The Underrepresented in Graduate Medical Education and Medical Research

VIVIAN W. PINN, MD

Dr. Pinn is a professor and chairman of the department of pathology, Howard University College of Medicine, 520 W St., NW., Washington, D.C. 20059. Dario Prieto, director, Office of Minority Affairs, Association of American Medical Colleges, assisted in finding and evaluating source material. Tearsheet requests to Dr. Pinn.

SYNOPSIS

There is a perception that the career options open to medical school graduates who are members of minority groups are restricted. This perception relates especially to those postgraduate medical training programs that have not traditionally encouraged or had significant minority participation. Data were therefore sought to determine whether this perception was well founded.

Recent reports show the strikingly low numbers of minorities on medical school faculties and in administrative positions in spite of efforts to fill such positions. Information on the specialties of practicing minority physicians is limited, but accurate figures are available on the participation of minorities in various specialty postgraduate training programs. For instance, during recent years, 50 to 60 percent of all black residents have been trained in internal medicine, pediatrics, general surgery, and obstetrics and gynecology.

Further studies are needed to document or disprove the conception that minority physicians have less access than other physicians to certain careers in the delivery of health care and education. In the interim, efforts should be continued to encourage minority physicians not only to seek preparation for community primary care practice, but also for professional participation in academic careers of other specialties (and subspecialties), in biomedical and clinical research, and in health care administration. The ability to enter these diverse careers is most often determined by the opportunities available at the time of completion of medical school education. Therefore, those involved in graduate medical education should address the challenge of providing opportunities for the proportionate representation of minorities in all aspects of medical care and medical education.

In addressing "Emerging Problems in Graduate Medical Education," some specific concerns related to underrepresented ethnic minorities require comment, with the focus on the more important ones expressed by groups of minority physicians and others engaged in the medical education of minorities. Many of the issues to be discussed were considered in 1980 and 1981 by the Graduate Medical Education National Advisory Committee (GMENAC) and led to both panel and summary recommendations. For example, recommendation 8 of the Educational Environment Technical Panel recommendations in the GMENAC report (*1*) is as follows:

> Programs which will increase the participation and visibility as academic role models of women and underrepresented minorities should be instituted.

And in the GMENAC Summary Report (*2*), recommendation 26 states:

> Greater diversity among the medical students should be accomplished by promoting more flexibility in the requirements for admission, by broadening the characteristics of the applicant pool with respect to socioeconomic status, age, sex, and race, by providing loans and scholarships to help achieve the goals, and by emphasizing as role models women and underrepresented minority faculty members.

Many ethnic minorities have faced the real or perceived restrictions on career choice and graduate medical education that the recommendations just cited are aimed at removing. Also, medical educators and adminstrators often have difficulty trying to increase the number of members of minority groups in academic positions. Graduate medical education is an important factor in preparation for medical careers and in career options, and therefore an examination of members of minorities in this process seems warranted.

'The data that exist, combined with anecdotal evidence, indicate that the number of minority physicians practicing certain medical specialties is small, and the representation of minority physicians in research and academia is strikingly low.'

Data on the participation of minorities in graduate medical education are sparse and incomplete as are data on their specialty selection, the reasons influencing those selections, the extent to which access to some areas of graduate medical education is restricted, and the degree of participation of minorities in academic medicine and medical research. The data that exist, combined with anecdotal evidence, indicate that the number of minority physicians practicing certain medical specialties is small, and the representation of minority physicians in research and academia is also strikingly low. Anyone who has engaged in efforts to recruit minority faculty must have experienced first-hand evidence of the low representation of minorities in these areas.

Background

In only a few studies have the specialty choices and practice decisions of minorities been examined, but these studies tend to substantiate the beliefs that minority physicians, for the most part, return to their communities to practice and that they select primary care specialties in greater percentages than nonminorities. Published research includes studies of Howard University medical graduates by Lloyd and associates (*3*) and by Lloyd and Johnson (*4*), a study published by Koleda and Craig (*5*), and a study of Mexican American physicians trained in California by Montoya and Smeloff (*6*).

Similarly, until recently, statistical information on residencies and the National Resident Matching Program's results has not been available by race or ethnicity. Exceptions are the data published as part of the Association of American Medical Colleges' (AAMC) studies entitled "Career Choices of the 1976 Graduates of U.S. Medical Schools" (*7*) and "1978 U.S. Medical School Graduates: Practice Setting Preferences, Other Career Plans, and Personal Characteristics" (*8*).

The table shows the number and percentage of blacks in residency programs in 1980 and 1982 by specialty. It was prepared from data in the "1983–84 Directory of Residency Training Programs" (*9*) on blacks in medical residencies in 1980 and 1982. These data show that in both 1980 and 1982, the percentage of black residents was less than 5 percent of the total residents and that the largest numbers of black residents were in primary care specialties. Some authors have suggested that during the period 1970–82, the specialty choices of black residents were similar to those of all residents and that —as was true for all residents—the percentages of blacks in primary care residencies increased while the percentages in surgical specialties decreased.

During the past 10 years, 50 to 60 percent of all black residents have been in postgraduate training programs in internal medicine, pediatrics, general surgery, or obstetrics and gynecology. The AAMC's 1978 study of U.S. medical school graduates showed that blacks and Mexican Americans were overrepresented among U.S. graduates willing to serve in deprived inner-city areas. Although numbers are not readily available on the minorities actually practicing in each medical specialty, minorities are continually being encouraged to enter primary care fields and return to their respective communities. A need may well exist there, but consideration should also be given to the need for minorities to enter other specialty fields besides primary care, not only for the sake of minority patient populations with their varied health care problems, but also so that there can be a greater representation of minorities on medical school faculties, where they can serve as role models in academic medicine.

An argument sometimes used to justify increasing the number of admissions of minorities to medical schools has been that members of minorities are more likely than other medical school graduates to practice primary care medicine and to provide health care to underserved minorities and inner-city populations. A side effect of this argument has been that admissions committees often have not seen the importance of admitting a minority applicant to medical school unless the applicant's stated goals were primary care and community practice. We must make certain that those who determine access to medical education and graduate medical education are cognizant that minorities are needed in all aspects of medical and health care, including academic medicine, clinical research, and laboratory medicine.

Some data specifically related to minorities in internal medicine residencies are provided in a

Comparison of specialties of total medical residents and black medical residents on duty Sept. 1, 1980, and 1982

Specialty	Sept. 1, 1980			Sept. 1, 1982		
	Total residents	Black residents		Total residents	Black residents	
		Number	Percent		Number	Percent
Allergy and immunology	192	4	2.0	236	7	3.0
Anesthesiology	2,490	97	3.9	3,369	199	3.6
Colon and rectal surgery	37	2	5.4	46	3	6.5
Dermatology	755	45	6.0	789	56	7.1
Dermatopathology	30	0	0	35	1	2.9
Emergency medicine	...	...	...	885	65	7.3
Family practice	6,344	280	4.4	7,040	262	3.7
Internal medicine	15,964	752	4.7	17,185	861	5.0
Neurological surgery	511	39	7.6	621	20	3.2
Neurology	1,114	27	2.4	1,276	40	3.1
Nuclear medicine	176	6	3.4	203	7	3.5
Obstetrics/gynecology	4,221	385	9.1	4,702	445	9.5
Ophthalmology	1,480	48	3.2	1,553	65	4.2
Orthopedic surgery	2,418	94	3.9	2,733	67	2.5
Otolaryngology	923	38	4.1	1,001	40	4.0
Pathology	2,186	74	3.4	2,437	55	2.3
Blood banking	23	1	4.4	32	2	6.3
Forensic pathology	22	4	18.2	28	4	14.3
Neuropathology	52	4	7.7	37	4	10.8
Pediatrics	5,171	341	6.6	5,720	340	5.9
Pediatric cardiology	130	2	1.5	104	4	3.9
Physical medicine and rehabilitation	492	13	2.6	624	24	3.9
Plastic surgery	367	11	3.0	365	11	3.0
Preventive medicine:						
General	157	11	7.0	188	15	8.0
Aerospace medicine	25	1	4.0	46	0	0
Occupational medicine	71	7	9.9	78	8	10.3
Public health	31	5	16.1	31	1	3.2
Psychiatry	3,911	197	5.0	4,235	189	4.5
Child psychiatry	426	12	2.8	528	22	4.2
Radiology, diagnostic	2,766	90	3.3	3,155	94	3.0
Radiology, diagnostic (nuclear)	48	2	4.2	62	0	0
Radiology, therapeutic	288	4	1.4	388	16	4.1
Surgery	7,440	333	4.5	8,064	403	5.0
Pediatric surgery	29	1	3.5	27	1	3.7
Thoracic surgery	256	10	3.9	278	7	2.5
Urology	917	60	6.5	1,041	46	4.4
Total	61,465	3,000	4.9	69,142	3,307	4.8

paper by Schleiter and Tarlov (*10*). These authors show that the proportion of residents in internal medicine who are black has not changed dramatically over the past 7 years, and that black residents tend to be concentrated in a few programs; for example, 21 percent of all black physicians in internal medicine training are in six programs, although 59 percent of the total internal medicine residency programs have at least one black resident. In addition, as has already been recognized in other fields of medicine, blacks have a decreased tendency to subspecialize within internal medicine. In 1982–83, black physicians were enrolled in only 3.3 percent (210) of the internal medicine fellowship positions. Of the internal medicine subspecialties, nephrology and critical care medicine (which are more often practiced in institutions) had the highest percentages of blacks with fellowships. Minority medical educators are concerned that there may be constraints on the entry of minorities into subspecialization and on their participation in graduate medical education. Studies of other specialties besides internal medicine might well show the same concentration of minorities in a small number of programs.

Only two studies have been published about minority students in relation to the National Resident Matching Program, and these resulted largely from the individual efforts of two people to collect data

'Minorities need to serve in all parts of the health care education and service systems, not just in community-oriented practice and primary care medicine. They need to have increased roles in academic medicine, clinical research, laboratory medicine, and also academic and health care agency administration.'

from students regarding their choices and their matches (*11,12*). Comprehensive information is needed about the experience of minorities with the matching program and about their efforts to obtain fellowships or other specialty positions for training. This information becomes increasingly necessary as the ratio of available positions to the number of applicants for residencies becomes smaller. Competition is likely to increase and become more intense as a consequence, with adverse effects on the access of minority students to opportunities in certain specialties.

Although the total number of graduates from medical schools is expected to reach almost 17,000 by 1984, the number of minority students graduating from our medical schools has remained almost stable at about 1,000 per year. First-year enrollments for blacks and other underrepresented minorities also have not increased significantly during the past 8 years; nor has the size of the pool of minority applicants changed dramatically. Therefore, unless some priority is given to the representation of minorities in those fields of medical practice to which they have had limited access in the past—and to which they may have even more restricted access in the future—we cannot hope to alleviate the disproportionate representation of minorities in a few specialties.

Minorities need to serve in all parts of the health care education and service systems, not just in community-oriented practice and primary care medicine. They need to have increased roles in academic medicine, clinical research, and laboratory medicine and also in academic and health care agency administration. It is difficult to provide visible minority role models for minority students—as well as for majority students—when only 2.7 percent of the 31,000 full-time medical school faculty (MD and MD-PhD) are members of an underrepresented minority group (*13*). Of this 2.7 percent minority faculty, there are 480 blacks (including those on the faculties of the predominantly black medical schools), 66 Mexican Americans, 21 American Indians, and 245 Puerto Ricans (including those on the faculties of the Puerto Rican medical schools). The number of minority faculty members who hold an MD degree has increased by only 0.3 percent since 1978. Even at the four predominantly minority medical schools, the number of black faculty members has declined. A contributing cause has been the recruitment of black members of these faculties by other schools seeking candidates from minority groups who are interested in or prepared for careers in academic medicine.

Whether minorities can be recruited and placed in positions in academic medicine depends upon the access that they have to those institutions and programs where they can obtain the necessary expertise to pursue clinical investigation. Consideration must be given to providing such access in the graduate medical education process, but attention must also be directed at the many other factors that affect the young minority physician's choice of career goals. The need for role models in such careers and for exposure to the opportunities available are only two of these factors. Although there are few comprehensive data about this aspect of the selection process for minorities, a recent survey by National Medical Fellowships, Inc., of their Kaiser Scholars (chosen from academically outstanding graduating minority medical students) over a 3-year period indicated that these students had a strong interest in academic medicine and research (personal communication from Dr. Leon Johnson, president of National Medical Fellowships, Inc., New York City, April 1983). Certainly, it seems likely that these students would pursue academically oriented postgraduate medical education if it were available to them.

Challenges

Although the data provided here are neither comprehensive nor complete, a theme of major importance that they support is that the ongoing challenges of the underrepresented in medicine must be considered in any discussion of emerging problems in graduate medical education.

First, in considering ways to ensure that the graduate medical education needs of racial and ethnic minorities are met and that research opportunities are available for them, data should be sought (perhaps the most appropriate source would be the National Resident Matching Program) to refute or

confirm the following hypotheses about minority participation in graduate medical education.

- Minorities often choose specialties or programs that have traditionally accepted minorities because of their fear of not matching or having a low-ranked match if they choose other programs.
- Members of minorities who do not choose these traditional programs often do not get the position of their first-, second-, or third-listed choice in the matching program.
- In being counseled to be realistic, minorities are guided to these traditional programs and are not encouraged to aspire to other prestigious programs, where research opportunities may be more readily available or receive more encouragement.

Second, if minorities are to be considered for positions in academic medicine, then directors of the relevant residency programs must take active steps to attract and accept minorities. On the 1982 Association of American Medical Colleges Graduate Questionnaire (according to a personal communication in April 1983 from Dario Prieto, director of the Minority Affairs Office, AAMC, Washington, D.C.), 15.9 percent of the minority graduates listed teaching and research in the basic or clinical sciences as their first career choice, and 9.3 percent expected to be significantly involved in these activities (*15*). Such graduates must have reasonable access to the kind of graduate medical education that will prepare them for their career choices.

Third, the 1978 Report of the AAMC Task Force on Minority Student Opportunities in Medicine (*14*) and the implementation plan for this report (*15*) provide extensive and specific recommendations that address the challenges for minorities in graduate medical education. Some of these recommendations are as follows:

- Encourage medical schools and teaching hospitals to establish a more affirmative approach to informing, counseling, and recruiting minority students for residency positions.
- Develop a mechanism to assist program directors and department chairmen at academic medical centers and teaching hospitals in the identification of potential candidates for housestaff and faculty positions.
- Encourage foundations and the Federal Government to continue to provide financial support for extramural clinical elective clerkships, thus actively supporting the development of minority career development.
- Work with foundations to provide more graduate fellowships for minorities interested in academic medicine. (For instance, the new Minority Medical Faculty Development Program sponsored by the Robert Wood Johnson Foundation offers 2-year, postdoctoral research fellowships to minority physicians who have demonstrated superior academic and clinical skills and who are committed to careers in academic medicine and biomedical research. The program seeks to increase the number of minority faculty who can encourage and foster the development of succeeding classes of minority physicians.)
- Counsel admissions committees, basic science graduate program chairmen, and MD-PhD program directors to also select minorities interested in academic medicine.

If medical schools continue to allow access to medical education to a diverse student population in which ethnic minorities are proportionately represented, then graduate medical education must confront the challenge of providing diverse opportunities for proportionate representation of qualified minorities in all aspects of the medical care and medical education system.

Finally, without suggesting quotas or specific specialties, fellowships, or programs that need attention, I would issue this challenge: in any consideration of limiting the numbers of physicians, further limiting their specialization and subspecialization, and providing opportunities for immigrant, refugee, and alien physicians in graduate medical education, attention needs to be given to assuring that the underrepresented ethnic and racial minorities in this country have opportunities for equitable participation in the medical profession—opportunities that only graduate medical education can provide.

References

1. Report of the Graduate Medical Education National Advisory Committee. Vol. V: Educational Environment Technical Panel. Department of Health and Human Services, Health Resources Administration, Hyattsville, Md., 1980, p. 41.
2. Graduate Medical Education National Advisory Committee. GMENAC Summary Report. Department of Health and Human Services, Health Resources Administration, Hyattsville, Md., 1980, p. 37.
3. Lloyd, S. M., Johnson, D. G., and Mann, M.: Survey of graduates of a traditionally black college of medicine. J Med Educ 53: 640 (1978).
4. Lloyd, S. M., and Johnson, D. G.: Practice patterns of black physicians: results of a survey of Howard University College of Medicine alumni. J Med Educ 74: 129 (1982).
5. Koleda, M., and Craig, J.: Minority physician practice patterns and access to health care services. Looking ahead, the National Planning Association, Washington, D.C., 1976, vol. 2, No. 1.

6. Montoya, R., and Smeloff, E.: Practice locations and patient characteristics of California-trained Mexican-American physicians. Health Pathways 5: 5 (1982).
7. Cuca, J. M.: Career choices of the 1976 graduates of U.S. medical schools. Association of American Medical Colleges, Washington, D.C., 1977.
8. Cuca, J. M.: 1978 U.S. medical school graduates: practice setting preferences, other career plans, and personal characteristics. J Med Educ 55: 465 (1980).
9. American Medical Association: 1983–1984 directory of residency training programs. Chicago, 1983, pp. 77–85.
10. Schleiter, M. K., and Tarlov, A. R.: National study of internal medicine manpower: VIII. Internal medicine residency and fellowship training: 1983 update. Ann Intern Med 99: 380 (1983).
11. Jordan, W.: NIRMP [National Intern and Resident Matching Program]: Minority student performance. Black Bag. Student National Medical Association, Washington, D.C., 3rd Quarterly edition, 1979.
12. Curtis, J. L.: Minority student success and failure with the National Intern and Resident Matching Program. J Med Educ 50: 563 (1975).
13. Higgins, E. J., and Jolly, H. P.: Participation of women and minorities on U.S. medical school facilities. Association of American Medical Colleges, Washington, D.C., 1982.
14. Report of the Association of American Medical Colleges task force on minority student opportunities in medicine. Association of American Medical Colleges, Washington, D.C., 1978.
15. A plan for the implementation of goals and recommendations of the report of the AAMC task force on minority student opportunities in medicine. Association of American Medical Colleges, Washington, D.C., 1980.

Premature Institutionalization Among the Rural Elderly In Arizona

VERNON L. GREENE, PhD

Dr. Greene is assistant professor of management and policy, University of Arizona, and a senior research associate at the university's Long Term Care Gerontology Center.

Partial funding for this project was provided by the Long Term Care Gerontology Center.

Tearsheet requests to Dr. Greene at the Department of Management and Policy, College of Business and Public Administration, University of Arizona, Tucson, Ariz. 85721.

SYNOPSIS

Rural areas of the United States, compared with urban areas, exhibit a scarcity of resources and programs designed to provide health and supportive services to impaired elderly persons living in the community. Furthermore, recent research has indicated that informal, familial support for the rural elderly has become increasingly attenuated because of such factors as outmigration of younger family members. Under these circumstances, there is reason for concern that a lack of available supportive services to help impaired rural elderly persons remain in the community may in effect drive them prematurely into nursing homes. In Arizona we have found that, consistent with such a process, elderly nursing home patients in rural areas tend on the average to be significantly less impaired in most areas of functional capacity, and younger at time of entry, than elderly nursing home patients in urban areas. This pattern remains when various possible confounding effects are statistically controlled.

PROFESSIONALS AND POLICY RESEARCHERS have long recognized that rural areas face special problems in access to and utilization of health care and social services (*1*). Lower incomes, lower population densities, and greater outreach and access distances all contribute to a relative shortage of formally organized social and health services for many rural residents (*2*). These problems can be expected to be especially acute for chronically impaired elderly persons living in rural areas (*3,4*).

For the impaired elderly, rural environments in some ways present particular risks and difficulties. For those with deficits in ambulation and sensorimotor capacity, longer distances and the lack of convenient and safe methods of transportation can present serious access barriers to essential health and social services, as well as to mundane necessities such as shopping and recreation. Also, the relative social and geographic isolation of the rural elderly makes them particularly at risk for acute, immobilizing illnesses or trauma, such as strokes or falls, that may leave them helpless and undiscovered, particularly in view of their greater propensity to be found living alone (*3*). Further, the availability of formally organized services for homemaking, help with chores, help with nutrition, and personal care is limited both by these services' relative scarcity in rural areas and by logistical problems caused by the distance