Articles

The Health Status of Minority Populations in the United States

HERBERT W. NICKENS, MD, MA, *Washington, DC*

There is increasing national recognition that while our nation's health care system is the most expensive in the world, the health care status of Americans overall ranks poorly compared with other Western, industrialized nations. In the United States we tend to look at minority-majority variations of health status, as well as the variations of many other indicators by race or ethnicity, because race and ethnicity are particularly important components of our society. In general, health status indicators of minority Americans are worse than those of whites. In some locales, death rates of minority Americans are comparable to those of Third World nations. At the same time, minority Americans make up a rapidly increasing proportion of the nation's population and work force. Our baseline national data on some minority groups, however, currently are inadequate to detect shifts in health status. Finally, the rapidly expanding problem of the acquired immunodeficiency syndrome among some minority populations provides both an imperative and an opportunity to learn how model prevention programs should be designed and executed.

(Nickens HW: The health status of minority populations in the United States. West J Med 1991 Jul; 155:27-32)

Racial and ethnic minorities in the American context denote those that are a small proportion of the overall population; are socioeconomically disadvantaged; have a history of past discrimination in the United States; and are people of color, that is, not European, not white. Despite the history of discrimination and oppression against those of European origins such as Irish Americans, there persists a particular intensity about caste status associated with "colored" minorities.

While a detailed discussion of the history of each US minority group is far beyond the scope of this article, each group and subgroup has associated historical variations on the above five characteristics. There are also variations by geographic location within the United States. For example, the status of and the prejudices against African Americans have different characteristics than those against Mexican Americans, and the biases against the latter group are much more intense in certain areas of the Southwest than in other parts of the country.

It is only because of the intense national emotional investment—positive and negative—in matters related to our minority populations that a treatment of minority health has meaning. Were our nation not already attuned to divisions into minority and majority, it might make more sense to analyze health status using other independent variables such as socioeconomic status, with racial and ethnic variables occupying a more secondary status. In that case, our health surveillance systems also would be programmed to gather data by income, education, and occupation, and race could be of more peripheral interest.

The central point is that minority status is overwhelmingly a part of our social and cultural system and our history; the fact that health status varies by race is also a consequence of our social and cultural system and history. The genetic factors in minority health are negligible. Unfortunately, there is also a long and checkered history associated with the use of "inherent" inferiority serving as a justification for the inferior status attributed to a wide variety of groups, including American white immigrant groups. Often this genetic inferiority has been imputed to affect intelligence or moral elevation. Once again, this misuse of genetics has been in the service of contemporary social, economic, or cultural purposes.

With regard to minority health, the evidence suggests that the contribution of genetic susceptibility to minority health disparities is relatively small. The genetic cause of sickle cell disease is clear, but sickle cell disease is not a major contributor to mortality rates among African Americans. Hypertension among African Americans and non-insulin-dependent diabetes mellitus among Latinos and Native Americans probably do have a genetic component. Even in these last examples, however, where there may be a genetic predisposition, the development of disease is far from inevitable. Moreover, many minority populations have mixed with other groups. African Americans, for example, have historically been rigidly categorized as such, despite clear phenotypic evidence of commingling between African Americans and whites. Therefore, genetic screening and counseling do not offer much promise for improving minority health status and carry the stigma of eugenics.

There is another political aspect of minority health status. The health status of minorities varies widely, both within and among groups. While it might seem logical that those with better health status would find this good news, in fact, it often is perceived as possible evidence that a particular group does not need assistance. This is particularly true for groups whose health status may be relatively good but whose other indices of well-being such as educational attainment or income may show considerable disadvantage.

Minority Health Status

There are four generally recognized minority groups in the United States: Asians and Pacific Islanders, African Americans, Latinos, and Native Americans. While these

From the Division of Minority Health, Disease Prevention/Health Promotion, Association of American Medical Colleges, Washington, DC.

Reprint requests to Herbert W. Nickens, MD, MA, Vice President for Minority Health, Disease Prevention/Health Promotion, Association of American Medical Colleges, One Dupont Circle NW, Washington, DC 20036.

ABBREVIATIONS USED IN TEXT

AIDS = acquired immunodeficiency syndrome
DHHS = [US] Department of Health and Human Services
HIV = human immunodeficiency virus
NIH = National Institutes of Health

four groups combined constitute about one of five Americans, their population growth is substantially greater than that of whites. It is estimated that by year 2020 about 40% of school-aged Americans will be minority children.[1,2] The term "minority" falsely suggests a homogeneous group of nonwhites. The reality is extraordinary diversity both within and among minority groups that resists parsimonious categorizations. In certain locales such as California and New York City, well-developed racial and ethnic communities make this diversity apparent.

It has long been known that the health status of African Americans in the United States is much worse than that of whites. This was documented at least as far back as 1906 by W.E.B. DuBois in his report, *The Health and Physique of the Negro American.*[3] There have been occasional studies since DuBois's that reported the disparity between African-American and white health statuses in America, and the federal government's statistical reports have for many years divided health data into nonwhite (the vast majority of which historically were African American) and white, and more recently into either black, white, and other, or black, non-Hispanic white, and Hispanic.

The 1985 Report of the US Department of Health and Human Services (DHHS) Secretary's Task Force on Black and Minority Health was a landmark document. The Secretary's Task Force Report was distinctive from previous reports in these ways:

- It focused on all four of the major minority groups in the United States as well as the white population, in keeping with the increasing racial and ethnic diversity of the United States;
- It was prepared under the aegis of the National Institutes of Health (NIH) and drew its chair and much of its staff from that federal body;
- It used the somewhat more dramatic statistical presentation of "excess deaths" rather than the usual comparison of death rates, bringing home the message that these were lives lost that would not have been lost had minority death rates been the same as those of the white population;
- It was launched by a DHHS secretary in a conservative Republican administration, thus acquiring a legitimacy that would be less likely if either a nonfederal sponsor or a more liberal administration had commissioned the study;
- The report's sheer weight (about 3,000 pages) and its thoughtful analysis of the various causes of death established a new high-water mark for academic rigor brought to bear on minority health issues and introduced more forcefully than ever the issues of health promotion and disease prevention into strategies about the health of these populations; and
- The thrust of the report was such that a highly visible Office of Minority Health was created in DHHS to advocate for and oversee the implementation of the task force's recommendations.

TABLE 1.—*Net Excess Deaths by Minority Group**

Variable	African Americans No. (%)	Latinos No. (%)	Native Americans No. (%)	Asians No. (%)
US Population, No. (%)†...	26.1 (11.5)†	14.5 (6.5)†	1.5 (<1)†	3.7 (1.6)†
Excess deaths, No. (%)....	58,942 (42)	≈7,000‡ (10)	1,042 (22)	−819 (14)

*From US Department of Health and Human Services.[5] Excess deaths are calculated as an average of the years 1979 to 1981. Excess deaths = the number of deaths actually observed before age 70 minus the number of deaths that would be predicted when age- and sex-specific death rates of the US white population are applied to the minority population.

†1980 United States census population, in millions.

‡These are rough estimates made from Texas-surname data, and Mexican/Cuban-born data. They are provided to give some idea of the order of magnitude of excess deaths in Latino populations.

Demographics and Health Status of Minority Populations

Some of the mortality rates and other health-related data presented in this article are drawn from the task force's report; all of the excess death calculations are from that source. The data from the task force are in some cases a decade old. It is regrettable that while the report did stimulate greater awareness of the importance of information on minority Americans, that interest has only partially been reflected in data collection policies and funding levels. Data on minorities other than African Americans are still unacceptably sparse. The task force data on non-African-American minorities were generated from special data runs and analyses that were commissioned. The data from the task force will be used here only to sketch broad patterns of mortality and morbidity and the relative health status among minority and majority populations. All indications are that, with the exception of the acquired immunodeficiency syndrome, these have changed little. While it is true that the crack cocaine epidemic has effected a qualitative and quantitative intensification of urban drug abuse, its effects on mortality have been insubstantial and indirect. Indirectly, crack cocaine use has also contributed to increased homicide rates (discussed later) and plays an increasing role in human immunodeficiency virus (HIV) transmission, particularly because of the exchange of sex for drugs. There is no doubt that crack cocaine use has also caused substantial morbidity because of its erosion of the social fabric through the disintegration of families and corruption due to the profits of the drug business.

Asians and Pacific Islanders. Asians and Pacific Islanders are currently the fastest-growing population in the United States, with an increase in population of 141% from 1970 to 1980 compared with an increase of 17% for African Americans, 39% for Latinos, and 12% for the overall population.[4] Asian and Pacific Islander populations are heterogeneous. They include well-established Asian-American populations that are more likely to be born in the United States, such as Japanese and to a lesser extent Chinese and Filipinos. Asian-American populations of Japanese, Chinese, and Filipino origins are of similar size and together constitute three of five Asian Americans. The balance of Asian Americans are approximately evenly divided among those of Asian-Indian, Korean, and Southeast Asian origins; a large number of Southeast Asians have immigrated to the United States as a result of the Vietnam War. The median family income for Asians and Pacific Islanders is higher than that for other minority groups and whites,[4] although this figure may be artificially inflated because of a larger number of workers per household. As calculated in the Secretary's Task Force Re-

port, the excess death rate of Asians and Pacific Islanders was −14% (see Table 1 for all excess death rates).[5] This means that in the aggregate, Asians and Pacific Islanders have lower mortality rates than does the white population.

There are subgroups of Asians and Pacific Islanders, however, that have considerable socioeconomic and health problems, particularly the newly arrived refugee and immigrant populations from Southeast Asia. For example, the Vietnamese have an average family income that is about half that of the Asian and Pacific Islander population as a whole. Southeast Asians have high rates of diseases associated with poverty, such as tuberculosis. Surges in the national tuberculosis incidence have been linked to a sudden influx of refugees from Kampuchea, Laos, and Vietnam. These groups also account for Asians and Pacific Islanders having the highest rate of tuberculosis of any racial or ethnic group in the United States. The trend for tuberculosis among Asians and Pacific Islanders, however, is down (along with that for Native Americans and whites) but that for African Americans and Latinos is up, probably due to the HIV-tuberculosis connection in the last two groups.[6]

African Americans. African Americans are currently the largest minority group in the United States. Diversity within African Americans is less overt than among other minority groups because of the homogenizing effect of the long-standing African-American presence in America, with less contribution from recent immigration compared with that of Asians or Latinos. Approximately a third of African Americans live below the poverty level, and unemployment among African Americans has been about twice that of whites for at least the past 50 years. On the other hand, the African-American middle class has increased substantially in the past 15 years.

Mortality rates among African Americans are higher than those of the other three minority groups or whites. They are about 50% higher than those for whites, and the excess death rate calculated in the task force's report was 42%.[5,7] It is even more disturbing that since the task force's report, life-expectancy rates for African Americans and whites have been diverging: those for blacks in 1985 and 1986 actually decreased and were unchanged for 1987, and those for whites increased for those years.[7] A recalculation of the excess death rate using these data would, therefore, show an increase. It is too soon to know whether these data portend a longer term trend of divergence between African-American and white mortality rates; clearly they indicate that the gap is not closing. The ratio of black-to-white death rates for the past 40 years (Figure 1) shows no impressive improvement, though African-American women do display some gains relative to white women. Infant mortality rates, often seen as a key indicator of overall well-being, have in the past 40 years decreased much more rapidly for whites than for African Americans: African-American rates were 164% of those for whites in 1950, 208% by 1987.[7]

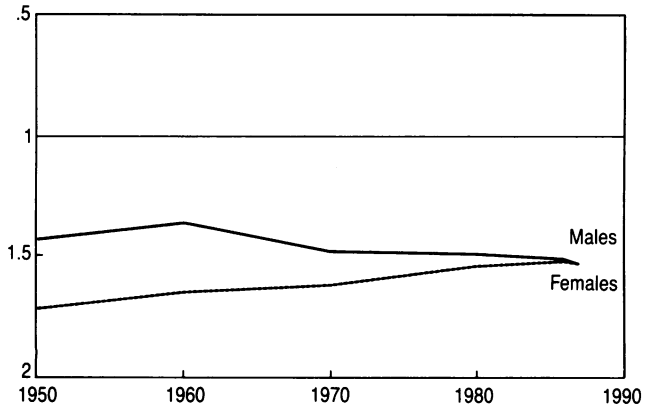

Figure 1.—The ratio of African American-to-white death rates for all causes, 1950 to 1987, is shown.

Latinos. Latinos are the second largest minority in the United States. As with Asian Americans, Latinos come from different countries of origin. Three fifths of Latinos are Mexican in origin, about 15% are from Puerto Rico, 6% from Cuba, and the rest from Central America, South America, and from other Hispanic origins.[8] Latinos also are diverse with regard to socioeconomic status measures, circumstances under which they came to the United States, and levels of acculturation.

Complete national vital statistics for Latinos are currently unavailable because "Latino" is not a racial category, and data on Latinos are gathered by some states or cities but not others. As reflected in available mortality rates, however, the health status of Latinos in the aggregate appears to be remarkably good, much more similar to that of the white population, and much better than for the African-American population. This overall conclusion is supported by recently published data[9] and by a number of studies: the task force studied death rates of three different Latino populations (US Cuban- and Mexican-born citizens, and Texas Spanish surname); a review of studies on Southwestern Latinos, most of whom were Mexican American[10]; and a review of mortality rates of Mexican Americans and Puerto Ricans in Chicago.[11] An additional feature raised by the last study is the implication that Puerto Rican health status is worse than that of Mexican Americans though still better than that of African Americans.

Because the overall health status of Latino populations is remarkably good, despite the fact that the overall poverty rates of Latinos and African Americans are similar, Latino health status has been dubbed an "epidemiologic paradox."[10] Because of the lack of national data, the task force could not calculate a national excess death rate for Latinos. For the three Latino populations described earlier for which the task force gathered data, the excess death rates were 2.2%, 7.2%, and 14%, respectively. To begin to answer many of the research questions raised by the "paradoxical" nature of Latino health status, it will be important not only that national data be collected but that the data be broken out for the major subgroups within the Latino population.

Native Americans. Native Americans are the smallest and perhaps most diverse of all American minority groups. About 1.6 million Native Americans are distributed among almost 500 tribes and village units. Overall, Native-American poverty rates are similar to those of Latinos and African Americans. Native Americans had the second worst excess death rates of any of the minority groups and whites. Their excess death rate was 22%, and 87% of those excess deaths occurred before age 45, with relatively low death rates from chronic diseases except for diabetes mellitus. Among many tribes, alcohol abuse, suicide, and high death rates from unintentional injuries and interpersonal violence decimate the young Native-American population.

Patterns of Mortality

Six categories of diseases cause the overwhelming major-

TABLE 2.—*Causes of Death Patterns of Minority Groups**

Disease/Problem	Death Rate Higher Than Whites: African Americans	Latinos	Native Americans	Asian/ Pacific Islanders
Cancer	X	...	...	...
Cardiovascular disease	X	...	...	...
Chemical dependency	X	X	X	...
Diabetes mellitus	X	X	X	...
Infant mortality	X	...	X	...
Violence	X	X	X	...
Homicide	X	X	X	...
Suicide	...	...	...	...
Unintentional injury	X	X	X	...
AIDS/HIV disease	X	X	...	...

AIDS = acquired immunodeficiency syndrome; HIV = human immunodeficiency virus

*From the US Department of Health and Human Services.[5,7,9]

ity of excess deaths in minority populations: cancer, cardiovascular disease, chemical dependency (measured by deaths due to cirrhosis), diabetes mellitus, infant mortality, and violence. The relative importance of these six varies from group to group (Table 2). The most important contributor to the health status differential between African Americans and the other minority populations is the fact that only African-American populations suffer excess deaths from cardiovascular disease and cancer, the leading causes of death in America.

The causes for African Americans' higher rates of cancer and cardiovascular disease as compared with whites are not completely understood. The higher smoking rate of African-American men is certainly important; smoking among minorities will be discussed later. A second important factor is the higher prevalence of hypertension among African Americans. Despite some improvement, African-American adults still have a higher prevalence of hypertension than whites; African-American men have levels somewhat higher than those of white men, and the levels of African-American women are similar to those of African-American men, a prevalence 50% higher than that of white women.[7]

Issues for Special Consideration in Minority Health Status

Acquired Immunodeficiency Syndrome (AIDS)

Since the task force report, AIDS has become an increasingly important cause of death in the United States. The cumulative prevalence rates of AIDS among African Americans and Latinos are approximately three times those for whites. Native Americans and Asians and Pacific Islanders have thus far not shown rates of AIDS in excess of those among white Americans. Homosexual-bisexual men still account for most reported new AIDS cases, but rates of increase of new AIDS cases due to homosexual or bisexual transmission are lower than the rates of increase of transmission among intravenous drug users, their sexual partners, and their children.[12] As has been the case since the beginning of the epidemic, these last HIV transmission patterns are ones in which African Americans and Latinos predominate. This has two implications that need to be highlighted:

- Because AIDS statistics are usually given with all cases reported since the epidemic began in 1981 as the denominator, emerging trends are not obvious. African Americans and Latinos, however, represented 25% and 14%, respectively, of the first 25,000 cases of AIDS (through September 1986)[13] but 32% and 17%, respectively, of the approximately 24,000 cases reported in the first six months of 1990.[14] Therefore, it is virtually certain that the proportion of persons with AIDS who are minority will increase in the future, becoming more than half of new cases in the 1990s.
- Among African Americans and Latinos, AIDS is a disease afflicting a substantial number of men, women, and their children, thus attacking the family unit, already a beleaguered institution in both groups because of high rates of separation, divorce, and children born to single women. Moreover, many of these same men and women are also plagued by intravenous drug or crack use. In many cities an increasing number of children are being abandoned or orphaned by mothers and fathers who are dead or dying of HIV infection or rendered dysfunctional by drug abuse.

Homicide

African-American homicide rates for many decades have been several times those for whites. African Americans' ratios of homicide rates are currently 7.0 and 4.2 times those for white men and women, respectively.[7] The data available indicate that rates of homicide for Latinos and Native Americans are in between those for African Americans and whites.[5,15] In general, within any population, homicide rates for men are much higher than those for women, and homicide rates for American whites are several times higher than those of other industrialized nations.

Historically, homicides typically occurred among young people in their teens and 20s, with the victim and assailant acquainted, where one or both of the parties had ingested alcohol or other drugs, with the homicide arising out of an argument, and the principal weapon being a firearm. In recent years, urban warfare using automatic weapons waged over turf and the control of illicit drug distribution has added a new element to this pattern. Fluctuations in the number of homicides occur in part because of the rise and fall of the proportion and number of young people in the population. In the next few years, the number of homicides may rise precipitously, above the post-World War II peak of 24,278[16] in 1980, because of the "baby boomlet" combined with urban drug- and gang-related conflict.

Homicide and interpersonal violence increasingly are being redefined as a public health rather than a criminal justice problem. Unlike many other important causes of mortality and morbidity, however, homicide and violence are overwhelmingly caused by social and psychological forces and carry substantial stigma and dread, making dispassionate assessment or intervention very difficult. This stigma is the result of several factors:

- Our society is intensely ambivalent about violence, viewing it as just and heroic in some contexts but abhorrent and primitive in others;
- Historically, violent revolts on the part of Native Americans, African Americans, and (at certain points in American history) Latinos have been a source of intense dread and danger for European Americans;
- There is a long-standing association of high rates of homicide with minority Americans, particularly African Americans; and
- Homicide victims and perpetrators are overwhelm-

ingly of the same race, which when combined with the higher rates among minorities, adds an element of self-destructiveness.

This issue of stigma is also reflected in the long-standing debate about the etiology of high homicide rates for African Americans. Possible causes range from a purported "subculture of violence" to hypotheses in which the effects of poverty and societal racism are given primacy.[17] While intellectually the two ends of this causal spectrum are not inherently mutually exclusive, the proponents for and the context in which these two categories of explanations are raised tend to be. Unfortunately, discussions about etiology too often contain strong elements of debating the question, "Whose fault is this, really?" Thus, despite the fact that homicide and interpersonal violence are increasingly seen as public health problems and, therefore, amenable to prevention, because of the sensitivity of this topic, progress to develop and evaluate model prevention programs has been slow. More vigorous development of programs must take place, but because of the considerations mentioned, scrupulous attention must be paid to community sensitivities when violence prevention programs are designed.

Tobacco

Tobacco has been identified as the most preventable cause of mortality in our country. African-American and Latino men have substantially higher smoking rates than white men (about 40% versus 30%, respectively).[7,18] African-American women smoke at rates similar to those of white women, while Latino women smoke at lower rates. Asian and Native American data are less complete. What gives smoking particularly sinister overtones is the targeting of minorities by tobacco companies for special marketing attention.[19] This takes the form of large numbers of billboards in minority communities, advertisements in ethnic publications, and support of African-American and Latino cultural events and organizations. The US Secretary of Health and Human Services publicly criticized R.J. Reynolds for its planned introduction of Uptown, a brand of cigarettes that admittedly was targeted toward African Americans; Uptown was withdrawn. Tobacco particularly is singled out for this kind of critcism because it is probably the only legal product that is a serious health hazard even when used as intended. Because of the decades-long lag time between initiation of smoking and onset of disease, the current high smoking rates among Latino men, combined with apparently low current rates of lung cancer and other smoking-related disorders, offer a clear opportunity and imperative to intervene.

Poverty

Throughout history, lower socioeconomic status has been associated with higher rates of mortality. Socioeconomic status tends to be measured by some combination of occupation, income, and educational attainment. On all three of these indices minorities tend to be of lower socioeconomic status than whites. In general, minorities have substantially lower incomes than whites. In 1987 the poverty rate was 33.1% for African Americans and 28.2% for Latinos, compared with 10.5% for whites.[20] Income is an important determinant of socioeconomic status, and socioeconomic status is a powerful variable in health and behavior patterns.[21] In general, minorities have lower levels of educational attainment than whites.[22] For example, higher rates of risky health behaviors such as cigarette smoking correlate inversely with education and hence with socioeconomic status.[23]

Adverse health indicators may correlate inversely with socioeconomic status, but it is not always possible to disentangle the effects of occupation, income, and education. In addition to its relationship with socioeconomic status, lower educational attainment has other direct implications for health. For example, lower educational attainment decreases the ability to comprehend written information and instructions from physicians, health care facilities, third-party payers, and on medications. Since a great deal of our health care system is organized around the assumption of literacy in English, many minority populations cannot effectively gain access to and use health care.

Despite the importance of socioeconomic status on health status, when the relative health status of minority populations is examined, it does not simply correlate with their socioeconomic status. Socioeconomic status may operate in minority populations with a time component. It may be that populations that have been poor in the United States over several generations without substantial progress up the socioeconomic ladder, suffering continual discrimination and frustration, are likely to feel much more powerless and will have a very different perception of their lot than newly arrived immigrants who are poor but still hopeful. There is evidence that southern California Latino women have poorer birth outcomes after they become more acculturated.[24]

Health Insurance

Having health insurance is an important factor in health status, but about half of African Americans and Latinos under 65 are uninsured or are covered by Medicaid versus about one in five whites. The proportion of all Americans under 65 who are uninsured has increased in the decade between 1977 and 1987; African Americans and Latinos accounted for 50% of that increase. Of those under 65, 15% of whites, 25% of African Americans, and 35% of Latinos are uninsured.[25] Minorities are disproportionately uninsured because the United States has no national system of health insurance that would "level the playing field" so that all socioeconomic levels of the population possess a means to pay for care. While there are high-income persons who lack health insurance, uninsured persons in our society are overwhelmingly low-income, whether employed or not. Moreover, minorities are also dramatically overrepresented among those on Medicaid. It is now well understood that Medicaid probably provides inadequate access to inpatient care.[26] Medicaid reimbursement is also particularly low for outpatient care, which is essential for the best management of the chronic diseases that are the major killers of all Americans and is increasingly essential for management of the spectrum of HIV-related diseases.

Comment

At the outset I asserted that the topic of minority health has moment because of the intensity and persistence of the conflicts in American society regarding our nation's minority populations of color. If this formulation is true, then minority health will also remain a "hot" topic until preoccupation with race diminishes or the health status of minority populations comes to parity with that of whites. Neither of these seems likely.

If anything, overt racial conflicts have increased in the United States. Moreover, current trends do not suggest that overall minority-majority health status gaps are closing. For the foreseeable future, therefore, minority health will continue to be an arena of struggle and conflict that will contain elements of public health and medical science on the one hand but group striving and politics on the other.

REFERENCES

1. Table T:14. Current Population Reports, Series P-25, No. 995. Washington, DC, US Bureau of the Census, November 1986

2. Table 1:12. Current Population Reports, Series P-25, No. 1022. Washington, DC, Bureau of the Census, US Dept of Commerce, March 1988

3. DuBois WEB: Health and Physique of the Negro American. Atlanta, Ga, Atlanta University Press, 1906

4. Gardner RW, Robey B, Smith PC: Asian Americans: Growth, change, and diversity. Populat Bull 1985; 40:1-43

5. Report of the Secretary's Task Force on Black and Minority Health—Vol 1, Executive Summary. Washington, DC, US Department of Health and Human Services (DHHS), August 1985

6. Centers for Disease Control (CDC): Update: Tuberculosis elimination—United States. MMWR 1990; 39:153-156

7. Health, United States, 1989. DHHS publication No. (PHS) 90-1232. Hyattsville, Md, National Center for Health Statistics, Public Health Service, 1990

8. Persons of Spanish Origin in the United States: March 1985. Current Population Reports, Series P-20, No. 403. Washington, DC, Bureau of the Census, US Dept of Commerce, 1985

9. Health, United States, 1990, DHHS publication No. (PHS) 91-1232. Hyattsville, Md, National Center for Health Statistics, Public Health Service, 1991

10. Markides KS, Coreil J: The health of Hispanics in the southwestern United States: An epidemiologic paradox. Public Health Rep 1986; 101:253-256

11. Shai D, Rosenwaike I: Mortality among Hispanics in metropolitan Chicago: An examination based on vital statistics data. J Chronic Dis 1987; 40:445-451

12. CDC: Table 3. HIV/AIDS Surveill Rep 1990 Jan-Jul

13. CDC: Acquired immunodeficiency syndrome (AIDS) among blacks and Hispanics. MMWR 1986; 35:655-656

14. CDC: Table 5. HIV/AIDS Surveill Rep 1990 Jan-Jul

15. CDC: Homicide Surveillance: High risk racial and ethnic groups—Blacks and Hispanics, 1970-1983. MMWR 1987; 36:634-636

16. Report of the Secretary's Task Force on Black and Minority Health—Vol V: Homicide, Suicide, and Unintentional Injuries. Washington, DC, US DHHS, August 1985

17. Griffith EE, Bell CC: Recent trends in suicide and homicide among blacks. JAMA 1989; 262:2265-2269

18. Haynes SG, Harvey C, Montes H, Nickens HW: Cigarette smoking among Hispanics: HHANES, 1982-1984. Am J Public Health, in press

19. Davis RM: Current trends in cigarette advertising and marketing. N Engl J Med 1987; 316:725-732

20. Money Income and Poverty Status in the United States: 1987, Series P-60, No. 1671, Washington, DC, Bureau of the Census, US Dept of Commerce

21. Haan MN, Kaplan GA: The Contribution of Socioeconomic Position to Minority Health, *In* Report of the Secretary's Task Force on Black and Minority Health: Vol. 2, Washington, DC, US Dept. of Health and Human Services (DHHS), August 1985

22. National Center for Educational Statistics: Digest of Educational Statistic, 1989 (25th Edition). US Dept of Education, Government Printing Office, publication No. 1989-252-327/00988

23. Pierce JP, Fiore MC, Novotny TE, Hatziandreu EJ, Davis RM: Trends in cigarette smoking in the United States: Educational differences are increasing. JAMA 1989; 261:56-60

24. Scribner R, Dwyer JH: Acculturation and low birthweight among Latinos in the Hispanic HANES. Am J Public Health 1989; 79:1263-1267

25. Short PF, Cornelius LJ, Goldstone DE: Health insurance of minorities in the United States. J Health Care Poor 1990; 1:9-24

26. Wenneker MB, Weissman JS, Epstein AM: The association of payer with utilization of cardiac procedures in Massachusetts. JAMA 1990; 264:1255-1260