COMMENTS

Medical Education Without Physician Scientists: Answers Without Questions (44484)

R. PAUL ROBERTSON
Pacific Northwest Research Institute, Seattle, Washington 98122

A good friend of mine asked that I write a provocative piece about current problems in medical education for this journal from the point of view of a committed biomedical researcher. I suspect this was to encourage other provocateurs to do likewise for future issues. However, I know the general intent was to raise the issue of whether all is well with the education of American medical students. There are two quick answers. All must be well; we have the best students in the world! All is not well; medical education is always a mess. Neither answer satisfies the inquiring mind.

Just because a system of education or any other enterprise might boast that it is the best in the world begs the question of whether all is well. Even if we are the best (and I wonder about this), it does not mean that we cannot be better. On the other hand, just because there is always something wrong with medical education is no excuse to roll over and die. When we do, other forces take the educational ball and can be relied upon to run the wrong way. So, I do not buy either quick answer, but propose a more difficult third one.

The premise of my proposal is that medical education has weakened (even dumbed down) both in the classroom and on the hospital wards, at the undergraduate and postgraduate levels, on the East Coast, the West Coast, and all that lies between. This has been the product of smart, strong-minded academic or nearly academic folks who are untrained in biomedical research. Here I distinguish between the physician scientist (an M.D. who is a full-time, lab-based basic scientist or a bedside-based clinical investigator) and the physician teacher or physician clinician. The latter have foisted their views on medical education at a time when many physician scientists on faculty feel confused, disinterested, or disenfranchised because of difficulty in obtaining grants for their research. Some department chairpersons have even actively discouraged physician scientists from teaching third- and fourth-year medical students so they will have more time to obtain grants.

My proposal is that benched physician scientists get back into the game and return medical education to a higher plane by reassigning high value to original thinking and problem-solving. This requires a strong foundation in hypothesis formulation, data analysis, and critical judgment. There are many medical schools where this is no longer emphasized. I have visited classrooms in which chemical structures, Western blots, disease taxonomies, disease symptoms, and drug lists pass as the stuff of which lectures should be made. I inwardly (and sometimes outwardly) groan when I am at chalkboards teaching on hospital rounds when pagers at the belts of students blaringly interfere. The students bolt from the room like Pavlovian dogs. What is at the other end of those pagers? Often trivial requests from nurses about clarifying nonemergent orders; calls to draw routine blood samples from patients; or phone calls from HMO representatives demanding justification for an extra day of inpatient care. In their haste to "turn over" their patient population, medical students have too little time and space left to reason their way through vexing pathophysiological questions and therapeutic dilemmas. Reason. The operative word.

How did we get to this nearly mindless state of affairs? Didn't Flexner take care of this a long time ago? Have we not fought hard to create challenging curricula and environments that would attract and retain the best young minds coming out of college? What explains the loss of bright young instructors and assistant professors from medical school faculties that we witness today? Cynics will tell you that it is the money in private medical practice; that young

PSEBM welcomes comments by readers reflecting agreement or disagreement with the material published in this section and, at the discretion of the Editor-in-Chief, will publish such comments.

0037-9727/00/2233-0228$15.00/0

people today are not as willing to struggle in and improve an ever-imperfect academic world; and that admission committees choose the wrong people. I do not think so. The young students and trainees I encounter in the first year of medical school today are just as idealistic and hard-working as ever. But during the educational process, too many become worn down into semibored, numb, and unexciting fourth-year students looking for the least challenging way to spend the rest of their medical career.

It seems to me that this trend away from science in order to "get more clinical" has caused us to become corporate instead of collegiate. We have listened to outside consultants from the business world telling us how to run our "business." We have sold university hospitals, stripping identity from medical schools. Medical education and caring for faculty are not just a business. A medical school without a hospital is a research institute with a few classrooms, not a medical school. A hospital without a medical school is an HMO-dominated care facility with housestaff, not an educational environment.

To make matters worse, we have bought into the notion that superficial teaching of an ever-expanding list of topics is a more valuable pursuit than in-depth consideration of fewer topics. This is a product of an earlier rapid expansion of medical school class size and an ever-increasing array of medical knowledge. Just the opposite approach is what we need. It is far better to teach principles of seeking truth by spending thoughtful time with fewer examples of pathophysiology than mindlessly pouring increasingly superficial facts into passive and exhausted brains. The analytical truth-seeking approach is precisely the one in which the physician scientist excels.

My recommendation is to return to valuable teaching techniques from the past. There is nothing in medical education that is really difficult to learn. It is the sheer volume of material that overwhelms students. The answer is to use the 60-minute lecture to teach principles, not minutia. In short, we need to eliminate superficiality and replace it with time-honored approaches of teaching inductive medical logic. Such an approach can easily be extended electronically to the students' laptops through CDRoms and internet-based chat rooms that include a faculty member to help keep the exploration of ideas on track. This editorial cannot begin to list the possibilities. But I can tell you that they are more apt to involve physicians who work in basic and clinical investigation than the exclusive use of nonscientists who parrot meta-analyses and outcomes-based research. TV commentators do that for us every night in our homes.