FOURTH REPORT

COUNCIL ON GRADUATE MEDICAL EDUCATION

Fourth Report to Congress and the Department of Health & Human Services Secretary

Recommendations to Improve Access to Health Care Through Physician Workforce Reform

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U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES
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EXECUTIVE SUMMARY

Purpose

This Fourth Report of the Council on Graduate Medical Education (COGME) provides policymakers with specific legislative recommendations which, if enacted, would establish a national physician workforce plan and approach to meet the nation's health care needs in the 21st century.

Deficiencies in the Physician Workforce

Recent data reinforces the conclusions of the Council's Third Report that the nation's physician workforce is not well-matched with public needs. Specifically, the nation has too few generalist and minority physicians, too many specialists, and poor geographic distribution of physicians. The mismatch between physician supply and health care requirements will be magnified as the nation establishes universal access to care and the system shifts to systems of managed care. In a managed care dominated health care system, the Bureau of Health Professions projects a year 2000 shortage of 35,000 generalist physicians and a surplus of 115,000 specialist physicians if current patterns of specialty choice and numbers of graduates persist.

Given health care requirements, COGME believes the following physician workforce goals should be attained by the year 2000:

- First year residency positions should be limited to 10% more than the number of US medical school graduates (USMGs plus 10%).
- At least 50% of residency graduates should enter practice as generalist physicians (family physician, general internists and general pediatricians).
- The number of under-represented minority students should be doubled.
- Primary care shortage areas should be eliminated.

If COGME's year 2000 goals were adopted and attained, the nation would produce 25% fewer physicians annually, of whom at least half would practice as generalists. This output is projected to produce a more balanced generalist physician workforce in the year 2020 and a much smaller specialty surplus. Improved minority representation and geographic distribution would significantly enhance care in many underserved communities.

Present trends are not encouraging with respect to meeting the physician workforce goals outlined above. Despite projections of a total physician and specialty surplus, the number of first year residents has continued to grow and the percentage of residency graduates choosing generalist careers has remained low. Although the percentage of minority entrants to medical school has reached a record high, the numbers are well below the desired goal. Continued increases in the ratio of physicians to population has not been associated with a reduction in primary care shortage areas.

In the long run, COGME believes that market forces created by a changing health care system will change the specialty and geographic distribution of the workforce. However, the Council does not believe that these market forces alone will produce the needed physician workforce in a timely or predictable manner. Disincentives in the "educational" marketplace, particularly Medicare graduate medical education (GME) financing policy, blunt the impact of health systems reform on the workforce. Furthermore, the nation lacks a coherent approach to invest public funds in physician training based upon health care analytic requirements. If not corrected, these deficiencies will continue to hinder efforts to expand health care access and to control costs.

COGME'S Legislative Recommendations

The Council's legislative recommendations are designed to:

- utilize public funds which support GME to achieve the number and specialty mix of physicians needed by the nation
- provide incentives to increase the number of minority graduates, to increase interest in generalist careers, and to improve geographic distribution
- assist educational institutions in expanding their primary care capacity and in improving the quality of primary care education

The proposed physician workforce legislation:

- articulates the year 2000 workforce goals which were identified above
- mandates funding of graduate medical education (GME) by all payers
- establishes a National Physician Workforce Commission
- limits total funded residency positions to the number of 1993 US medical school graduates plus 10%
- allocates the reduced number of GME positions to medical school coordinated consortia
- provides transition payments to hospitals most affected by the loss of resident physicians
- provides incentives to individuals and institutions designed to graduate more minority physicians and generalists, to improve geographic distribution and to build primary care teaching capacity

The Council recommends that all third party payers explicitly pay for GME. Graduate medical education is largely funded by teaching hospitals from their patient care income. Both the total payment and accounting of GME funds remain unclear and are poorly coupled with physician workforce requirements. Furthermore, as teaching hospitals increasingly compete with non-teaching hospitals for participation in low cost health care plans, funding of GME may become increasingly difficult.

A centerpiece of the COGME proposal is that funds and slots would be allocated through medical school coordinated GME consortia. These consortia would function as "accountable education partnerships." Each consortium would include one or more medical schools and a diverse spectrum of representatives of institutions which train physicians, utilize their services, or represent the public. Each consortium, coordinated by a medical school, would collectively determine the specialty mix of residency positions based on local, state and regional health care needs under broad national guidelines which specify the number of residency positions and mandate that 50% of graduates be generalists. Consortia would help integrate undergraduate, graduate and continuing physician education and make the educational system more responsive and accountable to public needs. Many consortia are already operating despite the absence of supportive policy.

The Physician Workforce Advisory Commission is central to the proposal. In addition to its advisory role in implementing legislative goals, the Commission would be responsible for monitoring workforce trends, workforce needs, and recommending necessary ongoing modification of goals to Congress and the Health and Human Services Secretary.

COGME believes that its legislative recommendations will achieve year 2000 goals in a timely and predictable fashion. The consortium approach will minimize federal or state government micromanagement and maximize private sector input and creativity. Incentives for individuals and for institutions will assist in the transition, helping new physicians and the medical education system respond to changing demands of the health care market place.

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CHAPTER I - Matching Physician Supply with Health Care Needs

This Fourth Report provides policy makers with specific legislative recommendations which, if enacted, would establish a national physician workforce plan and an approach to meet the nation's health care needs in the 21st century. The report:

- Reviews the nation's recent workforce trends for consistency with COGME's goals for physician supply, specialty mix, racial-ethnic composition and geographic distribution.
- Compares available policy options to better match the physician workforce with health care needs in a timely and predictable manner.
- Provides a rationale for the recommendations selected.

Background

In October 1992, the Council on Graduate Medical Education (COGME) issued its Third Report entitled, "Improving Access to Health Care through Physician Workforce Reform: Directions for the 21st Century,"[1] to Congress and the Health and Human Services Secretary. In that report, COGME issued a set of findings, goals, and initial recommendations to address deficiencies in the physician workforce.

The findings of the Third Report included the following:

1. The nation has too few generalists (i.e., family physicians, general practitioners, general internists, and general pediatricians) and too many specialists.

2. Problems of access to medical care persist in rural and inner city areas despite large increases in the number of physicians.

3. The racial/ethnic composition of the nation's physicians does not reflect the general population and contributes to access problems for underrepresented minorities.

4. Shortages exist in the specialties of general surgery, adult and child psychiatry, and preventive medicine, and among generalist physicians with additional geriatrics training.

5. The current physician-to-population ratio in the nation is adequate. Further increases in this ratio will do little to enhance the health of the public or to address the nation's problems of access to health care, and will hinder efforts to contain costs.

6. The nation's medical education system should be more responsive to societal needs for more generalists, underrepresented minority physicians, and physicians for medically underserved rural and inner city areas.

7. The absence of a national physician workforce plan, combined with financial and other disincentives to generalist practice, are barriers to improved access to care.

As a result of the above findings, COGME developed the following national goals for the physician workforce:

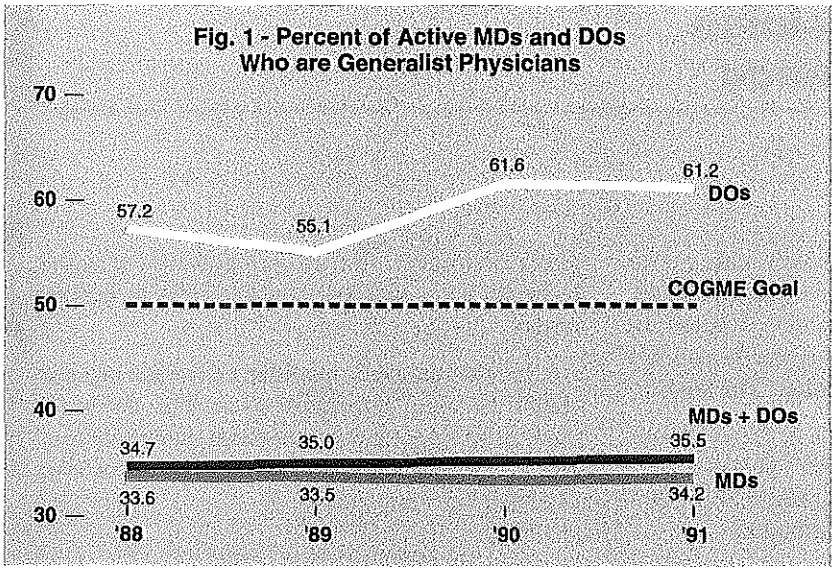
1. The U.S. should move toward a health care system in which 50 percent of physicians practice in the generalist disciplines of family practice, general internal medicine, and general pediatrics. Consequently, at least 50 percent of medical school graduates should complete a three-year residency and enter practice in one of these generalist disciplines.

2. All primary care shortage areas should be eliminated and disparities between the metropolitan and nonmetropolitan distribution of physicians should be reduced.

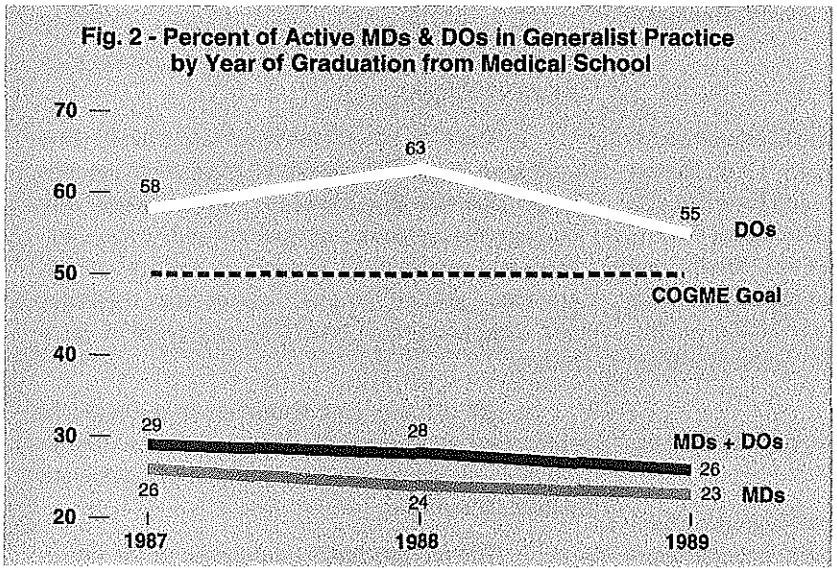
3. The racial/ethnic composition of the physician population should reflect the overall population's diversity. The nation should adopt the goal of the AAMC[2] to double the number of first-year entering underrepresented allopathic minority medical students from 1500 to 3000 by the year 2000 and an equal percentage for entering osteopathic medical students (350 by the year 2000).

4. The percentage of physicians trained and certified in specialty fields of general surgery, adult and child psychiatry, and preventive medicine, and the percentage of family physicians and general internists with additional geriatrics training should be increased.

5. The aggregate allopathic and osteopathic physician to population ratio should be maintained at current levels. To work toward this goal and



Sources: American Medical Association. "Physician Characteristics and Distribution in the U.S., 1993 edition", Chicago 1993. Also prior annual editions. American Osteopathic Association, Biographical Records, 9/1/93, unpublished data.



Source: Association of American Medical Colleges, "AAMC Reporter," Sept 1993, Vol 3, No. 1, P3 for 1987 and 1989 and by telephone for 1988. American Osteopathic Association, Biographical Records, unpublished data.

slow the projected growth rate, the number of filled first year resident positions should be limited to 110 percent of the number of US medical school graduates.

6. Undergraduate and graduate medical education should increase its emphasis upon meeting regional and national physician workforce needs.

7. A national physician workforce plan, infrastructure, and approach should be established that combines financial and other incentives and disincentives to achieve the workforce goals.

This Fourth Report builds upon the goals, findings, and recommendations included in the COGME Third Report. The reader is referred to the COGME Third Report for a comprehensive review of its findings, goals, and general recommendations.

Measuring performance

This section reviews the nation's recent workforce trends for consistency with COGME's goals for physician supply, specialty mix, minority representation and geographic distribution. Performance data over the past few years reinforce the Council's conclusions about the nation's physician workforce deficiencies. This physician workforce "report card" may be important feedback to policymakers, as they consider the magnitude of necessary changes in the nation's health care reimbursement and medical education financing system, and to medical educators, as they seek to continuously improve the quality of the physicians they produce.

The evaluation of key trends is summarized as follows:

1. Generalist-specialist mix: In 1992, 35 percent of all physicians were practicing in the generalist disciplines of family/general practice, general internal medicine and general pediatrics. This figure is far below the 50 percent goal and unchanged over the past three years. However, 61 percent of all osteopathic (DO) physicians are practicing generalists, compared with 34 percent of all allopathic (MD) physicians (Figure 1).

Only 26 percent of 1987 MD medical school graduates completed generalist residency training and entered generalist practice. This fell to 23 percent for 1989 MD graduates. On the other hand, 58 percent of DO medical school graduates in 1987 and 55 percent in 1989 completed residency training and entered generalist practice (Figure 2).

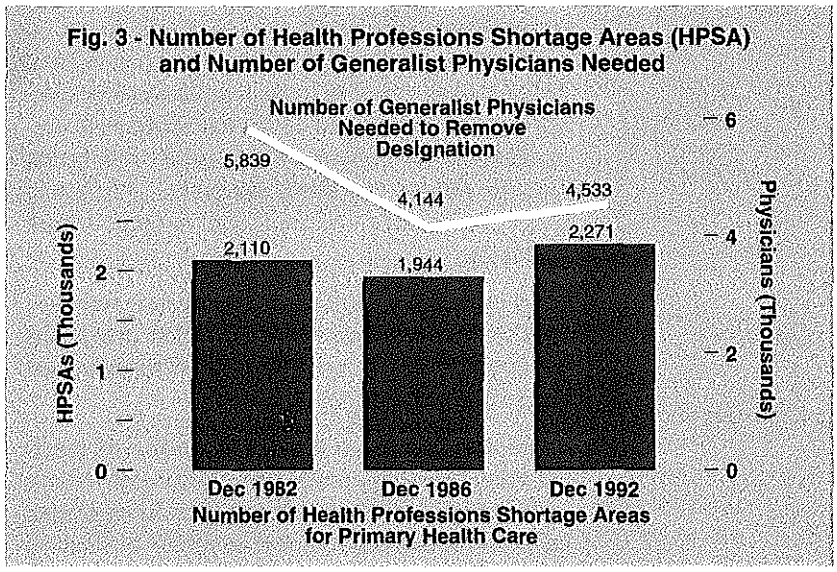
2. Geographic distribution: Despite a net entry of 150,000 physicians into the workforce over the past decade, the number of primary care shortage areas and Americans without access to primary care services has actually increased (Figure 3). The number of National Health Service Corps scholarships to place primary care physicians in underserved areas plummeted from a peak of 2300 in 1979 to fewer than 200 in 1991.[3]

3. Minority representation: Compared with the overall 1990 physician-to-population ratio of 221/100,000 in 1990, Hispanic (121/100,000), African (67/100,000) and Native Americans (45/100,000) are significantly underrepresented compared to their proportion in the general population (Table 1).

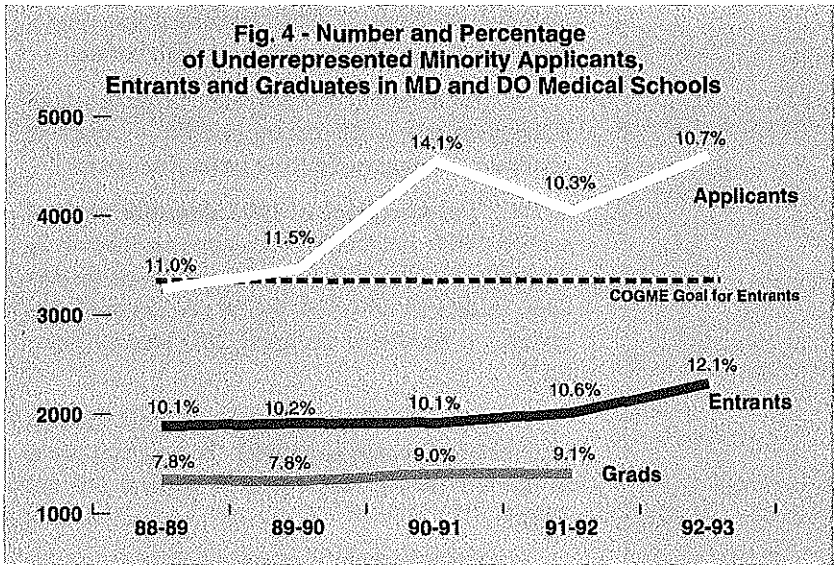
Table 1 - Physician-to-Population Comparison by Race/Ethnicity, 1990

	Hispanic	Non-Hispanic White	Black	American Indian	Asian	Other	Total
Number of physicians Reported in 1990 Census	28,781	472,351	20,874	868	63,552	289	586,715
Percent of physicians	4.9%	80.6%	3.6%	0.1%	10.8%	0.0%	100.0%
Percent of population	9.0%	75.6%	11.7%	0.7%	2.8%	0.1%	100.0%
Racial/ethnic (r/e) physicians per 100,000 r/e-specific population	129	251	71	48	912	116	236

Source: Association of American Medical Colleges, Minority Students in Medical Education: Facts and Figures VII, 1993



Source: HRSA, Bureau of Primary Health Care. Rockville, Md: US Department of Health and Human Services; 1992. Roback G, Randolph L, Seidman B, Physician Characteristics and Distribution. Chicago, Ill: American Medical Association; 1992 and previous editions. AMA Masterfile.



Source: Association of American Medical Colleges, *Minority Students in Medical Education:* Facts & Figures, 1993. American Association of American Association of Colleges of Osteopathic Medicine: 1993 Annual Statistical Report.

In 1992, a record 2,309 underrepresented minorities (URM) entered allopathic and osteopathic medical schools. This represents 9.2 percent of DO entrants and a record 12.4 percent of MD entrants. However, the number of minority entrants is still significantly below the year 2000 goal of 3,350 (Figure 4).

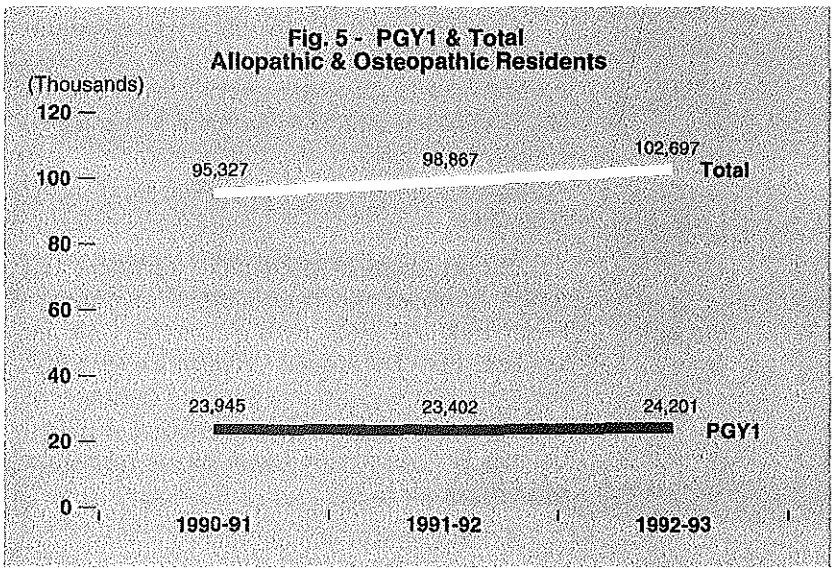
The percentage of MD minority medical school faculty increased only from 3.2 to 3.5 percent between 1980 and 1990.[4] No comparable data are available from DO schools. Available recent MD residency data suggests that minority residents are no longer overrepresented in generalist disciplines, but may be underrepresented in certain specialties and subspecialties.

4. Physician-to-population ratio: The physician supply continues to grow 1.5 times the general population growth. During the last three years, the active MD and DO physician-to-population ratio increased from 252 to 267 physicians per 100,000 population. Since 1989, applicants increased a record 58 percent to MD medical schools and 138 percent to DO medical schools.[5] During the past three years, the total number of MD and DO residents grew by nearly 8 percent, from 95,000 to more than 102,000 (Figure 5). This increase in total residents may be due to increasing subspecialization and/or longer specialty training.

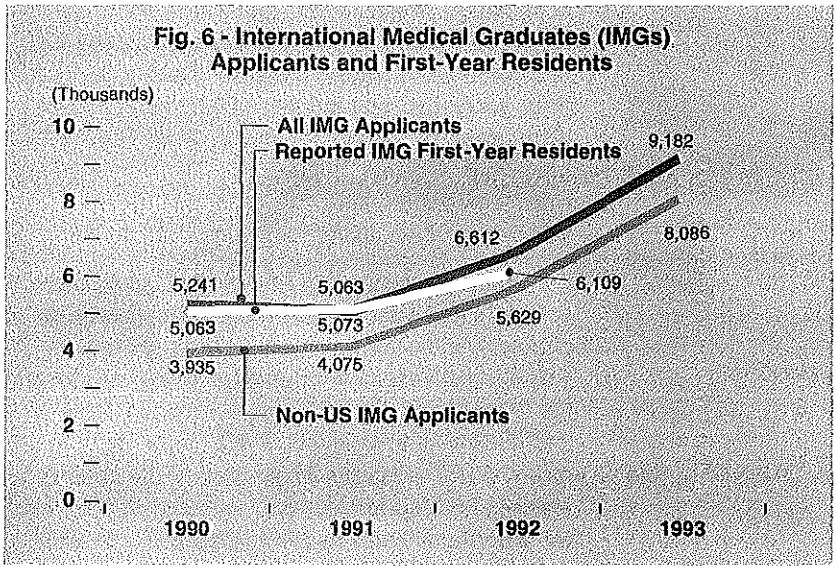
Although the number of U.S. medical graduate (USMG) first-year residents has been slowly declining over the last three years, the number of first-year international medical graduate (IMG) residents has been rising. In 1992, of a reported total of 24,000 first-year residents, IMGs accounted for a record 6,077, equal to 35 percent of the approximately 17,000 allopathic and osteopathic U.S. medical school graduates in 1992 (Figure 6). In addition, almost 9,000 IMG applicants were reported by

the NRMP in 1993.[6] The nation's first-year IMG residents are unequally distributed among states. Five states — New York, New Jersey, Pennsylvania, Illinois, Michigan — accounted for 58 percent of all first-year IMGs, who comprised 44 percent of their total first year resident classes.[7] In the other 45 states, IMGs comprised just 14 percent of their total first year classes.

However, available data indicate that IMGs are less likely than USMGs to establish practice in nonmetropolitan counties (there are no data either way to indicate whether IMG practice more in urban underserved areas).[8] Available data indicate that pediatric IMG residents are more likely to subspecialize than US medical school graduates.[9] Internal medicine foreign national IMGs are also more likely to subspecialize although U.S. citizen IMGs are not.[10]



Sources: Association of American Medical Colleges, Student and Applicant Information Systems (SAIMS) Database, 5/24/93. American Osteopathic Association, "Journal of the American Osteopathic Association, Nov 1992", Table 4, Vol 92, No. 11, Chicago and by telephone for 1993 (for intern data). American Osteopathic Association, Biographical Records (Unpublished Data (for resident data)



Sources: National Resident Matching Program, NRMP Data, March 1993 for applicants. Association of American Medical Colleges, Student & Application Information System, (Unpublished) 1993, for enrollees.

5. General surgery, psychiatry, preventive medicine, geriatrics: During the past three years, the numbers of physicians in general surgery, adult psychiatry, and preventive medicine have grown considerably less than the aggregate physician growth rate. The numbers in geriatric medicine, a relatively new discipline, and child psychiatry have grown faster than the aggregate average in this period.[11]

6. Physician competencies: Available data suggest that the physician workforce should be better matched with health system requirements in practice competencies, as well as in composition. Medical student and resident graduates and practicing physicians surveyed do not feel adequately prepared in the key competencies required with health systems reform, including preventive, cost-effective, community-oriented and managed care (Table 2).

Furthermore, HMO medical directors surveyed believe that the majority of generalist physicians being produced are poorly prepared for managed care practice (Table 3).

In another area of apparent deficiency in medical school training, fewer than 20 percent include continuous quality improvement in their respective curricula, according to a recent survey of medical schools.[12]

Positive Trends: While it is too early to expect to measure significant improvement towards attaining the goals COGME identified last year, a number of hopeful indicators are worth noting:

- The majority of osteopathic medical school (DO) graduates — 55 percent in 1989 — complete residency training and pursue generalist careers.[13]

- The percentage of 1993 allopathic medical school (MD) graduates expressing an interest in generalist careers rose from 15 percent to 19 percent. Although far below the 50 percent goal, this reverses a decade of declining MD student interest.[14]

- Allopathic family practice offered 2,950 first year residency positions in 1993, the largest number in the last decade, and filled 95 percent (all but 152).[15]

- A record 2309 underrepresented minorities began medical school in 1992, representing 12 percent of all entrants.[16]

Table 2 - Percent of Medical Student Graduates and Physicians Citing Inadequate Preparation in Key Competencies

Competency Area	Medical Student*	Physician†
Basic sciences	6	N/A
Disease/hospital treatment	2	2
Working in health care teams	10	39
Patient education/communication	36	28
Public/community health	49	33
Preventive care	55	51
Information/literature analysis	57	67
Cost-effective practice	64	70
Practice management/managed care	73	81

* Percentage who rated instruction time as "inadequate," from the 1991 graduate student survey report of the Association of American Medical Colleges.

N/A = Not Applicable.

† Percentage who rated training as "fair/poor." From the 1991 Survey of Health Professionals, Pew Health Professions Commission.

Table 3 - Preparedness of Generalist Physicians to Practice in Managed Care Settings

Provider Type	Poorly Prepared	Prepared	Well Prepared
Family Physician	51%	34%	16%
Internist	75	21	4
Pediatrician	62	32	6

Source: Group Health Association of America, *The Recruitment Experience of Health Maintenance Organizations for Primary Care Physicians*, p. 21. Final Report under Health Resources and Services Administration contract HRSA 92-190, May 1993.

- Osteopathic physicians overall and allopathic family physicians continue to distribute uniformly throughout all community sizes, including small rural towns.[17]

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CHAPTER II: Impact of Adopting COGME'S Goals and Recommendations

The Council previously concluded that deficiencies in the physician workforce will undermine strategies to provide high quality, affordable health care to all Americans. Recognizing the national movement towards and substantial growth in managed care, expeditious steps must be taken to modify the training pipeline to produce a physician supply which is matched in both numbers and competencies with the needs of these health care plans.

In a reconfigured health care system emphasizing universal access, primary care, preventive care, and managed care, the mismatch between public needs and the physician workforce will become all the more apparent. Adopting COGME's goals for the total number and specialty mix of resident graduates will produce a physician workforce which is far better matched with health care requirements.

Determining Physician Supply from Health Care Needs

To demonstrate this point, the Health Resources and Services Administration's Bureau of Health Professions (BHPr) incorporated the COGME goals into its supply and requirements model for the year 2000 and 2020 using the following assumptions.

1. Health care system assumptions

Year 2000

- Two-thirds of the U.S. population will be enrolled in some type of a managed care arrangement, with strong utilization controls, be it a staff model HMO, an independent practice association (IPA), or a network. The ratio of generalists to specialists will be 50/50 as is currently the situation with staff and group model HMOs.[1] The requirements for physicians in HMOs was inflated by 25 percent, to 171 patient care physicians per 100,000 population. This increase is estimated to account for greater utilization and intensity of services resulting from a greater percentage of the enrolled populations coming from traditionally non-HMO populations, e.g., the uninsured, Medicaid, and elderly Medicare patients.

- One-third of the population will be served by the fee-for-service sector. Physician requirements for this segment are modeled at the current active patient care physician-to-population ratio of 174/100,000. One-third of all physicians would be generalists and two-thirds specialists as is the current workforce.

Year 2020

- Eighty percent of the population will be enrolled in HMOs and 20 percent in the fee-for service sector.

- Physician requirements for HMOs and the fee-for-service sector are similar to those for the year 2000 scenario.

2. Physician supply assumptions given current trends

- 22,800 residents will begin training each year, including an increasing number of US medical school graduates (USMGs) which is projected to plateau at 18,000 and 4,800 IMGs (USMGs plus 27 percent)

- Twenty percent of residency graduates will enter generalist careers

3. Physician supply assumptions given COGME's goals

- 19,000 residents will enter training each year, including 17,300 USMGs and 1,700 IMGs (USMGs plus 10 percent)

- Fifty percent of residency graduates will enter generalist careers

Physician Workforce Profile Given Current Trends

Assuming no changes in the current training pipeline and a health care system dominated by managed care arrangements, BHPr projects a year 2000 shortage of 35,000 generalist physicians, a surplus of 115,000 specialist physicians, and an overall surplus of 80,000 patient care physicians. The physician surplus and specialty imbalance would worsen by 2020, with a projected shortage of 80,000 generalists and a surplus of 200,000 specialists (Figure 7).

Physician Workforce Profile Given COGME'S Goals

If COGME's proposed legislation is implemented in 1996 and its proposed goals —— limiting filled first year positions to 10 percent more than the number of 1993 US medical graduates and producing 50 percent generalists annually —— are attained by the year 2000, BHPr projects that this would produce a balanced generalist physician workforce in the year 2020, based upon the assumptions in the model.

The physician supply would still rise from 253 to 267 active MD and DO physicians/100,000 population in the year 2020, producing a surplus of 65,000 physicians (Figure 8). This policy does not attain COGME's original goal of maintaining the current physician-to-population ratio. However, it does produce a physician supply that is significantly lower than the projected level of 298 active physicians/100,000 population in 2020 if no action was taken (Figure 9). The Council believes that its recommendation is a politically feasible policy at this time.

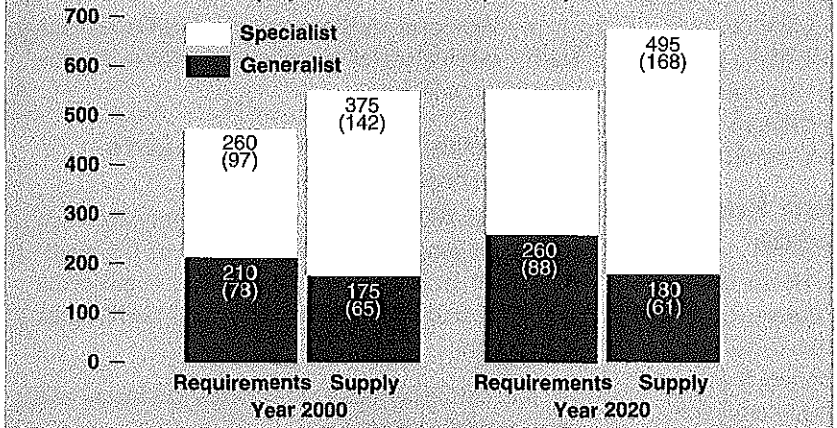
These projections do not take into account the impact of physician assistants, nurse practitioners and clinical nurse and allied health specialists on generalist or specialist physician workforce requirements, nor the impact of physicians who may change specialties. Given the excess supply of specialist physicians, it is clear at this time that strategies to increase the number of nonphysician practitioners provide further rationale and impetus for limiting the number of first year residents and producing a majority of generalists.

The reduced physician growth rate and increased proportion of generalist physicians attained by implementing COGME's goals can be expected to substantially reduce health care expenditures, in addition to improving health care quality and access.[2,3,4,5,6] The actual savings ultimately depend on the ability of health systems reform and public health measures to reduce diagnostic and therapeutic interventions of marginal benefit and improve health status.

Attaining COGME's goals for minority representation and geographic distribution will result in a markedly improved physician workforce demographic profile. A more geographically and racial-ethnically balanced physician workforce will improve health care quality and access to the underserved.[7]

Enactment of COGME's recommendations would establish a national plan and mechanism to more closely match physician supply with requirements in a reformed health care system in the 21st century. Under the legislation, DHHS would fund the desired number and specialty mix of residency training positions to ensure that the physicians produced are what the health care system and public needs. A national physician advisory body would monitor supply and requirements, evaluate progress toward the goals and recommend changes in physician workforce goals and policy to the DHHS Secretary and Congress.

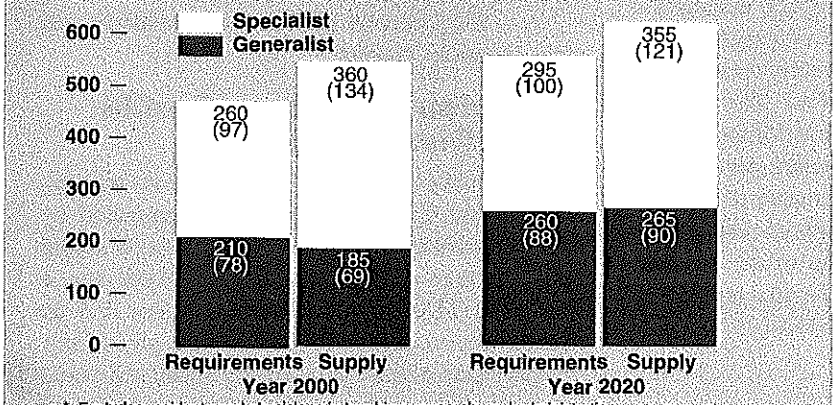
Fig. 7 - Patient Care MD & DO Physician Supply and Requirements* Assuming Current 20% Generalist Production
(Physicians/100,000 Population)



*Excludes residents and physicians in teaching, research, and administration.

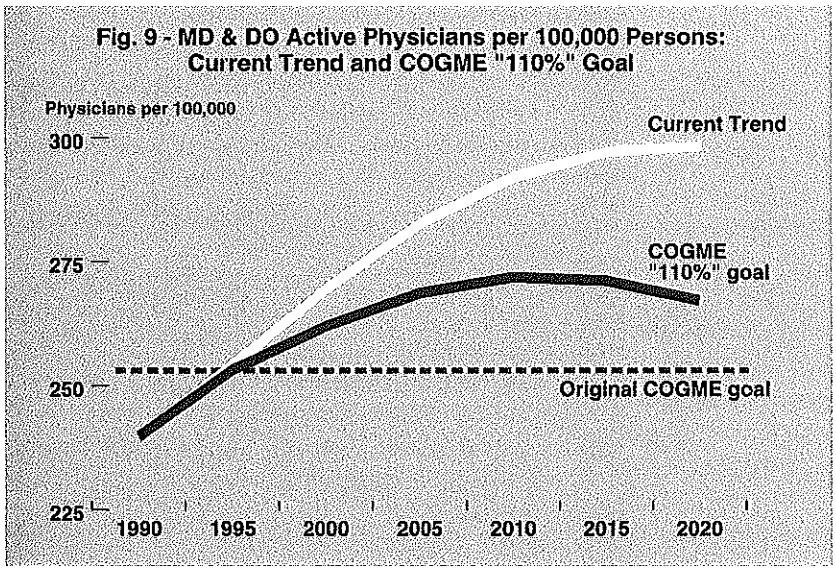
Source: Bureau of Health Professions Physician Workforce Supply and Requirements Modeling Using Data from the American Medical Association, American Osteopathic Association, and Group Health Association of America, 1993.

Fig. 8 - Patient Care MD & DO Physician Supply and Requirements* Given COGME's Recommended Goals**
(Physicians/100,000 Population)



* Excludes residents and physicians in teaching, research, and administration.
** COGME's goals– Limit first year residents to the number of U.S. medical graduates in 1993 plus 10%, and an annual production of 50% generalist physicians implemented over three years, beginning in1997.

Source: Bureau of Health Professions Physician Workforce Supply and Requirements Modeling Using Data from the American Medical Association, American Osteopathic Association, and Group Health Association of America, 1993.



Source: Bureau of Health Professions, Physician Supply Modeling of Aggregate MD & DO Physicians.

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CHAPTER III: Options to Achieve COGME'S Goals

Principles to Guide COGME'S Recommendations

The Council identifies a series of principles from which to evaluate legislative options for achieving its physician workforce goals, based on its underlying belief that a national physician workforce system is a necessary and legitimate function of government, and that medical educators have a responsibility to produce a physician workforce that meets the nation's needs. The Council believes that Physician workforce reform proposals must:

1. Be responsive and accountable to national and regional physician workforce needs of educating 50 percent generalists, increasing minority representation, and eliminating rural and inner city shortage areas.

2. Meet physician workforce goals in a predictable and timely fashion.

3. Minimize micro-management and decentralize decision making under overall national guidelines.

4. Fund graduate medical education adequately.

5. Be attainable without net additional expenditures for Medicare Direct GME.

6. Eliminate incentives to fill residency positions based upon hospital service needs rather than societal and educational needs.

7. Permit funding to follow trainees to sites of training.

8. Foster the integration of undergraduate and graduate medical education.

9. Provide transition mechanisms to assist those institutions affected most adversely by changes.

10. Provide a workforce planning system which will be responsive to changing future workforce needs.

Options to Achieve Physician Specialty Mix and Supply Goals[1]

COGME recommends that, given health care requirements, the number of funded first year resident positions should be limited to 110 percent of the number of 1993 US medical school graduates. This would reduce the number of filled first year positions from 24,000 in 1992-93 to 19,000, comprised of 17,300 US osteopathic and allopathic graduates plus 10 percent, or 1,700 other physicians. Once implemented fully, the nation's residency training programs should be producing 25 percent fewer new physicians, of whom at least 50 percent will practice as generalists.

The Generalist Specialties: COGME considers family practice, general internal medicine and general pediatrics as the generalist specialties which should be counted in the 50 percent goal. Physicians in these disciplines are broadly trained to function as comprehensive generalist physicians for the common health care needs of their patients.[2,3] They provide health promotion and disease prevention services, evaluate the spectrum of undifferentiated problems and provide ongoing care for a broad range of acute and chronic problems commonly seen in the primary care setting. A major function for generalists is coordination of the overall care of their patients, with appropriate consultation and referral for necessary specialized services.

Several other physician groups have suggested that they should be designated as a generalist specialty. COGME believes that physicians functioning in generalist roles should be broadly educated as generalists. Inclusion of other specialties should be based upon an objective analysis of training requirements in those disciplines which provide graduates with broad generalist capabilities.[4,5]

In the final analysis, with expanding systems of managed care which require more broadly trained and competent primary care practitioners, the marketplace will determine which specialties are comprehensively trained to function as generalists.

Approaches to Produce the Desired Supply and Specialty Mix

The Council considered four broad approaches to reach these goals: (1) allowing health care market forces alone to operate, (2) adding institutional and individual incentives and disincentives, (3)-facilitating self-regulation of specialty size through relief from anti-trust restrictions, and (4) directly funding the supply and mix of residents required.

The key principle that COGME used to evaluate these broad approaches was their ability to meet the physician workforce goals in a predictable and timely fashion.

1. Health care market forces: Some argue that health care market forces alone might reshape the physician workforce by producing the necessary demand for generalist physicians and reduce incentive to specialize. Certainly, the rapid proliferation of managed care will create more effective demand for generalists and may leave many specialists underemployed. Anecdotal reports suggest that increasing demand for generalists in capitated managed care already is increasing generalists' salaries above those prevailing in the fee-for-service sector and that non-primary care specialists and subspecialists are having increasing difficulty finding jobs in some areas. However, as of 1993, only 18 percent of the U.S. population is currently enrolled in HMOs, be they staff, group, network, or IPA, and their market penetration is still highly variable.[6] The current system of fee-for-service reimbursement continues to value procedural services which dominate in specialty practice over cognitive services which dominate in generalist practice. This continues, in most areas of the country, to provide powerful incentive for students to choose the more highly paid procedural specialties.

In addition, **educational market forces** also appear to blunt the impact of the "health care" market upon students' specialty choice. Academic medical centers provide a first-hand environment which attracts medical school graduates to specialty practice. The educational "market" is an immediate reality for the student, while the health care market is more remote.

Within the medical education marketplace, the total number and specialty mix of residency position is determined by the individual decisions of program directors, department chairs, medical school deans and hospital executives. The service needs of teaching hospitals and Federal Medicare GME payments have provided powerful incentives for these hospitals to add residents and increasing numbers of IMGs.[7] However, the resultant number and specialty distribution of filled residency positions has not reflected the broader needs of consumers in the health care market.

It appears likely that health care reform will stimulate an explosive expansion of managed care. In the absence of a markedly expanded primary care workforce, the shortage of generalists and the plethora of specialists and subspecialists with little primary care training or broad primary care experience will slow the development of efficient managed care systems. Further, increasing demand for generalist physicians in HMOs which primarily serve urban settings may draw generalist physicians away from rural areas. The hospital-based and subspecialty-oriented culture and educational priorities of the academic medical center, reinforced by current GME incentives and disincentives, may make them slow to respond to the increased demands from the health care marketplace for community-based, generalist education. For these reasons, it seems unlikely to COGME that market forces alone will result in a correction of the generalist/specialist mix in either a timely or a predictable fashion.

2. Educational incentives: Another approach to achieving workforce goals is to provide incentives and disincentives both for individuals and for institutions. For example, some argue that loan forgiveness and tuition reduction might provide sufficient incentives for medical school graduates to enter generalist specialties. Likewise, some believe that increased reimbursement to hospitals for primary care residency positions, vis-a-vis those in other specialties, might encourage hospitals to alter their generalist-specialist residency mix.

However, it is far from certain that additional educational incentives alone would be sufficient to overcome current financial disincentives in the medical education and health care marketplace. In fact, one might anticipate that the practice income of generalists would have to exceed that of specialists in order to overcome the specializing influences upon medical students of the educational milieu. It is not likely that this would happen. In addition, while generalist positions might be increased by incentives, the service needs of the tertiary care center make it unlikely that resident positions in specialties would be voluntarily eliminated and no guarantee that generalist slots would be filled.

Incentives might also be provided to help restructure undergraduate medical education to focus upon the education of generalists. Indeed, many of the community-based medical schools were established specifically for this mission. However, only ten of the 125 degree-granting allopathic medical schools had more than 35 percent of their graduates selecting generalist careers between 1987 and 1989.[8] Overall, in 1993, 19 percent of senior allopathic medical students expressed interest in a generalist career. The Council believes that this reflects the powerful system-wide barriers to even generalist-oriented medical schools to graduate as many as 50 percent generalists.

Thus, while incentive approaches may result in some increase in the percentage of students and residents pursuing generalist careers, it seems unlikely that institutional and individual incentives and disincentives alone would come close to achieving national goals in a timely and predictable manner. The Council believes, however, that individual incentives are essential as interim measures until the health care marketplace changes and that institutional incentives are essential to build much needed additional community-based, primary care educational capacity and improve its quality.

3. Voluntary reductions through accreditation processes: Some suggest that national physician workforce goals can be achieved through voluntary reductions in the number of residency positions approved in the medical, surgical, and support specialties through the residency program accreditation process. Indeed, some surgical specialties, following studies of their workforce needs in the 1970s, limited residency positions through establishment of more rigorous quality standards emphasizing numbers of procedures required to educate competent surgeons.[9] However, similar benchmarks for establishing quality standards are less easily developed in the medical specialties.

Thus far, little interest has been demonstrated by other specialties in professional self-regulation. At the same time, the medical marketplace, GME financing policies, hospital service needs and other factors continue to stimulate expansion in many specialties. Even if residency review committees (RRCs) attempted to control specialty size, these efforts almost certainly would have anti-trust implications.[10] It also may be difficult to obtain legislated anti-trust exemptions for private sector control of the number and size of residency programs. Finally, RRC actions may not necessarily lead to the desired results. For these reasons, COGME believes that this approach to achieving its physician workforce goals is not likely to be successful.

4. Funding the desired resident mix: A final strategy would be to directly fund the desired output required. Such an approach would: (1) cap the total number of GME positions funded and directly link funding of residency positions to the desired number and specialty mix; (2) establish an all-payers GME pool to completely fund the direct GME costs; and (3) establish a national workforce planning body which would conduct ongoing workforce studies and make recommendations to the DHHS Secretary and Congress concerning modifications in the desired output required by the health care system.

Having considered each of these approaches, **COGME believes that funding the desired residency mix is the most effective strategy** to attain the number and generalist/specialist mix of physicians needed by the health care system and the public in a timely and predictable fashion. This approach has also been endorsed by the Physician Payment Review Commission in its 1993 Annual Report,[11] as well as by other foundations, advisory bodies, and professional and academic organizations.[12] In applying this approach to the use of public and private funds supporting GME, Congress would not be attempting primarily to regulate GME, but rather prudently and effectively to target public and private funds to obtain the desired outcome.

Financing Graduate Medical Education

GME has largely been funded from patient care income. Thus, the public has financed GME through payment of insurance premiums and through taxes. Medicare, the largest third-party payer, directly pays teaching hospitals its pro rata share of GME costs (Table 4). These Medicare payments cover both the direct costs of GME as well as associated indirect costs attributable to higher patient care expenditures in teaching hospitals. The contributions of other third-party payers to GME usually are not specifically identified in their payments. Rather, teaching hospitals have included GME costs in their higher charges and have been reimbursed for these charges by third-party payers.

As third-party payers attempt to control expenditures and as competition for patient populations increases among hospitals, teaching hospitals must compete for contracts to care for patients at fixed rates. The costs associated with GME place teaching hospitals at a disadvantage. Consequently, the funding of GME becomes increasingly difficult.

Development of a GME funding pool: COGME recommended in its Third Report that the direct costs of GME be explicitly funded by all third-party payers through development of a national GME funding pool. This pool would provide a mechanism to adequately finance GME and would provide an effective mechanism to achieve the desired number and specialty mix of resident positions consistent with national physician workforce goals. The separation of GME costs from patient care costs would permit teaching hospitals to compete more effectively on the basis of cost and quality for patient populations.

Table 4 - Medicare Direct and Indirect GME Payments 1990-1994 (Millions, estimated)

Type of Payment	*FY 1990*	*FY 1991*	*FY 1992*	*FY 1993*	*FY 1994*
Direct GME (physician only)	$1,340	$1,410	$1,460	$1,510	$1,540
Direct GME (non-physician)	180	170	180	190	210
Total Direct GME	1,520	1,580	1,640	1,700	1,750
Indirect GME	2,680	3,220	3,560	3,840	4,100
TOTAL Medicare GME	**4,200**	**4,800**	**5,200**	**5,540**	**5,850**

Source: Estimates by the Office of the Actuary, Health Care Financing Administration, as of October 1993.

A precise estimate of the total direct costs of GME upon which to base funding of a GME funding pool has been difficult to establish. A simple extrapolation of Medicare's 38 percent share of hospitals days utilizing Medicare-defined direct GME costs in FY 1994 indicates expenditures in excess of $ 4 billion by third-party payers alone. COGME believes that this figure may understate actual direct costs. Further, changes in education such as increased ambulatory education, may alter actual direct costs. Further studies are urgently needed.

The Bureau of Health Professions estimates that an allocation of 1 percent of all third party payments including Medicare would generate approximately $5.5 billion, and an allocation of 1.2 percent would provide $6.6 billion, if more is needed.

Such allocations based upon a reassessment of GME costs would establish an explicit funding source for GME which does not represent new health care expenditures. This funding mechanism would be fair to all payers as well as the public. This GME funding pool should be the sole mechanism for paying all allowable and identifiable costs related to the educational component of GME programs. These costs include at a minimum the compensation of residents, payment of faculty and support staff for services independent of patient care for which separate payments are generated; appropriate administrative costs; and overhead costs, including educational space, incurred at all training settings.

The Medicare Indirect Medical Education (IME) Adjustment: In addition to providing payments for the direct costs of GME, Medicare also provides indirect payments to teaching hospitals for their higher operating costs. These higher costs are associated with caring for patient populations which have more complex illnesses, require greater intensity of services and mix of staff, etc. While only a portion of these additional costs are directly attributable to GME, they are correlated with the ratio of residents to hospital beds. Consequently, IME payments are calculated on the basis of the ratio of residents to hospital beds in the institution.

GME payments are substantial sources of income for teaching hospitals. In 1992, the mean direct payment was approximately $18,600 per resident and the indirect was approximately $51,500 per resident (Table 5).

COGME is concerned that the method of payment for IME linking payments to the number of residents per hospital bed has had an unintended impact on physician workforce policy. The receipt of Medicare payments of $70,000 per resident provides incentives to add residents based upon hospital service needs rather than societal needs for changing the future physician supply. Further, inasmuch as calculation of payments is based upon the number of residents located at the institution, this fund-

Table 5 - Medicare Graduate Medical Education Payments Per Resident Physician, 1992

	Amount (mean)
Direct medical education (DME)	$18,600[a]
Indirect medical education adjustment (IMEA)	51,500[b]
Total	**70,000**

Notes: [a] $1.3 billion (total DME, excluding nursing/allied health, divided by 69,900, the estimated number offull-time-equivalent interns, residents, and fellows eligible for Medicare reimbursement in 1991).
[b] $3.6 billion (total IMEA divided by 69,000 as noted for DME).
Source: Bureau of Health Professions Analysis of Data from the Health Care Financing Administration, 1993.

ing mechanism provides disincentives for community-based residency training.

Therefore, in the absence of a mechanism to limit total numbers of residents, COGME believes that the method of determining IME payments is a significant factor associated with the dramatic growth in the number of residents and fellows—a growth that bears no relationship to national workforce needs. Further, linkage of IME payments to number of residents on site provides disincentives for educational experiences at non-hospital sites such as private physician offices, health departments, family practice centers, community and migrant health centers, etc.—training sites in increasing demand for generalist training programs.

The purpose and methodology of the IMEA undoubtedly again will be reassessed as health reform is implemented. COGME recommends that, in the meantime, teaching hospitals should receive IME payments calculated from a historical, base-year experience in order that payment for patient care services can be immediately disassociated from the size of the institutions's GME programs and the sites where the residents are receiving training. This interim action would neutralize financial incentives which otherwise exist for teaching hospitals to recruit additional residents in numbers and specialties that are not required, and will reduce the disincentives which inhibit the movement of residents into non-hospital-based educational experiences.

Other necessary medical education incentives: In addition to funding a specified number and mix of residency positions, COGME supports a series of individual and institutional incentives (e.g., Title VII of the Public Health Service Act, National Health Service Corps). These programs have continued to provide key support for primary care medical education efforts over time. Until the workforce goals are achieved and especially given the current trends, individual incentives (e.g., primary care loan program) are essential as interim measures to mitigate the current disincentives in the practice and educational environment to students who wish to choose generalist careers.

Marked expansion in the numbers of generalists educated will require expansion of current programs and development of new programs. COGME anticipates that these programs increasingly will be community-based and recognizes the need to train more generalist faculty in both the university and community settings. To accomplish this expansion, the Council recommends that GME funding to residencies which train generalist physicians be upweighted and that Title VII training grants for primary care faculty development and education be increased. It is important to underscore that COGME recommends up-weighting of GME funds to assist institutions in increasing the size, number, and quality of primary care training programs rather than to influence the ultimate specialty mix of residency graduates.

Approaches for Allocating the Desired Mix of Resident Positions

COGME has identified four possible allocation mechanisms to produce the desired number and specialty mix of residency graduates required under health systems reform. These approaches are: the "residency review committee" approach; the "study section" approach; the "regional or state" approach; and the "consortium" approach.

Each approach would reduce the number of positions funded and achieve a 50:50 generalist:specialist output in a predictable and timely fashion. Each also recognizes the need to fund graduate medical education adequately and that graduate medical education funding should be a responsibility assumed by all third-party payers. Each approach is reviewed below in the context of the other legislative principles that COGME articulated above.

1. The "Residency Review Committee" approach: The Physician Payment Review Commission (PPRC)[13] in its 1993 annual report to Congress, recommended that decisions about which residency positions will be approved for funding from the public pool should be made on the basis of educational quality by bodies that accredit GME. This approach has the following features:

1. Congress would limit total numbers of first-year resident positions funded to the number of United States medical school graduates plus 10 percent.

2. The number of residency positions in each specialty would be determined by a federal body.

3. Decisions about which residency programs are to be funded and the numbers to be funded in each program would be determined by existing Residency Review Committees based upon the quality of training programs.

4. Payments for the direct costs of graduate medical education could be made to other entities in addition to teaching hospitals—such as medical schools, medical school/hospital consortia, and the residency programs themselves in order to encourage training in sites outside the teaching hospital.

In this approach, the current accreditation bodies, the Accreditation Council on Graduate Medical Education (ACGME) and its Residency Review Committees for each specialty and subspecialty; and the American Osteopathic Association upon recommendation by its Council on Postdoctoral Training (COPT-AOA), would assume the additional and sole responsibility of allocating positions on the basis of measures of educational quality.

COGME believes that this approach would meet workforce goals in a predictable and timely fashion, would not require net additional expenditures, and would fund graduate medical education adequately. COGME believes in principle, however, that workforce goals can be achieved under broad national guidelines with specific decisions on individual specialties and subspecialties made at local or regional levels. Attempting to define, at a national level, the exact number of positions in each specialty is difficult and provides excessive micromanagement of the system. Furthermore, the ACGME and COPT-AOA presently are not properly staffed, funded or organized for this more complicated function. Finally, the accreditation bodies may not be willing to assume this greater burden beyond their current charge to assure that all accredited programs meet acceptable standards of educational quality.

2. The "study section" approach: This approach has similar features to the "Residency Review Committee" (RRC) approach, but establishes new "study sections" to allocate residency positions within each specialty. The RRCs would continue to accredit programs which meet established educational requirements. In this proposal, new "study sections" would be established to allocate positions to accredited programs based upon quality as well as other factors, such as the specialty choice, racial-ethnic composition and geographic distribution of its graduates. In this proposal, the ACGME and COPT-AOA would continue their role in assuring that training programs meet minimal standards of educational quality.

One advantage of this approach would be that the study section could be more broadly representative of those training residents or utilizing the services of future physicians. Like the RRC approach, this plan requires that the specific number of positions to be funded in each specialty and subspecialty be determined at a national level. Therefore, the "study section" approach similarly may lead to an overly centralized decision-making process, micromanages the ultimate mix of positions, and does not provide ownership over and flexibility to allocate positions at the regional, state or local level.

3. The "regional or state" approach: In this approach, a specific number of first year resident positions may be given to each state or a limited number of regions. The number of residency programs in each specialty in that given region or state would then be determined by the regional or state workforce planning body, under overall national guidelines. This would have the advantage of decentralizing the decision-making process and minimizing federal micromanagement. This would also have the potential to provide for more regional and state input and responsiveness to unique workforce needs (e.g., more rural general surgeons). On the other hand, this approach would require establishing a significant physician workforce planning bureaucracy at state and regional levels.

The advantage of a regional, as opposed to a state, approach is that residency training programs may not easily fit into a single state (e.g., Kansas City, New York City). In addition, the regional approach may allow for more variation and flexibility in the mix of generalists and specialists produced among individual institutions, as long as the regional supply and mix meet overall national guidelines. However, it may be difficult to establish regions for allocation purposes that make any economic or political sense.

On the other hand, establishing state workforce commissions may be consistent with the enhanced state role within health care reform, in general. State workforce planning bodies could work closely with health alliances and health plans to ensure the educational system is responsive to local physician workforce needs. States could provide key information on physician workforce supply and requirements to the national level, so that more informed allocation decisions could be made. However, few states currently have the infrastructure in place to assume this responsibility.

4. The "consortium" approach: Under the consortium approach, the following would occur:

1. The total number of first-year graduate medical education (GME) positions funded would be limited and set at a specific level (e.g., set under COGME's proposal to the number of 1993 USMGs plus 10 percent) to offset the recent upward trend caused by recruiting outside the pool of US medical school graduates (USMG) or by an aggregate annual increase in the numbers of USMGs.

2. Graduate medical education (GME) funds would be provided to approved academic consortia who commit to limit total positions filled in accredited programs to those allocated and to contribute to the national goal of producing 50% generalist gradu-

ates. All institutions training residents would be required to join a consortium.

3. Each consortium would be required to include one or more allopathic or osteopathic medical schools and a diversity of other organizations who produce physicians for or utilize their services in the health care system, or which represent the public. For example, a consortium may include medical school and community teaching hospitals, HMOs and large health plans, community health centers, group practices, public health schools, health departments, businesses and consumer organizations. Decisions about the mix of generalist and non-generalist positions would be made collectively by the consortium, based in part on local, state and regional health care system requirements and the quality of the educational setting.

4. A designated allopathic or osteopathic medical school would be responsible and accountable for ensuring that the consortium has broad representation and achieves the GME size and specialty mix required for funding purposes. When these requirements are satisfactorily met, GME funds would be allocated to the medical school on behalf of the consortium. The funds would follow residents to their sites of training to cover appropriate faculty and overhead costs, as well as the costs of coordinating the consortium.

5. A broadly representative National Physician Workforce Commission, advisory to the DHHS Secretary and Congress (or in some appropriate relationship to a new National Health Board), would be established to make recommendations on physician supply, medical education and related issues. Among other activities, it would recommend modification in national workforce goals, eligibility criteria for consortia and policies for allocation of residency positions to consortia. It would carefully monitor positions in each specialty and recommend additional incentives or alternative allocation approaches in the event that the total number of positions in a given specialty is inadequate.

6. The Secretary would be granted authority to provide for demonstration projects for state participation in influencing the size and specialty mix of the GME programs located within their state.

After consideration of each approach, **COGME believes that the consortium approach is most compatible with the principles established for attaining its workforce goals for total supply and specialty mix.** It meets goals in a timely and predictable fashion without additional net Medicare DME expenditures. The consortium approach minimizes federal government micromanagement and maximizes private sector input, flexibility, and creativity. Mandating that funds follow residents to their sites of training would help eliminate current reimbursement policy barriers to community-based education.

The consortium approach establishes a manageable number of "accountable educational partnerships." Each consortium collectively would make decisions about its mix of positions based on local needs and under broad national guidelines (e.g., 50 percent generalists produced). Designating a medical school responsible and accountable for the consortium would help integrate the currently fragmented system of undergraduate and graduate education. Federal GME funds would be accounted for by a more manageable 141 or fewer medical schools on behalf of the GME consortia rather than widely disbursed through 1,500 separate institutions or 7,000 individual residency programs.[14] Finally, these accountable educational partnerships will significantly enhance the medical educational system's ability to respond rapidly and effectively to local, state, and regional health care needs.

The consortia would need to be given clear statutory authorization and guidance for their responsibilities, both to provide a solid legal basis for their activities and to guard against antitrust challenges to actions taken in fulfillment of their mission.[15]

Potential concerns: A major concern about this approach has been whether or not medical schools can effectively create consortia. While it is true that few consortia today are operating at the standard set by COGME, an estimated 80 percent of residency programs are affiliated with a medical school, according to the ACGME.[16] In some states, all residency training programs are medical school affiliated. The Council also recognizes that medical-school led consortia already are developing spontaneously in some areas both for purposes of coordinating graduate medical education and for purposes of realignment of the health care system under health reform, despite the absence of a supportive national policy.

Preliminary results from an AAMC survey demonstrate that over 40 individual consortia are operational, each having a formal association among one or more medical schools, teaching hospitals, and other institutions involved in residency training to centralize support, policy direction and collaboration.[17] Thus, the Council believes that consortia could be fully operational in a short time, given the right financial incentives, clear guidelines, legal standing, and appropriate technical assistance.

An additional concern about this approach is whether medical school organized consortia can truly be broadly representative, operate with a customer (i.e., health system, public) orientation, and be responsive and accountable to societal needs. Although COGME recommends flexibility in consortium membership to reflect local characteristics, it recommends that the DHHS be charged with assuring that consortia are broadly representative and community-driven, and that the national commission have an oversight role.

Consortium accountability is built in by outcome-based funding approaches (i.e., 50 percent of each graduating residency class should enter generalist practice) and opportunities for states to participate in demonstration projects to influence the composition, specialty-mix and geographic distribution of its graduating residents. Furthermore, the National Physician Workforce Commission should be authorized to carefully monitor workforce positions in each specialty and recommend additional incentives or alternate allocation approaches in the event the number of trainees in a given specialty is inadequate.

Some argue that, although consortia are developing rapidly in this country and have worked for some time in Canada, the consortium approach is not feasible in urban areas with multiple medical schools such as Chicago, Philadelphia and Boston—areas which traditionally graduate small percentages of generalists. However, the Council believes that growing pressures to improve access and control costs in urban, as well as rural areas, will require these medical schools and training institutions to significantly expand their primary care training capacity. Increasing competition from managed care will also require these medical schools to expand their generalist faculty and affiliations with health maintenance organizations, community health centers and primary care physician practices, not only to improve medical education quality, but to reorient the health care services they provide.[18,19]

The Council believes that each consortium does not necessarily have to produce 50 percent generalists, as long as they negotiate with each other to ensure that a given region's yearly output is at least half generalist physicians. Alternatively, payments from the GME funding pool could be distributed to reward consortia which exceed the 50 percent generalist goal. However, holding each consortium to a 50 percent goal may help foster necessary and inevitable changes in academic medical centers in response to the demands of the health care marketplace.

Achieving Geographic Distribution and Minority Representation Goals

COGME's goals include:

1. All primary care shortage areas should be eliminated and disparities between metropolitan and nonmetropolitan distribution of physicians should be reduced.

2. The racial and ethnic composition of the physician population should reflect the overall population's diversity.

1. Eliminating primary care shortage areas: COGME believes that universal financial access to health care will significantly reduce access problems for inner city populations. These reforms must also be accompanied by increased numbers of generalist physicians who are prepared to serve these populations —— a major challenge for many urban medical schools and residency programs.

For rural populations, universal financial access to care will be of assistance but other issues must also be addressed. These include both the education of those likely to practice in rural areas and the economic, social and professional environment of rural areas.[20] Emphasis must be placed on the education of more family physicians to provide care, since they are three times as likely as general internists, and five times as likely as general pediatricians to practice in nonmetropolitan areas, and the only physicians among all specialties who are as likely to settle in nonmetropolitan areas as the general population.[21]

In addition to family physicians, general surgeons in the past have been major providers in rural areas. However, the proportion of general surgical graduates entering practice in rural settings has fallen precipitously.[22] COGME believes that the narrowed focus of training of general surgical residents in common problems within surgical subspecialties and in gynecology is one of several causes of this decline.

The broader socioeconomic environment of rural communities as well as professional issues significantly limit the ability to recruit and retain health professionals in many rural settings. While medical training can do little to address the former, much can be done to reduce professional barriers to rural practice. Organized systems of care must be developed which provide support systems for physicians in rural settings. These might be developed through networks of primary care practices sponsored by physician groups, hospitals, or managed care orga-

nizations. Some suggest that state-based health purchasing alliances could promote development of managed care systems which would serve rural populations.

As one part of the multifaceted strategy needed, COGME recommends an increased emphasis upon the National Health Service Corps to address areas of greatest need. COGME also recommends a more generous redefinition of primary care shortage areas and liberalization in the process of placement of National Health Service Corps personnel.

2. Increasing minority representation: Even though it recommends limiting the number of first-year positions in graduate medical education, COGME recognizes that the nation must nevertheless significantly increase the numbers of minority physicians educated. COGME also believes that the problems of too few minority and generalist physicians differ in the underlying barriers and deserve different strategies.[23]

Efforts must be made to increase the pool of minority medical school applicants, to increase the proportion selected, and to meet the needs of minority students for financial and academic assistance in completing medical education.[24] Consequently, COGME recommends incentives to enhance educational programs in the primary and secondary schools and college levels to prepare individuals for the health professions, to enhance scholarship programs for minority students, and to provide institutional incentives to enhance minority enrollment and retention.

In addition to increasing the pool of minority medical students, COGME believes that more minority faculty are needed to serve as role models. Accordingly, COGME supports individual and institutional incentives to increase minority faculty representation.

Improving the Practice Environment for Generalist Physicians

In all of its deliberations, COGME recognizes that fundamental changes in the health care marketplace are essential if the workforce goals are to be achieved. If the health care system is to be built upon the principles of universal access, and primary, preventive and cost effective care, then the public and policymakers must value these principles and the health care reimbursement system must reflect these principles. As such, all payers should reorient physician compensation to narrow the income discrepancy between generalist and non-generalist physicians.

The Council recognizes the important role of the Physician Payment Review Commission (PPRC) in analyzing barriers and recommending appropriate changes in Medicare reimbursement policy to improve the practice environment for generalist physicians, as well as for those who are attempting to practice, under adverse circumstances, in our nation's underserved rural and urban areas.

As such, COGME supports the PPRC's efforts to reevaluate the methodology for and implementation of the RBRVS, and work to assure fair payment for the practice costs component of physician services, as a means of increasing the relative income of generalists. In addition, COGME encourages the PPRC to evaluate and report on the relative income of generalists within other health care financing systems, including managed care, as well as recommend which strategies (e.g., higher conversion factors, a separate Volume Performance Standard, bonus payments) have the greatest likelihood of narrowing the income discrepancies between generalist and non-generalist physicians.

COGME'S Future Agenda

The Council is studying a number of key issues that have an important impact on medical education, the physician workforce and health care access and quality. In the upcoming year, the Council will be producing reports in the following areas:

- The impact of managed care on physician workforce requirements and the training environment.
- Representation of women in medicine and the preparation of physicians to care for women's health.
- The role of physician assistants, advanced practice nurses and other providers in the health care system and their impact on physician workforce requirements.

Consistent with Congressional reauthorization goals, COGME intends to pay increasing attention to, and make recommendations on, the effect of funding and reimbursement policies on physician specialty choice and service in underserved areas.

In addition, COGME will be advocating for increased support for an expanded and refined physician workforce data and analytical research agenda which is essential for an effective national physician workforce planning system.

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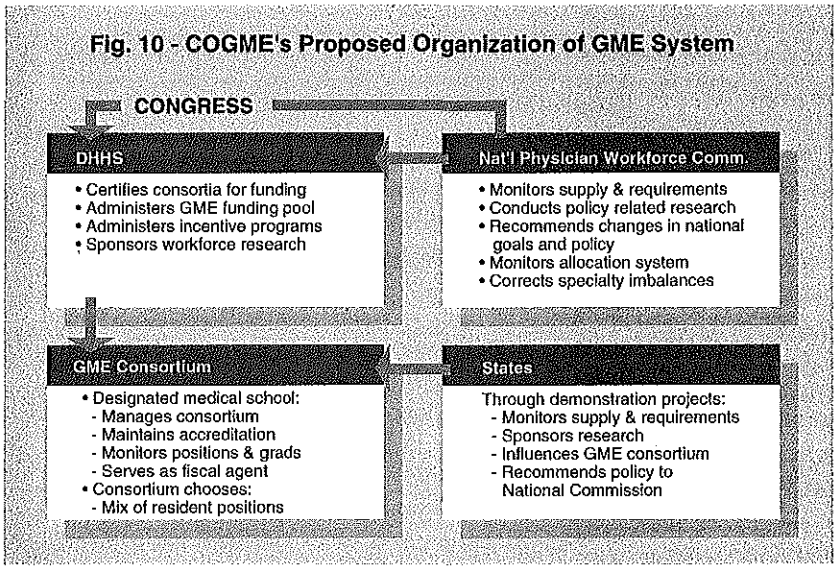
CHAPTER IV: The Consortium Approach: How it Would Operate

The COGME proposal envisions a physician workforce plan with clear national legislative goals based on health care system requirements. It would be implemented by DHHS through medical school-coordinated consortia. An aggregate number of resident positions would be allocated to each consortium. Based on local and regional health care requirements, each consortium would collectively determine the distribution of positions by specialty. Institutional financial incentives would be available for consortia to expand and enhance minority recruitment and community-based, primary care teaching capacity. Individual incentives would be available to produce physicians in the desired specialties and to improve geographic distribution.

A National Physician Workforce Commission would be established to provide oversight and policy recommendations. Through demonstration grants, interested states would become involved in the allocation process, and monitor state physician supply and requirements, influence the allocation of positions within consortia and make policy recommendations to the national commission. The responsibility and functions of the private sector GME consortium, the National Physician Workforce Commission and the federal and state government are summarized in Figure 10.



1. Allocating first year positions to consortia: The Council recommended that the number of funded first year resident positions be limited to 110 percent of the number of 1993 US medical school graduates. The Bureau of Health Professions estimates that this would reduce the number of filled first year positions from 24,000 in 1992-23 to 19,000 (i.e., 17,300 US osteopathic and allopathic graduates plus 10 percent or 1,700).

Within the consortium approach, COGME has identified four methods of allocating this reduced number of first year resident (PGY-1) positions to each consortium. First, the total number of PGY-1 positions in the system could be downsized by imposing equal across-the-board percentage cuts on each consortium. Although this approach is straightforward and possibly least disruptive, it has the disadvantage of retaining the maldistribution of GME positions that currently exists.

Second, PGY-1 positions could be allocated to consortia on a formula basis taking into account the total population and physician-to-population ratio in the state or region. Although this would correct the current maldistribution of GME positions, it would significantly reallocate positions and potentially lead to states or regions with available positions but no training capacity, particularly for non-primary care specialties and subspecialties. Third, PGY-1 positions could be allocated on the basis of the number of graduates from each consortium's medical school(s).

Finally, the reduced number of positions could be allocated using some form of competitive criteria. For example, such criteria could take into account various measures of educational quality as well as a consortium's performance in meeting the physician workforce goals of minority representation, generalism and practice in underserved communities.

There is no need to include a specific option in GME reform legislation at this time, since more information and careful analysis are necessary. Ultimately, the best option may be a combination of these approaches. This decision can be left to the implementation process. However, COGME wanted to raise this issue and point out the different alloca-

Table 6 - Specialty Distribution: Current and Desired, 1992-1993 Class

Specialty Cluster/Name	*Current "PGY-5"*	*Desired "PGY-5"*	*Difference*
1. Generalist Specialties	7,100	9,500	+ 2,400
Family Medicine	2,400	3,400	+ 1,000
General Internal Medicine	3,000	4,000	+ 1,000
General Pediatrics	1,700	2,100	+ 400
2. IM Subspecialties	2,800	1,400	− 1,400
3. Pediatric Subspecialties	560	420	− 140
4. COGME Protected Specialties			
Preventive Medicine	130	200	+ 70
Psychiatry (including Child)	1,400	1,400	0
General Surgery	1,000	1,000	0
5. Surgical Specialties/Subs*	4,900	2,160	− 2,740
6. Other Specialties**	6,110	2,920	− 3,190
TOTAL	**24,000**	**19,000**	**− 5,000**

Assumptions—Current PGY-5

1. Transitional Residencies (1,500) + true Preliminary IM (2,400) are assumed to branch into other specialties (2,800) and surgical specialties (1,100).
2. Pediatric subspecialties will be held to levels reported by the AAMC in PGY-5. All of the flow out of pediatrics will enter the pediatric subspecialties.
3. Only PGY-1 IM residents who continue in IM are counted as IM. Preliminary IM positions are counted with the transitional-year residents.
4. All preliminary surgical residents subsequently enter other surgical specialties/subspecialties.
5. PGY-5 surgical specialties other than general surgery (4,900) include the outcomes for residents in Preliminary Surgery (1,600), non-Gen Surgery PGY-1 surgical specialties (2,200), and the assumed 1,100 residents who flow out of Preliminary IM and Transitional Year positions into surgical specialties/subspecialties (see Assumption No. 1).
6. This distribution includes Doctors of Osteopathy in both osteopathic and osteopathic training.
7. The distribution does not attempt to account for residents who do not complete residency training.

Assumptions—Desired PGY-5

1. About half of residents completing residency in Preventive Medicine enter the specialty in PGY-1.
2. The estimated distribution of slots between Preliminary Surgery (400) and other surgical specialties (625) have been prorated to the above distribution after the PGY-1 OBGYN residency positions have been subtracted.
3. All of the 1,350 PGY-1 Preliminary IM and Transitional Year residents enter other specialties and subspecialties by PGY-5

* **Surgical specialties and subspecialties are:** colon and rectal surgery, neurological surgery, obstetrics and gynecology, ophthalmology, orthopedic surgery, otolaryngology, plastic surgery, thoracic surgery, and urological surgery.

** **Other" specialties are:** allergy & immunology, anesthesiology, dermatology, diagnostic radiology, emergency medicine, forensic pathology, internal medicine-preliminary, neurology, nuclear medicine, Physical medicine & rehab, pathology, radiology, radiation oncology, "other specialty," and "unspecified."

Source: Bureau of Health Professions Analysis Using Residency Data from the Association of American Medical Colleges and American Medical Association, and data by the Residency Review Committee for Preventive Medicine, Accreditation Council for Graduate Medical Education, 1993.

tion methodologies to consider, as this issue will undoubtedly provoke substantial discussion and controversy.

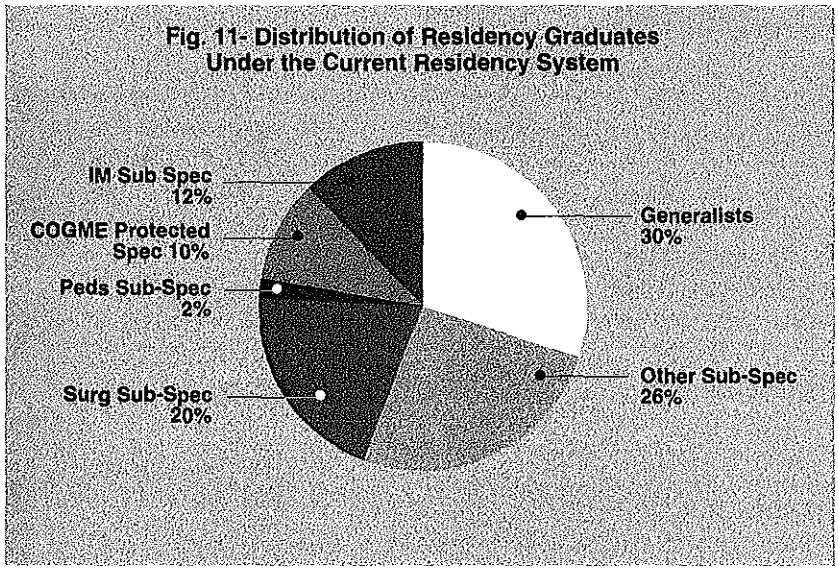
2. Achieving the desired specialty mix of resident positions: COGME recommends that the nation's medical education system should produce at least 50% generalists annually given health care requirements. However, only 26% of the graduating medical school class of 1989 completed residency training in 1992 and entered generalist practice (Figure 2). Almost half will complete residency training in a non-generalist surgical or other support specialty which, as a category, are considered to be in oversupply.

Fundamental changes in the mix of residency positions are necessary to produce 50 percent generalists annually. The annual production of generalist physicians would have to be increased by approximately 2,400 (from 7,100 to 9,500) and the output of other specialists and subspecialists would have to be decreased by approximately 7,400 (from 16,900 to 9,500). This represents an estimated 45 percent reduction in the total number of non-generalist positions. Within this reduced non-generalist pool, individual specialties may need to be reduced by a greater percentage, while some specialties (e.g., such as the few specialties COGME has evaluated and identified as being in shortage) may need to be protected from cutbacks.

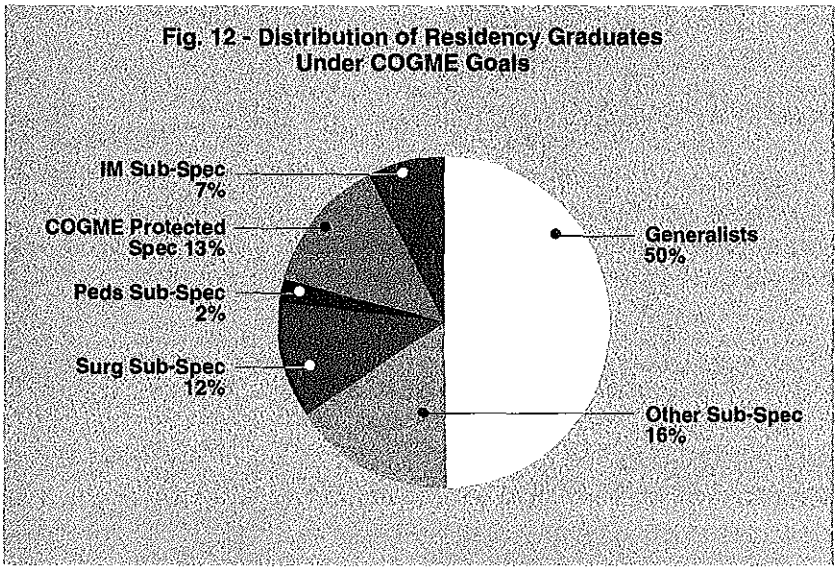
To reach this goal, the Council does not recommend that positions be allocated directly from the national level on a specialty-by-specialty basis to achieve the desired mix of resident positions and graduates. The Council believes that a national specialty allocation approach is unnecessary and involves too much federal involvement and micromanagement.

Instead, the Council recommends the following allocation mechanism to achieve the desired output (Figure 13):

1. DHHS allocates a set number of positions to each consortium on a formula or competitive criteria basis;



Source: Bureau of Health Professions Analysis Using Residency Data from the Association of American Medical Colleges and American Medical Association, and data by the Residency Review Committee for Preventive Medicine, Accreditation Council for Graduate Medical Education, 1993.



Source: Bureau of Health Professions Analysis Using Residency Data from the Association of American Medical Colleges and American Medical Association, and data by the Residency Review Committee for Preventive Medicine, Accreditation Council for Graduate Medical Education, 1993.

2. Each consortium would initially allocate its complement under the broad national goal that, in the aggregate, at least 50% of each residency class graduate and practice as generalists. Each consortium collectively would allocate its non-generalist positions among the specialties based on local and regional needs;

3. The National Physician Workforce Commission would review the aggregate number of positions by specialty.

4. If the total number of positions in a particular specialty was determined to be inadequate given health care requirements, the Commission could propose additional incentives or alternative direct allocations.

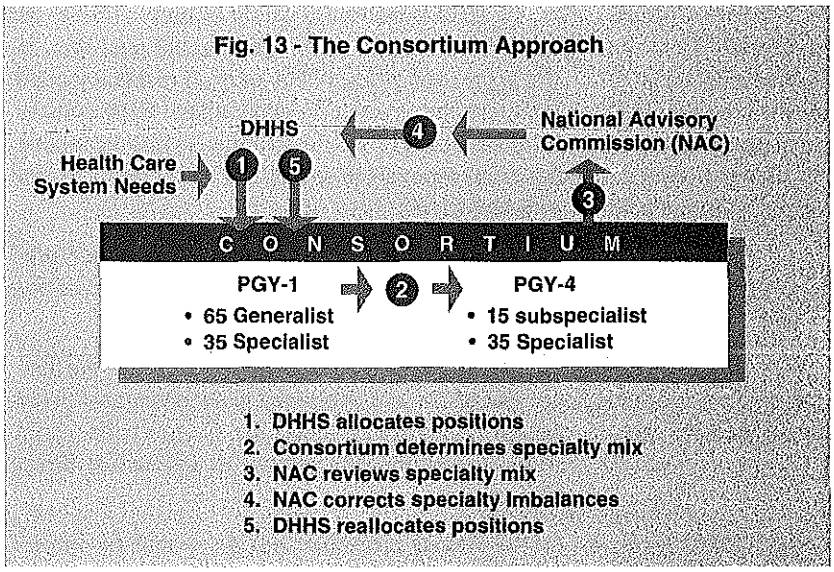
5. These recommendations would be implemented by DHHS.

The Bureau of Health Professions has combined the 81 different specialties and subspecialties with accredited training programs[1] into six categories to describe the current, and what might be considered a "desired" specialty mix of residency graduates (Table 6, Figures 11 & 12). The current distribution of residency graduates is represented by the pie chart in Figure 11 (in Figure 11, the "protected specialties" include general surgery, adult and child psychiatry, and preventive medicine). As each consortium reallocates residency positions under the broad general guideline to graduate 50% generalists annually, the pattern of specialty distribution of residency graduates may look similar to that in Figure 12.

These figures, depicted in Table 6, reflect overall changes which might occur in the allocation of specialty positions nationally and assume that the "protected specialties" would not be reduced. COGME believes that the specialty distribution of residency graduates resulting from implementation of the consortium approach will closely match the needs of the health care system.

The Council recommends that the DHHS Secretary implement a system that would evaluate a consortium's performance by monitoring "positions", rather than the "residents." This approach would protect a consortium from being penalized for decisions of residents to subspecialize after they complete initial training, yet still achieve the aggregate national goals.

This is possible because, for the most part, generalist training programs —— family medicine, internal medicine and pediatrics —— are of three years in duration while most non-generalist training



programs are of four or more years in duration. If the national goal is to create 50 percent generalists, then only 50 percent of positions should be available for that cohort in the four year. Therefore, a fairly simple system could be devised to monitor first and fourth year positions in individual consortia, in states, regions and in aggregate to ensure that the generalist-specialist goal is met.

For example, if a consortium received 100 first year positions, it might allocate 35 first year positions among non-generalist specialties which would be filled in the fourth year. Of the first 65 positions in family medicine, internal medicine and pediatrics, 15 could be available in the fourth year for subspecialty training in internal medicine and pediatrics (Figure 13). (Adjustments would have to be made for training in four-year generalist programs, such as medicine-pediatrics, for generalists who wish to acquire additional competencies as faculty and in such related primary care areas as geriatrics, adolescent medicine and preventive medicine. Additional adjustments would be made for three year non-generalist programs, such as emergency medicine, nuclear medicine, and preventive medicine.)

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1. Accreditation Council for Graduate Medical Education. *The ACGME Report 1993* (in press; personal communication, 1993). The ACGME also accredits "transitional year" programs, whose residents usually move on to finish in other residency programs.

CHAPTER V: Recommended Legislative Specifications

The following legislative specifications are relatively simple in concept and depend upon existing government agencies for implementation. Accordingly, there is reason to be optimistic that they could be enacted as separate pieces of legislation or as components of a larger package of health system reform legislation.

1. Workforce Goals and Objectives

- A new legislative authority is established which articulates national goals and objectives for directing physician workforce policy. These national goals are to: (1) increase to 50 percent the percentage of generalist physicians (defined as family physicians, general internists, and general pediatricians) in the physician workforce, (2) improve physician distribution to eliminate primary medical care shortage areas and reduce urban-rural disparities, (3) attain a workforce demographic composition (e.g., minorities/women) that is representative of the general population, and (4) slow the growth in the physician-to-population ratio.

- Under these overall goals, year 2000 physician workforce objectives should be to: (1)limit the number of funded first year resident positions to the number of US medical school graduates plus 10 percent based on the number of 1993 allopathic and osteopathic graduates; (2) increase to at least 50 percent the number of residency graduates each year completing training in family medicine, internal medicine, and pediatrics and entering generalist practice or teaching; (3)increase the number of entering underrepresented minorities to 3350 (3000 in allopathic schools and 350 in osteopathic schools); (4) increase the number of graduating preventive medicine specialists, adult and child psychiatrists, general surgeons (especially those specifically prepared for rural practice), and general internists and family physicians with additional geriatrics training; (5) eliminate primary medical care shortage areas; and (6) reduce metropolitan/non-metropolitan physician-to-population differences.

2. Oversight

- Under the new authority, a broadly representative National Physician Workforce Commission, advisory to the DHHS Secretary and to Congress (or in some appropriate relationship to a new National Health Board), is established to make recommendations on physician supply and requirements, medical education and related issues. It would provide recommendations regarding the size, specialty mix, demographic composition and geographic distribution of the workforce given health care requirements. Among other activities, it would recommend modification in national workforce goals, eligibility criteria for consortia and policies for the allocation of residency positions to consortia. It would carefully monitor positions in each specialty and recommend alternative allocation approaches in the event that the number of positions in a given specialty is inadequate or excessive. The Commission must be adequately funded to maintain a workforce database, implement policy related research and staff the extensive activities of the Commission.

- The National Physician Workforce Commission would submit a yearly report to Congress and the DHHS Secretary evaluating progress towards achieving national goals and objectives and any recommended changes in policy.

3. Graduate Medical Education (GME) Financing and Allocation System

- Under the new authority, a federal GME Funding Pool, to include Medicare DME, is established to be administered by DHHS. Health care expenditures of all third-party payers would be taxed equally for the purpose of creating and maintaining the fund. Given the current level of funding for the direct costs of GME, a tax rate on expenditures in the range of 1 percent is required.

- The DHHS Secretary is authorized to establish criteria for determining eligibility for funding from the GME Funding Pool within the guidelines outlined below. The number of PGY-1 positions funded from all sources, including Department of Veterans Affairs and Department of Defense positions, cannot exceed 110 percent of the number of U.S. medical school graduates for the year 1993 (a total of 19,000 positions, or approximately 5,000 fewer than in 1992-1993).

- In order to be eligible to receive funds from the GME Funding Pool, each institution wishing to sponsor graduate medical education must be part of

a GME Consortium. A consortium must include one or more allopathic or osteopathic medical schools and a diverse spectrum of other organizations which produce physicians for or utilize their services in the health care system, or which represent the public.

- Each consortium must establish an administrative structure which is reflective of its membership. The consortium collectively would determine the allocation of its training positions based on local and regional workforce requirements and the educational quality of the setting.

- A consortium must designate a medical school to be responsible and accountable for its performance and for coordinating its activities. The consortium will require annual approval by the National Physician Workforce Commission. The coordinating medical school is the fiscal agent for the consortium. The medical school is responsible for submitting documents describing the organization of the consortium's GME programs and, for a period of at least three years, the location and professional activities of the graduates of its GME programs.

- All GME funded programs in the consortium must be accredited either by the Accreditation Council on Graduate Medical Education (for allopathic programs) or approved by the American Osteopathic Association (for osteopathic programs). The coordinating medical school is responsible for ensuring the overall quality of all GME programs in the consortium.

- The Secretary is authorized to establish criteria for the allocation of the aggregate number of first year resident positions to each consortium.

- In order for all institutions in the consortium to be eligible for funding from the GME Funding Pool, each consortium must sponsor only the aggregate number of GME positions approved by the Secretary and must achieve the mix of generalist and non-generalist GME positions determined by the Secretary to be necessary to ensure that by the year 2000, at least 50 percent of the nation's GME graduates (or approximately 9,500 annually) enter generalist practice.

- The Secretary is authorized to establish a system to monitor filled residency positions to ensure that the 50 percent goal is achieved. Individual consortia within states or contiguous states and geographic regions may negotiate with each other to provide some flexibility in achieving this goal. The consortium's output, especially ones with smaller numbers of residents, should be measured as a multi-year rolling average.

- The National Physician Workforce Commission would monitor positions and graduates in each specialty, by consortium and in the aggregate. It would recommend alternative allocation approaches or incentives in the event that the aggregate number of positions in a particular specialty is inadequate given health care requirements.

- As long as these requirements are met satisfactorily, GME funds would be allocated directly to the coordinating medical school on behalf of the consortium. Funding would follow the resident to his or her site of training for covering appropriate faculty and overhead costs, and would also cover the costs of coordinating the consortium.

- Each approved resident position will be reimbursed based on an average resident salary plus teaching salaries and overhead costs. The resulting figure should be adjusted upward by 50 percent for generalist positions to enhance community-based primary care teaching capacity. This funding formula should be budget neutral with respect to the current level of expenditure for Medicare Direct GME.

- If a consortium fills residency positions in excess of their allocation, funds from the GME funding pool would be reduced by a comparable number of positions. If the consortium does not meet its rolling average profile of filled generalist and specialist positions, then subsequent year funding would be reduced by a comparable amount.

- The Secretary is responsible for ensuring that each consortium is in compliance with the funding eligibility criteria, and for monitoring the location and professional activities of each consortium's GME graduates.

- The consortia are specifically empowered to take the actions called for under the new system, with sufficient clarity to ensure a sound legal basis for their activities and provide protection for those activities from antitrust liability.

- Any changes in the criteria determining eligibility for funding from the GME funding pool must be announced by the Secretary with sufficient time so as not to interrupt planning for the succeeding academic year.

- The DHHS Secretary is granted authority to provide for demonstration projects for state participation in influencing the size and specialty mix of the GME programs located within their state. To participate, a state would be required to comply

with overall national requirements of total GME positions and generalist:specialist mix, as well as describe funding and other state strategies that are consistent with the national goals.

4. Transition

- The limits on the aggregate number of PGY-1 GME positions to be funded (110 percent of the number of U.S. medical school graduates) should go into effect at the beginning of the second academic year following the enactment of the legislation and would be phased in over a three year period. The generalist/non-generalist specialty mix requirement (no fewer than 50 percent generalists) should apply to first-year residents and be phased in over a three year period.

- At the time the transition is made to funding from the GME funding pool, the Secretary should establish a payment methodology that is based on the average resident salary and includes teaching salaries and overhead. The resulting figure should be adjusted upward by 50 percent for generalist positions to enhance community-based primary care teaching capacity. This funding formula should be budget neutral with respect to the current level of expenditure for Medicare DME. The Secretary should be charged with determining the faculty and institutional costs of generalist versus specialty education. This information can then be utilized to determine sufficient incentives, given the current reimbursement system, to expand and improve primary care educational capacity.

- DHHS should review the purpose of Medicare IMEA funding and develop a methodology that does not link payment with the presence of residents in the teaching institution. While this analysis is being conducted, teaching hospitals should receive IMEA payments calculated from a historical base year experience to immediately dissociate payment for patient care services from the size of an institution's GME programs. This interim action will reduce the financial incentives to increase numbers of residents and neutralize the disincentives that would otherwise exist for teaching hospitals to move residents out of inpatient educational experiences.

- GME dollars saved by capping resident positions should be redirected to provide temporary assistance to training institutions most affected by a decrease in the numbers of residents, especially those institutions providing large amounts of unreimbursed care, to help them meet their service needs.

5. Incentives to Build Generalist Education Infrastructure and Promote Generalism

- Assuming that an "all-payer" approach to full payment of GME is established, TitleVII of the Public Health Service Act (sec. 747 and 748) should be amended to support generalist physician faculty development, undergraduate primary care student education, and research and demonstration projects to consortia that have met the aggregate national goals for the number and mix or residency graduates.

- Funding for the Area Health Education Center (AHEC) Program under Title VII (sec.746) should be utilized to expand community educational linkages necessary to meet the national physician workforce goals.

- Funding for the Primary Care Loan program under Title VII (sec. 723) should be increased to reduce disincentives that students currently face who are interested in careers in generalist medicine or preventive medicine/public health, and to provide incentives for consortia to increase their primary care production.

- Funding for medical education research under Title VII (sec. 781) should be amended and increased to provide for an adequate national physician workforce data-base and for studies to more accurately determine health care workforce requirements.

- Funding for geriatric (sec. 777) and preventive medicine (sec. 763) training under Title VII should be increased to improve the capacity to train more generalist physicians in the care of the elderly and more physicians for public health and preventive medicine careers.

6. Incentives to Promote Physician Career Change

- A new Title VII authority should be established to retrain non-primary care specialists and subspecialists in comprehensive primary care competencies. The authority should include support for research and demonstration projects, identification of primary care competencies, and program and practice evaluation.

- Each consortium approved for funding by the DHHS Secretary, and other appropriate entities such as managed care organizations, are eligible to apply for special grants to provide career change education programs to physicians wishing to be certified as generalists.

7. Incentives to Improve Minority Representation

• Title VII should be amended to establish a Junior Health Careers Opportunities Program (HCOP) for Kindergarten Through 12th Grade Students. This new program would provide grants to consortia, health professions schools and other entities to expose individuals from disadvantaged backgrounds to health careers earlier in the educational pipeline. The program would complement the age group targeted by the currently funded Health Careers Opportunity Program.

• The authority should be reauthorized and funding increased for the Health Careers Opportunity Program (HCOP) and should require consortia applying for HCOP grants to have in place programs to increase retention and completion of education.

• Funding under Title VII's Health Professions Research Authority should be increased and studies funded on minority representation, including: (1) what happens to and why a greater percentage of underrepresented minority students do not graduate, (2) why minorities are not represented across all specialties and subspecialties proportionate to their representation in medicine overall, and (3)what should be done to address these problems.

• Title VII should be amended to establish an outcome-based Minority Academic Enrichment Program that rewards consortia for superior performance in enrolling and graduating a high percentage of underrepresented minority students. This new program would assist consortia to enrich and support minority medical student education. It would be awarded on a performance basis, to reward schools which are high producers or are making significant progress.

• Authority should be renewed and funding increased for the Scholarships for Disadvantaged Students (SDS), Loans for Disadvantaged Students (LDS), Financial Assistance for Disadvantaged Health Professions and Exceptional Financial Need financial aid programs. The LDS and SDS programs should not be awarded preferentially based on primary care intent.

• Borrowers under the Primary Care Loan (PCL) and LDS programs should be allowed to receive loans in an amount up to the full amount of educational costs.

• The Faculty Loan Repayment Program and the Minority Faculty Fellowship programs should be reauthorized and increased to build primary care faculty.

• The Centers of Excellence in Minority Health program should be continued to strengthen the national capacity to train minority students in the health professions.

8. Incentives to Improve Geographic Distribution

• The Public Health Service Act should be amended to significantly increase the scope and responsibility of the National Health Service Corps programs, as well as increased funding for scholarships, loans and additional support staff. The legislative amendments should authorize the following changes in the NHSC.

- There should be greater flexibility in assigning NHSC personnel. Assignments to rural communities should be made to provide for adequate peer and professional support to promote professional growth and to avoid the isolation often experienced by physicians practicing in rural areas. This may include assigning physicians, physician assistants, nurse practitioners and other health professionals in pairs if needed.

- To the degree possible, NHSC personnel should be integrated into a local, state or regional system of health care that incorporates both private and public sector resources.

- Non-generalist NHSC physicians should be assigned to enhance the delivery of medical services in regional delivery systems in rural and inner city communities.

• The DHHS and other appropriate federal agencies should be authorized to sponsor studies to determine how health services in underserved rural and inner city areas can be integrated with private sector resources in order to build effective community health system infrastructures. The government's approach should build on the available private and public resources in place and facilitate the development of linkages between these resources — including, on the public side, community health centers, special rural health financing programs, and area health education centers (AHECs).

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