by surprise, pay attention to national and local events pertaining to health care delivery and payment mechanisms. Read periodicals such as the *New England Journal of Medicine* and *Medical World News*.

4) Maintain flexibility in your career planning. No one can predict what new constraints and opportunities will define the practice of medicine ten, twenty years from now. Decisions that you make as a senior medical student about graduate education may need to be revised as you learn more about your own capacities and about the changing practice scenario. Therefore it is wise to consider no choice final. Talk to residents and young physicians about their career research and plans.

5) Examine your priorities with the understanding that, given the tyranny of time, what is not included high on your list will not come to pass. Undernourished personal relationships can quickly become memories (or nightmares). You may need to protect non-medical activities and interests from becoming usurped by your own conscientiousness. Medicine demands the best you have to offer but you determine the value of the coin.

6) Select a personal physician and make a point of seeing him or her once a year, even if you are in perfect health. An astute physician will know what questions to ask you. Above and beyond helping to take care of your body, this professional relationship may have additional benefits, e.g., a source of advice when you need it most.

7) If you have any concerns about your drinking or drug-taking behavior, attend an Alcoholics Anonymous meeting. There is a chapter in virtually every part of the country and most meetings are open, i.e., one need not have drinking problems in order to attend. Since it is widely recognized that the A.A. program of recovery is the most successful method of treatment of this illness, even if you have no suspicions about yourself, attending a few meetings will enhance your ability to identify and care for alcoholic patients.

Finally, beyond a healthy discipline, develop a sense of charity and gentleness toward yourself. When we expect unrealistically of ourselves we guarantee despair and there is already enough of that to go around, particularly in hospitals. And watch out for each other. Though competition for grades and residencies may provide hefty disincentives to extend a helping hand to peers in need, certainly one of the causes of the tragedy of physician impairment has been physicians' benign neglect of distressed colleagues. The capacity to offer help is what being a physician is all about. Wedded to the ability to accept help, it is the essence of a responsible freedom.

1982 OSR MEETINGS

OSR Southern Region Meeting
May 6-9, St. Simons Island, GA

OSR Western Region Meeting
March 28-31, Pacific Grove, CA

OSR Central Region Meeting
April 14-15, Toledo, OH

OSR Northeast Region Meeting
April 22-24, Montreal

OSR REPORT

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Schools that have conducted self-studies of students' needs and concerns about their educational environment naturally are the ones most likely to have developed programs to address these. One example is the U. of Nevada School of Medicine where a student survey revealed that significantly more freshmen, juniors and women sought counseling; these and other results led to modification of their student affairs programming.[32] A three-phase assessment of educational setting at the U. of Missouri-Columbia School of Medicine revealed a number of areas of dysfunctional stress; a change strategy was developed in response which resulted in institution of a review period for Part I of the Boards, restructuring some courses, and student participation in the orientation program. The change strategy, however, brought to light some troublesome conflicts: faculty members subscribing to negative reinforcement as the primary stimulus for learning resisted change in that methodology and others, believing that medicine should be all-consuming, were not persuaded by students' reports of dysfunctional stress from lack of time for nonmedical activities. In evaluating this project, the planning team concluded that the most surprising and disturbing finding was students' "passive acceptance" of the difficulties they reported.[33] Perhaps the most comprehensive assessment of medical students' well-being and problem areas has been conducted at Stanford U. A standing committee of students, residents and members of the medical school and university faculty was created to investigate what the school could be doing to enhance the academic, personal, and social growth and development of students. Two years of gathering and deliberating over a wealth of survey data resulted in a number of recommendations which were implemented, including: training students to be peer advisers, offering listening skills training, utilizing students as information and referral resources regarding financial aid, development of a course on the socialization process in medicine, and appointment of an ombudsperson for the medical center whose first job would be to seek adoption of a bill of rights for health professionals in training. This effort, too, was not without its difficulties, for example, garnering the support of certain department chairmen.[34]

It is neither possible nor desirable to give a comprehensive overview of all that schools are doing to reduce unnecessary pressures on students, expand services, and augment curricula with programs designed to humanize the educational experience. Most student affairs deans expend a great deal of effort trying to ensure that students' needs are met. There may in fact be support systems at your school of which you have not taken full advantage. Students who feel that their school is not doing enough should remember first, that all but the most informal of activities require funding and second, that there is much that students can do on their own to improve their lot.

ON A PERSONAL LEVEL

Looking at life as a series of developmental tasks that begin at birth and continue through old age, one must be struck by the enormity of what is typically accomplished during the twenties and thirties. Not only are critical decisions about career, marriage, family and their consolidation arrived at and acted upon; for many there is still work to be accomplished in redefining ties to parents and for most there are questions to be grappled with regarding participation in community life and religious and political affiliations. None of these areas is insignificant or uncomplicated; moreover, external pressures are heavy and self-expectations are rooted in vigorous youthful dreams. For those who have chosen medicine, difficulties with these tasks may be exacerbated because the section of the pie labeled "career" will absorb, if allowed to, 100% of available time and energy. Daniel Levinson, a major contributor to our understanding of adult development, maintains that work on developmental tasks is facilitated by taking the burdens and stresses seriously.[35] Pretending that they are not hard and will take care of themselves is worse than counterproductive. Swept under the rug, conflicts have a way of multiplying, assuming disguises, becoming more unmanageable and hurting others as well as oneself.

Problematic for most professionals in their twenties and thirties, but especially so for physicians-in-training, is confusion between personal identity and career identity. Proximity to illness and death, the enormous responsibilities of patient care, sleep deprivation, the overwhelming amount of information to be incorporated, role ambiguity and many other "givens" of medical education combine to render the separation of self and medicine a hard-won achievement. Thus, in order for the years of training to be ones of personal as well as professional growth, appropriate coping mechanisms must be acquired and utilized. A useful way of thinking about coping is "adaptation under relatively difficult conditions, when change or a problem defies familiar ways of behaving, requires new behavior, and likely gives rise to uncomfortable affect."[36] Because coping behavior strives toward maintenance of equilibrium and self-esteem, self-protective devices are adopted. Naturally it's easier to identify inappropriate strategies than healthy ones—blaming the "system," getting high to escape, running away from responsibilities, denying that conflicts exist. Such devices can become patterns which then become problems in their own right, requiring additional new coping mechanisms. Julie Donnelly's study of interns revealed that those individuals most successful in negotiating the experience, in addition to a high level of maturity, had the most extensive repertoire of coping mechanisms, both those focused on outside structural changes and those focused on inward attitudinal changes. However,

To be sure, the above is neither a comprehensive nor critical review of the literature on these subjects, and many of the points raised are controversial and invite more thorough discussion. Numerous questions deserve an open airing. Are there any factors known to predict debilitating vulnerability to the stresses of patient care? If so, would such knowledge be useful in the medical school admissions process or in counselling students regarding specialty choice? How do women physicians differ from men in their vulnerabilities and their coping styles? If affective problems are natural expressions of chronic role conflicts, what goal is served by considering the struggling physician impaired? Do not many practitioners, by sheer force of their commitment to their patients, perform admirably even when fatigued, depressed, angry? But where does the feeling of indispensability end and the inability to recognize one's limitations begin? To raise such questions is to further illustrate the imprecision of our understanding of impairment. Under the circumstances and in isolation, statistics on physician suicide, drug abuse and psychiatric problems are relatively meaningless. In fact their presentation may but inspire a "not me" attitude. Why single out physicians anyway? This question may best be addressed—and the statistics cited above placed into perspective—by a look at certain characteristics of medical practice and the educational process.

THE CHANGING REALITIES OF MEDICAL PRACTICE

In terms of their income potential and opportunities to serve people and to grow professionally, physicians might be expected to have fewer complaints than most about their careers. But, given their proximity to pain and death and the ethical and life-shaping responsibilities they undertake, there is also a lot of room for frustration and failure. Though many of the stresses peculiar to medicine are readily apparent, new and more elusive constraints are beginning to be felt. One recently published study compares the career satisfactions and dissatisfactions of a sample of medical graduates from 1935 through 1945 and those graduating between 1956 and 1965.[15] Both groups list accurate diagnosis and successful therapy and appreciation from patients as their greatest satisfactions; these are not surprisingly strongly linked to the successful cultivation of the doctor/patient relationship. There is also general agreement about the worst stresses. Lack of leisure time and time pressures of work are most frequently mentioned, followed by paperwork, therapy failures, and problems with other physicians. The most recent graduates, however, listed a number of stresses not raised by the older sample: being named in malpractice suits, the constant need to assess legal and moral risks and to practice defensively, the fear of violence against themselves and their families from disgruntled patients, and dealing with incompetent and disabled colleagues. According to Martin Lipp and his book *The Bitter Pill: Doctors, Patients and Failed Expectations,* such dissatisfactions are causing a growing morale problem among physicians.[16] His argument runs as follows: Both doctors and patients, beginning with the days when medicine was piling one impossible achievement on another, began to believe that every medical problem was potentially solveable. Health care came to be viewed as a fundamental American value, even a right. The public's demand for services increased in step with the profession's ability to provide an increasingly complex array. Physicians specialized in order to maintain their expertise. Patients obtained health care insurance to protect them from bearing the expenses of their rising demands, and physicians purchased malpractice insurance to protect themselves from patients' dissatisfactions with their attempts to meet these. Today the amount of time physicians spend on administrative and quasi-legal functions, combined with the increased expectations with which the doctor/patient relationship has become encumbered, can push the physician's therapeutic role to the periphery. Physicians' training prepares them well to deal with the biomedical aspects of illness, less well with the emotional and marginally if at all with economic considerations. Thus, many physicians increasingly feel powerless and disillusioned about the capability of effective intervention. Lipp's prognosis for the future is even more discouraging. He foresees that changes stemming from cost control efforts and incentives toward further specialization will be "brutalizing for conscientious physicians who wish to be complete physicians to patients they want to see as whole human beings, who try to do it all." Support for this viewpoint is not difficult to find. A recent *Wall Street Journal* article notes that the world the independent practitioner has believed in "he now sees crashing in ruins . . . now the pressure is to think of cost as well as or even before patient welfare" (Aug. 11, 1981, "The Decline of the Independent Physician Continues").

Lipp's motivation to write this book was the suicide of a physician-friend and the desire to help other physicians come to better terms with their "failed expectations." His message is a timely one. Beset with serious economic problems, this country is changing in ways which will inevitably additionally stress our health care institutions, exacerbating pressures already felt by practitioners and creating new ones for physicians seeking to enter practice. The following forecast tells part of the story:

> Because of the cost involved, it will be much more difficult to upgrade the health care provided to our growing population of persons older than 65 years. . . . Changing national priorities make it unlikely that the country will expend large sums for any new major publicly supported domestic health care programs. Many of the nation's hospitals, public health agencies and academic health sciences centers will find themselves financially hard pressed because of their dependence for more than one half of their operating funds on what will be much more financially constrained public and philanthropic support. A slowdown in the growth of real personal income will limit the ability of some persons to meet out-of-pocket expenses, and some may forego needed medical care.[17]

Add to these considerations the escalation of competition for patients due to increased numbers of all types of providers and to changes in the ways that health insurance and services are selected and purchased and you have a scenario replete with new challenges for all involved.

Meeting these challenges will involve a variety of adaptations on the part of physicians—to fewer degrees of freedom, to more persistent questioning of their authority, to more cost conscious patients, to restrictions on their revenues. Choices will have to be made; autonomy and high income will no longer go hand-in-hand. Even after all those years of training, emerging physicians may find themselves ill-equipped to deal with the realities they must face. While pressures will be more economic than academic, those in search of the perfect practice opportunity may recall with chagrin disappointments which attended their entry into medical school. Perhaps for many it is at this juncture that the failed expectations begin.

PREPARING FOR PHYSICIANHOOD

Why medicine? Many can recall precisely when and how medicine became the goal; often a personal illness or that of a loved one was involved. "For others, remembering the circumstances of this internal event is difficult, suggesting that it may be the object of repression or obscured by developmental overlays," maintains Zaberenko, a psychiatrist who has treated many physicians-in-training.[10] Many doctors (and medical school applicants) can never remember *not* wanting to be doctors. That the basis of the decision has important implications is not a proveable hypothesis; but once announced this decision drives a number of far-reaching though "short-term" choices, for example, undergraduate college and major. Also bearing on future developments are "long-term" perspectives, that is, an individual's idea of what it is to be a physician and the fit of that idea with personal goals and values. Often candidates for the M.D. possess only vague, even romantic ideas about the goal. Nonetheless, many go to extreme lengths to prove their worthiness for the opportunity to pursue it. Thus, many arrive at medical school "set up" for disillusionment: prepared to work as diligently as possible and to forego financial and personal freedoms in order to join the ranks of a profession about which they know little more than a layman.

Students arrive with more well-defined expectations about medical school itself. These include a supportive faculty with students' requirements high on their list of priorities, a manageable curriculum devoid of gaps and redundancies, and a good deal less competition than characterized the premedical years. Many of these preconceptions bite the dust very quickly, especially in large schools where opportunities to receive individual attention are limited and in programs which delay interactions with patients, since entering students strongly experience the wish to heal.

A great deal has been written and medical sociologists continue to speculate about professional socialization, i.e., the process by which one assimilates the values and knowledge, the culture of medicine.[18] While a review of the theories and evidence will not serve here, much of what does and does not occur during medical school can be viewed with an eye toward later adaptational problems. At the outset, your great expectations of yourself and medicine may in a way resemble the Emperor's New Clothes. As one of the chosen, you are going to learn it all, become the ideal physician, master the art and the science without their mastering you. But, entering the classrooms and wards, you confront fallen demigods, incurable patients, and too much to learn at once. You recognize that you are low man or woman on the totem pole and that you are "dependent" and will be for some time. That your medical education won't pay for itself and that expenses are increasing become glaring realities. You also notice that some physicians are unwilling to interact with certain kinds of patients, e.g., "crocks," alcoholics, those who do not follow instructions. You do not, however, admit any misgivings for fear of sounding ungrateful and naive and throwing doubt on your ability to succeed. Meanwhile, your short-term perspectives are having a bad time of it as well. There's never enough time, praise, or understanding on the part of those you depend on. You were used to feeling confident and in control, but often now you feel moody, isolated, unsure, inadequate, overwhelmed, defensive, vulnerable. Your energies are focused on pleasing an enigmatic faculty and making it over the next hurdle, the next evaluation process. The survival techniques adopted—doing without sleep and exercise, concentrating on earning percentage points (more important, it seems, than absorbing concepts), putting on a stoic face, denying anger, postponing gratification, and sometimes even plagiarizing and fabricating data—all seem justifiable. To admit confusion is a confession of ignorance. To need time off, to acknowledge lack of energy, is to qualify your commitment. If you have problems adapting to the load and teaching and testing methods, the message is to work harder; you receive nebulous reinforcement to ignore underlying conflicts. And you know better than to ask too many questions about the educational process. After all, if you feel unable to walk out on absolutely the worst lecture in the history of medical education, it's clear that your ability to change the system and to direct your own activities is minimal.

If unchecked, such disillusionment and feelings of powerlessness can infect your view of yourself and your goals. It may be difficult to discuss these new feelings with friends and faculty; either they don't know enough to offer worthwhile advice or they have problems of their own. Unless you're doing well in their subject, faculty members may give little credence to your point of view. You may seek encouragement from upperclassmen, residents, physicians in practice; they say, just wait, the pressures and frustrations will increase. And so does the stigma connected with asking for help.

While loathe to admit it, students probably understand that focusing on "making the grade" in medical school has implications for future behavior. You discover, for instance, that techniques acquired during premedical years geared toward obtaining the highest possible GPA and most glowing letters of reference have enduring utility. However, if the goal is to be a life-long learner and care-giver, an enthusiastic participant in a family, and mentally and physically healthy, it would appear that many attitudes learned during the educational process would have to be unlearned somewhere along the line. Yet short-term perspectives have a way of becoming long-term perspectives. Orientation of study habits and of learning styles toward "passing" or impressing someone else represents a compromise that will exact a price down the road. Compromises intended to be remedied later on also occur in interpersonal relationships, but apparently such remedies leave something to be desired; the available evidence is that almost 50% of doctors have unsatisfactory marriages.[19] Patterns of behavior and priority setting become harder and harder to alter. And results of recent studies of medical students' health habits, if they form the bases of future practice, are not encouraging.

A survey conducted at a midwestern medical school revealed that lack of sleep was considered by students to be a pressing problem. In addition, 58% felt their exercise to be less than adequate; 46% expressed concern that harmful drug habits had developed or were being continued; and 12% believed their nutrition was inadequate.[20] Another study has shown that tobacco, alcohol and marijuana use increases as students progress in their training, with alcohol abuse affecting approximately 10% of medical students.[21] This study also found that 30% of medical students are active users of marijuana, 15% of amphetamines, and 6% have experienced withdrawal symptoms from tranquilizers at some time. These students gave significant weight to the following reasons for drinking: social approval, forgetting personal problems, meeting crises, and alleviating loneliness or depression. Among the sophomores and juniors, 10% drank most often alone, 17% drank while studying, and 8% had at some time been in a vehicular accident while under the influence of alcohol. An examination of attitudes about substance abuse among medical students at another school produced a slightly different profile: 39% of the students reported frequent experience with alcohol (2–4 times a week or more) and 18% with other drugs and 7% admitted personal problems with the use of alcohol.[22] Parallelling increased drug use among college graduates, there is good reason to believe that recreational use among medical students and residents has risen in the past decade. Since the membrane between such use and abuse is permeable and since pressures magnify as more responsibilities are assumed during preparation for independent practice, the above percentages cannot be dismissed as representing behavior these young people will outgrow.

If you do not recognize any of the propensities or concerns outlined here and seem to have achieved an appropriate level of self-expectation as you progress toward your personal and professional goals, perhaps this scenario strikes you as exaggerated. Certainly, profiles of the health habits and patterns of drug usage as well as levels of student satisfaction with teaching and evaluation methods vary a lot from school to school and from year to year. And certainly a large number of students handle their difficulties very well and grow more than suffer from the stresses of their professional preparation. However, you have now and will continue to have many associates not so fortunate. Evidence from many sources suggests that physicians' attitudes toward distressed colleagues (as toward substance abusing patients) are more negative, i.e., judgmental or permissive, than helpful. Such censure or silence is unfortunate in the extreme for, if medicine includes a "brother's keeper" ethic, there have never been more opportunities to practice it.

MEETING THE CHALLENGE OF IMPAIRMENT

The expanding efforts of a number of very diverse organizations provide additional evidence of the scope of the problem. Such activities, only briefly reviewed here, include a variety of overlapping goals: additional research into the causes and incidence of disability, identification of impaired physicians and their rehabilitation or, failing this, curtailment of their privileges. The starting point for all of these activities is the recognition that physicians with impaired health are usually unable to give optimal medical care to their patients. A physical illness more often than not places readily apparent limitations on one's activities. The effects of a psychological disorder, however, are often gradual and insidious, undetected by the person who is affected and by patients and colleagues. Even if evident, signs may go unacknowledged; prejudicial attitudes toward psychiatric problems and the consequences which can flow from their disclosure combine as powerful deterrents to early identification and corrective action. The concern, therefore, is a dual one: the diminution of quality of patient care and the waste of professional life.

Courts of law have focused on the former threat. Obviously, a patient may bring a suit against the impaired physician for malpractice; what is less well-known is that the suit can include anyone who is involved in practice with the impaired physician or who permitted the physician to continue to practice. State laws vary a lot on these subjects, but many hold the entire hospital staff liable if an impaired physician is practicing within the hospital. But the doctor in question also has legal rights; in some states a physician may bring action against all persons who took any part in the curtailment of his or her privileges or in any way impeded his or her ability to practice. While well-intentioned, such provisions, and others that offer medical societies disincentives for accepting reporting responsibilities, have understandably complicated this already complex scenario. Traditionally, doctors have overprotected their fellow physicians right into the grave. Clearly, incentives are needed in the other direction. Once it had begun to study this problem, the American Medical Association (AMA) recommended that state medical practice acts should include the following provision: "any licensed physician may report to the board of medical examiners any information acquired that tends to show that any physician may be unable to practice medicine safely and that civil immunity be provided the physician so reporting in good faith."[24] One year later the AMA Council on Legislation prepared model legislation that states could use in modifying medical practice acts to provide for treatment and rehabilitation of the impaired physician. The Proceedings of the Third AMA Conference on The Impaired Physician reports that at least 34 states have incorporated principles of the model legislation. Conference participants also pointed toward other advances. Medical societies in more than half the states now have programs offering the impaired physician confidential assistance. Some of these include the provision that if the doctor is uncooperative, the society will report him or her to the state board of medical examiners; but the most successful have concentrated on the non-coercive approach. Increasing numbers of hospitals have developed programs to monitor practitioners on the staff in order to detect emerging impairment and to encourage early treatment. Also, more state licensing boards are joining the cooperative effort with organized medicine and hospital staffs to confront, rehabilitate and, if necessary, discipline the disabled physician.

The California Medical Association provides a good example of what can be done to help physicians with problems and to promulgate ideas for enhancing the quality of life of doctors. Its Committee on the Well-Being of Physicians publishes a newsletter distributed to chiefs of staffs of all California hospitals, specialty societies and medical school department heads. In addition to making available consultants free-of-charge and compiling a bibliography of articles from the medical literature, in 1978 the Committee sponsored a conference, the proceedings of which offer valuable information on: unique aspects of treating substance-abusing physicians, family therapy with physicians, responsibilities of colleagues, and the still prevalent conspiracy of silence.[25] Other states have focused primarily on treatment programs; by all accounts the Medical Association of Georgia Disabled Doctors' Program is the most comprehensive of these and is serving as a model for other states. Its initiators feel that its successes are due to the following: the effort has the support of the whole medical community, including emergency room technicians and pharmacists; the intervention process is carefully structured and mobilizes the physician's existing support systems; a non-binding treatment contract is drawn up and the contact of program staff with the doctor is continuous; the program receives unusually generous financial support from the state medical society and has established a good working relationship with the state board of medical examiners. Among the lessons that have been learned thus far in Georgia are that programs must include: plans to deal effectively with denial, lack of motivation for treatment and repeated lapses; provisions for the recovering physician to become involved in the treatment of others with his or her disease; and implementation of peer group therapy in every possible situation.[26]

Clearly the activities outlined above are crucial but "after the fact." Less visible are activities focused on prevention. Endeavoring to become self-supporting, the Center for the Well-Being of Health Professionals has a three-fold purpose: to increase the awareness of health professionals and the public about the stresses inherent in the system of providing health services; providing education on the origin and early manifestations of disabilities; and coordinating efforts dedicated to improving the functional integrity of all health professionals. The Center offers workshops and consultation on a variety of topics and has published continuing education monographs on stress, family coping skills and physician impairment, as well as a manual on housestaff coping.[27]

Recognizing that residents are a particularly high-risk group, the Resident Physicians Section of the AMA has compiled an extremely useful handbook entitled *Beyond Survival*.[28] Based on the premise that residency programs are logical places to learn coping techniques useful over a lifetime, it offers specific, realistic guidelines for creating group and individual programs to promote well-being. Suggestions are provided on engaging the commitment of the program director and analyzing available resources; for personal use, values-clarification and goal-ordering exercises are included. This booklet also contains an extensive annotated bibliography on physician impairment and coping techniques, a list of state and national organizations with activities underway in these areas, and reliable outlines on helping the impaired resident and on creating a rehabilitation program. With the preface that "people are most vulnerable in their areas of expertise," the section on personal assessment of impairment contains much good advice, including that changes in habits and appetites should be discussed with a close friend or family member and that therapy and counselling are too good to be reserved solely for patients.

The American Medical Student Association (AMSA) has also undertaken activities focused on prevention of student impairment. Last March AMSA sponsored a conference on this theme, for the first time bringing together at the national level both students and deans to discuss ways to promote student well-being. One issue identified at this conference is the sometimes debilitating anxiety students experience regarding career choice and students' need for assistance in making informed decisions that take into account the country's manpower requirements as well as personal goals. Thus, AMSA is attempting to launch projects to help meet this need, and a conference on career decision-making and specialty choice will be held in conjunction with its 1982 annual meeting.

AT THE SCHOOLS

Analyses performed at individual medical schools have advanced our understanding of the relationship between achievement in and anxiety about medical studies[29] and of problems resulting from a student's interaction with the learning environment.[30] Many medical educators seem to view stress as part of the curriculum, arguing that taking care of sick people in a responsible manner is stress of the highest order and that reactions under stress should be gauged and evaluated as surely as performance in the basic sciences. This perspective, however, contributes nothing toward the management of stress or toward recognition of detrimental side-effects of inappropriate coping styles. Moreover, at a number of schools it appears that optimal arrangements have not been made to provide counselling and psychiatric services to students. A survey of medical schools conducted by the American Psychiatric Association revealed widely varying modes of mental health care delivery and provisions for students choosing to take advantage of such services. Even though 92% of responding schools keep psychiatric records separate from other student health records, 41% release these without a standard policy of informed consent by the student. It is thus understandable why confidentiality remains an important issue in the minds of students considering this route. Each school was also asked to rank the overall quality of its medical student mental health service; 25% admitted that it was only fair or poor.[31] While it is clear that there is no "best" arrangement for providing mental health services to students, it is also clear that there are correctable gaps at some institutions.

blaming the patient. . . Since doctors and patients are both scientific observers whose observations are affected by the point of view from which they observe, their feelings and values are recognized as having a legitimate and necessary role in their decision-making[27].

As described in this book, the epitome of "mechanistic expectations" is the aggressive surgeon's mentality: "when you test, you can see, and to see is to know. Once you know, you can cut, and to cut is to cure." The authors refute this paradigm step-by-step. They also point out the shortcomings of decision-analysis as it is presently being utilized:

> Decision-analysis ends with a set of exact-sounding numbers. . . In a world where information is shaped by the act of eliciting it, where the tool changes the user and the user changes the tool, where answers prompt new questions and decisions create further choices, people need decision-making procedures that are sensitive to change as it occurs.

Reading this book, physicians-in-training and in-practice whose clinical habits are not yet rigid may find assistance in coming to positive terms with the uncertainty and ambiguity that permeate medicine and, indeed, life. And while the relationship between probablistic thinking and a more conservative use of medical resources is not one-to-one, clearly this approach to medical decisions represents a major step forward from retrospective audit as a cost containment educational tool.

WHERE DOES THE BUCK STOP?

For many understandable reasons, this review of the mandate to control health care costs and of programs created to help physicians undertake their responsibilities in this regard may not seem of immediate value or interest to you. You may well be more concerned about the costs of attending school next year. No one needs to tell you money is tight. Besides, what can a medical student do? When you arrive on the wards, you are preoccupied with learning what is expected of you and finding your way through the maze of hospital routines. You have relatively little responsibility and do not participate directly in patient management decisions. Questions regarding peer review, cost and utilization therefore have little meaning. What you are mainly aware of is that you will be criticized for failing to obtain sufficient laboratory data on your patients and that housestaff and attendings have little time to deliberate about the costs they are generating. The goals which are communicated to you concern correct diagnosis and optimal treatment plans. And these evolve from reading charts and lab results, from integrating basic science knowledge with observations of pathology. You may occasionally reflect that the kind of caring which is free is not so much in evidence. It is especially during such moments that the system seems out of control. This vast and enigmatic enterprise continues to hum along, however—the left hand appearing ignorant of what the right is doing. Other perceptions also feed your sense of powerlessness. You witness the effects of poverty, violence, substance abuse and malnutrition on health. You notice the tendency of many patients to misuse medical services, to ignore physicians' suggestions and instructions. All of these contribute more to the cost of medicine than any decision you may make. You consider it well-advised to keep your nose clean and to learn as much as possible about problems you can do something about.

It is possible to frame this dilemma in an even broader perspective than that provided in *Medical Choices, Medical Chances.* Most Americans beginning in infancy are conditioned to a "more is better" way of life—witness our use of food, automobiles, televisions. Satiation centers are altered early. Stimulants, then depressants, then medications fill our cabinets. Overuse of products and the pace at which we live set the stage for physical and mental diseases. We are surrounded by noise and in almost constant action; we don't learn how to relax, cope, listen. Instant gratification is the name-of-the-game. We believe accordingly that each illness puts us in jeopardy and we seek instant cures, relief. New procedures and drugs are widely publicized and requested even before side-effects are fully understood. And we expect that somebody else will pay the bills.

There are parallels here to the training of physicians. The emphasis is on cure, not prevention, and everything except time for reflection and nurturing are abundant. In tertiary care settings, less reliance is placed on a proper history and physical than on technology, which is almost deified as "the way" to diagnose. Despite the facts that there are risky side-effects to the diagnostic and treatment processes and that labs can send back wrong results, giving patients the benefits of the best care available has come to be equated with more procedures, test and drugs. In the rush to treat, common sense and moderation sometimes get lost. Unaccustomed to thinking of information as a luxury which ought to be justified before being sought and surrounded by the plenty of the hospital-warehouse, your role models on the wards are too busy to change their ways as cognizant as they may be of expenses. Your propensity to emulate will result in academic-medical-center habits; and you will probably not outgrow these along with your clinical insecurities, which at this stage naturally prompt over-study[28].

Given this mentality on the part of patients and physicians, is it any wonder that medical costs have gone through the roof? And for the foreseeable future at least 16,000 new physicians trained in this environment will annually enter the system, each of whom will generate thousands of dollars per year in health care expenditures. Having internalized a particular view of "the patient's welfare" and in the absence of other incentives, physicians will probably continue to hospitalize and order tests, if they perceive any medical benefit, however marginal, for those seeking their assistance. When and if patients begin making medical decisions based on cost, doctors will likely change their ways accordingly. Prepaid practice arrangements also offer incentives for doctors to behave more conservatively. But until such time as a reimbursement system is installed which rewards on the basis of efficiency rather than cost, it is easy to be skeptical about restraining the inflationary spiral of medical costs. In the absence of such a rational scheme, unwanted regulations and reimbursement cut-backs are likely to continue. Unfortunately, these have the greatest negative impact on those whose access to health care is already limited and on teaching hospitals which disproportionately assume responsibility for this group regardless of their ability to pay.

In the meantime, what can be asked of the medical student who had nothing to do with the creation of this mess? A great deal can be asked of and achieved by you. To begin with, a change in attitude may be called for. Do you really desire to practice a more conservative brand of medicine than you see all about you and to learn to observe with all your senses instead of relying primarily on numbers? In his commencement address to his classmates, Eichna (a department-chairman-turned-medical-student) admonishes:

> Let us be clear. We absolutely need laboratory tests and special procedures; they are essential for good patient care. What we need is to perfect clinical skills that will permit the use of only the necessary tests in a proper, thinking sequence. We need to be called to account for why a test was done, not why it was not done. We never, or very rarely, are[29].

Acquisition of history and physical-taking skills is prerequisite. Students at some institutions may find it necessary to stimulate their faculty and residents to offer more help with this process. You may need special assistance in acquiring listening skills. Ask for it. Departments of psychiatry offer such training, and most have an individual who serves as liaison/consultant to the medical unit and who specializes in helping physicians to improve their interviewing techniques. You will also want to learn more about prevention of common accidents and illnesses and to advise your patients accordingly. But you cannot be effective in this endeavor unless you have taken the time to build with them a relationship based on trust and respect. And there are many forces which can distort this relationship—from patients' nostalgia for the paternalistic G.P. of yore to physicians' fears of lawsuits. In a different context but germane here, McCue offers a superb discussion of how "physicians and patients often conspire to deny the complexities, uncertainties, limitations and tragedies intrinsic to medical practice"[30]. He urges that physicians' denial of these givens not only contributes to increased health care cost (e.g., unnecessary procedures) but also exacts a toll from the provider in the form of professional dissatisfaction.

To return to the more conventional way of thinking about medical expenses, the most concrete advice that can be offered at this point is to familiarize yourself with the costs of the services you are (or soon will be) using. You can begin making use of this knowledge immediately, if only in limited ways. Some schools have collated informational packets on cost control and include lists of local prices of tests, procedures and drugs. An excellent example is Stanford's[31] which also offers a number of pointers regarding the use of tests. To cite only a few:

- There is no evidence that ordering a battery of tests on admission shortens hospital stays.
- Keep in mind that all tests have a certain degree of inherent variability. Hence, improvements in repetitive lab values may sometimes represent chance variation or regression toward the mean.
- In general, the most useful information comes from the earliest diagnostic maneuvers. Each subsequent step yields progressively less information. Thus, if you find yourself ordering more than 4-6 tests in order to make a diagnosis, you probably are ordering the wrong tests.
- The desire to be the first one to make a diagnosis is not an adequate reason for pursuing an aggressive work-up.

This booklet also recommends that physicians can provide a useful service by being aware of less expensive local pharmacies and of relative costs of equally-effective drugs. These may sound like simple, even obvious, suggestions—but they provide a place to start.

We learn when we perceive a benefit to ourselves from doing so. Beyond the National Boards and a faculty letter of recommendation, if the goal is to become an excellent physician, then the key is caring. Both the interpersonal and the scientific kinds are needed to allow identification of the most significant actions you and your patients can take together. One of the natural by-products of quality care is judicious use of medical resources, which is the greatest challenge facing the profession today. Whether your actions contribute to meeting this challenge—or serve to exacerbate it—is up to you.

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OSR Report

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THE RISING COSTS OF HEALTH CARE & THE RESPONSIBILITIES OF MEDICAL STUDENTS

CHAIRPERSON'S PERSPECTIVES

For most of us these days, the mention of money probably starts an anxious train of thought about tuition increases and the likelihood of finding a loan for next year. These worries are unfortunate and understandable. But I ask you to take a few minutes to consider a different kind of money problem, that is, the one facing the medical profession. Medicine is presently caught between conflicting, almost mutually contradictory, demands. Leftover from an era of plenty are public expectations of the "miracles of modern medicine"—that is, the best care that our awesome knowledge and technology can deliver. The new requirement, however, is that—even with increasing numbers of people seeking access— these miracles are to be accomplished at lower costs. In addition to this impossible expectation are other characteristics peculiar to health care which render cost-cutting difficult. For instance, astronomical malpractice awards have fundamentally altered the way that many physicians approach their work. How often have you heard that certain procedures must be done for "medical-legal" reasons? Furthermore, high quality medical education and cost-efficiency do not go hand-in-hand. For example, tertiary care physicians in academic medical centers often utilize the extensive technology at their disposal, if only for the "educational benefits" involved.

Faced with such dilemmas, can a lowly medical student have any impact whatsoever? Can we even afford to worry about the costs of lab tests when we are still trying to learn what they are? We may lament the need to think about medical costs, but we must nonetheless. It is an unavoidable fact that the medical profession can no longer write its own ticket; there will be no more blank checks. And while we work to cope with economic exigencies, we must also fight for the survival of the values that led us into medicine. We need to keep fiscal constraints from blocking out our concerns about human needs. We must not follow the example that the Reagan Administration is setting.

This issue of *OSR Report* will help you come to terms with a number of these subjects. It will also provoke you to consider how clinical judgments are arrived at and how the decision-making process affects costs. We hope as well that it will stimulate you to become more active in your own education. I invite you to contact me or the OSR representative at your school—we are eager to hear your perspectives on the topics addressed here. To be sure, we need to share with each other our experiences in developing cost-consciousness. Our collective dedication to this task *will* make a difference.

Grady Hughes
OSR Chairperson

POINTING THE FINGER AT PHYSICIANS

If it seems to you that the word *cost* has infiltrated virtually every media reference to health care and hospitals, it is not your imagination. In 1980, national expenditures for health care totaled $247 billion, a 15.2% increase over 1979. This total represents 9.4% of the Gross National Product (GNP) and a spending of roughly $1067 per person in the country. This rise is sufficiently alarming, but comparative data on another scale are even more so. According to the Bureau of Labor Statistics, the price of medical care (i.e., what providers charge) increased 12.5% in 1981, the largest such increase since the federal government began reporting on medical prices in 1935. The hospital room component alone rose 17% between December 1980 and December 1981, compared to increases of 10% for housing and 12% for energy costs[1].

Mandates to control health care expenses are multiplying. The most visible and immediate of these come from the Reagan Administration which is intent upon capping all non-defense federal expenditures; health programs are under the ax, particularly Medicare which in 1981 made payments totaling $30.6 billion. Citing the failure of both voluntary and regulatory methods, legislators have introduced proposals to stimulate competition among health care providers with the hope of seeing reduced growth in costs. Between 1972 and 1977, employers' contributions to health plans more than tripled. It is therefore not surprising that they are aggressively seeking relief from the cost inflation. While the burden of soaring costs is borne by everyone, both through direct payments for care and through taxes and health insurance premiums, the biggest losers are those with the softest voices, that is, people who are on the fringe of the insurance network; their numbers will doubtless increase in the wake of federal cutbacks in the health arena. The biggest gainers from and the primary cause of the inflation we are experiencing are considered to be the physicians. Do the numbers support this popular perception?

Roughly 40% ($97 billion) of the 1980 total was spent on hospital care. According to Relman: "Most of that vast and expensive resource was mobilized at the specific direction of physicians. In most cases, doctors determine who goes in to the hospital, how long they stay, and what will be done for them while they are there"[2]. Doctors exercise like control over the use of nursing home care and prescription drugs which together accounted for 16% of national expenditures in 1980. An additional 15% of the total went for physicians' services. Summarizes Relman:

> Probably more than 70 percent of all expenditures for health care are directly influenced, if not controlled, by the decisions of doctors. . . What have we actually purchased with all this money? For the most part, it has not been more hospitalization because inpatient days in hospitals have risen only about 10 percent since 1970. . . What has increased, however, is the intensity of care per patient day. This

has been rising at an average compound rate of 4.5 percent per year since 1970. No similar data are at hand for office visits, but there is every reason to believe the same thing is true. All along the line, it seems, patients are getting more services.

It is easy to understand why. Each year more and advanced types of procedures and drugs become available to physicians who, acting as "agents" for the consumer-patient, utilize them. Third-party payers' serve to allay the financial inhibitions which acted as a brake on utilization during previous eras. The politics of this scenario have been likened to a restaurant in which gourmet counselors order the patient's meal from a packed menu listing no prices; a faraway paymaster takes care of the check seeing to it that the counselors receive a "reasonable" share of the total.

Without tracing the history of how physicians and patients became financially dependent on third-party payers, a few comments are in order regarding this process. The present system issues insurance payments on the basis of the *Usual* fee of physicians seeking payment for a service assuming that it is within the range of *Customary* fees in that area or, if precedent is lacking, appears to be *Reasonable*. As explained by Roe, fundamental defects have transformed the UCR system into a boondoggle. UCR assumed that: 1) competitive market forces have a role in determining prices for services; 2) a usual fee is a tangible entity, a fee that the average patient is able and willing to pay from personal resources; 3) fee levels correlate with physicians' skills, training and experience; and 4) physicians do not progressively raise their charges[3]. This method of reimbursement also assumed that, while an innovative procedure might command extraordinary fees during the developmental phases, as experience grows, such a procedure should take its economic place with others entailing comparable time and responsibility. This adjustment does not occur however; for example, surgeons in California are billing Blue Shield between $4000 and $6000 for a straightforward coronary-bypass operation which may take under two hours to perform. Such charges are supplemented by large assistants' fees, even though a national survey has revealed that over 40% of cardiac surgeons are satisfied to have an assistant's services provided by interns or nurses[4]. Roe concludes:

> Because it contains none of the limits or standards that are applied to other services covered by insurance, the charges for medical services have escalated, with little or no restraint, to the point at which current fee levels in several medical and surgical specialties are simply indefensible and deserving of public censure. . . Physicians have long enjoyed a special place in the public eye. . . And this image has been largely responsible for our having had the privilege of running our own profession with minimal interference. We should be concerned that this image is no longer a reality and that our independence is surviving on borrowed time.

Clinging to the bulwark of "professional autonomy", some physicians may recoil at these suggestions. After all, other countries spend more than 10% of their GNP on health care. Moreover, physicians have no control over a number of factors contributing to the upward spiral, for example, inflation and the expanding proportion of the population who are elderly and require more medical care. Admittedly, a few doctors may be abusing the reimbursement system but most are just trying to practice the best possible medicine.

Fewer public policy makers are buying such arguments and can point to evidence that some clinical services, especially for hospitalized patients, are excessively utilized. Laboratory procedures and radiologic services now account for up to 25% of total bills at some hospitals. One investigator has described specific patterns of laboratory overuse; at this hospital x-ray studies of the chest and sputum cultures were ordered as routine daily processes on all patients in the intensive care unit. Under such circumstances, it was not surprising for audits to reveal that both normal and abnormal test results were being ignored.[5] Another study found that only 5% of laboratory tests ordered for a random sample of medical patients met any of four "usefulness" criteria, e.g., "if findings were abnormal, was the test repeated"[6]. Other evaluations have produced similar findings. One study to assess whether physicians' knowledge of test characteristics was related to laboratory ordering habits revealed that a number of tests, e.g., chest roentgenogram, are routinely employed despite awareness of their minimal expected benefit[7]. To be sure, costs are not all that is worrisome about such over-utilization. Unnecessary tests can be detrimental; false positive results can misdirect physicians and patients. Needless surgery, excessive medications, and invasive procedures may cause iatrogenic disease and extended periods of hospitalization. What influence will our rapidly expanding physician supply have in these regards? Many believe that this increase, some would say surplus, may lead to more surgery, more procedures and dubious therapies[8]. It is therefore necessary to take a closer look at the existing set of incentives to over-doctor.

Many of these are obvious, though none are uniformly operative due to the enormous variability in the ways that physicians arrive at clinical decisions. For instance, some doctors are more self-protective and concerned about lawsuits than others. Some clinicians may be chiefly motivated by curiosity and the desire to have each patient "completely worked up." Myers and Schroeder[9] maintain that the most important incentives for doctors to order more rather than fewer services can be divided into three categories. First is the belief that patient care will be improved—they note, however, that with the dramatic increase in the number and types of services available, few physicians can be fully informed of the indications for and the appropriate use of all hospital resources. Second is patient demand—many equate more with better, as will be discussed later on. And third is financial incentives. While these have already been touched on, it is important to understand the broad array of existing opportunities and reinforcements. Direct incentives exist in private practice settings in which physicians own major pieces of equipment, such as x-ray machines. They also exist when physicians have part ownership of hospitals with accompanying laboratories, when they are members of group practices that include radiologists or other similar specialists, or when they invest in private clinical laboratories. Hospitals also create a climate favorable to increased ordering. Presently over 90% of hospital costs are reimbursed by third-party payers; therefore, hospitals are assured of increased income for each added patient day or service ordered. Lacking incentives in the other direction and often ignorant of the prices of services, physicians ' cooperate' with the hospitals' encouraging them to use their facilities.

George Bernard Shaw wrote in "The Doctor's Dilemma" (1911): "That any sane nation. . .should. . .give a surgeon a pecuniary interest in cutting off your leg is enough to make one despair of political humanity." Given the present reimbursement system, all who would heed the mandate to reduce inflation of health care costs might well despair. For, under this system, effective cost-containment programs may well put hospitals out of business. However, if mechanisms to limit hospitals' ability to garner revenue from third-party payers continue to be introduced, strategies by which to change physicians' behavior will be eagerly sought. Why physicians need to take the lead in this effort should be obvious and has nothing to do with keeping hospitals afloat. Personal and professional demands for excellence in patient care should be the motivating forces. Financial considerations aside, the public is displaying increasing concerns about quality of care. These are reflected in questions raised about the efficacy of certain common medical procedures, in debates over harmful side-effects of widely prescribed drugs and in inquiries into the necessity of some surgical procedures. Witness the growth of self-help groups, the increase in the number of malpractice suits and the frequent references to iatrogenic illness. Quality assurance and cost control are intricately intertwined. To some, the relationship between these two goals is self-evident. For others, a review of cost containment educational programs may assist in bringing the connection into focus.

EDUCATIONAL EFFORTS

Physicians, more than ever before, are expected to be self-assessing, to participate in activities designed to foster continuous self-evaluation and improvement, and to maintain high standards of care within a framework that includes cost. For individual providers and for the profession as a whole, meeting these expectations represents a complex challenge, one that will not be met in a vacuum. Conceptualizing "cost containment" as the *efficient* use of medical resources and "quality" as a high degree of *effectiveness* in providing care is a good place to start and is a useful way to think about quality assurance. The goals of quality assurance education are to enhance the capacity of clinicians: "to make wise decisions about effective and efficient care for individual patients, to review and self-correct practice patterns for groups of patients on a personal basis, to act prudently on behalf of their patients and society at large in terms of health resources allocation, and to assure that the system for which they are responsible maintains a standard of quality for all"[10].

Clearly this goal will not be accomplished by simply attaching to the M.D. diploma a listing of the average costs of procedures, drugs and supplies—though that might not be a bad place to start. Numerous studies have shown that many physicians lack even base-line knowledge of medical costs. For example, investigators at one medical center found that housestaff knew the approximate cost of only 30% of procedures such as laboratory tests and x-ray examinations[11]. A study conducted in community hospitals revealed that only 14% of medical care costs were correctly estimated by physicians[12]. Not surprisingly, most investigators find that physicians tend to under- rather than over-estimate charges.

Many hopes are pinned on the fact that increasing numbers of medical schools and residency programs are providing cost-containment education. A 1978 AAMC survey revealed that 34% of U.S. schools had developed or made definitive plans for a program designed to teach health care cost containment to either undergraduate or graduate medical students[13]. A 1980 study conducted by the U.S. General Accounting Office (GAO) offers evidence of accelerating activity: 77% of the schools reported that they were providing cost containment education to medical students and that 68% of 1981 graduates had received some training. Predictably, subject area emphases vary a lot from school to school; however, most are attempting to integrate information about costs into a broader scheme as discussed above, e.g., criteria for selecting the most appropriate level of care, benefits/costs of drugs and tests, techniques for medical audit, and utilization review[14].

It is easy, however, to question the intensity and breadth of the training currently being offered. Fifty-nine percent of the schools offering training reported to the GAO that their programs were unstructured, that is, cost containment education was provided when the opportunity arose. The *AAMC Curriculum Directory* reveals that in 1981-82 fewer than 10% of schools offered an elective in cost containment[15]. And the AAMC Graduation Questionnaire, which asks seniors to assess curricular emphases, shows that 64% of students graduating in 1981 felt that their education in medical care cost control was inadequate; the only subject given a lower rating was practice management skills[16]. The GAO survey also asked schools about the most severe barriers to establishing and operating educational programs; lack of curriculum time and of a proven model program were most often cited. A survey at one medical center demonstrates that reluctance on the part of faculty may be an additional hindrance; only 25% of the physicians queried believed that cost containment "should be a core part of preclinical instruction or part of a separate course" and only 38% "wished active involvement in actual teaching of this material"[17]. These percentages probably reflect not only time pressures experienced by faculty but also skepticism regarding the ability of such training to have far-reaching effects either on clinical behavior or on rising costs. Before more fully addressing these questions, a brief review of the schools' endeavors is in order.

The variety of approaches to expand the cost consciousness of physicians-in-training, while characteristic of the introduction of any "new" subject, are nonetheless rather remarkable. Of the programs developed by a handful of institutions in the early 1970's, some were discontinued and others evolved into more complex offerings. Most of the early and "second generation" approaches utilized a combination of seminars, workshops, case reviews and mortality conferences emphasizing cost of care. Subjects included policies regarding discharge planning, preadmission scheduling of tests, drug costs, and the greater use of other health professionals. The second generation of courses evidenced far greater diversity than the first. For example, programs at the University of Wisconsin and the Medical College of Ohio have concentrated on reviewing quality assurance techniques, and the latter makes frequent use of the clinical pathological conference for detailed discussion of cost management. Another, the Rockford School of Medicine in Illinois, has relied heavily on ambulatory care audits. The creators of the Rockford program advise that students should have major input into decisions affecting their quality assurance education; they discovered that without such input students' needs were not satisfactorily met[18]. Experience gleaned from such innovations has been very valuable and indicates that successful approaches place less emphasis on any one prescribed group of activities and more emphasis both on self-review as an essential element in providing care and on diagnostic and therapeutic processes rather than on patient outcomes.

In terms of complexity and integration within curricula, the programs developed since 1978 are of greatest interest. An overview of these will soon be available as part of a resource to assist faculty in teaching quality assurance and cost control[19]. Highlights from this review are useful to share here. Included in the program at Jefferson Medical College (titled Student Model Utilization Review Committee Project) are "mock" hospital utilization review committee meetings. Weekly meetings feature presentation of cases by representatives of PSROs, Blue Shield and other agencies concerned with costs; cases are also presented by representatives of the university hospital quality assurance committee and for comparative purposes by representatives from another hospital. The University of Oregon expects students to acquire a working knowledge of costs of common procedures, an overview of systems of health care financing, and an understanding of professional responsibility for the allocation of medical resources. Both cost and allocation information are examined in the light of socio-ethical principles and integrated into all four undergraduate years, beginning with a required first-year course in Public Health and Epidemiology. Objectives of the University of Southern Illinois' required six-week curriculum on Medical Education, Society and the Humanities include preparing students to conduct cost/benefit analyses for extended life support and extensive diagnostic work-ups and to understand current proposals for curbing costs. SUNY-Buffalo has initiated cross-curricular sequences of competency-based learning modules in cost effective intervention strategies. The sequence begins with a first-year course in Biometry; continues with second-year offerings in Epidemiology, Organization and Delivery of Health Care, and Social-Legal Aspects of Medicine; and concludes with a four-week concentrated program in cost containment and quality assurance during the senior year. At the Medical College of Georgia, a computer-assisted system allows students to work-up simulated patients on a terminal, with the cost of hospitalization and procedures tabulated as feedback; cumulative hospital bills on each patient are also generated and studied daily. The program at the University of Arkansas is similar to Georgia's, but in addition its information system allows residents to determine the frequency of health problems seen in their practice, to evaluate resource utilization and to select cases for medical audit. These exercises are carried a big step further at the University of North Dakota where residents are required to justify each admission on the basis of appropriateness, timeliness and cost/quality benefit. Residents are also required to learn the charges for all procedures and to analyze randomly selected cases with regard to management, follow-up, consultation and referral.

The most ambitious of the programs aimed at undergraduates are too new to permit evaluation, and few have been designed to permit monitoring of behavioral changes. The bulk of evaluation studies conducted thus far have assessed programs directed at house staff. Given the variety of approaches and the diversity of settings, not surprisingly, results from these have not been uniformly encouraging. A study conducted at the Philadelphia Veterans Administration Hospital to reduce overuse of the prothrombin time determination showed a significant decrease in the use of the test on the service which had been the focus of an intensive educational campaign; this decrease did not occur on other services. However, when the program was withdrawn, test use returned to baseline level within six months—suggesting, as could be predicted, that newly learned behavior requires reinforcement to become installed[20]. But even programs limited to the goal of improving knowledge of test costs have had disappointing results. One intensive educational program focused on medical students and residents showed no improvement in their knowledge, with only 40% of their cost estimates falling within 25% of actual charges[21]. Didactic strategies appear to be less effective than the preceptorial in which a respected physician conducts individual conferences with those in training. Using this latter method, educators at the Brigham and Women's Hospital in Boston have described success in reducing the use of laboratory tests but not radiological procedures[22].

Perhaps the most dramatic changes have been demonstrated on the medical teaching service of North Carolina's Charlotte Memorial Hospital. A system to monitor medical care costs generated by house officers on this service has been in operation since 1975. Attendings review itemized bills for each patient with residents within three days of discharge. For cost analysis of outpatient data, orders generated by each patient-contact are recorded by the nurse in attendance; the tabulated forms summarizing each resident's activities and the costs generated are reviewed at a conference held at the end of each clinical day. During the first three and a half years of the program, the average length of stay was reduced by 21% and the cost per admission rose at the rate of only 4.3% per year, while the cost per admission on other services rose at an annual rate of 15%[23]. In a more recent evaluation of this on-going program, Lyle (principal investigator) reports evidence that an all-out effort by hospital staff can reduce physician-initiated charges by as much as 30% without endangering quality of care but that cutting utilization by this high a percentage will endanger a hospital at which reimbursement is based on costs. In other words, too great an educational success will upset the hospital ecology. Lyle notes, moreover, that economies in physician-generated charges will not have a permanent effect on the escalation of costs because, once utilization is minimized, costs still rise with the general inflation rate. He concludes that, in the long-run, physicians' questioning of the value of what they are doing has more educational than economic benefits[24].

This perspective is a controversial one, since research has only begun to provide measures of the potential of educational programs to alter physicians' behavior and of the effects such behavioral changes may have on health care costs. However, the inconclusiveness of this early research ought not be used to justify business-as-usual medicine. As Eisenberg states in his article subtitled "can the fox learn to guard the chicken coop?"[25]:

> Physicians' self-imposed restraint will turn out to be the most effective force for ensuring rational cost control while preserving the highest possible quality of care. If for no other reason, physicians will recognize that their action in limiting further cost increases is the best alternative available—certainly preferable to heavy-handed regulation[25].

Avoidance of regulation and of the loss of professional autonomy are negative incentives. Clearly, improving the decision-making process, which is the idea behind the newest wave of educational efforts, is a more positive goal. One proponent of this approach confidently states:

> The very essence of quality, that elusive but all important ingredient that we call clinical judgment, resides in the choice of the most appropriate strategy for the management of any given situation. I also believe that we now have the necessary tools for specifying and testing such strategies, which means that the mysteries of clinical judgment are amenable to yielding of their darkest secrets. These tools are decision analysis and analysis of cost effectiveness and cost benefits[26].

In past decades, when the number of variables observed in a patient were fewer, clinical judgments were largely reached by intuition. Now, with the availability of so many tools, clinicians need assistance in determining when to seek additional information and how to use it. Decision-analysis, simply stated, provides a way of laying out a sequence of choices and their possible outcomes. By estimating the probability of each outcome at every step and the desirability of the possible outcomes at the end of each sequence, e.g., daily medication, partial disability, one can calculate what appears to be the best action to take. According to a recently published book on clinical decision-making, *Medical Choices, Medical Chances*, decision-analysis can:

> help doctors and patients deal with conflict more constructively. . .by substituting more realistic, probability-based expectations for the mechanistic expectation of certainty. When people are led to expect a definite answer, a definite cure, they may quite understandably blame each other when things go wrong. The malpractice suit is the patient's way of blaming the doctor; the charge of "noncompliance" is the doctor's way of

The answer is probably "yes". Medical students risk losing one of the greatest of all human resources—CREATIVITY. Webster defines creativity as the ability to bring into existence. Often the tendency is to associate this ability with only the most excellent products, e.g. a universally applauded quartet, a truly masterful feat of engineering, a scientific discovery that makes headlines. But, perhaps as regards those precious bits of ourselves that are potentially consumable by medical education, it would be useful to think of creativity in a broader sense—as a state of mind and heart and an outlook on the world that keeps us open to originality. We are endowed at birth with a natural wealth—eyes that see, hands that reach and insatiable curiosity. Children ask "why" because they simply *must* know. But some educational processes are wet blankets; by now we typically find it expedient not to ask, to let a spark of interest die.

For the past two years the Chevron Corporation has sponsored in a number of major cities around the country an exhibit entitled "Creativity: The Human Resource". One of the brochures offers the following description.

Creative people:

1) **Recognize patterns:** perceiving significant similarities or differences in ideas, events or physical phenomena.

2) **Challenge assumptions:** daring to question what most people take as truth.

3) **See in new ways:** seeing the commonplace with new perceptions, transforming the familiar to the strange and the strange to the familiar.

4) **Make connections:** bringing together seemingly unrelated ideas, objects or events in a way that leads to a 'new conception'.

5) **Take risks:** daring to try new ways or ideas with no control over outcome.

6) **Use chance:** taking advantage of the unexpected.

7) **Construct networks:** forming associations among people for an exchange of ideas, perceptions, questions and encouragement.

Does this profile, meant of course to stimulate rather than exhaust possibilities, sound like a genius-recipe, a wish-list of abilities? It may to those who are always waiting for the "right opportunity" to present itself, who are used to living by a formula. But, read as a reminder that no one has a corner on creativity, that each person has unique talents to cultivate, this list becomes like a letter from an old friend.

Whether or not one's creative powers wane or grow with age is an individual responsibility that is convenient for most to ignore, for the loss of such powers does not occur in huge strokes but is rather a silent wearing down. Unless we take steps to the contrary, we are giving up much of the "art" we can potentially contribute to the "science" of medicine, and we will have no one to blame but ourselves.

OSR REPORT

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OSR REPORT

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INSIGHTS INTO:

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CHAIRPERSON'S PERSPECTIVES

At its most frustrating, medical school seems to consist of little more than whizzing through (or staring at) multiple choice questions, starting IVs, and coming up with the next tuition payment. At its most exhilarating, the pace of discoveries is dizzying. Admidst such metered chaos, broad issues have a way of getting lost. Many of us stop asking questions about the philosophy and scope of medicine, pretending that economic and political developments have little impact on our endeavors. We tend also to acquiesce rather than address problems with the medical education process. It has been the goal of *OSR Report* to highlight and explore some of the most pressing of the "big questions" we ought to be facing. Unless you are a freshman, you have probably read previous issues (authored by OSR's most able staff Janet Bickel) devoted to, most recently, the physician manpower scenario, physician and student impairment, and cost consciousness in clinical decision-making.

In the process of seeking a focus for this issue, members of the OSR Administrative Board were struck by the number and diversity of topics we have become knowledgeable about as a result of our AAMC participation (see box, page five). We therefore decided to share with you our most useful gleanings on several subjects which we frequently discuss and judge to be especially significant at present. The final product is based on the work of those Board members not starting their internships this summer. We new M.D.'s ran out of time, so our contributions are only indirect compared to the writing of those listed at the end of the issue.

We believe that this compilation represents the kind of critical study students should undertake more often. It is our hope that these articles will serve to stimulate discussions and to encourage your involvement in these and similar arenas. The challenges presented here are not the province solely of that seemingly dying breed, "student activists"; accept the invitations to action appropriate to you and make them your own.

Grady Hughes, M.D.
OSR Chairperson

WHITHER THE NATIONAL BOARDS?

Presently, 62 of 126 U.S. medical schools (49%) require their students to achieve a passing score on National Board of Medical Examiners Part I (1). Over the past several years the percentage of schools requiring passage of National Board exams has not fluctuated very much, although individual schools from time to time revise their policies in one direction or the other. Schools which traditionally or temporarily do not rely on the Boards appear to flourish and to maintain their accreditation; their medical students obtain licenses to practice medicine and specialty board certifications.

At the schools which do so, what are the effects of requiring Boards? As seemingly basic a question as this is, very little can be stated with certainty. The term "requirement" is even somewhat misleading. At a recent conference of deans, faculty and students, data from a survey of western medical schools were shared (2). Of the 16 western schools, 80% reported that they require passage of National Boards Part I for promotion and/or graduation; however, quite a bit of flexibility in the requirement was evident from the respondents' comments. Some schools set their passing levels below the National Boards' minimum of 380 or waive the requirement altogether based on other evidence of proficiency; respondents attributed minimal attrition to the requirement. We see, therefore, the difficulty of assessing the influence of this examination on faculty decisions about promotion. What about its influence on student

life, on curricula, on other evaluation practices? Assessing these would be equally if not more difficult. Given the pervasive use of these examinations by medical schools, however, a number of questions deserve to be asked. The one serving as the primary focus of this article is definitely worthy of debate: Even if not uniformly enforced, is schools' requiring passage for promotion a valid use of this exam?

Most simply, an exam is valid if it measures what it purports to measure. At some schools, the information asked by the National Board may appropriately reflect the curricula, but this correspondence cannot be assumed. Case Western Reserve School of Medicine investigated this possibility several years ago. Faculty judgments about the relevance of items covered in seven National Board Part I subjects were obtained as well as an assessment of whether information necessary to answer the test item was taught. The information generated by the faculty review revealed that much of what was asked was not taught in the first two years of the curriculum and that significant areas taught were not tested by Part I. Based on these and other results, the faculty recognized that the examination should no longer be used as the second-year comprehensive test (3). The University of North Carolina School of Medicine performed a similar study in 1979, analysing five National Board Part I subtests. Course directors were asked to rate "the degree to which information needed to answer each question was emphasized in (their) course or clerkship." Only 36% of the NBME's physiology questions dealt with material underlined by faculty (4). Overall, a significant proportion of the National Board questions covered material not emphasized by UNC's faculty. These two examples suggest that there may be other schools using this "external" exam for "internal" purposes in essentially non-productive ways. Faced with evidence that Part I does not mirror their own priorities, faculty can either teach more "for the Boards" or revise their evaluation practices.

The evaluation of student performance is integral to teaching: without this component, teaching is incomplete. Written examinations have two main purposes to serve: 1) Exams should allow students to determine if they have learned what the faculty determine to be important concepts and should allow students to correct their knowledge. 2) Exams should show the faculty if the material they deem important is being learned. How does the NBME fit into this scheme? By its own proclamation, "the National Board of Medical Examiners is an independent private agency whose principle purpose since its establishment in 1915 has been the preparation of examinations that may be used by state medical boards for licensure of physicians" (5). More recently, the NBME has appended that it is desirable to have a formal mechanism for recognizing achievement beyond the basic requirements for licensure (6). The mismatch between the primary aims of student evaluation and the NBME is obvious.

Nonetheless, a certain amount of prestige is attributed to medical schools whose students perform well on National Board exams, and some faculty appear to care a great deal about how well their students compete. Until 1976, the NBME encouraged the advancement of such values by notifying each school of its rank order based on its students' National Board performance (7). Not surprisingly, therefore, have these examinations been referred to as the "National Gold Standard" for medical student and medical school achievement (8). The best response to this designation comes from an unpublished technical report by M.J. Peters and Axel Goetz (Southern Illinois University School of Medicine): "inter-institutional comparisons on the basis of National Board examinations scores can at best provide evidence on the degree to which different medical schools encouraged their students to memorize that content which the test committees deemed important when they decided on the item samples" (7). An additional observation is possible. Since schools vary a lot in the amount of time-off and types of assistance available to second-year students to prepare for Part I and since some students resort to the Stanley Kaplan review course, intra-institutional comparisons are not even good measures of curricular emphasis; they are good measures of how well their students studied "for the Boards."

Each player in the game sees the role of National Board examinations in medical education from a different angle. Faculty are looking for assistance in evaluating student

developed the Medical Specialty Preference Inventory. Its items describe different aspects of medical practice, to be rated as to desirability; ratings are then used to assess preferences for different specialties. The Myers-Briggs Type Indicator is probably the best known personality assessment instrument. Research results exist for both medical students and physicians-in-practice; differences among psychological types have been found in a variety of areas including specialty selection and career satisfaction (2). On the other side of the equation, that is, learning more about specialty and practice characteristics, very welcome is a recently published report titled *Medical Practice in the U.S.* (3). For each specialty studied, the research probed numerous variables, e.g., the types of medical problems patients have, what diagnostic tests physicians order, and what types of therapies they prescribe. Reviewing the profiles presented here will bring into focus the "average" day of a "typical" specialist.

Ultimately the deliberating and prioritizing are up to you. While other people and books can answer questions, provide insight, and more clearly define options, you must take initiative and responsibility for your own career planning. Careful and relaxed introspection, investigating leads as they present themselves, and seeking out a broad variety of experiences (patient care, research, administrative, community-oriented, etc.) will enable you to reach decisions appropriate for you right now.

Two closing recommendations may help to keep this process in perspective. 1) First things first. Residency program application deadlines occur in December of senior year and NRMP Match rank-ordering forms are due in January. Groundwork for these involves decisions about where to take your electives and where to seek interviews. And these determinations depend on choices among specialty areas. Not all decisions can or need to be made at once but try to begin at the beginning. 2) Career options within medicine will seem either enormous or constrained depending on one's expectations and maneuverability. The sooner a realistic and imaginative exploration of the present and appraisal of the future can replace premed fantasies, the earlier sound career plans can begin to be laid.

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3. This 96-page booklet is based on the research results of a National Study of Medical and Surgical Specialties conducted at the University of Southern California and is published as a Special Report by The Robert Wood Johnson Foundation. Copies have been sent to clinical department heads, deans, and medical libraries; a limited number is still available (contact: Communications Office, R.W.J. Foundation, P.O. Box 2316, Princeton, N.J. 08540).

CREATIVITY: A Lost Friend

Among medical students it is not unusual for "graduation" to become the major goal, with "graduation sane" a close second. From the outset, everyone senses that most entrants will emerge intact from the battering maze of basic sciences, leap the hurdle of National Boards (though perhaps not on the first try) into the jaws of medicine and surgery, and issue forth into the whirlwind of residency. Most will graduate and most will do so sane.

But many of us also feel a sense of loss in the face of what, by most standards, can be considered very significant achievements. In the quest for the meat-and-potatoes of functional physicianhood, we pay a price having to do with freedom. In the back of our minds we acknowledge this loss as a component of commitment to medicine. When we complain about the binds which issue from this commitment, more often than not the finger gets pointed a Time—never enough of it. Devotion to the intricacies of neuroanatomy and haunting the halls of a favorite service tend to exclude family, friends, music, "irrelevant" reading and assorted other pursuits. However, where healthy prioritizing, common sense and genuine desire to retain non-medical activities exist, the "have-to's" and "want-to's" can be balanced.

There is, though, another less readily identifiable area of vulnerability, the recognition of which emerges more slowly. One hears stories about the artist-turned-medical-student who has stopped painting. Casual conversations acquire the cadence and vocabulary of rounds. We lose track of non-medical friends. Lifestyles narrow, as do intellectual foci. Jargon and "white coat" attributes are adopted, semiconsciously much of the time. We talk and write in ways which the uninitiated cannot understand. The heterogeneous group of 100 or 200 freshmen starts to look and sound more and more alike.

What about this particular "dark side" of the professional socialization process, this apparent forfeiture of diversity and originality? Some would say these are exchanged for a license to practice. They would argue that it's best not to get too original with an appendix. But non-scientific techniques are not what is meant here by inventiveness. The focus of concern is the way in which we approach our lives. Medical education changes that, offering as replacement a model to be carefully shunned. The curriculum is rigorously presorted into blocks and each block, dissected into hours and assignments. Sometimes "educational objectives" give a clue, but basically it seems best not to question what is happening. All the memorization and knowledge testing, lectures and multiple-choice exams may educate us (usually/sometimes/often: circle one) but also dulls whatever originality we possessed on arrival to medical school. Is the artistic "right brain" like a muscle that can atrophy after seven consecutive years of almost exclusive "left brain" development?

and U.S. representatives to describe your reliance on existing financial aid programs. There will also be times when Budget & Appropriations Committee members and DHHS officials need to be lobbied; both your financial aid officer and your OSR representative will know when, so during the next letter-writing campaign, remember your responsibilities and participate. Second, offer your assistance to the HPSL loan collection efforts at your institution; for instance, letters from current students to delinquent graduates are invaluable. Finally, do all that you can in any context to correct the impression that medical students and physicians are, indeed, deadbeats. One aspect of this endeavor is sound personal financial management. The less you have to borrow, the less likely will be repayment problems later on. The connection is simple but, as you see, the ramifications of default are many. Let's not pass this battle on to yet another generation of medical students.

CAREER DECISIONS: Where Do They End?

You are home on vacation and your aunt comes up to you. "What kind of doctor are you going to be?" New friends learn you are in medical school. "What are you going to specialize in?" You lay awake in bed at night, your organizer-self nervously looking ahead. "Haven't you decided yet?"

The myriad of career options in medicine can be at once overwhelming, confusing, exhilarating, mind-expanding, depending on one's preparedness and confidence-level. While some students may have longstanding interest in a particular specialty, most develop their career interests during medical school, especially during the clinical years. A study of the career choices of 1976 U.S. medical school graduates showed that only 14% of those indicating a specific specialty at time of application chose the specialty of original interest four years later (1). Some students express no anxiety about matching personal goals with characteristics of specialties. Others carry on massive fact-finding expeditions, certain that if they ask enough questions, a magic formula for success will emerge. But most simply have a general idea of where they would like to be headed and what the various specialties involve and are alert to ways to increase their knowledge.

For better or for worse, clerkships serve to guide the career decisions of most. Immersion into a specialty for several weeks allows a general impression of that area, and most schools offer a wide variety of electives. Time, of course, limits the variety of clinical experiences one can have while in medical school. Also scheduling can be a problem. For instance, for some specialties such as ophthalmology, residency program application deadlines occur before many students will have the chance to complete an elective. Clerkships, however, should not be the sole factor in guiding career choices, since they provide an inherently narrow view of specialties. Set in an academic, tertiary-care institution, most clerkship experiences focus on managing complex medical problems or on diagnosing rare and exotic diseases and utilize tests and facilities not widely available elsewhere. These features do not allow a balanced view of a specialty. Students therefore have to do their own research. Participating in the daily activities of practicing physicians, for example, will broaden perspectives and show medicine of quite a different nature than is seen in a university hospital environment. Fortunately, many schools now offer preceptorship programs which provide an introduction to the non-academic world.

In the specialty selection process, deciding what information to take into account can be as difficult as collecting it in the first place. Most students are attracted somewhere along the line by the charisma and exceptional teaching and patient care abilities of a particular physician; this person may come to be considered a role model and give a "halo effect" to a specialty. Particular characteristics of faculty, housestaff or other health care team members can also make a clerkship unpleasant, and specialties may be hastily rejected on the basis of unfortunate and extraneous personal differences. Evaluations received on clerkships may also exert undue influence on career choices. If one's expectations of performance are not met on a clerkship, that field may be inappropriately eliminated from consideration. On the other hand, students may choose a field they feel they can get the best residency in, based on a strong evaluation. Given the competition for residencies, this state of affairs is not surprising however short-sighted such logic may be.

Economic considerations are controversial and elusive but cannot be ignored. Rising medical school tuitions and the consequently high debts incurred create considerable pressure on medical students to plan ahead. Despite the greater length of training, some may be lured from generalist careers into subspecialties where procedures are presently reimbursed at higher levels. It should be remembered, though, that debt management and financial planning assistance are available; specialty choice does not have to be contaminated by dollars.

Projections concerning physician demand and availability in particular specialties also are controversial, and students have many questions about whether to take these into account as they weigh specialties. There are certainly no easy answers here, but flexibility needs to be a key component in everyone's equation during this time of flux and of debate over reimbursement and insurance mechanisms. Thus, an important goal is to seek as broad an education as possible and to keep options open. Some may want to take a first graduate year rotating among the major specialties. A "transitional" year not only provides additional time in which to decide but also broadens one's preparation. Remember also that it is possible, though sometimes difficult, to switch to a different specialty after one or more years of training. Some physicians enter a second residency after many years in practice.

Personal factors remain the most important considerations in specialty selection. Residency training is long, significant people in your life will be affected, and any professional career requires substantial involvement of time and energy. Before making a commitment of this nature, each physician-in-training will want to assess and prioritize a long list of preferences. The amount and kinds of patient interaction, the hours of work to be expected, technical skills required, types of problems to be solved, and general life-style desired are among the many variables that come to mind. Students uncomfortable with all the guesswork involved may look wistfully into the future when a computer will be available to match the results of a battery of psychological tests with specialty profiles based on aggregate patient-care data. Some assistance along these lines is already available, though students still have to hunt for it. Dr. George Zimny at St. Louis University Medical Center has

achievement and their own teaching emphases. Some students are superb test takers and excel in multiple-choice examinations; National Board scores are a positive addition to their academic files. Moreover, NBME certification is one of the major routes to licensure, and many prefer to accomplish passage of Parts I and II while in medical school. The Liaison Committee on Medical Education which accredits medical schools encourages the use of NBME scores as an "outcome measure". Residency program directors increasingly are seeking numerical discriminators among applicants. Nonetheless, it is clear that requiring passage of parts of the National Board examinations to receive the M.D. is an illogical circle within which many schools have been hiding.

Most medical schools' educational policies are set via a committee system, with decisions ultimately brought before the entire faculty for approval. To change the way in which National Board scores are used, one must determine which committee or committees have jurisdiction over that area. At U. of Arizona College of Medicine, where the requirement to pass Part I was recently removed, this policy was under the realm of the Student Progress and Curriculum Committees. Many medical schools have student representatives on such committees, and student members are often the first to raise questions about a school's use of the Boards. They find that faculty members are sometimes unaware of the level of student malcontent with this instrument. Few of the basic science faculty have taken these exams, and much has changed since most of the clinical faculty experienced them. Therefore, those who would work to soften the influence of the NBME must have some questions and answers at their fingertips. For example, it is important to remember that National Boards are norm referenced; approximately 10% of the candidates sitting for each administration of Part I will fail. Each of these individuals was accepted to medical school; what good accrues from their competing with each other in this way? It is each faculties' responsibility to determine which students lack sufficient preparation in each basic science. The decision is too complex to be left up to an external agency.

Students who engage faculty in discussions about evaluation methods in general and reliance on the Boards in particular will discover that individual teachers vary a great deal in their perspectives and level of concern about the influence of the test, and that many gaps in understanding exist between faculty and students on these subjects. Many faculty are insecure about how well they are keeping up in covering an ever-expanding body of knowledge. But they tend to forget that the other "team" (the students) have no "substitutes," whereas the team at bat is always sending in fresh players.

Certainly, the National Board of Medical Examiners has a significant role to play in the licensing of physicians. However, the current use of its examinations for student evaluation may be detracting from the educational process at many schools. It's worth thinking about. After all, it's your education—and, for better or worse, most of us only go to medical school once. Dr. Ludwig Eichna, a retired medical school department chairman, did re-enroll and re-graduated in 1979. His perspectives are worth remembering: "National Board Examinations Part I and Part II, as now given, should be abandoned. They glorify facts . . . not necessary for a medical student but only for an expert in the field . . . Medical schools need to clean house. Abolish the present type of objective examinations. Devise correct ones that combine fact, thinking, and problem solving to test student competence fairly. And advise the Board to do the same" (9). Medical students who agree with this assessment need to stand up and be counted!

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"DOCTOR" = "TEACHER"

As most medical students are aware, as house-officers their roles will include teaching medical students and junior housestaff. Some of these duties are largely supervisory but others will be more demanding and more formal. Physicians also need to be able to educate patients about their diseases and about keeping healthy so that they will cooperate during treatment and take responsibility for their own well-being.

Students often criticize the teaching and evaluation methods of their various faculties. Many promote the use of student evaluations as if they were the answer. What about pursuing with equal eagerness the establishment of sound teaching skills in ourselves, beginning now?

A few statistics will underline the need to undertake this process earlier and more systematically than is presently the case. One study of the attitudes of housestaff about teaching revealed that one-fifth of their average week was spent in teaching, supervising and grading medical students (1). About 50% of their training for these duties was estimated to come from other house-officers, yet fewer than 15% of the residents surveyed had received any training in "pedagogical principles." Two-thirds stated that they desired assistance in this area, specifically in public speaking, instruction and grading. A 1978 AAMC survey of 450 clinical departments regarding their clerk and resident evaluation practices also yielded discouraging results (2). Only about one-third of the resident evaluation forms collected contained any reference to teaching performance; and medical students were very seldom asked to rate the teaching skills of residents. While one would assume that residents' views about the teaching they receive would be particularly illuminating because of their dual roles, only 14 of the departments surveyed explicitly asked residents to appraise its quality. Only one department requested residents to reflect on their attitudes toward teaching and their involvement in that role. Evidence is unfortunately plentiful that teaching ability often does not inform decisions about faculty appointments and promotions, thus the results of these surveys may not be very surprising. But hopefully students' response to this situation will be a positive one: how can we become better teachers?

A few programs can be cited which focus specifically on teaching skills. For example, psychiatric residents at Boston University were part of a three-year "Teaching for Training Program" which included teaching courses under supervision in a local college; participation was found to be beneficial to the residents' clinical work (3). At Southern Illinois University medical students may choose an elective, "Preparation for the Teaching Role in Residency." Students read relevant materials from current literature and learn library research skills. Working with department of medical education specialists, they also apply module development principles to various teaching methods and solve problems in facilitation of learning in a medical setting. Students at schools where no such program or elective is currently available will need to do what is possible to see that opportunities are introduced.

While nothing can replace guided learning of presentation and evaluation techniques, you can seek teaching practice. Some examples are volunteering to teach basic physical diagnosis skills to freshmen and sophomores (University of California at San Diego) and teaching anatomy in small groups to each other (University of Colorado). At the Medical College of Georgia, a group calling themselves "Students for Community Involvement" teach local sixth grade classes preventive cardiology; faculty provide guidance in the form of a lecture series. When opportunities to teach do surface, ask your "students" for candid verbal or anonymous written feedback; this is a good habit to get into.

It is possible to offer a few other suggestions. Ask education specialists and widely-respected teachers to give presentations at student meetings; they will be ready with advice. Don't forget that the *New England Journal of Medicine* and *Journal of Medical Education* contain articles and letters-to-the-editor on teaching and evaluation methods. When you discover a lead which you want to pursue, your librarian can help with literature searches through Medline or ERIC (Educational Resources Information Center). Another source is the Office of Educational Research and Services, Bowman Gray School of Medicine, Winston-Salem, North Carolina; their 1979 survey yielded "Materials Related to Teaching in Medical School: A Preliminary Report" which includes a bibliography and a list of courses.

Results of a study using student evaluations of faculty and residents' clinical teaching styles are also worth mentioning here. Medical student ratings (1567 from 320 students) obtained on an obstetrics & gynecology clerkship revealed a number of characteristics which correlate with overall teaching effectiveness (4). In descending order were "enthusiasm," "establishes rapport," "actively involves students" and "provides direction and feedback." Successful resident-teachers also attend to all four categories of the clinical teaching role: supervision, knowledge and clarity, interpersonal relations, and demonstration of clinical skills.

To wait for "pedagogical principles" to appear on the National Board Examinations is to follow a poor example. Improving teaching skills should be a serious priority for medical students for many better reasons. Teaching enhances professional satisfaction, encourages the attitudes of a life-long learner by alerting us to gaps in our knowledge, helps us to organize knowledge and fine-tune skills, and promotes patient care through more effective patient education. Better teaching skills are not only for the academician but for each who aspires to be a humanistic physician.

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THE PHYSICIAN AS DEADBEAT

Most of us have envisioned a number of diverse roles for ourselves as future physicians; the physicians as healer is, no doubt, primary among them, but there are others: the physician as prominent citizen, community leader, spouse, and parent are typical examples. A new role, however, has recently been added to the list, the physician as deadbeat.

How was this new role identified? Through growing concern in the Federal Government that money owed to it was not being repayed. Examination of government debtors revealed that a high percentage of students were in arrears on federal loan repayments and that prominent among the student loan defaulters was the category of high income earning physicians. The news media seized this story and widely publicized a hearing of the Senate Governmental Affairs Committee chaired by Senator Charles Percy (R-IL) on December 8, 1981. At this hearing it was alleged that 17 percent of physician borrowers of Health Professions Student Loans (HPSL) had not repayed a total of $5.2 million.

At the time there was great concern in the medical education community that this story was exaggerated. For example, the delinquency rate for physicians in the HPSL Program was later revised from 17 to 11 percent, and it was pointed out that some of the delinquency was due to erroneous reporting such as counting physicians in residency training as delinquent rather than as deferred, because the necessary documentation of deferred status had not been provided by the residents.

Nonetheless, the essence of the story was true. An inappropriately large number of physicians as well as other health professionals were and are delinquent in repayment of HPSL loans. There are three main causes for this delinquency. One is that the student borrowers were not properly counseled about their repayment schedules. Another is that the collection efforts of the schools, often located in the university rather than the medical school and focused on larger volume loans than HPSL, were sometimes inadequate. And the final reason is simple failure of the physicians to recognize their responsibility to repay.

There are both positive and negative consequences to wide recognition of the fact that delinquencies exist in the HPSL program. On the positive side, deficiencies in the counseling and collection efforts for HPSL by the schools are likely to be corrected, and the motivation of physicians to repay these loans is likely to improve. The net result of these two factors will be increased HPSL funds at the schools which will result in more new loans, since the money the schools collect can be reloaned to enrolled and admitted students.

The negative effects of this heightened awareness of delinquency are, however, distressing and pervasive. While physicians and other health professionals were the focus of the hearing, there now resides in the Congress, the Administration, and the general public the view that all student loans are a bad investment. The impact of this view has been that new appropriations for the HPSL Program and other financial aid programs available to health professionals as well as to other students have been adversely affected. The spectre of potentially high delinquencies and/or defaults by health professionals is regarded so seriously by the Congress that the future funding of the Health Education Assistance Loan (HEAL) Program is threatened. This unpopular but now much needed program charges students market rates (currently 16¼ %) as well as an insurance premium to provide for the government's guarantee. Moreover, the Department of Health and Human Services (DHHS) has drafted a set of regulations pertaining to HPSL delinquencies so onerous that they threaten continuation of the program at a large number of medical schools. Specifically, DHHS is proposing to treat student loans as if they were commercial loans, i.e., that delinquency be defined as 31 days or more in arrears and that schools with delinquency rates over 5 percent be prohibited from receiving new HPSL appropriations and from making HPSL loans from collected funds. Last year, fewer than one-third of the medical schools had delinquency rates of 5 percent or below based upon a 91-day definition of delinquency. Therefore, even with vastly improved collections, there is doubt about whether more than 30 percent will meet the 31-day definition. So few schools satisfying the DHHS criteria would cause precisely what both the Congress and the Administration have said they do not want: the demise of the HPSL Program.

What can students do about these threatened cutbacks? First, keep abreast of the loan situation and contact your state

WHAT IS AAMC?

The Association of American Medical Colleges provides a means of national expression on matters of concern to medical school deans, teaching hospital administrators, faculty and students in the areas of medical education, biomedical research and patient care. It maintains numerous data sources, works cooperatively with other organizations involved in medical education and has close liaison with the U.S. Congress and Federal agencies. AAMC represents all 126 U.S. medical schools plus 412 teaching hospitals and 70 academic societies.

WHAT IS OSR?

The Organization of Student Representatives, AAMC's student voice, is composed of *one* student from each medical school choosing to participate (119 in 1981-82). OSR members gather at an annual meeting each autumn when the Administrative Board is elected; this 11-member body meets quarterly with the Boards of the other Councils to formulate AAMC's programs and policies. OSR business is also conducted at regional spring meetings. OSR operates effectively to the extent that its members channel information from AAMC to their student bodies and vice-versa; therefore, contact the OSR representative at your school with your concerns about medical education.

WHAT IS GPEP?

A major on-going AAMC project is an appraisal of the *general professional education of the physician.* Its main goals are to: 1) develop strategies to improve the effectiveness of instructional programs for the promotion of learning and 2) stimulate broad discussions among medical school and college faculties about their philosophies and approaches to medical education and college preparation for medicine. Three working groups have thus far been formed to examine specifically: 1) *essential knowledge,* 2) *fundamental skills,* 3) *personal qualities values and attitudes* needed by physicians. A booklet describing the charges to these groups has been sent to each dean and OSR representative, and thus far 75 U.S. schools have agreed to engage their faculty in discussions to parallel those being held by the working groups. To the extent that faculty, students and administrators can together identify and work to ameliorate institutional educational deficits, GPEP will be successful as an agent of change.

THE MATCH: AN ADMISSIONS DANCE SET TO COMPUTER MUSIC

Fourth year medical students all across the country are experiencing a deja vu of anxiety. In 1980 the game was called "Getting Into Medical School"; 1984 brings the updated version called "Getting Through the Match." The techniques are new but the gestalt is the same: acceptance/rejection, success/failure, interviews, personal statements, and many dollars spent to help secure a place in an unknown future. There is an additional variable this time around, however, that provokes in many an amorphous psychic discomfort and in some a full-fledged paranoia. When verbalized (usually with difficulty) it sounds something like: "I can't believe that my entire professional future, after all these years of school, is going to be decided by a *66...⊳#@&$ COMPUTER!" Ultimately the question distills to: Is the Computer my friend or my foe? Does it consider my preferences before the hospitals' preferences? Will it really help me get the best position available?

The National Resident Matching Program (NRMP) is very much like a traditional admissions process and includes the familiar components of information gathering, filing applications, and decisions about preferences. It is a classic application/admission ritual, but for one thing—TIME. By using a computer to compare students' lists of preferred programs to hospitals' lists of preferred students, it essentially removes this element. This alteration can initially confuse. Who can forget those walks to the mailbox each day for months, looking for fat versus thin envelopes, either of which could bear such critical news? You probably never even considered the plight of the admissions personnel at the other end, spending the month of August trying to fill positions vacated by students holding more than one position.

The Match operates on a system of uniform deadlines which removes the inconvenience and frustration of waiting for a final "best" offer. First, it enrolls both programs and students at the beginning of the academic year. Students obtain information about programs and send applications to those that are of interest. During the fall, program directors review applications and interview promising applicants. In December, they then compose a list of all acceptable applicants, ranking them "most preferred" to "least preferred." This list is sent to the NRMP in January, sparing directors the need to speculate how many offers of admission to make for their number of positions and when to send them. At the same time, students prepare a rank-order list of the programs that they consider acceptable, without ever being in the corner of receiving an acceptance letter from a less preferred hospital before hearing from one more preferred.

Immediately following the January deadline date for rank-order lists, NRMP enters the nearly third of a million choices into the computer, edits the many hundreds of obvious errors, and then sends to applicants and program directors a print-out to check for any corrections. After this confirmation process, the computer program carries out the actual matching. Figuratively, an "offer of admission" is sent to each applicant within the quota of positions on each program's rank-order list. Those applicants in turn "send an acceptance" to their most preferred programs and "decline the offers" from their less preferred programs. Many programs will then have to send offers to applicants lower on their rank-order lists, and some applicants will therefore receive offers from more preferred hospitals and thus reject positions they had tentatively accepted. Additional offers must again be made by some programs. This process continues until programs have filled all of their positions or have exhausted their list of applicants. In sum it can be seen that each applicant is appointed to the highest program on his or her list that offers a position. For couples who have submitted pairs of choices on their rank-order list, the result is the most preferred pair of programs offering positions. The entire process takes less than one minute of computer time.

Thus it can be seen that neither programs nor applicants need hesitate to list their most preferred choices first, regardless of the estimated probabilities. If you receive an acceptance offer from your fourth-choice program, for example, the position is yours unless you reject the offer after receiving one from one of your first three choices. In formulating your list, keep in mind the analogy to the traditional admissions process and begin with your most preferred choices and end with programs that are acceptable and seem likely to accept you. A considerably higher percentage of applicants who list only one or two choices go unmatched than those who rank greater numbers of programs. Some applicants calculate they will do better by listing only a few programs, going unmatched, and then obtaining a position on their own. Although that option might have been viable in the past, now that the number of positions is becoming equal to the number of applicants, very few positions in strong programs are available after the Match.

Unfortunately, understanding the above does not protect you from two potential problems. First, because not all programs (particularly in the "advanced" specialities) participate in NRMP, you may be confronted with an offer outside of (and commonly before) the Match. Please be aware that each hospital participating in the NRMP signs an Agreement that all of their programs will offer *all* positions available for the first graduate year through the Match. The integrity of the Match depends on students reporting to their deans any violation of this Agreement; and, in signing their Student Agreements, seniors agree to reject offers outside the Match. The second potential dilemma occurs when a program director asks how you intend to rank his or her program; such inquires also violate the Agreements. You may receive letters implying an intent to rank you very high or otherwise persuading you that it would be to your advantage to give "special" consideration to the program. But, since students' rights are inherently protected in the Match, you have nothing to gain by playing along. In closing, therefore, remember that the confidential rank-order list is the music and should determine what steps you take.

OSR REPORT

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OSR REPORT

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CHAIRPERSON'S PERSPECTIVES

This issue of *OSR Report,* like the last one published in Fall 1982, covers a variety of topics and is the work of members of the Organization of Student Representatives' Administrative Board (see pp. 7 and 8). Since its creation in 1971, the OSR has attempted to heighten students' social as well as educational awareness; and this goal is evident in the Board's selection of topics. We have observed that most medical students begin their education intensely interested in numerous social issues but that, all too often, these commitments dissipate in the press to become an M.D. The first article is an outgrowth of our concerns in this vein as well as of our 1982 annual meeting program on the medical implications of nuclear armament. The second article will, we hope, help to fill a gap that many OSR members have noticed —that is, how to get a handle on the emerging role of computers in medical education and practice. We have tried to provide an unbiased introduction and welcome your reactions to it, which might best be channeled through our AAMC staff, Janet Bickel. Finally, a topic of perennial attention at OSR meetings is maximizing the orderliness of the residency matching process. While this short summary may be of immediate use only to seniors, for better or for worse, it's not too early for juniors and sophomores to be mulling over options so that none are prematurely dismissed.

I have now completed almost three months of my family practice residency and am rapidly becoming an "elder" of the OSR. Throughout medical school, I preached the importance of maintaining interests beyond the curriculum and hospital ward. My limited experience thus far tells me that my ability to care for patients has not suffered because I spent less time with my medical texts than I could have. The diversity of activities I pursued allowed me to get to know myself better, to appreciate my strengths and to recognize and work on my weaknesses. As a result, I believe I've become better able to observe and to help others. Perhaps the same may be true for you.

Ed Schwager, M.D.
OSR Chairperson

SOCIAL RESPONSIBILITIES: THE EXAMPLE OF PREVENTING NUCLEAR WAR

Dozens of articles have recently appeared in well-respected medical journals discussing not only the technical aspects and medical consequences of nuclear war but also the ethics of physician involvement in preventing such a tragedy. Eminent physicians and medical groups are speaking out on the impossibility of an adequate medical response to nuclear conflict and the consequent necessity of working more effectively toward preventing its occurrence (1). The American College of Physicians, for example, states its position as follows:

> There can be no adequate medical preparedness for the devastating medical consequences of nuclear war; prevention is the only reasonable medical response to the hazards posed by nuclear weapons (2).

Such enunciations represent a significant change from the position adopted by the medical profession in 1955 (3) and are in apparent opposition to such government programs as the Civilian-Military Contingency Hospital System, promoted by the Department of Defense to prepare hospitals to provide care for injuries which would presumedly result from a limited nuclear war (4). That a notable segment of the American medical profession has adopted a political stand

on this issue, previously perceived as outside its purview, prompts several questions. What is the historical context of physician involvement in social issues? Do physicians have special responsibilities in preventing nuclear war? Finally, what is the role of medical education in these regards?

Many leaders in medicine have been concerned with social issues affecting health. William Osler's keen powers of observation extended beyond the physical presentation of the ill person to the social environment in which the person lived; he encouraged seeking solutions not only to disease and famine but also to the social injustices endured by the poor and powerless. Rudolf Virchow, noting the connections between poverty, malnutrition, poor sanitation and disease, stated that physicians are "the natural attorneys of the poor." John Snow demonstrated not only an awareness of the social aspects of disease but also a willingness to act on his beliefs in the face of colleagues' skepticism when he removed the handle from a London pump that was spreading cholera. Alice Hamilton, a Harvard Medical School faculty member, and Frances Bradley, the first chief of the Federal Children's Bureau, often faced the apathy of organized medical groups in fields now recognized as legitimate and important areas of physician concern, such as occupational health and safety, child labor laws, and government-funded education programs for prenatal and child care (5). Efforts such as these encouraged awareness of the interactions between disease and social conditions and led to sanitation, vaccination, and education programs. Physicians also began being heard from with regard to culturally-determined behavioral patterns, such as smoking, diet and exercise, and governmental actions in areas such as occupational safety, disposal of chemical wastes and social support programs. When considered in this context, physicians' involvement in activities aimed at preventing nuclear war can be seen as a logical continuation of concerns expressed on other social issues.

The responsibilities of physicians, outside their direct ones to individual patients, are not often spoken of. Albert Jonsen and Andrew Jameton, however, describe three areas of special accountability. The first is for the economic and social forms of medical care, including the financing, delivery, availability, and orientation of the care, i.e., curative or preventive. The second area is responsibility for the social environment of medical care, which includes providing:

> leadership skills in modifying institutions, regulations, and social habits for improvement of personal and public health. This may involve...considerations as diverse as social mobility, speed limits, industrial work settings, technological innovation, advertising and diet.

Working to prevent nuclear war would seem to fall within this category. The third area pertains to the uses to which medical skills are put, e.g., opposing the use of medical skills for torture, killing, or obstructing the provision of health care. Jonsen and Jameton present several ethical bases for the physician's social responsibilities. By virtue of possessing special knowledge, physicians are especially accountable for its application. Moreover, by accepting the support of society in providing their education and protecting their status and incomes through laws defining medical practice, physicians are under an implicit contract to work for larger common benefits. Ultimately, each physician's social responsibilities are a direct extension of the primary responsibility to care for individual patients (6). Howard Hiatt presents a similar argument from a different vantage point:

> Americans are increasingly aware that we cannot afford to do all that we are capable of doing within the field of medicine, within the area of social programs, and indeed, within the realm of arms programs. If we agree that the health of our citizens, particularly our children, is a critical component of the national security, physicians can have an essential role in helping with the difficult choices among security-linked programs forced on our nation by limited resources (7).

Naturally, others believe that the physician's responsibilities are of necessity more limited: "the doctor's basic responsibility is cure...his primary concern in spite of all utopian claims to the contrary, is sickness, not overall health" (8). As with most social and ethical questions, reaching concensus is unlikely. Thoughtful exploration of physicians' social responsibilities, however, is desirable and important and should begin in medical school. Compared to even ten years ago, curricula now include more teaching of medical ethics and of preventive aspects of illness. The University of Oregon is one of the few medical schools offering an elective on the medical consequences of nuclear war; it emphasizes identification of activities consistent with one's acceptance of social principles (9). Unfortunately, such subject areas remain relatively submerged at most institutions. Medical schools could do a better job of encouraging the examination of these responsibilities by fostering opportunities for involvement in community projects and by emphasizing public health within the curriculum.

Medical school is a time of transition, during which many new views are acquired; patterns of behavior are established which become part of your "hardware." Your concept of your responsibilities to society is also being formed, either through exploration and debate or through unconscious imitation. Clearly, the more active approach is preferable. And a major impetus in mobilizing courses with a preventive emphasis must come from students. The expertise and cooperation of faculty and community members can be garnered, and educational activities initiated. The implications of escalating nuclear armament provide perhaps the most forceful, and politically complicated, challenge. There are many other public health issues about which physicians should inform themselves, making known their conclusions to the public and to political leaders. While no one expects you to become an expert on all the difficult social problems facing mankind, remaining passive and neglecting these larger issues are potent statements in themselves.

NOTES:

1. A few examples are: Cassel, C. and Jameton, A., "Medical Resonsibility and Thermonuclear War," *Annals of Internal Med.,* 97: 426-32, 1982; Geiger, H.J., "Addressing Apocalypse Now: The Effects of Nuclear War as a Public Health Concern," *American J. of Public Health,* 70:958-61, 1980; Hiatt, H.H., "Preventing the Last Epidemic," *J.A.M.A.* 244: 2314-5, 1981. A more complete list of references is available from *Physicians for Social Responsibility,* 639 Massachusetts Avenue, Cambridge, Massachusetts 02139. Medical student membership costs $15/year and entitles one to receive the quarterly *PSR Newsletter.*
2. American College of Physicians, "The Medical Consequences of Radiation Accidents and Nuclear War," Philadelphia, April 16, 1982. Cited in Porter, G.A., "The Medical Consequences of Nuclear War, *Western J. Medicine,* 138:206, 1983.

As with all other fields, in order to find out what's going on, you must read the literature. An excellent place to start is the 32 page bibliography at the end of Volume I of the AAMC report *The Management of Information in Academic Medicine* (2); citations appear both by author and are grouped by general topic. Another way to gain an overview is to examine the Proceedings of the first annual conference of the *American Association for Medical Systems and Informatics,* which was held last October. The title of this volume is "Systems Techniques: Economic Reality in the 80s" and is obtainable from AAMSI Publishers, 4405 East-West Highway, Bethesda, Maryland 20814 (201/675-4142). Another collection, which covers the spectrum of computer applications more comprehensively, is the Proceedings of the annual *Symposium on Computer Applications in Medical Care* (SCAMC): the sixth such conference was held in November 1982 and all 200 papers presented are included in the book (order from IEEE Computer Society, P.O. Box 80452, Worldway Postal Center, Los Angeles, California 90080). For registration materials to attend the 7th annual SCAMC to be held October 23-26 in Baltimore, contact Christopher Read, SCAMC Registrar, at George Washington U. Medical Center in Washington, D.C. (202/676-4509).

NOTES:

1. Lee, A. and Hegarty, E.H. Case Analysis as a Teaching Method in the Paraclinical Sciences, *Medical J. of Australia,* 1:250-1, 1981.
2. *The Management of Information in Academic Medicine: An Assessment of the Application of Technology, Policy Consequences, and Needed Changes in the Present System.* Washington, DC: AAMC, 1982. (This two-volume report is available for $7.95 from the Membership Department of AAMC; deans and libraries have been provided a copy).
3. Matheson, N.W. and Cooper, John A.D., "Academic Information in the Academic Health Sciences Center: Roles for the Library in Information Management," *J. Med. Educ.,* 57(10): Part 2, 1982. (This report contains a glossary and extensive list of references.)
4. Kochen, M. "Technology and Communications in the Future," *J. of American Society for Information Sciences,* 32: 148-156, 1981.
5. Levinson, D. "Information, Computers, and Clinical Practice," *J.A.M.A.,* 249:607-9, February 4, 1983.
6. Schwartz, M.W. and Hanson, C.W., "Microcomputers and Computer-based Instruction," *J. Med. Educ.,* 57:521-6, July 82.
7. Marion, R., et al., "Computer-Based Instruction in Basic Medical Science Education," *J. Med. Educ.,* 57:521-6, July 82.
8. Miller, R.A., et al., "Internist-I, An Experimental Computer-based Diagnostic Consultant for General Internal Medicine," *New England J. of Medicine,* 307:468-76, August 29, 1982.
9. Shortliffe, E.H., "The Science of Biomedical Computing," Keynote Address presented to the International Medical Informatics Association (IMIA) Working Conference on Information Science and Medical Education, Chamonix, France, March 21, 1983.
10. Weed, L.L., "Problem-Knowledge Coupling," Address presented to the New York Academy of Medicine Symposium on Biomedical Engineering, New York City, March 9, 1982 (reprints available from Dr. Weed, Route #1, Box 630, Cambridge, VT 05444).
11. van Bemmel, J.H., et al., "Curricula in Medical Informatics: Experience during 10 years in Amsterdam," Address presented to the IMIA Working Conference on Information Science and Medical Education, Chamonix, France, March 21, 1983.
12. Rifkin, Jeremy, "The Other Half of the Computer Revolution," *Datamation,* 29(5):260-78, May, 1983.
13. Panko, Walter B. and Gorry, G. Anthony, "Pathology Through the Looking Glass," *Pathologist,* 463-70, July, 1983.

Steps in the Right Direction

In her excellent definition of the health sciences librarian's role, Matheson (3) outlines other steps which need to occur in moving academic medical centers into Stages 2 and 3:

- Incorporate the principles of information management strategically into the medical school curriculum.
- Give each student personal file space on the medical center computer or ensure that each owns a microcomputer.
- Provide programming support.
- Provide models of personal file systems.
- Teach students to transfer information from many sources, including the library file, into their personal knowledge systems.

The creation of such a "knowledge support system" involves asking difficult questions about how learners incorporate information and how educators can best assist in structuring this information for internal (memory) and external (machine) storage, retrieval and application. Exploration of these questions can best occur in an environment in which people are experimenting and sharing their experiences. What can students do to help create such an environment in their institutions? Probably the first step is to take more responsibility for your own information needs by becoming a more active learner to the extent possible given constraints imposed by present lecture and examination formats. No matter how many quizzes are staring you in the face or decisions about residencies, start thinking ahead now. What kind of PIMS do you envision for yourself five, ten, years down the road? What are the implications for your present approach to your studies? Would you consider buying a computer next year instead of that new car?

As you ponder the above, you probably would appreciate a summary including a few easy-to-follow suggestions. The complex nature of the challenge and the continuing rapid growth of possibilities deny this hope. Instead the following thoughts are offered:

☐ By 1986, the National Board of Medical Examiners expects to introduce computer-based testing. With the help of the American Board of Internal Medicine, NBME is developing an interactive simulation which assesses problem-solving in an un-cued environment where the "patient" responds dynamically to treatment decisions.

■ The inflation of medical information has two dimensions. One is the sheer increase in knowledge; there are now more than 20,000 journals in medicine and biology. The other is the continuing extension of the individual medical record due to the chronic character of modern diseases, lengthening of human life, increase in the number of tests and actions available and the difficulties of their interpretation.

■ The physician's unaided mind has a number of tendencies which do not work to the patient's advantage. It starts generating hypotheses in the earliest moments, prematurely biasing the remaining steps in the data search, and sometimes generates hypotheses more general than the data allow, while disregarding crucial findings or historical facts. The mind also underestimates the complexity of problems and will indulge in the categorical reasoning of the expert which leads to laboratory test ordering that may be off-target. With an electronic guidance system and feedback loops, physicians can become their own "medical schools," can better coordinate care, and will have more energy to turn to observing and talking to patients.

☐ The future is wide-open and exciting, especially in the field of bioengineering. The "hospital on the wrist" concept falls into this category. As envisioned by the Institute for Alternative Futures, this device would incorporate a computer, a micro-miniature analyzer and drug reservoirs with electronic probes, which will monitor changes in the body, measure vital signs and compare findings with expected values for the individual wearing it. When necessary, it would administer drugs directly throught he skin. Moreover, it would communicate, for further advice, with computers in the office of the patient's physician and signal the patient when direct care is necessary.

■ Since the question is not whether computer applications will be ubiquitous in medical practice but if their role will be appropriately conceptualized so that full expression of their beneficial potentials can result, every physician-in-training has a stake in this burgeoning area. If not already happening, students, faculty and librarians should be meeting to share experiences with computer applications and to consider strategies to introduce more CBI and opportunities for students to acquire independent learning skills. Perhaps a way to start is a student council planning session with an academic dean in order to assess student interest and expertise; a list of questions can be generated to be followed up with appropriate faculty and residents. A cautionary note needs to be sounded here. Many educators are reluctant to enter the "electronic thicket" out of concern that basic skills may be overlooked in the rush to "plug in." At this stage, computers can support the memory but not replace it; moreover, each program's capabilities and limitations are subject areas unto themselves—often labor is not saved, it is added on. Understandably educators may be conservative on these scores.

■ As part of AMSA's Medical Education Computer Applications (MECA) Project, a group of students at the University of Colorado School of Medicine have begun a newsletter, which they call "the nation's first medical student computer network." The hope of MECA is to catalog existing applications of computers of potential use to medical students, faculty and physicians; students who know of interesting programs or applications are urged to request a form on which to describe them. Forms are available from Computers in Medicine Network, 4200 East 9th Avenue, Box C-292, Denver, Colorado 80262. In a more immediately practical vein, the OSR plans to distribute to deans this fall a compilation of basic information on medical school electives which involve computers.

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6. Jonsen, A., and Jameton, A., "Social and Political Responsibilities of Physicians," *J. of Medicine and Philosophy,* 2:376-400, 1977.
7. Hiatt, H.A., "The Physician and National Security," *New England J. Med.,* 307(18): 1142-5, 1982.
8. Ingelfinger, F., "The Physician's Contribution to the Health System" *New England J. Med.,* 295(10): 565-6, 1976.
9. Cassel, C., et al., "Design of a Course on the Medical Consequences of Nuclear War," *J. Med. Educ.,* 57:866-8, November 82.

COMPUTERS AND MEDICAL EDUCATION

Deluged by notes and textbooks and fervently engaged in regurgitating biomedical facts, how many first and second year medical students allow themselves to consider that the half-life of this information is between three and five years and that medical knowledge is increasing eight-fold each generation? Newly impressed by the recalcitrance of memory and the difficulty of hurriedly synthesizing tens of observations, how many third and fourth year students haven't wondered if there isn't a better way of reaching diagnoses? It has also not escaped your attention that computers are shrinking in size and price. You notice advances in analytic and communications technology showing up everywhere—from computer simulations for designing buildings to faceless corner bank tellers. You may have heard that in West Germany, Scandinavia, Japan and other countries, medical school curricula include courses in medical informatics (1). Why then, given students' and practitioners' accelerating battle with data, have so few American medical schools developed the resources to provide education in the principles and operation of medical information systems?

This article can only provide a sketch of the many ways in which information systems can be used in academic medicine and to impediments to their introduction. The Association of American Medical Colleges (AAMC) has recently published two studies which provide substantial enlightenment on these topics (2,3). The main goal, however, of the present summary is to stimulate you to think prospectively and critically about your own information needs. So step out from beneath that seemingly unceasing avalanche of biomedical facts to consider the state of the snowdrift and the kinds of tools you will require to stay on top. Lest images of keg-carrying St. Bernards, bulldozers and snowblowers come to mind, remember that the resources in question are not nearly so dramatic, nor do they appear and function successfully at the drop of a purchase order. The domains into which computer applications can be divided occupy the second part of the article. First, it is necessary to examine reasons for the apparent lag in harnessing computer technologies.

The Challenge

The adoption of technology generally occurs in three stages. At first we use it to do what we have always done, but more quickly and more effectively—for instance, the NRMP Match (discussed in the next article). During this "substitution" phase, we begin to do things we have never been able to do before, i.e., "innovation." In the third stage, the technologies change our way of life, i.e., "transformation" (4). To a great extent, academic medical centers remain in Stage 1. Why the lack of progress into Stage 2?

One educator (5) sees primarily three reasons: 1) *Inertia:* No one changes lifelong habits easily. Moreover, the physician at the top of the pyramid is not likely to sympathize with assertions that the system is obsolescent. This perspective can also be called the "Detroit complex." 2) *Pride:* Many physicians' self-esteem is too closely linked to their clinical performance; they are unwilling to admit their need for assistance in gathering data and in developing a diagnostic and treatment plan. 3) *Lack of Medical School Leadership:* Certainly it would be simplistic to blame academic physicians' desire to maintain their reputations via displays of erudition or their reliance on residents and students to meet daily informational needs. Many other factors are implicated: The field of medical informatics requires bridging disciplines and overcoming time-encrusted barriers to inter-departmental ccoperation. A lack of resources to provide students with hands-on computer experiences is understandable given the overall financial situation at many schools. Federal and state support for medical education is not keeping pace with costs in general, and start-up expenses for computers are high, if declining. The "old" ways of operating are themselves major stumbling blocks. Faculty have little confidence that information-gathering skills can replace memorization of details and even less experience in assisting students to assume a self-directed inquiry mode. They are accustomed to attempting to satisfy narrow objectives and to evaluating students based on fact recognition. Some faculty may even feel insecure around and intimidated by students who are more comfortable at a keyboard than they are. In this "new" world, traditional boundaries are blurred. A multitude of information sources challenges the teacher's customary function, and functions usually associated with teaching become part of the student's domain. Other teaching roles, i.e., nurturing problem solvers and self-directed learners, become more critical than ever; unfortunately, faculty members who excel in these areas are rare.

The obstacles are formidable. During this time of contracting resources, all kinds of innovations and new teaching resources are needed. Consideration of the spheres of computer application is necessary to fully appreciate the nature of the challenge.

Developing Domains

Although the following categories conceptually and operationally overlap, they provide one method of thinking about computer applications in medical education and practice:

A) Computer-Based Instruction

The sphere that students are most likely to have some experience with is known as Computer-Based Instruction

(CBI) in the basic sciences (also called "computer-assisted" or "computer-programmed"). A recently published overview urging broader adoption of CBI in medical education notes that many companies are now producing microcomputers for less than $3000 with a variety of accessories which make them useful for CBI. Microcomputer memory, although small in comparison with the main frames used for CBI in the 1970's, is usually more than sufficient for individual lessons. Some micros have excellent graphics for the creation of diagrams and charts, and a wide range of printers are available for producing reports that can be turned in to the instructor. Moreover, these systems "now use interactive features that allow the student to integrate ideas rather than just serving as electronic page turners" (6). An example is a game, written for use as part of the PLATO system at the University of Maryland, called "Bugs and Drugs"; students use the program for drill and practice as it reinforces learning about a selection of drugs. In reviewing the literature on CBI in the basic medical sciences, Marion et al. found that in general the examination performance of students using CBI did not exceed that of students taught with traditional methods; however, the former needed to spend less time studying. The most dramatic example of time-saving was found in an experimental multi-media anatomy course in which students studied one-third of the number of hours than students in the traditional class. These reviewers also found that almost all students believe that computer strategies enhanced their learning and should be retained (7).

B) Simulations

A more innovative use in undergraduate medical education draws on the computer's ability to model dynamic systems. As a system changes, both due to internal processes and external perturbations, its parameters are recalculated and displayed; the student evaluates these changes and modifies the system by input through a keyboard or joystick. The computer uses two different processes to create a simulation, a mathematical model and a logic tree. The former assumes an algebraic relationship between variables that are physiologically interrelated. Consider the baroreceptor response. As blood pressure rises, carotid sinus stretch increases, and a central reflex results in both vasodilation and lowered cardiac output. A simulation assigns numerical values to these variables and adjusts each as any one changes. When a logic branch is added to the program, components of the system can be prevented from responding mathematically, and the effects of a drug, for instance, can be simulated. While several such programs are currently in use, little has been published about them at this stage. Only a few examples will be cited here:

1. At McMaster University in Ontario, and at St. Bartholomew's Hospital in London, students are assisted by the MAC family of physiological models. One is MACPUF which simulates the respiratory system. MACPEE includes the heart, circulation and kidneys as well as fluid balance, electrolytes and some hormones and can simulate normal fluid balance, congestive heart failure, nephrotic syndrome, diuretic therapy, renal artery stenosis, and Addison's disease. All variables are printed out at user-defined intervals, so the user can see changes occur over time, not just the final result. These programs enable students to perform experiments and learn about physiology in an interactive, problem-solving manner; hundreds of trials can be run in an afternoon.

2. A more clinically oriented program is *Encephalon,* developed by G. Banks at the University of Pittsburgh, which simulates a neurological examination. A high resolution graphics image of a patient's head appears on the computer's monitor. By pressing various keys, the user can flash a light in the patient's pupils, check the extraocular muscles, and even squirt cold water in the ear. After the examination, the computer asks for the diagnosis and will either congratulate the student or suggest trying again.

3. A program available from the Massachusetts General Hospital (MGH) enables the user to select any of a number of diagnostic groups, such as GI Bleeding. A patient is selected by the computer, a brief history is flashed on the screen, then the computer asks the user what to do. A large notebook supplied by MGH contains all the possible diagnostic and therapeutic interventions, each of which has a three digit code; this code is typed into the computer. If the computer thinks that the request is not appropriate, it will suggest another area of inquiry. Treatment can also be started, and physiologic simulators will respond to the therapy, as well as to the underlying disease.

Advantages of such learning tools are obvious. You can examine "patients" without incurring antagonism, try various therapies without harming them, and be exposed to clinical situations you may not see in the limited time on a rotation. A drawback of such "high tech" teaching is that it is also "low touch" and disregards the need for a caring attitude. Since the developing of human interaction skills is so important, students who come to depend on such educational tools, will need to work at finding a balance between "tech" and "touch."

C) Diagnostic Consultation Systems

The step from education aide to medical consulting tool enters the controversial field of applied symbolic reasoning, i.e. "artificial intelligence." The best known of attempts to simulate clinical judgment is CADUCEUS (formerly called INTERNIST-I) originated by Jack Myers who is a professor of medicine at the University of Pittsburgh. A massive ten-year effort and a million dollars produced this experimental program for computer-assisted diagnosis in general internal medicine. It provides solutions to many problems not tackled in previous systems: an ability to diagnose multiple coincident diseases and to ignore findings that appear to be "red herrings" plus a hypothesis-directed reasoning method which resembles the approach to problem-solving observed in expert practitioners. An evaluation published in 1982 pitted the computer program against 43 case histories of complicated illnesses treated by doctors at MGH. The computer was correct 17 times; the physicians, 23. However, the computer made incorrect diagnoses only 11 times versus 13 times for the practitioners. The program's creators conclude that in its present form it is not sufficiently reliable for clinical applications. Deficiencies which must be overcome include the inability to reason anatomically or temporally and the inability to construct differential diagnoses spanning multiple problem areas (8). Edward Shortliffe, a member of Stanford's Departments of Medicine and Computer Medicine (the first school in the country to create one), has praised CADUCEUS as being in the

> ...best tradition of experimental science: early work, often arduous, leads to results which define the next iteration in the process...Insights, and their subsequent impetus for the development of the CADUCEUS program...demonstrate why it is a fallacy to call a medical informatics experiment a failure if it is not implemented for clinical use. This criterion is not used in assessing other fundamental medical research, and its frequent use in judging medical computing work is a reflection of the failure to appreciate the basic science issues in the field and of the unrealistic expectations that frequently exist (9).

D) Automated Medical Records

PROMIS (Problem-Oriented Medical Information System) is also a computer simulation of clinical cognition but with a different thrust. Developed by Larry Weed and colleagues, it specifically addresses four major problems inherent in the traditional medical record: 1) lack of coordination among providers, 2) excessive reliance on provider's memory, 3) lack of recorded rationality regarding observations and actions taken, and 4) inadequate feedback loops for improvement of the practice of medicine (10). Whereas CADUCEUS mimics an expert clinician and can handle symptoms and findings of multiple diseases simultaneously, PROMIS treats them sequentially but separately. The former was designed to assist with complex medical problems; the latter, for routine use in daily practice. Another difference is that PROMIS offers the immediate availability of highly organized records to all persons rendering care. The data base is created by cumulating data entered for individual patients who also add information by answering yes-no and multiple-choice questions. Positive findings or responses are then reviewed by the physician, whose memory is aided by branched-logic displays, specific for each symptom. Progress notes are entered in conjunction with data on each identified problem. Data can be retrieved in many ways, and various aspects of the management of the patient can all be called onto the screen for immediate review. PROMIS thus can free the practitioner from some of the weight of accumulated knowledge so that more attention can be turned to the dynamics of how knowledge is applied, to the uniqueness of each patient and to those anamolous cases that reveal the limits of present methods.

E) Hospital Information Systems (HIS)

It has been estimated that 90 percent of U.S. hospitals already use some form of electronic processing, most frequently for billing. Systems to perform traditional business functions are commonplace in industry and their application to health-care institutions is relatively straightforward. More innovative applications are possible in what can be called patient management systems and clinical/ancillary systems. The former depends on a comprehensive data base containing medical, financial and biographic information. The latter, as presently conceived, would carry out physiological monitoring of patients, clinical testing and diagnostic interpretation. While not yet in widespread use, the implementation and coordination of such systems offer the promise of improved patient care and hospital management and of cost savings.

The HIS already operational in 60% of the hospitals in the Netherlands follow a slightly different organization, distinguishing between Management and Patient subsystems. Management is divided into Administration and Services. Under Services, for instance, fall dietetics, nurses' scheduling and library. The Patient system is divided into Registration (e.g., archives, blood bank, appointments) and Clinical, which has two categories—Diagnostic and Therapeutic. This integrated arrangement offers good reason for educating Netherlands' medical students in medical informatics, which is proceeding at a much faster rate than in the U.S. (11).

F. Comprehensive Information Management System (CIMS)

It is becoming increasingly clear that to manage an enterprise is to manage information; in fact, management *of* information as an organizational principle is being superceded by management *by* information. Thus, biotechnicians and progressive thinkers in many specialities are beginning to examine the implications of organizing all activity into integrated systems, i.e., self-correcting circles (12,13). Although at present in medicine a CIMS remains largely a concept, activity is accelerating. For instance, the National Library of Medicine recently awarded contracts for strategic planning for the development of integrated academic information management systems to Columbia University, Georgetown University, University of Utah and University of Maryland. What follows is one way of thinking of a CIMS; of its four components, the first creates the demand for the other three:

1. Personal Information Management System (PIMS)

Clinical judgment requires the utilization of data from three sources: the patient, commonly shared knowledge (i.e., the literature), and personal experience. Ideally, the physician selects those facts from each of these which appear to elucidate a given case. Decision-making results in a patient management plan; responses of the patient to the plan potentially add to or alter all three data domains. Thus, clinical decision-making can be seen as an information feedback loop put into operation by the physician. A PIMS is necessary to support this loop so that the most pertinent information is available when needed. There are five components: a) An internal personal data file which assists financial management of the practice and includes patient records and the physician's "accumulated memory" of experience and literature extracts. b) Access to data systems, e.g., on-line journals, laboratories, patient monitoring systems, and specific data systems such as those being developed on hepatitis, nutrition, and geriatric disorders. c) Internal manipulative and analytic capabilities, encompassing computation of stored data, report development and comparison of stored data with external data. d) Access to decision support systems such as CADUCEUS. e) Network capability, e.g., tele-conferencing and electronic mail and bulletin boards which allow computer users to share data and to post messages to a specific person or for general use.

2. Data Bases/Information Sources and Services, e.g., MEDLARS, on-line journals.

3. Intelligent Switching, that is, reference librarians who can advise about likely accessible information sources.

4. Communication Linkages, this is, the combination of hardware and software necessary to permit the transmission of data.

adequate morality is an accurate perception of the order of things, and of humanity's place in it...and tells us what we risk when we forsake the human to behave like false gods or like animals" (26). Morality ameliorates the tendency of things to go badly in interpersonal relationships; it is a guide for countering limited sympathies and the trying effects of limited information and resources. Developing moral values and professional expertise are inseparable in the committed healer. The choice is yours.

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OSR REPORT

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NATIONAL STUDY OF MEDICAL STUDENT/ PATIENT INTERACTIONS

In recognition of the need for more information about how students perceive their role on the wards, faculty from the Uniformed Services U. of the Health Professions, U. of Maryland School of Medicine and Georgetown U. School of Medicine have undertaken a study of ethical considerations in the involvement of medical students in patient care. A random sample of 2500 U.S. medical students will serve as the study population. Those who are selected will receive, via their student affairs dean, a questionnaire which should be easy to complete in twenty minutes. The opinions and perspectives collected will serve as the basis for further studies pertaining to the teaching of medical ethics. Therefore if you are one of the juniors who receives a questionnaire, please help by giving your best, honest and direct responses. Students will be informed of the results of this survey in a future *OSR Report*.

OSR REPORT

Volume VII, Number 2 Spring 1984

ETHICAL RESPONSIBILITY AND THE MEDICAL STUDENT: SETTING PERSONAL AND PROFESSIONAL GOALS

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CHAIRPERSON'S PERSPECTIVES

As a fourth-year medical student looking back at the past two years, I shake my head in amazement at the shades of grey that have been added to my perceptual spectrum. Rarely a week goes by for the clinical student, it seems, which doesn't contain a new situation requiring actions based on a very personal evaluation of a very complicated series of human events. Interactions with patients, families, colleagues and the health care system as a whole constantly challenge principles we have formerly considered "absolute and self-evident." During medical school, these are rapidly replaced by moral questions which often become hazier and more diffuse the harder we try to understand them. Although development of our factual knowledge of therapeutics is rigorously attended to, our education in the more subjective decision-making processes is frequently haphazard and occasionally neglected entirely. What can we do about this imbalance? How can we avoid abandoning the social concerns with which we entered medical school as if they were leisure time activities? Read on.

Those of you who've seen this publication before know that OSR (Organization of Student Representatives) endeavors to provide medical students and deans with thought-provoking treatments of subjects central to the lives of students. If this is the first issue of *OSR Report* you've seen, you may want to know more about us (see box, page five). Probably the greatest benefit I've received from my involvement in OSR has come from sharing experiences with a wealth of students whose backgrounds differ enormously from my own. Many of these exchanges include situations which we recognize, but may not label, as "ethical dilemmas." We don't often hit upon solutions, but we always feel better for having aired the problem with a fellow neophyte. That medical students encounter an abundance of such situations means that we need help putting them in perspective and aligning them with our visions of our future roles. I am especially pleased therefore to be introducing this issue of *OSR Report* and deeply hope that it will stimulate you to reflect on your ethical responsibilities in the same ways that my discussions with students from across the country have enhanced my personal and professional growth.

The other members of the OSR Administrative Board join me and Janet Bickel (the AAMC staffer who prepared this issue) in inviting you to contact any of us with your reactions, suggestions, questions. We also invite you to share this publication with any faculty members who might benefit from reading it. After all, we are in this together.

Pamelyn Close
OSR Chairperson

THE PARADOX

While only five percent of the Class of 1983 completed an elective in ethical problems in medicine (1), every student on the path to the M.D. degree willingly or not devotes mental space to a wide variety of ethical problems. Sometimes you may not even distinguish a moral judgment from a decision about appropriate care. At other times, you face situations so full of possibilities that the desire to deny or somehow terminate the discomfort may overwhelm your better judgment. Students who've not yet experienced the frontline of patient care may have opened a filing cabinet in the left brain in which to deposit ethical considerations "for future reference."

Increasing biomedical and technological capacities and increasing consumer and government participation in health care issues multiply the ethical dimensions of pre-existing quandaries. But whenever

human beings share ideas, competing perspectives about what's right develop. Perspectives have a way of turning into convictions; when acting on one conviction means letting go of another, an ethical dilemma is in progress. Physicians experience more than their share of these because, not only are they blessed with the normal run of internal wars, they also find themselves caught between patients and legal duties, patients and their families, and other similarly hard places.

As Albert Jonsen has written, a "profound moral paradox pervades medicine...(arising) from the incessant conflict of the two most basic principles of morality: self-interest and altruism" (2). He describes the institution of medicine as existing smack on top of its own structural rift: physicians are torn between acting to promote self-support and self-satisfaction (good done for others redounding to one's own good) and devoting themselves to the needs of others. Society permits physicians to learn and use their skills with a view to earning a living; at the same time, it insists that those skills be used for society's benefit. The duality of medicine's moral foundation is intractable:

> Hippocratic medicine was a skill, its practitioners were craftsmen, and their objective was a good living. The etiquette that went by the name of ethics consisted of counsels of self-interest: Act in this or that way with your patients if you want to build a reputation and a clientele. Not until the second century A.D., when stoic and, perhaps, Christian ideals had a whisper of influence, did even the hint of altruism appear...Sharing the Jewish theology of a God whose loving power heals through human instruments, the Christians added the image of Jesus' parable of the good Samaritan who bound the wounds of the stranger beaten by thieves and had him cared for at his own expense.

Jonsen is not alone in noting that "over and over again, the professional response to any changes judged inconvenient or unprofitable proclaims the monastic vow of altruism in order to disguise the Hippocratic concern for good business." Paul Starr in *The Social Transformation of American Medicine* (3) offers a very informative history of this feature of the profession. Even students who haven't before considered this paradox are aware of manifestations of the altruism/self-interest contradiction. This seepage into consciousness was abetted early on when expectations about medical education bit the dust. Unable to enjoy a present characterized by endless memorizing and lectures, wistfulness about future power and independence increases. Self-interest is also constantly stimulated by competition for residencies, as it was during college by the contest to gain admission. Simultaneously, the "perfect doctor" mythology, honor codes, and ceremonial occasions highlight the profession's altruistic ideals. More seriously, according to Jonsen:

> the absolute asceticism of the residency recreates, for the young physician, the sacrificial ethic of monastic medicine. That ethic is severe: immediate response to the needs of the patient, unmitigated responsibility for correct decisions made promptly and communicated correctly, flagellating denial of sleep...even to the point of depression...The physicians' conscience will ever after cry out when self-interest intrudes on patient care.

Given, then, that a medical life requires maintaining a precarious moral balance, with both the training and the practice environment aggravating the struggle, what is a student to do? The remainder of this report offers a framework, moving from situations common during medical school to those faced by practitioners and touching on physicians' relationships with patients, peers, third-parties, and society in general.

First, some general thoughts are in order about what constitutes the conscience that Jonsen observes being bent and shaped during residency. Conscience, which Freud believed was the beginning of all culture, can be described as a sense of accountability in regard to both past and future actions, a capacity for self-criticism, and the ability to value another person equally with oneself. While some continue to believe that moral disposition gels by age five, psychologists have identified life-spanning stages of development (4). One researcher, W.G. Perry, has chronicled a sequence through which college students move:

> Those students whom we saw as "progressing" made their own awareness of maturation clear and conveyed a sense of satisfaction in it. Those standing still or stepping to one side or reaching back acknowledged that they were avoiding something or denying something or fighting something and regularly remarked on an uneasiness

number of people seeking specialty recognition in the U.S. While questions on medical ethics have been included on the certifying exam since 1978, and while evidence of a candidate's good moral standing has always been prerequisite to certification, for the next exam in September supervisors will be required to furnish evaluations of a candidate's sensitivity to the rights and emotional needs of patients (18). Other certifying bodies are also considering whether and how to do so.

While these are promising signs, adding test items to national examinations will probably do little to promote seriousness about the subject matter or to increase opportunities for students to engage in guided reflection. Encouraging students to think of moral dilemmas as if they were multiple-choice questions with one correct answer could be counterproductive. After all, some dilemmas indeed remain dilemmas. But if physicians come to think of moral reflection as yet another "technique," they may feel freer than ever to employ their "moral expertise" to define and rank patients' options. One philosopher who teaches medical students has therefore proposed that the goal of ethics teaching and testing be to develop "discursive moral competence," that is, the ability to discuss a variety of routine and rare cases with the people likely to be involved in these cases (e.g., nurses, lawyers, relatives), however different their moral concerns may be from the physician's own. The physician's grasp of distinctions and principles will guide questions and suggestions in the communal attempt to find an acceptable course of action or inaction. "Not only will physicians become better reasoners in moral matters; they will also become more acute listeners, more sensitive to the moral issues that are either ignored or garbled in anxious, hurried discussion" (19).

Clearly, basic instruction and reading in medical ethics are the first steps, but twenty-six percent of U.S. medical schools did not offer an elective in ethical problems in medicine during 1983–84 (20). Because ethics is a discipline unto itself, unless provisions within the required curriculum are being made, students at these schools are at a distinct disadvantage. At one of these, the University of Massachusetts Medical School, a group from the Class of 1986 initiated a medical ethics seminar; an ethicist and four physicians from the local academic community were asked to lead weekly discussions. Recently, the dean of the school created a task force to develop a permanent course in ethics (21).

Specific instruction in ethics is necessary and is best not collapsed into a general course designed with broader purposes. But since medical education encourages students to think of patients' bodies as somehow isolated from their social and emotional lives and to focus totally on what is experimentally verifiable, you need to identify ways to counteract the retreat from interactional dimensions of patient care. Educational formats must be created which emphasize establishing rapport with patients, the side-effects of illness, and the nature of physicians' responsibilities to their patients. At Mt. Sinai School of Medicine, the departments of medicine and psychiatry offer a humanistic-medicine program with components in each year highlighting the emotional and behavioral interplay between doctor and patient. This program was born from the recognition that, although physicians' feelings play an important role in the quality of care they provide, the medical curriculum typically underplays this role and omits consideration of strategies for coping with feelings (22). An elective offered by members of the department of medicine at Yale University School of Medicine is titled "Retaining Your Humanism in the Face of Technologic Explosion" (23). One session is devoted to stresses specific to the third year of medical school. Other topics include dealing with "patients I don't like" and with problematic personal responses, such as anger and sexual attraction. One astute practitioner has recently written that, even though each of the many decisions physicians make every day has the potential for drastic consequences if it is not determined properly, physicians are even less prepared to deal with their mistakes than is the average lay person (24). In view of the importance of learning to live with doubt and to face errors, another good idea is the institution of "uncertainty rounds," in which students are made to experience uncertainty and then are helped to accept it as an inevitable part of medicine; questions on ethics would fit well into such a framework (25). Any courses offered on human values or in the medical humanities are worth investigating. Literature especially enhances appreciation of the expanse and depths of human needs and capacities; guided study can illuminate personal experiences with death, guilt, power. Time for reflection, alone and with the stimulus of thoughtful persons wiser than yourself, is also essential. During your four years as a medical student, such opportunities may not present themselves; you may have to create them.

Another tangible step you can take is adopting the practice of jotting in a notebook your observations about ethical conflicts which you witness or experience. Such a habit will sharpen your listening skills and your awareness of your own and others' priorities and values. Some students find that they need help in standing up to residents and attendings on questions of conduct and obligations. While assertiveness training is probably not the answer, sharing the dilemma with a sympathetic faculty member may lend the necessary courage.

It is also very important to learn to recognize your own thumbprint of stress responses so that when complications mount, before the top blows off, you have taken some action, such as talked your feelings over with a friend or rescheduled tomorrow's activities to allow more exercise or sleep. Distress inevitably results from clashes between sets of convictions, especially when religious beliefs are involved; for instance, you may be accustomed to dismissing drunks as morally unregenerate but must learn not to belittle your responsibilities as a physician to such persons. These discoveries can be difficult. Moreover, the strains of involvement in suffering are enormous. Coping entails reaching for support and counseling when the blues hit. Chances are that, if you do not ask for help when you need it, you will become convinced that the need doesn't exist and will begin looking down your nose at peers and family members when they need your support. Your reluctance or inability to respond may be in the name of conserving your time and energies, but will end in isolation, which increases a physician's risk of becoming impaired.

Ever since physicians acquired the power to actually influence the course of disease, they have been making hard decisions. What is biomedically possible today is awesome, and so are some of the choices. The underlying irrationality of a decision will keep you awake some night. There is no protection. An ethical plan of action is no guarantee against guilt and sorrow. But whatever you can do to particularize the medical care you provide assists both you and your patients in realizing fully your human dignity. Saying goodbye to and thanking your patients at the end of a rotation are good examples.

Remember, finally, that morality is long-term practicality; it must be ecologically sound. Morality is not ethereal or arbitrary; it is the definition of what is humanly possible, and it is the definition of the penalties for violating human possibility. In the words of poet and essayist Wendell Berry: "A live and

on the abused precept "judge not that ye be not judged" and dismiss unsettling observations than to set into motion a confrontation which is bound to be painful and which could have dramatic repercussions.

In situations of conflict, however, there is broad agreement that the health professional's first loyalty must be to patients (7). Indicting results of physicians' protecting each other rather than their patients have been noted by many. Eliot Friedson argues that values which bind physicians together are not drawn from societal concerns and that patients' noncompliance with treatment is evidence of this distance (16). Knowing where loyalties belong, however, does not reduce the agony of moral decisions about one's peers. A "brother's keeper" ethic would stave off problems before a severe offense is committed or impairment becomes deadly; but neither our society nor educational system is inclined in this direction.

A goal-oriented extension of this concept is peer review, which is frequently used to generate data for comparing physicians and for determining work-related distinctions. As the solo practitioner becomes extinct and as the numbers of providers and cost-containment measures escalate, the uses of peer evaluation multiply. Especially difficult moral conflicts arise when such reviews emphasize productivity over quality of care, which may be beginning to occur in some for-profit settings.

Relationships with Institutional Structures and Third Parties

The complex structure known as health care integrates numerous agencies and "third parties" and encompasses regulation and payment mechanisms. For most practitioners, a list of third parties would include licensing boards, insurance companies, parents of minors; each incurs its own web of obligations. Clinical-researchers and physician-educators accept additional obligations, with broad possibilities for clashes between today's patient's comfort and the goal of providing better care to future generations. Hospitals themselves operate within larger institutions, e.g., academic medical centers, communities.

No one needs to tell a medical student that hospitals function according to a distinct hierarchy and power structure; the array of responsibilities means that duties are frequently carried out in a state of tension. What should a respiratory therapist say when a patient who does not know his diagnosis asks: Do I have cancer? Is it unethical for residents to strike with the goal of drawing attention to chronic understaffing? How far should a physician go in defending a treatment decision which the hospital director opposes on financial grounds? While rarely easy, resolutions of conflicts can be facilitated by examining in context the specific responsibilities of the various health professionals and agencies involved. Purtilo and Cassell thus stress familiarity with the roles of the major groups of professionals who comprise the hospital community and with administrative policies (7). Moreover, a hospital must be understood as an entity which is separate from the individuals who work there and which is engaged in self-preservation. While neither patients nor providers may want to accept hospitals' increasing commitment to efficiency and cost-effectiveness, this appreciation is prerequisite to dealing with conflicts.

Responsibilities to Society

Physicians often do not think of themselves as directly involved in societal decisions regarding the distribution of health care resources or in public health issues, such as prevention of nuclear war or compensation practices for persons in hazardous occupations. With all of the other more immediately experienced tugs as outlined above, physicians may balk at the suggestion that their medical expertise also bestows special ethical responsibilities to society. Cultural movements toward increased personal responsibility for health and alternative forms of health care and the federal government's movement away from supporting social programs cloud the picture. The rise of commercialism, burgeoning incentives for doctors to become entrepreneurial, and medicine's growing bonds with industry further complicate considerations of where responsibilities begin and end. Against this backdrop, how does an individual physician define a comfortable position, short of sticking his head in the sand of his own affairs?

It is well to remember that physicians have a history of involvement in seeking solutions to social problems, e.g., malnutrition, poor sanitation, child labor. Communities still virtually press physicians into leadership roles in all public health arenas. In this age patient advocacy leads to increasingly difficult questions, such as funding for abortions and allocation of scarce life-saving resources. It is not possible to be a good physician and focus exclusively on one-to-one relationships with patients, omitting attention to the local community and to health policy issues, because day-to-day events outside the office inevitably influence the care a physician can provide. By not addressing this larger network of responsibilities, medical education inadvertently and negatively shapes your views about your obligations to the society which provides that education and which will eventually give you a license to practice medicine. Therefore, unless you take an active role in considering questions of social justice and exploring the ethical issues central to the profession today, you will emerge limited in your understanding of your role and capabilities.

The above sketch of physicians' various kinds of responsibilities has touched on but a few of the ethical issues which in one guise or another will engage you. Many others could have been mentioned: patients considering suicide, care for the incurably ill, human experimentation issues, patients' rights to privacy, and legal conflicts in each and every arena. Naturally all these areas intertwine; attempts to separate and to categorize them or to hold them in your mind all at once are bound to fail. Better to adopt the goal of learning about your different relationships as you have opportunities to experience them and to recognize that your life will be spent defining and refining them.

WHAT YOU CAN DO

Occasionally you may wish that a set of guidelines or a handbook could be formulated to be consulted whenever an ethical dilemma arises. Some of the students who enroll in a medical ethics course may do so with the idea of acquiring what they will need to stay on top of this field. The inherent complexities of moral questions defeat such fantasies. It is also unrealistic to expect that one hour a week can accomplish much when the other thirty-nine or so are spent with faculty who appear unconcerned with questions of values.

A spur to medical educators to devote more attention to ethics is coming from the National Board of Medical Examiners (NBME) and the American Board of Internal Medicine (ABIM). Since 1981 an NBME task force has worked to identify the domain of medical law and ethics appropriate for fourth-year medical students; in April 1982 field-testing of items began. By and large the items require both a knowledge of basic precepts in health law and medical ethics and an ability to reason using these (17). The ABIM certifies the largest

> or dissatisfaction akin to shame. Some others referred to times in which they felt they had moved too fast and become alarmingly confused. In short, they experienced quite consciously an urge to maturation (5).

Perry also noted that the impetus to grow seems compounded of many motives, e.g., curiousity, a striving for competence which can only emerge from understanding one's relation to the environment, and a wish for community with those looked upon as mature. Sound familiar? So may this final observation:

> The moral significance of maturation derives from its challenge by countervailing forces...consisting of such tendencies as the wish to retain earlier satisfactions, securities and hometown values; reluctance to admit error; doubt of one's competence; and, most importantly, the wish to maintain a self one has felt oneself to be.

Medical students frequently feel unprepared for what is expected of them; yet, ready or not, like riding an escalator, the next level arrives and must be faced. Fighting change is that part of the self preferring what's familiar, easy and comfortable. When this self gets the upper hand, trouble—be it denial of limitations, academic failure, depression, or substance abuse—is likely to set in. Of paramount importance, then, is awareness of the process of maturing into a morally responsible adult physician and of what you do to hinder or enhance the process.

QUESTIONS MEDICAL STUDENTS ASK

While the link is impossible to establish, one intuitively believes that an individual who behaves unethically while in school is more likely than others to do so once in practice. Results of the only recent survey of medical students about cheating revealed that 88% reported having cheated on an examination at least once in college and 58% in medical school (6). Some may argue that cheating on an exam is an isolated phenomenon of minor importance. But data from this survey also showed highly significant correlations between cheating on an exam and falsifying information about a patient and reporting a patient finding as normal without obtaining the information. On the wards, however, the term "cheating" does not very aptly describe the dimensions of the difficult corners students find themselves in. What about going ahead with a procedure, though unsupervised and lacking sufficient experience? What about unintentionally violating a patient's confidence? Have you disregarded the unethical conduct of a classmate out of reluctance to judge that person and follow through on your observation, at the same time knowing that the school honor code is thereby rendered useless? What about rushing your explanation of a drug regime to a cancer patient because you're late for chart rounds, even though the patient is clearly very fearful of the side-effects? Where you draw the line between ethical and unethical behavior in such situations says a lot about your values and your willingness to develop an inner professional code of ethics.

While occasionally experienced as a conspiracy, the countervailing forces with which you have to contend heighten the significance of your choices. For instance, many residents and attendings provide poor models of compassion and truth-telling. Internal and external pressures to show the best possible face at all times lead to overemphasis of evaluation results. There is never enough time for reflection, but fears of failure, humiliation, and exhaustion are close at hand. Another negative influence is the human tendency to worship numbers and quick payoffs; ethical dimensions of events, laden with intangibles, get lost in the shuffle.

The scientific method creates the illusion that, when like-minded people test a subject and agree, then they are "right." While it provides a sound basis for technical expertise, this method is not necessarily helpful in the moral domain. The tendency to think of ethics as hopelessly convoluted and as a "soft" or "fringe" subject is also encouraged by the design of third- and fourth-year curricula and by insecurities resulting from students' understandable lack of expertise and skills. The maximum amount of time clerks are assigned to a given service is twelve weeks, and in most settings the time is considerably briefer. Knowing that you will be moving on mitigates a sense of obligation and a desire to risk much. In fact you may feel so overwhelmed by the enormity of the unknown that you unwittingly discount information in order to reduce it to a "manageable" level and discredit your own judgment about what you observe. Your student status implies that you are more a recipient of education than an active agent, morally and in other ways. Under such circumstances and given the weight of pressures to conform, it is not surprising that you may begin to lose sight of patients' values and to let go of some of your own. Avoiding a classmate whose drinking is interfering with ward duties, allowing patients to believe that you are already an M.D., talking impersonally about patients within their earshot may suddenly appear insignificant in the face of all your other responsibilities. With all the energy you are putting into being biomedically precise, you may even lack the finesse required to recognize the ethical dimensions of situations. This line of reasoning has appealed to and captured many egos. Before long, a habit of neglect and withdrawal is established, which escalating responsibilities harden rather than break.

Students and patients are natural allies; you play an essential role in their hospital experience and they constitute your clinical education. You want to start out on the right foot and establish behavior patterns which will result in your becoming a trusted and competent physician. Being a novice may increase the work entailed in winning a patient's confidence, but it is better to be candid about your qualifications than to be less than honest since your first exchanges with patients are so formative. Besides, your care in explaining what is being done and your extra attentiveness can more than compensate for your inexperience. Most important, especially during your first months on the wards, is the recognition that courtesy and trust are fundamental to the doctor/patient relationship and that moral behavior is intrinsic to, not an adjunct of, medical care. Acquiring these insights will not always be painless. Some situations may baffle or anger you. What do you say to a patient who was not informed that members of the physical diagnosis class would be examining him? How should you respond to racial slurs which are interfering with your taking a patient's history? Should a woman student comply with the requests of a patient who persists in expecting her to provide a nurses' services? How about a student waylaid on the first day of his first rotation by a doomed cancer patient who has not yet been told by her physician about her impending death? Do you stand by a patient with a history of uncooperative behavior or do you judge him on the surface of his record? Do you sometimes skip entering the room of dying patients, or do you acknowledge that they are important too and that you do not know how it feels to die from their diseases? The choices and possibilities inherent in such scenarios may be difficult, but facing them is fundamental to a medical education.

Before exploring the parameters of ethical dilemmas you are likely to grapple with in practice, let's consider two approaches to the process of moral judgment which have been found useful. Think of these as "ethical workups" or as guidelines in traversing the path from perceiving a moral dilemma to acting on it. As described by Ruth Purtilo and Christine Cassel, this path usually involves a four-step process (7):

1. Gather relevant information: Ask the questions which can form the basis for each area to be explored. One goal here is to clear the air and help you to determine whether your perception of the situation is correct. This process of reflection and questioning also helps in identifying the source of your feelings about the situation.
2. Identify the dilemma: During the sorting-out process, if there is a need for action, you begin to determine the type of ethical dilemma that is operative. As all possible observations are deciphered, you arrive at a point in which you have a relatively clear picture of the situation.
3. Decide what to do: At this juncture it is natural to oversimplify the range of options available out of a desire to be done with the problems. But each alternative should be explored and appropriate persons turned to for support and guidance.
4. Complete the action: Without the necessary attention to a strategy for carrying out the plan, the entire process is reduced to the level of an intellectual exercise. At this concrete level, you need also to prepare yourself for accepting the consequences of your action.

The ethical workup proposed by David Thomasma critiques the values on which a medical decision is based (8). It is therefore more useful for situations involving patients but perhaps less suitable than the above model for conflicts with peers or faculty members:

1. Identify all significant medical factors in the case. Be sure to articulate these facts and their likely consequences as best you can.
2. Identify the significant human factors in the case. Include the patient's age, occupation, family situation, behavior history indicating attitudes and values, religious beliefs, and so on.
3. Identify all related factors present for the patient, health care professionals, and other persons involved in the case.
4. Delineate all major value conflicts in the case.
5. Set priorities for values which are in conflict and give reasons for your decisions. This step is decision-making, but any decisions may be changed after further reflection resulting from self-examination (step 6).
6. Identify the criteria you used to arrive at your decision:
   A. Underlying ethical norms of the medical profession, our society, etc.
   B. Metaethical assumptions, i.e., How did you pick one value over another?
   C. Critique your own assumptions underlying the decision made in step 5 and present your final decision.

Using guidelines such as these gets easier with practice. In fact you may be so accustomed to reaching for an answer or solution that the idea of working through a decision-making process this way seems foreign. But, as your medical knowledge and responsibilities increase, so will the ethical complexities of the situations you encounter, and so will your need for a guide that has become second-nature.

PHYSICIANS' DILEMMAS: THE RESPONSIBLE USE OF POWER

In the fourth century B.C., Hippocrates and his colleagues observed that the physician must be accountable to the gods so as not to be tempted to abuse his powerful position; the oath, which many medical students still take at graduation, represented this agreement with the gods. Many more kinds of power to use or abuse are available to today's physicians than existed for your predecessors. Most of these have built-in restraints. All generate choices, e.g., when to perform on your own a difficult procedure; when to discuss with the patient the risks of an easy, common one; when and how to consider costs in the care of the terminally ill.

Such choices require finding the greatest balance of right over wrong in a particular context. In their compact and useful book on medical ethics, Tom Beauchamp and Laurence McCullough (9) recommend that it is useful to recall two widely agreed upon criteria of philosophical reasoning. The first is *clarity*. Distinctions such as that between killing and allowing to die can determine the outcome of a deliberation and therefore deserve careful analysis, yet these distinctions are often vague. Clarity is needed so that basis concepts will be as free from equivocation and ambiguity as possible. Frequently the major task is to express clearly the meaning of "the patient's best interests," which in turn establishes how to promote that interest. The second criterion is the *avoidance of inconsistency* among one's beliefs. While consistency requires that contradiction in reasoning be avoided, the alleged backbone of traditional medical ethics, "do no harm," can easily lead to contradictory imperatives. For instance, the physician whose religious convictions prevent him from performing an abortion but who is aware of places which are dangerous or which overcharge must decide how far to go in referring a patient intent on having one. Almost all cases involving the withholding of treatment or truth illustrate physician's need for formulations of principles to assist them in acting consistently.

Parallel to these criteria are two moral principles having paramount importance for physicians: *respect for autonomy* and *beneficence*. This first principle behooves physicians to regard others as rightfully self-governing; the second, to provide positive benefits as well as to prevent and remove harmful conditions. As with the altruism/self-interest paradox, opportunities for conflict between these principles abound: the beneficence model answers questions in terms of medicine's interpretation of the patient's best interests and the autonomy model takes the patient's values to be the primary consideration in determining the physician's responsibilities. As a conceptual aid, Beauchamp and McCullough refer to the metaphor of weights moving up and down on a balance scale. Their presupposition that "a pluralism of equally weighted moral principles is a fundamental feature of the moral life generally and of the moral life in medicine in particular" is an excellent orientation with which to commence.

Before considering some of the features of physicians' responsibilities to their patients, their peers, institutional structures and society as a whole, it is well to ask: Must one be a good person in order to be a good doc? What about someone who defaults on a Guaranteed Student Loan repayment but who can "afford" a Mercedes? Or a physician convicted of Medicaid fraud or rape? Or one found guilty of "fixing" results of scientific experiments and publishing the data? Is it possible to compartmentalize activities such that decisions in one area remain isolated from all others? If one thinks of "character" as referring to a whole person, whose motives and intentions in all phases of life can be reliably assessed and predicted, then conduct outside the hospital is totally relevant (10). A person whose character is flawed by dishonesty is inclined toward the self-interest end of medicine's precariously balanced teeter-totter. Since any scoundrel can disguise self-interest as altruism, this person's choices will consistently go against the more vulnerable party, i.e., the patient. Another condition to keep in mind is the typically hurried pace of medical practice. When there is little time to think and no energy to struggle, one responds automatically; physicians who've cultivated the habit of honesty and tactfulness in all their affairs are able to trust their own assessments in ways which those who employ a double-standard cannot.

While such sub-divisions are in a sense artificial, for purposes of discussion it is useful to distinguish among various contexts in which physicians work and live. The following observations but scratch the surface of the literature available on each.

Relationships with Patients

While each therapeutic exchange is unique, Carl Rogers suggests three necessary and sufficient conditions of the helping relationship: accurate empathy, congruence (awareness of one's feelings), and non-possessive warmth (11). Each of these involves a readiness to watch oneself and the ability to express expectations about the relationship. Between any two persons distortions occur when new forms of behavior are prompted by change but when revised expectations go unexpressed. Jonsen offers the example of a patient disappointed by expectations of cure, who gradually becomes non-compliant; the physician, no longer expecting to be able to provide notable relief, becomes disinterested in the patient (10). He stresses that there must exist a determination in both participants which tolerates and encourages expression of expectations; respect for one another is what allows this to evolve. It is easy to think of examples of physicians who routinely evidence a lack of respect. They appear to believe that patients don't need information and set up strong verbal and nonverbal blocks to questions, e.g., mumbling while writing, looking at the clock, using language a patient can't possibly understand, leaving the room.

Such assumptions about the patient/physician relationship illustrate the importance of the motivations of the provider and the over-arching moral dimensions of exchanges between patient and provider. In essence, diagnosis is the revelation of one person to another. Again Jonsen's description hits home: "The exchange and interpretation . . . is governed by human intentions, motives and emotions. Since this information exchange has a specific goal, namely, the discovery of the nature and cause of malaise, it must be kept on track by a dominant intent in both patient and physician. This dominant intention . . . is a moral quality called honesty" (10).

Would that honesty were an unequivocal ideal! Difficulties here have a broad range—from communicating effectively during a history to deciding whether to withhold the truth from a patient (truth withholding, however, is more often for the protection or convenience of the provider than the patient). How to preserve autonomous decision-making so that patients can make informed decisions is closely related to the goal of returning to patients control over their lives. These issues of truth-telling and control are controversial, sitting as they do at the juncture between the autonomy model and the beneficence model and including interventions for patients with reduced autonomy and impaired competence. Eric Cassell has persuasively written that the aspect of illness most destructive to the sick is loss of control: "Maintaining control over oneself is so vital to all of us that one might see all the other phenomena of illness as doing harm not only in their own right but doubly so as they reinforce the sick person's perception that he is no longer in control" (12). Remaining sensitive to this perception can be an uphill battle for physicians, given the plethora of features which reinforce their decision-making power in medical care. Discussed by ethicists under the rubric of "paternalism," this area and issues of when to intervene with patients who resist treatment are receiving increasing attention (13). While no simple answers are available, knowledge of patients' psychological states and social situations is prerequisite to physicians' ability to respect the persons who are their patients. While physicians may never glimpse the worlds of work, family and leisure in which their patients live, they can put together an outline and fill in as many details as time allows.

Relationships with Peers

Ironically, many physicians have trouble accepting that disease can affect even the most resistant individuals, that is, other physicians. A few with serious illnesses have recently penned accounts of encounters with colleagues who evinced little sensitivity to their needs (14, 15). This kind of avoidance resembles the practice of denying other problematic behaviors such as incompetence or drug abuse. Bonds that form among health professionals are special and often crucial for basic emotional survival on the job; a colleague's impairment can signal not only the loss of a friend but also the demise of an ideal one had assumed was shared. "Blowing the whistle" on an associate is therefore a lonely burden. How much easier to fall back

WHAT IS AAMC?

The Association of American Medical Colleges provides a means of national expression on matters of concern to medical school deans, teaching hospital administrators, faculty and students in the areas of medical education, biomedical research and patient care. It maintains numerous data sources, works cooperatively with other organizations involved in medical education and has close liaison with the U.S. Congress and Federal agencies. AAMC represents all 126 U.S. medical schools plus 451 teaching hospitals and 76 academic societies.

WHAT IS OSR?

The Organization of Student Representatives, AAMC's student voice, is composed of one student from each medical school choosing to participate (121 in 1983–84). OSR members gather at an annual meeting each autumn when the Administrative Board is elected; this 11-member body meets quarterly with the Boards of the other Councils to formulate AAMC's programs and policies. OSR business is also conducted as regional spring meetings. OSR operates effectively to the extent that its members channel information from AAMC to their student bodies and vice-versa; therefore, contact the OSR representative at your school with your concerns about medical education.

county or state medical society; many do not charge dues for student membership, and all offer activities which can provide opportunities to garner very pragmatic information about changing practice patterns and interacting with legislators.

If an additional push is needed to motivate you to be proactive, consider the concept of healing as a partnership. If allowed to, the almighty dollar can infect this partnership. The stage is set in medical school, where you witness many examples of the notion that patient-physician relationships are somehow "soft" and not to be considered on the same level of importance with subjects that belong to "hard" science or that lend themselves to quantification. While you may have undertaken your professional preparation with a great deal of creative ideas, compassion and social concerns, if neglected these fade into a haze. Likewise, it will be easy to ignore the moral dimensions of economic questions which arise in the midst of a busy practice setting and the psychological and social dimensions of the medical problems presented by your patients. The recognition that you need help in remaining dedicated to your ideals will guide your choice of role models, curricular and extra-curricular experiences, and books. *Coping in Medical School* is a good example of the latter which offers exercises in active listening and taking charge of your own self-esteem and which can help you identify and overcome stumbling blocks in your personal and professional development (24). Another is *Medicine as a Human Experience*, which focuses on the nature of the bond between patient and physician and which includes tools for conducting patient-centered interviews and a schema highlighting patients' potential for growth during illness. Among the guideposts discussed in this book are forgiving yourself for your mistakes and accepting personal limitations (25).

Accepting limitations without losing energy and vision is the challenge presented by the changing economic realities of medical practice. Physicians are needed who will rise to the occasion, lower their income targets, pursue non-profit health care alternatives, and work toward a more equitable distribution of medical resources in this country, e.g., assuring that good outpatient medicine is available to low as well as high income earners. Physicians who mourn the loss of a certain amount of their autonomy, instead of being energized, may become dissatisfied with their careers; substandard patient care and impairment may follow. The stakes are high. To proceed with your education as if the world will be at your feet at the end of this long tunnel you are racing through is to invite a debilitating collision with reality. There are many opportunities within your reach to help you arrive well-prepared, confident, and with an appropriate set of expectations of yourself, your profession, and your patients.

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OSR REPORT

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ECONOMIC CHANGES AFFECTING MEDICAL PRACTICE: WHAT DO MEDICAL STUDENTS NEED TO KNOW?

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CHAIRPERSON'S PERSPECTIVES

Are you ready for yet another challenge in medical education? Try identifying these terms: DRG, IPA, HMO, Medicare Part A, Medicare Part B, PRO, TEFRA, GMENAC. Sound like mumbo-jumbo? Wrong. These abbreviations represent very real and powerful change agents shaping the character and future of American medicine. You might also be interested to know that each of these (plus some even more cryptic) were included in experimental questions on the most recent National Boards, Part II. They have also been heard with increasing frequency in the questions asked by OSR representatives in the past two years at our medical education meetings. In an effort to provide some basic introductory information on the new forces in medical economics, the OSR is pleased to offer this issue of *OSR Report*, prepared by our staff, Ms. Janet Bickel.

If you need additional reasons to read on, consider the following: While you may be learning virtually nothing about these economic forces in your medical school and while events are occurring so rapidly that no one knows how the financial environment will shake down, these events are likely to jeopardize the resources available for your clinical education. Looking further ahead, students and house officers need assistance in dealing with pitfalls, temptations and conflicts inevitable in this new environment; skills you might not have thought about before are being demanded of those now entering practice. Therefore, it is important that you give this your attention now. If you cannot, I hope you'll at least keep this report for future reading. You might notice, also, that most issues having to do with medical costs contain ethical dilemmas; freshmen may want to obtain a copy of last spring's *OSR Report*, titled "Ethical Responsibility and the Medical Student: Setting Personal and Professional Goals," by writing to the address shown on page three of this report.

My closing recommendation is to take seriously the information provided here but *don't panic*. Even if some career options seem limited, we perhaps have more choices before us than any previous generation of physicians, and guidance is available to help us choose the most satisfying routes. Best wishes to each of you.

Pamelyn Close, M.D.
OSR Chairperson

THE REASONS

While the federal government has been struggling to control health costs for nearly a decade, inflation in the medical field is still escalating. The national medical bill is expected to rise at least eight percent in 1984 and reach as high as $390 billion, which is almost 11% of the gross national product and translates into more than $1500 per U.S. resident. Medical students have understandably not led the way in exploring how to control health care costs. Paying tuition and the electric bill are more immediate financial problems; and physiology and neuroanatomy offer sufficient intellectual challenge. You haven't time to familiarize yourself with the requisite economics literature which includes regulations that challenge even long-time Washington observers. Moreover, given the pace of political maneuverings, by the time you are actively job hunting, there will be a whole new raft of abbreviations and legislative language to interpret. Besides, if information about cost containment and new practice modes were so important, it would be in the curriculum, right?

No matter how serviceable these defense mechanisms, given all the other demands on your time and attention, it's time to let go of them. To postpone your medical economics education any longer is to lose a

unique chance to learn from the ongoing collision of reversed incentives in medical care, i.e., doing *less* instead of more. Because there is some relatively painless fat being squeezed out of the system, some participants appear unaware of the dynamics of the collision. And, in fee-for-service settings, some payers still provide incentives to do more tests, so physicians are extending their love affair with "completeness." Many residents and attendings remain untutored in restraint and may expect you to follow their examples. But you need to look ahead. The knowledge, values, and attitudes you acquire during your education will substantially determine your behavior as a physician, i.e., what responsibilities you accept and how you use your power and the resources at hand. The summaries, forecasts and suggestions which follow are intended as a stimulus to begin building the tools you'll require to deal with the economic changes underway.

THE ISSUES

The variables working to produce the on-going revolution are complex and highly interconnected, and what follows is only one way of enumerating them. Examined separately or in combination, they are uncertain harbingers of certain change. But a glance backward is necessary before proceeding to consider these.

Few of today's medical students remember the days preceding the influx of federal money into the health care system and into medical education, and thus may take for granted its role in supporting these activities. The era of expansion in medical education began in the early 1960s with the development of health manpower legislation, which included capitation (per head) grants to medical schools, the National Health Service Corp and Health Professions Student Loans. The Social Security Amendments of 1965 created a hospital insurance program for the elderly (Medicare, Part A) and a voluntary insurance program to pay for physicians' services to the elderly (Part B). Expenditures under Medicare increased from $3 billion in its first year to $33 billion in 1982; physicians-in-training as well as the elderly benefited. Simultaneously, federally-funded biomedical research was producing astonishing advances in knowledge; Medicare's commitment to high quality care for the aged meant that, as new services and technologies became available, patients had access to them. Medicare reimbursed not only the minimum treatment required by a patient but whatever physicians deemed worthwhile, including the higher number of diagnostic tests ordered by residents as compared to more experienced physicians. Other third-party payers, i.e., Medicaid and Blue Cross, also paid hospitals either their costs or their charges.

This open-ended method of paying hospitals has succumbed to pressures for a more cost constrained system. The tide turned significantly in 1982, when Congress considerably boosted market forces with the Tax Equity and Fiscal Responsibility Act (TEFRA) (1). The issues washing ashore as a result are a good place to begin.

1) DRGs

While some of its budget-limiting features are retained, TEFRA's provisions have already been supplanted by the new *prospective*, fixed payment system based on 467 Diagnosis Related Groups (DRGs). Instead of paying hospitals their costs for services under Medicare, by 1987, when the DRG system is to be 100% phased in, hospitals will be paid a predetermined amount based on the DRG within which each patient was admitted and treated (see table at right).

The implementation of this system is rife with ramifications for hospitals. Teaching hospitals in particular are worried about reimbursement inequities and about the quality of care received by predictable segments of the population. The DRG system does reflect varying wage levels in urban and rural areas and the expenses of "outliers," i.e., patients whose stays exceed the mean length of stay for their DRG or whose costs substantially exceed the DRG payment rate. And direct education costs such as residents' salaries are paid. However, indirect costs of teaching are dealt with through a formula using as a proxy the number of house officers per bed. One problem here is that the formula provides no recognition of the costs of free care in teaching hospitals. Even more fundamental are the following problems: within DRG categories there are wide variations in lengths of stay and costs per patient among hospitals; with regard to severity of illness, classifications were established using incomplete data that did not allow patients to be categorized by both primary and specific secondary diagnoses; many DRGs do not adequately differentiate between patients in various stages of illness at the time of admission. Because of these and other shortcomings, hospitals treating more severely ill patients within DRG categories are certain to find the payments below their costs.

2) Other Medicare-Related Variables

The hospital industry is additionally upset by the new Peer Review Organizations (PROs), which are committees set up in each state by the federal government to monitor hospital usage under Medicare and which may discourage hospital admissions and surgery. PROs resemble the Professional Standards Review Organizations created in 1972, but the 1980s version has the added teeth of numerical targets. The American Hospital Association claims that the published numerical targets are "quotas" and a first step toward possible rationing of health care (2); whereas public officials argue that PROs are an effective way to reduce unnecessary procedures. In its search for ways to reduce domestic spending, Congress has also agreed to an increase in the premiums paid by Medicare recipients toward the costs of hospitalization and a 15-month

Ten Most Frequently Occurring DRGs as of February, 1984

DRG		DRG Weight*
#127	Heart Failure and Shock	1.0408
#039	Lens Procedure	.5010
#182	Esophagitis, Gastroenteritis, Miscellaneous Digestive Disorders	.6185
#014	Specific Cerebrovascular Disorders	1.3527
#089	Simple Pneumonia and Pleurisy	1.1029
#140	Angina Pectoris	.7548
#088	Chronic Obstructive Pulmonary Disease	1.0412
#138	Cardiac Arrhythmia	.9297
#243	Medical Back Problems	.7551
#096	Bronchitis and Asthma	.7996

*Payment to hospital is calculated using a complex formula that involves multiplying these weights times a blend of the average cost per case for the hospital, the hospital's geographic region, and the nation. The payment received by the hospital is approximately the weight times $2,200. This calculation does not include the so-called "indirect medical education adjustment."

Source: Background Paper on Prospective Payment, Health Care Financing Administration, 1984.

alternative to test-ordering, are also essential. Such communications skills are grounded in an understanding of one's own values and in the ability to tolerate uncertainty and to recognize the individuality of others. Additional undeniable assets are: 1) a firm sense of professional and personal ethical responsibilities; 2) a willingness to work on an outreach basis with self-help and consumer groups and to share control with other health care providers; and 3) reliance on a computerized personal information system as a patient management and continuing education tool.

Between the reality and the dream lie many steps, much seeking, and no shortcuts. What you should expect of yourself during medical school is acquiring basic biomedical knowledge and clinical skills, including self-education skills, and also growing personally in directions you know are healthy. This is a tall order which will lead you outside your academic medical center, not only recreationally, but also to work with physicians who exemplify the above traits and to spend time in "alternative" health care settings, such as HMOs. A recent study shows that 26 medical schools have formal educational arrangements with HMOs and that 35 others are either planning or seriously considering such arrangements (21); thus, at more than half of the schools, this important exposure cannot be counted on. The background you could use in a number of areas may not be readily apparent in the curriculum; you have to dig for it or help to create more educational resources. Among the most promising subjects to pursue are health care economics, environmental health, information management, preventive medicine, epidemiology, and quantitative clinical decision-making, which involves the use of probabilities in individualizing test-ordering and in assisting patients to face the outcomes of decisions. But a paucity of qualified instructors in these areas and already dense-packed curricula are serious roadblocks.

Those who recognize the need to orient their education to the practice environment will find ways to prepare. One example is taking an extra year and enrolling in a Masters of Public Health program. Some students will make intensive and imaginative academic use of the last year of medical school. The most motivated will work with faculty and deans to introduce more opportunities into the educational program along the lines suggested above. For instance, first-year students at Rush Medical College spend time in a community health project, allowing them to see in operation a variety of community resources in such areas as nutrition, occupational health and preventive practices; focusing more on the financing of health care, "family study group" experiences are also offered to examine the interrelations among illness, family structure and community resources (22). To assist students in learning the complexities of various health insurance plans, faculty in the department of family medicine at Brown University created "Coverage," a simulation game in which dice determine the assignment of health insurance policies and health care events (23). While fundamental difficulties remain vis-a-vis incorporating cost containment and related issues into the curriculum, relatively simple additions can make a big difference. For instance, requiring discharge planning as part of the internal medicine clerkship can put students in touch with many ancillary care realities; and adding a social medicine component to the introduction to clinical medicine can broaden students' perspectives at a crucial juncture. There are many such good ideas and pockets of exploration across the country which hold promise for improving future physicians' ability to adapt to the demands of the practice environment.

I arrived in medical school sure that decent medical care was a basic right in America, that anyone could walk into an emergency room and get treated, and that the ones most in need would be treated first. Wasn't that what triage was all about? I didn't discover that part of triage is the "wallet x-ray" until one night in the emergency room during my general surgery rotation. In half an hour, three patients with fractures came through the door. There was no orthopedic resident, and the general surgery resident was busy with lacerations. I phoned the orthopedic surgeon on call and described the patients and their x-rays. When I was through, the first question he asked me was what form of insurance the three carried. I had no idea; I didn't even know where to look on their charts. "It's in the upper right-hand corner," he told me, "there will be a number: 01, 02, 03..." There it was, "01," on each of the charts. "Okay," he said, "these are all Medicaid patients, there's no point in my coming in." He proceeded to tell me how each fracture should be splinted and said goodbye.

I learned more about the dual standard of care during ward services on obstetrics and surgery. "Why were forceps used on that last case?" the chief of obstetrics demanded of the intern on my first morning. A second year resident answered: "The reason was primarily resident education, Sir. She could have pushed it out on her own, but this way the intern got experience using the forceps." I found also that ward patients were rarely seen by an attending. Why? Because they were poor.

My time at V.A. hospitals taught me the extent to which private hospitals will go to ensure against "bad bills." A classmate worked up a patient who'd arrived at the V.A. from a hospital two hours away. "They sent him that distance on a respirator!" Another student, doing her psychiatry rotation at the V.A., counseled a patient who was clearly suicidal. Several hours earlier the patient had entered a community hospital. "When they discovered he was a veteran," my friend said, "they simply dismissed him with directions to the V.A. What if he had killed himself before getting there?" she asked. "Who would be to blame for his death?"

For students fresh from the classroom, the multiple examples of waste in the hospitals are also extremely frustrating. We see patients subjected to numerous tests and procedures of marginal value. The necessity to reduce this waste is clear, but, with DRGs, will administrators understand that some people have to stay in the hospital more days and need more tests than those allotted?

Perhaps the hardest part of being students is overcoming the feeling that we are powerless to combat the kinds of problems I've raised. But we can do something, and several possibilities are mentioned in the "Into Action" section. Moreover, we can act as watchdogs, monitoring as best we can the effects of economic policies on medical care. We owe it to ourselves to remain actively concerned and to hold on to at least some of the idealism we had when we chose medicine as a career.

Miriam Shuchman '85
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In a more extra-curricular vein, students can seek out hospital administrators at nearby hospitals and faculty at adjacent universities with expertise in health economics and related fields to give noontime or evening seminars. When such gatherings spark a lot of interest, medical school electives are sometimes born. Another idea is participation in the local

on the wards may not notice such constraints at first but cannot long remain naive. Consideration beforehand of limitations to expect is good preventive medicine (see sidebars on pages five and seven).

THE RESPONSIBILITIES

Some faculty members apparently believe that, during the general professional phase of medical education, students should devote all their energies to acquiring fundamental biomedical knowledge and skills. This perspective implies that economic, social, and political developments affecting the practice of medicine are peripheral and that nothing is lost if education in these areas is postponed, i.e., neglected. The limited number of medical school faculty committed to the concept of cost containment is both a byproduct and a perpetuator of this point of view (17).

How you interpret your responsibilities as a student today is highly related to what you envision will be your responsibilities as a practitioner. It is therefore worthwhile to consider parameters of the latter before looking at activities which you can begin undertaking immediately on your own behalf. Probably foremost is the need to learn diagnostic restraint (18). Physicians tend to define their work as limitless, especially with technical advances providing information with unprecedented accuracy and ease. However, physicians can no longer equate the ability to know with the need to know. This adjustment will be no less difficult for physicians-in-training than for seasoned practitioners. Even though their habits are far more firmly entrenched than yours, they have the advantages of greater clinical exposure and of experience in using all their senses to assess patients. Striving to increase your fund of knowledge, insecure because of a lack of expertise, and pressured by your resident to order more rather than fewer tests, you may find it difficult to begin good habits of restraint.

To prudent practitioners, cost control and quality assurance have always gone hand-in-hand; the former translates into *efficient* use of medical resources and the latter into a high degree of *effectiveness* in providing care. Now, more cautious use of tests and procedures, increased reliance on information systems and probabilities, and greater emphasis on establishing rapport with patients are necessary for all physicians and have the potential to improve the care they render. But the challenge is more complex than the commitment of individual physicians to their patients. There are concerns that the ascendance of costs in the health care arena signals a reciprocal depreciation of medical judgment (19). Physicians must make sure that, after a century of efforts to pull medical decision-making onto a scientific base, an economic base is not substituted.

Resource allocation questions have a strong ethical cast. In confronting prospective reimbursement methods and new forms of negotiated fees, institutions must grapple with extremely thorny choices. Which values are to be retained and emphasized and which compromised in negotiating with third parties? How much "quality" and patient freedom of choice can be afforded? What are the proper kinds of pressure to be placed on physicians who expend more than the average for a given type of patient? Facing a burgeoning tangle of incentives to modify their behavior, individual physicians are struggling with the ethics of withholding resources from some patients to allow for expensive unreimbursed treatment of others and of choosing procedures and diagnostic categories to maximize reimbursement to their institutions. As has been discussed, such conflicts between medical ethics and money-related goals are exacerbated when physicians have personal financial interests in medical institutions and products. The absence of financial stakes does little enough to simplify questions that focus on the relationship of cost to health benefits. Given the enormity of the resources involved, "big ticket" items such as kidney dialysis, transplants, and artificial hearts will be decided by society; socially responsible physicians are needed to guide these discussions. Physicians should also encourage hospitals to ensure that adequate procedures for decision-making are available for all patients, including guidelines for decision-making on behalf of patients unable to do so on their own. But hard decisions will remain, and each physician will question at times whether it is possible to protect the interests of his or her patients and of society as well.

There are steps that the medical profession can take together with the public in confronting cost containment realities. The most obvious suggestion is to introduce more preventive medicine into clinical practice; controllable environmental factors play a large part in the cause and promotion of many diseases. Rather than stand aloof, physicians can take the lead in promoting effective programs, for instance, in smoking-cessation, weight-reduction, and treatment of alcoholism. What a paradox it is that keeping people healthy and out of hospitals is probably the best way to minimize health care costs, but that medical students learn little about prevention. One of the reasons for this lack of emphasis among practitioners and educators is that third parties reimburse procedural services at a much higher rate than the more cognitive services of counselling. Some physicians have compensated by ordering tests of marginal utility in order to finance unreimbursed time spent talking to patients. A more far-sighted approach is to be vocal in working toward greater equitability in reimbursement practices. Such social responsibilities cannot with impunity be avoided. Similarly, physicians-in-practice and in-training must let the government know about their priorities regarding funding of health and social programs and about the impact of government spending cuts on the nation's poor. A recent article in the *New England Journal of Medicine* examined the health of medically indigent adults whose insurance coverage was terminated; six months after termination of benefits, there was evidence of significant deterioration in access to care, satisfaction with care and health status (20).

Becoming a patient advocate in the public as well as the private sphere may at first seem an uncomfortable and unrealistic goal. Opting for less security and less money rather than working for a corporation, for instance, may also seem too difficult a career choice, especially if educational debts are pressing. But the deepest levels of professional rewards seem to accrue from a job well done, with abilities closely matched to the challenge. The need for care in defining and selecting challenges cannot, therefore, be over-emphasized.

Into Action

In order to be part of the "solution" instead of part of the cost containment problem, you might do well to formulate a vision of the effective physician of the 1990s and beyond. While there will always be great variability in their decision-making styles, consumers will be more assertive and cost-conscious and ask more questions than patients of previous eras. Therefore, in addition to fundamental physical diagnosis skills, physicians will need to be good at eliciting expectations from patients so that treatments can be negotiated and patients can be educated to accept necessary limitations. Being a sensitive listener and historian and being able to reassure, as an

freeze on fees paid to doctors under Medicare. Mandatory assignment would take these provisions a giant step further: this proposal, under serious Congressional scrutiny, would require physicians to refrain from charging Medicaid patients the difference between the allowed payment and their customary fee.

3) State Cutbacks

A number of states have moved more swiftly than the federal government toward prospective payment of medical costs. Maryland and New Jersey were the first to regulate all payers—Medicare, Medicaid, Blue Cross, commercial insurors and self-paying patients. More recently, Massachusetts and New York enacted legislation extending their prospective schemes to all payers. California has opted to stimulate battles among providers; under a "preferred provider" contracting system, only those hospitals and physicians who offer a favorable price are being paid to provide care to Medi-Cal (California's version of Medicaid) patients. Hard-fought political battles are occurring with such shifts; and hospital finance personnel are becoming experts at juggling Medicare limits, preferred provider contracts and various discounting schemes created by private insurers (see #6).

4) Abundance of Physicians

Between 1965 and 1980, federal and state aid succeeded in increasing the number of U.S. medical schools from 88 to 126 and raising the number of graduates from 7,409 to 15,135 (3). The number of doctors in active practice in the U.S. increased from 377,000 in 1975 to 450,000 in 1980 and is projected to rise to nearly 600,000 by the end of this decade. This expansion coincides with a slowdown in population growth. In many European countries today, substantial numbers of physicians cannot find employment (4). The most comprehensive study of physician requirements in this country was conducted by GMENAC, the Graduate Medical Education National Advisory Committee. While weaknesses can be cited in the GMENAC model, especially regarding future consumer preferences and changes in medical science and in third-party reimbursement practices, it predicts that by 1990 there will be 70,000 more physicians than are needed (5).

In many areas of the country, the growing abundance of licensed practitioners is tipping the balance of power to the organizations delivering the bulk of medical services. Thus, hospitals are moving into a buyer's market in their contracting and other arrangements for medical services; and hospital boards are setting conditions for renewing staff appointments, such as requiring that appointees admit exclusively to that hospital and not become involved in competing "free-standing" centers (see #5). Better than debating the existence or non-existence of a surplus is accepting that increasingly the gains of one physician or group of physicians will come at the expense of other physicians or providers. In his much praised book, *The Social Transformation of American Medicine*, Paul Starr summarizes the situation as follows:

> In the language of game theory, medical services in the 1980s will become more of a zero-sum game. New physicians may no longer be able to introduce an additional layer of specialized services into a community on top of what other practitioners offer. . . . One-third of the physicians practicing in 1990 will have finished their training in the eighties. Losses of income may fall most heavily on this huge baby-boom generation in the medical profession. Young doctors, the least attached to current practices, will be under the greatest pressure to break with them (6).

5) Free-standing Centers

A variety of free-standing, out-of-hospital operations is cropping up. Surgi-centers are the result of scientific developments in anesthetics, the desire of insurers to cut costs, and the availability of surgeons. Some primary care centers provide a combination of family medicine, general internal medicine and pediatrics on a scheduled basis and are more likely to be associated with hospitals than are the emergi- or urgent-care-centers. These proliferating initiatives are just taking off and are thus too young to judge, but may compete very well against some hospital services because their lower overhead can mean lower prices. In fact large corporations, not always headed by physicians, are beginning to develop these as businesses, e.g., Humana's MedFirst operations (7).

6) Group Purchasers

Another major force to contain medical costs which is also fueling competition among providers is a newly vocal consumer—the group purchasers of health services. Under this heading are such diverse entities as health benefits managers of self-insured corporations, business and industry coalitions, and the traditional group purchasers, e.g., health maintenance organizations (HMOs). Since the cost of health care influences the margin between profit and loss to many businesses, their associations are powerful lobbies in state capitols. Such buyers of medical and hospital services are no longer fiscal conduits, but are assuming more control through direct negotiations with providers over what is included in the definition of "medical necessity" and are steering employees to those providers who, in their opinion, operate most efficiently. However, employers coming to grips with their responsibility for managing health benefit expenditures are still "at the high end of the learning curve" in dealing with health care providers and insurance companies. In restructuring benefits and selecting providers, the focal points of discussions appear to be utilization review programs, outpatient surgery, and guaranteeing patient volumes (8).

7) The Corporate Model

Those hospitals that will survive the payment revolution are engaged in corporate strategic planning, characterized by centralization and diversification. Community responsibilities were the hallmark values of the past. Today's values center around management techniques which are viewed as assets to be protected rather than shared. Computerized accounting systems monitor which departments and services are the money-makers and which will need to be phased out. Also new are multi-institutional arrangements with various kinds of contracts and leases whereby hospitals sponsor and manage such services as home care programs, long-term care facilities, satellite sports-medicine clinics—whatever appears to keep money and patients coming in. Nontraditional specialty services, for instance, treating sleep or eating disorders, are also more common now. This movement is referred to as "vertical integration" and represents a shift from single-level-of-care organizations, such as acute-care hospitals, to organizations embracing

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many phases and levels of care. Independent hospitals are increasingly looking to some form of corporate headquarters for guidance and large scale identity. In general, hospitals are developing formalized structural arrangements which reduce distinctions between hospitals and associations. All this adds up to what Starr describes as a crucial transformation: "Corporations have begun to integrate a hitherto decentralized hospital system, enter a variety of other health care businesses, and consolidate ownership and control in what may eventually become an industry dominated by huge health care conglomerates" (6). He further observes that many physicians are disturbed by this transformation not so much out of dedication to the public interest but because it means a letting go of their traditionally self-governing, self-directing approach to the practice of medicine.

8) The Medical-Industrial Complex

A variant of the corporate organization of hospitals is an increased penetration of profit-making firms, i.e., what Arnold Relman describes as the "medical-industrial complex" (9). These are large investor-owned corporations that own or manage hospitals, nursing homes, clinics and emergency rooms, HMOs, diagnostic laboratories, dialysis centers and a large variety of services and facilities which were formerly provided by voluntary or government institutions. Such businesses now account for about 15–20 percent of the health care delivery system, with a gross income of more than $40 billion per year (not including the pharmaceutical industry and the manufacturers of laboratory and hospital supplies and equipment). Five giant hospital corporations, e.g., Humana, control two-thirds of the investor-owned hospitals and market their services the way any profit-making company would be expected to. That physicians are wooed as customers is not the primary concern. The problem is that doctors are also *investing* in these companies and in many cases taking an active entrepreneurial role. When physicians have financial interests in businesses that make profits from treating patients, the role of the physician as a trustee of the patient is called into question. In a sense, this role has always been equivocal in private-practice arrangements, which by definition include profit-making incentives, with the profits representing the doctor's livelihood. But these new investment opportunities advance into a different sphere the conflict-of-interest potential. Relman queries: "How can the public be expected to have confidence in the profession, and how can the profession retain its own image of dedication to the public interest, when physicians become entrepreneurs in this way?" (10).

THE IMPLICATIONS

The above is but a sketch of the revolution in health care economics which needs to be filled in by additional reading, listening and question-asking. As a further guide, a few implications of recent developments are explored below. The variables intertwine, but distinct pictures are emerging for patients, practitioners, hospitals in general, and academic medical centers.

Patients

Persons in search of medical assistance are beginning to consider themselves "customers." Since many now have fewer health benefits from the government or from their private insurance, shopping around for the best deal is becoming more common. Futuristic marketing techniques are therefore surfacing: in Kansas City, doctors have opened modernistic offices in posh shopping malls and given patients free beepers to alert them when the doctor is ready; in Portland waiting rooms, patients can play video games; in New Orleans, one aggressive clinic has organized jogging clinics and passes out free T-shirts (11). At the same time, high financial risk patients are finding it increasingly difficult to obtain services, as hospitals which have traditionally admitted such persons limit their financial liability in order to stay in business. Even well-insured patients are noticing a decrease in the length of stay in hospitals. On the average, hospitalized patients are sicker than before the days of prospective reimbursement, their workups are streamlined and they are discharged sooner. Pondering this development, Mitchell Rabkin came up with "SAG (sense of anxiety versus gratification) Index": "Gone from the hospital scene are the patients whose problems would have generated the least anxiety on the part of both physician and patient—the patients who are the least ill. And shortening the length of stay for those who are admitted lops off the last day or two of hospitalization. (These are) not the days of anxiety but the days of gratification!" (12).

Practitioners

That the proportion of doctors in group practices is now about 25 percent (13) is but one example of the diminishing autonomy of physicians. Many observers of the present direction of health care believe that fee-for-service, solo and small group practice physicians (as well as conventional hospitals) are highly vulnerable financially and will become more so as the pace of change accelerates (14). Not surprisingly, then, new arrangements are evolving, such as Independent Practice Associations (IPAs); in an IPA physicians work in their own offices but also contract with an HMO to care for assigned patients on an annual payment basis. Another development worth noting here is that, just as organizations are now information-system-centered, solo practice will become PC (Personal Computer)-oriented. Electronic information bases facilitate record keeping, networking and reporting; allow the practitioner to aggregate personal practice data; and link him or her to the hospital, emergicenter, etc. Such information bases thus promise to allow more efficient use of medical resources and greater interdependency of providers.

Physicians who opt to work for an organization face new questions about when to stand up for patients and when to turn over authority for resource usage to the organization's head, who may not be a physician. As noted above, if the doctor has a financial interest in the organization which pays his or her salary, there is enormous potential for a conflict of interest to arise. Even in the absence of a capital investment, physicians need to be double agents, simultaneously looking out for the economic health of the organization and for the general health of patients. "The Unfortunate Case of Dr. Z" describes a physician who liked to spend a lot of time counseling patients; he lost his hospital privileges because he refused to fit into his hospital's marketing plan, coming up a "fiscal loser" every time. Despite thinking-adjustment sessions, including computer coding, advertising and market analysis, Dr. Z was unable to surrender the belief that medicine is an ethical rather than a commercial enterprise. The author concludes, "that is too bad (but) there are plenty coming along who will," and then, tongue-out-of-cheek, asks whether quality of care and the commitment of physicians to their patients will diminish as more efficiency is introduced (15).

Hospitals

One immediate effect of the phase-in of DRGs is a decline in hospital occupancy and in length of stay; and, for the first time in decades, during the first quarter of 1984, the number of full-time hospital employees fell. New patterns in hospital and physician relations are also visible as the need for effective cost control both draws them together in joint ventures and forces the two apart. Doctors who form group practices and capture ancillary profits and who work for free-standing centers may reduce demand for hospital services. At the same time, hospitals are developing satellite clinics and other outpatient facilities to assure themselves a steady flow of referrals. In negotiations with physicians, hospitals may find themselves in the stronger bargaining position because of the growing supply of providers. With restrictions on hospital expansion, doctors are already competing with each other for access to hospital beds. Physicians who align themselves with a specific hospital may push to close the medical staff to newcomers; however, the interest of the hospital will be to expand its staff to keep as many beds filled as possible. The backdrop for all such discussions will be each hospital's accounting and information system, monitoring the resource usage of all of its physicians and the cost-effectiveness of each service.

Academic Medical Centers

Predictions are widespread that, after the DRG program is fully implemented, hundreds of hospitals may close their doors. Those familiar with health care financing, moreover, understand that recent changes disproportionately stress teaching hospitals because of their higher than average costs which are also not as controllable as costs in non-teaching settings. Their social and educational responsibilities require that they maintain services around the clock even if there is low utilization during certain times. But, as has been noted, payers are increasingly unwilling to cross-subsidize educational programs out of patient revenues or to underwrite the traditional charitable obligations of teaching hospitals. In fact, the Social Security Advisory Council has recommended that Medicare should stop paying for educational costs altogether. The Office of the Inspector General has also proposed significant cutbacks in educational payments. Another threat to academic programs are the multi-specialty group practices noted above, which are eating into inpatient and referral volumes.

Clinical faculty are accustomed to viewing their patient care activities in the context of the types and numbers of patients needed to provide a balanced education program and the spectrum necessary to meet clinical research needs. They have been trained and continue to educate their students to be imaginative about diagnostic possibilities and creative in seeking a range of treatment options; they ask "why not?" with greater ease than "why?" Most faculty lack exposure to the broader health care system and are equipped neither to participate effectively in institutional and societal decision-making nor to streamline their teaching programs and teach cost consciousness.

Thus faculty as well as teaching hospital administrators face major challenges in maintaining the quality of their programs in the new prospective payment era. Department chairpersons might do well to develop educational materials for faculty about the changes underway to assist them in negotiating resources for their programs. Such skills will assume added importance if efforts to curtail or alter the specialty distribution of graduate medical education programs are aggressive (4).

The most obvious ramification of the financing revolution for medical students is that there will be fewer "teaching" patients and less faculty motivation for around-the-bed teaching sessions than has recently been the case (16). Without basis for comparison and overwhelmed by the bustle, new students

The barriers presented by medical costs and by resource limitations are seldom mentioned during the first two years of medical school. But my recent direct participation in the health care system has animated for me how common these barriers are and how the government-backed payment systems work and fail to work. For instance, while working in the pediatric clinic at the county hospital, I met Amy. The chief complaint of this thin, quiet, blond, eight-year-old was long-standing bilateral hearing loss. She had had multiple ear infections as a young child and was left with severe scarring of her tympanic membranes and ossicles. So often health care providers are faced with diseases or disabilities that have no known cure, and it was with enthusiasm that I faced a relatively simple and treatable problem such as Amy's. Unfortunately, I was unable to arrange the necessary surgery for Amy because she was not a resident of California and therefore could not be covered by Medicaid. Amy and her unemployed mother had lived in seven states over the past two years. Her mother's main concerns revolved around housing and feeding the family; she had little time to think about Amy's not being able to hear the teacher at school or about her social isolation. Consultations with the hospital administrator and the ear surgeons in a search for possible loopholes produced no solutions. Until Amy's mother, whom I was unable to contact, was willing to remain in one state and begin the application for Medicaid, the child's hearing could not be restored.

The state-based organization of the Medicaid program and the variability of coverage from state to state poses problems for patients such as Amy. Another confounding and seemingly insurmountable factor in Amy's case was that the patient was dependent on a guardian who was not present in the state or reachable by phone.

A different set of difficulties confronts the needy elderly. While federally administered, Medicare has many limitations and was not designed to assist patients with chronic noncatastrophic diseases, such as arthritis or hypertension. Many on fixed incomes are thus now paying a greater percentage of their income annual to meet their health care needs. I have assisted in the care of proud senior citizens who, for no other reason than to maintain economic solvency, have foregone receiving "superfluous" health care commodities such as eye glasses, hearing aids, and dental care.

I raise these issues to illustrate how we as care providers are the first to observe the limits in the coverage of social programs just as we will increasingly witness the effects of cost containment measures in the health arena. We need to assume a dual role. First, it is essential to know what our patients' insurance plans cover and what their out-of-pocket costs will be. Simple measures such as educating ourselves about generic medicines, rather than reflexively prescribing the most widely advertised drugs, can save our patients and the health care system thousands of dollars. Second, for our patients' sake as well as our own, we must keep abreast of the policy and economic modifications in the Medicare and Medicaid programs and inform our legislators about the limitations imposed on health care delivery by government efforts to narrow the groups of people covered by these programs and the scope of treatments that are reimbursable.

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University of Tennessee is AIMS (Aid for the Impaired Medical Student) which relies on students' looking out for each other and assures confidentiality of intervention and treatment. Another kind of pro-active approach is being tried at the University of Louisville, i.e., a four-day Health Awareness Workshop preceding the beginning of classes; Stanford offers an elective with similar content, e.g., exercise, relaxation, time management, nutrition.

6. An earlier phase of this AAMC project produced a very useful overview titled "The Evaluation of Clerks: Perceptions of Clinical Faculty" (available from Dr. Xenia Tonesk at AAMC (202/828-0561).
7. C. Rollins Hanlon, "Directors' Memo", *ACS Bulletin,* December 1984.

A ROLE FOR MEDICAL STUDENTS IN THE ANIMAL RESEARCH DEBATE

Helen Jones is president of the Society for Animal Rights, a 20,000 member "abolitionist" organization which totally opposes experimentation on all animals for any reason.

Sam Shuster is a physician/scientist who relies on animals in his own research. "The debate on animal research is phoney. The public has been conditioned to respond to animal research without being aware of either its factual basis or its consequences," writes Shuster. "What gargantuan ignorance!"[1]

Ms. Jones and Dr. Shuster are but two of the many participants in this on-going debate. Few topics are able to elicit such moral vehemence and passion. Accusations fly back and forth; laboratories have been vandalized; and lobbying efforts on both sides of the issue are fierce. Yet, despite the emotions and egos surrounding animal experimentation, it is wrong for *either* side to underestimate the sincerity and thoughtfulness underlying much of the noise and rhetoric. It is wrong for Ms. Jones to suppose that all researchers are unconcerned about the effects of their work on their animal subjects. It is equally wrong for Dr. Shuster to assume that all animal activists are ignorant. Many simply advocate stricter standards for the humane care of laboratory animals. Only through a mutual respect of each other's commitment can the channels of communication be opened and issues surrounding animal experimentation resolved.

What is your role in this issue? Should you even be concerned? As a medical student, you are aware that virtually every advance in medical science has been based upon knowledge gained through experiments involving animals. The medications you will prescribe, the vaccines you administer, and the surgeries you perform all required initial experimentation on animals. By the very nature of your training, you have become a participant in the animal research debate. As such you should be:

Informed: Start looking at both the popular and scholarly literature. You may be surprised to find to what degree the critics of animal research dominate the literature. However, the New York Academy of Sciences devoted an entire volume (#406, 1983) to the role of animals in biomedical research, providing an excellent discussion of current perspectives and the future directions in this field. Also, the National Association for Biomedical Research (1275 K Street, N.W., Suite 900, Washington, D.C. 20005; 202-371-6606) publishes a weekly update describing in detail events surrounding the animal experimentation debate.

Concerned: Animal welfare and animal rights groups are claiming growing momentum behind their efforts to impose stricter controls on—or even eliminate—the use of animals in research. Over 400 animal rights organizations are currently active in the United States. Representatives of these groups have already scored some legislative victories at the state level, and support for federal legislation is increasing. In Nevada, new legislation has been drafted by the Las Vegas Humane Society which would make it "...unlawful for any person to sell, exchange, give away or possess a live animal to be used in scientific research"[2].

Involved: Misconceptions about the practice of animal experimentation can only be dispelled by actively educating those who have expressed concerns. Since letters to legislators from animal activists far outnumber those written by the scientific community, there is a big role here for medical students to play. Perhaps even more important is medical student involvement in informing the public about how and why animals are used. **Please read the accompanying brochure** published by the Association of Professors of Medicine, and share it with friends and family both within and outside of the medical community.

The debate on animal research is not "phoney". It is very real and important. Try to imagine where we would be now without the benefits provided by animal research. Imagine where we might be in the future if animal activists have their way. As a medical student, you should feel compelled to become informed, concerned and involved. To do otherwise could severely retard the growth of medical knowledge.

Roger Ian Hardy (U. of Cincinnati)
OSR Representative-at-large

NOTES

1. Shuster, S., "In Ignorance Arrayed", *Br. Med. J.,* 1:1541-42, 1978.
2. *Update,* Vol. VI, No. 1, Washington, D.C.: National Association for Biomedical Research, 1985.

LOOKING FOR AN EXCITING SUMMER EXPERIENCE?

The American Medical Student Association Foundation is placing more than 50 medical students in community and migrant health centers for a summer experience assisting the centers in health promotion and disease prevention. The project is funded by the Bureau of Health Care Delivery and Assistance, DHHS. Application deadline is March 20, 1985. For an application and additional information contact: HPDP Project, AMSA, 1910 Association Dr., Reston, VA 22091 (703/620-6600).

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THE GPEP REPORT: PHYSICIANS FOR THE 21ST CENTURY

also

A Role for Medical Students in the Animal Research Debate

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CHAIRPERSON'S PERSPECTIVES

Last fall, the Association of American Medical Colleges (AAMC) published the final report of a comprehensive study of the General Professional Education of the Physician (GPEP). The specific objectives of the 3-year project were: 1) to assess current approaches in medical and pre-medical education in the U.S. and to develop recommendations to improve the instructional programs; and 2) to stimulate broad discussions about the philosophies and approaches of medical educators. Twenty-seven recommendations summarize the consensus of the project panel and its working groups. In developing its report, the project panel considered testimonies submitted by 84 U.S. and Canadian medical schools, 21 professorial organizations, and many other concerned groups that participated in a series of open hearings.

AAMC president, John A. D. Cooper, M.D., Ph.D., pointed out in the afterword to the report that many of the panel's recommendations were originally put forward by a similar committee over 50 years ago. This is indeed the case regarding recommendations to consider major reductions in lecture hours, to avoid requiring students to be passive recipients of information, and to encourage the development of analytical skills over the ability to recall memorized information.

Although all participants in medical education will not find every one of the GPEP recommendations directly applicable to their individual experience, it is undeniable that the panel of experts was able to address effectively many important features of medical education. As I look back to my experience as a medical student, I have no difficulty in identifying many areas in which the project's recommendations have great relevance.

The obvious questions that come to mind after reading the GPEP report are: what will become of the recommendations and will they have to be reiterated by some committee 50 years from now? Unfortunately, it is all too easy to concentrate on achieving success in medical school without pausing to consider the broader issues. Every one of us is tempted to avoid thinking about the meaning of the process to which we have submitted ourselves; but we know and we must never forget that there is something more to medical school than graduating and matching in a competitive residency program. At stake is our ability to contribute to the profession to which we have dedicated our best efforts, to prepare ourselves to take care of patients in an effective and humane way, and to continue learning as we face situations of higher complexity and responsibility. In short, at stake is our ability to make a difference.

Today, the opportunity for positive change may be broader than ever before. The process initiated by GPEP and by other efforts, the emergence of cost/benefit as a force in health care, and the advent of information technology are all factors pointing to a reassessment of the current approaches and practices in the health field in general and in medical education in particular. As physicians-in-training, we are engaged in a process that ideally takes us through stages of information, knowledge and wisdom. We owe it to ourselves and our patients to go beyond the information stage, which seems to capture the better part of our efforts in today's medical education. I hope the following article may contribute to your ability to make a difference.

Ricardo L. Sanchez (Brown '85)
Chairperson
Organization of Student Representatives

WHAT NEEDS CHANGING?

The AAMC's decision to mount the GPEP study originated in the perception that the general education of physicians is inadequate (and will become more so) in preparing them to respond to this country's health needs. Contributing to the deficit are numerous pressures outside the control of most medical educators: 1) rapid advances in biomedical knowledge and technology which are increasingly complex and powerful; 2) patients' growing demand for advice about how to stay healthy and how to use specialized medical services; and 3) the heavy influence which agencies paying for medical services, e.g., Medicare, exert on the practice and education environments.

The GPEP report offers a series of conclusions about improvements needed in the present system. Its recommendations are summarized below:

A) Purposes of a General Professional Education

1. **Faculties should emphasize the development of skills, values, and attitudes by students and limit the amount of information that students are expected to memorize.**
2. **The level of knowledge and skills that students must attain to enter graduate medical education should be described more clearly.**
3. **The education of students must be adapted to changing demographics and the modifications occurring in the health care system.**
4. **Students' education should include an emphasis on the physician's responsibility to work with individual patients and communities to promote health and prevent disease.**

B) Baccalaureate Education

1. **The baccalaureate education of every student should encompass broad study in the natural and the social sciences and in the humanities.**
2. **Whenever possible, the courses required for admission should be part of the core courses that all college students take, and medical school admissions committees' practice of recommending additional courses beyond those required for admission should cease.**
3. **The pursuit of scholarly endeavor and the development of effective writing skills should be integral features of baccalaureate education.**
4. **Medical school admissions committees should use criteria that appraise students' abilities to learn independently, to acquire analytical skills, to develop the values essential for members of a caring profession, and to contribute to society and should use the Medical College Admission Test only to identify students who qualify for consideration for admission.**
5. **Communication between medical school and college faculties about selection criteria should be improved.**

C) Acquiring Learning Skills

1. **Medical faculties should adopt evaluation methods to identify: (a) those students who have the ability to learn independently and provide opportunities for their further development of this skill; and (b) those students who lack the intrinsic self-confidence to thrive in an environment requiring independent learning and challenge them to develop this ability.**
2. **Attainable educational objectives should be set and students provided with sufficient unscheduled time to pursue those objectives.**
3. **Medical faculties should examine the number of lecture hours they now schedule and consider major reductions in this passive form of learning.**
4. **Faculties should offer educational experiences that require students to be active learners and problem-solvers.**
5. **In programs emphasizing the development of independent learning and problem-solving skills, the evaluation of students' performance should be based in large measure on faculty members' subjective judgments of students' analytical skills rather than their ability to recall information.**
6. **Medical schools should designate an academic unit for institutional leadership in the application of information sciences and computer technology to physician education.**

D) Clinical Education

1. **Faculties should specify the clinical knowledge, skills, values, and attitudes that students should develop.**
2. **In conjunction with deans, department chairpersons, and teaching hospital executives, faculties should develop strategies to provide settings appropriate for required clerkships.**
3. **Those responsible for the clinical education of medical students should have adequate preparation and the necessary time to guide and supervise medical students during their clerkships.**
4. **Faculties should develop explicit criteria for the systematic evaluation of students' clinical performance and share evaluations with students to reinforce the strengths of their performance, identify any deficiencies, and plan strategies with them for needed improvement.**
5. **Faculties should encourage students to concentrate their elective programs on the advancement of their professional education rather than on the pursuit of a residency position.**
6. **Where appropriate, basic science and clinical education should be integrated to enhance the learning of key scientific principles and to promote their application to clinical problem-solving.**

E) Enhancing Faculty Involvement

1. **Medical school deans should designate an interdisciplinary organization of faculty members to formulate a comprehensive educational program for**

pear to gauge the strength of their departments on their students' Boards performance.

The issue of letter grades vs. pass/fail is also debated among and between students and faculty. Students at the University of Cincinnati successfully **fought the reinstatement of letter grades** in the basic sciences. Even after it had been approved by the faculty, students at University of California, San Diego, blocked implementation of a four-tiered grading system. But there is no unanimity among students on this subject. While many shun any force creating competition among class members, others seek out chances to earn the highest marks and continually imagine the eyes of residency program directors scanning their applications for numerical evidence of "excellence". While students understandably wish to maximize their chances of obtaining the most desirable graduate position, in this pursuit some neglect their own general education; ultimately this a no-win situation for students and patients alike.

Students have maintained that, if clinical teaching and evaluation were more thorough and individualized, an appropriate de-emphasis of basic science grades and Part I scores could occur. It is not easy for students to facilitate such improvements. However, the AAMC Clinical Evaluation Project has ascertained that a large number of faculty are also unsatisfied with current clinical evaluation methods, and self-assessment materials are being developed to help schools to upgrade their evaluation strategies[6]. A related area is residents' need for assistance in carrying out their responsibilities as educators and evaluators of medical students. This gap is beginning to attract more attention, and students can perhaps add momentum by **lobbying for the addition of structured sessions to help residents improve their teaching abilities** and by starting to work on their own. Finally, in the face of lures to specialize prematurely, students can offer each other support to **pursue a broad clinical education,** augmenting their experience when possible with research and community activities.

The other side of the evaluation coin is **student evaluations of courses** and faculty. Students can be instrumental in improving their design, collection and use. Good examples are available. University of Miami has recently strengthened its use of student evaluations of clerkships. Students are now asked numerous questions on the feedback they receive from faculty and house staff and on the frequency with which clinicians observe and critique their performance and discuss their write-ups with them; results are carefully reviewed with department chairpersons.

WHAT IS A REALISTIC GOAL?

Each medical school class should be able to expand on and beyond the above suggestions. And each individual will personally compose an inventory and agenda. In setting priorities for professional growth, what are realistic goals? And what does becoming the finest possible physician entail during this era of burgeoning scientific knowledge and shrinking resources for education? The answers that today's medical students' give to these questions have broad implications for the quality of health care available in this country. Society in general is becoming more and more specialized. Temptations are many to view medicine as primarily an array of powerful diagnostic devices and state-of-the-art technology. Attaining a medical education system that can withstand such forces and that is better than the present one at shaping compassionate healers will take the efforts of everyone involved. Persistent patience is needed—and keeping the eye focused on the human dimensions of medical care.

Skepticism about reshaping educational methods is infectious—but so is faith. And faculty and deans may be more amenable to the changes suggested by GPEP than students in the prolonged adolescence of medical school might think. But if the students, the most immediate beneficiaries of an improved educational system, do not come forward, silence is interpreted as approval of the status quo and its regressive influences. Numerous national and local magazines and newspapers have published articles about GPEP. Interest within the profession, at the schools and at large is wide. As the Director of the American College of Surgeons writes: "It behooves every member of the profession and especially those active in medical education to read, ponder, and act on this landmark study"[7].

NOTES

1. Most schools appointed a GPEP coordinator who may have a number of copies of the GPEP report which could be placed on reserve in the library or student lounge. Some schools requested hundreds of copies; Ms. Barbara Roos at AAMC (202/828-0553) retains records on who received these. The most complete resource is the November 1984, Part 2, issue of the *Journal of Medical Education,* containing not only the GPEP report but also reports from the working groups and very useful appendixes.
2. There is quite a lot of literature on group process and communication within groups available at most libraries, e.g., David W. Johnson's *Joining Together: Group Theory and Group Skills.* In paperback, try E. Schindler-Rainman's *Taking Your Meetings out of the Doldrums.*
3. A copy of a student guide to influencing the accreditation process, titled "The Role of Students in the Accreditation of U.S. Medical Education Programs" can be obtained from Ms. Janet Bickel at AAMC (202/828-0575).
4. Two of the best are: James Knight's *Doctor-to-be: Coping with the Trials and Triumphs of Medical School* (E. Norwalk, Conn.: Appleton-Century-Crofts, 1981) and David Reiser and David Rosen's *Medicine as a Human Experience* (Baltimore, Md.: University Park Press, 1984).
5. Some hospitals and state medical societies have committees on physician impairment that may want to provide presentations. The Center for Professional Well-Being in North Carolina is an even better resource (919/489-9167). A ground-breaking program at the

medical students and to select the instructional and evaluation methods to be used.

2. **This educational program should have a defined budget that provides the resources needed for its conduct.**
3. **Faculty members should have the time and opportunity to establish a mentor relationship with individual students.**
4. **Medical schools should establish programs to assist members of the faculty to expand their teaching capabilities beyond their specialized fields to encompass as much of the full range of the general professional education of students as is possible.**
5. **Medical faculties should provide support and guidance to enhance the personal development of each medical student.**
6. **By their own attitudes and actions, deans and department chairpersons should elevate the status of the education of medical students to assure faculty members that their contributions to this endeavor will receive appropriate recognition.**

These recommendations are best considered in the context of the full GPEP report[1]. Although it is not lengthy, space limitations prevent its reprinting here. A major benefit of examining the whole report (and the contributions of the three working groups on Essential Knowledge; Fundamental Skills; and Personal Qualities, Values and Attitudes) is the perspective gained about the most persistent problems in medical education. Pointing to all the less-than-optimal conditions and methods is easy, but actually disassembling the barriers to change is another story.

When taking stock of medical education, an important feature to keep in mind is the high priority that most medical faculty members give to research, patient care and the training of residents and graduate students. Moreover, faculty typically receive few visible rewards, e.g., promotion, for devoting their energies to undergraduate teaching. Were faculty to receive academic recognition for teaching excellence on par with that forthcoming for research results, perhaps more could "afford" to realign their priorities. Also remember that small group teaching geared toward problem-solving is labor-intensive and requires skills much different from those necessary to transmit facts in a lecture. Traditionally, faculty have not sought guidance in acquiring effective teaching methods. For these reasons, in any way possible, students need to encourage faculty to become willing to improve their skills. Achieving a learning partnership is the goal, stellar but reachable.

WHERE TO BEGIN?

Essential to students with a serious interest in education is an appreciation of their school's mission and present political realities. For the next class meeting, why not ask the dean to present an **assessment of the directions in which the institution is moving**? Beyond this basic grounding, an **active student council and reliable mechanisms by which students communicate with each other** are essential to students' ability to contribute. At schools lacking a strong student council, those committed to achieving change can inspire new life into existing mechanisms and can meet and **divide tasks**; perhaps one class more than others will rise to the occasion. Some students could concentrate on literature searches in areas of particular interest, some on dean's office liaison, some on networking with students from other schools. **Students active in national medical student organizations** should be especially prepared to pitch in, because such students have unique opportunities to exchange information about promising and disturbing developments at schools across the country. These students also develop skills in leading meetings, brainstorming, group process and facilitating communication within groups; they can share with other students what they have learned[2].

But nothing fancy is involved with students taking a constructive interest in their education and in the present and future well-being of their school. Each medical school class has its own distinct personality and unique resources to tap and will have its own specific meat to hang on the general bones of the GPEP recommendations. OSR members provide a couple examples of ways to get started (see also below). At the University of Texas–Houston, two students obtained the dean's support (including funds to cover refreshments and photocopying) in developing a student contribution to the school's consideration of the GPEP report. Twenty-five of the most active students at the school read the report (on reserve in the library) and attended an initial meeting to review the recommendations. This group's **brainstorming yielded several concrete ideas to be incorporated into the school's ongoing comprehensive self-review.** At the University of Washington, student leaders met with the deans to discuss how to motivate faculty and students to give serious consideration to GPEP. An interview form was developed containing such questions as "how do you think our school is doing with regard to the recommendations on clinical education" and "what is your specific recommendation for needed changes in this area," and 25 students were recruited to **interview all the department chairpersons and medical directors of affiliated hospitals.** Responses to this effort have been very positive. At schools with upcoming site visits from the Liaison Committee on Medical Education (LCME, the body which accredits U.S. medical schools), a **student-generated response to GPEP's recommendations can be adapted to serve as the students' report to the LCME**[3].

OSR REPORT

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A cascade effect of students' working together in these ways and talking with deans and faculty is that they **learn more about a large variety of issues**—from the setting of tuition levels to problems with funding ambulatory clerkships to hospital strategies for attracting patients. Links to the world outside the classroom can elucidate what goes on inside.

FOCUSING ENERGIES: IDEAS FOR ACTION

A. Generating Interest in Change

Create opportunities to discuss the GPEP recommendations with department chairpersons (last September all were mailed a copy of the report) and other faculty, regardless of what you *think* their reactions may be. In conjunction with the dean's office, **try organizing an open forum** with speakers and a panel to air the school's priorities on educating physicians for the 21st century; the purpose would be to spur a renewed commitment to education, not to fire controversies. Luring a large number of participants would take a lot of imagination and footwork, but such evidence of student commitment could pay handsomely. Another idea which requires a lot of work and which is an excellent motivator of students is for the student council to put on a **convention for students, with workshops on topics not covered** in the curriculum, e.g., third-world medicine, social responsibilities, leadership training. At the University of Miami plans are for such a convention to become annual, with all four classes participating and funds from drug companies helping to underwrite the costs of speakers and a mixer. Last year's theme was "Creativity in Medicine."

B. Motivating Faculty

Are resources available to faculty to help them improve their teaching and evaluation skills? Is there increasing awareness at your school of the importance of rewarding faculty who devote their time to teaching medical students? Is the faculty selection and promotion process under review? Would letters to, for instance, the president of the university or the board of directors about the impact of the present reward system help?

Intrinsic rewards are important too. Excessively grade- and test-oriented students and those looking for the "easiest" way to learn ("just tell me what I have to know") convince faculty that there is no point in improving their teaching and evaluation methods. The problem-based and small group learning modes place just as much responsibility on the learner as on the teacher. **Faculty/student retreats** can throw light on the conflicts and stumbling blocks to progress in these areas. But perhaps nothing beats frequent **positive reinforcement of teachers who are trying to introduce improvements.**

C. Improving the Transition to Clinical Education

Since initial experiences with patients are so formative and since many schools' Introduction to Clinical Medicine courses are so inadequate, students especially need to marshal their energies in this area. Discussions about what keeps the introductory course from working well and students' need for more supervision can lead to an **agenda of issues to be addressed with faculty and deans.** The student council can even **design a curriculum** to present, with ideas on obtaining necessary resources. Addressing the needs of students new to the wards, students at some schools (e.g., Temple) have designed practical and light-hearted handbooks; AMSA also has published "Survival Manual: A Guide to the Clinical Years." The focus, however, should be on changing rather than surviving the present wide-spread dearth of available assistance; the pace, complexities and cost implications of patient care activities in most teaching settings argue for medical student's receiving a carefully planned orientation to their responsibilities. At some schools, e.g., Southern Illinois University, **students have initiated the inclusion of such an orientation** by themselves planning a one-day program.

Frequently, with the new stresses at this juncture, students become aware of other gaps in their education, for example, the relationship between medical decisions and the cost of procedures, how a patient's emotions and home life influence outcomes, and the ethical dimensions of medical choices. While many schools offer electives in these areas, most students appear to need more assistance early in the transition to clinical medicine. Students can work with faculty in seeing that such subjects are more frequently addressed in the clinical setting. Also, students experience a variety of emotional responses as they learn to interview patients about intimate subjects, to give families difficult news, to cope with death. Opportunities to discuss disturbing feelings with a sympathetic physician and on-going **seminars on "retaining your humanism"** can be very useful early in the third-year, as well as books written specifically for students undergoing this transition[4]. Other ideas are student **support groups** and **presentations on handling stresses**, self-care, and impairment prevention[5].

D. Evaluation

A recurring theme of the GPEP report is the unfortunate influence of evaluation methods, such as the National Boards, on students' approach to learning. One OSR member writes: "Over-reliance on multiple-choice examinations has removed the ability of the faculty to promote thinking and reduced preclinical education to the point where it can be taken by correspondence (and is by many in our school via note services)." Students have made little headway in facilitating progress in this area because evaluation methods that encourage independent learning and problem-solving rather than recognition and recall are harder to design and more time-consuming to use. Students can, however, when appropriate, **question the uses of the National Board examinations** at their schools. This issue can provoke strong feelings because some preclinical faculty fear a devaluation of the basic sciences in medical education if schools stop requiring passage of Part I; also many faculty ap-

RESEARCH OPPORTUNITIES FOR MEDICAL STUDENTS

Students wondering how to integrate research experiences into their medical education will be interested in the following descriptions of first, opportunities available through NIH and, second, fellowships offered by various other sponsors. Some students will want more than these independent options and may consider pursuing a Ph.D. or other joint education program allowing them to earn academic credit for research. Some may simply consider devoting a summer, perhaps at the end of the first year, to obtaining research experience. Those who suspend thier regular medical school program for nine months or more need to check with their school about their student status vis-a-vis any loan repayment provisions they should be aware of.

OFFERED BY THE NATIONAL INSTITUTES OF HEALTH

AVAILABLE AT U.S. MEDICAL SCHOOLS

Summer Research. Students seeking a summer or off-quarter research training experience should see their school's National Research Service Award (NRSA) short-term training program director for a list of participating sponsors. These are not available at all schools so inquire in the dean's office.

Post-Sophomore Study. Medical students may interrupt their professional training for nine months to a year with support from an NRSA training grant. Interested students should contact their dean's office for a list of NRSA research training program directors on their campus.

Cancer Education. Students interested in cancer cause, prevention, treatment or research may be eligible for support under the National Cancer Institute's Cancer Education Grant program. The dean's office should have information.

Employment in Research Laboratories. Students seeking a research experience as employees on NIH research projects may contact the principal investigator of any NIH funded project to see if funds are available in the grant.

AVALABLE AT THE NIH

Howard Hughes Medical Institute National Institutes of Health (HHMI-NIH) Scholars Program. Students who interrupt their medical education for nine months to one year in order to receive research training at the NIH may apply for an HHMI-NIH Research Scholars Program appointment. Thirty positions are available each year with salary and residence provided on the NIH campus in Bethesda, Maryland. Inquiries should be addressed to Howard Hughes Medical Institute, P.O. Box 330837, Coconut Grove, FL 33133.

Medical School Electives. Students desiring to complete medical school electives at the NIH at their own expense may do so in one of 13 clinical subspecialties ranging from anesthesiology to surgical oncology. An opportunity to study the application of computers to clinical medicine is also available. Requests for information should be addressed to the Clinical Electives Program, Bldg. 10, Rm. 2N220A, NIH, Bethesda, MD 20205.

Summer Research. Students interested in receiving support for summer research in an NIH laboratory should contact both Mr. James Alexander, Summer Research Fellowship Program, Bldg. 10, Rm. IN320, NIH, Bethesda, MD 20205 and the Foundation for Advanced Education in the Sciences, 9101 Old Georgetown Rd., Bethesda, MD 20814.

Contact the Research Training Officer, Building 1, Rm. 209, NIH, Bethesda, MD 20205, (301) 496-9743, for additional information on these opportunities.

OTHER FELLOWSHIPS*

Stanley J. Sarnoff Fellowship
Sponsor: The Stanley Sarnoff Endownment for Cardiovascular Research
Amount: $11,000 plus $1,000 for travel to prospective laboratory
Special Requirements: Research to be performed in an area related to the cardiovascular system in a laboratory away from the parent medical school.
Number Awarded: 10
Contact: Galen S. Wagner, M.D.
Box 31211
Duke University Medical Center
Durham, NC 27710
(919) 681-2255

Charles A. Dana Foundation Clinical Research Training Program
Sponsor: Dana Foundation and University of Pennsylvania
Amount $11,000/year
Special Requirements: Research training with Clinical Epidemiology Unit at University of Pennsylvania, Philadelphia, PA
Number Awarded: 5
Contact: Samuel P. Martin, M.D.
Clinical Research Training Program
University of Pennsylvania School of Medicine
Philadelphia, PA 19104

Smith Kline Beckman Medical Perspectives Fellowships
Sponsor: Smith Kline Beckman
Amount: $1,000–5,000 per project
Special Requirements: Proposal should apply an abstract concept of medical education to practical situations.
Number Awarded: Total amount of $100,000
Contact: Dean's office for an application or
Nancy E. Lundebjerg
National Fund for Medical Education
999 Asylum Ave.
Hartford, CT 06105
(203) 278-5070

American Arthritis Research Scholarship
Sponsor: American Arthritis Foundation
Amount: Year 1: $11,000; Year 2: $11,500
Special Requirements: work full-time in laboratory for 1–2 years.
Number awarded: not determined
Contact: Marsha Jones
American Arthritis Foundation
1314 Spring St. N.W.
Atlanta, GA 30309
(404) 872-7100

*Compiled by David Spach, OSR Representative, Duke University.

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MEDICAL STUDENTS & NURSES: BECOMING BETTER ALLIES

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OSR CHAIRPERSON'S PERSPECTIVES

The significant stress and fast pace associated with medical school make it easy for physicians-in-training to lose perspective of the position that we play as a gear, albeit an important one, in the complex apparatus we call "the health care system." We must not lose sight of the fact that we do not hold the monopoly on wisdom nor can we function without the collaboration of the other members of the health care team. This issue of *OSR Report* explores the important area of interactions with nurses and the need for a true team approach. As many medical students are aware, the atmosphere in which we interact with nurses is often suboptimal. Several factors are at play, with most of them traceable to at least one of the following features of the health care system. First, there are the features of both nursing and medical education which either fail to develop or actively inhibit the trainees' ability to work as team members. Second, there are tensions and inequities that we have inherited from a white-male dominated society; while not unique to the health professions, they must be addressed. Third is the fact that even well-intentioned and well-prepared students and nurses operate in an environment which is not free of negative precedents. Often we find ourselves battling attitudes created by physicians and nurses who preceeded us and who were less attuned to the need for collaboration.

This brief review is far from definitive or exhaustive. As you read, you will probably think of additional considerations which are relevant to this complex subject. However, I am confident that for many readers this article will translate into an increased ability to see physicians-in-training vis-a-vis others on the health care team. This is a timely objective given the multiple financial, organizational and ethical factors which demand an evolutionary response by the health care system today.

The OSR Administrative Board hopes that you will respond to this issue of *OSR Report* (see address to the left); a representative set of comments will be printed in the next issue. On another subject, I also draw your attention to the very useful listing of research opportunities for medical students which appears on page eight.

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First-Year Resident, Cambridge Hospital
Cambridge, Massachusetts

IT'S NOT IN THE CURRICULUM

Even though nurses constitute the largest group in the health care system, to most medical students, nursing is a mystery. Preclinical students may have no clearer images than those gleaned from M*A*S*H reruns or St. Elsewhere. Third- and fourth-year students have acquired a gallery of faces and an awareness of unwritten rules, varying from rotation to rotation, which guide interactions with nurses. Most students approach these interactions feeling basically positive but sensing the need for some guide or frame of reference and for some facts about the nursing profession. The following six pages may help answer this need.

The overview opens with observations about what medical students and nurses have in common and how nurses view their roles. Next is a capsule history of nursing education and forces which have interfered

with progress. The subsequent section deals with difficulties nurses experience in working with medical students and physicians. The final section looks at joint educational efforts and what medical students can do to become better team members. Because this is only an overview, many important areas are not covered, e.g., disputes between doctors and nurse specialists arising from competition for patients, functions of allied health professionals, contributions of nursing to public health, the role of nurses in nursing homes. Perhaps the following pages will light an interest in pursuing these.

Patient care unites the medical and nursing professions. But sometimes this similarity is less evident than the many obvious and subtle differences in orientation which distinguish doctors from nurses. For instance, most physicians have at least seven years of education beyond that attained by most nurses; and this education focuses on the physical aspects of disease, where a nurse's training emphasizes the psychosocial aspects of illness. Variations in terminology are everpresent, e.g., one speaks of "symptom" and the other of "discomfort" (1). Both medical students and nurses work from problem lists, but the former's starts with "Breast Cancer, Bone Metastases," while the latter's begins "Alteration in Comfort Status." When poorly understood and unappreciated, such differences can get in the way of medical student/nurse interactions and can hinder both the student's education and the nurse's efficiency. Most important of all, misunderstanding can interfere with patient care.

> "A few practical tips on building good relationships with nurses: Try to put aside any past negative interactions with nurses and to rise above the business of criticism and intimidation which can pervade clinical education. Work on building relationships by taking the time to communicate with other members of the health care team. Read the nursing notes in patients' charts and comment on them in your progress notes. Ask for a nursing representative on floor rounds. Spend a day in a "buddy system" with a nurse at a teaching hospital in order to experience medicine from this different perspective. The idea is to visualize what it's like to walk around in a nurse's shoes." (2)

In considering the role that nurses see for themselves in patient care, it may help to begin with a few traits that most medical students and nurses have in common. They both function in a high stress environment with pressures to focus more on data collection than on individual patients. Both groups often have twice as much work to complete as time will allow and are required to perform a wide variety of repetitive functions which are not intellectually challenging and which could be done by others. Both are very dependent on feedback on their performance but receive little, especially in a positive vein. Both are seeking opportunities for growth and development. Both find themselves disagreeing with "the way things are done here" and with the decisions of superiors but feel unable to influence the course of events. Here is one place the stream diverges. Medical students know that their time on any one service will be brief and that they are upward bound in the hierarchy. Nurses are responsibile for what happens on the service yet realize that their commitment may never result in gains in status or authority.

What role then do nurses see for themselves? In the broadest terms, the American Nurses' Association's (ANA) *Code for Nurses* states:

> Recipients and providers of nursing services are viewed as individuals and groups who possess basic rights and responsibilities, and whose values and circumstances command respect at all times. Nursing encompasses the promotion and restoration of health, the prevention of illness, and the alleviation of suffering (3).

An ANA policy statement defines nursing as the "diagnosis and management of human needs." A more concrete way of stating this is the maintenance and management of a therapeutic environment and doing for patients what they cannot do for themselves (4). A nursing plan may thus include: monitoring and measuring treatment effects and watching for clues to assist diagnosis; taking measures to prevent infection and other complications; teaching the patient to use medications and manage after leaving the hospital; and giving some drugs and some treatments.

Clearly there is much room for overlap with medical students' and physicians' responsibilities, and changes in the hospital environment are adding to this, as is discussed below. Despite the fuzziness, it would seem advantageous not to restrict definitions of the nursing role, for the same reasons that medicine defines its scope of practice as comprehensively as possible. The National Joint Practice Commission, established by the AMA and ANA in 1972, agrees:

> In view of their growing interdependence, it becomes increasingly evident that successful or effective delivery of health care cannot be achieved through unilateral determination of functions by either medicine or nursing.

Its "Statement on Medical and Nurse Practice Acts" therefore recommends revising those practice acts of medicine and nursing which do not allow for flexibility within the limits of legality (5).

Such an implicit endorsement of nursings' partnership with medicine has not always been forthcoming from the medical profession. The dynamics between these two groups have been clouded by issues of territorial dominance and complicated by variability in nurses' competency levels. An examination of nursing education sheds light on many of these difficulties.

THE STRUGGLE TOWARD PROFESSIONALISM

Nursing education today and its antecedents may understandably confuse both other health professionals and laypersons. While this report focuses mainly on RNs (Registered Nurses), there are also lesser-trained nurses' aides and more highly educated RNs, i.e., clinical nurse specialists, nurse practitioners, and doctorally prepared nurses. All RNs are licensed through one board examination in each state, but three types of educational programs exist side-by-side: 1) three-year certificate programs in hospital-based diploma schools; 2) associate degree programs in two-year community colleges, and 3) university baccalaureate degree programs awarding the BSN (Bachelor of Science in Nursing). In 1980, of the approximately 1.2 million nurses in practice, about 51 percent were hospital diploma-holding nurses; 20 percent,

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23. Personal communication from Loretta Ford, R.N., Dean of Nursing, U. of Rochester.
24. Personal communication from Lin Weeks, R.N., Director, Nursing Staff Development, Hermann Hospital, Houston, Texas.
25. Personal communication from Bernice Sigman, M.D., Associate Dean for Student Affairs, U. of Maryland School of Medicine.

COLLABORATIVE DECISION-MAKING IN AIR TRANSPORT

The University of Chicago's Aeromedical Network provides a special example of physicians and nurses working together. A study was conducted to examine decision-making strategies in managing patient care during air transport. Participants in the study were flight nurses and physicians from the Department of Emergency Medicine. The study asked "Is decision-making in air transport a collaborative or an independent activity?" Collaborative activity was defined as communication between a doctor and nurse resulting in action designed to remove a life threat to a patient. From tape-recorded interviews held after each flight, thought processes were categorized and coded.

A total of 125 decisions were made in 25 flights. Of these decisions, approximately 80% were collaborative. Physicians and nurses typically consulted one another on patients whose conditions were described as emergent and uncertain. Collaborative, when compared to independent, decision-making was characterized by processes involving analytic problem-solving and critical thinking. Decisions made independently by nurses or physicians occurred along simpler or more obvious decision-paths.

What else was learned about collaborative practice from this study? First, both the physicians and nurses agreed that collaboration refines strategies and strengthens decisions. Physicians and nurses interact during all phases of flight through questioning, asking for advice and opinions, and challenging each other's ideas. This interaction results in thoughts that are more precise and actions that are more deliberate. One nurse commented: "Disagreement can be healthy. It make you defend your thoughts. It strengthens the argument." And a physician noted: "Confidence in these types of decisions is enhanced when you know someone else agrees with your thinking."

Secondly, recordings of post-flight interviews bear out the premise that nurses and physicians bring differing perspectives to decision-making. Nurses focus on monitoring the status and progress of patients. They are usually more skilled in the use of equipment and handling the logistical procedures of patient transport. Physicians rely on assessment data provided by the nurse and, using their greater knowledge of pathophysiology, order diagnostic tests. The study showed that recognizing the unique contributions of each type of practitioner enhances collaborative practice and of the doctor-nurse relationship.

A third issue is the importance of open communication in all phases of flight. Tracing decision-paths following the flights was a useful mechanism for examining the effectiveness of joint efforts. Communication occurs around the question: "Could we have done anything better or differently to reduce the life threat to this patient?" Hindsight gained in this way is helpful in revising protocols and enhancing understanding of roles. The following conference on a patient with an acute myocardial infarction illustrates the benefits of open communication.

A 42 year old, 250 pound male was successfully revived and was being transported for placement of an aortic balloon pump. The nurse asked, "Should we intubate him?" The physician countered, "No, I don't think so...he's awake and alert." The nurse said, "I think we should; he's breathing hard...his respirations are 42...he's diaphoretic and using his accessory muscles to breathe." The physician responded, "I think it would be more traumatic to intubate him since he is alert and responding, and it's only an eight minute flight... (Pause)...What are his blood gases?" The nurse replied, "His PO2 is 62 and he's already on 100% oxygen." The physician noted, "I'm not comfortable with that PO2 and he's dusky around the neck. Let's intubate him!" Upon debriefing, both saw that the patient benefited from insertion of the endotracheal tube. They agreed that, even though efficiency in transport was important to get this patient to a higher level of care and proper diagnostic testing, airway management was the crucial issue. Both gained in respect for the other's clinical judgment and in their understanding of the other.

In conclusion, although air transport is a highly specialized practice setting, findings from this study can be converted to broad themes. Successful collaboration appears to involve at least five interrelated variables: competence, confidence, open communication, self awareness, and mutual understanding. Operationalizing these relationships brings about a mutual trust and respect, the pinnacle of successful collaboration.

—Marian B. Sides, Ph.D., R.N.,

(Dr. Sides is Associate Director of Nursing Services, U. of Chicago Hospitals and Clinics.)

with the perspective that patients are puzzles to be solved. Because nursing students bring a more health maintenance and patient-oriented outlook, designing a course that appeals to both groups is difficult (22).

But some positive changes are occurring. For instance, medical school course offerings with a human values focus are gaining attention and may help to foster students' interpersonal skills. Organizationally, hope is offered by the "unification" model at the University of Rochester. Instead of nurse educators being "guests" in the hospital, the School of Nursing is structured like the School of Medicine such that nurse practice, education and research are integrated and the chiefs in the two schools work together. This arrangement by no means solves scheduling and planning problems, but the environment offers both nursing and medical students a more wholistic view of practice (23).

What Can a Medical Student Do?

At the outset, medical students' performance anxiety and fears of appearing ignorant may get in the way of asking nurses for help. Some students are over-confident, pretend they know more than they do, and start off on the wrong foot with nurses by bluffing. It's helpful to recognize such tendencies and to work on them. Keep a self-critical eye on interactions instead of over-reacting, for instance, to a busy nurse's coolness. Also remember that opportunities arise for nurses to envy medical students' career opportunities. Many RNs consider pursuing graduate education—most medical students have probably met an RN who is completing medical school. Remaining sensitive to differences in advancement potential between the two professions goes hand-in-hand with recognizing that, while some nurses are unprepared to move forward with doctors, increasing numbers are. But most important of all is acknowledging nurses' contributions to patient care and their areas of special competence.

Even though students' time on any service is limited, some progress can be achieved in building good working relationships. A joint communications committee at the University of Texas Medical School of Houston originated with medical students' asking nurses for help in learning basic skills, such as blood drawing and suctioning. In return, the students more eagerly assisted the nurses in meeting toileting, feeding and mobility needs of the unit's patients (24). Another beginning could be creation of a "Bridging the Gap" program where medical, nursing, med tech and other students gather occasionally for potluck and then break into small groups to find out what members of groups do and know. A medical student-generated program of this nature functioned successfully at the University of Maryland for a number of years (25). Medical students can ask clerkship directors to include nurses presenting nursing notes on grand rounds and at conferences. Presentations on the role of respiratory therapists and other health care team members can be requested. Interdisciplinary ethics seminars or classes should also be explored.

Students desiring to form good working relationships with nurses will think of additional possibilities because, as physicians, they will rely on nurses and other health professionals who are skilled in ways that they are not. Learning from each other and collaborating occurs when the physician respects the other professionals' capabilities. The education of all parties is enhanced, and the ultimate goal is achieved—better patient care.

—Janet Bickel

(The author gratefully acknowledges the contributions of Katherine H. Chavigny, R.N., Ph.D. and Miriam Shuchman, M.D.)

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> "It may be helpful to visualize primary health care as territories shaped in two overlapping circles, with traditional nursing on the left and medicine on the right—like a Venn diagram masquerading as a topographic map. International law governing these two territories has long decreed that the physician can wander freely in both countries. The nurse, in contrast, cannot legally cross the border to roam in the land of medicine. The regions of diagnosis and treatment are forbidden to her; and although she has in fact gone there, especially on nights and weekends and often with a doctor's silent acquiescence, no one wants her to get caught." (6)

associate degree-holders; and 23 percent, baccalaureate degree-holders (7). These proportions reflect only one characteristic of the struggle that has been going on since the turn of the century to move nursing education into the mainstream of higher education—that the battle is not over. There is a strong movement now, which remains controversial, to define entry into practice as the baccalaureate degree in nursing, with all other nurses considered "bedside technical nurses" and earning a licensure title other than RN. Why this movement and why the problems with it? Answers to these questions involve the histories of two professions and are replete with political, economic and social overtones. What follows only skims the surface and does not pretend to include all possible perspectives.

Nurse leaders recognized long ago that, if nursing is to make a full contribution to patient care, it must develop the characteristics of a profession, i.e., become accountable for clinical practice, take control of nursing education and move the study of nursing into the universities. A look at the factors responsible for the tenacity of physician- and hospital-dominated training help to explain why these developments have not come about easily. While highly inter-related, these forces can be considered under the headings: 1) divisions within nursing, 2) social pressures, and 3) physicians' attitudes.

Probably the biggest blocks to progress have been conflicts between nurse educators and practicing nurses, with those in practice viewing the educators as living in ivory towers, far removed from day-to-day patient care demands. Hospital diploma nurses have scorned baccalaureate nurses as fumbling and defended the craft skills and apprenticeship culture as the most important part of the nursing tradition. Conversely, nurse educators have viewed the education provided by hospital-based schools as outmoded, controlled by physicians, and falling short of professional standards. Often these leaders erred by concentrating on creating educators, thereby overlooking the concerns and needs of the majority of nurses (8). Another hindrance is that traditionally nurse educators do not practice and vice versa. In academic medical centers, no natural bridge exists between the dean of nursing and the director of nursing services. This division also means that nursing research is not well-integrated into education or practice and that nursing students are deprived of clinician-educator role models.

Diverse social forces have held back progress. One factor has been the fluctuating demand for nurses over the past fifty or so years. Because student nurses have constituted an important work force for hospitals, each shortage resulted in some form of downgrading of the educational system. For instance, the post-World War II shortage saw the introduction of practical nurse education which evolved into associate degree programs (9). Another retarding factor was the lack of social support for nursing education. The Rockefeller and Carnegie Foundations provided substantial funds for the improvement of medical education in the post-Flexner era, but nursing education has had to survive long deserts without such support (10).

A more ubiquitous force relates to the status of women in society. Women are breaking barriers in the workplace; but some remain ambivalent about professional obligations and in many settings face deeply engrained inequalities in pay and status. The division of labor in hospitals has replicated a sexual one, with nurses caring for dependent patients and deferring to physicians, as women have historically cared for children and deferred to fathers and husbands. While some physician/nurse relations retain a superior/subordinate cast, nursing education has empowered women by expecting much of them, by stressing self-determination, and by denying any opposition between femininity and commitment to work outside the home. Thus, the nursing realm both confirms and contradicts cultural expectations; such ambiguities have complicated nurses' claims to authority at work (8).

Physicians have held back progress with unexamined assumptions about sex roles and a desire to remain unquestioned captain of the ship. Citing a number of "utilitarian" reasons, from the beginning of the ANA's bid for federal funds, the American Medical Association lobbied against bills that brought money into nursing programs (8). Physicians have also argued that nurses do not "need" college education, as if to confirm their secondary status as workers. Certainly, medical education must take some of the blame. While nurses have a semester-long course on the doctor/nurse relationship, this subject is rarely addressed in medical school. In sum, physicians' focus on their own goals has gotten in the way of their understanding nurses' need for a measure of autonomy.

FROM A NURSE'S PERSPECTIVE

It is instructive to imagine medical students from a nurse's point of view. The potential for problems arrives with each new bevy of clerks who don't know the location of anything. On a good day for both a nurse and a medical student, orientation proceeds with no major gliches. On a bad day for a nurse, medical students are bothersome, interfering with nursing care and unprepared to deal with technical and psychosocial needs of gravely ill patients. On a bad day for a clerk, when terror may not be far away, a personal lack of expertise may translate into sharp words to a nurse, to which the nurse may respond in kind. Whatever confidence the medical student has left dissipates when the nurse altogether ignores the student for the rest of the day, thus inconveniencing the resident. Other opportunities for barriers may occur when a physician behaves arrogantly towards a nurse or makes derogatory remarks about nurses in front of a patient and the medical student present says nothing or chimes in with the physician. Nurses also note that, on rounds, medical students hang on to the atten-

ding's every word while giving little overt credit to nurses for their skills.

Medical students naturally see life differently than nurses see it, but they also tend to ignore the difficulties that can create. For instance, nurses are very concerned with the details of maintaining a therapeutic environment; careless students leave behind used swabs and needles without thinking about hygiene or safety. Nurses comment on the challenge of dealing simultaneously with a whole spectrum of physicians—MS3, MS4, R1, R2, etc.—and responding according to each individual's level of expertise. Moreover, nurses participate closely in medical students' transition from a show-me-how stage to a muscle-flexing stage to a position of authority. Sometimes nurses feel "discarded" and left out of this change even though they have helped produce it (2).

> "Patients are more likely to share emotional problems, uncertainties, and worries with nurses, and feel more comfortable in asking them important questions about diagnosis and treatment. They often feel that the physician is "too busy" and, in fact, physicians sometimes convey this message nonverbally or even explicitly to their patients." (11)

Nurses frequently are caught in the middle in more difficult ways than these, for instance, when their assessment of what is in a patients's best interest conflicts with a physician's orders. Life was simpler when more nurses saw themselves as instruments of a doctor's will. But professional nursing today is a delicate balance of independent and dependent functions, requiring the nurse to be accountable *for* his or her behavior not just *to* someone in a hierarchy. Many characteristics of the hospital environment are adding to this challenge: 1) more acutely ill patients requiring greater coordination of services; 2) transfer of responsibility for a vast array of technology to nurses who are expected to make judgements about its appropriate use; 3) a shift from general to subspecialty practice with multiple physicians involved in the care of a single patient, such that fragmentation of care can result in dangerous duplications or omissions; and 4) attendings' working fewer but more structured hours such that they are not as accessible (12).

Organizational arrangements between physicians and nurses which take into account these new characteristics and nurses' new capabilities are only beginning to be worked out. In one experiment conducted by the National Joint Practice Commission, traditional working roles of nurses were abandoned. RNs carried out comprehensive care for the patients they were assigned, accompanied physicians on rounds, and reviewed patient records with physicians. At the four participating hospitals, physicians reported feeling more confident about and receptive to nurses' judgments (13). A good example of promising organizational arrangement is provided by the nurses at Rose Medical Center in Denver, who in 1981 became the first in the nation to inaugurate a system of self-governance. Its Nursing Congress was created as a flexible management tool and a communications network. Its model of collaborative practice is now underway on nine of the Medical Center's eighteen units (14).

Today nurses are still frequently required to make critical decisions while operating under institutional rules which recognize only physicians as having authority to make independent decisions about patients. Like medical students, conscientious nurses agonize about whether their own judgment and limited knowledge are a legitimate basis for questioning orders. The stress of having no sanctioned decision-making power can be very great, especially for one who spends hours caring for a patient and coping with a family's misery and confusion. While certainly not unique to nurses, such feelings of powerlessness can result in "burnout", impairment, and attrition.

There are other kinds of difficulties in keeping the best and most experienced nurses in clinical care positions in hospitals. Salary structures offer little reward for professional experience, and only administrative positions promise high incomes. Recruitment efforts are directed at young nurses with minimal experience who cannot function for long periods without backup by those with more experience—hence, higher turnover rates (12). Moreover, the income gap between physicians and nurses has increased dramatically. In 1945, nurses' incomes were one-third of physicians', but by 1980 nurses were earning less than one-fifth as much as doctors (15). Given poor economic rewards for becoming and remaining a nurse, nonmonetary rewards assume more importance in maintaining nurses' career commitments and morale.

Offering committed nurses incentives to keep their jobs is a wise investment. In a recent study published in the *Annals of Internal Medicine,* investigators interviewed 264 staff nurses and 180 physicians; both groups emphasized familiarity in terms of amount and longevity of contact as a major influence on positive relationships (16). A particular frustration mentioned by physicians was the wide variability in nurses' clinical judgment, hence the importance of familiarity with the individual. Differences in length and depth of training mean that physicians appear to doubt nurses' knowledge and judgment until experience proves otherwise. Even after this testing, the nurses interviewed commented that their decision-making freedom varied widely among physicians, with some expecting considerable independence and others restricting them to orders.

Disagreements between physicians and nurses can play an important and positive role in patient care, since each group brings different but complementary information and orientations. However, investigators in this study saw few examples of joint-problem solving. Instead, both groups, but physicians more frequently than nurses, used competitive tactics, i.e., being assertive and uncooperative, often resulting in unnecessary delays in patient care. More nurses than physicians resorted to accomodation, i.e., conceding to the other's wishes, meaning that only one perspective prevailed. Thus, most disagreements remained unresolved—an inefficient practice not in the best interest of physician, nurse or patient.

TEAMWORK

The need to collaborate is clear. Hospitals are large organizations. Decreased length of patient stay, increased severity of illness, and tightly controlled resources mandate a close partnership between nurses and physicians. The complex, technology-dependent content of medical care also means that nursing and medical work are more interdependent than ever. A special example of this interdependence is to be found in air transport of patients (see page seven). Within the hospital, intensive care units reveal a high level of collaboration; the pace and character of such units leave no room for old formulas of deference, and physicians there rely heavily on nurses' close observations of patients and on their hardware management. The use of computers in hospitals is also influencing doctor/nurse relationships by allowing nurses to carry out actions that were previously beyond their capabilities. When a computerized problem-oriented record is in use, nurses' enhanced ability to make judgments and to intervene may have a disquieting effect on physicians unless they welcome a high level of collaboration among health care workers (17). If clinical competence and creativity are to be expected of nurses, physicians must encourage the nursing profession to develop apace with the medical profession rather than defending a system in which the physician alone is ultimately responsible for all professionals (18).

Team-organized health care is not simple, conceptually or organizationally. Where do teams fit into the institutional structure? Is the analogy of sports teams applicable? If not, what kind of team is the health care team? How is the work of role clarification achieved? In considering such questions, all health professionals need to take the time to talk with each other. Knowledge of and respect for each other's capabilities comprise the soil in which teamwork can grow. Instead of employing that most anonymous term "nonphysicians," physicians can learn about the various roles of nurses and allied health professionals, such as physical therapists, occupational therapists and medical technicians. A change in mind-set often is required because of physicians' socialization. For example, physicians tend to think of themselves as analyzing data and making decisions alone rather than with others. Moreover, medical students are chosen more on the basis of scholarly achievements than communications skills, then they spend years becoming biomedically competent. Again, comparatively little attention is paid to communications skills, and professional relationships with other health workers are learned by trial and error on the job.

Interdisciplinary Education

Nursing students need more exposure to new medical technologies and the changing medical science base. Medical students could benefit from nursing's emphases on improving patients' social as well as physical functioning and on family and community dynamics. Logic dictates closer links between schools of medicine and schools of nursing, but in most instances the two schools have become increasingly isolated from each other (15).

What are reasonable expectations of bridge-building between these two schools? What has been learned from experiments with joint programs? A review of the literature of interdisciplinary teaching programs allows the conclusion that programs designed to encourage positive attitudes of medical and nursing students toward each other as co-professionals are most successful if they occur early in the educational process and if the teaching method is small group interaction rather than lecture (19). The most striking results were seen with first-year medical students in a multidisciplinary health team including senior nursing students. One year after this thirteen week program, these medical students were significantly more psychologically than organically oriented when compared to classmates who had not had this experience (20). A more recent study of medical and nursing student teams conducting geriatric patient work-ups found that the interdisciplinary program significantly increased medical students' perceptions of the nurse's role in caring for patients. However, there continued to be substantial discrepancies between medical and nursing students' perceptions of the extent to which nurses are "essential" (21).

Such positive though mixed results have generally proven insufficient to keep joint programs afloat, given the numerous difficulties with coordinating curricula and scheduling and problems with acceptance by both medical students and faculties. Faculty coordinators of joint educational programs and electives comment that frequently medical students arrive

there must be an acknowledgment that a problem of access exists. Data must continue to be collected, analyzed, and published with regard to application, admission, and attrition of students from different racial and socioeconomic backgrounds. As financial barriers to medical education increase, the decline of socioeconomic diversity among medical students is likely to be particularly insidious, and information on this topic should be shared among schools and examined at very visible national forums.

Medical schools can act directly to increase the applicant pool of minority and underprivileged students. "Head Start" programs aimed at underrepresented groups of college and high school students have proven successful, both in improving the academic abilities of these students and in convincing them that a career as a physician is within their reach (10,12). At the admissions level there must be a renewed commitment to the concept of affirmative action and a recognition of the social responsibility of medical educators. Admissions committees should withdraw from the contest over students with the highest grades and MCAT scores and put more energy into selecting those who will do the most as physicians to meet the health care needs of society. Toward this end, medical schools must be prepared both to accept students who may have some deficits in their academic preparation and to develop appropriate retention programs so that these students will successfully complete their educations.

Finally, adequate financial aid is a necessity if programs aimed at increasing the representation of economically disadvantaged students are to be successful. The finest educational system in the world is of no benefit to a student who cannot afford to enter it. Funds may have to be diverted from scholarships to subsidize the interest on loans if students are to avoid the onerous debt burdens which are already becoming commonplace. Strict needs testing must be applied so that limited financial aid resources will be dispensed to the neediest students. New sources of financial aid, such as tax-exempt revolving loans funds, will have to be developed, perhaps using capital raised from financially successful alumni. In the end, only vigorous and dedicated efforts on the part of physicians and medical educators will resolve the problem of access to medical education.

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LETTERS TO THE EDITOR

To the Editor:

I am writing in response to the Fall 1985 *OSR Report* titled "Medical Students and Nurses: Becoming Better Allies". This was excellent. Becoming aware of a problem is the first step in solving it, and the article is instrumental in pointing out how much of a communication problem does exist between the two professions. It commented on the major issues facing nurses and medical students as they try to work together as a team in the patient's best interest. As an R.N.-turned-medical student, I hope I can contribute to the "bridging" that is so necessary in the health care system of today. My only regret is that this article is not required reading for medical students. Insight into the importance of teamwork would be gained by all. Thanks, at any rate, to you and OSR for this contribution.

Rhonda Woolwine '88
University of Florida College of Medicine

To the Editor:

The *OSR Report* dealing with the relationship between medical students and nurses was informative and highlighted many key issues. However, I disagreed with the section on interdisciplinary education. I do not think joint programs with schools of medicine and nursing will achieve the goal of improving the relationship between the two groups. Medical students are already frustrated by large class sizes and the lecture format. Adding nursing or other health professions students to this group may solidify a continuing reliance on lectures.

Also, it may be true that nursing students need more medical science and medical students need more focus on human values, but educating them in a joint program might detract from the special approach of each group within the health care system. Dr. Marion Sides' article within the *OSR Report* advocates that the differing perspectives which nurses and physicians bring to the health care system can enhance collaboration. I would hope that for the benefits of our patients we would continue to train nurses and doctors to complement each other. I agree with Dr. Sides that we all need to strive for competence, confidence, open communication, and self-awareness. In the learning environment of a clerkship, these are all qualities that medical students are fighting very hard to achieve, but they cannot master them in six weeks. It is reasonable to expect that both nurses and medical students continue to strive for mutual understanding which will not only improve relationships but also enhance patient care.

Vicki Darrow '87
University of Washington School of Medicine

OSR REPORT

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MEDICAL LIABILITY: AN OVERVIEW OF THE DILEMMAS

and

KEEPING THE DOORS OPEN: THE PROBLEM OF ACCESS TO MEDICAL EDUCATION

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Janet Bickel
AAMC Division of Student Programs

CHAIRPERSON'S PERSPECTIVE

The following two articles written by medical students will be of interest to all medical students. In the first, Jim Stout (now a first-year pediatrics resident at the University of Washington) offers an overview of the primary contributors to the medical liability problem. We are all tired of hearing about the need to practice defensive medicine and about skyrocketing malpractice insurance premiums, but the medical profession cannot afford for our generation of physicians-in-training to ignore the forces and misconceptions at work. I recommend Jim's article as an excellent aid in learning about these forces and how you can prepare to deal with them. In the second article, Bob Welch (now a fourth-year student at Columbia University College of Physicians and Surgeons) summarizes disturbing trends regarding minority and low-income students' access to medical education. His succinct overview also shows why all health professionals must be concerned about these trends.

Medical students bring to their professional education diverse interests and skills, many of which seem to die from lack of exercise. This demise should never occur. Those who enjoy investigating and writing about their observations of life and their concerns can continue to select research projects and essay topics and submit the results for publication. A wide array of national and local medical student organizations and publications exists (not to mention the *New England Journal of Medicine*), offering the interested student many research and writing opportunities. Any member of the OSR Administrative Board or the officers of AMSA and AMA-MSS would be happy to speak with you about possibilities.

Another good example of students' sharing ideas is a letter-to-an-editor, e.g., the U. of Michigan sophomores cited in Jim's article. The Fall 1985 *OSR Report* on medical students and nurses generated some welcome correspondence, two examples of which appear on the last page of this issue. We urge you to send us your reactions to the articles on the following pages, c/o-Janet Bickel at the address on the left. She also has extra copies of back issues which you may request. Three which continue to be especially well-received by students are: "The Rising Costs of Health Care and the Responsibilities of Medical Students", "Ethical Responsiblities: Setting Personal and Professional Goals", and "Economic Changes Affecting Medical Practice".

Best wishes to each of you.

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MEDICAL LIABILITY: AN OVERVIEW OF THE DILEMMAS

In recent years the problem of professional medical liability has become a dominating force in medicine. Its dominance cannot be explained by any one factor; the medical and legal professions, the insurance industry, and the public as consumers of health care share the blame. This article examines the role of these four contributing factors and suggests ways that medical students can better prepare for practicing in a litigious climate.

The Medical Profession

Some studies suggest that, for every American filing a malpractice suit, ten more receive an injury from a physician without bringing suit (1). Because cases of unavoidably poor therapeutic outcome do not constitute malpractice, the results of many such studies are open to question. Expanding technologies have made positive outcomes more likely than in the past, yet these same technologies play a role in increasing the numbers of patients injured by physicians (2). Technological advances have meant more invasive, aggressive diagnostic procedures and therapies. For exam-

ple, angiography and angioplasty, incredible diagnostic and therapeutic technologies, carry a significant risk-to-benefit ratio.

True malpractice is what remains when blameless morbidity and mortality associated with medical services are removed from the equation. A former chairman of the Federation of State Medical Boards estimates that between five and ten percent of American physicians are incompetent or impaired by substance abuse or physical or mental illness (1). Add these physicians to an estimated 10,000 people practicing medicine in the United States with fraudulent credentials, and the 563 medical licenses revoked or suspended in 1983 resembles the tip of an iceberg (3). An adequate system of policing professional standards is largely to blame — a responsibility that falls on state boards of medical licensure and state legislatures. The number of disciplinary actions varies widely from state to state. Utah, for example, disciplined 5.2/1000 physicians in 1983, while New York disciplined 0.49/1000 (1). This variation is probably less a function of physicians' practice than of state medical boards' surveillance. In Massachusetts, for example, the medical board has two investigators, while the hairdressers' board has eight (3).

Despite this inadequacy of policing, it is generally recognized that the majority of malpractice is committed by a very small percentage of incompetent physicians. Several states have produced data showing that less than one percent of physicians account for a full 25 percent of claims paid (4). Apparently, most fraudulent and impaired physicians are staying out of court.

The Legal Profession

The frivolous lawsuit should be to the attorney what the malpractice case is to the physician. Bringing a case to court that does not belong there is much more than an innocuous harassment. Unfortunately, other than an attorney's personal ethics, few barriers exist to prevent such occurrences. On the contrary, the legal system supplies strong financial incentive to file suit (5).

A three-year national study entailing almost 72,000 malpractice cases revealed that 62 percent were closed without payment to the plaintiff; only 18 percent made it to trial, where the plaintiff won only eleven percent of the time (5). A 1983 study by the Rand Corporation found that 90 percent of malpractice cases are resolved prior to jury (6). The average cost for defending these cases is $5,000. Multiplied by 15,000 "no payment" cases, the annual cost to the public comes to $75 million. It is estimated that one third of the cost of medical liability insurance is spent on defending such apparently groundless suits (7). Former Supreme Court Justice Warren Burger has stated that attorneys who litigate frivolously should be penalized. Likewise, Donald J. Palmisano, M.D., J.D. comments:

> Surely if physicians can admit that medical malpractice exists and that awards should be given in these cases, the legal system should acknowledge that attorneys can file wrongful suits and make a remedy availably to those harmed by such suits (5).

Meanwhile, the unjustly accused physician is essentially defenseless. In a recent *J.A.M.A.* column, a physician describes a colleague's deterioration during his two year wait for his "day in court". The wait ended in suicide: "It was the (65 year old) surgeon's first and only accusation of malpractice, but it was fatal" (8). One comparison of physicians who have been sued with those who have not revealed that the former are more likely to stop seeing certain types of patients, think of retiring early, and discourage their children from entering medicine (9).

Defamed physicians can seek legal retribution, but winning a malicious prosecution suit usually presents insurmountable tasks, such as proving evidence of malice. Two possible remedies here are to: 1) make both the attorney and plaintiff liable for damages if it is found that a suit is filed without justification and 2) eliminate absolute immunity for defamatory statements made without probable cause during a trial (5).

Most lawyers who represent plaintiffs earn their wage through contingency fees; they keep a certain percentage of a winning defendant's settlement, up to 50 percent in some states (6). Malpractice cases account for only three percent of all tort verdicts for the plaintiff. Twenty-nine percent of all payments received by malpractice plaintiffs are for noneconomic damages known as pain and suffering (1). Accordingly, an attorney will be prone to emphasize pain and suffering. Various measures to reduce the attorney's contingent percentage have been introduced in an effort to discourage the pursuit of unnecessarily large settlements. The strongest opposition to these reforms can be anticipated from the one group profiting from the present tort system, the plaintiff's bar (10).

Insurance Companies

While stories about rising malpractice insurance premiums are abundant, data is scarce. Still, it is fair to say that within certain specialties and certain geographic areas physicians are being driven out of practice and the availability of health care is being undermined by the acute rise in premiums. Premium costs have been going up 30 percent a year and in high-risk specialties now approach a third of physicians' gross income (11). The premiums for North Carolina family practitioners in one year jumped from $20,691 to $32,019. Were family practitioners to become categorized with the obstetricians, as is proposed in North Carolina, in 1986 their premiums would increase to $124,434 (12).

According to David Shrager of the Trial Lawyer's Association, 50 cents of every malpractice premium dollar lands in a reserve fund for use in case all pending claims are successful. However, as has been discussed, the number of cases won is a small minority of the 900 malpractice suits filed daily. Although malpractice awards of up to $10 and $15 million have recently been awarded, some malpractice critics believe that insurance companies' poor investment of premium holdings may be the main culprit for rising malpractice costs (6).

The Health Care Consumer

Perhaps the most insidious component of the malpractice problem is the idea held by some Americans that law suits resemble lotteries as a victimless way to fortune. People also seem to expect a risk-free life. The fallout from these attitudes affects not only the medical field but *any*

Some of the difficulties which medical schools have had in recruiting students from underrepresented groups are due to factors which medical educators cannot control. The increasing cost of medical education and the decreasing availability of adequate financial aid mean that many economically disadvantaged students perceive a medical education to be a financial impossibility. Aid in the form of loans has replaced scholarships. Thus the educational debt of graduating students has skyrocketed; in 1985 the mean debt was $30,256, an increase of almost 100 percent in only five years. (6). Even more troublesome than the amount of these debts is the fact that many students have become increasingly dependent upon Health Education Assistance Loans (HEAL) and other high-interest loans. It has been estimated that a student borrowing $10,000 in HEAL loans in each year of medical school will repay a total of $400,000 over 25 years, or ten dollars for each dollar borrowed (7). Thus, aside from the immediate hurdle of paying high medical school tuition, the debt burden necessitated by reliance on high interest loans may remove medicine from consideration as a career choice for many disadvantaged students. Students who do manage to graduate may steer away from careers in academic or public service medicine because of high loan payments.

A Weakened Commitment?

The failure of medical school affirmative action programs, however, cannot be attributed solely to economic factors. From 1974 to 1983 the proportion of blacks in the applicant pool rose from 5.6 to 7.3 percent, and the MCAT scores of these applicants improved both absolutely and in comparison with those of non-minority students (4). In spite of these increases the acceptance rate for black applicants declined from 43 percent in 1974 to 40 percent in 1983, while the acceptance rate for nonminority applicants rose from 35 to 50 percent over the same period. As Shea and Fullilowe note: "If black applicants in 1983 had been accepted at the 1979 rate for each level of MCAT performance, approximately 100 additional students would have been selected" (4). The decreasing acceptance rate of minority students at a time when there is an increasing, and increasingly academically qualified, pool of minority applicants points to a loss of commitment to the ideal of increasing access to medical education.

This weakened commitment to affirmative action may stem in part from the perception that students admitted under these programs are academically unprepared for the rigors of medical school. The mean GPA and MCAT scores of accepted minority applicants are significantly below those of nonminority matriculants (4). And minority medical students are more likely to repeat the first year of medical school than are nonminorities; in 1982–83, 13.5 percent of underrepresented minorities repeated the first year, compared to 3.3 percent of all students. Minorities are also more likely to drop out of medical school than are nonminorities. In 1980 the retention rate after the first year of medical school was 96 percent for underrepresented minorities and 99 percent for all students; after the second year, 94 percent compared to 98 percent; after the third, 91 compared to 97 percent; and after the fourth, 89 percent compared to 97 percent. Asked why they interrupted their studies, in 1982–83, 32.5 percent of minority and 14.1 percent of nonminority students stated academic difficulties as the main reason (8). Still, it should be remembered that the overwhelming majority of minority medical students do graduate, and special programs aimed at identifying and assisting those students who experience academic difficulties in medical school have been remarkably successful at helping these students to improve their performance (9). Summer enrichment and other programs aimed at improving retention are essential components of a successful affirmative action program, which must focus not only on admitting underrepresented minorities, but also upon ensuring that they will complete their educations (10).

The loud silence associated with affirmative action in medical education in large part reflects a national change in attitudes towards social welfare programs. The nation which once embarked on the search for the "Great Society", with its government playing an active role in social issues such as desegregation and the protection of civil rights, now turns a blind eye towards many unpleasant social realities. Clarence Pendleton, the present Chairman of the Civil Rights Commission, is an outspoken opponent of affirmative action programs, and the use of numerical quotas to achieve proportional representation has been attacked in the DeFunis and Bakke cases. Societal groups now seem preoccupied with protecting self-interests; the abdication of social responsibility which accompanies this preoccupation manifests itself in many ways. In medicine this trend can be seen in the rapid rise in popularity of the more lucrative subspecialties (which according to the GMENAC Report are already oversubscribed), while the percentage of students planning to pursue careers as urgently needed primary care physicians in rural and underserved areas remains low.

The "siege mentality" noticeable among some contemporary physicians, engendered by such "intrusions" as DRGs and lawsuits, obscures a fundamental truth which distinguishes medicine from other professions — namely, that physicians share a collective moral obligation to place the well-being of their patients above all other concerns and to work to improve the health of *all* members of society. In this important respect, medical school affirmative action programs have demonstrated enormous effectiveness. A 1985 study shows that minority medical graduates are more likely to practice in undersubscribed primary care specialties than are nonminority physicians and that they are twice as likely to practice in a medically underserved area (11). It is unwise, however, to derive too much satisfaction from these data, for the same study indicates that minorities are greatly underrepresented in academic medicine and research. Likewise, it is unjust to delegate what is a collective responsibility — the health care of the indigent and underserved — to minority physicians alone.

Where to Begin Again

Given the philosophical and practical justifications for affirmative action in medical education, what steps might be taken to increase the presence of minorities and the economically disadvantaged in American medicine? First

add to the difficulties of increasing the proportion of underrepresented minorities in American medical schools. If medical schools do not become more successful at recruiting and retaining students from disadvantaged backgrounds, medicine will become a profession open only to the privileged. This article presents data on the application and acceptance of underprivileged and minority medical students to American medical schools and discusses the effectiveness of affirmative action programs in increasing access to medical education.

The Goals of Affirmative Action

Historically, minorities and the children of underprivileged families have been underrepresented in American medicine. While retrospective data on the socioeconomic backgrounds of medical students is relatively scarce, a recent article by Shea and Fullilowe in the *New England Journal of Medicine* provides an excellent overview of the presence of minorities in American medical school (4). Although blacks constitute 12 percent of the population of the United States, from 1920 to 1964 only 2 to 3 percent of the students entering American medical schools were black, and over one-half of these students attended either Howard University College of Medicine or Meharry Medical College. In 1945 one-third of accredited U.S. medical schools were closed to black students. Not until 1966 did the last of these segregated schools open their doors to blacks — progress attributable to the civil rights movement and to medical organizations (such as the AMA and the AAMC) finally supporting the removal of formal and informal barriers to access for minority students. At its 1968 annual meeting, the AAMC declared that "medical schools must admit increased numbers of students from geographic areas, economic backgrounds, and ethnic groups that are inadequately represented." By 1970 the AAMC had produced a task force report calling for the achievement of "equality of opportunity by reducing or eliminating inequitable barriers and constraints to access." The AAMC endorsed the task force's goal of proportional representation of minorities in medical schools by 1975–76: 12 percent for blacks and a total enrollment of 16 percent for all underrepresented minorities.

In order to achieve these goals, medical schools, like many American institutions, adopted the mechanism of affirmative action. The premise underlying affirmative action is that removing formal barriers to access cannot in itself assure equality of opportunity for historically disadvantaged groups because previous discrimination and deprivation have left these groups at a competitive disadvantage. As part of the effort to achieve proportional representation of disadvantaged groups, mechanisms such as quotas were instituted. These positive measures may be justified on the grounds that, even after all formal barriers to access have been removed, more subtle discrimination based on race, sex, or social background may persist. Moreover, students growing up in educationally and economically deprived environments ought not be judged solely on rigid and perhaps inappropriate selection criteria, as these measurements may not accurately reflect these students' true potential for achievement. The argument for affirmative action is founded on the belief that a pluralistic, democratic society means equality of opportunity — achievable and not merely nominal opportunity — for every citizen regardless of ethnic or economic background.

The health care field faces an additional incentive to assure diversity among practitioners. Since psychological, social, and behavioral factors heavily influence illness and health, practitioners who are familiar with the sociocultural environments of their patients and who understand their values can be much more responsive and effective than physicians lacking this familiarity.

The Results

American medical schools have been only partially successful in accomplishing their stated goal. Initially, attention to the recruitment of minority applicants and new sources of financial aid helped to increase minority representation in medical schools: by 1974, the proportion of blacks in the entering first-year class had risen to 7.5 percent nationally (4). But the goal of proportional representation has never been reached. While the total number of blacks in medical school has increased slightly with the overall increases in class sizes, the proportion of blacks in entering classes has actually declined, from the 7.5 percent peak of 1974 to 6.8 percent in 1983 (4).

With regard to the goal of achieving socioeconomic diversity among medical students, an equally disturbing picture emerges. The applicant pool, and even more so the pool of accepted applicants, is heavily skewed towards the children of wealthy families. It has been shown that there is a strong positive correlation between family income and academic success as measured by GPA and MCAT. Analysis of acceptance data by both racial and economic background suggests that family income, rather than race, may be the major determinant in the failure of minorities to achieve proportional representation in medical schools (3). Since medical schools select students from a limited pool — those college graduates who have successfully completed required courses and taken the MCAT — it is predictable that schools will admit relatively fewer students from lower income families. Yet, while the wealthiest 10 percent of American families produce 4 times as many college graduates as do the poorest 10 percent, the wealthiest 10 percent of American families product *9 times* as many doctors as the poorest, with over one-third of all medical school entrants in 1976 coming from families which fall in the top 10 percent by income (5). In 1986, were a similar analysis conducted, the numbers would likely look even more discouraging.

Thus, the problems of achieving racial and socioeconomic diversity in medical school are linked: in 1981, only 16 percent of all applicants were from families with an income of less than $15,000, but 39 percent of all black applicants came from such low-income families, as did 49 percent of all mainland Puerto Rican applicants. While 55 percent of applicants with a parental income of greater than $30,000 were accepted to medical school, only 41 percent of those applicants from families earning less than $15,000 gained admission (3). Lower-income students thus not only apply in lower numbers than do wealthy students, but they also gain acceptance at a lower rate.

business providing a service or manufacturing a product. The media's appetite for reports on exciting new froms of medical interventions, such as the Jarvik Heart, also helps build false expectations (13). Talk shows, moreover, can contribute to uproars that are out of line with medical evidence, as occurred with the pertussis vaccine; the public's perception of this vaccine as a crippler is due largely to the media's overreaction to a small number of tragedies. It has been estimated that Japan's recent withdrawal of the pertussis vaccine led to 35,000 children contracting whooping cough and 118 deaths. Meanwhile, American vaccine manufacturers may lose liability coverage in 1986 and may stop production of the vaccine because of the billions of dollars in pending claims (14).

James S. Todd, Senior Deputy Vice President of the American Medical Association (AMA), neatly summarized the problem:

> Today, the primary reason for the professional liability crisis is not injury caused by negligence, but the infinite expansion of liability, encouraged by a tort system that allows excessive compensation for untoward results of disappointed expectations beyond the control of anyone (15).

Proposals for Change

Untangling the medical liability problem involves reform of the tort system. "Tort system" refers to the current collection of institutions, rules, laws, and insurance mechanisms which decides what injuries to persons or property should be compensated, by whom, and for what amount. The U.S. system evolved from British common law originating in the ninth century through continual examination of decisions made over the past thousand years. But, compared to even twenty years ago, society now faces issues far more complex in terms of determining right from wrong and of finding an optimal balance among all the various institutions involved in a question. Senator John Heinz (R-PA), chairman of the Senate Special Committee on Aging, asked the General Accounting Office to review the problems surrounding the malpractice issue. Its first report, released in February 1986, contains results of interviews with officials from medical, legal, insurance, and consumer groups; no agreement was found among these organizations regarding the problems, their severity, their solutions, or the proper role of state and local governments (16).

Tort reform has been occurring at the state level, and the great majority of states have recently considered proposals for change. So far in 1986, more than 40 states have debated malpractice and tort reform measures, and 20 of them have enacted laws (17). On the federal scene, last year Senator Orrin Hatch (R-UT) introduced a bill based on legislation proposed by the AMA; it is one of six bills concerning medical liability currently under consideration by Congress. Senator Hatch's bill makes the following recommendations (11).

1. Mandatory periodic payments for awards on future damages exceeding $100,000 (to avoid the necessity of paying huge settlements all at once).
2. Elimination of the collateral source rule (currently, plaintiffs can be compensated by both their own insurance companies and the defendant's for the same problem).
3. A $250,000 cap on pain and suffering awards (these awards are responsible for the majority of huge settlements).
4. A sliding scale for malpractice attorney's contingency fees: limit fees to 40% of the first $50,000, scaled down to 10% for awards in excess of $200,000.
5. Strengthening state licensure boards so that adequate funding is available to supervise physicians.
6. Passage of laws preventing physicians who have been stripped of their license from "state-hopping".

The American Bar Association (ABA) has responded to the AMA proposal, disagreeing with every item and contending that reform belongs at the state, not federal level. The ABA also argues: "Physicians' income consumed by malpractice has not increased substantially in recent years; as of 1983, physicians overall were estimated to have spent only about 2.3% of their gross income on malpractice premiums" (18). Ignoring more recent data and the fact that overall premiums for physicians have increased 45% in the last two years alone (11), the ABA thus denies the presence of a crisis. But Kirk Johnson, General Counsel to the AMA, replies: "The fact is that the ABA is thoroughly out of step with the country on this. There isn't a segment of society that is not crying out for tort reform" (19).

In addition to proposals before Congress, the Health Research Group has suggested the following reforms targeted at physician performance review (1):

1. Require attorneys to turn over information to state licensing boards about cases in which malpractice is shown.
2. Ask insurance companies to rate physicians on the basis of malpractice cases lost, so that incompetent physicians would be priced out of practice.
3. Require physicians to pay a $500 licensing fee to be used to finance professional review.
4. Require periodic recertification of physicians by written exam.

The need for tort reform is apparent not only within medicine but throughout the American business, education, government and service communities. The AMA has joined with over 200 organizations in these fields to form the new American Tort Reform Association (ATRA). James K. Coyne, the president of ATRA, states: "We want to find a cure for the disease. Liability awards show no relationship with fact, fault, or fairness. Soon, no one will write insurance at any price — and we'll face bankruptcy, liquidation, or the deadly game of litigation roulette" (19).

Medical Education

The medical student is not a rudderless craft in this stormy sea. The best malpractice insurance is a good doctor-patient relationship. While poor bedside manner is not a crime, many patients sue out of resentment over a physician's attitude or demeanor. People tend to mention interpersonal qualities as often as technical competence when discussing attributes of good physicians. When people are ill, they need to know what is going on in terms they can understand and to know that their physician cares about their personal concerns. As one surgeon commented: "If all goes well, I don't worry; but if something goes wrong, the patient and family become part of my family."

Building good relationships with patients is fundamentally an act of caring. Communication skills are also required which physicians may not be born with but can acquire. Most schools now offer courses in humanities and human values which assist students in reflecting on the role of the physician and the nature of the doctor/patient bond. Segments of the introduction to clinical medicine or physical diagnosis course usually focus on the skills of interviewing and relationship development. The first year physical diagnosis course at the University of South Florida, for instance, teaches students many seemingly small skills — e.g., assessing the patient's expectations, assuring privacy — that will empower them if they practice and use the behaviors. Preceptors help students learn the elements of getting and giving information, persuading patients, and eliciting patients' commitment. When such teaching is combined with the opportunity to be videotaped while interviewing a patient or simulated patient, students have a headstart in developing communication skills (20). Building relationships with patients has always been a particular focus of family practice residencies, but other primary care residencies also now include educational opportunities in humanities and human values (21). In a sense, all of a medical student's and a physician's clinical experience can be a course in building mutually satisfying relationships with patients.

Through representation on curriculum and policy committees, students can influence the content of the educational experience for which they pay tuition. Students at some schools may wish to work toward inclusion of more clinically-oriented values and communications courses. At others, they may first need to address concerns about the education they are receiving in medical liability. Students at the University of Michigan report a "disturbing intrusion of legal issues into the medical school classroom" (22). During a 14-week block, sophomores counted an average of 2.4 references to malpractice issues per week. Their account is all too familiar: faculty were instructing students that failure to carry out a certain procedure will result in a lawsuit and that redundant tests should be used for defensive reasons. These students mention their frustration at being told to use health care resources efficiently but, on the other hand, to practice costly defensive medicine. This bind reflects a jaundiced professional value system, created by the wearying burden of a medical climate dominated by lawsuits. But, as these students conclude, "medical education should teach us to practice good medicine with only the patient's interests in mind."

Better ways of introducing medical students to the legal aspects of practice are needed. A good example is the University of California-San Francisco's two-week course for seniors, titled "Responsibilities of Medical Practice" (23). During one session, a judge and lawyer recreate a malpractice trial, with the students serving as jury. Other good examples are provided by the offerings of the University of Nebraska's Department of Medical Jurisprudence and Humanities (20).

Another fundamental that should be thoroughly taught in medical school — in the name of good doctor-patient communications — is careful record-keeping practices. For preventive rather than defensive reasons, students can learn to avoid many potential causes of lawsuits, e.g., illegibility of prescriptions, misunderstandings of abbreviations and other terms used in charts and consultations, and failure to document telephone conversations properly (24). Students also need to learn how to organize patient records in anticipation of questions which can arise from any quarter.

Not surprisingly, careless record-keeping is a leading cause of lost liability suits. Medical students should stay informed about the most common causes for losing liability suits which, according to the Medical Mutual Insurance Company of Asheville, North Carolina, are:

- Failure to initial or sign diagnostic studies or otherwise acknowledge that you have seen them.
- Failure to note drug allergies and act accordingly.
- Failure to obtain informed consent prior to a procedure.
- Failure to have an office staff member certified in CPR.
- The lack of a failsafe back-up system for diagnostic studies lost in the mail or misfiled.
- Delay from the time of diagnosis of a problem to its discussion with the patient.
- Altering the medical record (25).

Risk management programs to help providers learn to avoid these problems are becoming an essential part of physicians' continuing medical education.

One final suggestion to medical students is to contact state and federal elected officials with concerns and ideas about equitable solutions to the liability problem. No simple solutions can be expected to emerge with an issue this complex, but movement is predictable on a few fronts at least. For example, the medical profession is likely to become even more careful in introducing new technologies. Also, state licensing boards are becoming more accountable and can be expected to improve their policying.

An upbeat approach is liability prevention through the sharing of uncertainty. By acknowledging the threat that uncertainty presents to the doctor-patient alliance, physicians can turn informed consent into a focal point in establishing a therapeutic bond. Thomas Gutheil, et al, write that the clinical utility of informed consent lies in bridging the gap between either of two fantasies — helpless ignorance or omnipotent certainty — and a more complicated reality. They suggest that physicians adopt the following approach: seek to understand the origins of a patient's fantasies of certainty, empathize with the patient's unrealistic wishes, and then guide the patient in seeing the fantasy for what it is. These authors stress the selection of what to say to patients; efficiency, not mere volume of words, is the desideratum (26).

Perhaps physicians will also become better at facing their mistakes. As David Hilfiker has courageously pointed out:

> Painfully, almost unbelievably, we physicians are even less prepared to deal with our mistakes than the average lay person is. The climate of medical school and residency training, for instance, makes it nearly impossible to confront the emotional consequences of mistakes. At some point we must bring our mistakes out of the closet. We need to give ourselves permission to recognize our errors and their consequences. We need to find healthy ways to deal with our emotional responses to those errors. Our profession is difficult enough without our having to wear the yoke of perfection (27).

This article has briefly reviewed the major components of the medical liability problem. Many forces are interacting. Adversarial posturing among the different factions only further complicates the issues. Medical students can work on not becoming part of the problem. Even better, they can be part of the potential solutions.

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KEEPING THE DOORS OPEN: THE PROBLEM OF ACCESS TO MEDICAL EDUCATION

American medical education faces many challenges. In the context of a declining applicant pool, rapidly rising educational costs, and a government increasingly reluctant to help finance medical education, among the most pressing of these is to increase access to medical education for financially disadvantaged and minority students. The statistics on costs are alarming: at one private medical school tuition increased fourfold over a seven-year period, and at many private schools total yearly educational expenses for a single student exceed the median annual American family income (1). Educational costs are bound to exacerbate the problem of access for students from lower-middle and lower income families. Recent AAMC data indicate that new applicants are much more likely than in previous years to have parents who are employed as professionals and who hold a college or professional degree (2). Since minority applicants are much more likely to come from a low income family than are non-minority applicants (3), these trends

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LETTERS TO THE EDITOR

To the Editor:

I am a second year medical student at the University of California at San Francisco. I'm also a single mother of an eight year old boy and have recently formed an organization on our campus called *Parents In Medicine.* Our organization has approximately 25 members at this time, including medical students and faculty. We are addressing such issues as parental leave policies, dependent health insurance, child care problems, residency training as parents.

We would like to be in touch with other such parent groups, to see what issues and concerns they have identified on their campus, and to see how they deal with parenting and medicine. We seek to include both medical students and house staff in our concerns, as many of us at the student level have questions and concerns about how we will deal with residency. It is my hope that we can share some ideas on how to deal with our special concerns, provide mutual support, and hopefully gain by networking with other student and house staff parents across the country.

Linda E. Fitts, Med II
9 Johnstone Drive
San Francisco, CA 94131
(415)681-1650

To the Editor:

Students at the U. of Connecticut are setting up a clinic in a Hartford shelter for the homeless. We've located the facility, which is within walking distance of the hospital, but we have a lot of questions related to clinic/hospital liaison, liability and arranging for supervision. With regard to the latter, we need ideas on incentives to offer preceptors and whether to concentrate our efforts on residents, community physicians or faculty members. Please write or call if you have any information which might be helpful. There's a lot of excitement here about this idea on the part of students, administrators, faculty and at both city and state levels.

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OSR REPORT

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SUCCESS OR FAILURE: SILENT QUESTIONINGS ABOUT MEDICAL SCHOOL

and

HUMAN VALUES TEACHING PROGRAMS

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AAMC Division of Academic Affairs

CHAIRPERSON'S PERSPECTIVE

I am very pleased to introduce this issue of OSR's main publication. The first half is an essay by Joanne Fruth, a fourth year medical student at the Medical College of Ohio, and representative-at-large on the OSR administrative board. She describes those characteristics of both medical students and medical school which result in the debilitating frustration we all experience from time to time. She also suggests ways for better meeting both our emotional needs and our desire to become effective physicians.

Sometimes the system seems impervious to change, leading to a feeling of lack of control over one's destiny. To utilize my energies in a positive manner, I have become active in student government, the dean's office, the curriculum committee, and organizations such as OSR. These activities have helped me to gain an increased awareness of my abilities as an individual, which has improved my attitude and ability to thrive. They have also given me opportunities to work with leaders in medical education to improve the system. I encourage you to assess your needs and to pursue your options for action, several of which Ms. Fruth describes. Student affairs deans, curriculum deans and faculty members can be excellent allies; and we need to work with them in locating and creating resources. Remember also that national student networks, such as OSR, can be instrumental in locating resources to assist students in working together.

The second part of this *OSR Report* includes highlights from a project on human values teaching programs which was directed by OSR staffer, Janet Bickel. Programs devoted to communications and ethics have become essential to physicians' education, but many students and faculty remain skeptical about their utility. As a first year student, I recall how easy it was to discuss ethical principles in the abstract. During clerkships it's another story. Exhausted and distracted by our patient care responsibilities, we may be inclined to just follow the actions of our resident or attending even when those actions violate a principle we've learned is important. During our clinical education, therefore, we need faculty guidance and teaching programs which will help us put ideals into action. I urge you to discuss with your clerkshop coordinators incorporating some kind of human values teaching program; medical students are in a uniquely effective position to institute such programs. You may wish to obtain a copy of the complete project report from Janet Bickel at the AAMC, which provides many detailed examples of currently successful programs.

If you have any comments on the issues raised in this *OSR Report,* I invite you to write so that we can learn your views and begin a dialogue.

Vicki Darrow, Class of 1987
U. of Washington School of Medicine
OSR Chairperson

SUCCESS OR FAILURE: SILENT QUESTIONINGS ABOUT MEDICAL SCHOOL

Despite the potential rewards and fulfillment that our profession offers, we as medical students often suffer from feelings of uncertainty, fear of failure, and unhappiness. These negative feelings may cause maladaptive behaviors which we tend to deny. What role did medical school itself play in creating these feelings and behaviors? How can we prevent the toll that medical education and practicing medicine takes on our mental and emotional health?

Although medical school brings many moments of joy and laughter, most of us experience long and short periods of intense sadness and hopelessness over predicaments and feelings we hesitate to talk about. Behind many of these periods are doubts about our ability to succeed. Is it possible that letting this dread go unattended could lead to impairment? A broad definition of impairment is any condition inhibiting a professional from functioning to his

or her full ability (1), and many local medical societies have created impaired physician programs, which are for the benefit and protection of patients as well as physicians.

Predisposing Factors

Can the potential for impairment be recognized in medical school? Knight (2) discusses the following prodromata that can signal impairment in medical school: failure to *any* degree in *any* area; few or no friends; social isolation and lack of dating; not being able to laugh at oneself; irregular or poor class attendance; and friction with a professor. Beyond these prodromata, it is also possible that students who appear to be socially and academically well-adjusted can be at risk. Recognizing the role that medical education itself can play in students' becoming impaired, we can decrease our risk for debilitating maladjustment.

The problem starts with the medical school admission process. Admission committees seek candidates who demonstrate academic accomplishments, energy, social consciousness, reasonable adventurousness, and creativity; and most people who are accepted to medical school possess outstanding characteristics and potential for success. Yet we all bring to medical school an array of personal problems, many of which escape the detection of screening processes (2). Some of these problems are "residual trauma" from the competition and uncertainty of premedical education; we may not even be aware of these problems, but they can surface under the stress of medical school (3). Moreover, a variety of personality characteristics which facilitate our goal of admission to medical school predispose us to emotional disorders. Rosenthal and Kelman (4) describe these traits as follows: denial of problems, control of emotions, compulsivity, conscientiousness, delayed gratification, formation of unrealistic fantasies of the future, self-perseverance, and denial of universal psychological needs.

How do such apparent assets become liabilities? Compulsivity, for example, is a double-edged sword. This trait can enable us to tackle all the class notes and reading before a test but can also enslave us to a school work routine. Obsessed with the need to study, how do we allow ourselves time off? Compulsivity can further frustrate us by blocking our ability to choose the most enjoyable and recreational uses for our limited free time. Ironically, the recreational activities themselves sometimes become part of a compulsive syndrome. Competitiveness also characterizes many of us—either to be the best in the class, to combat an "internal critic" or to meet an abstract level of achievement. Although the competitive spirit can be a good motivator, it can also fuel a sense of inadequacy or frustration when we do not meet our own expectations—however unrealistic these may be. We often enter into a futile struggle "to do it all", but there is always more to do.

When a whole class of medical students seems to be denying these characteristics, this denial can have a mass effect on an individual. When friends and colleagues are suppressing their difficulties and conflicts, we are less willing to share ours with them, thereby maximizing the potential impact of our negative feelings because we conclude no one else has similar conflicts or self-doubts.

The Medical School Crucible

Along with personality characteristics and tendencies that may facilitate admission into the system, characteristics of the system itself fuel maladjustment. Medical students usually attend school during their twenties, a period of transition from adolescence to adulthood. But medical school pressures can impede attainment of crucial developmental tasks. Prolonged dependence, perfectionistic standards and the denial of feelings can cut short our psychological maturation (5). An effective physician is flexible, relates comfortably with people, and can manage well under stress. But physicians-in-training may not on their own develop the social, psychological, emotional equipment to meet these challenges.

Another retarding feature of this system is to delay our roles as wage-earners, tax-payers, and contributors to a community. In an environment that deemphasizes social responsibility, we lose sight of the satisfactions that come from community service and participation in non-medical groups. If we could broaden our focus from the microcosm of medical school, we could find re-juvenating outlets for creativity, leadership, and responsibility.

The reward system in medical school also fuels impairment. We hunger for validation and encouragement that we are on the right track. But test scores are often our only feedback. The sheer volume of repeated evaluations adds to the stress inherent in the learning tasks; each test can threaten our sense of confidence and control. Test scores become a kind of artificial yardsticks by which we measure our self-worth. Unconsiously, thoughts like "How could I have gotten such a low score?" may actually translate into "How could I be such a worthless human being?"

The structure of medical school works against us in other ways. Most students have many acquaintances in medical school but lack meaningful relationships with people outside the medical community. In a study of residents and faculty members, social supports were found to be their most frequently used coping resources (6), yet it is difficult for students to create a supportive network in a medical school environment. Ingrained with the idea that studying is more important than social interaction, we have trouble finding the time and making the contacts when we need to share our experiences with another human being. In isolation, we may draw bizarre conclusions about our talents and shortcomings. We need social interaction to gain insight into our abilities and liabilities and to steady our self-confidence.

Single people are faced with an added set of stresses and conflicts concerning social interaction. While most of our non-medical peers may be married, we may delay marriage because of a lack of opportunities to develop balanced relationships. Others choose not to become involved in a relationship because of the demands of school. Many rationalize that they will delay this aspect of their lives until they have more time or enjoy better financial and emotional circumstances. Will these circumstances ever come? Many of us live with regret over missed opportunities and wonder what might have come of relationships to which we could not or did not give enough time.

While a spouse can contribute enormous support, marriage itself can become a source of stress. A relationship as well as an individual can develop problems during medical school. Marriage represents commitments and responsibilities, and problems often result from poor communication and a lack of responsiveness to each other's needs. Spouses and significant

obstetrics and gynecology. (Contact: Mark Siegler, M.D., 312/962-1453.)

UNIVERSITY OF CALIFORNIA-SAN FRANCISCO'S
Responsibilities of Medical Practice

During this full-time, two-week course for seniors, each day is devoted to a medical care problem in which ethical, legal, economic, and social issues are prominent. On one day, a judge and lawyer recreate a malpractice trial, with the students serving as jury. The syllabus includes objectives for each day and clinically-focused questions for students to consider before and after the lecture. For instance, before the lecture on ethical and legal issues in physician-patient communication, students list the elements of information essential to a valid informed consent and rate various barriers to effective communication. After the lecture, they repeat the latter exercise and also "write a note to their house office" stating their view of "the correct approach" to a patient described in a handout. A course evaluation revealed that students overwhelmingly agreed that the course be required for all fourth-year students and that students' attitudes toward the course improved significantly after taking it (12). (Contact: Albert R. Jonsen, Ph.D., 415/476-3093.)

DARTMOUTH MEDICAL SCHOOL'S
Health, Society and the Physician

During this seven-week course, seniors meet three times weekly in groups of eight or nine under the guidance of two tutors. They collectively undertake the study of a case in which are embedded numerous issues whose resolution involves the principles of social, humanistic and quantitative disciplines. Resources include a list of references, xeroxed library materials and access to faculty and off-campus experts to consult after library resources have been exhausted. The students divide the learning tasks and share their new knowledge with each other at the next meeting. Examples of cases are: a couple wishing to have their second baby delivered at home, an impaired physician, a chain-smoking factory worker with chronic pulmonary disease, a migrant worker's infant with infectious diarrhea. (Contact: Thomas Almy, M.D., 603/646-7766.)

CREATIVE COMBINATIONS

Most schools feature a combination of required and elective, formal and informal offerings. Many of the best are student-created and student-led. For instance, last year Jeralyn Bernier and Susan Duffy (Class of '88, Brown U. Program in Medicine) decided that they wanted to do more than "endure the ramifications of the decision to become a doctor" and, with dean's office support, augmented the curriculum with a lunch-time Health Care Environment Lecture Series. Its first round of speakers included Arnold Relman, M.D., and first- and second-year students were the most enthusiastic attendees. Temple University's Introduction to Primary Care provides an example of student initiatives incorporated into the required curriculum. First-year students identify project ideas related to patient/physician communication or the health care system. The list of ideas and students who have volunteered as leaders is then distributed to the entire class, and each student chooses a project. Examples from last year are Non-English-Speaking Patients and Ethical Issues Concerning the AIDS Patient. A component of the medicine clerkship at the University of Wisconsin which students report as particularly valuable is students' interviewing each other on a controversial subject such as abortion. The interviewee tells the interviewer exactly what he or she heard, and this reflecting of statements back to each other can enhance self-examination of prejudices and values.

Some students are deeply disturbed by the recognition that they are receiving little help in learning to respect individual patients. Other students are more critical of medical education's failure to help them prepare for changes in the health care environment. Others are so busy trying to survive medical school that all other considerations take a backseat. But at each school a creative combination of programs such as those described here is needed to ensure that all students receive support in developing a sense of professional responsibility and commitment to patients.

Increasingly, only physicians with ethical decision-making abilities and good communications skills will be considered clinically competent. But this road is a steep and rocky one. Will doctors with exorbitant educational debts put patients' needs ahead of their own financial needs? Can a physician simultaneously be society's, the payor's and a patient's advocate? Even more immediate are the challenges of residency. Many interns remark that nothing is more painful for them than having to keep hopeless patients alive, and life-and-death ethical questions are common during residency (13). Preparation for these responsibilities includes courses on communication and ethical analysis and on psychosocial aspects of medical care. Faculty at every medical school have introduced such courses and seek students' support in improving them. At some schools more than others, students need to take the lead in working for improvements. But guidelines on unleashing the change process in medical education are available and faculty allies can be found (14). In the words of one such faculty member, "What you value and aspire to today, is the most valid indication of what you will value and aspire to as a physician" (15).

Janet Bickel
OSR Staff Director

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to address these needs. ICP I consists of 162 hours divided among eight courses; only two have no patient contact: 1) Legal and Ethical Issues in Medicine and 2) Speech and Hearing. A few features of some of the other six are mentioned here: 3) Human Sexuality; 4) Medical History Taking; 5) Primary Care Rounds; 6) Introduction to Patient Interviewing (each student interviews two hospitalized patients with the focus on eliciting the patient's viewpoint; when students write-up their interviews, included is a summary of the patient's curative fantasy); 7) Clinical Opportunities (students spend a minimum of 27 hours with a clinician in his or her office); and 8) Life Cycle (students utilize four city resources—Children's Hospital, a children's shelter, intake on a crisis hotline, and travel with a police emergency team—to examine the biopsychosocial aspects of the life cycle from birth to death). (Contact: Norma Wagoner, Ph.D., 513/872-5493.)

COLUMBIA UNIVERSITY COLLEGE OF PHYSICIANS & SURGEONS'
Human Behavior Sequence:

Columbia's Vertical Committee on the Teaching of Human Behavior, comprised of faculty from seven departments, has implemented a four-year curriculum. The following highlights only a few of its components. The first-year's segment, the Physician-Patient Relationship in the Health Care System, focuses on the patient rather than on his or her illness and includes small group experiences and elective time. The second-year's Introduction to the Practice of Medicine also includes electives and culminates in a segment titled The Healing Relationship taught by Rita Charon. For the final exam, students interview one of the course director's patients and then write the patient's story from the patient's point of view using their imaginations to fill in subtexts and details. Dr. Charon reports that, while initially some students have difficulty writing and some become very sad at the experience of imagining a patient's inner world, this imagining—without over-identifying—helps students to develop the capacity for empathy. Dr. Charon reports that she learns a lot about her patients from her students' stories. (Contact: Constance Park, M.D., Ph.D. or Rita Charon, M.D., 212/305-6262.)

HUMAN VALUES COMPONENTS DURING CLERKSHIPS

Of the 113 schools responding to the survey, 38 reported requiring a human values component during the third or fourth year. A number of these components are ethics grand rounds or conferences, but some are substantial segments integrated into clerkships and a few are discrete courses.

NORTHWESTERN UNIVERSITY'S
Clerkship Ethics Seminars

Northwestern's Program in Ethics & Human Values in Medicine responded to their students' desire to continue their first- and second-year consideration of the human dimensions of medicine by creating Clerkship Ethics Seminars during the internal medicine, pediatrics and psychiatry rotations. These are jointly led by a clinician connected with the rotation and a medical ethicist. Students consider cases illustrating, on the medicine rotation for instance, the appropriate care of the dying and on psychiatry, the paradoxes of obtaining consent to commit a patient. During the required senior subinternship in medicine, students explore such issues in greater depth with an ethicist and clinician and, looking ahead to the stresses of residency, also examine issues of physician health and lifestyle. (Contact: James Bresnahan, S.J., Ph.D., 312/908-7962.)

BOSTON UNIVERSITY'S
Pediatric Clerkship Ethics Committee Simulation

One feature of this pediatric clerkship is a 10-hour Medical Ethics Seminar that incorporates a simulation of an institutional ethics committee focusing on the resolution of real dilemmas in the hospital. Each student chooses a role to play; the committee usually consists of a psychiatrist, a family representative, a proxy to represent the patient, a theologian, a lawyer, a hospital administrator and a public policymaker. Preparation for the role frequently includes research outside the medical center, and students learn how interdisciplinary most ethical problems are. The faculty also guide them in differentiating between the substance of a problem, procedures for addressing it, and existing standards. When a clinical solution hangs in the balance, even students who arrived convinced that "ethics equals relativism" usually acquire an appreciation of the history and importance of the universal questions raised in a case. Other students from the Boston area have been asking to participate in this seminar. (Contact: Michael Grodin, M.D., 617/424-5162.)

UNIVERSITY OF MASSACHUSETTS'
Humanities in the Surgical Arena

This two-hour component of the surgery clerkship focuses on ethics and communication in the surgeon-patient relationship. Two faculty moderators use videotaped vignettes to illustrate different styles of achieving involvement and to assist students in learning how their own emotional responses and personalities assist or hamper treatment of patients. The clerks report that this component, offered by the Program in Medical Humanities, teaches them to appreciate the pitfalls of simple human communication and how to avoid them. A similar component called Intimate and Intense Encounters was recently added to the family and community medicine clerkship. (Contact: Sandra Bertmann, Ph.D., 617/793-1284.)

UNIVERSITY OF CHICAGO'S
Seminars on Ethical Issues

During their medicine clerkship, students participate twice weekly in a Seminar on Ethical Issues, led by the director of Pritzker School of Medicine's Center for Clinical Medical Ethics. Students present cases to the group, placing particular emphasis on the chronology of the decision-making process, and take advantage of the opportunity to talk about their reactions to a patient's suffering or to a difficult family member. The faculty then help students evaluate where ethical assumptions were being made and encourage further verbalization of feelings. During the surgery clerkship, the Seminar includes presentations by surgery attendings on cases they are finding particularly difficult, and students are asked to react to the ethical issues raised. Similar ethics teaching sessions are in the process of being introduced in pediatrics, psychiatry, and

others become frustrated with a medical student who values school and career above all else—as we are frequently admonished to do. Our predisposing personality characteristics of compulsivity, denial of problems, and control of emotions may require that we work especially hard to be aware of these dynamics in order to prevent marital dysfunction and dissolution.

Solutions to Explore

Our goal as students is to work toward our full potential and to grow in the process of becoming a physician. This process includes exploring our feelings and admitting and modifying inappropriate behaviors. We must overcome the stigma that accompanies admission of problems. An honest self-assessment is the first step toward new, more productive responses to medical school.

Counseling programs offered through student affairs offices are worth exploring. For instance, student support groups at the Medical College of Ohio provide an opportunity to meet informally with a small group of classmates and a member of the dean's staff (7); these enable students to gain insight into medical training, express feelings in a confidential atmosphere and receive reassurance that students' well-being is of concern to the faculty and administration.

Another approach is represented by programs such as "AIMS–Aid for the Impaired Medical Student" at the University of Tennessee, the University of Arkansas and increasing numbers of other schools (8). AIMS was created to provide early intervention and treatment for impaired students through self-referral; a classmate, spouse, friend or faculty member may also report a student-in-need to the class AIMS representative. AAMC's Section for Student and Educational Programs has compiled a list of contact persons for a wide variety of student services, including impairment prevention and counseling programs, and is available for anyone's use (9). Students, too, can help create programs where needed—a way of improving the academic environment and gleaning a sense of accomplishment.

From time to time, many of us need confidential personal counseling with a mental health professional. According to the Liaison Committee on Medical Education (LCME), the body which accredits medical schools, all schools must have an effective system of personal and confidential counseling, and there must be a system to provide preventive and therapeutic health services and to make hospitalization insurance available to students and their dependents (10). Students also need insurance coverage for outpatient and inpatient psychiatric care. Typically, however, insurance policies available to students provide only minimal coverage for psychiatric and psychologic services. Reform in insurance coverage for psychiatric counseling for all heath care professionals is needed, and medical schools should pressure insurance underwriters to include better coverage for students.

Improving the curriculum is another important avenue, as is described in the next article. Courses emphasizing examination of values and communications skills are crucial in learning to translate our patient care ideals into clinical skills. In addition to helping us learn to respect all kinds of patients, opportunities for small group interaction and discussions of reactions to difficult clinical events are important features of such courses.

WHAT IS AAMC?

The Association of American Medical Colleges provides a means of national expression on matters of concern to medical school deans, teaching hospital administrators, faculty and students in the areas of medical education, biomedical research and patient care. It maintains numerous data sources, works cooperatively with other organizations involved in medical education and has close liaison with the U.S. Congress and Federal agencies. AAMC represents all 127 U.S. medical schools plus 435 teaching hospitals and 85 academic societies.

WHAT IS OSR?

The Organization of Student Representatives, AAMC's student voice, is composed of one representative from each medical school choosing to participate (122 in 1986–87). Schools are also urged to select "alternate" or "junior" representatives to assure continuity of OSR participation. OSR members gather at an annual meeting each autumn when the Administrative Board is elected; this 12-member body meets quarterly with the Boards of the other Councils to formulate AAMC's programs and policies. OSR business is also conducted at regional spring meetings. OSR operates effectively to the extent that its members channel information from AAMC to their student bodies and vice-versa; therefore, contact the OSR representative at your school with your concerns about medical education.

Interacting with clinical faculty during the first and second years can also personalize the educational process.

Other curriculum innovations useful in providing a social yardstick and a sense of accomplishment are required periods of community service during medical school. Such service could include adult remedial reading, big brothers/big sisters, or school health education. Community service programs are also a way to demonstrate leadership skills and to gain insights into ourselves that will facilitate career decisions.

Many of us occasionally feel trapped in a profession that may not be right for us. We become so engulfed in the demands of school that it is difficult to investigate viable options inside and outside of medicine. While educational indebtedness is a strong argument for completing training, financial aid officers can be asked about options if a career in medicine is not pursued.

With the practice of medicine changing so rapidly, it is not possible to project its future or where we will best fit, say twenty years from now. We need to keep educating ourselves about practice alternatives within medicine (11) and to realize that we have a great deal of freedom in our career choices—perhaps not in all areas but, when compared to other professions, the flexibility and opportunities are substantial. Perhaps, first and foremost we should remember that it will always be a privilege to be a physician (12). And we owe it to ourselves and to our patients to be the best one we can be.

Joanne Fruth, Class of 1987
Medical College of Ohio

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HUMAN VALUES TEACHING PROGRAMS

This article offers ideas on improving clinical education by incorporating programs which draw on the humanities and social sciences and which emphasize communications skills. While medical school curricula are notoriously resistant to change, the results of the study summarized here show that such programs are infiltrating the traditionally-defined basic and clinical sciences. Why might an already overburdened medical student be interested in this progress?

The dissonance between medicine's art and its science, between humanism and technology is real, but medical faculty rarely acknowledge it. Central to any physician's competence, and to students' ideals, is the ability to communicate respectfully and compassionately with patients. But faculties' emphasis on this hard-to-define ability pales in comparison to their emphasis on scientific and technical knowledge. Is this imbalance one reason why medicine's technological advances aren't translating directly into improved patient care and increased patient satisfaction? Why don't physicians do a better job of building nurturing partnerships with their patients? Multiple factors are involved, many of which cluster under one of the following phenomena:

- The *explosive growth of medical knowledge* engenders specialization wherein no single physician feels competent to care for all the needs of a patient. Hi-tech interventions outpace society's ability to agree on usage guidelines; and each hard-won agreement spawns more questions. Moreover, many new life-extending techniques depend on finely calibrated machines which can greatly influence a doctor's decision-making process such that the mechanics of the technology can come to dominate the doctor/patient relationship (1).
- *Cost containment efforts* have shortened hospital stays, accelerated the pace of life in virtually all health care organizations, and exacerbated existing inequities in health care delivery. Emphasis is now on productivity and cost effectiveness rather than on the emotional and physical comfort of patients and the spiritual rewards of those attending them (2).
- The first two forces aggravate existing *weaknesses in physicians' educational preparation,* many of which the AAMC's GPEP Panel identified (3). The General Professional Education of the Physician Panel recommended specific improvements in baccalaureate education, medical students' acquisition of learning skills, clinical education and enhancing faculty involvement. Other neglected areas are interpersonal and communications skills and the ability to respond to patients' emotional needs. Long relegated to the "art of medicine", supposedly acquired by intuition, these skills get lost in the disease and specialty orientation of the curriculum.

IMPROVING THE CURRICULUM

The curriculum is the force which medical students are best positioned to affect, and the remainder of this article describes courses which are successfully helping students to bridge the gap between humanism and technology. This course information resulted from a study of "human values teaching programs", defined as any course designed to improve students' ability to: 1) examine their values in relation to those of patients, 2) communicate effectively with patients, or 3) think critically about cultural, social and ethical issues arising in medical care. U.S. medical school deans received a brief survey asking about human values courses offered in 1984–85, and about progress and barriers in integrating such courses into the mainstream clinical curriculum. Of the 126 contacted, 113 schools supplied course information. Before proceeding with the study's findings, it's worthwhile to note other pioneering efforts.

Family practice educators as a group have often taken care to integrate psychosocial and valuational dimensions of clinical practice (4) and longitudinal contact with patients (5) into their programs. Behavioral scientists are another group who have worked to "liberalize" curricula through the introduction of skills and perspectives from a variety of disciplines such as psychology (6). The Society for Health and Human Values, composed of teachers of literature, ethics and history in medical education as well as ministers and nurses, has published numerous resources, including descriptions of 65 medical schools' human values programs (7). Another leader is the American Board of Internal Medicine (ABIM) which now requires that candidates seeking certification demonstrate specific humanistic qualities, namely integrity, respect, and compassion (8). The ABIM reports encouraging evidence of residency program directors' efforts to enhance and assess these qualities.

However, disturbing ambiguities continue to afflict all such efforts. Friends as well as critics ask—are humane "qualities" and "behaviors" identical, and where do "attitudes" fit in? Does cognitive training in the humanities and social sciences achieve behavioral goals? Or, as a medical student might say, "what does the principle of nonmaleficence have to do with my learning to do a thorough H & P?" One group of educators argues that "we must address attitude, knowledge *and* behavior before we can claim to have trained truly humane physicians". They suggest an approach to each, showing that both education in the humanities and training in communication skills are necessary (9). This approach coincides with the survey design described above.

It's easy to see why attempts to graft a kind of remedial humanism onto the typical medical school curriculum fail. Literature and ethics courses can enhance understanding of key concepts in physician/patient relations. But preclinical students find these concepts too abstract; and clerks, deluged with new responsibilities, are preoccupied with survival. Compared to the immediate realities of ward life, the ideals espoused in Ethics 101 can seem like pie-in-the-sky. Continuing reinforcement of humanistic concepts, ideally in patient care settings with experienced clinicians, is therefore essential for students to learn how to translate ideals into new behaviors. Not all of the 95 schools reporting a required human values course during the first- or second-year of the curriculum offer such reinforcement, but examples of some that do are provided below. the full project report offers much more complete information and is available on request (10).

PATIENT CONTACT IN THE FIRST YEAR

Thirty of the 95 schools with required human values courses in the first- or second-year have incorporated patient contact as an important component, often as part of an Introduction to Clinical Medicine sequence. Some of these courses draw more obviously on the humanities and social sciences than others, but in all cases a primary goal is for students to acquire patient interaction skills and new understandings of medicine as a human experience.

UNIVERSITY OF MIAMI'S
Health and Human Values:

The basic theme of this 100 hour first-year course is the interrelatedness of biological, social, psychological and cultural factors in health and illness. An important course component is students' visiting chronically ill patients at home and community services agencies. Students also meet in small groups throughout the year to discuss issues arising in all aspects of the course. (Contact: J. Phillip Pennell, M.D., 305/547-6499.)

CASE WESTERN RESERVE UNIVERSITY'S
Preclerkship Patient-Based Program:

One patient care component of this many-faceted two-year program has been popular with students from its inception in 1952—and is called Family Care. Freshmen are assigned to a pregnant woman whom they follow in OB Family Clinic until delivery; from then on, the student follows the child in Peds Family Clinic. Workshops on subjects such as nutrition and understanding social agencies supplement clinic visits. As sophomores, students can be involved in the medical care of any member of their patient's family. Patients volunteer to participate because of the continuity of care that student-doctors provide; in fact, a number of expectant mothers were born into the Program many years earlier! In addition to the Family Care component are preceptor groups, clinical correlation conferences, and interviewing feedback sessions.

The program faculty use several evaluation instruments modeled on the clerkship evaluation form, thereby establishing an evaluation continuum. Descriptors assist faculty in rating each student's skills, knowledge, and personal characteristics. The latter category includes 13 characteristics, e.g., ability to function under stress, self-insight. Satisfactory performance in each area is prerequisite for passing into year two. While time-consuming, faculty note a special advantage of early patient contact vis-a-vis student evaluation; an emphasis on communications and interpersonal skills allows earlier identification of students with special needs and thus earlier interventions, e.g., psychiatric counseling. Graduates of this school have commented that this early longitudinal contact with a patient and the family has been the most positively formative experience of their education. (Contact: Linda Shuck, M.D., 216/368-3498.)

UNIVERSITY OF CINCINNATI'S
Introduction to Clinical Practice (ICP):

One outcome of a 1978 curricular review was the recognition that the first year needed to include more patient contact to help sensitize students to psychosocial aspects of illness and to smooth the transition from the basic science to the clinical years. Partly from extant courses, ICP I AND II were created