COMMENTS ON GRADUATE MEDICAL REFORM

1. The Prospect of Sweeping Reform in Graduate Medical Education

JOHN Z. AYANIAN

Harvard University

MULLAN AND HIS COLLEAGUES (1994) PROVIDE A striking picture of the major transformation that may be looming for graduate medical education (GME) in the United States. Many health policy makers believe that a relative shortage of generalist physicians, combined with an excess of specialists, has contributed substantially to problems of limited access and high costs for health care in the United States (Franks, Nutting, and Clancy 1993). Market forces embodied in the expansion of managed care have the potential to dampen significantly the demand for subspecialists in the coming decade (Wennberg et al. 1993; Weiner 1994). Because GME is heavily subsidized by the federal government, Congress established the Council on Graduate Medical Education (COGME) in 1986 to provide guidance on GME and issues related to the physician workforce.

The COGME proposal would increase the proportion of physicians completing training in the primary care specialties of family medicine, general internal medicine, and general pediatrics from 30 to 50 percent (Council on Graduate Medical Education 1992). In addition, the proportion of training positions available to international medical graduates

The Milbank Quarterly, Vol. 72, No. 4, 1994

(IMGs) would be reduced from 35 percent of U.S. medical school graduates to 10 percent, thereby decreasing the total number of residency positions available each year from 24,000 to 19,000. By meeting the COGME goals, Mullan and colleagues project that the number of physicians completing primary care training each year would rise by 34 percent. This increase would be coupled with a halving of the number of physicians completing training in medical subspecialties, such as cardiology and gastroenterology; surgical subspecialties, such as orthopedic surgery and neurosurgery; and other subspecialties, such as anesthesiology, neurology, and dermatology. The number of IMGs offered training positions in the United States would decline by 70 percent.

The COGME recommendations would have a substantial impact on the structure of academic medical centers and their training programs, but such changes are necessary to address the momentous growth of managed care in the health care system. Unless academic medical centers adapt their training programs in response to market forces that are reducing the demand for specialists, they risk losing the substantial economic and political support that they have enjoyed for several decades. The broader implications of the COGME proposal can be evaluated relative to three important goals—improving access, containing costs, and maintaining quality—as well as assessing how the recommendations might be implemented.

Improving Access

In the long run, increasing the number of physicians trained solely in primary care will undoubtedly enhance access to such physicians. By increasing generalist training positions from 30 to 50 percent, however, it could still take nearly 50 years to achieve a physician workforce that is evenly divided between generalists and specialists (Kindig, Cultice, and Mullan 1993), largely because the number of physicians completing training each year represents only a small fraction of the total workforce.

The geographic impact of this new policy is likely to be uneven. Suburban areas will generate ample demand for the first wave of additional primary care physicians, especially if managed care plans continue to increase their penetration of these areas. Less affluent rural and inner-city areas, where access to primary care is most deficient, will lag in their

ability to attract physicians, unless incentives are developed to address the geographic distribution of physicians. To the extent that IMGs have been more willing than graduates of U.S. medical schools to practice in underserved areas, the COGME proposal could result in worsening access for these communities (Mick and Worobey 1986).

An additional question is whether the COGME recommendations will affect access to subspecialty care. The steadily rising number of subspecialists over the past 30 years has fueled a growing expectation among insured Americans that they will have ready access to subspecialists of their own choosing, with little or no wait. Such access has led people to see subspecialists for relatively routine problems, such as hypertension, arthritis, or rashes, that could usually be well treated by a primary care physician. Because large numbers of subspecialists have been trained in recent years, however, several decades will be required before the COGME plan—by itself—will have a measurable impact on the availability of subspecialists (Kindig, Cultice, and Mullan 1993).

Controlling Costs

The costs of the COGME proposal can be assessed at two levels: for teaching hospitals and for the health care system as a whole. As Mullan and colleagues note, teaching hospitals will need to alter their workforce dramatically, particularly for the delivery of subspecialty care. For some supervised tasks, such as assisting in surgery, residents and fellows may be replaced by physicians' assistants or nurses. For more autonomous tasks, such as staffing intensive care units, residents and fellows may be replaced by more highly paid physicians who have completed their training. Although these new staff may be more efficient than residents performing similar tasks, they are also likely to be more expensive; one analysis suggests such substitution will increase teaching hospitals' annual costs by one to two billion dollars at the national level (Stoddard, Kindig, and Libby 1994).

The net effect of these changes on the financial status of teaching hospitals will depend on both managerial decisions of individual hospitals and funding decisions of the federal government. Under any scenario, teaching hospitals will be much more restricted in their ability to cross-subsidize teaching programs with clinical revenue because they face in-

creasing competition from other hospitals for contracts with managed care plans (Iglehart 1993). This pressure will require greater productivity from whatever workforce teaching hospitals ultimately employ.

The impact of the COGME proposal on costs in the larger health care system is difficult to predict. Available data suggest that generalist physicians have a less expensive style of practice than subspecialists in the current system (Greenfield et al. 1992; Welch et al. 1993). However, if the COGME proposal is slow to alter the supply of subspecialists in the population, as outlined above, then it will have little marginal impact on overall costs in the near term. Alternately, if the COGME proposal is successful in reducing the number of subspecialists, it could have an unintended consequence: increasing subspecialists' fees and income, thereby widening the economic gap between generalists and specialists (Weeks et al. 1994). Unless the demand for subspecialists' services is dampened, a smaller supply of subspecialists could stimulate higher prices for their services, even if total spending for these physicians declines.

On balance, the economic implications of the COGME proposal for the health care system as a whole are likely to be overshadowed by the growth of managed care plans, which will diminish demand for subspecialists. Staff-model health maintenance organizations simply hire or contract with a smaller number of subspecialists than would be supported in the fee-for-service sector (Wennberg et al. 1993). Network-model plans use other tools, such as prior review of referrals and procedures, to limit access to subspecialists and their more expensive procedures. With the increasing use of capitation payments to primary care physicians, managed care plans are also creating direct financial incentives for these physicians to limit demand for subspecialty care. Therefore, significant growth in the proportion of Americans enrolled in managed care plans could cause the supply of specialists to exceed demand by 60 percent within the next decade (Weiner 1994), long before the COGME recommendations begin to affect the composition of the workforce.

Maintaining Quality

Changes in the specialty distribution of the physician workforce may affect quality in three areas: prevention and early detection of disease, care of chronic diseases and their acute manifestations, and the provision of high-technology services. Preventive services are largely the domain of

primary care physicians (Kimball and Young 1994; Rivo et al. 1994), so efforts that expand opportunities in primary care will generate a larger cadre of physicians who are skilled and committed to promoting prevention and early detection of disease.

Both generalists and specialists provide care for chronic diseases, but comparisons of their practices and outcomes are limited. For at least one important condition—acute myocardial infarction—that both groups of physicians treat, generalists appear to lag behind specialists in their awareness or acceptance of important therapeutic advances (Ayanian et al. 1994). Conversely, if patients rely on specialists as their sole source of care, they may receive inadequate care for conditions that are outside the specialist's realm. More research is needed to determine the relative strengths and weaknesses of generalists and specialists in practice. Until such data are available, the quality of care for chronic diseases will depend more on the content of physician training and continuing education than on the actual numbers of physicians that are produced.

Reductions in the supply of subspecialists could paradoxically increase the quality of high-technology services. Up to one-third of some common and costly procedures, such as coronary angiography and gastrointestinal endoscopy, are performed for equivocal or inappropriate indications (Chassin et al. 1987), suggesting that many of these procedures could be eliminated with little impact on overall health in the population. Moreover, if reducing the number of subspecialists results in a greater volume of procedures for those in practice, then the average quality of procedures that are performed may improve through greater technical experience (Hosenpud et al. 1994).

Implementing Change

Mullan and colleagues outline important challenges that must be addressed if the COGME recommendations are to be implemented effectively, and several merit further exploration. Because these recommendations will drastically alter the structure of teaching hospitals, they are likely, if adopted by Congress, to be phased in over five to ten years. Ideally, medical schools, teaching hospitals, and the specialty boards that accredit training programs will use this time to cooperate in allocating training positions among institutions and specialties. However, given the traditionally decentralized nature of the academic medical community,

some form of financial incentives and restrictions, such as shifts in federal funding for GME, will probably be necessary to ensure that legislated changes are achieved (Rich et al. 1993).

The COGME proposal would require training opportunities to increase in family medicine by over 40 percent, with a corresponding need to expand the number of family physicians who are trained and willing to serve as faculty. Some of this increase can be accomplished by expanding existing residency programs, but new programs will also be required to meet this demand, particularly in ambulatory settings. In contrast, the COGME recommendations will require no expansion of training programs in internal medicine and pediatrics; only the proportion of their trainees who proceed to subspecialty fellowships will be sharply reduced. If family medicine programs are unable to expand quickly enough to meet training goals, then internal medicine and pediatrics programs will probably be called upon to train additional primary care physicians in the near term.

Political forces are likely to transform the COGME recommendations before they are adopted by Congress. Obstetricians–gynecologists have pushed to be labeled as primary care physicians (Iglehart 1994), even though their training does not prepare them for many components of such care (Rivo et al. 1994). Other groups of specialists may seek narrower definitions of primary care that label at least some portion of their members as primary care providers; an example would be cardiologists caring for patients with chronic heart disease. Moreover, because some states could face particularly drastic reductions in training programs under the COGME proposal (Kindig and Libby 1994), their representatives are likely to seek special provisions to ease their impact, such as extra funding, slower implementation, or less stringent targets.

Conclusion

Graduate medical education is an important element of health care reform because of the impending decline in demand for specialists. Academic medical centers must adapt to this changing need in the medical market by training fewer specialists. The COGME proposal, if enacted, will induce a fundamental restructuring of medical training and the delivery of medical care in academic medical centers, particularly for specialists' services. Such restructuring will also require an unprecedented

level of cooperation among teaching hospitals and specialty organizations in the allocation of training opportunities. However, the effect of the COGME proposal on access, costs, and quality in the health care system as a whole will be gradual and will probably be dwarfed by the more immediate impact of the continuing growth in managed care.

References

Ayanian, J.Z., P.J. Hauptman, E. Guadagnoli, E.M. Antman, C.L. Pashos, and B.J. McNeil. 1994. Beliefs and Practices of Generalist and Specialist Physicians Regarding Drug Therapy for Acute Myocardial Infarction. *New England Journal of Medicine* 33(17).

Chassin, M.R., J. Kosecoff, R.E. Park, et al. 1987. Does Inappropriate Use Explain Geographic Variations in the Use of Health Care Services? A Study of Three Procedures. *Journal of the American Medical Association* 258:2533–7.

Council on Graduate Medical Education. 1992. *Third Report—Improving Access to Health Care through Physician Workforce Reform: Directions for the 21st Century*. Rockville, Md.: U.S. Department of Health and Human Services.

Franks, P., P.A. Nutting, and C.M. Clancy. 1993. Health Care Reform, Primary Care, and the Need for Research. *Journal of the American Medical Association* 270:1449–53.

Greenfield, S., E.C. Nelson, M. Zubkoff, et al. 1992. Variations in Resource Utilization among Medical Specialties and Systems of Care: Results from the Medical Outcomes Study. *Journal of the American Medical Association* 267:1624–30.

Hosenpud, J.D., T.J. Breen, E.B. Edwards, O.P. Daily, and L.G. Hunsicker. 1994. The Effect of Transplant Center Volume on Cardiac Transplant Outcome: A Report of the United Network for Organ Sharing Scientific Registry. *Journal of the American Medical Association* 271:1844–9.

Iglehart, J.K. 1993. The American Health Care System: Teaching Hospitals. *New England Journal of Medicine* 329:1052–6.

——— 1994. Health Care Reform and Graduate Medical Education. *New England Journal of Medicine* 330:1167–71.

Kimball, H.R., and P.R. Young. 1994. A Statement on the Generalist Physician from the American Boards of Family Practice and Internal Medicine. *Journal of the American Medical Association* 271:315–16.

Kindig, D.A., J.M. Cultice, and F. Mullan. 1993. The Elusive Generalist Physician: Can We Reach a 50% Goal? *Journal of the American Medical Association* 270:1069–73.

Kindig, D.A., and D. Libby. 1994. How Will Graduate Medical Education Reform Affect Specialties and Geographic Areas? *Journal of the American Medical Association* 272:37–42.

Mick, S.S., and J.L. Worobey. 1986. The Future Role of Foreign Medical Graduates in U.S. Medical Practice: Projections into the 1990s. *Health Services Research* 21:85–106.

Mullan, F., R.M. Politzer, S. Gamliel, and M.L. Rivo. 1994. Balance and Limits: Modeling Graduate Medical Education Reform Based on Recommendations of the Council on Graduate Medical Education. *Milbank Quarterly* 72:385–98.

Rich, E.C., S.A. Wartman, N.B. Kahn, and C.M. Clancey. 1993. The Shortage of Generalist Physicians and Federal Funding of Graduate Medical Education. *Archives of Family Medicine* 2:1232–8.

Rivo, M.L., J.W. Saultz, S.A. Wartman, and T.G. DeWitt. 1994. Defining the Generalist Physician's Training. *Journal of the American Medical Association* 271:1499–1504.

Stoddard, J.J., D.A. Kindig, and D. Libby. 1994. Graduate Medical Education Reform: Service Provision Transition Costs. *Journal of the American Medical Association* 272:53–8.

Weeks, W.B., A.E. Wallace, M.M. Wallace, and H.G. Welch. 1994. A Comparison of the Educational Costs and Incomes of Physicians and Other Professionals. *New England Journal of Medicine* 330:1280–6.

Weiner, J.P. 1994. Forecasting the Effects of Health Reform on US Physician Workforce Requirement: Evidence from HMO Staffing Patterns. *Journal of the American Medical Association* 272:222–30.

Welch, W.P., M.E. Miller, H.G. Welch, E.S. Fisher, and J.E. Wennberg. 1993. Geographic Variation in Expenditures for Physicians' Services in the United States. *New England Journal of Medicine* 328:621–7.

Wennberg, J.E., D.C. Goodman, R.F. Nease, and R.B. Keller. 1993. Finding Equilibrium in U.S. Physician Supply. *Health Affairs* 12(2):89–103.

Address correspondence to: John Z. Ayanian, MD, Department of Health Care Policy, Harvard Medical School, 25 Shattuck Street, Parcel B, 1st floor, Boston, MA 02115.