EDITORIAL
GRADUATE MEDICAL EDUCATION IN THE UNITED STATES

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SING MED J. 1989; No 30: 124

I. Medical Education

A. The medical education of a physician is perceived as a continuum. The undergraduate, medical and graduate medical education are thought by most to be a continuous process with each year supplying building blocks which allow the young physician to grow. In reality, this is not so. In most institutions, there is relatively poor coordination and correlation between the four years of medical school and the next three to six years of graduate education. In fact, graduate education moves from the site of the medical school in many cases to hospitals that are distant. In the USA, there are many issues facing the medical schools — issues concerning class selection (who will make the best doctor); often, the basic science faculty cannot see the relevance of focusing teaching on the patient; the information explosion facing us causes concern as to what to teach; the issues of how to teach problem solving; the issues that I referred to earlier of building each year on previous years experience; how do you achieve balance between practical and a formal teaching program; how do we measure competence, how do we know when someone is ready to graduate from medical school; what are the standards of excellence and ethical conduct that we expect of physicians and many more.

B. What is graduate medical education?

1. Graduate medical education is often referred to as the "second medical school". It involves over 80,000 physicians in the United States. To educate these physicians, it costs over 2 billion dollars. It provides the one to two years of mandatory experience that is required for state licensure. It is necessary for the delivery in care in many urban city hospitals. The exact amount of care given by a resident is debated but, in general, many of the patients with a critical illness have a resident who is important in their care.

2. Sixty to seventy percent of the training of graduate physicians occurs outside of the medical center in the USA. There are approximately 150 university medical center type hospitals and over 1,000 other hospitals that participate in graduate medical education.

3. Graduate medical education is a system that is economically and politically vulnerable. The salaries are paid through the Medicare system so that the government can approach the funding of graduate medical education as a political issue. Today, this is a major problem.

4. Perhaps most important, it is a system with inheritant conflict. The needs of the learner, the young physician, and the needs of the patient do not match. The patient is entitled to the best care available and often, it is the youngest, most inexperienced physician who is our front line physician in an emergency room.

C. The major issues facing graduate medical education in the United States are first, the issues of physician manpower; second, the issue of how many foreign medical graduates should be allowed in the system and third, who is going to pay for graduate medical education? Fortunately, we believe that the quality issues, which I will speak to in a moment, are not debatable issues.

1. In the late 50's and early 60's all predictions pointed to a physician manpower shortage. Therefore, the federal government fostered the creation of many new medical schools. We have gone from approximately 80 medical schools to almost 130 medical schools now in a period of 20 years. During the 70's, it first became apparent that perhaps we had created too many medical schools and by 1980, the GMENAC Report predicted a large surplus by 1990 and the year 2000 in most specialties.

a. Since the release of that report, there have been many issues discussed. First, if we conclude that there is a surplus, is this really bad? Is a surplus in the aggregate bad? Is a surplus in primary care bad? Is a surplus in a specialty bad? There are those that believe that the role of the market place — the availability of a physician to work and earn a living — will control this surplus. There are many who feel that policy changes should be made in the public and private sector to address the issue of inbalance. There is universal agreement that, whatever we do, we should not create any rapid changes in the system. There is a firm commitment to this system as a system that is producing well trained competent physicians who can give quality medical care. It is predicted that there will be 70,000 too many physicians in 1990 and 145,000 too many physicians in the year 2000. It has been impossible to predict excesses by specialties but certain specialties like general surgery already have excesses.

b. Some of the issues being discussed as to how to reduce our physician surplus are; 1) to decrease medical school class size; 2) to allow fewer foreign medical graduates to enter the United States for training (this is already in effect); 3) that the increased num-

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bers of women in medicine will probably lead to less full-time equivalent physicians practicing; 4) that the new generations of young people have different work ethics and physician productivity will be less (physicians will work less hard and long and retire earlier) and 5) that there are increased needs now that did not exist in the 60's and 70's, namely patients with AIDS and the geriatric population that is a great consumer of resources.

D. The issue of foreign medical graduates in training programs is a major concern. Twenty percent of the United States practicing physicians are (100,000 — 120,000) foreign medical graduates. There are 12,000 foreign medical graduates in graduate medical education today, approximately 50% are foreign national graduates. There has been much discussion about what is the impact of the foreign medical graduate on physician supply in the U.S. as well as the possible impact on the quality of health care.

E. Another major question is, who should pay for graduate medical education? Questions are raised like, why should the government and the patient pay for the training of an individual who is to become a high income earner — Why should not that individual pay for his education? On the other side, it is clearly pointed out that the physician in graduate medical education probably spends at least 60 — 70% of his time delivering patient care, therefore, the patient should be paying something for these services. There is no answer to this question but gradually government policy is taking away the salaries for residents in the United States. We now can pay residents only for five years of training and if they are in programs such as thoracic surgery, plastic surgery, colon and rectal surgery, peripheral vascular disease, the salary of the resident must come from another source than the patient care funds of the hospital.

We could go on indefinitely talking about the political aspects of graduate medical education in the area of "who is to control it" and "who is to fund it" but I think we need to move onto talking about how graduate education is conducted in the United States.

II. Historical events pertaining to graduate medical education

A. In 1919, the essentials of an approved internship were first published. The following two years produced principles regarding graduate medical education that listed the minimum requirements for education of physicians in 15 different specialties.

B. By 1938, an Advisory Council on Medical Education, Licensure and Hospitals was organized.

C. In 1966, the report of the Millis Committee (the graduate education of physicians) called attention to the fact that there were problems in this system — that residents were primarily delivering service and not being educated.

D. By 1972, the Liaison Committee on Graduate Medical Education was formed and began to accredit residencies.

E. In 1977, we had the creation of the Accreditation Council for Graduate Medical Education. This body with representatives from the parents of the AAMC, the ABMS, the AHA, the AMA and the CMSS, through its residency review committees, is responsible for the accrediting of all training programs in the United States. Programs are accredited for a 3 — 5 year basis, they are inspected by site visitors from the AMA and often specialist site visitors from the discipline of the program if there are problems. The site visit is very thorough, the document that is presented is extremely thorough and the committees spend a great deal of time accrediting these training programs. As a member and Chairman of the Residency Review Committee in Pediatrics for six years, I believe that in the last ten years, the process has evolved into an extremely good, tough approach. It is necessary to have this approach if we are going to guarantee quality education to the candidate, to the institution, to the teacher and to the patient.

F. The General Essentials for GME describes the relationship between institutions and programs.

1. The document provides that all programs should foster the development of resident teaching abilities in interpersonal relationships, instruction in the socioeconomics of health care and importance of cost containment.

2. It defines that an operational system must be present so that all residents in the institution are appointed in similar ways (institutional responsibility).

3. It also defines what qualifications the teaching staff should have.

4. It prescribes that a periodic analysis of each program be done by the institution and we call this an institutional responsibility for graduate education.

5. It also mandates several things that are necessary for the resident, i.e. participation in policy development and various resident responsibilities.

6. Also, it prescribes that due process be present for the residents.

7. All of this is written in a literary style that basically uses words like institutional responsibility, documentary evidence of commitment, a written statement setting forth the reasons why the institutions sponsor graduate medical education, a description of the process by which institutional resources are distributed and clear evidence that the process is agreed to within the institution.

III. But how is graduate education conducted? What is a program?

A. I believe that the system in the United States is somewhat different from the system in many other countries. A curriculum is present — it is formal, there are fixed rotations, it is structured with progressive responsibility, there are in-service training exams, there are evaluations of teaching staff and residents and there is counseling that is ongoing. Individuals cannot be promoted from year to year without documentation that they have met the standards set for performance in each year.

B. Progressive responsibility means that in each year, an individual is able to do more and more in his field and at the end of training, the Program Director is required to document that graduating physician is a

competent physician ready to practice medicine in his field.

C. Patients must be seen in a continuum. The patient is first seen in a preoperative evaluation then the resident scrubs on that operation and the patient is handled by the same resident in the postoperative period. In the medical arenas, banks of patients are seen who are followed for long periods of time. In medicine, every resident spends at least one half day a week in the outpatient clinic seeing his own patients over a long period of time.

D. Chief and Senior Resident administrative experiences are required as well so that individuals do know how to run a practice, do know how to run a dialysis unit of an operating room.

E. Exposure to research is also mandated in almost all programs as it is strongly recognized that an environment that has research projects and scholarly activity going on is a better milieu for graduate physicians to train in. The physician coming out of this program has a more inquiring mind, asks more questions and will recognize problems.

F. There are stresses within the house staff system as well. In the past five years, more and more residents seem to be having more stress related problems affecting performance. There have been several studies identifying factors relating to house staff stress; sleep deprivation, perpetually changing work conditions, financial concerns (the average graduate of a U.S. medical school owes approximately $30,000), competitiveness with others, there are still programs that are pyramid programs especially in the surgical discipline where not all candidates accepted will make it to the top, feelings of personal inadequacy. Many students feel that they have not been trained sufficiently to enter graduate medical education. I believe this is a major difference in our program than with your Singapore graduates. As I understand your system, you have few electives, have mandated experiences in all areas and probably are graduating a more well rounded physician as many graduates in the United States who take electives in their fields of interest in their fourth year and steer clear of things that they are not interested in. There is social isolation, there is insufficient support from the attending staff. All of these factors produce stress. Studies indicate that most often, the stress is more professionally related than personal. It is related to anxiety early in training, depression in mid training and a progressive increase in anger and fatigue during the training period. There is an increased incidence of severe depression and drugs continue to be a problem. These long-term changes in attitude towards patients with less caring, certainly, are not good for the system.

In spite of all of the changes in a physician's life that are occurring in the United States, medicine is still a very gratifying experience for most in practice. I believe that most feel that their graduate education experience was absolutely mandatory as it relates to their ability to practice good medicine now. Obviously, we need to address more of the issues. There must be a mechanism for reducing the debt of young physicians and we must continue to improve our evaluation systems so that the physician who completed his education is the most qualified that we are capable of producing.