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## A Chance For The Generalist?

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AT A RECENT SYMPOSIUM SPONSORED BY THE AMERICAN BOARD OF Medical Specialties and again in the most recent issue of *Academic Medicine*,<sup>1,2</sup> Eli Ginzberg, the noted medical economist, flatfootedly stated that no matter what medicine did, the generalist, if still present, would continue to disappear. He felt that medicine, like so many service industries, had entered an age of specialization, subspecialization, and sub-subspecialization and that there was no reversing the trend. At the same meeting, Dr. Henry Mankin, a well-known and respected orthopaedist, confirmed this by relating the present scenario of how orthopaedics is divvying up the various joints of the body. He facetiously stated that to the best of his knowledge they have not divided up the left and right sides of the body — yet!

In contrast to what went on at this national specialty-sponsored meeting, every day of the week I have a patient, friend, faculty colleague, surgical or medical subspecialist ask me for the name of a generalist who can supervise or take over a patient's management — and, by the way, this is not just in the outpatient setting but frequently in the tertiary hospital setting! Such a request is usually accompanied by a long history of the patient's, and frequently the specialist's, frustration in finding a medical quarterback or someone who can put it together. Unfortunately, I have a terrible time trying to help them out, for it has become increasingly difficult to locate such generalists. The good ones are simply overwhelmed with work and there is certainly no glut of them! In the Philadelphia area, the number is decreasing as the years roll by.

Similarly, I hear from patients who have had to seek episodic care in crowded emergency rooms after 5 p.m. and/or on the weekends, for they have not been able to enlist a general physician. Many of them understand, but are resentful that they have to wait, that frequently an inordinate number of expensive tests are done (and frequently repeated), and that satisfactory follow-up arrangements are wanting. It makes one wonder whether the emergency room specialty would have grown so rapidly and successfully had the other disciplines continued to emphasize general medical training.

Purely out of ignorance, many individuals inquire why the only general physicians located in urban and rural areas are osteopaths. They are confused about the relationships and differences between allopathic and osteopathic physicians. Many assume that an allopathic physician is exclusively a surgical or medical subspecialist and that the generalist's role



abdicated the important role of the generalist. Unfortunately, unless something happens, I only see the situation worsening.

Today, I would like to share some of my thoughts with you about why the generalist is so desired but not readily available and some of the steps that we might take to correct this situation.

**D**ESIRABILITY OF THE GENERALIST: AS MEDICINE BECOMES MORE AND more complicated, the general physician will play an even more important role. My own biased view is that the general physician should be the best clinician in medicine, for he serves as the entry point for patients' problems. It is up to the generalist to make a decision about diagnosis or classification, urgency, and what type of management should be employed.

It used to be said that 90 percent of the training of general physicians was for 10 percent of what they saw and did. This was probably true because of the training setting and its emphasis on inpatient problems and care. Before

prospective payment for hospital care, the physician could use the hospital for rather routine, diagnostic purposes and also for the monitoring of care. With the advent of the prospective payment system, however, much of the diagnostic work-up is done in the outpatient setting, and the hospital length of stay is markedly shortened. No longer are patients with diabetes mellitus and thyroid diseases routinely admitted to

the hospital for stabilization and management. These conditions are now cared for in the ambulatory setting. In order to learn how to deal with them, the training setting must shift to the outpatient setting. Patients who are much more acutely or severely ill and specialized types of patients are admitted to the hospital, a situation that exaggerates fragmented, subspecialty care.

This means that generalists in the ambulatory setting must learn new skills to carry out one of their principal tasks, namely that of diagnosis or classification. The wrong diagnosis or classification is one sure way to go down the wrong street that ultimately leads to disastrous effects on patients and their families. For this reason, generalists must use every tool available to make the correct diagnosis in an effective and efficient manner. This means using their God-given senses in a disciplined manner. Listening, inquiring, and observing over a period of time are wonderful assists to putting one on the right diagnostic trail. While they do take time and frequently are not that reimbursable, these skills allow one to consider the natural course of a problem, to appreciate that time is a great healer or definer, and that very rarely do patients have a single etiology or system involved in their problems. This is particularly true in the case of the elderly.

Diagnosis and management require that physicians be familiar with the family or the social unit, plus the community and its problems and resources. It is foolish to attempt to care for patients solely in the narrow confines of one's office or the hospital. Their presence there is nothing more than a snapshot of a continuously evolving scene. Physicians require continuous accessibility, exposure to, and familiarity with patients, where they live and work, how they play, and how they interact with other persons. In other words, management requires a great deal of personal involvement.

As new knowledge develops, undoubtedly the role of prevention will assume an even greater importance than it has today. The patients are starving

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for this. The concern about and acceptance of prudent diet, exercise, cholesterol management, stress relief, anti-smoking campaigns, prenatal care, immunizations, and cancer screening are manifestations of this. Hopefully, sooner rather than later, the payors will recognize the importance of some of these preventive services and reimburse for them. Doesn't it appear strange that Medicare will not reimburse for Hemocult™ testing and until just recently would not pay for mammography? A mammogram detecting an early, curable breast cancer is a bargain compared with an undetected breast cancer that spreads and, as a result, is incurable. The personal physician should be concerned with preventive medicine and should not delegate it to an executive health maintenance clinic. Every possible exposure of the doctor to the patient, and vice-versa, only improves the knowledge and understanding that they have of each other.

Continuous exposure to patients and their families also leads to trust, a trust that should greatly influence attitude and good judgment. Patients and physicians should feel comfortable with one another. Once this occurs, it is easy for patients to communicate and to share their concerns or fears without

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trepidation that they will be judged in a negative fashion. Such trust allows physicians to grow more comfortable with their own insecurities so that they don't have to drop all of them onto patients and in turn do harm. Loose, insecure lips do harm! "Well, it could be a touch of cancer, but I sort of doubt it." Other than to relieve some of the physician's anxiety, such a statement has no place in medicine. Words should be weighed just as carefully as the written prescriptions are! A trusting relationship

also helps to limit the endless parade of unnecessary tests. When appropriate, it allows the physician the efficient and effective pleasure of using time as an ally. Physicians can and will grow comfortable with chronicity and the fact that, although not everything can be fixed perfectly, just some improvement or reassurance helps tremendously. Steps to relieve urinary incontinence are probably just as appreciated by the socially embarrassed and isolated patient as is the insertion of a technologically elaborate pacemaker in the patient with a sick sinus syndrome. And finally, no matter how grim the situation, the competent clinician can and should leave some ray of hope with patients and their families, regardless of the circumstances.

An important part of being a good clinician is being a good educator, particularly in this day and age when patients wish to have greater autonomy about what is done for and to them. Unfortunately, many of us do not take the time or have the requisite skills to do this. Patients and their families do want to understand a care plan. They want to discuss preventive medicine opportunities, wish to understand and be able to anticipate what is involved in various diagnostic laboratory tests (particularly with the frantic, whirlwind environment of today's acute hospitals), can understand sensitivity and specificity concepts, appreciate pathophysiology presented in layman's terms, want to know about drugs and their reactions and interactions, and want to know what outcome is to be expected and what monitoring (including communication with the physician) is necessary. The physician who can intelligently discuss such subjects with a patient is a good clinician, for it is

impossible to teach when you don't know your subject. Just as important as knowing is taking the time to do it.

**A**N AREA WHERE THE GENERALIST HAS TO GAIN MUCH MORE KNOWLEDGE is in the field of management. I am impressed about how the subspecialties and specialty societies are very concerned with developing protocols and policies for the care (diagnosis and management) of particular problems. The data base for doing this and also the "know-how" are in the embryonic stage. For this reason, I hope that medicine will proceed in a logical fashion, that turf and reimbursement issues will not contaminate thinking, and that the generalist who is concerned with many organ systems, multiple etiologies — including psychosocial — and various social structures and issues will have a great deal of input. The generalist must be the critic, not just of protocols for care, but of the entire diagnostic and management process. Medicine should not delegate this responsibility exclusively to managed care systems or to subspecialty societies! This should not be misinterpreted as saying that medicine should not be concerned with economic issues in health care delivery, for obviously nothing could be further from the truth.

In addition to these management concerns, I believe that one of the major roles of the generalist is to coordinate care, to "put it together." Any of you who have had a complicated illness and have entered a complex institution for sophisticated care undoubtedly appreciate how important it is that someone be the quarterback, call the plays, communicate, and make sure that there is some organizational order to the care plan. Everyone appreciates this. It is proper, practical, and appreciated to have a central figure that the health care providers and the patients and their families can relate to — in all types of settings.

Despite the desirability of the generalist to serve the roles of clinician, educator, and manager, what really is happening?

**D**ISAPPEARANCE OF THE GENERALIST: THERE IS A GREAT DEAL OF DATA TO document the declining interest in the generalist's role in medicine. This starts at a very early point in the student's career. In 1983, the Association of American Medical Colleges identified students' specialty interests when they took the Medical College Admissions Test (MCAT) as premedical students.<sup>3</sup> From 1983 until 1987, when the cohort of approximately 11,000 students were graduated, there was a very significant increased interest in subspecialty medicine, psychiatry, obstetrics and gynecology, other surgical subspecialties (such as orthopaedics and ophthalmology), anesthesia, radiology, and rehabilitation medicine. At the time of graduation, 79 percent of the seniors chose specialties that differed from the specialty they had preferred as premed students. The exact time that they changed their interest or the reason for doing so was not ascertained. Furthermore, the graduating specialty choices of U.S. medical school seniors changed dramatically from 1983 to 1987, with 21 percent fewer men and 12 percent fewer women being interested in primary care medicine.

In the March 17, 1987, "Black Tuesday Match," there was a dramatic switch in interest away from those specialties dealing primarily with direct patient care to those involved primarily with technology. Associated with this switch was a "brain drain," for many of the students entering primary care specialties ranked further down in their class than those entering the more technology-oriented specialties. Various explanations have been forwarded about why this has happened, with some of the commonest ones being that in

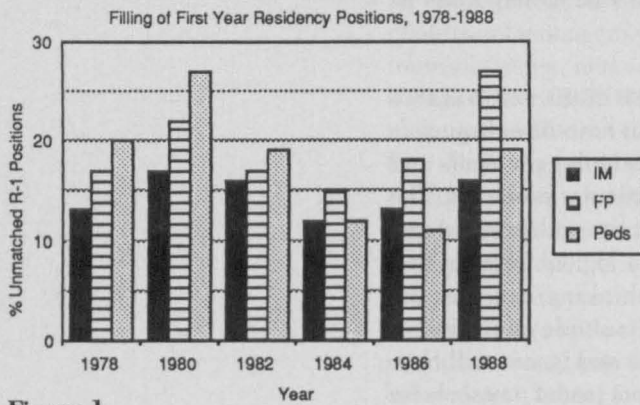


Figure 1.

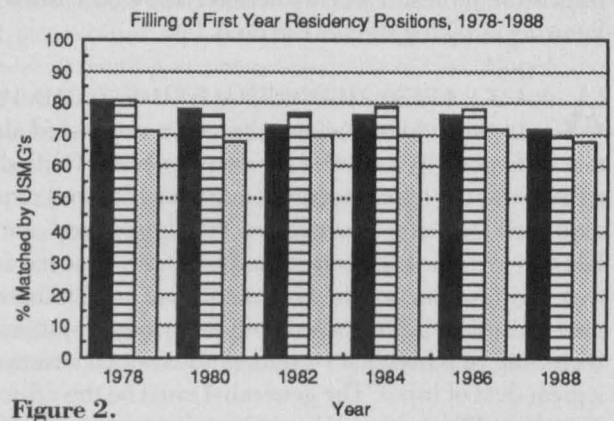


Figure 2.

the technology-related specialties there is much higher compensation (which helps to satisfy debt-ridden students' obligations), not as much continuous, emotional involvement, much more drama and action, and the opportunity for a much more controlled personal life.

The two figures above relate to the filling of 1st-year residency positions in internal medicine, family practice, and pediatrics. They show a gradual increase in the percentage of unmatched positions (or decrease in the matched positions), plus a gradual decrease in the percentage of positions filled by United States medical graduates.

The Health Resources and Services Administration (HRSA) and the American Medical Association's Center for Health Policy Research have provided estimates of physician supply and utilization to the year 2000 and beyond.<sup>5</sup> The HRSA study tends to support the 1981 Graduate Medical Education National Advisory Committee's (GMENAC) recommendation that there will be a surplus of approximately 70,000 physicians over requirements in the year 2000. Similarly, the American Medical Association (AMA) Report concludes that supply will increase by almost 24 percent from 1985 to 2000 but that utilization will increase by only 14.5 percent. The AMA Report also estimates the changes in projected utilization and supply of various specialty-type physicians. It shows that the utilization of family practitioners and psychiatrists is projected to increase faster than supply.

**I**N JULY 1988, THE COUNCIL ON GRADUATE MEDICAL EDUCATION, WHICH makes recommendations to the Congress of the United States, stated that in the near future there "will be an aggregate oversupply of physicians in the United States." They also went on to state that "there is evidence of an undersupply of certain primary care physicians together with an oversupply of some nonprimary care specialists." They defined the shortage of primary physicians by stating that "there is an undersupply of physicians in family practice," and that "there appears to be an impending undersupply of physicians in general internal medicine."

Schroeder estimates that approximately 27 percent of U.S. physicians are functioning as generalists, and he contrasts this with the United Kingdom where 73 percent are generalists.<sup>6</sup>

If we can agree that the generalist is disappearing and that medicine and the public cannot afford this, what can be done to change this trend?

A chance for change? Education: since 1982, there have been three excellent reports concerned with medical education and the need for change.

The AMA Study on Future Directions for Medical Education,<sup>7</sup> the General Professional Education of the Physician (GPEP) Report,<sup>8</sup> and, more recently, the Josiah Macy, Jr., Foundation's National Seminar on Medical Education<sup>9</sup> have many common concerns. They have had input from many of you in this room. Basically, they emphasize the following points:

- ◆ The physician of tomorrow must be more socially concerned and aware of the relationships and responsibilities of medicine to society as a whole. This certainly includes the cost and financing of health care (for the elderly and poor, too) and ethical issues revolving about the right to care, the sustenance of life, and issues concerning the good of the individual versus the welfare of the conglomerate.
- ◆ It is time to re-emphasize the important role of humanism in medicine.
- ◆ Health promotion, disease prevention, and concern about environmental and emotional factors' roles in health and in disease states should be emphasized.
- ◆ The primary responsibility for learning is that of the learner, and it is one that is required for the lifetime of the professional — not just until one receives a doctorate of medicine or a specialty certificate.
- ◆ Every medical school training program should have as its primary goal the broad preparation of a generalist, rather than a technically oriented specialist.

All of these succinctly stated goals address the issues that I have addressed. Seven years have elapsed since the first report, and although various medical schools have initiated innovative curricula with some of the above-mentioned goals in mind, the generalist's outcome production numbers continue to decline! Perhaps it's simply too early, or several of us are just too impatient for change. I doubt this; I think that it is time for further change.

**W**HAT CAN BE DONE? IN THE FIRST PLACE, I THINK THAT IT IS ABSOLUTELY essential that there be a national mandate that medical educational efforts provide for the training of a general physician, certainly at the undergraduate level and also in the majority of residency positions. It will be impossible to accomplish this overnight, and for that reason there should be provision for a phase-in period so that medical institutions will have time to assess their resources, change curricula, develop new resources — including sites for ambulatory teaching — and provide for new faculty and faculty development to accomplish this. It's been a long time since most of the medical institutions have had this as a goal, and therefore significant change will have to take place. In order to make sure that this is carried out, it will be necessary to ensure that national and state funding authority and accreditation are coupled with the mandate and related to outcome, not just the process. Similarly, institutions will have to develop a powerful centralized system with the responsibility and authority (particularly budgetary) to see that this is carried out. It cannot be delegated to the individual, traditional departments that, in general, have higher priorities than general clinical teaching. The necessity for centralization of such a program within the institution will be even more true if departments of medicine go a route similar to departments of surgery and have their subspecialties represented by departmental status.

What changes might such a mandate bring about? Starting with the admissions process, the medical school's requirements should emphasize the importance of a broad, general education, not necessarily a "premedical education" that frequently ignores the humanities and social sciences. Inde-

pendent study, problem solving, the development of communication skills, and reflection on the lessons that can be learned from studying literature and history should be emphasized. Students who love to read, who enjoy interaction with other individuals, and who possess good interpersonal skills should be wooed. There is no reason why a student going into a medical career should be identified as a "premed" in a pejorative sense by his classmates at a very early stage of his baccalaureate education. The Medical College Admission Test scores should be used as a screen to determine whether a student might be able to pass the medical school curriculum, but they should not be used to select an elitist or "bright" class. Funkenstein has divided entering students into probable bioscience and biosocial specialists.<sup>10</sup> He believes that admission committees can identify certain traits that will predict whether the entering student is likely to choose a subspecialty career. Preferential admissions policies, such as those described by Rabinowitz, show that they, too, can influence career choice.<sup>11</sup>

**I**N A RECENT MEETING WITH PREMED ADVISORS, I WAS SHOCKED TO HEAR that many college students who are interested in health careers do not wish to become physicians. They identified two principal reasons. The first is that tuition and the cost of medical education are prohibitive, and for this reason many are choosing alternative careers, such as physical therapy or optometry. The students now entering medical school realize that their only financial salvation might be to enter a high-paying subspecialty career. This is an enormous issue and is one that requires some national consideration about whether the student who wishes to become a generalist should be eligible for low-interest loans, subsidy, and/or greater career remuneration.

According to the premed advisors, the second reason for students not wishing to enter medicine is the fact that the morale amongst physicians appears to be at an all-time low. A depressed attitude is as contagious as measles! Potential students hear a long list of complaints that include malpractice insurance rates, competition, regulation, paper work, turf issues, and long hours, just to mention a few. Wouldn't it be appropriate to allow potential students the opportunity to interact with a few content generalists who might serve as inspiring role models? A preceptorial experience might prove very helpful.

Once the student is in medical school, the basic science years, as they now exist in many medical schools, prove to be sheer drudgery.

Much has been convincingly written about delegating the task of basic science teaching to nonmedical school faculty. This is particularly true of large universities where there are many appropriate faculty in the various other schools who could assume such a role. This certainly could happen (1) if the financial squeeze on medical schools becomes even tighter, (2) if the funding of research activity by the government and its delegation to the medical schools should decrease, (3) if the detachment that exists to a degree between the basic and clinical sciences should increase, (4) if there is more and more focused subspecialized basic science teaching that has no apparent clinical correlation, and (5) if the MD's presence in basic science continues to disappear.

**W**OULDNT IT BE WORTHWHILE TO CONSIDER HAVING THE BASIC SCIENCES taught by 3 or 4 generalists within a basic science department rather than individually by members with rather limited and narrow research interests who may focus too much on them? Such basic science faculty should

sit down and discuss curricular emphasis with general physicians and in turn involve them in the basic science-clinical correlation teaching. It has been proved how valuable a general surgeon can be in developing and implementing a gross anatomy curriculum. Similarly, a general physician can create clinical vignettes for the microbiologist that will make the curriculum become alive and clinically relevant. An earlier professionalization would undoubtedly improve student morale during the first 2 years of medical school. The student would not feel that these years of medical school are just an irrelevant extension of undergraduate school science courses. The tug between the various basic science subjects and the mastering of clinical subjects taught in the first 2 years would not be as real as it is now; students would not be forced to prioritize. Block teaching, and the associated subspecialization, would be de-emphasized, and correlation between the various basic sciences could also be emphasized. For example, while studying lobar pneumonia in pathology, it would be appropriate to learn about the *Streptococcus pneumonias* in microbiology.

This would teach medical students at an early time in the curriculum to synthesize and integrate information. It would prepare them for patients who rarely have single, differentiated problems, but rather have numerous problems affecting many organs due to different known and many unknown etiologies. Students would also be exposed to a faculty who would not appear to know

everything about everything, but rather a faculty who would be forced to rely more upon concepts than arcane knowledge. It would be reassuring for the students to appreciate that it is impossible to know everything about everything and that general concepts that set the stage for problem-solving are what the general clinician must possess. Informatics, as it develops, will be the necessary assist for the student who needs additional information. The student should become familiar with the various techniques that can be employed to gain such information. In doing so, the student will appreciate that continuous learning in medicine should be a lifelong endeavor that can be fun and exciting.

The average 8-hour day of lecture relating to a single, narrow discipline would stop, and it would be replaced by inter-basic science teaching with an emphasis on clinical correlation, taught by generalist basic science and clinical faculty in a small-group, problem-solving format. Many of my basic science friends would look forward to this. They do not view this as being a threat or anti-basic science. They see it as a positive mechanism to bridge and integrate basic and clinical science into medical student training.

**I**N ORDER TO BE CONSISTENT WITH SUCH A DRAMATIC CHANGE IN CURRICULUM, the examination would have to reflect this format, and there would have to be comprehensive examinations that would not reflect the traditional, unique basic science categories, but that would reflect their interdisciplinary relations along with clinical correlation. For example, an essay question asking students to describe what structures and functions may be involved with a traumatic amputation of the arm at a particular level would get away from the multiple-choice format, allow students to seek whatever information might be necessary, and force them to organize their thoughts in an uncued fashion about a very real clinical situation. I'm happy

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to see that the National Board of Medical Examiners is committed to more comprehensive and integrated examinations. They have been working long and hard at developing them, but their timetable has had to be altered several times.

Granted, this type of teaching in the first 2 years will require a great deal of preparation and effort. In turn, it will require the institutions to recognize the value of such teaching and to create an alternative system for rewarding the faculty involved.

Some schools, such as Harvard with its New Pathway for General Medical Education, are already attempting to see if some of these changes might work. To give a select number of students the feeling of belonging to a special group or community of scholars, it was named after Oliver Wendell Holmes, and

those volunteers selected for this general curriculum have been elected to the Oliver Wendell Holmes Society.

During the traditional 3rd- and 4th-year clerkships, significant changes will have to be made in order to continue the emphasis on a general medical education.

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able to appreciate the role of the generalist (previously described). This is difficult teaching, and it is not a very popular role in most of our medical schools. First of all, there are very few generalists who feel comfortable with dealing with a population of undifferentiated problems. Second, it takes a great deal of time and supervision. One cannot make rounds in the morning and return to the clinical situation late in the day once the tests and procedures are completed. It requires continuous contact with patients and students, immediate decisions that are frequently not based on as rich an information base as they are in the hospital setting, and attention to psychosocial and ethical issues, chronic problems that are frequently overwhelming (particularly in the urban milieu where most of the teaching institutions are located). Finally, it is not very rewarding for faculty and/or the institution in terms of reimbursement or eligibility for promotion. Parenthetically, I would also add that I think it very important that the physician responsible for the patient in the outpatient setting play an important managing role when the patient is hospitalized — on whatever service. This will show the students how important the generalist role is in all types of settings. Very few chairmen or professors can or do serve as role models in this type of situation. No wonder the students think that it is either too difficult to do or it represents second-class activity. I believe that primary care or general medicine will never have a chance without a rich ambulatory experience. It is going to take a great deal of work and dedication, including faculty development and recruitment, to get there.

**T**HE 4TH YEAR, SO FREQUENTLY ABUSED, AND AS DR. ROBERT PETERSDORF has mentioned, a year in which students enrich their frequent flyer portfolios while looking at residency programs, should not represent the 4th year of a 3-year specialty residency program. Residency program directors should urge students to become generalists first, not ophthalmologists, orthopaedists, and so forth while in medical school. I have never been convinced

that a 4-week elective block in radiology accomplishes very much other than to leave a student in further awe of the superb technology. Rather, I think that students would learn a great deal more about radiology by consulting a radiologist to determine the best imaging process and reviewing all the subsequent studies concerned with their patients. I am impressed by the value of having the student rotate through a well-constructed and supervised clinical outpatient practice in the community. I know that this smacks of the heretofore abused and maligned preceptorship, but maybe it is time to rethink and to re-evaluate the role of the community preceptorship. It would be good for students to get away from tertiary care, which is becoming more and more complex, to see that this is not the only side to medicine. Most of the students who avail themselves of such an opportunity believe that it is the best clinical experience that they have in the entire 4 years of medical school. Many appreciate that good general medicine can be practiced. The big problem here is that generalist role models are suffering from attrition because of age. Perhaps some of the younger graduates from our primary care training programs will replace them.

**S**UGGESTED NEW CURRICULAR CHANGES ARE ON THE HORIZON. THE EBERT-Ginzberg recommendation that the last 2 years of medical school and the first 2 years of graduate medical education be combined, and that the medical school assume responsibility for planning an integrated curriculum in consultation with the boards of internal medicine, pediatrics, and family medicine, is another option that can be considered to develop a separate generalist track. Some view this as a downgrading of the generalist. (See pp. 7-14 for Dr. Ebert's views.)

More recently, there has been considerable talk about developing a consortium experiment for internal medicine, pediatrics, and family practice to develop a 4-year program (1 year of which might be the senior year of medical school), 2 years of which would produce an undifferentiated, licensable physician, and another 2 years a primary care specialist. Doctor Benson has addressed some of the issues involved in such training. Undoubtedly, there will be many more such proposals in an attempt to bring back the generalist. All of these will require enormous changes in the existing organizations and therefore will require considerable planning, much compromise, and adequate pilot testing before being enacted across the board at a national level.

The funding of primary care graduate medical education remains an enormous issue. The Council on Graduate Medical Education has spent a great deal of time with this issue. As you know, most graduate medical education funding comes from patient-care dollars. Medicare Part A contributes approximately \$1 billion in direct costs and approximately \$2 billion in indirect costs. Current Health Care Financing Administration (HCFA) guidelines allow for both direct and indirect costs of primary care and ambulatory training if there is a definite relation with the parent institution.

Medicare B payments still favor the inpatient setting by an average of 11 to 32 percent more than the payment for a similarly coded outpatient visit. Payments for procedures are still more attractive than those for diagnosis and management. The reality is that medical education in the ambulatory setting must be subsidized largely through payments for hospital services. Until these inequalities of payment are settled, it will continue to be difficult to fund ambulatory training in graduate medical education, an essential for the training of the primary care physician. Recently, there have been various proposals to protect

**Table 1. Physician Income and Competitiveness among Specialties, 1987.\***

<i>Specialty</i>	<i>Median Net Income \$</i>	<i>U.S.-Trained Residents/ No. of Positions Offered</i>
Psychiatry	93,700	0.724
Pediatrics	88,500	0.758
Internal Medicine	98,400	0.761
Family Practice	87,100	0.863
Obstetrics/Gynecology	137,900	0.910
General Surgery	130,500	0.913
Anesthesiology	161,700	0.927
Orthopaedic Surgery	193,300	0.948
Otolaryngology	143,600	0.954
Ophthalmology	167,900	0.960
Diagnostic Radiology	165,900	0.967

\*Ebell MH. Choice of specialty: it's money that matters in the U.S. JAMA 1989; 262:1650.

the residents' salaries in primary care or to even increase them in relation to the salaries of other types of residents. This is a step in the right direction.

Concerning the training of residents in primary care, it is extremely difficult to expose them to generalists and the appropriate type of training. Too often the hospital rotation is just additional exposure to a subspecialist's approach to a problem — an approach that can include: extensive testing to "rule out," a technology that is extremely expensive and related to a single organ system or etiology, and an urgency that everything must be accomplished during the hospitalization. It is going to take a long time to correct this, for at the present time there are insufficient numbers of generalist faculty to serve as role models or to be constructive critics of this type of care or training for the generalist.

**F**INALLY, CAREER-WISE THERE HAS TO BE SOME REFLECTION THAT SOCIETY appreciates the generalist. In our society, this is equated with financial reward. Table 1 shows the mean physician net income in 1987 after expenses and before taxes. It also shows the ratio of U.S.-trained residents to the number of residency positions offered — confirming that the competitiveness of a specialty correlates strongly with the median net income for that specialty.

The discrepancy between the generalist's salary and that of the subspecialist using high technology is readily apparent. It is encouraging to see that currently the Congress is considering the Resource Based Relative Value Scale, which does consider cognitive effort. Such a payment reform will be tangible evidence that the generalist is appreciated. It will also provide some hope for the medical student, deep in debt, who would like to enter a primary care field.

In the academic setting, the generalist may require different guidelines or criteria for promotion from those of the traditional subspecialist. As Osler said in his speech on "Teacher and Student" in 1892, "an academic system without the personal influence of teachers upon pupils is an arctic winter; it will create an icebound, petrified, cast-iron university, and nothing else."<sup>12</sup> It should also be appreciated that health care delivery research can be academically sound

and that it will prove even more relevant and practical as the medical system is forced to look for greater efficiencies and effectiveness in maintaining health and delivering care.

The total number of generalists has actually been increasing during the past decade because of the larger number of medical school graduates and the greater number of women entering medicine, but now those effects have leveled off. As the physician population ages, the total number will be reduced. At the end of 1986, 19 percent of family physicians were more than 55 years of age.

Although it has been said that no matter what medicine does today, the generalist will eventually become extinct, I disagree. I believe that there are still opportunities to select appropriate applicants to medical schools, to provide them with relevant clinical experiences and stimulating generalist role models, and, finally, to guide them toward rewarding career opportunities in primary care. To accomplish this, however, we will need to work together and consider changes not only in the medical schools and residency programs, but also in the way in which health care is actually delivered and financed. From a selfish standpoint, I really hope that there is a chance that we can accomplish this and that the generalist will return to medicine. Personally, I don't like the alternatives. I hope that I shall always be able to find a personal, general physician to care for me and my family.

## REFERENCES

1. Health policy issues affecting medical education. Evanston, IL: American Board of Medical Specialties, September 22, 1989.
2. Ginzberg E. Do we need more generalists? *Academic Med* 1989; 64:495-8.
3. Babbott D, Baldwin DC, Jolly P, Williams DJ. The stability of early specialty preferences among U.S. medical school graduates in 1983. *JAMA* 1988; 259:1970-5.
4. Abstracted from NRMP Data, April 1988.
5. Singer AM. Projections of physician supply and demand: a summary of HRSA and AMA studies. *Academic Med* 1989;235-40.
6. Schroeder SA. The making of a medical generalist. *Health Affairs* 1985; Summer:22-46.
7. The Council on Medical Education. Future directions for medical education. Chicago: AMA, 1982.
8. Association of American Medical Colleges. Physicians for the twenty-first century: the GPEP report. Washington, D.C.: AAMC, 1984.
9. Rogers DE, Castel B. Adapting clinical education to the needs of today and tomorrow. The New York Academy of Medicine, 1988.
10. Funkenstein DH. Medical students, medical schools and society during five eras. Cambridge, MA: Ballinger Publishing Company, 1978.
11. Rabinowitz HR. Evaluation of a selective medical school admissions policy to increase the number of family physicians in rural and underserved areas. *N Engl J Med* 1988; 319:480-6.
12. Regelson W. The weakening of the Oslerian tradition: the changing emphasis in departments of medicine. *JAMA* 1978:317-9.