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If I Were Dean

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I AM VERY GRATEFUL TO NICK PISACANO, AND TO ALL OF YOU, FOR ALLOWING me the privilege of participating in this symposium marking the 20th anniversary of the American Board of Family Practice. I recall the gestation, labor, and delivery of the American Board of Family Practice. During the 20 years of its existence, the Board has done at least three unique things:

- From the very beginning, it has insisted on mandatory recertification of its diplomates, the only examining board to do so.
- From its very beginning, the membership of the Board has encompassed representatives from other specialties — medicine, surgery, obstetrics and gynecology, psychiatry, and pediatrics.
- More recently, the Board has carried out a major collaboration with the American Board of Internal Medicine where both jointly have examined and certified in geriatrics.

The American Board of Family Practice has a solid record of innovation and accomplishment, and it deserves to celebrate its 20th birthday with pride and joy.

Nick's invitation to me was also very generous. He allowed me to choose my topic and encouraged me to be frank. This is a pleasant change; too often I am urged to moderate and modulate my opinions, which is not really my nature. In fact, Nick even suggested that I might choose to be shocking in my remarks. I doubt that I will be; I would rather move the audience to action than to put it into shock.

Nick suggested that I speak about what I might do if I were czar of medical education. I decided not to be a czar; too often they meet an abrupt and gory end. Instead, I entitled my address, "If I Were Dean." Deans may also come to an abrupt end; it is usually not violent, only messy. However, they frequently have an afterlife, reappearing as deans at other institutions, as vice-presidents of health affairs, or even as university presidents. Some appear in pseudo-academic guises, such as foundation heads, cabinet secretaries, or even association CEOs.

Now that I am in Washington, D.C., I find myself a close observer of that wondrous phenomenon, the Federal Government. It is large, complex, unwieldy and difficult to manage. But every so often a new management strategy takes the town by storm. We recall PPBS (Program Planning Budgeting System), and MBO (Management by Objectives). The system I want to use as

a model is zero-based budgeting. Under zero-based budgeting, there are no givens, no entitlements, no carry-overs from previous years; everything starts from zero. Using that model, let me tell you how medical education would be if I were dean under a very special set of circumstances: a new medical school with no prior students, curriculum, or faculty; no traditions; no faculty senate — just the ability to use zero-based planning and budgeting. What would such a school look like?

SELECTION OF STUDENTS: LET US BEGIN WITH STUDENT SELECTION. ONE OF the truly wise and gifted men of our profession, Lewis Thomas, has said, "The influence of the modern medical school on liberal arts education in this country over the last decade has been baleful and malign, nothing less. The admission policies of the medical schools are at the root of the trouble." [1] I have seen no improvement since he made this pronouncement over a decade ago.

If I were dean at this mythical medical school, I would appoint the admissions committee not in the mold of the usual basic science or clinical faculty, but would appoint it from a broad base including the liberal arts faculty and the community, and I would ask it to find broadly prepared, literate candidates for my school.

First, we would limit the number of premed majors admitted to medical school. Thomas himself has suggested that self-professed premeds be placed at the bottom of the pile of medical school applicants and that students belonging to premedical societies be excluded altogether. Too often today a career in medicine is launched in the rigid premedical educational environment that prevails in colleges and universities. Students become study machines, characterized as hypercompetitive, narrow-minded, greedy and dishonest at best and "ferocious geeks" at worst. Cheating on examinations, purposeful attempts to ensure failure among classmates, and forged letters of recommendation are all too common. An apocryphal story has it that at a major university, premeds were blamed for staging a bomb threat so that they would have more time to study for a chemistry examination.[2]

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We would be sure that applicants to our medical school knew that nontraditional science majors do get admitted to medical school. In fact, as a group, they are more successful than some of the science majors. For the entering class of 1988, one group of undergraduate majors classified as having premed interdisciplinary studies had an acceptance rate of more than 80 percent, and nonscience majors did better than science majors (Table 1). The problem with our medical education system is not that these students do not get admitted to medical school, but that they do not apply, and that students who want a medical career believe they cannot afford to take nonscience studies as an undergraduate. This myth should be debunked once and for all.

Prerequisites to admission at my ideal medical school would be few. We would not be one of the 119 schools requiring physics and certainly not one of the 21 requiring calculus. We would be one of the 14 requiring a course in the humanities and perhaps one of the 18 requiring behavioral or social science study. Thomas's suggestion that classical Greek be restored as the

centerpiece of undergraduate education is too radical even for me, but I see nothing wrong with a medical education system that encourages more diversity in preparation than is presently the case.

One of the most stimulating conferences I attended last year was sponsored by the Josiah Macy Foundation and addressed adapting clinical medical education to the needs of the future. The conference report, "Clinical Education and the Doctor of Tomorrow,"[3] recommended that the Medical College Admission Test certify MCAT takers as meeting or not meeting a preestablished level rather than using the current 15-point scoring system.

This recommendation was based on a belief that, when deciding which applicants to admit, medical schools too often emphasized MCAT performance rather than less quantifiable but important criteria.

Table 1. Percent of Applicants with Selected Majors Admitted to Medical School, 1988.

Nonscience Majors	
Economics	74%
English	73%
Philosophy	73%
Double Major (nonscience)	71%
Foreign Language	70%
Science Majors	
Physics	69%
Chemistry	67%
Double Major (science)	64%
Premed	63%
Biology	61%

The Association of American Medical Colleges recognizes the strong signals that the MCAT sends both to medical schools and potential applicants. Earlier this year we announced a major revision in the test that will replace the six current test sections with four tests (Table 2). The changes are meant to encourage students who are interested in medicine to pursue broad undergraduate study in the social sciences and the humanities. The new test tries to emphasize the importance of critical thinking, logical reasoning, problem-solving, and communication skills to medical education and medical practice. Because so much of medical education is scientific, admissions officers should be encouraged to give special weight to the value of undergraduate preparation and to the nonscience portions of the MCAT so that we can be assured that our students will have received a balanced education.

WE MUST INSIST ON LITERACY AMONG MY MEDICAL STUDENTS: PHYSICIANS are dependent on communication with patients, their families, their colleagues, and even the government. Given the necessity to communicate frequently and freely, I never cease to be amazed at how poorly the medical profession does it. We are masters of illegible handwriting, circumlocutious syntax, atrocious spelling, the passive tense, and the split infinitive. Instead of using the mother tongue, a most elegant vehicle, to transmit our thoughts in clear, relatively brief sentences, we obfuscate them in jargon and incomprehensible abbreviations. Equally necessary is the physician's ability to stand up on two feet and present cases; scientific communications; arguments before commissions, committees, and even juries; and interpretations of the medical scene before lay groups. Out with the mumblers and scrib-

Table 2. Major Revisions in the MCAT.

Current MCAT — 6 parts	*Revised MCAT — 4 parts*
Biology	Biological Sciences
Chemistry	Physical Sciences
Physics	Verbal Reasoning
Science Problems	Writing Sample
Reading Skills Analysis	
Quantitative Skills Analysis	

Table 3. MCAT Essay Sample Topic.

An American statesman said, "In matters of principle, stand like a rock; in matters of taste, swim with the current."

Write an essay in which you explain what the statesman means. Include a description of a situation in which it is easy to distinguish between principle and taste. What criteria should one use to distinguish between matters of principle and matters of taste?

blers, clarity of speech and writing breed clarity of thought, and, Lord knows, we need more of that.

Since 1985, the Association has been field testing an essay component for the MCAT, and this will be incorporated in the revised test in 1991. We believe that this new feature will be a valuable means of evaluating applicants' communication and writing skills. One of the essay questions used during the field test of the MCAT is shown in Table 3. An essay on this subject, written under standard conditions by all of a school's applicants will show a great deal about students' abilities to organize their thoughts, to reason and present cogent arguments, and to demonstrate clarity of concepts and felicity of expression. Such an essay might provide considerable insight on applicants' values and characters. Finally, the admissions deans of my new school must be able to identify and select for the qualities of initiative, enthusiasm, and compassion.

Now that we have our student body, what will we do with them? Medical education, all over the world, is being buffeted by the winds of change. The winds are being fanned by the progressive feeling that the educational experience that most medical students receive is no longer appropriate for the physicians who will spend most of their lives practicing in the twenty-first century. Medical education begins with the rat race of the premedical curriculum, followed by the curricular dense-pack of the first 2 so-called preclinical years. This period, in turn, is succeeded by a loosely supervised group of preceptorial exercises, where the faculty is more often absent than present, and which are carried out primarily by residents — the graduate teaching assistants of our medical schools. This is capped by a 4th year of randomly selected elective courses that lead too many students into premature selection of careers that may not be appropriate for them and that all too often are not in tune with the needs of the society that physicians are intended to serve.

MEDICAL EDUCATORS HAVE BEEN WORRIED ABOUT THE ADEQUACY OF medical education for more than 50 years. In 1932, a commission of medical educators, the Rappleye Commission,[4] articulated the following principles:

- "The present concept aims to develop sound habits, as well as methods of independent study and thought which will equip the student to continue his self-education throughout life. This can be brought about only by freeing medical education from some of its present rigidity, uniformity, and overcrowding and by articulating more closely with the educational needs of the students."
- "The medical course cannot produce a physician. It can only provide the opportunities for a student to secure an elementary knowledge of the medical sciences and their applications to health problems."
- "Medicine must be learned by the student, for only a fraction of what can be taught can be taught by the faculty."
- "The almost frantic attempts to put into the medical course, teaching in all phases of scientific and medical knowledge, and the tenacity with which traditional features of teaching are retained have been responsible for great rigidity, overcrowding and lack of proper balance in training."

- "It is highly important that the training be permeated with an understanding of the largest social and economic problems and trends with which medicine must deal."
- "Too much of clinical teaching is from the standpoint of the specialist and the emphasis is on rare diseases."

In 1984 the Association of American Medical Colleges published the report of the panel on the General Professional Education of the Physician and College Preparation for Medicine (GPEP).[5] It reiterates many of the principles of the Rappleye Commission and adds some of its own. I have drawn freely from the GPEP report in making suggestions for some specific changes.

REASONS WHY MEDICAL SCHOOLS OFTEN FAIL IN THEIR EDUCATIONAL MISSION:

- *Excessive Emphasis on Research.* I do not want to be misunderstood on this point. I believe that the discovery of new knowledge by medical faculties is one of the reasons for their existence, but it is not the only reason. However, since the reward system favors the achiever in the laboratory — or at least the producer of multiple papers — in our present-day educational milieu, teaching and sometimes patient care take a back seat to research.
- *Excessive Emphasis on Training of Graduate Students, Housestaff, and Fellows.* The emphasis on producing Ph.D.s and educating post-docs by basic science faculties is well known. It is equally true that faculty in clinical departments spend much more time with housestaff and fellows than with medical students.
- *Departmental Barriers.* These often interfere with the teaching of modern medical science. It is depressing to review a group of traditional, fiercely provincial basic science departments whose offerings are not appreciably different from what I took in medical school 40 years ago. Even more depressing than the substance of these curricular offerings is the total demoralization of the students locked into this curriculum.
- *Misguided Academic Personnel Policies.* By this I mean the university's failure to reward strong clinician-teachers, its tendency to bestow academic accolades only on its researchers, and, most importantly, its inability to recognize that a modern medical school needs good clinician-teachers as well as good investigators.
- *Excessive Emphasis on Practice.* I have been a champion of the two-platoon system: the researcher-teacher and the clinician-teacher. What worries me is that we are spawning a generation of clinician-nonteachers. If that were to happen, then the practice within the academic community and its teaching hospitals would be no different from that in community hospitals.
- *Excessive Expectations of Faculty.* A corollary of the previous two points is that universities expect their medical faculties to remain triple-threat academicians — great in teaching, research, and patient care. It cannot be done. The consequence of these demands yields a faculty of hurried, albeit well-paid, individuals who are running from clinic to laboratory to conference room, always behind, always late, always reacting, and rarely thinking. Moreover, among the thoughts for which clinicians have time, few are likely to be concerned with medical students and their education.
- *An Outdated and Excessively Permissive Curriculum.* The curriculum in most medical schools goes from one extreme to the other — highly structured and overcrowded early on, and, in the 4th year, so permissive as to be practically useless.

SUGGESTIONS FOR CHANGE IN YEARS 1 AND 2: THE GPEP REPORT DOES A brilliant job in advocating reforms during the first 2 years of medical school. I thoroughly agree with its recommendations. I want to make six simple points, which echo the GPEP report, that would reform medical education during the first and second years:

- Do away with curricular dense-pack.
- Eliminate departmental barriers.
- Cut lectures by 50 percent.
- Promote teaching in small group sessions.
- Insist on individual or small group study and research projects.
- Insist on literacy among physicians.

SUGGESTIONS FOR CHANGE IN THE 3RD YEAR: I WANT TO SPEND A LITTLE more time on re-orienting the clinical years. The Macy Conference to which I alluded earlier identified the following shortcomings in the present clinical education system[3]:

- Clinical medical education is generally failing to keep abreast of rapid changes in how medical care is organized, delivered, and financed.
- Clinical education has drifted away from being a broad preparation of the undifferentiated doctor and is becoming an increasingly fragmented, technically oriented training program for specialists.
- The current system of rewards leaves medical student teaching and concerns for curriculum very low on any list of faculty priorities.
- Schools of medicine are failing in too many instances to produce socially responsible doctors who recognize medicine as a social good, not a commercial commodity.
- Reliance on the results of standardized tests is one factor impeding curricular experimentation and innovation.
- Most medical school faculty are startlingly unaware of research in medical education and of curricular experiments underway at medical schools. They fail to recognize education as a respectable research discipline.
- Clinical education, oriented toward individual patients, often fails to address the needs of population groups and the degree to which medical care contributes to the health of the public.

How can we deal with these concerns? Assuming that toward the end of the second year the novitiate physician has had an introductory course to clinical problems, I believe that the third year should be a clinical sampler in which the student is introduced to the major primary care and specialty disciplines, including medicine, surgery, community-family medicine, pediatrics, reproductive medicine, neurology, and psychiatry.

The clerkship method of teaching remains time tested and effective, but I am concerned that too many interns and residents do not have time to teach, do not know how to teach, and that faculty supervision is variable. There are many services where the evidence of faculty involvement, at least with students, is vanishingly small. More and more papers are appearing in the literature documenting that the teaching skills of our residents are not uniformly of high quality. On the contrary, they are extremely variable. It seems essential that clerkships assure committed and competent teaching by residents and adequate supervision of the residents by faculty as well as direct student-faculty involvement.

Accompanying the reform of clerkships, there are some other suggested revisions that should be incorporated in the third year. There should be more

centralized control of the curriculum to achieve better outlined educational objectives. The education of future physicians should be an institutional, not a departmental, function. A centralized educational unit would have recognized responsibility and authority to develop the basic curriculum. Along with this would go improvements in clinical teaching methodologies. There should be more emphasis on problem-based learning, medical informatics, and student-initiated learning.

In order to counter making medical student teaching the lowest priority, we need a few faculty whose major function would be medical student teaching and who would operate primarily in the outpatient department, in chronic care facilities, in community hospitals, and in physicians' offices. With the trend away from acute inpatient hospitalization, the dispersion of patients throughout the community, the increasing numbers of persons who will be hospitalized in chronic care institutions, and the need to use community hospitals, we are going to need a cadre of clinical instructors who will provide our students up-to-date and realistic instruction in clinical medicine.

Because the clinical years begin to prepare students for independent patient care, a better system of evaluating student competencies is required. As an academic community, we must develop better methods of measuring clinical competence among students, residents, and ultimately, practicing physicians. The environment of the clinical clerkship provides an ideal evaluation system that defines what is expected, observes performance, and reports on what was done and what needs improvement. Too frequently, we find these elements missing in our educational settings.

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THE RECOGNITION THAT THE NEED FOR GOOD EVALUATION IS NOT ALWAYS met is a challenge to our faculties. One could argue that a return to the earliest model of medical education by preceptorship is the appropriate route to take in order to achieve this kind of evaluation. However, with the range of material now taught and the numbers involved in the education enterprise, such a model is no longer practical, and we must turn our attention to ways to make evaluation work in our current educational settings. Traditional evaluation tools, such as the essay question or the multiple-choice examination, are not sufficient to provide the type of evaluation needed. We must identify new evaluation models for our faculty that assure validity, reliability, and fairness.

The Association has been involved in clinical evaluation studies for more than a decade and has recently incorporated workshops on student evaluation into its management education programs. We are also involved with a coalition of other professional organizations in a clinical skills alliance that we hope will lead to advances in the assessment of clinical skills during medical school and specialty training.

As a subset of reform in student evaluation, I suggest we also consider reporting scores from the National Board of Medical Examiners on a pass or fail basis.

FOURTH YEAR OF MEDICAL SCHOOL: LET US NOW CONSIDER WHAT WE MIGHT do with the 4th year of medical school. We have several options available,

Table 4. Revision Year 4, "A Meaningful Clinical Year."

	Months
Medicine	3
Surgery	3
Pediatric or Reproductive Medicine	2
Neurology or Psychiatry	2
Family or Community Medicine	1
Vacation	1
	12

but the most important objective must be to make this a much more meaningful educational experience than is currently the case. The present 4th year, which in many medical schools is entirely elective, turns out to be nothing more than an adventure in cut-rate travel. Let us consider four options.

First, we could eliminate it and make medical school a 3-year experience. Many schools did this during the 1970s when there were federal incentives for experimental 3-year curricula. The changes that occurred in the required curriculum were limited almost exclusively to the preclinical sciences. There was an average total reduction of 700 hours of formal instruction within the six basic science disciplines in the 3-year program. Although content reduction occurred, the change in the educational program was more in its distribution of hours between various basic science subjects and in the timing of the instruction in the basic science disciplines. For the most part, the 3-year program resulted in a compression of subject matter. In general, the preclinical science time in the curriculum was changed from 18 months of instruction in a 24-month period to between 15 and 18 months in a 16- to 19-month period. The length of clinical experience remained virtually the same, averaging 18 to 20 months of instruction over an 18- to 21-month period.

The findings of an AAMC study evaluating the 3-year curriculum were[6]:

- Except for two institutions, total student tuition was the same for both the 3- and 4-year programs; students did save money by incurring living expenses for 3 rather than 4 years.
- Internal examinations did not show any measurable differences in 3-year students when compared with the performance of 4-year students. The performance on the National Boards, except in some cases during the year that program transition took place, were comparable.
- Clinical faculty detected no effect on the quality of patient care as a result of the 3-year program.
- Student attrition was higher in 3-year schools, and because of the scheduling of the academic year, students had greater difficulty in remedying academic deficiencies.
- The subjective evaluation of resident program directors showed that they generally were not as satisfied with 3-year graduates, and there was a demonstrated bias in residency selection toward 4-year graduates. They believed that the 3-year graduates were not as mature and did not have as much in-depth knowledge. The AAMC study reported that the bias did not appear to have a measurable objective basis.

There are lessons to be learned from the 3-year curriculum, but the lessons are not that medical school cannot be done in 3 years. The 4th year could be eliminated, not by lopping off the 4th year as it presently exists, but by restructuring the educational content into a coherent 3-year framework.

A SECOND OPTION WOULD BE TO MERGE THE 4TH YEAR INTO THE PERIOD of graduate medical education, thereby eliminating a year or two in the overall period of physician training. The principle that Ebert and Ginzberg

espoused in their *Health Affairs* article[7] is basically sound, but it faces enormous challenges in implementation. Their plan is to merge 2 years of graduate medical education, which currently takes place outside the medical school, into the medical school curriculum. However, GME is a private sector enterprise, which depends on the interaction between the certifying and accrediting bodies and the program directors in our hospitals, and which has little to do with medical schools, much to the chagrin of most medical school deans. When residency program directors function in that role, they take off their faculty hats; they have a different title, and they perform a different function. In fact, many faculty in clinical departments place much more value on their graduate medical education programs, such as residencies and fellowships, than on teaching in the medical school.

THE PROPOSAL TO BRING 2 POSTGRADUATE YEARS INTO THE MEDICAL schools as years 5 and 6 is a major innovation. It means that a very complicated system has to be reoriented in a seminal way. That is why many say the proposal is not practical. I would not go that far; I would contend that it is worth trying with a few schools and hospitals that can work together. It may also take a good deal of financial support, and we want to be sure that an idea that has inherent merit does not die for want of proper resources.

A third, and less ambitious option, would be for the 4th year to be a meaningful rotating internship or transitional year of graduate medical education (Table 4), which would be followed by a continuation of graduate medical education at the same institution in the form of further general or specialty training. This would entail the loss of one of the luxuries of our educational system, the ability to move from institution to institution between medical school and residency. However, in a progressively constrained external environment, this may be a price we have to pay.

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The final option to consider for the 4th year — restructuring it — is probably the most likely and potentially the most fun.

The present 4th year, which in a number of medical schools is entirely elective, turns out to be nothing more than a chance to travel about the country or to engage in "audition" clerkships used by some specialties as a recruiting prerequisite for entering residency. Of the 94 schools that, in the Association's 1988–89 curriculum directory[8] of schools considering the 3rd and 4th years as distinct academic periods, 22 have a 4th-year curriculum that is entirely elective, 18 have a 4th year that is less than 50 percent elective, and most have some required clerkships and selectives, with well over half of the 4th year elective.

Do not misunderstand me. There is nothing inherently wrong with electives. In many cases, the curriculum directory notes that electives are chosen "with the guidance of faculty advisors." I would be much less averse to the notion of an elective 4th year if I could be assured that the guidance of faculty advisors is not another one of those myths frequently found in college catalogs. I fear that in many cases the elective courses chosen by medical students do not reflect the input of faculty advisors, and that even when such input is available, it may be piecemeal or given only about one specific course. The situation where a faculty advisor and a student sit down and map out a coherent

program of electives geared to individual intellectual and educational needs is, I believe, not the norm.

Too often, electives are chosen on the basis of wanting to spend some time in a particular medical school other than the student's home institution for reasons that may be personal or climatological, or the reasons are related to students' desires to make themselves known in an institution in which they hope to obtain a residency appointment. In any event, the fears of the GPEP panel that electives may not always be chosen for educational reasons that are sound and compelling seem well-founded.

As presently constructed, in many instances the 4th year is not the last year of medical school, but a period of waiting around until residency starts. Instead, let us develop a 4th-year program appropriate to the institution's mission and student objectives. This can be done with a little direction and social engineering by the strong central curriculum authority I would establish at this school. We might dictate more exposure to primary care, particularly in the ambulatory care setting. We could emphasize a number of issues that are covered inadequately or not at all in medical schools, including decision making, medical ethics, skills in health maintenance, disease prevention, and cost containment. In the September issue of *Academic Medicine*, I suggested that medical education might include a period of required public service that could help to meet the needs of the underserved populations in rural America, in inner cities, in chronic disease facilities, and, perhaps, overseas.[9] Surely, this is a more noble activity than our current 4th year.

CONCLUSION. THINK WHAT FUN WE COULD ALL HAVE WITH ZERO-BASED planning for medical education. The options are endless when not confronted with the unflinching realities of entrenched departments, tenured faculty, fossilized curricula, and narrowly focused students.

I do not know if I have met Nick's charge to be shocking. Probably not. What is shocking is not that I throw down a gauntlet to challenge our medical schools, but that so few of them will pick it up.

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