President's Address

Who Will Become a Surgeon?

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THE SELECTION AND TRAINING of surgeons has been an area of concern since the dawn of medicine. However, since the 1975 publication of the "Summary Report on the Surgical Services for the United States" (SOSSUS report), major changes have occurred which have great bearing on who will become a surgeon. The SOSSUS study, supported by the American College of Surgeons and the American Surgery Association, recommended a reduction in the surgical residency output by as much as 30 per cent and limitation of surgical privileges to board certified surgeons.[1] The Graduate Medical Education National Advisory Committee (GMENAC) Report of 1983 reinforced these attitudes with recommendations that surgery residency positions be reduced in number.[2] Although these conclusions were not uniformly accepted, the message was clearly heard by regulating agencies as well as the surgical community.

Residency review committees in surgery soon focused on academic standards with the expectation that all trainees would achieve board certification. Although the specific criteria used to identify excellence or deficiencies in surgery programs may have been controversial, the result was elimination of many inferior programs, improvement of the educational content of existing programs, and a reduction in the overall number of surgical residency positions. First-time applicants for the qualifying examination of the American Board of Surgery have decreased from a high of 1157 in 1978 to less than 1000 in 1983.[3] A pass rate of 86 per cent for U. S. and Canadian graduates on the first try and 74 per cent pass rate on the oral certifying examination with only 856 certified surgeons entering the marketplace speak strongly for the continued high standards and limited opportunities available in residency training.

Predictions of an inadequate number of physicians to meet the health care needs in the United States became legion by 1970. Government responded with federal capitation grants and start-up monies for new medical schools: The number of graduating medical students doubled by 1980, and the number of medical schools was increased by one-third. The impact of the SOSSUS study to reduce surgical training opportunities coupled with this dramatic increase in the number of graduating medical students has created an environment of intense competition for surgery residency positions. The American College of Surgeons Bulletin, April 1984, highlighted this problem: "Tense competition will be the name of the game for the next several years. It is unlikely that there will be much of a decrease in the number of physicians entering the pipeline, nor is there likely to be much of an increase in the residency positions."[4]

Who will become a surgeon in the next decade becomes a question worthy of consideration. Stimmel and Graettinger, reviewing recent trends and traditions of medical manpower, have found that the increased numbers of students graduated from medical schools in the United States combined with the increase in those trained abroad over the past few years has resulted in an unprecedented number of students applying for residency positions.[5] A closer look at the residency applicant pool during the brief period from 1976 to 1983 identifies a 20 per cent increase in the number of graduating medical students from the United States (11,735 to 13,969), a 1000 per cent increase in the number of U. S. physicians reapplying for residency positions (60 vs 597), double the number

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TABLE I. *National Residency Matching Program Applicants*

	1976	1983	1984
U. S. senior students	11,735	13,969	
U. S. physician	60	597	
Osteopaths	60	135	
Fifth pathway	252	366	
U. S. foreign medical graduates	0	1305	3000
Alien foreign medical graduates	1731	7124	

of osteopaths applying for postgraduate (PG) I positions (60 *vs* 135), a 50 per cent increase in the number of fifth pathway students (252 *vs* 366), and 1300 per cent increase in the number of U. S. foreign medical graduates applying for PG I positions (0–1300). By 1984, this latter group had increased to 3000 applicants. During this same period, a 400 per cent increase in the number of alien foreign medical graduates applying for residency positions was also noted (1731 *vs* 7124) (Table 1).[5,6]

Although reported numbers can be difficult to interpret, the modest increase in the number of senior medical students from U.S. medical schools is greatly overshadowed by the large influx of U.S. foreign medical graduates and alien foreign medical graduates applying to enter U.S. graduate training programs. In addition, an applicant group of seemingly little significance in the past, U. S. physicians reapplying to the National Resident Matching Program (NRMP) for PG I positions, may become a problem area in the future. The number of students who have failed to match into the specialty of their choice and those who have changed career goals has increased dramatically. Many of these recent graduates are filling incomplete surgery residency programs while reapplying for other residency positions. Acceptance into another residency may never become a reality for these individuals yet they will have one or more years of surgery training. What these partially trained surgeons will do with their training remains to be seen.

Identification of the currently available surgery PG I residency positions is difficult due to the variable requirements for prespecialty general surgery training within specialties and the lack of compliance in regards to designation of the prespecialty training program, *i.e.*, flex or incomplete surgery positions. However, the total number of surgery programs available in 1960 (723) has been reduced dramatically. Only 314 general surgery residencies were available in 1984, offering 8200 residency positions. Considering the large number of applicants and the limited number of positions available, Stimmel and Graettinger conclude that "we have reached the point where there is an insufficient number of total positions regardless of specialty to accommodate the number of applicants."[5]

Of even greater uncertainty is the availability of future surgical residency positions. Changing health care delivery patterns indicate a significant shift to ambulatory operations with the expectation that as much as 38 per cent of all operative procedures will be performed on an outpatient basis. As free-standing surgery centers begin to evolve, opportunities for adequate resident training in this arena may be drastically curtailed. Considering the scope of the operative procedures performed, the limited need for a second surgeon, and the ease with which educational expenses, *i.e.*, resident salaries, can be eliminated as a cost savings method, support for surgery residencies in the ambulatory setting may well lead us into the morass of funding problems experienced by family practice residencies. Expansion of Health Maintenance Organizations (HMOs) with their cost curtailment efforts which include elimination of all but the most urgent surgery problems and the HMO reputation of minimal involvement with graduate education, will place great burdens upon the hospitals and affect their willingness to fund surgical residency programs. The impact of Diagnosis Related Groups (DRGs) on decreased hospital occupancy and the necessity to reduce hospital costs make educational expenses a vulnerable item on the hospital budget. Community hospitals which have, in the past, provided the majority of training opportunities in surgery are likely to react quickly in reducing the number of residency positions available.

Other factors will certainly affect the number of surgery residency positions available in the near future. Third-party payers are increasingly aggressive in their efforts to discontinue reimbursement for medical education. State health care organizations have already made plans to reduce training opportunities in surgery and the surgical specialties. Activating these plans will become a priority issue as cost containment efforts increase. Action by the general public to roll back taxes represents a continuing drain on legislative funding for major universities and their surgical programs. Financial support by faculty through direct or indirect methods will become increasingly difficult to obtain as the competitive environment intensifies and surgical incomes are affected.

The competitive atmosphere of surgery practice, with its economic uncertainties, added to the excessive debts accumulated by many surgery residents has propelled the move toward advanced training beyond completion of the standard surgery residency. Special certificates for pediatric surgery and vascular surgery have been developed, but the limited numbers of first-year pediatric surgery positions available and the

marked reduction in vascular surgery fellowships planned for the coming year has intensified competition for these positions. Advanced residencies in thoracic surgery, colon/rectal and plastic surgery have also enjoyed increasing numbers of applicants with little, if any, expansion of available positions. New areas such as critical care, surgical nutrition, surgical oncology, and endoscopy are beginning to achieve distinction as surgical specialties and are offering fellowships for advanced training. Advancement of the specialty areas within general surgery seems a certainty for the next decade.

Who, then, will become a surgeon? Surgery remains an alluring, exciting, and challenging specialty which will continue to entice the medical student of the future. However, opportunities to gain acceptance into a surgery residency of choice are diminishing rapidly. Elimination of any additional residency positions will increase the competitiveness still further. The federal government and many states have initiated action to reduce enrollment into medical school. Actual reductions have been difficult to achieve since facilities have been developed for a larger enrollment, tenured faculties have been recruited, and the demand for medical school training remains high. Furthermore, the impact of any reductions in class size will not be noted for at least 4 years and will be imperceptible in the context of the growing influx of U. S. foreign medical graduates, alien foreign graduates, and U. S. physicians reapplying for residency positions.

Therefore, the student interested in surgery must identify his goal early, achieve high academic credentials, and seek out surgical electives, research experience, and unique extracurricular activity to improve his or her opportunities for selection. Exceptional performance on the National Boards, meaningful letters of recommendation, and a strong Dean's letter are all crucial items for acceptance into a competitive residency program.

Assuming that an applicant is selected into a surgery residency and has a stellar performance, the would-be surgeon will most likely apply for advanced training in a surgical specialty or special area of general surgery. However, advanced fellowships will be in high demand, and acceptance will be increasingly dependent upon evidence of additional experience or talents which would add stature or depth to the advanced training program. Proven research experience and presentations at regional or national surgery meetings, such as Midwest Surgical, will help provide the necessary edge for the successful candidate.

As we enter the era of physician surplus, surgical organizations such as ours have a great responsibility to ensure that provincial and financial interests do not produce a reduction in the number of graduate surgical training opportunities. Present trends in surgery to recover lost turf combined with a retrenchment of the American Board of Surgery to expand the spectrum of surgery training with restraint on fragmentation of specialty interests has provided new life and opportunities in the field of surgery. Surgical residency positions must be protected if we expect to expand the boundaries of surgery and extend surgical care to those patients who will benefit from the new knowledge and technologies which are on the horizon. We, as members of the Midwest Surgical Association, must devote our efforts to preparing students and residents for the challenges ahead which will include competition for education as well as bold, but exciting, opportunity to couple operating experience with the knowledge and skill surgeons can offer in the nonoperative arena. The future is unfolding, and increasing numbers of surgeons will be needed if we are to meet the challenges of a new era in surgery.

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