

The Changing Climate in Graduate Medical Education: Will it Affect Nuclear Medicine?

Graduate medical education will undergo profound changes over the next several years, changes that will have an enormous impact on the number, the content, and perhaps the quality of nuclear medicine residency programs. Because it is now paying such a large share of the burden—over 2.7 billion dollars from Medicare funds alone—the federal government has become the chief architect for designing these changes (1). The cuts in federal spending that we are seeing today—the freeze in Medicare funding for the direct costs of graduate medical education and the proposed reduction in the indirect costs—are only the beginning.

With “the impending insolvency of the Medicare hospital trust fund and concern with escalating health care costs in general” (2), the incentives for using federal dollars to pay for graduate medical education are disappearing. The physician shortage of a decade ago has become an oversupply by doubling the number of medical school graduates since 1970 (3), and by providing slots for over 13,000 foreign medical school graduates (FMGs) in our residency training programs (4). The overproduction of physicians has been accompanied by an oversupply of specialists. Of the 500,000 physicians in the United States, less than 250,000 are generalists (5). Less than 50% of residencies are in the primary care specialties.

Big business is also concerned with the cost of medical care. With health insurance accounting for a substantial portion of employee salaries, third party payers and business are limiting their financial liabilities. Health plans are insisting that they pay only for those services that they use. The entire issue of cross-subsidies is coming into question in that cross-subsidies previously paid for graduate medical education, medical care for the poor, the high cost of inner city medical care, and the high technology and special programs in our tertiary care hospitals. As a result, we will see a major move away from our principal teaching hospitals as health plans seek the least expensive health care alternative.

There are several common threads to the various proposals that have been advanced to fund graduate medical education. The first assumes a substantial fall in patient volume and revenue for the major teaching hospitals. With the loss of patient care dollars, many residency programs will be forced to contract or die and those residents that remain will be taught by a much smaller faculty. For teaching hospitals to maintain quality training programs, it has been suggested that the costs of graduate medical education be unbundled by setting aside block federal and state grants or by funding graduate medical education through general tax revenues (6).

This approach could be dangerous. If the costs of graduate medical education are carefully pruned from other costs, as most proponents of this approach are intent on doing, then it is essential that alternative schemes be developed for paying for those costs that have been lumped under the rubric of graduate medical education. The indirect costs which are paid through Medicare to allay the costs of graduate medical education encompass all the costs that make a tertiary teaching hospital so expensive to operate, such as patient mix (the teaching hospital gets the complicated cases that other hospitals can't handle), the high cost of inner city practice (over 90% of the 125 teaching hospitals are located in central urban environments), and the high cost of special services (transplant services and nuclear magnetic resonance (NMR) sections have yet to turn a profit in most teaching hospitals). It is unlikely that a cost-conscious Congress will adequately replace these funds.

The second thread, one that is common to virtually all proposals to change the way graduate medical education is financed, is to control the quantity and type of training programs. Senator Quayle argues that:

while I believe that it is appropriate for the Medicare Program . . . to continue to pay the cost of GME programs, I believe that Medicare should pay only when it can be

documented that institutions have responded in a responsible fashion to important societal issues regarding the number and specialty distribution of physicians (2).

Quayle advocates limiting the number of residents in specialty programs to 30% of the total. He and many others advocate a reduction in the number of residency slots to more closely match the number of U.S. medical graduates (between 15,000 and 16,000 slots per year). Others advocate the reduction in number of years of postgraduate training for which Medicare will pay. Proposals range from one year of training to three years to the time required for primary board eligibility (7).

Reductions in the number of residency positions and limits to the number of specialty residency slots and years of training will have a palpable effect on nuclear medicine training programs. Currently, over 35% of our trainees are FMGs. By contrast, only 8% of diagnostic radiology residents are FMGs. With proposed changes in financing, we can expect to lose a number of training programs, particularly those that do not regularly fill and those that rely heavily on foreign medical graduates. Furthermore, we will see fewer candidates for nuclear medicine training programs who are boarded in other specialties, particularly if Medicare funding stops after three years or after primary board eligibility. We will also find it increasingly difficult to "farm out" our candidates to internal medicine or radiology programs to obtain their postgraduate preparatory training because training programs outside of nuclear medicine that welcomed our candidates in the past, will be increasingly squeezed for residency positions and for funding to pay for those positions.

With these changes in the wind, how do we preserve our specialty? First of all, we must define for ourselves the kind of physician our training programs should be producing. We do best at training full-time nuclear medicine physicians, many of whom practice in an academic environment. Our diplomates find job opportunities in hospitals affiliated with medical schools and less often in community or private practice where nuclear medicine is a part-time business. The teaching hospital provides the setting for research and cross-fertilization with other fields of medicine that will allow nuclear medicine to grow and to find its appropriate place as a physiological probe of disease, a growth pattern often stunted in private part-time practice which is so heavily oriented to radiological and anatomical description.

If these are our goals for nuclear medicine practice, the economic pruning that we see on the horizon may be beneficial. It will force us to improve the quality of our resident candidates and to limit the size of our resident pool to the number of job opportunities that will be available. We will miss the multidisciplinary background of nuclear medicine residents boarded in other fields if salary reimbursements stop after board eligibility, and it may be necessary to find alternate payment schemes to attract residents with these backgrounds. Similarly, alternate funds will probably have to be found to provide this type of candidate with adequate research training within programs that will become, out of financial necessity, highly clinical.

It may be necessary for nuclear medicine training programs to finance at least one of the two years of postgraduate preparatory training. Under such a scheme, the first year of training would be a standard internship or transitional year. The remaining three years of postgraduate training would be carried out under the direction of the nuclear medicine training program director. With complete control, the nuclear medicine program director could tailor preparatory training more appropriately to the needs of the future nuclear medicine specialist by providing extended rotations through cardiology, neurology, oncology, ultrasound, computed tomography, and NMR and reducing the length of time spent on rotations that add little to nuclear medicine practice. Our residents would probably be welcomed by our medicine, pathology and radiology colleagues because they would be paid entirely by the nuclear medicine service. To accomplish this, it will probably be necessary to reduce the number of residents currently in training, a reduction that will most likely reflect more accurately the job opportunities in the field.

Although I have suggested substantive changes in the structure and number of nuclear medicine training programs in response to the drastic changes underway in graduate medical education, many of us will be sorely tempted to maintain the status quo in hopes that the changes on the horizon will not overtake us or will be so transformed that they will not affect us. For those individuals, I would only quote Peter Drucker's reminder that "a time of

turbulence is dangerous and the greatest danger is in ignoring reality" (8).

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