

VII. Thirty-Year Progress Report

GEOGRAPHIC LOCATION OF PRACTICE AND MEDICAL SPECIALTY DISTRIBUTION

METHODOLOGY

MEASURES

THIS CHAPTER PRESENTS thirty-year follow-up data on the medical careers of approximately 90 percent of the minority and nonminority medical students in the baseline data study group. Students were admitted to medical schools in the four-year period beginning in 1969 and graduated in the years 1973 through 1977.

The baseline data for the 4,134 subjects in the initial study were coded by an expert in market research. A code book was developed by a researcher on my staff at the Harlem Hospital Center Psychiatry Department, who also reviewed and corrected the data set. The following data were coded: unique identifying number, year of graduation from medical school, ethnicity, sex, National Medical Fellowship status (whether they applied for, and, if so, were awarded, an NMF grant); medical school code, and postgraduate training code.

Follow-up data on medical career were obtained from the 1994 edition of the *American Medical Directory* (AMA 1994) and coded as defined in the code book: vital status, zip code of primary office address, medical school of graduation, year of medical license, primary and secondary self-designated specialty, type of practice, and first and second American specialty board certification.

Machine-readable data from the 1990 full U.S. zip code areas from the Census of Population and Housing were obtained. (Wendy Treadwell, coordinator, Center for Machine Readable Data, University of Minnesota, provided data from the 1990 full U.S. zip code areas from the Census of Population and Housing, 1990. Summary Tape File 3B was linked with the zip codes of the 3,788 respondents with zip code data.) These data were

linked with zip codes for the 3,788 physicians who supplied that information for the medical directory. No substantial bias was created by missing census data.

Using data from the *Statistical Abstract of the USA 1991*, our researcher ascertained that there were twenty-three cities with populations of 500,000 or more as measured by the 1990 census. Using the *Rand McNally Zip Code Finder, 1995*, the zip codes for those twenty-three cities were given study codes. We defined each of those as a “big city” in describing the location of the medical practice. Demographic data for total populations residing in zip codes are derived from the 1990 census.

Census data included not only the total population residing in the zip code area but also persons who are African American or Hispanic and whose average household income is less than \$5,000; \$5,000 to \$10,000; \$10,000 to \$15,000; more than \$15,000. This allowed us to characterize practice locations at varying proportions of ethnicity and income levels.

Of the 4,134 subjects in the baseline data set, 316 (7.6 percent) were lost to follow-up, and 365 (8.8 percent) had addresses in zip codes with no population (e.g. post office boxes, possibly districts zoned as nonresidential, etc.). Review of the distributions of these missing data led us to conclude that no significant bias was introduced by this finding. Thus we omitted from analyses those physicians with zip codes but no census data where population characteristics were relevant.

STATISTICAL METHODS

The study data set was analyzed using standard statistical methods (e.g. cross-tabulation of categorical variables using chi-square and adjusted cell residuals to assess whether observed distributions were significantly different than expected by chance alone; *t*-tests; and analysis of variance).

SCALES

The following ethnic groups were defined: African American (AA); other minority (OM); Native American (AI); and Hispanic (HI), subdivided into Mexican (MEX) and Puerto Rican from the U.S. mainland (PR). Also defined was the general category of all nonminority (NM) and all minority (M) physicians.

Within those ethnic categories we recorded percentages of physicians with medical licenses, American board specialty, and specialties with varying percentages of minority or nonminority group physicians, as obtained from the 1994 medical directory.

Practice locations as shown in the medical directory allowed us to identify those physicians practicing in a state with any one of three levels of African American population as shown in 1990. Of our combined total of 3,787 physicians for whom the medical directory information included a preferred practice location, 35.5 percent ($N = 1,343$) had medical practices in states in the highest tercile of AA population, ranging from 14 percent to 66 percent in the District of Columbia. Another 28.6 percent ($N = 1,084$) practiced in states ranging from 7.4 percent to 14.0 percent Black population, which is our middle tercile. The remaining 35.9 percent ($N = 1,360$) located their practices in states ranging from 0 percent to 7.4 percent Black population, which is our lowest tercile.

Nearly one-third (32.7 percent; $N = 1,240$) of our total 3,787 physicians practiced in the highest tercile of states in terms of their Hispanic population, which ranged from 12.2 percent to 39.0 percent Hispanic; 34.2 percent ($N = 1,294$) practiced in states in the middle tercile, which ranged from 2.2 percent to 12.2 percent Hispanic population; and 33.1 percent ($N = 1,253$) practiced in states with the lowest tercile of Hispanic population, ranging from 0 percent to 2.2 percent.

The difference in cutpoints immediately suggests how differently the African American and Hispanic populations are distributed among the various states, a difference that we can also note when we subdivide the Hispanic group into Mexican and Puerto Rican fractions, such as the high proportion of Mexicans in California and Texas, and the high proportion of Puerto Ricans in New York.

We also could identify practice locations in “big cities” that have large populations of African American or Hispanic populations, or both. For example, an African American city was identified as follows: (1) It is an urban area designated by the Census Bureau as a metropolitan statistical area (either consolidated [CMSA] or primary [PMSA]). The *Statistical Abstract* identifies a PMSA as a metropolitan area with a population of one million or more. If an area contains more than one PMSA, it is designated as a CMSA. (2) If a physician practices in a CMSA or PMSA with more than five hundred thousand Blacks, then that practice location was coded as being in an African American city (“1”; otherwise as “0”).

Similarly an HI city is so defined if the metropolitan area has more than 500,000 Hispanic Americans.

Geographic regions are defined as in chapter 6 of this book: Northeast, Midwest, West (in which I included Texas), and South.

Practice locations were further characterized by their neighborhoods, as

identified by zip code. An AA practice neighborhood was a zip code in which 50 percent or more of the population was Black, and a HI neighborhood had a zip code with greater than 20 percent Hispanic American population. These different cutpoints were selected as being likely to capture the most relevant data.

The income levels of the residents of practice neighborhoods were also easily identified by zip code.

FINDINGS FOR PRACTICE LOCATION

PRACTICE LOCATION BY REGION

How the physicians were distributed in the four regions of the United States that we have defined is shown in table 28. First we see from the column totals that the West is the most common location, with almost 34 percent; followed by the South, 28 percent; with the Northeast and Midwest both attracting close to 20 percent.

All of these findings are in the expected direction, showing that Black physicians are relatively more likely to practice in the South, whereas Hispanic Americans, in particular Mexicans, prefer the West relative to their numbers. Almost 14 percent of the sample practicing in the West were Mexicans, versus almost 2 percent in the other 3 regions.

PRACTICE LOCATION BY STATE

The findings for region suggest that the followed-up physicians tended to locate their practices in states significantly populated by their ethnic groups. Further confirmation of the concentration of minority physicians

TABLE 28. Region of Practice, 1994, by Ethnicity

	NE ^a	MW ^b	W	S	Raw N
% Minority	47.9	45.1	52.0 ^c	51.4	864
African American	41.3	41.9	34.9 ^d	47.8 ^e	537
Hispanic	6.4	2.8	15.5 ^{**}	2.8 ^f	291
% Nonminority	52.1	54.9*	48.0	48.6	1,883
<i>N</i>	706	714	1,265	1,062	3,747
%	18.8	19.1	33.8	28.3	100.0

^aNo significant differences found.

^bSignificant nonminority preference

^c $p < .05$, but with relatively fewer African American.

^d $p < .00005$ and relatively more Hispanic.

^eSignificantly more African American but with fewer Hispanic ($p < .00005$).

^fFewer Hispanic in the South than expected by chance ($p = .00005$ compared to all others).

* $p < .05$. ** $p < .00005$.

in states with the highest proportion of their minority groups is found in tables 29 and 30.

Minority physicians had a significant tendency to establish their practice in states with the highest third of their minority group population, as defined above, detailed in tables 29 and 30. This finding was true for both male and female minority physicians. Almost 43 percent of African American male physicians established their practices in the highest third of states grouped by percentage Black population, compared to almost 30 percent of nonminority male physicians. The corresponding statistics for female physicians were 47 percent African American and 30.3 percent nonminority.

Nearly 67 percent of Hispanic male physicians established their practices in the highest third of states grouped by percentage of Hispanic population, compared to 29 percent of nonminority male physicians; for females the corresponding percentages were almost 68 percent Hispanic and about 33 percent nonminority.

With respect to sample physicians establishing practices in states having the highest tercile of African American population, specific findings for the ethnic groups were as shown in table 31.

TABLE 29. Practice Location of Black and Nonminority Physicians, by Proportion of Black Population in State

Proportion of Black Population in State	Black Physicians	Nonminority Physicians
Lowest tercile	28.5 -	41.0 +
Middle tercile	27.7	29.3
Highest tercile	43.7 +	29.7 -
Total	99.9 ^a	100.0

Note: p of $\chi^2 < .000005$. A plus sign indicates more than expected by chance alone. A minus sign indicates fewer than expected by chance alone.

^aDoes not total 100% because of rounding.

TABLE 30. Practice Location of Hispanic and Nonminority Physicians, by Proportion of Hispanic Population in State

Proportion of Hispanic Population in State	Hispanic Physicians	Nonminority Physicians
Lowest tercile	12.6 -	34.8 +
Middle tercile	20.3 -	35.4 +
Highest tercile	67.1 +	29.8 -

Note: p of $\chi^2 < .000005$. A plus sign indicates more than expected by chance alone. A minus sign indicates fewer than expected by chance alone.

Among all the groups of physicians, only Blacks chose to establish practices in states with the highest proportions of Blacks in their populations. For Mexicans the findings were the reverse of those for Blacks, whereas those for Native Americans and for Puerto Ricans were not substantially different than those for nonminority physicians. Despite some small sample sizes, the findings are stable and reliable, as indication that only Black physicians chose, in disproportionately large numbers, to establish their practices in states with high proportions of Black population.

For states with the highest level of Hispanic population (the highest tercile), specific findings for the ethnic groups were as follows (see table 32): A high concentration of Mexican physicians followed the Hispanic population, and also a disproportionately high proportion of Puerto Rican physicians. Nonminority physicians were disproportionately absent from high-Hispanic states, whereas Blacks and Native Americans were present in proportionate numbers.

In conclusion, the findings of high concentrations of African American physicians in high African American states, and of Mexican and Puerto Rican physicians in high Hispanic states, sharply contrasted with the relative absence of nonminority physicians from those states.

TABLE 31. Ethnicity of Physicians Who Established Practice in States in Highest Tercile of Black Population

	<i>N</i>	<i>n</i>	%
African American	1,550	678	43.7 +
Mexican American	221	23	10.4 -
Puerto Rican	76	25	32.9
Native American	26	7	26.9
Nonminority	1,901	607	31.9 -

Note: *p* of $\chi^2 < .000005$. A plus sign indicates more than expected by chance alone. A minus sign indicates fewer than expected by chance alone.

TABLE 32. Ethnicity of Physicians Who Established Practice in States in Highest Tercile of Hispanic Population

	<i>N</i>	<i>n</i>	%
African American	1,550	511	33.0
Mexican American	221	167	75.6 +
Puerto Rican	76	34	44.7 +
Native American	26	11	42.3
Nonminority	1,901	514	27.0 -

Note: *p* of $\chi^2 < .000005$. A plus sign indicates more than expected by chance alone. A minus sign indicates fewer than expected by chance alone.

PRACTICE LOCATION BY CITIES

We further honed the characterization of the areas in which followed-up physicians established their practices, by focusing on those physicians who established their practices in cities with populations of more than half a million African American or Hispanic residents.

An analysis of practice locations in big cities with more than five hundred thousand African American population shows the following (see table 33): African American physicians located their practices in cities with large populations of their group. Other minority group members did not have a significant tendency to locate in cities with high African American populations. Comparing both Hispanic populations together (Mexican American and Puerto Rican), there are some cities with a high frequency of both Hispanic and African American population. The high correlation coefficient of 0.69 indicates that 592 out of 3,788 physicians (15.6 percent) located in cities high in both minority populations, whereas 427 (11.3 percent) located in cities high in one or the other, and 2,769 (73.1 percent) located in cities that did not have significant critical masses of either.

The corresponding trends for practice location in a high-Hispanic city are shown in table 34. Hispanic physicians significantly tended to locate in

TABLE 33. Physicians Who Established Practice in Cities with High Black Population, by Ethnicity and Gender

	%	N
Minority	33.3 +	1,887
Men	31.3 +	1,513
Women	41.2 +	357
Nonminority	17.1	1,901
Men	16.6	1,652
Women	19.4	222
African American	36.2 +	1,550
Men	34.3 +	1,226
Women	43.5 +	310
Native American	11.5 ^a	26
Mexican American	19.9 ^a	221
Puerto Rican	22.4 ^a	76

Note: p of $\chi^2 < .000005$. Gender-specific frequencies do not total to the group frequencies due to cases with missing data for gender. A plus sign indicates more than expected by chance alone. A minus sign indicates fewer than expected by chance alone.

^aNot significant.

cities high in concentrations of their groups, and African American physicians were also practicing in those areas, which may simultaneously be high in African American population. Nonminority physicians were significantly less likely to locate in areas high in minority group population.

PRACTICE LOCATION BY NEIGHBORHOODS

We broke down the practice location preferences of followed-up physicians in table 35 to the level of practice neighborhoods, indicated by the zip code of the preferred practice location. This made these trends even more evident.

Quite clearly African American physicians established their practices in high African American neighborhoods (zip codes with more than 50 percent African American population). No others, including other minorities, select those areas.

We looked at predominantly Hispanic practice neighborhoods, defined as zip codes with more than 20 percent Hispanic population (see table 36). Clearly Hispanic physicians followed their populations, but there was also a strong trend for African American physicians to practice in those neighborhoods.

PRACTICE LOCATION BY AREA INCOME

For the purposes of this study we defined a “low-income area” as one in which the average household income is less than \$15,000 according to census data; “middle income areas” have incomes greater than \$25,000 annually; and “high income areas” have incomes exceeding \$50,000 for an average household. These cutpoints are used by the Census Bureau. A total

TABLE 34. Ethnicity of Physicians Who Established Practice in Cities with High Hispanic Population

	%	<i>N</i>
Hispanic	23.6 +	301
Mexican American	24.4 +	221
Puerto Rican	21.1 +	76
African American	21.5 +	1,550
Nonminority	13.1 -	1,901

Note: p of $\chi^2 < .000005$. Gender-specific frequencies do not total to the group frequencies due to cases with missing data for gender. A plus sign indicates more than expected by chance alone. A minus sign indicates fewer than expected by chance alone.

TABLE 35. Physicians Who Practice in Neighborhoods with More Than 50 Percent Black Population, by Ethnicity and Gender

	%	<i>N</i>
Minorities	24.4 +	1,708
Males	23.7 +	1,371
Females	26.2 +	321
Nonminorities	6.6 -	1,748
Males	6.4 -	1,519
Females	8.9 -	203
African American	28.5 +	1,413
Hispanic	4.6 -	262
Mexican American	5.5 -	199
Puerto Rican	1.6 -	61

Note: p of $\chi^2 < .000005$. Gender-specific frequencies do not total to the group frequencies due to cases with missing data for gender. A plus sign indicates more than expected by chance alone. A minus sign indicates fewer than expected by chance alone.

TABLE 36. Physicians Who Practice in Neighborhoods with More Than 20 Percent Hispanic Population, by Ethnicity and Gender

	%	<i>N</i>
Minorities	18.5 +**	1,708
Males	18.3 +*	1,371
Females	19.6 -*	321
Nonminorities	6.9 -	1,748
Males	6.9 -	1,519
Females	5.9 -	203
Hispanic	35.9 +*	262
Mexican American	40.2 +*	199
Puerto Rican	23.0 +*	61
African American	15.1 +*	1,413

Note: Gender-specific frequencies do not total to the group frequencies due to cases with missing data for gender. A plus sign indicates more than expected by chance alone. A minus sign indicates fewer than expected by chance alone.

* p of $\chi^2 < .00005$. ** p of $\chi^2 < .000005$.

of 331 physicians practiced in areas with average household incomes greater than \$15,000 and less than \$25,000, and so they are not included in some analyses.

For the nation as a whole, 7.1 percent (246 of 3,482) of all minority and nonminority physicians practice in low-income areas; 69.8 percent (2,429 of 3,482) practice in middle-income areas; and 13.7 percent (476 of 3,482) practice in high-income areas. We were unable to completely locate area of practice by income because we lacked zip code data for 8.2 percent (313 of 3,795) of the total physician sample with follow-up data.

We do know which physicians are minority or nonminority: By design the total number of minority physicians was 2,067 or 50 percent of our baseline sample, of 4,134. Therefore, 2,067 nonminority physicians were sampled. Of these 4,134 physicians, 3,795 (91.8 percent) had follow-up data, and 339 (8.2 percent) were lost to follow-up. Of the 3,795 followed-up physicians, 1,889 (49.8 percent) are minority, whereas 1,906 (50.2 percent) are nonminority. It is easily seen that loss to follow-up does not jeopardize the validity of our sampling design.

That only 7.1 percent of this national sample of physicians practice in low-income areas despite the fact that these areas have the greatest need for physician services should not come as a surprise. Our national health care system is essentially based on demand, itself a composite of both the volume of requests for physicians' services *and* the resources to pay for those services. It is responsive to economic market demand rather than health care need. Freedom of choice for physicians to locate according to their preferences or wishes, and freedom of choice for the patients to choose their physicians depending on their ability to pay, are the basic premises on which our health care system operates. Patients who are unable to pay, or who until recent decades were not served because of ethnic or other reasons, were supposedly served by safety-net providers associated with public hospitals or religious charity institutions.

Looking at the nationwide distributions we find that significantly more

TABLE 37. Income in Area of Practice of Minority and Nonminority Physicians

	Minority	Nonminority	<i>N</i>
Low income	8.3 ^a	5.8	246
Middle income	67.9 ^b	71.6	2,429
High income	12.8	14.5	476

^aMinority > nonminority, *p* < .005.

^bNonminority > minority, *p* < .005.

minority physicians were practicing in low-income areas and significantly more nonminority physicians were practicing in middle and high income areas (see table 37).

These trends were then subjected to a more complete review by looking at nonminority and minority physicians in the various regions of the nation. What we found is outlined in table 38. Striking differences are noted in this regional analysis: Minority physicians significantly exceeded nonminority physicians in low-income neighborhoods of the Midwest and South by wide margins; nonminority physicians significantly outnumbered minority physicians in middle-income neighborhoods in the Northeast and Midwest; nonminority physicians significantly outnumber minority physicians in high-income neighborhoods in the Northeast. In the West

TABLE 38. Income of Practice Neighborhood, Minority and Nonminority Physicians, by Region

	Minority	Nonminority	Row <i>N</i>
Northeast			
Low income	3.7	4.0	26
Middle income	74.2 ^a	81.9	530
High income	18.8 ^b	30.3	168
Column <i>N</i>	325	353	678
Column %	52.1	47.9	100
Midwest			
Low income	14.6 ^c	6.8	70
Middle income	57.0 ^d	73.7	445
High income	10.4	11.8	75
Column <i>N</i>	365	309	674
Column %	54.2	45.8	100
West			
Low income	4.0	3.4	43
Middle income	75.8	71.3	856
High income	11.2	13.2	142
Column <i>N</i>	598	565	1,163
Column %	51.4	48.6	100
South			
Low income	11.3 ^e	6.2	83
Middle income	61.8	65.0	598
High income	10.1	9.2	91
Column <i>N</i>	477	466	943
Column %	50.6	49.4	100

^a = Nonminority > Minority, *p* < .05.
^b = Nonminority > Minority, *p* < .0005.
^c = Minority > Nonminority, *p* < .005.
^d = Nonminority > Minority, *p* < .0005.
^e = Minority > Nonminority, *p* < .01.

there were no global differences in the distribution of minority and non-minority physicians. (Recall that our definition of the West includes both Texas and California.)

If we zero in on Blacks, the findings are practically identical, since it is the African American physicians whose behavior is reflected in the whole minority group sample. The practice neighborhood pattern for Hispanic physicians (Mexicans and Puerto Ricans) is not clearly distinguishable from nonminority physicians at the regional level of the nation.

PRACTICE LOCATION BY URBAN CONCENTRATIONS OF MINORITY POPULATIONS

We proceeded to look at the practice location choices of followed-up physicians in terms of practicing in an urban area with more than half a million African American residents or more than half a million Hispanic residents.

There were twelve metropolitan areas with more than a half million Black residents. A third of minority group physicians (628 of 1,887) practiced in these areas, compared to 17.1 percent (326 of 1,901) nonminority physicians, of whom practiced in these areas. This predominance of minority group physicians was statistically significant ($p < .000005$), and the differences held true for both male and for female physicians, with a suggested trend that it is even more the case for women than for men: (1) minority male physicians, 31.3 percent, compared with 16.6 percent nonminority; (2) minority female physicians, 41.2 percent, compared with 19.4 percent nonminority female physicians. Relatively more women physicians select these practice locations compared to their male counterparts. As for Blacks only, 36.2 percent of these physicians practiced in these metropolitan areas compared with 17.6 percent of all others ($p < .000005$). Other minorities did not differ significantly from nonminorities: Mexicans, 19.9 percent; Puerto Ricans, 22.4 percent; Native Americans, 11.5 percent; and all nonminority physicians, 17.1 percent.

Our definition of a highly Hispanic metropolitan area was one with more than half a million Hispanic residents. In these nine areas, 21.6 percent of the physicians were minorities, compared with 13.1 percent nonminority. Here again the trend was true for women, with a suggestive trend of women physicians exceeding men in these areas: (1) minority males, 20.5 percent, versus nonminority male, 12.8 percent; (2) minority female physicians, 26.3 percent, versus nonminority females, 14.0 percent.

Hispanic physicians exceeded all others in these metropolitan areas: 23.6 percent (71 of 301) broken down into 24.4 percent (54 of 221) Mexi-

can and 21.1 percent (16 of 76) Puerto Rican. This finding is significant for Hispanic physicians as a whole compared with all others ($p < .005$) and for Mexicans compared to all others ($p < .01$), but not for the Puerto Ricans. It is worth noting that African American physicians contributed 21.5 percent of the physicians to these areas, a contribution that was significantly greater compared with all others combined ($p < .00005$). Three hundred thirty-three of 1,550 Black physicians practiced in such areas versus 323 of 2,233, or 14.5 percent, non-Black. Again this is due to the co-occurrence of high concentrations of Blacks and Hispanics in metropolitan areas like New York or Los Angeles, among others.

As might be expected, these trends are magnified in practice neighborhoods with 50 percent or more Black population. Total minority physicians contributed 24.4 percent of those practicing in such zip codes (416 of 1,708), compared with only 6.6 percent (115 of 1,748) of nonminority physicians, a highly significant finding ($p < .000005$). Again this was true for women as well as men, with women slightly more often practicing in these neighborhoods: (1) minority male 23.7 percent compared with 6.4 percent nonminority male; (2) minority female 26.2 percent compared with 8.9 percent nonminority female.

The great bulk of these physicians were themselves Blacks, 28.5 percent (402 of 1,413) compared with 6.3 percent (128 of 2,039) of all other physicians, a very significant finding ($p < .000005$). Hispanics were no more likely than nonminority physicians to locate in these zip codes: only 4.6 percent did so, including 5.5 percent (11 of 199) of Mexican physicians and 1.6 percent (1 of 61) of Puerto Rican physicians.

We defined significantly Hispanic practice neighborhoods as zip codes with 20 percent or more Hispanic population. Zip codes with high concentrations of Hispanic population tended to not have high concentrations of African American population, as shown by a correlation coefficient of $-.09$ ($p < .000005$) based on the distribution of practice locations in our sample. This gives us a different perspective than in our previous analyses. For example the NY-NNJ-LI CMSA has more than half a million of each group, but the two groups tend to concentrate in different zip codes. Here we find a predominance of minority physicians, 18.5 percent (316 of 1,708) compared with 6.9 percent (121 of 1,748) of nonminority physicians, a highly significant finding ($p < .000005$). This pattern was equally true for male and female physicians, with no suggestive trend that women locate in these areas to a greater extent than men: (1) minority men, 18.3 percent, versus 6.9 percent nonminority; (2) minority female, 19.6 percent, versus nonminority female 5.9 percent.

Here, however, we are able to demonstrate high Hispanic physician preference for these neighborhoods, 35.9 percent (94 of 262) compared with 10.8 percent of all others (343 of 3,190), a very significant finding ($p < .000005$). Subdividing the Hispanic physicians, Mexicans were present at 40.2 percent (80 of 199) and Puerto Ricans at 23.0 percent (14 of 61), both of which are statistically significant ($p < .05$). Blacks were present at 15.1 percent (214 of 1,413) in these zip codes, which is significantly greater ($p < .0005$) than all non-Blacks, who were at 10.9 percent (223 of 2,039).

PRACTICE LOCATION PREFERENCE AND INCOME
LEVEL OF THE PHYSICIANS' FAMILY OF ORIGIN

The next important question to answer is how these practice locations relate to the income of the family of origin of the minority physicians. In an earlier chapter we indicated that National Medical Fellowships were the central source of financial aid for minority medical students throughout the 1969–73 period in which these students were in medical school. All minority students accepted into any medical school could apply for financial aid if they so desired. We therefore were able to stratify our minority physicians into three categories based on their medical school NMF application status. We know further that those who applied for financial aid and received it had average family incomes in 1970 dollars of \$8,880; those who were rejected had average family incomes of \$14,960. Those who never applied had family incomes of unknown amounts, but we surmised that they assumed they were ineligible or did not wish to apply for other reasons. Remember also that all of our minority sample consisted of medical school applicants who identified themselves as minority members on their medical school application in order to be identified as such by the Association of American Medical Colleges publication sent to all medical school admissions offices.

Considerable comment has been made on whether affirmative action programs should address all minority applicants or only to those who are economically disadvantaged. We are defining those who applied for and received an NMF award as being the most economically disadvantaged because of their extremely low average family income. Even those rejected because of relatively higher average family incomes were predominantly from impoverished family backgrounds.

When we examined the choice of physicians to practice in metropolitan areas with more than half a million African American residents (see table 39), we saw that NMF applicants were likely to set up practices in

these urban areas at about double the rate for nonminority physicians. This was true whether NMF applications came from backgrounds of very low family income (recipients, average \$8,800) or relatively higher family incomes (rejectees, average \$14,960). There was in fact a trend suggesting that relatively better off African Americans more often selected these areas compared to their less economically favorable peers. Both of these groups of minority applicants came from families much less favored than nonminorities, whose average family income was probably almost twice as high.

When we examined the choice of physicians to practice in metropolitan areas with more than half a million Hispanic residents (see table 40), we saw that NMF recipients also significantly preferred these areas, and again the relatively better off NMF applicants (i.e., rejectees) chose these areas even more than those who had lower family incomes (i.e., recipients).

These findings do not support those who maintain that affirmative action programs should only be aimed at the most economically disadvantaged among the minority groups.

TABLE 39. Frequency of Practice in Metropolitan Area with More Than 500,000 Blacks

Practice in Metropolitan Area with More Than 500,000 Blacks	Nonminority	Minority, by NMF Grant Status			Total N
		Never Applied	Rejected	Received	
No	82.8%	71.9%	59.6%	66.7%	2,805
Yes	17.2%	28.1%	40.4% ^a	33.3% ^b	904
N	1,096	306	265	1,272	3,749

Note: p of $\chi^2 < .000005$.

^aRejectees > nonminority.

^bReceived > nonminority.

TABLE 40. Frequency of Practice in Metropolitan Area with More Than 500,000 Hispanics

Practice in Metropolitan Area with More Than 500,000 Hispanics	Nonminority	Minority, by NMF Grant Status			Total N
		Never Applied	Rejected	Received	
No	86.8%	82.0%	74.0%	66.7%	3,097
Yes	13.2%	18.0%	26.0% ^a	21.8% ^b	652
N	1,906	306	265	1,272	3,749

Note: p of $\chi^2 < .000005$.

^aRejectees > nonminority.

^bReceived > nonminority.

FINDINGS FOR MINORITY AND NONMINORITY
PHYSICIAN CHARACTERISTICS

LICENSURE

Significantly fewer minority physicians were licensed compared with their nonminority peers, minorities 92.9 percent (1,754 of 1,888) versus nonminority 94.5 percent (1,797 of 1,900), a difference that although small was statistically significant ($p < .05$). A slightly higher percentage of males in each group were licensed compared with females: (1) minority males, 93.3 percent, and females, 91.3 percent; (2) nonminority males, 94.7 percent, and females, 93.2 percent. The lower rate of licensure among the minority group physicians is produced primarily by the African American subgroup, which accounts for 83 percent of the minority group of physicians. Of the Black physicians, 92.3 percent were licensed (1,432 of 1,551). This rate was significantly ($p < .05$) lower than that of the Mexicans 96.4 percent (213 of 221), but not significantly different than those of either the Puerto Ricans 93.4 percent (71 of 76) or the Native Americans 92.3 percent (24 of 26).

ATTAINMENT OF A SPECIALTY
BOARD CERTIFICATION

Significantly fewer minority graduates became board-certified specialists compared with their nonminority peers ($p < .00005$): 61.1 percent of minorities (1,154 of 1,889) versus 89.4 percent for nonminorities (1,701 of 1,902).

Here again within each group more men than women had received certification: (1) minority men, 61.1 percent (926 of 1,515), versus minority women, 59.9 percent (214 of 357), which is not a statistically significant difference; (2) nonminority men, 88.7 percent (1,490 of 1,653), versus nonminority women, 85.6 percent, a statistically significant difference ($p < .05$).

From findings reported in chapter 6 we know that almost 100 percent of both minority and nonminority groups entered residency training programs for specialist training. We do not know how many dropped out before completing the required three or four years of training. We know that many young physicians who complete residency training and become "board eligible" do not take the board examination; others take the examination and fail. Our data do not clarify these issues.

Similarly too the pattern of having specialty certification within minority groups showed the lowest percentage usually for African Americans 59.7 percent (926 of 1,532), significantly lower than the percentage of Mex-

icans 68.8 percent (152 of 221) ($p < .01$); but not statistically different than the percentages of Puerto Ricans 67.1 percent (51 of 76) or Native Americans 57.7 percent (15 of 26). Again nonminorities had the largest percentage, 89.4 percent (1,701 of 1,902) ($p < .000005$).

When we look at whether minority group physicians classified by their NMF status were more or less likely to become certified specialists, we see that there were no statistically significant differences among those who never applied, 64.4 percent (197 of 306), rejectees, 63.4 percent (168 of 265), and recipients, 59.9 percent (762 of 1,273).

African American graduates of the traditionally Black medical schools, Meharry and Howard, were less likely to become certified specialists than African American graduates from other medical schools. Of the Black graduates of Meharry and Howard, 48.5 percent had become certified specialists (115 of 237) versus 61.6 percent of all other African American graduates (808 of 1,312), a very significant difference ($p < .0005$).

This difference becomes even more pronounced when all minority group graduates of Meharry and Howard are compared with all other minority group physicians. Of the minority graduates of Meharry and Howard, 48.5 percent became certified specialists (117 of 241), compared with all other minority physicians 62.9 percent (1,032 of 1,642), a very significant difference ($p < .0005$).

We then turned to minority graduates of medical schools other than Meharry and Howard to see if having graduated from one of the ten private medical schools (other than Meharry and Howard) that produced the most minority graduates, or from one of the ten public medical schools that produced the most minority graduates, predicted becoming a certified specialist. We found that 65.5 percent of those who graduated from the private medical schools became certified specialists (230 of 351), not significantly more than the percentage of other minority graduates, 62.2 percent (806 of 1,296). We also found that 64.4 percent of those who graduated from one of the public schools that produced the most minority graduates became certified specialists (250 of 388), which was not significantly more than the 62.4 percent of other minority graduates (786 of 1,259) who became specialists.

ATTAINMENT OF MORE THAN ONE BOARD CERTIFICATION

Among physicians with certification by at least one specialty board, minority physicians were less likely to be boarded in a second specialty, 6.8 percent (78 of 1,154), than were nonminority physicians, 8.8 percent

(150 of 1,701), a difference barely missing statistical significance ($p = .0547$).

Differences between males and females, while present, were smaller and not significant: (1) minority men, 6.7 percent (62 of 926), versus minority women, 6.5 percent (14 of 214); (2) nonminority men, 8.9 percent (133 of 1,490), versus nonminority women, 7.4 percent (14 of 190).

Within the minority group of physicians, ethnic group differences were also less frequent and not significant, although still showing a suggestive trend: Blacks, 6.7 percent (62 of 926), Mexicans, 8.6 percent (13 of 152), Puerto Ricans, 2.0 percent (1 of 51), and Native Americans, 6.7 percent (1 of 15).

COMPARING MINORITY AND NONMINORITY
 BOARD SPECIALISTS

In this section we compare the 1,154 minority physicians who are board certified with the 1,701 nonminority physician specialists. To give the analysis a simple presentation, the discussion is limited to the major specialties: internal medicine, family practice, surgery, obstetrics-gynecology, pediatrics, and psychiatry.

Table 41 illustrates that for all physicians who have become certified, similar percentages of minority and nonminority physicians chose internal medicine, family practice, surgery, and psychiatry. A statistically significantly higher percentage of minority physicians than nonminority physicians selected obstetrics-gynecology (OB-GYN) and pediatrics.

As shown in table 42, nearly twice as many minority men compared with nonminority men chose obstetrics-gynecology, whereas there was no such trend among women. Among minority women the preference for pediatrics is twice that of nonminority women.

From the observations delineated in table 43 we conclude that African Americans chose family practice less often than expected by chance, and both OB-GYN and pediatrics more often than expected. Mexicans and Native Americans chose family practice significantly more often than all

TABLE 41. Specialties of Minority and Nonminority Physicians

	Internal Medicine	Family Practice	Surgery	OB-GYN	Pediatrics	Psychiatry	<i>N</i>
Minority	28.0%	14.0%	5.7%	10.9%	13.3%	4.8%	1,154
Nonminority	28.5%	13.2%	6.8%	6.2% ^a	9.5% ^b	4.9%	1,701

^a p of $\chi^2 < .00005$.

^b p of $\chi^2 < .005$.

other physicians. Puerto Ricans chose family practice 6.4 points more often than the nonminority physicians, although the result is not statistically significant.

Our other findings on specialty differences are as follows: Minority physicians are present in statistically greater frequency in obstetrics and gynecology and in pediatrics. The numbers of nonminority physicians are significantly greater in allergy, emergency medicine, neurology, orthopedic surgery, pathology, and radiology. Both groups are equally represented in internal medicine, colorectal surgery, dermatology, family practice, genetics, neurosurgery, nuclear medicine, ophthalmology, physical medicine and rehabilitation, plastic surgery, urology, and psychiatry. Our samples were of sufficient size to indicate that these differences were not due to chance and were significant in all instances with a probability of less than .05 that the event occurred by chance.

TABLE 42. Specialties of Minority and Nonminority Physicians, by Gender

	Internal Medicine (%)	Family Practice (%)	Surgery (%)	OB-GYN (%)	Pediatrics (%)	Psychiatry (%)	<i>N</i>
Male							
Minority	30.0	14.0	6.5	11.3	9.0	4.4	926
Nonminority	28.6	14.0	7.0	5.6 ^a	8.6	4.4	1,490
Female							
Minority	19.6	13.6	2.3	8.9	31.3	6.5	214
Nonminority	27.9	7.9	5.8	10.5	15.8 ^b	8.4	190

^a*p* of $\chi^2 < .00005$.

^b*p* of $\chi^2 < .005$.

TABLE 43. Percentage of Various Specialties among Minority and Nonminority Physicians, by Ethnicity

	Internal Medicine (<i>N</i> = 808)	Family Practice (<i>N</i> = 385)	Surgery (<i>N</i> = 182)	OB-GYN (<i>N</i> = 231)	Pediatrics (<i>N</i> = 314)	Psychiatry (<i>N</i> = 138)	<i>N</i>
African American	28.1	11.3 -	6.3	12.3	13.5	4.9	926
Mexican American	26.3	25.0 +	4.6	6.6	11.2	3.3	152
Puerto Rican	35.3	19.6	0	3.9	19.6 +	7.8	51
Native American	20.0	40.0 +	6.7	0	0	6.7	15
Other minority	33.3	16.7	0	0	0	6.7	6
Nonminority	28.5	13.2	6.8	6.2	9.5 -	4.9	1,701
							2,851

Note: A plus sign indicates more than expected by chance alone. A minus sign indicates fewer than expected by chance alone.

HAS AFFIRMATIVE ACTION WORKED?

Affirmative action programs in medicine have had a tremendous impact, have improved the quality of health care in minority communities, and have made a major head start in equalizing the medical education and training for minority professionals. As recently as 1970 Blacks made up only 2.8 percent (or 1,042) of the 37,690 enrolled medical students. By 1977 Blacks comprised 6.0 percent (or 3,587) of the 60,039 total medical school enrollment. There were only about 100 board-certified specialists who were Black among the 4,000 physicians, of whom 85 percent had graduated from either Howard or Meharry, the two traditional Black medical schools. Our sample of 1,889 minority graduates includes 1,552 Blacks who graduated in the years 1973–77, and who were followed-up in the year 1994. From the data presented in this chapter we can report that 1,150 minority graduates have become certified in at least one medical specialty, including 926 African American graduates and 224 other minority graduates; as well as 1,701 nonminority graduates. In our followed-up sample of 1,884 minority physicians, 7.1 percent graduated from Meharry and 6.1 percent from Howard, so that these two traditionally African American medical schools contributed only 13.2 percent of the minority students who graduated in the five-year period 1973–77. All other medical schools were now producing minority graduates, more than 85 percent of minority physicians, a complete reversal from an earlier decade. The reader should bear in mind that our baseline sample of 2,067 minority medical school graduates is only a sample, representing 45.7 percent of the 4,370 minority graduates in that time period. The baseline sample of 2,067 nonminority graduates represented a 3.4 percent sample of the 61,518 medical school graduates of that group during the same five-year period.

The social benefits of these affirmative action programs is the issue of relevant concern. Are there benefits both to the minority communities and the nation as a whole? We believe we have shown startling gains, which can be explained as follows. These young minority physicians are meeting the urgent unmet medical needs of underserved minority communities, going into areas avoided by others, often into locations offering fewer financial benefits or status gains.

WILL THEY RETURN TO THE GHETTO?

In *Blacks, Medical School, and Society* (1971, 147–63), I devoted a chapter to this question that was and is commonly raised in debates over affirmative action as a valuable social policy. It was my position then, as now, that providing first-class medical educational opportunity to greater numbers

of qualified Blacks and other underrepresented minorities would result in improved health care in underserved communities since most minority physicians, especially Blacks, primarily treat Black patients. This is a consequence of racially segregated neighborhoods, in both the inner city and the suburbs, where both Black physicians and their patients live. Even though Black physicians have greater freedom in selecting the neighborhood in which they work and live, only a small minority would voluntarily choose both a practice location and a place to live far removed from their social support network. Without giving it conscious thought, most Black physicians realize that to build a practice, they need the help of family and relatives, friends, neighbors, the local church, and their Black colleagues who are physicians or other professionals. From my personal observations of Black physicians over a period of fifty years, less than 5 percent choose to avoid Black patients who would be referred to them. Even if the Black sets up an office in the downtown area, or a professional office building outside the Black community, he will usually have a predominantly Black patient caseload.

Black and White people in the United States have up until the present time lived in separate worlds, with separate histories from the era of slavery to the present time. Racially segregated housing and neighborhoods have served to isolate Blacks from mainstream American social, economic, and political opportunity, and left them with a burden of physical, psychological, and behavioral impairment thwarting their full developmental potential. Massey and Denton (1993) describe this national scourge that cripples all of our major metropolitan areas in *American Apartheid: Segregation and the Making of the Underclass*.

We have shown convincingly that minority physicians graduating from medical schools during the 1970s are tending to establish their practices in relatively low-income neighborhoods where their minority groups tend to live, bringing many new resources of medical care to these frequently blighted communities. A parallel demonstration has been made to show that their nonminority peers graduating in the same time period are predictably establishing their practices in predominantly White middle class communities, their communities of origin. For both groups it is our surmise that they are demonstrating the sociological determinants of professional behavior, the pressure of group conformity that is usually strong enough to override an individual's conscious choice. But if it is true that young professionals will tend to follow their own support groups, does this not give us another vantage point from which to answer the question: "Will they return to the ghetto?" In large measure both minority and nonminority physicians return to their respective ghettos. Not only does this speak

strongly for the necessity of creating an American professional class that reflects our national diversity, but it underscores the fact that there is considerable unfinished business in producing physicians who will without coercion freely choose to serve all the people, rich as well as poor; rural as well as urban; North, South, East, and West. In an earlier chapter I mentioned the strong plea by Fitzhugh Mullan, who decries the fact that American medical schools still graduate only about half the physicians required to fill the residency training positions offered by our hospitals. Having done so for half a century we have by now traditionally become dependent on the importation of foreign medical graduates while we refuse to admit more than half of the very able young Americans who apply to our medical schools each year (Mullan 2000). This may be one example of challenges we face in our aspiration to bring more equitable human services and not just medical services, to the American public, because of our reluctance to rely on strong national planning rather than free market choices.

History is the record of changes in social group behavior, and it reveals the predictable tendency of empowered groups to pass on their dominance to their children and thereby protect their vested interests. This history repeats itself until accidental developments present a crisis requiring a loosening up of the social hierarchy, particularly in a relatively open political society. Earlier chapters have traced the course of changes in the past fifty years: the field of medicine is no longer the exclusive preserve of White Protestant males from the middle class serving primarily its own interests but has opened up sequentially to Catholics; Jews; foreign medical graduates; women; Asians; and members of underrepresented ethnic minority groups, including Black Americans, changes that hold the promise of improving the health and life outcomes of all our citizens.

THE IMPACT OF AFFIRMATIVE ACTION IN MEDICAL SCHOOLS: PREVIOUS STUDIES

Keith, Bell, and Williams (1987) with support of the Association of American Medical College database followed the developing career pattern of the graduating class of 1975 up to 1982. The 714 minority graduates, a total sample, were compared with 1,862, or a 20 percent sample, of their non-minority classmates. Survey questionnaire data and American Medical Association physician profile information were used to measure outcomes. Their findings were, as confirmed in our study, that minority physicians were more often in primary care practices and were located twice as often in underserved neighborhoods with significantly more Medicaid patients. These were considered to be positive outcomes of affirmative action. Also,

while only 6.3 percent of the 1975 graduates were members of minority groups, this represented only one-half of the 12 percent target that the AAMC had set in 1970. Nonetheless, the number of minority graduates were several times the number or percentage of minority graduates in the decades before affirmative action.

Shortfalls of affirmative action, as perceived by Keith and colleagues, were the finding that only about 50 percent of the minority group were board certified in any field compared with 75 percent of the nonminority group. There seemed to be uncertainty as to whether or not it should be considered a positive outcome if these young minority physicians were in medical research or academic medicine, or were practicing in a predominantly nonminority community. Black patients constituted 56 percent of the patient population of the Black graduates, while all other physicians had only 8 to 14 percent Black patients. There was uncertainty about what might be considered the ideal proportion of Black patients who should have been on the caseload of the Black physicians. In other words, the integration of minority physicians in a profile of practice similar to all American physicians may have been considered incompatible with the aim of increasing access to better medical care for underserved minority communities.

In my view, these uncertainties reflect a fundamental confusion about the aims of affirmative action. As I mentioned in 1971 (162), our aim should be to provide a superior educational experience for minority and nonminority physicians. A racially and ethnically diverse learning experience would improve the future health care for the entire American community. Specifically, young Black physicians should not be required or encouraged to work only with Black patients. Black and White physicians should be comfortably competent in working with Black or White patients. From my personal experience and observations of colleagues, a Black physician who has a racially integrated circle of professional associates and friends will automatically have a racially integrated practice. An integrated education and training experience make this more likely, but it is not a common finding. Young Black physicians should be encouraged to exercise the same freedom of choice given all young physicians to enter any branch of medicine including all areas of specialty and all areas of teaching, research, clinical practice, or administration. A color-blind society is in my opinion the ultimate ideal: "With increasing desegregation in many areas of American life, and an increasing receptivity to a racially integrated society, it is most unlikely that Black and White health care systems and markets can be maintained, even if racist extremists attempt to keep these segregated systems artificially intact" (Curtis 1971, 162–63).

The story of Dr. Ben Carson illustrates this point (Carson 1990). He was raised in inner-city Detroit by a mother with a third-grade education who nonetheless inspired Ben and his older brother Curtis to become academic achievers. Both he and his brother, now an engineer, were below-average students headed nowhere, but at a certain point of time their mother insisted on their becoming regular visitors to the library and that they read two books a week. Surprisingly, after accepting this challenge a new world opened up for them (he was in the fifth grade at the time). By the time he was in the seventh grade he was the top student in his class. He won a scholarship to Yale in 1969, from which he graduated in 1973. He was accepted at the University of Michigan School of Medicine, graduating in 1977. He was one of the 2 out of 175 applicants accepted to Johns Hopkins neurosurgery residency program, which he completed in 1982. The following year he was made director of pediatric neurosurgery, a position he still holds, and he is an associate professor at the Johns Hopkins Medical School. Patients from all over the world seek him out because he has performed some of the most difficult and highly publicized successful operations on children. His professional career is certainly a fulfillment of affirmative action in medicine. He serves as an inspirational model not only for Black youngsters but all who struggle against great odds to fulfill their potential despite being born into extreme social and economic disadvantage.

Racially segregated neighborhoods are still the rule; it would require a high level of national, political, economic, and social leadership commitment to open up the national housing market and bring it to an end. Massey and Denton (1993) suggest ways this might be done, but as Nathan Glazer (1993), pointed out in his review of this impressive argument, "Massive redistribution of persons in our nation's ghettos would require government action on a scale that is simply not possible in a democracy." Given the fact that indices of segregation have grown or remained essentially intact in recent decades, and straightforward support of racial integration has given way to increased ethnic territoriality and polarization on both sides of the racial divide, no immediate end of ghetto communities seems to be in sight.

Given this state of affairs, it is encouraging to document the contribution to an improved society that can be made by affirmative action programs. Studies by Keith et al. (1987) and by Cantor et al. (1996) confirm our findings that minority physicians are bringing improved health care to minority people wherever they live. Cantor et al. made telephone surveys of large samples of minority and nonminority young physicians in 1987 and in 1991. In 1987 a sample of 2,344 was interviewed both in 1987 and in 1991;

another 2,237 were interviewed in 1991 only. Findings clearly demonstrated that minority physicians were several times more likely to serve minority, poor, and Medicaid patients, and this practice pattern was stable over the four-year period. Significantly more women served underserved populations. There were indications that, controlling for race and ethnicity, physicians from lower socioeconomic backgrounds more often served underserved communities. However, this was a weaker association than race. They concluded that substituting socioeconomic disadvantage for minority group status in affirmative action programs would seriously impair levels of service currently delivered to minority group communities.

Our findings are also similar to those reported by Komaromy et al. (1996), who surveyed 718 primary care physicians from fifty-one California counties in 1993 to examine the relationship between physician's race or ethnicity and characteristics of the patients they served. They found that communities with high proportions of Black and Hispanic residents were four times as likely as others to have a shortage of physicians, regardless of community income. Black physicians practiced in areas where the percentage of Black residents was nearly five times as high, on average, as in areas where other physicians practice. Hispanic physicians practiced in areas where the percentage of other Hispanic residents was twice as high as areas where other physicians practiced. Black physicians cared for significantly more patients whose insurance coverage was Medicaid, and Hispanic physicians treated more patients who were uninsured. The authors commented that dismantling affirmative action programs "may threaten health care for both poor people and members of minority groups in California." The findings were based on a random sample of 1,008 physicians who were surveyed, and the response rate was 71 percent: the physicians were 5 percent Black, 6 percent Hispanic, 1.6 percent Asian, and 73 percent White. Our data do not rely on survey responses but rather are taken completely from the AMA physician directory for 1994 and census data, as documented.

Moy and Bartman (1995) analyzed data from the 1987 National Medical Expenditure Survey to examine the relationship between physicians' race and the care of racial minority and medically indigent patients. All survey respondents were over eighteen years old and identified a specific physician as their usual source of care. This was a sample of 15,081, corresponding to a population estimate of 116 million Americans. Findings were that 14.4 percent identified a non-White physician as their main source of care; minority patients were more than four times more likely to receive care from a non-White physician than were non-Hispanic White

patients. Low-income, Medicaid, and uninsured patients also were more than four times more likely to receive care from a non-White physician than were non-Hispanic White patients. Low-income, Medicaid, and uninsured patients also were more likely served by minority physicians.

Minority physicians also treated patients who reported worse health, more emergency room visits, more hospitalizations, more acute or chronic complaints, more functional limitations and psychological symptoms, as well as longer visits. Moy and Bartman point out that non-White physicians are therefore particularly vulnerable to being financially penalized by caring for such patients, who, along with their doctors, would be avoided by capitation medical care arrangements. In that study there were 2,446 non-White physicians, and 12,685 White physicians. Patients of the two largest non-White physician groups, 648 Blacks and 926 Asians, were examined separately.

Moy and Bartman mention that AAMC surveys of medical school graduates report that minority physicians reported disproportionate plans to serve their own group but not other minority groups. In contrast, their study demonstrated that “both Black and Asian physicians were more likely to care for minority patients outside their own minority group” (1517). Controlling for physician sex, specialization, workplace, and geographic location did not affect their findings. Their study could not identify the reasons why non-White physicians are more likely to care for minority, medically indigent, and sicker patients. Because we have no survey or interview data in our study, we also are unable to determine the motivations for practice locations of our samples, but we present the bare facts that our minority physicians tended to practice in underserved areas.

The question would arise as to whether or not a race-neutral medical school admissions policy might not produce graduates who would tend also to practice in underserved areas. Candidates for medical school admission might be selected because their slightly lower than average grade point averages and test scores might reflect adverse life circumstances.

One study shows that a race-neutral affirmative action program produces a quite different outcome. During the twenty-year period 1968 to 1987 the University of California at Davis admitted 20 percent of its students, a total of 356, as special consideration admissions. Special admissions were defined as a race-neutral group that included students with less than a GPA of 3.0 (4.0 scale) and/or an MCAT average score less than 10 for the four test subscores; this group was matched with students admitted under regular admission criteria.

The special group contained 33 percent who did not meet the mini-

mum GPA for regular admissions, 44 percent who did not meet minimum MCAT scores, and 23 percent who met neither. In background the special admission students were 35 percent women; 46 percent non-Hispanic Whites; 42.7 percent underrepresented minority groups in categories of Black, Native American, Mexican American, mainland Puerto Rican; and 11 percent Asian and minority groups not included in the previous categories. Among the regularly admitted students, only 4.0 percent were underrepresented minority students. Graduation rates were the same for special admission and other students, nor was there a difference in their postgraduate training choices, their specialty certification status, or their description of patients served. This indicates that race-neutral affirmative action based on lower GPA and/or MCAT scores does not predict future specialty or medical practice experience (Davidson and Lewis 1997).

DEMOGRAPHIC DIFFERENCES OF OTHER BLACK PATIENTS

The Census Bureau released statistics on Blacks and Whites comparing households in February 2000 to coincide with Black History Month (more complete statistics on this topic were made available on the Census Bureau's website <www.census.org>). Some of these findings provide a valuable frame of reference in understanding social gains that Black physicians are contributing to their people and to the nation. Many more Black households are headed by a woman without a partner living at home. Married couples head 47 percent of the 8.4 million Black households, 45 percent or 3.8 million are led by a lone woman, versus a similar situation for 13.0 percent of the nation's 53.1 million White households.

Overall the Black population is also younger: 33 percent of the 35 million Blacks are age eighteen or younger, compared with 24 percent of American's 193 million Whites. It is anticipated that the Black population will rise to be 59.2 million in the year 2050, a 70 percent increase, at which time the Black share of the total population would have increased slightly from 13 percent to 15 percent. In education, 77 percent of Blacks age twenty-five and over had completed a high school education, while 15 percent had bachelor's degrees. Among comparable Whites, high school graduates are 88 percent, and 28 percent have a college degree or higher. More than 55 percent of Blacks live in the South, and more than 86 percent live in cities or surrounding suburbs (i.e., metropolitan areas), both more than is the case for Whites. Our findings on the geographical distribution of minority versus nonminority physicians show that the minority physicians are making valiant efforts to meet the health care needs of their people,

and that even specialty choices such as the high prevalence of specialists in OB-GYN and in pediatrics mirror these health care needs.

Freeman and Payne, in an editorial in the *New England Journal of Medicine* (2000), called attention to the “growing body of compelling and disturbing evidence” pointing to inferior health care for Black Americans, “even if they are on equal economic footing with Whites.” Differences both in access to treatment and quality of care are “at least part of the reason why the rates of death from some diseases are higher among Blacks than among Whites.” Particular attention is called to the fact that Black and Hispanic patients with severe pain are not able to obtain adequate pain relief because pharmacists in minority communities do not stock standard supplies of opiate medications. Why do they not supply these medications? Because they believe that opiate addicts abound in these neighborhoods, that they will be burglarized and ripped off by addicts desperate to obtain drugs, and that it is simply safer not to have opiates in stock. The end result is that the vast majority of the minority community cannot find a drugstore that stocks opiate painkillers prescribed by their physicians. This is a medical version of racial profiling, which is even more lethal in its consequences for patients suffering from a terminal illness like cancer that often causes unimaginable misery and pain. Blacks have a higher-than-average incidence of cancer, and higher rates of death from cancer than any other ethnic group.

The problem goes far beyond terminal cancer. As Freeman and Payne point out, pain that is a sequel to bone fracture or to postoperative surgery of any kind results in the same kind of medical racial neglect.

Lower cancer survival rates for Blacks compared with Whites results from the fact that Whites are treated in earlier stages of their illness, when it is more curable, a finding that stands despite income parity between Whites and Blacks, or even without regard to their insurance coverage, or access to care. Even Blacks who need renal transplants for chronic kidney failure receive such organ transplants less often than Whites—again without respect to income. In the presence of life-threatening coronary artery disease, diagnostic evaluations for symptoms indicating the need for bypass surgery are less often completed for Blacks than for Whites of comparable economic class. It is a common thread, Freeman and Payne conclude, that “physicians, as well as pharmacists, police officers, and others, must learn to see people not through the lens of race but instead as the individual persons they are.” This is the challenge of affirmative action in medicine—and this is a challenge our young minority physicians are willing and now able to accept.

SPECIAL PROBLEMS FOR BLACK PHYSICIANS

In 1944, when Gunnar Myrdal wrote "The Negro Problem," he mentioned the particular plight of all Negro business and professional men (322–25). Their exclusion from the larger White market forced them to try to maintain a monopoly over the Negro market. "On the one hand, they find the caste wall blocks their economic and social opportunities. On the other hand, they have, at the same time, a vested interest in racial segregation since it gives them what opportunities they have." Furthermore, "The poverty of the Negro people represents a general limitation of opportunity for Negro businessmen and professionals." These were factors that explained the common observation that Black physicians opposed the development of health clinics in their neighborhoods, despite the obvious need, because these public-health-operated clinics threatened their income. The lack of opportunity to pursue postgraduate training also kept them in a weakened competitive position with White physicians. There were a number of small private Black hospitals in several large urban centers, but in many parts of the South even segregated hospital wings employed only White physicians. In the 1940s Myrdal cited Harlem Hospital Center in New York City as being one of the few examples in the nation where Black and White physicians worked as professional equals in the same hospital.

By 1958 most of these all-Black hospitals were closing down. Black physicians were beginning to get appointments to the medical staffs of White hospitals, and training programs were beginning to open up. These trends have continued. We are now faced with a situation in which not only Black hospitals, but all of the large public hospitals in large urban centers, have already closed or are on the verge of financial collapse.

A case in point is Harlem Hospital Center in New York City, where I was chief of the psychiatry and substance abuse service for almost twenty years. Patients in Harlem do not primarily rely on physicians in private offices; rather they go to hospitals for medical care. In the past they came mainly to Harlem Hospital for general and specialist care. When I arrived in 1982, that hospital had approximately 1,000 beds. In the spring of 2000, the bed capacity was down to 325, and occupancy rates were still problematically low. Even in the psychiatry departments our beds had increased from 53 to 88, but we fell back to 66 beds in May 1998 when our shortened length of stay left us with low occupancy rates. Our residency training program with thirty-four trainees was reduced to seventeen in the year 2000, and the physician attending staff dropped from forty to thirty-five, despite the loss of resident physicians. Other clinical departments suffered an even greater

loss of physician and resident staff: Medicine, Surgery, Pediatrics, OB-GYN, and Ambulatory Care. Indices of health care need in central Harlem showed no dramatic improvement: It still had greater health needs than other parts of the city. It also had the greatest number of people, perhaps as many as a third, who had no health care insurance coverage of any kind. Harlem Hospital meantime is operated only on funds it collects primarily through Medicaid (50 percent federal, 25 percent state, and 25 percent city dollars). With the advent of a managed care medical market the future survival of Harlem Hospital and other municipal hospitals is in doubt.

What will this mean in terms of the continued provision of first-rate health care in central Harlem, and first-rate residency training opportunities for Blacks and Hispanic physicians? The answer is clear. The patients already are preferring to go to private voluntary hospitals in neighboring parts of Manhattan. Certainly all patients with any insurance coverage are sought after by New York Presbyterian Hospital, St. Lukes Hospital, and Mt. Sinai Hospital. A small predominantly Black private voluntary hospital in central Harlem, North General Hospital, well staffed by well-trained Black physicians for the most part, is also fighting for fiscal survival.

Who then will train Black residents who have provided a major part of medical care under physician attending supervision? The private voluntary predominantly White hospitals will do so. In my past two decades running a residency training program at Harlem, training close to 250 young physicians, only 6 were African American. Approximately 70 percent were Blacks, but they came from Haiti or other Caribbean countries, or the West African nations. The remaining 30 percent came from India, Pakistan, the Philippines, and several from Russia. It is primarily from these foreign medical school graduates that we recruited many of our physician attending staff as well, although our attending staff has always consisted of as many as one-third who were African American. Blacks graduating from U.S. medical schools for the past two decades have preferred to accept training appointments at the more prestigious teaching hospitals either in New York or other large urban centers.

With this desegregation of medical education and postgraduate training, and medical care, will there be any assurance that these opportunities will remain open? Will Black patients and Black physicians encounter racial prejudice and unfair treatment in these neighboring medical institutions? The future prospects are not so certain as is the actual loss of a predominantly Black medical institutional presence in central Harlem. This brings us to the final chapter, "The Future of Affirmative Action in Medicine." It is my concern that we may be desegregating faster than we are integrating.