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# MINORTIES AND THE HEALTH PROFESSIONS IN THE 1980s

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by Ruth S. Hanft

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**Prologue:** *Major changes are occurring in the federal relationship with medical education under the pressure of dwindling resources and the Reagan administration's determined bid to reduce the role of government in American society. These trends, which are forcing greater reliance on financing medical education through state support, students' tuition, research dollars, patient-care fees, and private philanthropy, are affecting the enrollment of minority students in health professional schools. While there may be an emerging surplus of health manpower in many fields, as Ruth Hanft points out in this essay, there is no surplus of minority health manpower. Indeed, wide disparities exist and will continue to exist between the ratio of black manpower to black population and Hispanic manpower to Hispanic population. Hanft's study, undertaken for the Association of Minority Health Professions Schools, points out that black Americans accounted for 11.7 percent of the total population in 1980. In that same year, black physicians accounted for 3.1 percent of practicing physicians. Hispanics constituted 6.2 percent of the total population and 4.3 percent of the nation's physicians. Hanft concludes that the fact of declining minority enrollment in medical schools raises a number of important public policy issues which need to be addressed. Hanft, a dogged researcher who has a national reputation for intellectual honesty, is a health economist and a former deputy assistant secretary of the Department of Health and Human Services during the Carter administration. Prior to that, Hanft was director of two major studies undertaken by the Institute of Medicine—the cost of education in the health professions and Medicare and Medicaid reimbursement policies.*

**F**our decades of unprecedented growth of the health care sector are now ending. Several changes have occurred which are affecting enrollment in health professions education institutions. Concerns about shortages of health manpower and health services have been replaced by fears of the cost implications of oversupply of manpower and facilities and of the unrelenting inflationary pressures in the health field. From the early sixties until the mid-seventies the national consensus was that there was a shortage of personnel in almost all of the health professions. The federal government supported a number of programs to stimulate the expansion of health professions education institutions and their enrollments. Numerous areas of the nation were declared health manpower shortage areas and underserved areas, and programs such as the National Health Service Corps were designed to alleviate problems of access to health care.

Since the early eighties several major reports, most notably the 1980 Report of the Graduate Medical Education National Advisory Committee (GMENAC) have signaled a reversal of the earlier consensus on shortage and have predicted an emerging surplus of physicians. Educators and students in the pharmacy and the dental professions had already reached that conclusion. Enrollment in pharmacy schools has been declining since 1976-77, and first-year dental school enrollment has declined by 18 percent since 1978-79. New medical schools were still beginning in the late 1970s, many of which still have not reached their enrollment goals. However, in academic year 1982-83, first-year enrollment dipped slightly, and in 1983-84 it took a larger dip. A number of state universities are cutting enrollment in the 1984-85 and 1985-86 academic years.

The trend toward reduced enrollment is not merely fear of "surplus." The demography of the population has changed. The baby boom generation has graduated from higher education institutions. The college-age population is declining, and the applicant pool is shrinking. Furthermore, the fields of engineering, computer sciences, and business are attracting larger proportions of students, in part, due to shorter lengths of training and lower opportunity costs in these fields than in some of the health professions.

Health professions education, particularly medicine, dentistry, and veterinary medicine, is expensive. With reductions in federal support to the schools and state revenue problems, tuition has risen. Cutbacks in programs like the National Health Service Corps Scholarships and in low-interest loans have made financing an education more difficult for low- and middle-income students. Opportunity costs are higher than ever given

the growing competitive nature of health care and the stabilizing of practice income.

The environment profoundly influences the access of minorities to educational opportunities. While the rapid increase in the capacity of health professional education institutions did spur an increase in minority enrollment, it never reached expectations. In fact, in medicine, osteopathy, and baccalaureate nursing, blacks as a percentage of first-year enrollment peaked in the mid- to late-seventies. In dentistry, pharmacy, and veterinary medicine, the percentages of blacks have remained stable. For Hispanics, who comprise smaller numbers of both population and applicants, the enrollment levels continue to show slow but steady increases,

The ability of the minority schools (Meharry, Howard, Morehouse, Charles Drew, Texas Southern, Florida A&M, Tuskegee) to maintain their enrollment levels remains a major factor in the success or failure of maintaining and increasing the number of black health professionals. A large proportion of black health professions students in dentistry, pharmacy, and veterinary medicine are trained at minority schools. About one-fifth of black medical students receive their education at the four predominantly black medical schools. For mainland Hispanics and blacks, the commitment of the majority schools to maintain the increase in minority enrollment and the ability of the newer schools to reach their enrollment goals will have a significant impact on progress during the next decade.

Student financing remains a serious problem for minority students who disproportionately come from low-income families. These students have higher dropout rates due to financial reasons than do nonminority students. The availability of scholarships and low-interest loans is critical to continued progress. In the last four years there has been a dramatic shift in the sources of student financing to market-interest compounded loans, which has substantially increased the debt burden of financing a health professions education.

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### Historic Overview<sup>1</sup>

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During the early 1960s two major social policy directions converged: "health care as a basic right for all Americans" and the civil rights movement. The development of the Medicare and Medicaid programs stimulated concerns that the supply of health manpower would be inadequate to meet the need and demand for health care services for the poor and elderly, many of whom were minorities. Civil rights proponents and others were concerned about discrimination at all levels of society, including the education system and the low representation of minorities in the professions and at the majority universities. Until the 1970s an over-

whelming proportion of black health care professionals were trained at schools created especially to educate blacks.

A series of federal programs in affirmative action, civil rights, and health care were developed to improve access to care for all, including minorities, and to expand the supply of health manpower, including minority health manpower. In 1963, for the first time, the federal government provided direct aid to all health professions schools to expand their programs, an ideal opportunity to expand minority enrollment. The federal government actively developed programs to support health professions education institutions and students, including construction grants, institutional support and capitation, special project grants, and scholarship and loan programs. Some of this support, most notably Health Career Opportunity Grants and aid for the disadvantaged, was targeted to increase the proportion of minority students,

In addition to direct support to institutions and students, two indirect sources of support grew rapidly also. Biomedical research funding enabled medical schools and, to a lesser extent, other health professions schools to support faculty who devoted part of their time to research and part of their time to instruction. This funding increased very rapidly until the late 1970s. Secondly, the development of Medicare and Medicaid provided a new source of funding for residency programs and for clinical faculty support.

During the same period, affirmative action pressures were placed on universities to increase the number of minority students and faculty. Many of the health professions education associations developed special programs to encourage minority enrollment, most notably the Association of American Medical Colleges (AAMC). As part of affirmative action, a number of institutions developed special programs to recruit and retain minority students in the health professions.

Civil rights, and the commitments to health as a right, to health care for the poor, and to an increase in health manpower including minority health manpower reached their zenith in the mid-seventies. At that time, civil rights activities and affirmative action policies in higher education started to lag behind those in other areas, particularly after the Bakke case. Enthusiasm and energetic support for the policies of the sixties began to wane by the late seventies. At the same time, the federal government began to reduce direct support of health professions education and attempted to slow the increases in the expenditures for the Medicare and Medicaid programs.

Federal cutbacks have placed increasing financial strains on higher education institutions and students, particularly those from low- and lower-middle income families. States have cut back their support as well. These factors, combined with the slowing rate of growth for minority enrollment—particularly of blacks—in health professions schools presage further ero-

sion of the gains made during the sixties and seventies.

Concerns about health manpower and minority health manpower stem from perceptions that health status can be improved through medical care intervention, that is, access to care, and that minority professionals are more likely than their majority counterparts to seek practice sites in areas with a large minority population.

**Current status.** Recent data point to a growing difference in experience between blacks and Hispanics by profession. Black first-year enrollment in allopathic medical schools was 7.5 percent of total first-year enrollment in 1974-75, and declined to 6.4 percent in 1978-79. In 1984-85, first-year enrollment constituted 6.8 percent of the total. Hispanic enrollment has risen steadily from 1.3 percent in 1971-72 to 2.6 percent in 1984-85.

In osteopathy, the proportion of first-year black enrollment grew from 1.5 percent in 1971-72 to a peak of 2.9 percent in 1979-80, and dropped to 2.2 percent in 1982-83. Hispanic enrollment has shown a steady increase from .7 percent in 1971-72 to 2.0 percent in 1982-83.

Dentistry shows a somewhat different pattern. First-year total enrollment in dental schools has declined, with the applicant-to-acceptance ratios improving for all groups. The number of black applicants has remained relatively stable, as has black first-year enrollment despite the downward trend in total enrollment. It should be noted that 49 percent of black graduates were educated at the two minority schools, Meharry and Howard. For Hispanics, first-year enrollment has risen steadily upward, from .9 percent in 1971-72 to 3.4 percent of first-year students in 1982-83, but dropped to 3.0 percent in 1983-84.

Black enrollment increased substantially in pharmacy schools in 1983-84. Also, blacks have made steady gains as a percent of total third-last-year enrollment (the entry level academic year for baccalaureate and PharmD students), from 3.3 percent in 1973-74 to 6.2 percent in 1983-84. Hispanic third-last-year enrollment increased from 1.6 percent in 1973-74 to 2.7 percent in 1983-84. Blacks have also made gains in first-year enrollment in veterinary medicine, from 3.4 percent of the total in 1974-75 to 6.3 percent in 1983-84. There are no historic veterinary medicine data on Hispanics.

Nursing education has changed dramatically in the last two decades with a decline in three-year diploma programs, a very large increase in associate degree programs, and an increase and then a decline in baccalaureate programs. Blacks constituted 8.4 percent of all RN baccalaureate enrollment in 1974-75, and 7.1 percent in 1980-81, while Hispanic enrollment was 2.0 percent and 3.8 percent respectively. For associate degree programs, black enrollment declined from 7.3 to 7.0 percent during the same period, and Hispanic enrollment dropped from 2.5 to 2.2 percent. In diploma programs, which are rapidly declining, both groups

increased their proportion of students. The total number of black graduates entering nursing between 1974-75 has remained relatively stable, although it dipped substantially in 1977-78 and then rose in 1980-81. The percentage of blacks in baccalaureate nursing has declined since 1974-75, while the number of Hispanic graduates increased substantially between 1974-75 and 1980-81 with the greatest gain made in baccalaureate program enrollment.

Blacks represent only 3.1 percent of the nation's doctors, 2.5 percent of the dentists, 3.2 percent of the pharmacists, and 1.6 percent of the veterinarians. Hispanics (including non-U.S.-trained) account for 4.3 percent of the nation's physicians, 1.7 percent of the dentists, 2.4 percent of the pharmacists, and 1.1 percent of the veterinarians.<sup>2</sup> Blacks constitute 11.7 percent of the nation's population, and Hispanics, a rapidly growing minority, 6.2 percent of the population, excluding undocumented people.

The health status of minorities has improved during the last two decades. However, minority health status remains significantly below that of white Americans; the average life expectancy for blacks is five years less than for whites, and black infant mortality is twice that of whites. And these average figures mask wide variations across the country. Dated and incomplete data for Hispanics suggest a mortality level between the rates for blacks and whites. Hispanic infant mortality levels are higher than the rates for whites, although these data are also dated and from a limited geographic area.<sup>3</sup>

The size of the minority health manpower pool compares unfavorably with the size of the minority population and minority health status. This does not suggest, however, that all health care for minorities should be provided by minority health professionals, or that whites should serve whites only. As a nation, we are committed to an integrated society and equal opportunity which includes the opportunity for the consumer to obtain care from a professional of his or her own choice. This choice is not currently available to blacks and other minorities.

While gains have been made in securing equitable access to care, improved health status, and increases in health professions manpower, these gains do not match expectations. Furthermore, there is considerable evidence that retrogressive trends, at least for blacks, have begun and may accelerate.

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### Physician Manpower And Minority Students

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Medicine, which is the most prestigious of the health occupations, has the most extensive and rigorous training process. The rewards in terms of income are the greatest of all the health professions. In addition, until quite recently physicians were the most autonomous in their ability to choose type and site of practice, specialty, and so forth. The remainder of

this article will therefore focus on the status of minorities in medicine and potential future trends. These trends and the factors influencing the trends may be a bellwether for the other health professions.

In the 1980 census, black Americans accounted for 11.7 percent of the total population, a rise of slightly more than one-half of one percent in the last decade. To achieve a proportionate parity with whites of health manpower to population, obviously, the proportion of black physicians to total physicians would have to reach 11.7 percent. However, in 1980, black physicians accounted for 3.1 percent of practicing physicians. Hispanics constituted 6.2 percent of the total population and 4.3 percent of the nation's physicians. This includes Hispanics trained outside of the United States.

Based on projections made in 1982 by the Health Resources and Services Administration (HRSA), although the supply of black U.S.-trained MDs will double, the number will still fall substantially short of parity by the year 2000.<sup>5</sup> The black physician-to-population ratio would be less than one-half the physician-to-population ratio of whites. Hispanic data were not available for a similar analysis.

**Enrollment and graduates.** During the seventies, enrollment in medical schools rose faster than enrollment in higher education institutions.<sup>6</sup> The rapid expansion of medical schools and medical school enrollment provided a unique opportunity to increase the proportion of black and Hispanic students without reducing total enrollment for other groups. Although there were substantial increases in the number of blacks and Hispanics attending college and absolute gains were made for black and Hispanic medical students, medical school attendance gains are not comparable in terms of parity to the gains made in higher education for blacks and Hispanics. Blacks constituted 10.0 percent of the students in higher education institutions and 5.9 percent of students in medical schools in 1981. Hispanics represented 5.1 percent of college students and 3.3 percent of medical school students (excluding Puerto Rican islanders). Whites constituted 79.6 percent of the students in institutions of higher education and 86.0 percent of the enrollment in medical schools. In 1970-71, whites constituted 89.4 percent of enrollment in institutions of higher education and 94.3 percent of the enrollment in medical schools.

Enrollment in first-year classes in medical school declined for the third year in 1984-85. This trend is expected to continue in response to the decline in the college-age population, concerns about surplus of physicians, and reduced federal and state support of medical education. However, during the period of 1971-72 to 1981-82, total first-year enrollment in medical schools increased almost 40 percent, from 12,361 to 17,268.<sup>7</sup> Blacks and Hispanics increased their numbers in first-year classes during the entire period; Hispanic enrollment grew 183 percent in fourteen years. Black enrollment increased 33 percent in the same period,

less than the growth rate of total first-year enrollment. Black first-year enrollment constituted 7.5 percent of enrollment in 1974-75, and now constitutes 6.8 percent of enrollment. Hispanic enrollment has continued to rise as a percent of total first-year enrollment. A large proportion of black medical students are still trained at the minority schools in contrast to mainland Hispanics, almost all of whom are trained in majority schools. Hispanic refers to Mexican Americans and mainland Puerto Ricans, two of the four underrepresented minority groups identified by the AAMC in 1970, which also include black Americans and American Indians.

In 1984-85, black first-year enrollment in the minority medical schools was 19.0 percent of total first-year black enrollment.<sup>8</sup> There has been very little change in the majority/minority enrollment relationship in the last three years. In 1982-83, Meharry Medical College decreased its first-year class size from 111 to 80, which accounts for the relatively large dip in minority school black enrollment in that year. In fact, unless Meharry can regain its original size and unless Morehouse can expand from the current thirty-two students to the planned sixty-four, an improvement in black enrollment in the minority schools is unlikely. Unless the majority schools increase their commitment, increased enrollment of blacks is unlikely.

The percent distribution of black and Hispanic total enrollment in majority medical schools shows interesting regional differences.<sup>9</sup> Blacks are relatively more numerous in majority medical schools in the New England, Middle Atlantic, East North Central, and South Atlantic regions, while Hispanics are relatively underrepresented in these regions (except New England). Hispanics attend majority schools in the West and Southwest where they reside, although Hispanic matriculation in the East North Central has increased slightly since 1978 as well. In 1983, the five schools with the greatest representation of blacks were the University of North Carolina, College of Medicine and Dentistry New Jersey (CMDNJ), Southern Illinois, Johns Hopkins, and East Carolina. In 1978, the five schools were CMDNJ Rutgers, CMDNJ, Michigan State, North Carolina, and Harvard. Hispanics represented relatively large percentages at the University of New Mexico, University of California (Irvine), Stanford, Baylor, and University of California (Los Angeles) in 1983. In 1978 the five leading schools were New Mexico, California (Irvine), Texas (San Antonio), Colorado, and California (San Francisco).

From 1974-75 to 1982-83 the number of medical school graduates increased 24 percent.<sup>10</sup> Hispanic graduates more than doubled during the period 1974-75 to 1981-82, while the number of black graduates increased 27 percent. Like the enrollment data, the distribution of black graduates reflects the gradual shift from minority school to majority school matriculation. In 1970-71, minority schools graduated 65.6 percent of black

medical school students. By 1981-82, 22.1 percent of black graduates were from minority schools.<sup>11</sup>

**Applicant-to-acceptance ratios.** Applicant-to-acceptance ratios are critical factors in increasing enrollment of specific population groups. From 1973-74 to 1984-85 total applications to medical school declined 11 percent, while the total number of acceptances increased 20 percent. The applicant-to-acceptance ratio declined, indicating that it has become less competitive in general (for whites) to be accepted to medical schools.<sup>12</sup> For blacks, however, the applicant-to-acceptance ratio has not declined. The ratio for blacks has risen slightly due to the increased number of black applicants and relatively unchanged rate of acceptance. However, since 1976-77, this ratio has remained fairly stable. Hispanic applicants have also increased, but they have had a relatively higher rate of acceptance throughout the period.

There is some evidence that preparation in basic sciences at the undergraduate college level and at the high school level is a factor in both acceptance to and success rates in medical school.<sup>13</sup> Medical College Aptitude Test (MCAT) scores (the entry exam taken by medical students) tend to be lower for blacks than for whites; there is a similar situation with college aptitude tests.<sup>14</sup> The reasons for the difference have been debated extensively by anthropologists, psychologists, sociologists, and educators who cite such factors as educational disadvantages and cultural bias in the tests. Black, and, to a lesser though increasing extent, Hispanic medical students are more likely than whites to encounter difficulties with coursework and to be required to repeat courses. This is particularly true of the first year of medical school in which there is a heavy basic science concentration.<sup>15</sup>

**Faculty.** There is a plethora of opinion and literature regarding the importance of role models in influencing career choices. Important factors include contact of children and young adults with professionals, teachers, and counsellors in the same ethnic and racial group. Blacks and Hispanics are less likely to have as frequent contact with black and Hispanic health professionals as whites have with white professionals, since both groups are underrepresented in all of the health professions. There is also substantial underrepresentation of blacks and Hispanics as faculty members of health professions schools and as high school and college science teachers and counsellors, although the proportion of Hispanic faculty is higher than black faculty. In U.S. and Puerto Rican medical schools there have been very modest increases in the percentage of black faculty, but greater increases in Hispanic faculty. During the last ten years there has been a shift of black faculty from minority to majority schools with an increasing proportion teaching at majority schools.

**Student financing.** Average family income of minorities, particularly blacks and Hispanics, falls below the national median. In addition, minor-

ity families tend to be larger than white families (in 1980 average family size for whites was 3.19, 3.72 for blacks, and 3.92 for Hispanics), thus increasing the burden on these families to finance higher education.<sup>16</sup> By every measure, family income, educational and professional status of families, and role models for students in the community and in high schools, colleges, and universities, the majority of blacks and Hispanics start from a more disadvantaged base than the majority of whites.

Some economists have maintained that financing even through high-interest loans should not deter students enrolling in health professions schools, particularly in medicine. They believe the future earnings potential more than compensates for high debt and loss of current earnings. One recent study by The Urban Institute indicated that its findings might be modified for minority groups.<sup>17</sup> The policy thrust of the study was that unless the differences in the impact of financing on majority and minority students are clearly articulated, decisions to shift financing toward market-interest rate loans might become more prevalent (which has now occurred), affecting the ability of a large proportion of minority students to pursue health professions education.

In a study of graduate and professional students who applied for need-based financial aid in 1980-81, the findings for lower income and minority students were striking.<sup>18</sup> One key factor highlighted by the study was that students applying as college seniors for need-based aid for the first year of professional school were already receiving aid to complete college. Second, medical and law students, as contrasted to other graduate students, relied more heavily on loans. And more than one-half of the medical students used loans with little or no subsidy, "thus contributing to the substantial debt burden of medical students."<sup>19</sup> Third, for all graduate students in 1981, those with the heaviest debt were the private school medical students who had borrowed on average \$31,000 by their fourth year of medical school. In some minority schools in the survey conducted as part of the 1983 study, many were at this level by the end of the second year.<sup>20</sup>

From 1978 to 1980, at least 40 percent of all minority acceptees reported parental incomes of less than \$15,000.<sup>21</sup> Among all acceptees of the 1981 entering class, 13 percent reported parental annual incomes of less than \$15,000.<sup>22</sup> Thirty-three percent of blacks, 36 percent of Mexican Americans, and 42 percent of mainland Puerto Ricans accepted to medical school reported parental incomes of less than \$15,000.

The average total debt of all 1982 medical school graduates, including those with no debt, was \$17,877, of which 88.4 percent or \$15,801 was medical school debt.<sup>23</sup> For minorities (blacks, American Indians, Mexican Americans, and mainland Puerto Ricans), medical school debt represented 93.8 percent (\$16,296) of their total indebtedness (\$17,367) at graduation. The picture has deteriorated since 1982.

While medical students' costs are rising, the total amount of financial assistance obtained by students declined in 1982-83 by 5.5 percent.<sup>24</sup> The principal sources of the drop in financial assistance were the National Health Service Corps (NHSC) scholarships (currently being phased out) and the Guaranteed Student Loan (GSL) program. One of the greatest gains was made in the health education assistance loans (HEAL), a relatively high-interest loan program. According to the American Medical Student Association: "Unlike other federal loans in which the government subsidizes the interest rate and pays interest while the student is in school, the HEAL program is totally unsubsidized. The HEAL program is also the only federal loan program with compounding rather than simple interest. . . . A student who borrowed \$8,000 a year through HEAL at 18 percent interest each year for four years of medical school would owe \$48,084.14 at graduation. If interest is deferred until postgraduate training is completed, the interest compounding on the original \$48,084.14 would bring the new principal and added interest to \$95,810.66, and the monthly payments. . . would be \$1,453.45 for the next twenty-five years."<sup>25</sup>

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### **Minority Educational Institutions And Their Financing<sup>26</sup>**

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Until the early 1970s, the minority health professions schools were the main resources for education of minorities entering the health professions. With the expansion of enrollment in majority schools during the sixties and seventies, there was an increase in enrollment of minority students in majority institutions.

The financing of the minority (black) schools differs significantly from most majority schools. Except for Howard University (a federally funded institution), most of the minority schools have histories of financial fragility. Because their missions have been to educate black professionals and because their student bodies generally come from low-income families, private endowments have never been a major source of funding. Except for some unique arrangements with a few states, the private minority schools have not received regular state appropriations.

Because of their orientation toward the education mission, they have not received significant biomedical research grants, which serve as a major financial resource for many majority schools. None of the minority medical schools in the 1983 study was a major research institution. On average, biomedical research provides one-fifth of the revenues of majority schools and contributes substantially to faculty salaries.

The most rapidly growing source of financing for majority medical schools has been patient care revenues. There are four main sources of these revenues: payments from hospitals and clinics for supervision of residents and administration of patient care services; fees to teaching physicians for direct provision of services to individual patients; hospitals' salary

support of residents who contribute a substantial amount of clinical teaching to undergraduate students; and, finally, affiliations with large acute care Veterans Administration (VA) hospitals with county and city hospitals.

Because of their location in low-income areas and their limited access to clinical facilities, the ability of the minority schools to generate income from patient care services is more limited than most majority institutions. None of the minority schools in the study except Charles Drew had an affiliation with a major acute care VA facility or a county hospital in close proximity to the school, yet in two of the cities where these schools are located, majority schools have VA affiliations. The minority schools have had to seek VA affiliations in other communities—one with a facility two-and-a-half hours' driving time from the school, and the other with a facility forty-five miles away.

The private minority health professions schools remain financially vulnerable, and as federal and state support shrinks, their vulnerability will increase.

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## Issues

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While there may be an emerging surplus of health manpower in many fields, there is no surplus of minority health manpower and wide disparities will continue between the ratio of black manpower to black population and Hispanic manpower to Hispanic population. Both GMENAC and the Southern Regional Education Board have pointed out that the emerging surplus does not include a surplus of minority health professionals. Many remaining health manpower shortage areas and underserved areas have large black and Hispanic populations, and health status measures for blacks and Hispanics are worse than for whites.

Society and the federal government bear the costs of health care through Medicare and Medicaid, private insurance, and government-sponsored facilities. Improving the health status of minorities should translate into lower health expenditures, fewer disability and welfare benefits, and increased productivity. Access to early care is dependent on manpower availability. Since the federal government, the states, and society as a whole bear much of the cost of health care and the social costs of lack of access, they must be concerned.

An increase in the proportion of minority health professionals is dependent on a number of factors. These factors include commitment of majority health professions education institutions to increasing minority enrollment; changes in admissions and retention policies of majority institutions; improved high school and college science training for minority students; affordable student financing (a factor of critical importance); and financial viability of minority schools.

Strategies to maintain progress in assuring opportunities for minorities

are: strong commitment by governors, state legislators, and state higher education boards to ensure that state universities implement policies to increase minority enrollment; increased scholarships and low-interest loans for low-income students; a more aggressive federal policy enforcing civil rights and affirmative action programs; more training and development of minority faculty; recognition of the critical role played by minority schools in maintaining black enrollment levels; and increased financial support and financial stability of the schools.

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## NOTES

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2. U.S. Bureau of the Census, 1980 data. The census reports the number of health professions personnel of Spanish origin, but the figures include an unknown number of persons who are also classified as white, black, or of another race. Therefore, the number of Hispanic practitioners is distorted by double counting. Census data include only those persons currently working in one of these health professions in the United States.
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5. Department of Health and Human Services, Health Resources Administration, *Estimates and Projections of Black and Hispanic Personnel in Selected Health Professions: 1980-2000*, DHHS Publication No. (HRA)82-1 (September 1982).
6. Association of American Medical Colleges, *Medical School Admissions Requirements, 1985-86* (Washington, D.C.: AAMC, 1984) and earlier issues.
7. *Ibid.*
8. *Ibid.*
9. "83rd Annual Report on Medical Education in the United States, 1982-83," *Journal of the American Medical Association* 250 (September 23/30, 1983).
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11. *Ibid.*; and "Medical Education in the United States," *Journal of the American Medical Association* (19 November 1973 and 22 November 1971).
12. Association of American Medical Colleges, *Medical School Admissions Requirements 1985-86*.
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14. P. Gapen, "Minority Admissions: The Increasingly Empty Promise of Affirmative Action," *New Physician* 28 (1979): 20-26.
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18. H.J. Flamer, H. Horch, and S. Davis, *Talented and Needy Graduate and Professional Students* (Princeton, N.J.: Educational Testing Service, April 1982).

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19. Ibid., 15.
20. Association of Minority Health Professions Schools, "Blacks and the Health Professions in the 1980s," 13-16.
21. Association of American Medical Colleges, *Minority Students in Medical Education: Facts and Figures*.
22. Ibid.
23. Ibid.
24. "Financial Assistance for Medical Students, 1982-83," *Journal of Medical Education* 58 (December 1983).
25. Testimony of the American Medical Student Association, presented by Lawrence R. Deyton to the U.S. House of Representatives, Committee on Energy and Commerce, Subcommittee on Health and the Environment, 24 April 1984.
26. Association of Minority Health Professions Schools, "Blacks and the Health Professions in the 1980s," 24.