A background paper prepared for the workshop on *Reducing Disparities in Life Expectancy* held by the Roundtable on the Promotion of Health Equity and the Elimination of Health Disparities of the Institute of Medicine, February 2011.

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This paper has been prepared for the workshop on *Reducing Disparities in Life Expectancy* held by the Roundtable on the Promotion of Health Equity and the Elimination of Health Disparities of the Institute of Medicine. Its purpose is to provide the Roundtable forum with the background data and information that will help them assess the issues and needs, develop advice and guidance on priorities and policies, and encourage the effective measurement and evaluation of progress in closing the gap on health disparities.

The focus of this paper is on racial and ethnic health disparities. To this end every effort has been made to include the most recent data that are available for all the major racial and ethnic population groups. Although it can be informative to break these data down further – for example, by sex, education, income, rurality, or disease status – and where possible this has been done, this report does not look at those disparities which are based on disability, gender identification and sexuality, or geography.

The author takes full responsibility for any errors or oversights.
EXECUTIVE SUMMARY

The draft National Prevention Strategy establishes a vision of improving life expectancy and quality of life for all Americans, and sets the goal of reducing and eventually eliminating, health disparities.

The World Health Organization defines health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”. Individuals may subjectively define health in many ways - as the absence of disease, as psychosocial well-being, or as the ability to function physically and in social relationships.

Physiological and behavioral risk factors for illness can be exacerbated by physical risk conditions (such as poverty and pollution) and psychosocial risk factors (such as low self-esteem and isolation) and modified by protective factors (such as strong social networks, meaningful paid employment, good nutrition, and access to effective health services). Together these factors affect the mortality, morbidity, disability, functional independence, well-being and quality of life of individuals, communities and populations.

Despite huge spending on health care, the United States consistently receives a poor grade in international comparisons of these risk factors and health outcomes. The existence and persistence of substantial disparities in mortality and morbidity between and among racial and ethnic groups in the U.S. population have been well-documented. Moreover, relatively little progress has been made towards the goal of eliminating these disparities, and in some cases the gaps have grown.

This report attempts to collate the currently available data to document racial and ethnic health disparities, looking first at the impact on life expectancy and mortality, and then at what is known about how socioeconomic, environmental, cultural and genetic factors, and access to health care affect these measures. Additional information is provided about racial and ethnic disparities in the prevalence of a number of chronic illnesses and injury, the risk factors that lead to these conditions, and how these vary by race and ethnicity. Where possible, trends over time have been outlined and relevant international comparisons have been provided.

The task has been frustrated by a lack of up-to-date data across all racial and ethnic groups and a lack of consistency in how individual agencies report these data over time. In many cases the data presented are more than a decade old, but more recent data could not be found. The recently released report from the Centers for Disease Control and Prevention has partially remedied this problem, although curiously this report does not look at racial and ethnic differences in life expectancy.

A clear recommendation to emerge from this paper is that improvements must be made in data collection and analysis and the ability to track agreed upon measures and outcomes over time. In particular, future efforts to address disparities must acknowledge the
significant heterogeneity within each of the federally defined racial and ethnic groups, and balance requirements for sufficient granularity to highlight local issues with the need for sufficiently robust statistical significance to drive population-based policies and programs.

The evidence is clear that while tackling the inequalities in the health care system is an imperative, this alone is insufficient to reduce the disparities in life expectancy and quality of life. Therefore, a second recommendation is that it is also essential to tackle the current social, economic, and environmental inequalities that underpin so many documented health disparities. This will require a concerted effort across research disciplines, professional bodies, community services and organizations, and agencies at all levels of government. The new health care reform law, the Affordable Care Act (ACA), takes this approach and creates a National Prevention, Health Promotion, and Public Health Council, composed of senior officials across the government, which will design a focused strategy across Departments to promote the nation’s health. On June 10, 2010, the President signed an Executive Order creating the National Prevention Council.  

The final over-arching recommendation to emerge is that the data should be used to highlight the priorities for action. They show not only show where disparities are severe but also highlight where they do not exist (for example, Hispanics have better life expectancy and infant mortality rates than many other racial and ethnic groups, despite socioeconomic and health insurance statistics that are lower than average) and how they emerge (for example, breast cancer incidence rates are higher among Asian women living in the United States than among those living in Asian countries, and for this population group, elevated breast cancer risks are linked to immigration to and longer residence in the United States).

Health disparities generate a significant human and economic cost that is borne directly by the individuals involved and indirectly by all Americans. As minorities become an increasing percentage of the American population, their health status will increasingly define the nation’s health. The costs of failing to tackle health disparities will result in higher health care and social welfare spending, a less productive workforce, and an increasingly divided society. Addressing these health disparities is also an issue of social justice that can be regarded as a moral imperative.
INTRODUCTION

Racial and ethnic minorities experience disparities across a significant number of health status measures and health outcomes. These racial and ethnic differences are driven by factors such as income, education, and work status, as well as poor housing, neighborhood segregation, and other environmental factors within communities.

Significant disparities in health status and outcomes result from failures within the health care system. Problems accessing services and a lower quality of care for minority populations clearly affect the health of these populations. The Institute of Medicine (IOM) report, Unequal treatment: Confronting racial and ethnic disparities in health care\(^6\), defines a disparity as a difference in treatment provided to members of different racial or ethnic groups that is not justified by the underlying health conditions or treatment preferences of patients.

Racial and ethnic minorities make up more than half of America’s uninsured and they suffer higher rates of chronic illness than the general population. They are more likely to experience risk factors that predispose them to chronic illnesses such as obesity, and are much less likely to receive preventive screenings, regular care, and to fill needed prescriptions that could prevent or ameliorate their conditions. Because being uninsured often means postponing needed health care services, people of color are diagnosed at more advanced disease stages, and once diagnosed, they receive poorer care. Inevitably, they are sicker and die sooner.

The 2003 IOM report highlights that even when access-related factors such as insurance status and income are controlled for, racial and ethnic minorities tend to receive lower quality health care than non-minorities. The sources of these disparities are complex, rooted in historic inequalities, perpetuated through stereotyping and biases in the health care system, health care professionals and patients, and aggravated by barriers of language, geography and cultural familiarity.

The 2009 National Healthcare Disparities Report\(^7\) found that while some disparities in health care quality and access have been eliminated over time, many others have persisted unchanged, and the recent Health Disparities and Inequalities Report – United States, 2011\(^8\) similarly found that socioeconomic disparities continue. The magnitude and pattern of disparities are different within subpopulations, and some disparities exist across multiple population groups.

The needed reforms in the health care system, with its current focus on clinical care, will not have a long-term and sustainable impact on key measures of health status such as life expectancy and infant mortality unless and until there are also broader improvements in population health. This will require tackling the underlying social, economic and environmental factors. The following sections outline current knowledge and data about the way in which these factors impact on the health of minority populations in the United States.
MEASURING DISPARITIES IN MORTALITY AND LIFE EXPECTANCY

1. Life expectancy

Although life expectancy is not the only indicator of health disparities, it is certainly the most definitive and provides a measure of health outcomes that are determined not only by access to health care but also by factors such as socioeconomic status (SES), health behaviors, and the environment.

When health in the United States is compared to that in other countries, the picture is disappointing. The World Health Organization (WHO), in its annual World Health Statistics 2010, compares the United States to the nations of the world on a large variety of health measures, and these highlight that the United States lags behind many developed countries (see Figures 1 and 2).

Healthy life expectancy is a measure that indicates the number of years that a newborn can expect to live a healthy and productive life. Japan leads in this measure with a healthy life expectancy of 76 years on average for both genders. There are 30 other countries that exceed the United States in healthy life expectancy, including Australia, Italy, Spain, France, Germany, Greece and the United Kingdom. The difference between Japan and the United States for females is 6 years; the difference for males is 5 years.

In very large part the low standings of the United States on these international tables are a reflection of the racial and ethnic disparities in health. African Americans live, on average, five years less than other Americans; in particular, the life expectancy at birth for black males is some six years less than that for white males and nearly nine years less than Hispanic males (see Figure 3).

One of the underlying causes for these differences is poor infant mortality rates in the United States (see next section). But the differences in life expectancy continue throughout Americans’ lives.

The life expectancy in the United States of a 65 year old woman is 19.8 years lower than that in 22 other Organisation for Economic Co-operation and Development (OECD) countries, including France (22.3 years), Spain (22.2 years), Canada (21.3 years) and United Kingdom (20.2 years). For 65 year old men, the difference in life expectancy in the United States compared to other nations is less pronounced: 17.1 years in the United States, 17.6 in the United Kingdom, 17.8 years in Spain, 18.0 years in France and 18.1 years in Canada.
Differences in healthy life expectancy are affected by the effectiveness of treating disease, especially those that are amenable to care, including bacterial infections, treatable cancers, diabetes, heart disease, stroke, and complications from common surgical procedures. In 2002, the United States ranked last among the 19 countries of the OECD with an age-adjusted amenable mortality rate before age 75 of 109.7 deaths per 100,000 population, having slipped from 15th ranking in 1997. This U.S. rate was 50 percent higher than the rate in France, Japan, Spain, Italy, Canada, and Australia, despite the fact that the United States spends more than any other country on health care.11
Figure 2: Healthy life expectancy for males and females, 2007


The homicide rate also influences these data. The United States ranks 29th among the 31 OECD countries, with a homicide rate that is double that of most other countries. The United States has 5.2 deaths per 100,000 population, compared to homicide rates under 2 deaths per 100,000 population in France, Germany, Canada, Spain and the United Kingdom. The homicide rate disproportionately affects young black adults, with young black adult homicide rates seven times that of young white adults. 12

2. Infant mortality

Infant mortality is one of the most important indicators of the health of a nation, as it is associated with a variety of factors such as maternal health, quality and access to medical care, socioeconomic conditions, and public health practices. The U.S. infant mortality rate is higher than those in most other developed countries (see Figure 4), and the gap between the U.S. infant mortality rate and the rates for the countries with the lowest infant mortality appears to be widening.\textsuperscript{13}
Figure 4: Neonatal, infant and childhood mortality rates, 2008

Infant mortality rates for babies of all birth weights are twice as high for African American babies as the national average. In 2005, the most recent year for which complete data are available, Asians/Pacific Islanders had the lowest rates of infant mortality (4.9 per 1000 live births, followed by Hispanics (5.6), Whites (5.7) American Indian/Native Alaskan (8.1) and African Americans (12.3). These figures were essentially unchanged over the period 2000-2005, but show improvement over the figures for 1995 (see Figure 5).

The Agency for Healthcare Research and Quality (AHRQ) initially collected data separately for Asians and Native Hawaiians and Other Pacific Islanders, and it is unfortunate that these two groups have now been combined as it is clear from 2000 and 2001 data that their infant mortality rates are very different (see Figure 6).
Figure 5: Infant mortality rates per 1000 live births, by race and ethnicity, 1995-2005


It is interesting to looking at the infant mortality rates in comparable countries that have Indigenous populations. In Australia, the national infant mortality rate in 2006-08 was 4.4/1000 live births, and the Aboriginal and Torres Strait Islander rate was 10 (the rate varied from 13.6 in the Northern Territory to 6.4 in South Australia).¹⁴ In New Zealand, in 2006-07 the Maori infant mortality rate was 7.1 and the non-Maori rate was 4.6.¹⁵ And in Canada, in 2007 the overall national rate was 5.1 and the rate for Inuit living in Nunavut province was 15.0.¹⁶
3. Maternal mortality

Maternal death continues to be the international standard by which a nation’s commitment to women’s status and their health can be evaluated. It is the primary measure of whether women can expect to survive complications that arise during pregnancy and the post-partum period.

The U.S. maternal mortality rate has declined dramatically since 1950, when the rate was 83.3 deaths per 100,000 live births; however, the maternal mortality rate in 2006 (13.3 per 100,000 live births) was 62 percent higher than the rate reported in 1990 (8.2 per 100,000).

According to the National Center for Health Statistics, this increase may largely be due to changes in how pregnancy status is recorded on death certificates. However, it is clear from 2004 data that the rate has increased, perhaps due in part to a disturbing upward trend in Hispanic maternal mortality (see Figure 7).

Figure 7: Maternal deaths by race and ethnicity, 2004 and 2006
The Maternal Mortality Estimation Inter-agency Group composed of the WHO, the United Nations Children’s Fund, the United Nations Population Fund, and the World Bank, together with independent technical experts, recently released a new set of global United Nations inter-agency maternal mortality estimates that presents even bleaker figures for the United States, with maternal mortality rates rising to 24/100,000 live births in 2008. This represents an increase in maternal mortality rates of 96 percent over those in 1990. The WHO data show that the maternal mortality rate in the United States in 2008 was higher than many comparable countries, and the same as that in Chile, Saudi Arabia, and Turkey (see Figure 8).

**Figure 8:** International comparison of maternal mortality rates, 2008
FACTORS THAT UNDERPIN HEALTH DISPARITIES

1. *Socioeconomic status*

Socioeconomic status (SES) is a complex concept consisting of two aspects, both of which may exert influences on health directly or through associated behaviors. One aspect includes resources, such as education, income, and wealth; the other includes status or rank, a function of relative positions in a hierarchy, such as social class.  

There are two alternative explanations for the association of SES and health. The first is that SES influences health status (social causation); the other is that health status contributes to SES (social drift or selection). The data are more compelling for social causation than for social drift, although the latter is more likely for diseases with early onset that have more profound effects on life trajectories, such as schizophrenia.  

There is a link between health problems and reductions in income and wealth at older ages.  

It has been proposed that there are three pathways through which SES impacts health: its association with healthcare, environmental exposure, and healthy behavior and lifestyle. Together, these pathways are estimated to account for up to 80 percent of premature mortality. Lower SES may lead to higher prevalence rates for health risk factors such as obesity and smoking, and for many common chronic conditions via complex pathways linking behavioral and psychological, social, biological, and genetic factors.  

There is solid evidence that racial and ethnic differences in morbidity and mortality are tied to SES, but the role of SES factors as a cause of racial and ethnic health differences is complex. This is highlighted by the “Hispanic paradox,” or the better than expected health experienced by the socioeconomically disadvantaged Hispanic population. The Hispanic paradox is discussed in more detail at the end of this section.  

The influence of SES on health is assumed to begin early in life, perhaps even in the prenatal period, and accumulate throughout the life course. People of higher SES are more likely to have grown up in childhood homes with better nutrition, fewer health risk behaviors, safer neighborhoods, and more economic resources. As adults, higher SES persons are more likely to have better, more secure employment and housing. They smoke less, eat better, and exercise more than persons with fewer resources. They also have a greater ability to access and afford health services and may receive better treatment from health care providers.  

Higher SES brings a greater financial ability to cope with economic problems and an increased resilience and ability to cope with stress, while lower SES is linked to more disruptive life events such as family breakup and unemployment as well as fewer financial resources to cope with such events.
Both health and SES have many dimensions and can be conceptualized and measured in multiple ways. Research shows that conclusions regarding the role of socioeconomic factors in racial and ethnic health disparities can vary, depending on the socioeconomic measure selected, and that often correlations between measures of income and measures of education are not strong.

More specifically, for women, it has been shown that the correlations between education and income measures are weaker for African Americans, Asian/Pacific Islanders, and especially for Latinas, compared to those observed for whites, European/Middle Easterners and American Indians/Alaskan Natives.  

Moreover, SES measures are not equivalent across racial groups. That is, there are racial differences in income returns for a given level of education, the quality of education, the level of wealth associated with a given level of income, the purchasing power of income, the stability of employment and the health risks associated with working in particular occupations.

1.1 The Hispanic paradox

There is widespread evidence of a Hispanic paradox in the United States, in which most Hispanic groups are characterized by low SES, but better than expected health and mortality outcomes, as reflected in life expectancy and infant mortality rates (see Figures 3, 5 and 6). A closer look at the data reveals variations by age, gender, Hispanic subgroup, acculturation, country of birth, and cause of death.

There has been much debate about the causes of this paradox. It has been postulated that it is due to migration effects: Hispanics who migrate to the United States are more likely to be healthy (a selection effect), and the immigrants who return to their home countries are the least healthy (often called a “salmon bias” or return migration effect). Although there is some evidence that Mexican-born people with poor health opt to return to Mexico at higher rates than healthier Mexican immigrants, this effect is too small to explain the Hispanic paradox, and other research has refuted these proposals.

Other researchers argue that the effect is due to cultural factors such as stronger kinship and social support mechanisms in the Hispanic community. These cultural factors may act as a buffer against the effects of disease. Additional factors that may play a role include the use of alternative and herbal medicines, good nutrition, and community support for pregnant women and the elderly.

The evidence of an epidemiological paradox in mortality is much stronger for some groups of Hispanics than for others, with a sizable mortality advantage for Hispanics of Mexican, Central American, or South American origin in analyses that controlled for age, sex, and socioeconomic status, but not for Puerto Ricans or Cubans. Certainly the widespread differences that exist among Hispanics in terms of race, language, nativity, and time in the United States, SES and health status argue that examination of this paradox should approach Hispanics as a diverse group rather than a monolithic entity.
Current trends such as an increase in overweight and obesity among Hispanic youth raise the possibility of a marked deterioration in the health of the Hispanic population of the United States over the next several decades.\textsuperscript{35}

\subsection*{1.2 Education}

There is a large and persistent association between education and a wide variety of health measures. The health differences between the more educated and the less educated are significant, as exemplified by the fact that the U.S. death rate for people with less than 12 years of education is 2.5 times higher than that for those with 13 or more years of education.\textsuperscript{36}

A working paper issued by the National Bureau of Economic Research (NBER) in 2006, explored and attempted to quantify the relationship between education and health.\textsuperscript{37}

The education gradient is found for both health behaviors and health status. The better educated are less likely to smoke, have excessive intakes of alcohol, or be overweight and are more likely to have health insurance coverage and access to care. The better educated also report lower morbidity from cardiac conditions, stroke, emphysema, diabetes, and asthma. They are substantially less likely to report that they are in poor health, and less likely to report anxiety or depression.\textsuperscript{38}

The magnitude of the relationship between education and health varies across these conditions, but is generally large. An additional four years of education was found to lower five-year mortality by 1.8 percentage points; it also reduces the risk of heart disease by 2.16 percentage points, and the risk of diabetes by 1.3 percentage points.\textsuperscript{39}

Although some of the education effect is related to income, occupational choice, and status, the NBER paper posits increasing levels of education lead to different thinking and decision-making patterns that influence health and wellbeing.

As Figure 9 highlights, there are substantial differences in educational attainment among racial and ethnic minority groups in the United States. American Indians/Alaska Natives and Hispanics have the lowest levels of education. Almost 38 percent of Hispanics have not graduated from high school, and less than one-third have any college education. In contrast, 69 percent of Asian/Pacific Islander Americans have some college education, and 52 percent have a bachelor degree or higher.
Figure 9: Percentage of adults aged 25+ according to highest level of educational attainment, 2008


The relationship between educational level and the prevalence of a number of key diseases is presented in Table 1. This highlights the “protective effect” that education has on disease prevalence, in some cases delaying the average age of onset for more than 10 years.
TABLE 1: Age at which persons of different educational levels experience equivalent prevalence incidence of specified diseases

<table>
<thead>
<tr>
<th>Disease</th>
<th>Years of Education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Heart problems</td>
<td>51</td>
</tr>
<tr>
<td>Heart attack</td>
<td>51</td>
</tr>
<tr>
<td>Hypertension</td>
<td>51</td>
</tr>
<tr>
<td>Stroke</td>
<td>51</td>
</tr>
<tr>
<td>Diabetes</td>
<td>51</td>
</tr>
<tr>
<td>Chronic lung disease</td>
<td>51</td>
</tr>
</tbody>
</table>


There is also a strong correlation between infant mortality and maternal educational level (see Table 2). These data also highlight two conundrums. The first is the low infant mortality rates for Asian/Pacific Islanders and Hispanics, even for those mothers with less education. The second is that infant mortality rates for college-educated black women are higher than those for women of all other racial and ethnic groups, even those with less than a high school education.

Table 2: Infant mortality rates (infant deaths / 1000 live births) for mothers aged 20+ by race/ethnicity and education 2001-2003

<table>
<thead>
<tr>
<th>Race / ethnicity</th>
<th>Educational level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Less than HS</td>
</tr>
<tr>
<td>White, Non Hispanic</td>
<td>9.2</td>
</tr>
<tr>
<td>African American</td>
<td>15.1</td>
</tr>
<tr>
<td>American Indian / Alaska Native</td>
<td>10.7</td>
</tr>
<tr>
<td>Asian / Pacific Islander</td>
<td>5.0</td>
</tr>
<tr>
<td>Hispanic</td>
<td>5.2</td>
</tr>
</tbody>
</table>

1.3 Employment

Employment is a key contributor to health status as it contributes to both SES and self-esteem. It also provides income to facilitate access to factors important to health such as housing and transportation. It also is a key factor in the ability to afford health care and health insurance coverage.

The majority of Americans still get health insurance coverage through their employment. However, a large body of literature documents the disproportionate lack of access to employer-sponsored health insurance among racial and ethnic minorities. Compared with white Americans, a disproportionate share of Hispanics and African Americans have nonstandard employment, and Hispanics are more likely to have employment in small firms. These work arrangements increase the risk of being uninsured since they are less likely to come with an offer of health insurance compared to regular large firm employment.

During the current economic recession, there has been a continuing decline in the percentage of workers with employment-based coverage, and the benefits that are being offered have also changed, with increases in deductibles, co-payments for office visits, and prescription drug copayments. In general, workers least likely to have employment-based coverage at the beginning of the recession are more likely than other workers to have lost that coverage. Hispanic workers are more likely to lose coverage than Whites or African Americans.

Employment correlates positively with health, although it’s not clear if it is a cause or a consequence. Full-time employment predicts slower declines in perceived health and in physical functioning for both men and women; healthy people get and keep jobs more than unhealthy people do. Workers who are in poor health have a 40 percent increase in the odds of being laid off or fired.

Recent research has also highlighted the impact of unemployment on health. The risk of heart attack or stroke in people between 51 and 61 years old who have lost their jobs is more than double that of the employed. People who lose their job face increased odds of developing a new health problem such as diabetes, high blood pressure or heart disease, and even when re-employed, those workers had an increased risk of new stress-related health conditions.
Table 3: Employment status for populations 25 + years, by race/ethnicity and education level

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Employment/unemployment</th>
<th>Final education level</th>
<th>Average for population group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Less than HS</td>
<td>HS graduate</td>
</tr>
<tr>
<td>Total US population</td>
<td>Employment – population ratio</td>
<td>39.7</td>
<td>56.1</td>
</tr>
<tr>
<td></td>
<td>Unemployment rate</td>
<td>14.6</td>
<td>9.7</td>
</tr>
<tr>
<td>White</td>
<td>Employment – population ratio</td>
<td>41.3</td>
<td>56.2</td>
</tr>
<tr>
<td></td>
<td>Unemployment rate</td>
<td>13.9</td>
<td>9.0</td>
</tr>
<tr>
<td>African American</td>
<td>Employment – population ratio</td>
<td>30.1</td>
<td>55.6</td>
</tr>
<tr>
<td></td>
<td>Unemployment rate</td>
<td>21.3</td>
<td>14.0</td>
</tr>
<tr>
<td>Asian</td>
<td>Employment – population ratio</td>
<td>40.8</td>
<td>56.2</td>
</tr>
<tr>
<td></td>
<td>Unemployment rate</td>
<td>8.4</td>
<td>7.5</td>
</tr>
<tr>
<td>Hispanic</td>
<td>Employment – population ratio</td>
<td>53.6</td>
<td>65.5</td>
</tr>
<tr>
<td></td>
<td>Unemployment rate</td>
<td>13.7</td>
<td>10.4</td>
</tr>
</tbody>
</table>


Data from the Bureau of Labor Statistics highlight that in 2009 all major race and ethnicity groups in the United States experienced major employment difficulties. For the second year in a row, employment fell more sharply for African Americans and Hispanics than for Whites and Asians. The employment issues faced by African Americans and Hispanics are due to a variety of factors, including a tendency to be employed in occupations with high levels of unemployment, lower levels of education, greater concentration in areas where job opportunities are limited, and the likelihood of discrimination in the workplace.
1.4 Income

Hispanics and African Americans have considerably lower earnings than Asians and Whites. In 2009, the median weekly earnings of full-time workers were $541 for Hispanics, $601 for Blacks, $757 for Whites and $880 for Asians. For all races and ethnicities women earned less than men. These earnings disparities hold across all major occupational groups, both white collar and blue collar.  

As Figure 10 shows, the median family income (measured in 1999 and 2009 dollars respectively) has barely changed over the past decade, and the net impact of this is that families today have less money than they had at the turn of the century. This is reflected in the continuing increase in the number of Americans living in poverty. In 2009, the Federal Poverty Level (FPL) for a family of four was $21,756.

Racial and ethnic minorities, women, children, and families headed by single women are particularly vulnerable to poverty and deep poverty. Although African Americans represent 13.3 percent of the general population, they represent 24.2 percent of the poor population. Hispanics, who make up 15.9 percent of the population, represent 28.3 percent of the poor population. In 2009, 9.4 percent of Whites lived in poverty with over 4 percent in deep (persistent) poverty; 25.3 percent of Hispanics lived in poverty with 10.4 percent in deep poverty; and 25.8 percent of African Americans lived in poverty with 11.9 percent in deep poverty.

Children represent a disproportionate share of the poor in the United States; they are 25 percent of the total population, but 35 percent of the poor population. Hispanic and black children are more likely to live in poor families than are white and Asian children. In 2009, 17 percent of white children and 14 percent of Asian children were poor, compared with 33 percent of Hispanic children and 35 percent of black children.
Figure 10: Median family income in U.S dollars


Somewhat different data on poverty has been generated by the Kaiser Family Foundation, using data from 2005 for the non-elderly population (see Table 4).

Although poverty exists in both urban and rural areas, and a larger proportion of the poor population resides in urban areas, non metropolitan residents are more disadvantaged. This is particularly true when assessing persistent poverty. Indian reservations have a poverty rate of 26 percent, the highest poverty rate of any ethnic grouping in America.
Table 4: Poverty status of the non-elderly population by race and ethnicity, 2005

<table>
<thead>
<tr>
<th>Race/ethnicity</th>
<th>Percentage of the population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Poor (≤100% FPL)</td>
</tr>
<tr>
<td>White, non Hispanic</td>
<td>12</td>
</tr>
<tr>
<td>African American</td>
<td>33</td>
</tr>
<tr>
<td>Asian</td>
<td>17</td>
</tr>
<tr>
<td>American Indian / Alaska Native</td>
<td>34</td>
</tr>
<tr>
<td>2+ races</td>
<td>21</td>
</tr>
<tr>
<td>Hispanic</td>
<td>29</td>
</tr>
</tbody>
</table>


2. The built environment

The built environment encompasses all buildings, spaces, and products that are created or modified by people. It includes homes, schools, workplaces, parks and recreation areas, greenways, business areas, and transportation systems. It extends overhead in the form of electric transmission lines, underground in the form of waste disposal sites and subway trains, and across the country in the form of highways. It includes land-use planning and policies that impact communities in urban, rural, and suburban areas.54

Poor housing can contribute to a number of adverse health outcomes and there is a growing awareness that health is linked not only to the physical structure of a housing unit, but also to the neighborhood and community in which the house is located.55 Deteriorating and crime-ridden neighborhoods contribute to experiences of stress and barriers to accessing services. Neighborhood quality and quality of associated services vary considerably, depending on the racial and ethnic composition of the neighborhood. Certain African American and Hispanic households tend to report more problems in their neighborhoods, including crime, litter, housing deterioration, and poor public services.56
The environment in which people live affects physical health, social and emotional functioning, and the cognitive development of children. The availability of neighborhood amenities, such as playgrounds, community centers, and libraries provide both adults and children with opportunities to be active and engaged in the broader community.

In 2007, 46.7 percent of children lived in neighborhoods that had four neighborhood amenities (defined as sidewalks, parks or playgrounds, recreation or community centers, and a library), while 28.6 percent of children lived in neighborhoods with at least one indicator of poor conditions, such as vandalism, litter on the street, or dilapidated housing.\textsuperscript{57}

The percentage of children living in neighborhoods with amenities and poor conditions varied significantly by poverty status. Among children with household incomes of 100 percent or less of the FPL, 39.5 percent lived in neighborhoods with four neighborhood amenities, compared to 46.7 percent of children with household incomes of 200-400 percent of FPL and 54.2 percent of children with incomes of more than 400 percent of FPL.

African American children were most likely to live in neighborhoods with one or more poor conditions (37.0 percent), and Hispanic children were second most likely (33.5 percent). White children were least likely to live in neighborhoods with one or more poor conditions (24.4 percent) (see Figure 11).
In order to assess the potential contribution of the various components of the environment to health, the relationships between social disadvantage, environmental exposures and illnesses, and the ways in which the environment impacts on health disparities, it is necessary to have a set of measurement tools. The paucity of tools for measuring environmental health has been a concern since the early 1990s.58

In a paper published in 2006, researchers from the Environmental Protection Agency (EPA) and the University of Michigan developed a conceptual framework for monitoring environmental health disparities.59 They grouped the measures into four categories: social processes (such as residential segregation); environmental contaminants/exposures (such as exposure to particulate matter); body burdens of environmental contaminants (such as blood mercury concentrations); and health outcomes (such as asthma morbidity and mortality).
2.1 Housing

People spend more than 50 percent of every day inside their homes. So it’s not surprising that the housing environment is one of the major influences on health and well-being.

In 1938 the Committee in the Hygiene of Housing, established by the American Public Health Association, created the Basic Principles of Healthful Housing which provided guidance regarding the fundamental needs of humans as they relate to housing. These include physiological and psychological needs, so the definition of good housing is not just about adequate shelter from the elements, good sanitation, and being vermin free, but also about privacy and protection from undue noise.

Many housing deficiencies affect health and safety. For example, lead-based paint and dust may contribute to lead poisoning in children; water leakage and mold may contribute to asthma attacks; improper use and storage of pesticides may result in unintentional poisoning; and lack of working smoke, ionization, and carbon monoxide alarms may result in serious injury and death.

While lead poisoning crosses all socioeconomic, geographic, and racial boundaries, the burden of this disease falls disproportionately on low-income families and families of color living in older, poorly maintained housing. For example, African-American children are at twice the risk of white children for lead poisoning.

In 2005, 6 percent of all U.S. residents and 14 percent of low-income renters lived in homes with severe or moderate physical problems, such as water leaks that can cause mold growth and trigger allergic reactions and asthma attacks. Low-income minority renters in non-metropolitan areas have a higher incidence of housing quality problems compared to other renters or homeowners. Minority parents are substantially less likely than are White parents to have safety measures in their homes such as stair gates, safety latches on cabinets, or lower hot-water thermostat settings.

A study done in 1999 by the Urban Institute, using 1997 data from the National Survey of American Families, showed that 13 percent of all non-elderly persons lived in families that reported housing hardship (being unable to pay rent, mortgage, or utility bills).

Rates of housing hardship for African Americans, Hispanics, and Native Americans were twice as high as those for Asians and Whites. Asians, however, were significantly less likely than Whites to report housing hardship. There are also pronounced disparities within racial and ethnic groups. For example, rates of housing insecurity for low-income Asian families were more than five times higher than those for higher-income Asian families.
Table 5: Non-elderly in families that were unable to pay rent, mortgage or utility bills in past year

<table>
<thead>
<tr>
<th></th>
<th>All Americans</th>
<th>White, non-Hispanic</th>
<th>African American</th>
<th>Asian and Pacific Islander</th>
<th>American Indian/ Native Alaskan</th>
<th>Hispanic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low-income</td>
<td>25.4</td>
<td>24.2</td>
<td>29.8</td>
<td>20.7</td>
<td>40.5</td>
<td>25.4</td>
</tr>
<tr>
<td>Higher-income</td>
<td>7.4</td>
<td>6.5</td>
<td>13.2</td>
<td>3.5</td>
<td>5.3</td>
<td>11.6</td>
</tr>
<tr>
<td>All incomes</td>
<td>13.4</td>
<td>11.1</td>
<td>21.4</td>
<td>8.5</td>
<td>24.4</td>
<td>19.4</td>
</tr>
</tbody>
</table>


Although these data have apparently not been updated since 1997, there is no reason to believe that the situation has improved in the past decade, as wages have remained constant, housing prices have risen – and then collapsed, and the demand for public housing and emergency shelters for the homeless has risen sharply. The 2009 American Community Survey shows that 42.5 percent of renter households have housing costs that consume 35 percent or more of their incomes. 67

Public housing can help provide for the needs of those who otherwise struggle to keep a roof over their heads. Located in more than 3,500 communities across the country, public housing is a vital national resource that assists 2.3 million vulnerable Americans. Nearly two-thirds of all public housing households include an elderly person or an individual with a disability. 68 Poor and minority populations are overrepresented in public housing, mostly located in central cities. 69

Nearly two million children live in public housing communities, and over two-thirds of them are African American or Hispanic. A study conducted in 2005 in Los Angeles and supported in part by AHRQ found that Black and Latino children living in such communities are 2 to 4 times more likely than children in the general population to suffer from chronic physical and mental problems. 70 Nearly one-third of Black and Latino households had children with one chronic medical condition, and another third had children with two or more chronic conditions. The top five chronic conditions reported by parents for one or more children in their households were asthma (32 percent), eye/vision problems (24 percent), Attention Deficit Hyperactivity Disorder (ADHD) (17 percent), dental problems (16 percent), and depression (8 percent).

The researchers called for studies to determine whether children in public housing suffer from excessive health problems because of the criteria and eligibility for public housing, or whether the public housing environment is responsible for unhealthy children.
The New Zealand Housing, Crowding and Health Study has shown that household crowding in low-income families leads to increased rates of infectious diseases and illnesses such as asthma caused by passive smoking in children.\textsuperscript{71}

2.2 Water

According to the EPA, there are approximately 160,000 public or community drinking water systems in the United States. The current estimate is that 42 million Americans (mostly in rural America) get their water from private wells or other small, unregulated water systems. The presence of adequate water, sewer, and plumbing facilities is central to the prevention, reduction, and possible elimination of water-related diseases.

Water-related diseases can be organized into four categories:
- waterborne diseases, including those caused by both fecal-oral organisms and those caused by toxic substances;
- water-based diseases;
- water-related vector diseases; and
- water-scarce diseases.\textsuperscript{72}

We tend to think of Third World countries when these issues are raised, but diseases such as cholera, shigella, leprosy, and dengue fever are not unknown in the United States. Every year about 18,000 cases of shigella infections are reported and this bacterial group accounts for more than 10 percent of food-borne illnesses in the United States.\textsuperscript{73} West Nile virus, which is spread by a mosquito vector, is now widespread in the United States, and in 2009 caused 32 deaths.\textsuperscript{74}

An estimated 4 million to 33 million cases of gastrointestinal illness associated with public drinking water systems occur annually.\textsuperscript{75} The presence of chemical contaminants in water can lead to other adverse health effects; for example, pesticides can cause reproductive problems; polychlorinated biphenyls and lead can cause neurological disorders; and nitrates can cause methemoglobinemia or “blue baby syndrome”.\textsuperscript{76} Old lead water pipes also contribute to increased blood lead levels. The issues of lead poisoning are discussed in the section on housing, above.

Water contamination has many sources, including naturally occurring chemicals and minerals (e.g., arsenic, radon, uranium), local land-use practices (e.g., fertilizers, nitrates, pesticides, concentrated animal feeding operations), manufacturing processes, sewer overflow, and malfunctioning wastewater treatment systems.

There is evidence that drinking water in Indian communities is a significant human health concern. Over 900,000 people living in Indian country are served by water systems that fail to meet federal standards.\textsuperscript{77} In 2008, 55 percent of public water systems in Indian country either violated a health-based standard for drinking water quality or had a significant monitoring and reporting violation, compared to 27 percent of all systems in the United States.\textsuperscript{78}
A sensitive issue is that of water fluoridation, which the Centers for Disease Control and Prevention (CDC) recognizes as one of ten great public health achievements of the 20th century. Community water fluoridation still prevents tooth decay, although people now also get fluoride from other sources such as toothpaste, rinses, and topical applications at the dental office. Water fluoridated at the recommended optimum level is safe and reduces tooth decay up to 60 percent in children under 6 years and up to 40 percent in older children and adults. At present, 69 percent of individuals on public water systems - more than 184 million people - are receiving the benefits of community water fluoridation.

There are profound disparities in the oral health of Americans, with poor children, the elderly, and members of racial and ethnic minority groups particularly vulnerable. The California Children's Dental Health Initiative found minority children the most vulnerable: nearly half of Asian and African American students and nearly three-fourths of Latino students have untreated dental decay.

### 2.3 Air quality

Air pollution, an important public health problem, is associated with damage to the respiratory and cardiovascular systems, cancer and premature death. Disadvantaged populations and racial and ethnic minorities are more likely to live in heavily polluted neighborhoods and to work in high-risk occupations with lower air quality.

More than 72 percent of African Americans live in counties that violate federal air pollution standards, compared to 58 percent of white. The proportion of Asian and Pacific Islander and Hispanics who live in counties where the particulate levels are high are about double those for any other racial and ethnic group. More than 61 percent of African American children, 69 percent of Hispanic children, and 68 percent of Asian American children live in areas that exceed the 0.080 parts per million ozone standard. Only 51 percent of white children live in such areas.

These disparities in living and working conditions play a critical role in the incidence and burden of asthma in these populations. For example: although African Americans represent only 12.7 percent of the U.S. population, they account for 26 percent of all asthma deaths, and African Americans and Hispanics are almost 3 times as likely as Whites to die of asthma.

### 2.4 Transport

Land use and travel patterns are closely linked, and the ready availability of roads over safe bicycle or pedestrian routes has obvious consequences: although 25 percent of all trips in the United States are shorter than one mile, 75 percent of these are by car. These facts have consequences for both pollution and obesity.

The pollutants that originate from cars and trucks, especially nitrogen oxides,
hydrocarbons, ozone, and particulate matter, account for a substantial part of the air pollution burden of American cities. People with asthma are particularly susceptible. Higher ozone levels are associated with higher incidence and severity of respiratory symptoms, decreased lung function, more emergency room visits and hospitalizations, more use of medications and more absenteeism from school and work. Particulate matter is associated with many of the same respiratory effects as well as elevated mortality. As outlined above, minority populations are more likely to live in areas where air pollution levels are high.

In the United States, the association between obesity and use of car transit was demonstrated in a study of Atlanta adults. This study found that measures of the built environment and travel patterns are important predictors of obesity across gender and ethnicity. Each additional hour spent in a car per day was associated with a 6 percent increase in the likelihood of obesity. Conversely, each additional kilometer walked per day was associated with a 4.8 percent reduction in the likelihood of obesity.

A large study of young adults showed that the vast majority of this age group, of all racial/ethnic backgrounds, but particularly African Americans and Hispanics, do not use active transportation means (such as walking or cycling) to get to school and/or work. Active transportation is more common among those who are not overweight and more active young adults of higher socioeconomic status, particularly full-time students (see Table 6).

On the other hand, lack of transportation can also be a problem, particularly for families with small children, the chronically ill and the elderly. It is a recognized barrier to health care and one which is exacerbated if the patient needs a variety of health care services. Some consumers are constrained in their ability to access affordable and nutritious food because they live far from a supermarket or large grocery store and do not have ready access to transport. Some 11.5 million low-income people live more than one mile from a supermarket.
Table 6: Prevalence of different modes of transportation to work and school for adolescents, by race/ethnicity (%)

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>White</th>
<th>African American</th>
<th>Hispanic</th>
<th>Asian</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Car transit</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f/t work</td>
<td>91.7</td>
<td>93.5</td>
<td>86.7</td>
<td>88.7</td>
<td>85.2</td>
</tr>
<tr>
<td>p/t work</td>
<td>86.9</td>
<td>89.0</td>
<td>73.5</td>
<td>88.4</td>
<td>85.1</td>
</tr>
<tr>
<td>f/t school</td>
<td>70.7</td>
<td>70.1</td>
<td>72.4</td>
<td>77.4</td>
<td>65.3</td>
</tr>
<tr>
<td><strong>Public transit</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f/t work</td>
<td>4.9</td>
<td>2.9</td>
<td>11.1</td>
<td>8.0</td>
<td>10.8</td>
</tr>
<tr>
<td>p/t work</td>
<td>7.0</td>
<td>4.6</td>
<td>21.1</td>
<td>6.3</td>
<td>9.3</td>
</tr>
<tr>
<td>f/t school</td>
<td>9.2</td>
<td>8.0</td>
<td>9.6</td>
<td>10.5</td>
<td>22.1</td>
</tr>
<tr>
<td><strong>Active transit</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f/t work</td>
<td>6.1</td>
<td>6.3</td>
<td>6.2</td>
<td>4.8</td>
<td>7.9</td>
</tr>
<tr>
<td>p/t work</td>
<td>13.1</td>
<td>13.1</td>
<td>13.0</td>
<td>11.5</td>
<td>16.1</td>
</tr>
<tr>
<td>f/t school</td>
<td>33.0</td>
<td>35.8</td>
<td>25.9</td>
<td>20.0</td>
<td>32.5</td>
</tr>
</tbody>
</table>


Motor vehicle accidents are a particular health problem for American Indians and Alaska Natives. Motor vehicle crashes are the leading cause of unintentional injury for American Indians and Alaska Natives aged 1 to 44 years. Adult motor vehicle-related death rates for this population group are more than twice that of Whites and almost twice that of African Americans. Among infants less than one year of age, American Indians and Alaska Natives have consistently higher total injury death rates than other racial and ethnic populations, and among American Indians and Alaska Natives aged 19 years and younger, motor vehicle crashes are the leading cause of injury-related death.91

Some of the causes of these high rates relate to the low overall rate of seat belt use on reservations (55.4 percent, but as low as 8.8 percent on some reservations), low child safety seat use rates, and a high prevalence of alcohol-impaired driving.92

### 2.5 Environmental racism

Environmental racism can be defined as the intentional siting of hazardous waste sites, landfills, incinerators, and polluting industries in communities inhabited primarily by minorities and the poor. The landmark study, Toxic Wastes and Race in the United States, described the extent of environmental racism and the consequences for those who are victims of polluted environments.93 The study revealed that the greatest number of commercial hazardous facilities were located in communities with the highest composition of racial and ethnic minorities. In the early 1990s, over 15 million African-American, over 8 million Hispanics, and about 50 percent of Asian/Pacific Islanders and
Native Americans were living in communities with one or more abandoned or uncontrolled toxic waste sites.  

In 1992, the EPA released a report entitled *Environmental Equity*. This report concluded that minority and low-income populations experience higher than average exposures to selected air pollutants, hazardous waste facilities, contaminated fish, and agricultural pesticides in the workplace. While this exposure does not always result in an immediate or acute health effect, high exposures, and the possibility of chronic effects are nevertheless a clear cause for health concerns.

The report also found that environmental and health data are not routinely collected and analyzed by income and race. Nor are data routinely collected on health risks posed by multiple industrial facilities, cumulative and synergistic effects, or multiple and different pathways of exposure. The report alluded to the difficulties of assessing the impact of environmental hazards in low income and minority communities.

A 2007 study that examined possible factors leading to "environmental racism" found that although the average African American or Hispanic resident of a major U.S. city lives in a more polluted part of town than the average white person, the levels of inequality vary widely between cities and defy simple explanation. The study looked at 61 of the largest U.S. metropolitan areas and concluded that the role poverty and residential segregation play in environmental racial inequality is highly contingent on local conditions.

Although there was a flurry of reports on “environmental racism” in the early 1990s, the focus seems to have turned away from this issue, and there is little current reporting of environmental data by race and ethnicity. Yet there continues to be evidence that environmental pollution may be a key factor in explaining certain health care disparities. For example, large numbers of toxic chemicals have been found in the umbilical cord blood of babies from racial and ethnic minority groups – evidence that children are exposed to a host of dangerous substances while still in the mother’s womb.

### 2.6 Global warming

The CDC considers climate change a serious public health concern, and lists the following as possible health issues:

- Direct effects of heat,
- Health effects related to extreme weather events,
- Air pollution-related health effects,
- Allergic diseases,
- Water- and food-borne infectious diseases,
- Vector-borne and zoonotic diseases,
- Food and water scarcity, at least for some populations,
- Mental health problems, and
- Long-term impacts on chronic diseases and other health effects.
As with other environmental hazards, members of certain ethnic and racial minority groups will likely be disproportionately affected.

Climate change is expected to result in an increase in the frequency and intensity of extreme weather events, such as heat waves, droughts, and floods. The higher temperatures resulting from climate change will also increase chemical interactions between nitrogen oxide, volatile organic gases, and sunlight, leading to increased concentrations of ambient ozone in urban areas.\textsuperscript{99}

Lower SES groups and racial and ethnic minorities are affected by heat-related illnesses at greater rates due to factors such as lack of access to air conditioning, lack of transportation, occupations that require outdoor work, and the heat-island effect in urban neighborhoods. These same groups are also more likely to live in areas with dangerous levels of air pollution.

Studies have shown that some plants, such as ragweed and poison ivy, grow faster and produce more allergens under conditions of high carbon dioxide and warm weather. As a result, allergic diseases and symptoms could worsen with climate change.\textsuperscript{100}

Altered weather patterns resulting from climate change are likely to affect the distribution and incidence of food- and water-borne diseases. For example, outbreaks of Vibrio bacteria infections following the consumption of seafood and shellfish have been associated with increases in temperatures. Heavy rainfall has been implicated as a contributing factor in the overloading and contamination of drinking water treatment systems, leading to illness from organisms such as Cryptosporidium and Giardia.\textsuperscript{101}

Vector-borne and zoonotic diseases, such as plague, Lyme disease, West Nile virus, malaria, hanta virus pulmonary syndrome, and dengue fever have been shown to have distinct seasonal patterns, suggesting that they are weather sensitive, and climate change could aid in the establishment of exotic vector-borne diseases imported into the United States.\textsuperscript{102}

Climate change is predicted to alter agricultural production, both directly and indirectly.\textsuperscript{103} This may lead to scarcity of some foods, increases in food prices, and a threat to the access to food for those Americans who already experience food insecurity.

Given the complexity of factors that influence human health, assessing the health impacts related to climate change poses a difficult challenge. The challenge is complicated because climate change is expected to bring a few benefits to health, including fewer deaths due to exposure to cold. The health effects of climate change on a given community will depend not only on the particular exposures it faces, but also on the underlying health status, age distribution, health care access, and the SES of its residents. The quality of medical care and public health systems in the United States may lessen climate impacts on human health within the country.\textsuperscript{104}
3. Access to health care

Addressing racial and ethnic disparities in access to health care is a necessary but not sufficient requirement for closing the gap on health disparities. Tackling health care disparities will require a focus on both access and quality, together with provisions to ensure culturally competent care. The implementation of the provisions and policies of the Affordable Care Act (ACA) provides a unique opportunity to address these issues.\textsuperscript{105}

3.1 Health insurance coverage

The IOM found that insurance status, more than any other demographic or economic factor, determines the timeliness and quality of health care, if it is received at all.\textsuperscript{106}

The U.S. Census Bureau releases annual reports on Income, Poverty, and Health Insurance Coverage in the United States, making it possible to track how health coverage for the larger racial and ethnic minority groups has varied over time. However, this is not so easy for smaller groups such as American Indians, Alaskan Natives, Native Hawaiians, and Other Pacific Islanders.

Data from other sources are available to fill in some of these gaps, and have been used in this section of this report, but comparisons should be made cautiously, as it is not always clear how each racial grouping is defined.

As Table 7 and Figure 12 show, there was little change in the percentage of the different racial and ethnic groups with health coverage over the seven years to 2009, although there were significant changes in where people received that coverage.
Table 7: Percentage of population with health insurance coverage, 2009
(% difference from 2002 shown in parentheses)

<table>
<thead>
<tr>
<th></th>
<th>With coverage</th>
<th>No coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Private</td>
</tr>
<tr>
<td>All Americans</td>
<td>83.3</td>
<td>63.9</td>
</tr>
<tr>
<td></td>
<td>(-2.4)</td>
<td>(-9.1)</td>
</tr>
<tr>
<td>White</td>
<td>88.0</td>
<td>72.8</td>
</tr>
<tr>
<td></td>
<td>(-2.2)</td>
<td>(-8.8)</td>
</tr>
<tr>
<td>African American</td>
<td>79.0</td>
<td>48.7</td>
</tr>
<tr>
<td></td>
<td>(-1.7)</td>
<td>(-10.8)</td>
</tr>
<tr>
<td>Asian</td>
<td>82.8</td>
<td>66.7</td>
</tr>
<tr>
<td></td>
<td>(+0.4)</td>
<td>(-3.9)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>67.6</td>
<td>39.8</td>
</tr>
<tr>
<td></td>
<td>(+0.3)</td>
<td>(-17.6)</td>
</tr>
</tbody>
</table>


Eighty-eight percent of white Americans had health coverage in 2009, compared to 82.8 percent of Asians, 79.0 percent of African Americans, and 67.6 percent of Hispanics. In the time frame considered, all racial and ethnic groups lost private coverage, with the largest losses among Hispanics, African Americans, and Whites. It can be assumed that many Whites and some African Americans who lost their private health insurance were then without any coverage because they did not qualify for Medicaid. In contrast, the number of Asians without health insurance coverage actually decreased slightly and there was effectively no change in the number of Hispanics without coverage.

More than a quarter of all African Americans (27.1 percent) and Hispanics (26.5 percent) were covered by Medicaid, compared to only 10.7 percent of Whites and 13.9 percent of Asians. The important role that Medicaid plays in helping to provide access to health care, especially in difficult economic times, is highlighted by the substantial increases over the period 2002 to 2009 in the percentages of all racial and ethnic groups covered by this program.

The percentages of the various population groups eligible for Medicare and their increase over time presumably reflect both the median age and the aging of each population. The increase in the percentages of all populations receiving military health benefits is likely a consequence of the military expansion in response to the current conflicts in Iraq and Afghanistan.
Figure 12: Health insurance coverage by racial and ethnic group, 2009


Data from the National Health Interview Survey, January-March 2010, show how the number of people without health insurance coverage is continuing to rise. The survey found that the percentage of people in each racial and ethnic group without insurance at some time during the 12 months preceding the interview was 34.1 percent for Hispanics, 24.6 percent for non-Hispanic African Americans, 17.9 percent for Asians, and 14.9 percent for non-Hispanic Whites. This is an increase of several percentage points from 2008 for all groups except Asians, who experienced little change.

Some older data, from 2003, show that uninsured white Americans were more likely to be adults, to have incomes above 400 percent of FPL, and to live in households without children, than either African Americans or Hispanics without health insurance. One quarter of uninsured African Americans were children and half of those without insurance had incomes less than 50 percent of FPL. They were almost as likely to be parents with children as adults without children. A similar proportion (24.2 percent) of Hispanic children were uninsured, however 58.4 percent of Hispanics without health insurance coverage were parents with children. For both African Americans and Hispanics there was a correlation between poverty level and a lower likelihood of having health insurance coverage.

Finding data to highlight the trends in health insurance coverage over time for American Indians/Alaskan Natives and Pacific Islander groups is more difficult. Three-year
average data for 2001-2003 and 2005-07 from the U.S. Census Bureau Annual Reports on Income, Poverty, and Health Insurance for groups without insurance are shown in Table 8.

These data highlight the high proportion of Hispanics and American Indians/Alaskan Natives who are without health insurance coverage – almost one-third of the population groups. Disturbingly, for American Indians/Alaska Natives this percentage is increasing. These data do not allow for a clear understanding of any differences in health insurance coverage between Asian, Native Hawaiian, and Other Pacific Islander groups, but it appears that Asians are more likely to have health insurance than Native Hawaiians and Other Pacific Islanders.

Table 8: Percentage of racial and ethnic groups without health insurance coverage, three-year average 2001-2003 and 2005-7.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>15.1</td>
<td>15.4</td>
</tr>
<tr>
<td>White, alone or in combination</td>
<td>14.2</td>
<td>14.5</td>
</tr>
<tr>
<td>White alone</td>
<td>14.1</td>
<td></td>
</tr>
<tr>
<td>White alone, not Hispanic</td>
<td>10.6</td>
<td>10.6</td>
</tr>
<tr>
<td>African American, alone or in combination</td>
<td>19.4</td>
<td></td>
</tr>
<tr>
<td>African American alone</td>
<td>19.6</td>
<td>19.6</td>
</tr>
<tr>
<td>American Indian/Alaskan Native, alone or in combination</td>
<td>23.8</td>
<td></td>
</tr>
<tr>
<td>American Indian/Alaskan Native alone</td>
<td>27.5</td>
<td>32.1</td>
</tr>
<tr>
<td>Asian, alone or in combination</td>
<td>18.3</td>
<td></td>
</tr>
<tr>
<td>Asian alone</td>
<td>18.5</td>
<td>16.5</td>
</tr>
<tr>
<td>Asian, Native Hawaiian and Other Pacific Islander, alone or in combination</td>
<td>18.3</td>
<td></td>
</tr>
<tr>
<td>Asian and/or Native Hawaiian and Other Pacific Islander</td>
<td>18.6</td>
<td>20.5</td>
</tr>
<tr>
<td>Hispanic (any race)</td>
<td>32.8</td>
<td>32.8</td>
</tr>
</tbody>
</table>


Children’s health coverage

Data from the Children’s Defense Fund show that in 2009 there were more than 8 million uninsured children in America.\textsuperscript{109} Nationally, about 10.3 percent of American children are uninsured, but the percentage of uninsured children in each state varies widely. Uninsured children are more likely to be White or Hispanic (see Table 9), to be teenagers (aged 13-18 years), and to live in households where the annual income is less than 133 percent of the FPL.\textsuperscript{110}
Table 9: Uninsured children by racial and ethnic group

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>The uninsured (5)</th>
<th>Number of children</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>38.5</td>
<td>3.1 million</td>
</tr>
<tr>
<td>Hispanic</td>
<td>38.1</td>
<td>3.1 million</td>
</tr>
<tr>
<td>African American</td>
<td>15.7</td>
<td>1.3 million</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>4.7</td>
<td>380,000</td>
</tr>
<tr>
<td>American Indian</td>
<td>1.1</td>
<td>91,000</td>
</tr>
<tr>
<td>Other (multi-racial)</td>
<td>1.9</td>
<td>152,000</td>
</tr>
</tbody>
</table>


Some slightly different data are provided in a recently published article,\(^{111}\) which found that an estimated 7.3 million children were uninsured on an average day in 2008, 4.7 million (65 percent) of whom were eligible for Medicaid or the Children’s Health Insurance Program (CHIP) but not enrolled.

The estimated national Medicaid/CHIP participation rate is 81.8 percent for children, but participation rates currently vary greatly across states, from lows of 55.4 percent in Nevada and 66.2 percent in Utah, to highs of 95.4 percent and 95.2 percent in the District of Columbia and Massachusetts, respectively. Together just three states - California, Texas, and Florida - contain 38.6 percent of all Medicaid/CHIP-eligible uninsured children in the nation.\(^{112}\)

Kenney et al. also found substantial variation in participation rates across different subgroups of children eligible for Medicaid/CHIP coverage. African American children and those in the "other/multiple race" category had the highest participation rates among eligible children, at around 87 percent; Hispanic and Asian/Pacific Islander children had participation rates of 78.8 percent and 79.4 percent, respectively. American Indian/Alaska Native children had the lowest participation rates at 68.0 percent.\(^{113}\)

Participation rates were higher among children with family incomes below 133 percent FPL (84.2 percent) and among those who were in households that received help through the Supplemental Nutrition Assistance Program (formerly known as food stamps) (93.5 percent), compared to higher-income children and children not living in households receiving food stamps.

Despite their relatively high participation rate, the poorest children made up a sizable majority (63.4 percent) of all children who were eligible but uninsured. Children whose parents are not citizens or do not speak English also had lower participation rates.

The Children’s Health Insurance Reauthorization Act became law in February 2009, providing coverage for an estimated 4 million additional children by expanding eligibility...
and introducing improvements to state enrollment and retention processes. In April 2010, the federal government awarded $50 million in outreach grants, including $40 million to organizations in forty-two states and an additional $10 million for targeting American Indian children. These efforts can be expected to raise participation rates and change the composition of the population of children enrolled in public coverage.

However, state budget shortfalls will undoubtedly reduce state-level efforts to promote greater enrollment and retention among eligible children even as the ongoing recession means that more children are becoming eligible. Ultimately, policy changes to be implemented in 2014 under the ACA will introduce major changes to CHIP coverage for children.

3.2 Medically underserved populations

Having health insurance coverage is only the first step to accessing quality care. Patients need to be able to gain entry into the health system, access sites where patients can receive needed services, and find providers who can meet the medical and cultural needs of individual patients.

Many racial and ethnic minorities and individuals of lower SES have reduced access to care, especially routine care, because they live in areas that are medically underserved. They may also constitute a medically underserved population because the otherwise adequate numbers of health care providers in their geographic area do not serve their population group (for example, doctors may not accept Medicaid patients).

The current Medically Underserved Population (MUP) criteria date back to 1975, when they were issued to implement legislation enacted in 1973 and 1974 establishing grants to support health maintenance organizations and community health centers serving medically underserved populations. The criteria include: percent of the population with incomes below the poverty level; primary care physician-to-population ratio; infant mortality rate; and percent of the population aged 65 or over. In addition, high-need populations living in more affluent and healthy communities can be designated as a MUP if they face significant economic, sociological, and/or cultural and linguistic barriers to primary care access.\(^{114}\)

Section 5602 of the ACA requires the Health Resources and Services Administration (HRSA) to establish a comprehensive methodology and criteria for designation of medically underserved populations and Primary Care Health Professions Shortage Areas (HPSAs). This effort is underway.\(^{115}\)

As the data in Tables 10, 11, and 12 show, Americans in racial and ethnic minority groups have reduced access to health care, a situation that is aggravated if they are poor or uninsured. The data also highlight the effectiveness of public health insurance programs such as Medicaid, CHIP, and Medicare in helping to provide access to a usual place of medical care, especially for children. Community health centers and clinics such as those provided by the Indian Health Service (IHS) also directly benefit minorities.
Emergency rooms and hospital outpatient services are used disproportionately by those with no other access to primary care services.

It is disturbing to see that over 18 percent of adults who are Hispanic or American Indian/Alaskan Native and 12 percent of Asian Americans have gone two or more years without a medical visit, particularly as a significant proportion (more than 20 percent) of these minorities who report fair to poor health also report that their health has deteriorated over the past year.\textsuperscript{116}

The very high number of visits to health care providers for Medicare/Medicaid beneficiaries aged 65 and over reflects the increased incidence of multiple chronic conditions in this population. It also highlights the possibility that better access to preventive services and treatment earlier could help limit Medicare expenditures later.\textsuperscript{117}

For children of racial and ethnic minorities, there is a direct correlation between having a usual place of care and whether a child has seen a doctor it the past year. Thirteen percent of uninsured children had not had contact with a doctor or other health professional in more than 2 years (including those who never had a contact), compared with 2 percent of children with private insurance coverage.

Dental health has a substantial impact on health status, with substantial links between poor oral health and heart disease, stroke, the risk of having a low birth weight, preterm baby and difficulties with controlling diabetes.\textsuperscript{118} High levels of unmet dental needs in all populations are of concern, but this is particularly the case for the elderly and children.

In 2009, 4.6 million (7 percent) of children aged 2-17 years had unmet dental needs because their families could not afford dental care. White children were more likely to have had a dental contact in the past 6 months (65 percent) than African American children (55 percent) or Hispanic children (54 percent). Thirty-five percent of uninsured children had had no dental contact for more than 2 years (including those who had never had contact with a dentist) compared with 14 percent children with Medicaid and 12 percent of children with private health insurance.
Table 10: Access to a usual place of health care for the adult population, by race, ethnicity, income, and health coverage

<table>
<thead>
<tr>
<th>Adult population (aged 18+) by race, ethnicity, income and health coverage</th>
<th>Without a usual place of care (%)</th>
<th>Where those with a usual place of care go (%)</th>
<th>Doctor’s office or HMO</th>
<th>Clinic or health center</th>
<th>Emergency rooms/hospital outpatient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total US population</td>
<td>16.2</td>
<td>76.2</td>
<td>20.0</td>
<td>2.9</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>15.9</td>
<td>77.6</td>
<td>19.3</td>
<td>2.2</td>
<td></td>
</tr>
<tr>
<td>White, not Hispanic</td>
<td>14.3</td>
<td>78.3</td>
<td>18.2</td>
<td>2.6</td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>16.6</td>
<td>70.3</td>
<td>21.9</td>
<td>7.0</td>
<td></td>
</tr>
<tr>
<td>American Indian/Alaskan Native</td>
<td>23.1</td>
<td>38.7</td>
<td>52.6</td>
<td>8.7</td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>18.2</td>
<td>77.4</td>
<td>19.1</td>
<td>2.3</td>
<td></td>
</tr>
<tr>
<td>Native Hawaiian/Other Pacific Islander</td>
<td>15.7</td>
<td>52.7</td>
<td>17.8</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Two or more races</td>
<td>20.8</td>
<td>60.1</td>
<td>31.9</td>
<td>6.2</td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>28.4</td>
<td>60.2</td>
<td>34.1</td>
<td>5.2</td>
<td></td>
</tr>
<tr>
<td>Poor (below FPL)</td>
<td>27.5</td>
<td>57.2</td>
<td>33.6</td>
<td>7.5</td>
<td></td>
</tr>
<tr>
<td>Near Poor (100-200% FPL)</td>
<td>23.1</td>
<td>65.7</td>
<td>28.0</td>
<td>5.2</td>
<td></td>
</tr>
<tr>
<td>Not Poor (200%+ FPL)</td>
<td>12.5</td>
<td>81.2</td>
<td>16.3</td>
<td>1.7</td>
<td></td>
</tr>
<tr>
<td>Aged under 65</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private health insurance</td>
<td>9.9</td>
<td>82.9</td>
<td>15.4</td>
<td>1.2</td>
<td></td>
</tr>
<tr>
<td>Medicaid</td>
<td>10.1</td>
<td>57.5</td>
<td>35.7</td>
<td>6.2</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>7.7</td>
<td>55.9</td>
<td>33.5</td>
<td>8.4</td>
<td></td>
</tr>
<tr>
<td>Uninsured</td>
<td>52.2</td>
<td>47.6</td>
<td>39.2</td>
<td>10.2</td>
<td></td>
</tr>
<tr>
<td>Aged 65 and over</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medicare/Medicaid</td>
<td>2.9</td>
<td>73.3</td>
<td>22.6</td>
<td>3.8</td>
<td></td>
</tr>
</tbody>
</table>


* Relative statistical error greater than 50%
Table 11: Frequency of access to health care for the adult population by race, ethnicity, income, and health coverage

<table>
<thead>
<tr>
<th>Adult population (aged 18+) by race, ethnicity, income and health coverage</th>
<th>Number of outpatient visits to doctor or other health professional in past 12 months (% of population)</th>
<th>More than 2 years since health visit (% of population)</th>
<th>More than 2 years since dental visit (% of population)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>1</td>
<td>2-3</td>
</tr>
<tr>
<td>Total US population</td>
<td>19.0</td>
<td>16.6</td>
<td>26.2</td>
</tr>
<tr>
<td>White</td>
<td>18.1</td>
<td>16.3</td>
<td>26.3</td>
</tr>
<tr>
<td>White, not Hispanic</td>
<td>15.5</td>
<td>15.8</td>
<td>27.4</td>
</tr>
<tr>
<td>Black</td>
<td>20.3</td>
<td>16.6</td>
<td>26.1</td>
</tr>
<tr>
<td>American Indian/Alaskan Native</td>
<td>29.9</td>
<td>17.6</td>
<td>27.6</td>
</tr>
<tr>
<td>Asian</td>
<td>25.6</td>
<td>21.3</td>
<td>24.5</td>
</tr>
<tr>
<td>Native Hawaiian/Other Pacific Islander</td>
<td>27.3</td>
<td>25.7</td>
<td>23.1</td>
</tr>
<tr>
<td>Two or more races</td>
<td>24.8</td>
<td>14.0</td>
<td>21.2</td>
</tr>
<tr>
<td>Hispanic</td>
<td>32.6</td>
<td>19.1</td>
<td>20.2</td>
</tr>
<tr>
<td>Poor (below FPL)</td>
<td>27.7</td>
<td>15.0</td>
<td>19.0</td>
</tr>
<tr>
<td>Near Poor (100-200% FPL)</td>
<td>24.2</td>
<td>15.6</td>
<td>22.7</td>
</tr>
<tr>
<td>Not Poor (200%+ FPL)</td>
<td>16.0</td>
<td>17.1</td>
<td>28.5</td>
</tr>
<tr>
<td>Aged under 65</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private health insurance</td>
<td>15.1</td>
<td>19.0</td>
<td>30.4</td>
</tr>
<tr>
<td>Medicaid</td>
<td>13.6</td>
<td>12.3</td>
<td>20.5</td>
</tr>
<tr>
<td>Other</td>
<td>10.6</td>
<td>10.9</td>
<td>24.2</td>
</tr>
<tr>
<td>Uninsured</td>
<td>47.1</td>
<td>18.3</td>
<td>16.8</td>
</tr>
<tr>
<td>Aged 65 and over</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medicare/Medicaid</td>
<td>8.7</td>
<td>6.9</td>
<td>13.1</td>
</tr>
</tbody>
</table>

Table 12: Access to health care by children, by race, ethnicity and health coverage

<table>
<thead>
<tr>
<th>Child population (under 18) by race, ethnicity, income and health coverage</th>
<th>Without a usual place of care (%)</th>
<th>Where those with a usual place of care go (%)</th>
<th>Time since last medical contact (% of population)</th>
<th>Unmet dental need (% of popln)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Clinic</td>
<td>Doctor’s office</td>
<td>Emergency room</td>
</tr>
<tr>
<td>Total US population</td>
<td>4.8</td>
<td>23.5</td>
<td>74.5</td>
<td>0.7</td>
</tr>
<tr>
<td>Aged 0-4</td>
<td>3.6</td>
<td>24.4</td>
<td>73.5</td>
<td>0.7</td>
</tr>
<tr>
<td>Aged 5-11</td>
<td>4.3</td>
<td>23.2</td>
<td>75.2</td>
<td>0.6</td>
</tr>
<tr>
<td>Aged 11-17</td>
<td>6.4</td>
<td>23.1</td>
<td>74.6</td>
<td>0.8</td>
</tr>
<tr>
<td>White</td>
<td>5.0</td>
<td>22.6</td>
<td>75.8</td>
<td>0.5</td>
</tr>
<tr>
<td>White, not Hispanic</td>
<td>3.8</td>
<td>16.5</td>
<td>82.4</td>
<td>0.2</td>
</tr>
<tr>
<td>Black</td>
<td>4.2</td>
<td>28.2</td>
<td>68.5</td>
<td>1.3</td>
</tr>
<tr>
<td>American Indian/Alaskan Native</td>
<td>8.7</td>
<td>48.0</td>
<td>47.8</td>
<td>*</td>
</tr>
<tr>
<td>Asian</td>
<td>5.4</td>
<td>17.4</td>
<td>79.8</td>
<td>*</td>
</tr>
<tr>
<td>Native Hawaiian/Other Pacific Islander</td>
<td>4.3</td>
<td>25.5</td>
<td>66.4</td>
<td>*</td>
</tr>
<tr>
<td>Two or more races</td>
<td>3.1</td>
<td>22.7</td>
<td>75.9</td>
<td>*</td>
</tr>
<tr>
<td>Hispanic</td>
<td>8.3</td>
<td>40.2</td>
<td>56.9</td>
<td>1.3</td>
</tr>
<tr>
<td>Poor (below FPL)</td>
<td>7.8</td>
<td>39.8</td>
<td>56.7</td>
<td>1.5</td>
</tr>
<tr>
<td>Near Poor (100-200% FPL)</td>
<td>5.6</td>
<td>30.3</td>
<td>67.3</td>
<td>0.8</td>
</tr>
<tr>
<td>Not Poor (200%+ FPL)</td>
<td>3.3</td>
<td>15.2</td>
<td>83.6</td>
<td>0.2</td>
</tr>
<tr>
<td>Private health insurance</td>
<td>2.3</td>
<td>13.3</td>
<td>85.8</td>
<td>0.1</td>
</tr>
<tr>
<td>Medicaid/other public</td>
<td>4.0</td>
<td>36.8</td>
<td>60.9</td>
<td>0.7</td>
</tr>
<tr>
<td>Other</td>
<td>4.5</td>
<td>37.8</td>
<td>56.3</td>
<td>*</td>
</tr>
<tr>
<td>Uninsured</td>
<td>24.2</td>
<td>37.4</td>
<td>54.5</td>
<td>4.9</td>
</tr>
</tbody>
</table>


* Relative statistical error greater than 50%
The concept of medical underservice is used in reference to adequate access to primary care services, but the problems are magnified when consideration is given to the ability of racial and ethnic minorities to access to specialty health care and mental health services.

Although direct evidence that racial and ethnic minorities have reduced access to specialist health care services is scarce, there is considerable indirect evidence to support this (for example, increased mortality rates from cancer and suicide, lower levels of participation in clinical studies, and decreased likelihood of registration for transplants). These issues are discussed elsewhere in this paper.

There is also evidence to suggest that the time doctors spend with patients of different racial and ethnic groups varies by medical specialty. For example, an analysis conducted in 2000 showed that African Americans, who constituted approximately 12 percent of the U.S. population in that year, used a disproportionately higher percentage of total patient care hours of emergency medicine physicians (38 percent), obstetricians/gynecologists (17 percent), and pediatricians (16 percent). But they received proportionately fewer hours from "other" surgical specialties (8 percent) and general surgeons (9 percent).

Disparities also abound in utilization of mental health treatment services. Compared to white Americans, racial and ethnic minorities have less access to, and availability of, mental health services.

These problems may be due in large part to the documented inability of primary care doctors, especially those who care for racial and ethnic minorities, to provide timely and affordable referrals to high-quality subspecialists, diagnostic imaging, ancillary services, and to non-emergency hospital admissions.

3.3 Concordance between provider and patient

The latest census figures highlight the fact that the United States is becoming increasingly racially and ethnically diverse. Furthermore, higher birth rates among racial and ethnic minority groups, relative to non-Hispanic Whites, and immigration patterns suggest that this trend will continue, with growth in the Hispanic population as the major contributor.

Although minorities now comprise more than 35 percent of the U.S. population (a percentage which is growing), they are underrepresented in the health care professions, even as the number of African American and Hispanic medical school graduates in the United States has grown substantially over the past two or three decades (about doubling for Hispanics). However there is one exception to this trend as the number of Asian graduates has outpaced all the other minority groups, growing about eightfold over the same period (see Figure 13).
In 2004, the Sullivan Commission on Diversity in the Healthcare Workforce examined disparities and diversity in the health care system and noted that “the lack of minority health professionals is compounding the nation’s persistent racial and ethnic health disparities.”

Increasing the number of under-represented groups in the health professions can help address health care disparities by both improving access to care and by responding more effectively to minority population needs. Studies have consistently shown that minority physicians working in primary care are more likely to care for patients of their own race or ethnic group, practice in areas that are underserved or have health care manpower shortages, provide care for poor patients, patients with Medicaid insurance, or no health
insurance, and provide care for patients who report poor health status and use more acute medical services such as emergency rooms and hospital care.¹²⁶

There is also evidence that race concordance - defined as shared racial or ethnic identities between clinicians and patients – is related to patient reports of satisfaction, participatory decision making, timeliness of treatment, and trust in the health system.¹²⁷

Several studies show that racial and ethnic concordance between health care professional and patient is substantially and positively related to patient satisfaction, although it is not essential for patient satisfaction.¹²⁸ Quite simply, patients feel most comfortable with doctors similar to themselves. However there are clearly a number of interrelated factors in play, including simply the issue of patient choice.¹²⁹

These issues are highlighted in the study done by Cooper and others in 2003,¹³⁰ which found that race-concordant visits were longer and had higher ratings of patient satisfaction than race-discordant visits. Patients in race-concordant visits also rated their doctors as more participatory, regardless of the communication that occurred during the visit. The authors concluded that, because the association between race concordance and higher patient ratings of care is independent of patient-centered communication, other factors such as patient and physician attitudes may mediate the relationship.

Interestingly, the evidence suggests that the provider biases or patient expectations that contribute to disparities in care for adults are attenuated in the relationships involving care for children.¹³¹ One indication for this difference between adults and children may lie in the disquieting levels of medical distrust among all patient populations, but especially among African Americans.¹³² These findings of mistrust among African Americans are consistent across all educational and income levels and may relate to issues such as the Tuskegee experiment.¹³³

On the other side of the doctor – patient relationship, research suggests that health care providers’ diagnostic and treatment decisions, as well as their feelings about patients, are influenced by patients’ race or ethnicity.¹³⁴ Doctor and patient attitudes may play off and influence each other to the detriment of the patient’s medical outcome.¹³⁵ Lack of concordance may mean that providers miss symptoms or ascribe them wrongly, fail to recognize mental health problems, understand what complementary and alternative treatments patients might be using, and are unable or unwilling to address concerns about sensitive issues such as sexuality and end-of-life care.

For the foreseeable future, the majority of health care encounters will not be racially or ethnically concordant, and so it is essential that all health care providers receive appropriate training to ensure that they provide culturally competent care. Provisions are included in the ACA to boost the delivery of such training.
3.4 Literacy and language

The issues around literacy and language are related to those discussed in the section on cultural concordance above. However, literacy and language problems can give rise to health care disparities even when there is provider-patient concordance.

Health literacy is defined in *Healthy People 2020* as: "The degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions". About one third of the adult population in the United States has limited health literacy, and that proportion is higher in racial and ethnic minorities.

Health literacy includes the ability to understand instructions that come with prescription medicines, appointment slips, medical education brochures, doctor's directions and consent forms, and the ability to negotiate complex health care systems. Health literacy is not simply the ability to read; it requires a complex group of reading, listening, analytical, and decision-making skills, and the ability to apply these skills to health situations.

In the absence of health literacy, patients may make medication errors, fail to properly comply with treatment regimes, and be unable to give informed consent. For example, it is postulated that the higher rates of poor health literacy in racial and ethnic minorities may represent an important variable contributing to higher rates of diabetes complications in minority groups.

More than 46 million people in the United States do not speak English as their primary language, more than 21 million speak English less than "very well" and the proportion of the population that speaks a language other than English at home is increasing. Language barriers have a major impact on both the quality and the costs of health care. Patients with limited English-language proficiency encounter significant disparities in access to health care and are at increased risk of experiencing medical errors.

At least 66 million patient-provider encounters occur across language barriers each year. Without interpreter services, these patients have a more difficult time obtaining medical services, receive lower-quality health care, and have a greater chance of experiencing negative health outcomes. As many as one in five Spanish-speaking Americans report not seeking medical care because of language barriers.

All federal programs and those receiving assistance from the federal government must take reasonable steps to ensure that persons who have limited English proficiency have meaningful access to the programs, services, and information that those entities provide. The standards on culturally and linguistically appropriate services (CLAS) in health care are issued by the Office of Minority Health in the Department of Health and Human Services (DHHS). They are designed to contribute to the elimination of health disparities by addressing the linguistic and cultural needs of patients in an appropriate manner. Clearly the language needs (and therefore the services such as translators that
are required) will vary from region to region, and in some cases from provider to provider.

To provide these services it is necessary to know the spoken English language proficiency and preferred language for the patient’s health-related encounters. The IOM proposes that this can best be assessed by asking two questions: one assessing whether a person rates his or her ability to speak English as less than “very well”, and a second one to determine the language preferred for encounters. The IOM also recommends that where possible and applicable, health care providers should also collect information on the language spoken by the patient at home and the language in which the patient prefers to receive written materials. ¹⁴⁶

A 2007 report that looked at cultural and linguistic services in hospitals found that much needs to be done to address cultural and linguistic barriers, particularly in the areas of language access services, informed consent and related patient education processes, and the collection and use of patient demographic data. ¹⁴⁷

It will also be important that there are methodologies developed for evaluating the effectiveness of efforts to address language and cultural needs in improving both the outcomes and the quality of care. These methodologies should also consider the costs involved in providing language services and the cost-savings that such services can achieve.

Given the higher rates of poor literacy in racial and ethnic minorities, and the particular language barriers faced by those whose first language is not English, these population groups will benefit disproportionately from efforts to improve health literacy.

### 3.5 System biases

This report has previously considered how individual biases on the part of either or both the health care provider and the patient may influence health care. However there may also be system biases - the ways in which health care systems are organized and financed, and the availability of services – that can exert different effects on patient care, particularly for racial and ethnic minorities. These go well beyond the barriers posed by language and literacy discussed above.

The IOM report *Unequal Treatment* has proposed that changes in the financing and delivery of health care services such as managed care systems may pose greater barriers to care for racial and ethnic minorities than for non-minorities. ¹⁴⁸ The report cites a study showing that minorities were less likely to access services after mandatory enrollment in a managed care plan (an HMO) compared to white Americans mandatorily enrolled in the same Medicaid plan and to other minorities enrolled in Medicaid non-managed care plans as an example of this phenomenon.
Documented discriminatory practices in health care have included physician refusal to participate in Medicaid, imposing qualifications unrelated to skills (such as membership in a local medical society) as a means of barring minority doctors and doctors who treat minority patients from membership on hospital staffs, and failing to make information about programs and language services accessible. Location or relocation of services also has been challenged as discriminatory.  

Several practices in managed care can have a disparate effect on minorities. For example, managed care organizations can discriminate against minorities in their selection of providers. A doctor or other type of provider that serves mainly poor minorities may not be included in a managed care network because the provider’s patients might be considered too costly for the network. Selective marketing, where health insurers target well-to-do suburban areas for enrollment while ignoring inner-city areas, or bypass certain zip codes when they do their marketing, can also occur.  

The fragmentation of health care services and the subsequent lack of continuity of care also put minorities at a disadvantage and are seen as a major contributor to disparities in care. Although health care systems are complex and can often be difficult to navigate for all members of society, deficits related to fragmented care are most likely to affect patients who are disadvantaged because of race, ethnicity, language, immigrant status, income, education, or lack of insurance coverage. These patients too often fall through the cracks in the system. In high technology, multi-step health care procedures such as heart surgery, cancer treatment, and organ transplants, small disparities at each step in the process can yield a moderate to large disparity in the overall pattern of care.  

3.6 Indian Health Service  

The Indian Health Service (IHS) delivers services to 1.9 million American Indians and Alaska Natives through direct health care services and tribally operated health care services. The purchase of health care from private providers is also an integral component of the health system for services unavailable in IHS and tribal facilities or, in some cases, in lieu of IHS or tribal health care programs.  

The majority of IHS service providers are on or near reservations, but the IHS also serves about 600,000 people living in urban areas. IHS facilities often represent the only source of health care for American Indian and Alaska Native individuals, particularly for those who live in the most remote and poverty stricken areas of the United States. On an annual basis the IHS delivers almost 11 million outpatient services, 3.5 million dental services, and over 54,000 inpatient services. The annual per capita spending is $2,690, compared to the per capita spending for the total U.S. population of $6,826. The average cost of a health insurance plan is about 40 percent more than the IHS funding level for each person served. This funding gap limits essential services and contributes to health care disparities.
After adjusting for inflation and population growth, the amount of funding the IHS receives has been steadily declining since the early 1990s. The National Indian health Service Board estimates that the IHS needs $21.2 billion annually to meet the health care needs of all its eligible members (the FY2010 budget was $4.4 billion).\textsuperscript{156}

4. Healthy food systems

Food systems generate and exacerbate key health disparities in the United States.\textsuperscript{157} Strong evidence ties racial/ethnic and socioeconomic disparities to diet quality or diet healthfulness and to obesity and diet-related disease. The limited resources for food in low-income neighborhoods causes increased food expenditures and a lower-quality diet higher in fat and calories, leading to obesity and overweight, diabetes and other related health problems.\textsuperscript{158}

The type of food stores in the neighborhood is important. Supermarkets are likely to sell the widest variety of healthy foods at the cheapest prices, while convenience stores and bodegas usually charge more, and tend not to sell fresh food. Studies have confirmed that minority and low-income individuals who live near supermarkets have healthier diets. For example, the likelihood that African-Americans’ diets will meet guidelines for fruit and vegetable consumption increase by 32 percent with every additional supermarket located in the census tract where they live.\textsuperscript{159}

A national study found that low-income neighborhoods have only three-fourths as many chain supermarkets as middle-income areas; African American neighborhoods have only half and Hispanic only one-third as many of the larger chain supermarkets as predominantly white areas. Often, people must travel significant distances to have access to large food stores. A Chicago study found that residents of poor neighborhoods must travel more than two miles to access the same number of supermarkets as are available within a half-mile to residents of non-poor areas,\textsuperscript{160} and rural residents of Mississippi must travel more than 30 miles to reach a large store.\textsuperscript{161}

Beyond the ability to access foods that are high in essential nutrients, there are differences in the ability to access calories altogether. An estimated 11.1 percent of Americans have “low food security” and 4.1 percent have “very low food security”, with African Americans and Latinos estimated to have double the national rates.\textsuperscript{162} In the United States, food insecurity has been found to be highly correlated with obesity.\textsuperscript{163}

Marketing can affect perceptions, knowledge, and behaviors not only by promoting particular items, brands, and categories of food but also by promoting social identification and positive associations with brands. In 2008, $7.82 billion was spent on food and beverage marketing and $5.62 billion on restaurant marketing, representing 15 percent and 28 percent increases respectively since 2004. In Food for Thought: Television Food Advertising to Children in the United States, the Kaiser Family Foundation reported that children and adolescents see up to 6,100 televised food advertisements a year. Approximately one-third of the advertisements are for candy and
snacks, a quarter are for cereal, and a tenth are for fast food. Only 5 percent are for healthy foods/beverages such as dairy products and fruit juice and none are for fruits and vegetables.

Studies have found that more food commercials are aired during “African American” shows than others, and that the distribution of items advertised is more heavily skewed toward unhealthy items. Additional research shows that low-income children watch more television and have greater media exposure - and thus more exposure to food commercials - than their higher-income peers.

Few interventions and policies are specifically developed to reduce differential food marketing by race/ethnicity. Possible approaches include zoning changes, counter-advertising, marketing guidelines, “shaming” the advertisers publicly, and media literacy education.

5. Genetics

Scientists in the medical and public health research community are deeply divided about the associations between genes and race in determining the susceptibility, prevalence, and outcomes of human disease.

A significant part of the budget of the National Institutes of Health (NIH) can be classified as supporting health disparities research either directly or indirectly. In 2010 direct funding for health disparities research was $209 million; the indirect figure is not available, but in 2003 indirect funding was almost $3 billion. Some of this work includes initiatives to identify genetic contributions to health disparities. For example, the 2003 vision statement by the National Human Genome Research Institute (then under the auspices of Dr Francis Collins, who is now the NIH Director) for the future of genomics named as a “grand challenge” the need to develop “genome-based tools” to address disparities in health status. The statement acknowledged that social and economic factors contribute significantly to disparities, but nevertheless asserted the need for extensive research to better understand the contribution of genetics.

A paper published in 2004 by a group of bioethicists recognized that while genetic research may well succeed in elucidating genetic factors that contribute to diseases associated with health disparities, the reporting of such studies all too often tends to downplay the fact that non-genetic factors are substantial contributors or that the onset or severity of the disease results from a complex interaction of genetic and environmental factors. The authors make the point that an over-focus on genetics in the effort to alleviate health disparities could have the paradoxical result of actually exacerbating disparities.

Genomics does have the potential to help eliminate health care disparities through the development of targeted therapies, although realistically these are more likely to be based
on individual genetic make-up. Again, this expensive proposition comes with the possibility that health care disparities will be increased.

There are reports of therapy failure in some racial and ethnic groups, and the Food and Drug Administration (FDA) has approved race-specific pharmacotherapy to treat heart failure and glaucoma in African Americans. For example, it has been suggested that the antihypertensive effect of medicines such as ACE inhibitors and beta-blockers may be less in Black patients than in other racial groups. However, most of the published literature on this topic is limited by its retrospective nature.

Firm conclusions regarding the influence of race on effectiveness of certain medications cannot be made until prospective trials, with planned analysis of the effect of race, have been performed. These types of findings boost the case for ensuring that racial and ethnic minorities are better represented in clinical studies.

### 6. Culture and acculturation

The concept of culture as distinct from race and ethnicity has been proposed as an explanation for differences in health behavior and health outcomes. The definition and conceptualization of culture varies across disciplines. The Office of Minority Health at DHHS defines culture as “integrated patterns of human behavior that include the language, thoughts, communications, actions, customs, beliefs, values, and institutions of racial, ethnic, religious, or social groups.”

Acculturation is a concept related to culture that is typically used to explain ethnic disparities in health outcomes based on the assumption that culturally based knowledge, attitudes, and beliefs cause people to behave in certain ways and make specific health choices. Acculturation measures assume that there is a “mainstream” culture and an “ethnic culture”; however, most studies on acculturation rarely define or describe what constitutes these “mainstream” or “ethnic” cultures. A systematic review of acculturation studies focused on Hispanic health found that only a handful (8 percent) included any definition of culture, and in most instances the definition of culture was nebulous and imprecise.

Culture, as defined above, is important to everyone, regardless of race or ethnicity. However its importance is heightened for minority patients who receive their health care in systems designed, operated, and staffed by majority groups. Culture is important because it bears upon what both patients and health care professionals bring to the clinical setting. It can account for variations in how patients communicate their symptoms and which ones they report, whether people even seek help in the first place, what types of help they seek, and what coping styles and social supports they have.

Culture is a concept that also applies to health care professionals. Health professionals in the United States and the institutions in which they train and practice are rooted in
Western medicine, which emphasizes the primacy of the human body in disease and the acquisition of knowledge through scientific and empirical methods. This viewpoint may differ substantially from that of the patient.\textsuperscript{176}

Recently, there has been a considerable focus on efforts to improve cultural competency in the health care workforce, as exemplified by the provisions included in the ACA to fund increased efforts in this area. However, to date there has been little in the way of rigorous research to evaluate the impact of cultural competency initiatives and techniques on outcomes, including racial and ethnic disparities, with the exception of those to address language barriers.\textsuperscript{177}

Implicit in much research on acculturation is the assumption is that increased acculturation brings immigrants’ values and behaviors in line with a standardized set of values, primarily those associated with "white American culture." But there are now a number of major minority groups in the United States, and some Hispanics, for example, may interact more with other groups of color than with white Americans.

Acculturation may be seen as a risk factor for health. High levels of acculturation among Latinos are associated with increased rates of cancer, infant mortality, and other indicators of poor physical and mental health. In general, rates of risky health behaviors (e.g., smoking, alcohol use, high body mass index) also increase with acculturation. The results are not all negative, however, as there is also some evidence that it is associated with several healthy behaviors, such as greater exercise and leisure-time physical activity.\textsuperscript{178}

\section*{6.1 Immigration status}

It is well documented that immigrants arriving in the United States are in better health than their American counterparts, but that this health advantage erodes over time. Similar patterns have been observed for immigrants to other developed countries.\textsuperscript{179}

Health selection - the propensity of immigrants to be much healthier than a representative person in the sending country, combined with the U.S. screening process for those wishing to immigrate - is a quantitatively important phenomenon in establishing this health advantage. However, great diversity exists among immigrants in the extent of health selection and the nature of health selection of immigrants appears to be fundamentally different among older immigrants.\textsuperscript{180}

Research has shown that grouping together foreign-born Blacks, Hispanics, and Asians misses important health differentials within these groups.\textsuperscript{181} Differences in migration circumstances, human and social capital, context of reception, and lifestyle characteristics help explain the variations.

Several examples illustrate this point.
A study looking at 15 Asian/Pacific Islander subpopulations found that these were quite heterogeneous in terms of social and demographic characteristics, as well as disability status.\textsuperscript{182} Japanese, Chinese, Filipino, and Asian Indian adults had relatively higher SES and lower risk of disabilities. There were also differences within subpopulations. For example, Vietnamese adults had better health than Laotians, Hmong, and Cambodians. Relevant factors in for health status in these populations include education, ability to speak English, refugee status, previous traumas, and cultural health beliefs.\textsuperscript{183}

Compared to U.S.-born Blacks, black immigrants from Africa have superior health, and black immigrants from minority white (Africa, South America) and racially mixed (West Indies) regions have better health. But black immigrants from majority white (European) regions have a similar health status to U.S.-born Blacks.\textsuperscript{184} Some studies suggest that those immigrants from cultures in which Blacks are the majority have higher self-esteem, are more prepared to resist efforts to discriminate against them, and their accents allow them to be perceived by others as different from U.S.-born Blacks. However, this increased resilience against racism erodes over time.\textsuperscript{185}

Among Hispanics, Cubans are most likely to report that they are in good or excellent health (82.9 percent, compared to 87.4 percent of Whites who report good-excellent health), followed by those from Central and South America (80.5 percent), and Mexicans (78.3 percent). Puerto Ricans report health outcomes that parallel those of African Americans (75 percent). The high numbers of illegal and undocumented immigrants in this population has a direct effect on both health status and the ability of individuals to access health care.\textsuperscript{186}

The finding that age-adjusted mortality is lower for Hispanics than for non-Hispanic Whites, despite the fact that Hispanics have lower socioeconomic status, is at the core of what is called the Hispanic paradox, discussed earlier in this paper.

As previously noted, a key issue for immigrant populations is the ability to access health care. The foreign-born population is more than twice as likely as natives to be uninsured. In 2010, 14.1 percent of the native-born population did not have health insurance, but 34.5 percent of the foreign-born population was uninsured. Most of this gap, however, can be explained by differences among two subgroups of the foreign-born population – naturalized citizens and noncitizens, who include undocumented as well as resident aliens.

Although 46.0 percent of noncitizens were uninsured in 2010, the percentage of naturalized citizens who were uninsured was 19.0 percent, only slightly more than the percentage of natives without health insurance.\textsuperscript{187} The figures are considerably worse for Hispanics, with 59.3 percent of those who are not citizens being without health coverage (see Tables 13 and 14).
Table 13: Health Insurance Coverage Status by Nativity and Citizenship for all people, 2009 (%)

<table>
<thead>
<tr>
<th>Population group</th>
<th>Not covered</th>
<th>Private</th>
<th>Government</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Group coverage</td>
<td>Direct purchase</td>
</tr>
<tr>
<td>Total population</td>
<td>16.7</td>
<td>55.8</td>
<td>8.9</td>
</tr>
<tr>
<td>Native-born</td>
<td>14.1</td>
<td>57.8</td>
<td>9.3</td>
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<tr>
<td>Foreign-born</td>
<td>34.5</td>
<td>41.4</td>
<td>6.5</td>
</tr>
<tr>
<td>Naturalized</td>
<td>19.0</td>
<td>52.8</td>
<td>8.8</td>
</tr>
<tr>
<td>Non-citizen</td>
<td>46.0</td>
<td>33.0</td>
<td>4.8</td>
</tr>
</tbody>
</table>


Table 14: Health Insurance Coverage Status by Nativity and Citizenship for Hispanics, 2009 (%)

<table>
<thead>
<tr>
<th>Population group</th>
<th>Not covered</th>
<th>Private</th>
<th>Government</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Group coverage</td>
<td>Direct purchase</td>
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<tr>
<td>Total population</td>
<td>32.4</td>
<td>36.5</td>
<td>3.3</td>
</tr>
<tr>
<td>Native-born</td>
<td>21.8</td>
<td>40.9</td>
<td>3.4</td>
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<tr>
<td>Foreign-born</td>
<td>50.3</td>
<td>28.9</td>
<td>3.2</td>
</tr>
<tr>
<td>Naturalized</td>
<td>29.1</td>
<td>44.1</td>
<td>5.2</td>
</tr>
<tr>
<td>Non-citizen</td>
<td>59.3</td>
<td>22.4</td>
<td>2.3</td>
</tr>
</tbody>
</table>

7. Discrimination, racism and stress

The stress induced by personal experiences of racial bias is viewed as one mechanism by which racism in the larger society can affect health. Mental health is the most frequently studied outcome of the effects of discrimination on health. Further research is needed to assess the extent to which discrimination and the negative emotional states created by discrimination might lead to health behaviors, such as impaired sleep patterns, decreased physical activity, increased tobacco and substance use, and overeating, all of which may ultimately be risk factors for chronic illnesses.¹⁸⁸

The current evidence in support of the impact of discrimination and racism on physical health is variable. A 13-year longitudinal study by the National Panel Survey of Black Americans that focused on perceived and experienced racism and the effects on mental and physical health found that the impact varied over the time frame of the study.¹⁸⁹

The CARDIA study of young black and white adults found that stress induced by racial discrimination has as much or more of an impact on blood pressure as smoking, lack of exercise, and a high-fat, high-sodium diet.¹⁹⁰ The blood pressure of black adults who reported that they typically accepted unfair treatment and had experienced racial discrimination was about 7 mm Hg higher than for those who reported that they challenged unfair treatment and racial discrimination.

A study of African American women found that, among smokers and drinkers, past year racism was positively correlated with the number of cigarettes and drinks consumed. Lifetime racism was negatively related to perceived health, and positively related to lifetime history of physical disease.¹⁹¹

Nearly one in three African Americans has high blood pressure, compared with one in four whites. High blood pressure also begins at an earlier age for African Americans and is usually more severe.¹⁹² Could these differences be explained by stresses due to discrimination?

In a study of the effect of racial and ethnic discrimination on health, David Williams and his colleagues suggested that, in studying how individuals confront and adapt to discrimination, it is also important to focus on the potential positive, as well as negative, consequences.¹⁹³ They posit that some stressful life experiences can change people’s perspectives in ways that can improve and enhance their coping capacity and make them better able to deal with future stressful experiences.

7.1 Residential segregation

Despite increased racial and ethnic diversity, American neighborhoods continue to be segregated, and indeed some of the progress made toward integration since 1980 has come to a halt this decade, according to a recent report that analyzed 2005-2009 data from the U.S. Census Bureau’s American Community Survey.¹⁹⁴
The report found that African Americans are still the most segregated minority, especially in major cities, and in some cities (New York, Milwaukee, Newark, Detroit and Chicago) the levels of segregation for the black population are the same as those 30 years ago. An “Index of Dissimilarity” which measures how evenly two racial groups are spread across neighborhoods, was used to analyze segregation. The lowest possible value is zero, which indicates that the percentage of each group in every neighborhood is the same as their overall percentage in the metropolitan areas. The highest value of 100 indicates that the two groups live in completely different neighborhoods. By this criteria, Black-White segregation averaged 65.2 in 2000 and 62.7 in 2009. In 2009, the average white person in metropolitan America lived in a neighborhood that was 77 percent White. Still, this represents growing diversity compared to 1980, when the average was 88 percent White.

Hispanic-White segregation was 51.6 in 2000 and 50 in 2009, and Asian-White segregation has grown from 42.1 to 45.9 over this same timeframe. Immigration was a major factor in the Asian and Hispanic numbers. Segregation of Asians from Whites has begun to increase and is now almost as high as segregation of Hispanics.

Williams and others have argued that racial residential segregation is the cornerstone on which Black-White disparities in health status have been built in the United States because it shapes socioeconomic conditions for African Americans not only at the individual and household levels, but also at the neighborhood and community levels. They see residential segregation as not just a key determinant of racial differences in socioeconomic mobility, but also as leading to social and physical risks in the residential environments that adversely affect health.

For example, residential segregation affects the quality of education and educational and employment opportunities. Research using data from Census 2000 showed that the average black household with an income over $60,000 lived in a neighborhood with a higher poverty rate than did the average white household earning less than $20,000. And while the average white elementary student attended a school where about 35 percent of classmates were eligible for the reduced-price lunch program – an indicator of poverty – the average African American or Hispanic student attended a school where 65 percent of classmates were eligible. In other words, separate – in both neighborhoods and schools – still means unequal.

It has been estimated that the elimination of residential segregation would lead to the disappearance of black-white differences in earnings, high school graduation rates, and idleness and reduce racial differences in single motherhood by two-thirds.

In contrast, the consequences of the segregation of Hispanic, Asian and Pacific Islander metropolitan populations are unknown, as is the impact of immigrants on segregation.
7.2 Indian reservations

The prevalence of high poverty rates on American Indian reservations suggests the need to explore the extent to which reservation life reflects the problems associated with inner city poverty and segregation.

About 40 percent of American Indians live on reservations, where typically tribal and federal governments are the largest employers. The scarcity of jobs and lack of economic opportunity mean that, depending on the reservation, 40-80 percent of adults on reservations are unemployed. Many households earn only social security, disability, or veteran’s income. The overall percentage of American Indians living below the FPL in 2008 was 28.2 percent, but poverty rates on some reservations were as high as 63 percent. There is a housing crisis on reservations with many families living in substandard and over-crowded housing that lack utilities as important as running water, telephones, and electricity.199

However, these very real and problematic issues are off-set by some key advantages. These include the fact that reservations provide a cultural base with the ability to share a traditional way of life and speak the native language, a strong sense of family and community, and ready access to social services and assistance programs.

In the same way that the legacy of slavery and discrimination has permeated African American life, so too the lives of today's Indian elders are likely to have been influenced by the history of oppression and repression experienced since North America was colonized by Europeans. The disenfranchisement, the tradition of extermination, the broken treaties, the forced marches of the 18th and 19th centuries, and the Indian boarding schools are part of the context of the world and family experiences for many American Indians.
APPENDIX 1: HOW DISPARITIES DATA ARE COLLECTED

1. OMB requirements for the collection of racial and ethnic data

In 1997, the Office of Management and Budget (OMB) released the revised standards for the collection of race and ethnicity known as Statistical Directive 15 and required federal agencies to comply with these by January, 2003. These new standards included self-identification as the preferred data collection method and the ability to report multiple races for an individual. These standards were further revised in 2003.200

Development of these data standards stemmed in large measure from the enforcement of civil rights laws. Data were needed to monitor equal access in housing, education, employment, and other areas, for populations that historically had experienced discrimination and differential treatment because of their race or ethnicity. The categories thus represent a social-political construct designed for collecting data on the race and ethnicity of broad population groups in the United States.

The minimum race categories for the 1997 OMB standards for collecting data on race and ethnicity are: American Indian or Alaska Native; Asian; Black or African American; Native Hawaiian or Other Pacific Islander; White. The minimum ethnicity categories are: Hispanic or Latino; not Hispanic or Latino. The OMB standards allow for additional race categories to be collected, although they must be additive (i.e., non-overlapping subcategories) within the minimum set of race categories. Finally, the respondent instructions specify “Mark (X) one or more races” to indicate what this person considers himself/herself to be, which allows for multiple-race responses.

The 2003 revision of the standards for vital certificates recommends the following race and ethnicity categories, which are in principle the same as those used for the 2000 and 2010 decennial censuses.

1. Hispanic Origin
   - No, not Spanish/Hispanic/Latino
   - Yes, Mexican, Mexican American, Chicano
   - Yes, Puerto Rican
   - Yes, Cuban
   - Yes, other Spanish/Hispanic/Latino (with space to write in group)

2. Race
   - White
   - Black or African American
   - American Indian or Alaska Native (with space to write in principal tribe)
   - Asian Indian
   - Chinese
Filipino
Japanese
Korean
Vietnamese
Other Asian (with space to write in race)
Native Hawaiian
Guamanian or Chamorro
Samoa
Other Pacific Islander (write in race)
Other (write in race)

The current format allows for multiple-race reporting for an individual, but not multiple ethnicities.

There is an issue of comparability between data based on the 1997 race and ethnicity categories and the more detailed 2003 categories. The National Center for Health Statistics, with the help of the Census Bureau, has made efforts to estimate the resulting respondent differences and mitigate the comparability issues.201

Other data collection requirements

For birth certificates, currently the race of the newborn is not collected and, for reporting purposes, it is based on the race of the mother, which she is to self-report.

For death certificates, it is usually the responsibility of the funeral director to elicit race and ethnicity of the decedent from a family member or responsible party.

2. ACA requirements for the collection of data on racial and ethnic disparities

The ACA (Affordable Care Act) recognizes that greater efforts are needed to quantify racial and ethnic disparities in health care, to investigate their causes and impacts, and to implement and evaluate interventions to address them. There is a significant number of provisions in the ACA that require the collection and analysis of data on racial and ethnic health care disparities. These data will be critical for guiding both government policy and the programs and practices of individual health care institutions and providers.

Section 4302 (Understanding health disparities; data collection and analysis) of the ACA amends the Public Health Service Act to expand the current requirements for the collection and analysis of health disparities data. By 2013, all federally-funded health programs and population surveys will be required to collect and report data on race, ethnicity, primary language and other indicators of disparity identified as appropriate by the Secretary of DHHS. This provision also strengthens data collecting and reporting
mechanisms in Medicaid and CHIP, bringing them up to the same standards as for Medicare.

The Secretary is required to ensure that these data are analyzed to detect and monitor trends in health disparities and to disseminate this information to the relevant Federal agencies and to the public. The OMB categories of race and ethnicity will be the minimum standard, and the use of over-sampling is authorized to produce statistically reliable estimates.

3. Issues around collecting the data

Improvements in data collection and reporting have the potential to raise public awareness about racial and ethnic health care disparities and drive new evidence-based initiatives that are effectively targeted. However, there are some barriers that, unless addressed, will hinder implementation efforts and limit the usefulness of the data collected.

To ensure that these new requirements are maximally effective, their implementation will need to address a number of issues:

- Design of questions that will allow patients to self-identify their race and ethnicity accurately and without resistance.

- Provision of a standard approach for rolling up these individual responses into the OMB categories for analytical and reporting purposes.

- Collection of information about spoken English language proficiency, the preferred language for health-related encounters information, the language spoken by the patient at home, and the language in which the patient prefers to receive written materials.

- Standardization of the way data on racial and ethnic disparities are collected across the various agencies of DHHS and the development and promulgation of best practices in this regard.

- Requirements and incentives to ensure that all health insurance plans and providers, regardless of whether they receive federal funding, collect, use and share data on racial and ethnic disparities to agreed standards and methodologies.

- The use of education and awareness materials to inform patients, providers and health plans about the need for data collection on racial and ethnic disparities.

- Training programs and resources, including health IT, to facilitate the collection of these data to the agreed standards.
• More research to improve the science of evaluating interventions to reduce disparities, and the dissemination and uptake of best practices in this area.

• Strong national leadership and coordination of efforts.202

There have been many recent reports and reviews in this area. It will be important to utilize the knowledge base that these provide.
APPENDIX 2: THE CONSEQUENCES OF RACIAL AND ETHNIC HEALTH DISPARITIES

1. Health status (self assessed)

While self-reported health is subjective, there is evidence that it is a strong prognostic indicator for subsequent mortality for both genders and all racial/ethnic groups. A study that used pooled 1986–1994 data from the National Health Interview Survey (NHIS) found strong associations between self-reported health status and both socioeconomic status and subsequent mortality. A self-report of fair or poor health was associated with at least a twofold increased risk of mortality for all racial and ethnic groups. Even after adjustment for socioeconomic status and measures of comorbidity, a significant relation was found between self-reported health status and subsequent mortality.\(^{203}\)

Minorities in the United States generally rate their health as poorer than Whites. In the 2005 NHIS, nearly 20 percent of Blacks rated their health as fair or poor, compared to 17.8 percent of Hispanics, 16 percent of American Indians/Alaska Native, and 11 percent of Whites.\(^{204}\) The currently available data from the 2010 NHIS are not broke down this way and are not as detailed. It shows 54.4 percent of African Americans reporting excellent or very good health, compared to 58.8 percent of Hispanics and 70.2 percent of Whites.\(^{205}\)

Almost half of African American adults report having a chronic illness or disability. The disparity in chronic illness between Blacks and Whites persists across income levels and after adjusting for age.\(^{206}\) Access to quality primary care is associated with reduced racial and ethnic disparities in self-rated general and mental health status. This relationship is particularly pronounced for the racial and ethnic minorities living at or below poverty level.\(^{207}\)

The importance of equitable access to health care services in reducing racial and ethnic disparities is further highlighted by Canadian research. Unlike the United States, health care access in Canada is not strongly determined by SES, which may explain why the socioeconomic perspective fails to explain racial/ethnic variance in self-reported health status that country.\(^{208}\)

2. Risk factors

Disparities are widespread across a number of risk factors for disease and disability, including obesity, smoking, diabetes, and hypertension.\(^{209}\)
2.1 Obesity

Obesity is debilitating and is often a catalyst to chronic illness. More than one-in-four Americans (over 60 million people) are classified as obese (i.e. having a body mass index of 30.0 or higher).\textsuperscript{210}

Adult obesity rates for African Americans and Hispanics are higher than those for Whites in nearly every state of the nation. Adult obesity rates for African Americans are greater than or equal to 30 percent in 43 states and the District of Columbia. In nine states, the rates exceed 40 percent. Adult obesity rates for Hispanics are greater than or equal to 30 percent in 19 states.\textsuperscript{211}

Higher rates of obesity translate into higher rates of obesity-related diseases, such as type 2 diabetes and heart disease, so it is no surprise that African Americans and Hispanics have higher rates of diabetes, hypertension and heart disease than other groups.\textsuperscript{212}

The growing incidence of childhood obesity is a particular problem, as too often overweight children grow into overweight adults, with all the accompanying health problems. Obesity rates are higher for African American and Hispanic children and adolescents than for their white peers. African Americans girls and Hispanic boys are at greatest risk for being obese. Obesity rates for American Indian children are comparable to those for African American children, and Samoan children also appear to be at high risk. Asian American children are less likely to be obese. Although poor children are more likely to be obese, this link varies across racial and ethnic groups.\textsuperscript{213}

Increasing obesity rates present an international challenge, with the United States in the unenviable position of usually ranking highest on the obesity tables.

2.2 Physical activity

A number of studies have demonstrated racial and ethnic disparities in leisure-time physical activity, such that African Americans, Hispanics, Asians and Pacific Islanders tended to be less physically active compared to Whites.\textsuperscript{214}

Not surprisingly, the ability of racial and ethnic minorities to engage in moderate and vigorous physical activity is linked to the environment and to access to facilities, and minorities generally have less supportive home and neighborhood environments for activity and fewer convenient facilities.\textsuperscript{215}

Physical activity can also be occupationally related. Among employed individuals, African Americans and Hispanics had significantly more individuals reporting no leisure-time physical activity compared with Whites. Hispanics had the greatest proportion of individuals reporting no leisure-time physical activity, but significantly more Hispanics had physically active occupations. Among employed Hispanics, Cubans and Dominicans were most likely to report no leisure-time physical activity, and Mexicans had the greatest percentage of workers with a physically active occupation.\textsuperscript{216}
Although physically active occupations may be one of the factors that keep Hispanics in better-than-average health, there is a down side: Hispanics workers have high rates of fatal occupational injuries. Factors that potentially increase health and safety risks for these workers include employment in high risk jobs, language and communication barriers at work, inexperience, lack of information about health and safety and legal rights on the job, and limited job options that may make individuals hesitant to speak up.  

2.3 Diet and nutrition

Dietary and nutritional factors underlie many conditions (e.g., infant mortality, cardiovascular diseases, diabetes, and certain cancers) that contribute to health disparities between minorities and whites. Evidence is mixed regarding dietary differences by race and ethnicity. Some research suggests that fruit and vegetable consumption is comparable for African Americans and Hispanic middle-aged and older adults compared to Whites. Other studies have found that African Americans consume less fruits and vegetables than Whites.  

As previously discussed, the ability to purchase fresh produce is more limited for racial and ethnic minorities.

2.4 Diabetes

Diabetes is a major risk factor for heart and kidney diseases and other conditions causing severe disability. American Indians and Alaska Natives are at the greatest risk for diabetes; nearly 18 percent of this population suffers from diabetes, and the prevalence is 2.8 times the overall rate. Nearly 15 percent of African Americans and 14 percent of Hispanics have been diagnosed with diabetes compared with 8 percent of Whites. African Americans are from 1.4 to 2.2 times more likely to have diabetes than Whites. For Hispanics, the highest rates for type 2 diabetes are among Puerto Ricans and the lowest rates are among Cubans. Major groups within the Asian and Pacific Islander communities (Japanese Americans, Chinese Americans, Filipino Americans, and Korean Americans) all have higher prevalence for diabetes than Whites.  

Minorities also have higher rates of complications from diabetes. For example, the rate of diabetic end-stage renal disease is 2.6 times higher among African Americans than among Whites, and rates of blindness due to diabetes are twice as high for minorities as for Whites. Diabetes-related mortality rates for African Americans, Hispanic Americans, and American Indians are higher than those for white people. Asians and Pacific Islanders have the lowest diabetes-related mortality of any racial/ethnic group in America.  

Many people with diabetes remain undiagnosed, and those who have reduced access to health care are more likely to have their diabetes unrecognized and untreated. If current trends continue, one in every two minority children born today will develop type 2 diabetes at some point in their lives.
Although type 2 diabetes disproportionately affects indigenous populations in the United States, U.S. territories, and around the world (indigenous people suffer from diabetes at 2-5 times the rate of non-indigenous people), there is no evidence that the high rate of diabetes among indigenous people is due to their genetic heritage. Recent research has shown that while there is a genetic component to diabetes that affects people throughout society, genes are no more important for indigenous people than for anyone else. It is social disadvantage and aspects of the social environment such as poor diet, reduced physical activity, stress, low birth weight, and other factors linked to poverty that are responsible for the high rates of diabetes among these populations.\(^{224}\)

## 2.5 Hypertension

African Americans have the highest prevalence of hypertension, and consequently disproportionately higher rates of fatal stroke, death from heart disease, congestive heart failure, and hypertension-related end-stage kidney disease than Whites. Thus, it is not surprising that hypertension accounts for most of the difference in mortality between African Americans and Whites.\(^{225}\) Hispanics have a similar prevalence rate of hypertension to Whites, but they are 20 percent less likely to be aware of having hypertension and 31 percent less likely to be treated for this condition.

Hypertension is a major cause of disparities in mortality between black and white Americans because of the differences in prevalence and in hypertension control.\(^{226}\) Although systems-level barriers (e.g., lack of access, medication costs, high co-payments) adversely affect blood pressure control, most cases of uncontrolled hypertension in African Americans occur in patients with access to care. It has been postulated that factors such as poor adherence to prescribed medications, poor knowledge about hypertension, patients’ health beliefs, and their reluctance to engage in lifestyle modifications may be important.\(^{227}\)

It has been estimated that racial disparities in hypertension control contribute to nearly 8000 preventable deaths from heart disease and stroke annually among black adults in the United States.\(^{228}\)

## 2.6 Smoking

Tobacco use is the most common cause of preventable death in the United States and contributes to increased morbidity and mortality from a variety of diseases, including cancer, heart disease, and stroke. The risk of cancer associated with tobacco use is especially pronounced. Asian American groups tend to have the lowest lung cancer and heart disease rates across ethnic groups. On the other hand, African Americans seem to be at greater risk for the negative effects of cigarettes.

Black men and women are more likely to get lung cancer and die from it than white men and women. One explanation for this difference in lung cancer risk is the higher rate of
menthol cigarettes used by African Americans as compared to Whites (75 percent vs. 25 percent). Menthol cigarettes may increase nicotine and toxin absorption as smokers often take in more smoke and hold it in longer due to the numbing effect of menthol.229

In 2009, the prevalence of current use of a tobacco product among persons aged 12 or older was 11.9 percent for Asians, 23.2 percent for Hispanics, 26.5 percent for African Americans, 29.6 percent for Whites, 36.6 percent for persons who reported two or more races, and 41.8 percent for American Indians or Alaska Natives. These data, collected as part of the annual National Survey on Drug Use and Health (NSDUH), include use of all tobacco products. Figure 14 shows how smoking rates have declined for all population groups except people reporting two or more races and American Indians/Alaska Natives since 2005.

Current cigarette smoking among youths aged 12 to 17 in 2009 was more prevalent among whites (10.6 percent) than Hispanic (7.5 percent), African American (5.1 percent), and Asian (3.0 percent youths). The smoking prevalence rate for American Indian or Alaska Native youths aged 12 to 17 declined dramatically from 18.9 percent in 2008 to 11.6 percent in 2009.230

Figure 14: Current tobacco use rates, by race and ethnicity, 2009

In 2004, the CDC analyzed data collected during 1999-2001 from the NSDUH to look at the prevalence of cigarette use among 14 minority populations. Current cigarette smoking was assessed by asking respondents, "During the past 30 days, have you smoked part or all of a cigarette?" Persons who answered "yes" were classified as current smokers (see Table 15). This appears to be the most recent analysis of this type. Its value is that it shows the different rate of smoking among the various subpopulation groups.

Table 15: Percentage of youths and adults reporting cigarette use during the previous month, by race and ethnicity, 1999-2001

<table>
<thead>
<tr>
<th>Population group</th>
<th>Smoking rate</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Youth aged 12-17 yr</td>
<td>Adults aged 18+ yrs</td>
<td></td>
</tr>
<tr>
<td>Non Hispanic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>16.0</td>
<td>27.4</td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>7.0</td>
<td>25.7</td>
<td></td>
</tr>
<tr>
<td>American Indian/Alaska Native</td>
<td>27.9</td>
<td>40.4</td>
<td></td>
</tr>
<tr>
<td>Native Hawaiian/Other Pacific Islander</td>
<td>11.0</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>8.1</td>
<td>16.2</td>
<td></td>
</tr>
<tr>
<td>Chinese</td>
<td>5.8</td>
<td>12.3</td>
<td></td>
</tr>
<tr>
<td>Filipino</td>
<td>7.4</td>
<td>14.8</td>
<td></td>
</tr>
<tr>
<td>Japanese</td>
<td>5.2</td>
<td>19.0</td>
<td></td>
</tr>
<tr>
<td>Asian Indian</td>
<td>8.7</td>
<td>12.6</td>
<td></td>
</tr>
<tr>
<td>Korean</td>
<td>10.6</td>
<td>27.2</td>
<td></td>
</tr>
<tr>
<td>Vietnamese</td>
<td>6.8</td>
<td>26.5</td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>10.8</td>
<td>23.1</td>
<td></td>
</tr>
<tr>
<td>Mexican</td>
<td>11.0</td>
<td>22.8</td>
<td></td>
</tr>
<tr>
<td>Puerto Rican</td>
<td>10.8</td>
<td>30.4</td>
<td></td>
</tr>
<tr>
<td>Central/South American</td>
<td>9.6</td>
<td>21.3</td>
<td></td>
</tr>
<tr>
<td>Cuban</td>
<td>12.4</td>
<td>19.2</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>13.8</td>
<td>26.5</td>
<td></td>
</tr>
</tbody>
</table>


2.7 Alcohol abuse

Data from the 2009 NSDUH shows that among persons aged 12 or older, Whites were more likely than racial and ethnic minorities to report current use of alcohol (56.7 percent). The rates were 47.6 percent for persons reporting two or more races, 42.8 percent for African Americans, 41.7 percent for Hispanics, 37.6 percent for Asians, and 37.1 percent for American Indians/Alaska Natives. Alcohol use increased from 2000 to 2009 for all groups, most significantly for Asians and African Americans. Among youths aged 12 to 17 in 2009, Asians had the lower rates of current alcohol use (6.5 percent), while 10.6 percent of African American youths, 11.9 percent of American
Indian or Alaska Native youths, 15.2 percent of Hispanic youths, 16.1 percent of white youths, and 16.7 percent of youths reporting two or more races were current drinkers.

The rate of binge alcohol use was lowest among Asians (11.1 percent). Rates for other racial/ethnic groups were 19.8 percent for African Americans, 22.2 percent for American Indians or Alaska Natives, 24.1 percent for persons reporting two or more races, 24.8 percent for Whites, and 25.0 percent for Hispanics.

**Figure 15: Current, binge, and heavy alcohol use among persons aged 12 and older, by race and ethnicity, 2009**

![Bar chart showing current, binge, and heavy alcohol use by race/ethnicity for 2009.]

Data from Substance Abuse and Mental Health Services Administration (2010). Results from the 2009 National Survey on Drug Use and Health: Summary of National Findings. Accessed at [http://www.oas.samhsa.gov/NSDUH/2k9NSDUH/2k9Results.htm](http://www.oas.samhsa.gov/NSDUH/2k9NSDUH/2k9Results.htm)

### 2.8 Substance abuse

Data from the NSDUH show that in 2009, illicit drug use among persons aged 12 or older varied by race/ethnicity, with the lowest rate occurring among Asians (3.7 percent). Rates were 18.3 percent for American Indians/Alaska Natives, 14.3 percent for persons reporting two or more races, 9.6 percent for African Americans, 8.8 percent for Whites, and 7.9 percent for Hispanics. (see Figure 16).
Figure 16: Illicit drug use among persons aged 12 or older, by race and ethnicity, 2009


The rates of illicit drug use were higher for all population groups than the rates in 2000, with the exception of people reporting two or more races (see Figure 17).

Asians as a group have the lowest rate of current illicit drug use, but the combined 1999 and 2000 NSDUH data show that there are variations among the various specific Asian subgroups. For persons aged 12 and older, the rates for illicit drug use ranged from 1.0 percent of Chinese and 2.1 percent of Asian Indians to 6.9 percent of Koreans, 5.0 percent of Japanese, and 4.3 percent of Vietnamese. For the Hispanic population groups, rates were 10.1 percent for Puerto Ricans, 5.5 percent for Mexicans, 4.1 percent for Central or South Americans, and 3.7 percent for Cubans.235
The rates of illicit drug use are linked to cigarette and alcohol use. In 2009, the rate of current illicit drug use was approximately 9 times higher among youths aged 12 to 17 who smoked cigarettes in the past month (52.8 percent) than it was among youths who did not smoke cigarettes in the past month (5.9 percent). Among youths aged 12 to 17 who were heavy drinkers (i.e. consumed five or more drinks on the same occasion on each of 5 or more days in the past 30 days), 69.9 percent also were current illicit drug users, which was dramatically higher than the rate among those who were not current alcohol users (5.2 percent).

2.9 Access to prenatal care

The low levels of access to prenatal care for African American and American Indian/Alaska Native women is a contributing factor to both infant and maternal mortality rates (see Figure 18). The high rates for of care for the Asian/Pacific Islander population group mask the fact that Asian women have the highest rates of care of all groups (it was 86 percent in 2001) and Native Hawaiian/Other Pacific Islander women have quite low rates of care (77 percent in 2001).
This is not just a matter of affordable access to care, although that clearly has a role. Even among women who are provided equal financial access to health care services, unexplained racial and ethnic disparities persist in the initiation and use of both routine and specialized prenatal care services. One study of pregnant Medicaid beneficiaries in several states found that African Americans, Hispanics, and Asian/Pacific Islander women were less likely to receive services such as prescriptions for multiple vitamins and iron supplements, complete blood cell counts, analysis of blood type and RH status, ultrasound, and maternal serum alphafetoprotein than white women. On the other hand, they were more likely to receive screening tests for diseases related to high-risk behaviors such as Hepatitis B, drug screening, and HIV tests.\textsuperscript{237}

A large scale prospective study that investigated the effects of early prenatal care on birth outcomes found all minority races experienced higher rates of intrauterine growth restriction, gestational hypertension, preeclampsia, preterm labor, preterm premature rupture of the membranes, gestational diabetes mellitus, placental abruption, placenta previa, preterm birth, very-preterm birth (less than 32 weeks of gestation), cesarean delivery, and vaginal bleeding compared with white women. African American women sustained significantly more fetal loss at every interval throughout the pregnancy and the neonatal period. After controlling for the fact that African American women were more likely to have risk factors such as obesity, hypertension, drug use, and smoking, and for site of enrollment, race remained the most significant predictor of perinatal mortality.\textsuperscript{238}

The high rate of hypertensive disorders in black women may be a factor here. In the study reported above, black women had four times the rate of antihypertensive medication use before pregnancy compared with white women. Preeclampsia accounts for about 18 percent of maternal deaths in the United States, compared with 15 percent globally.\textsuperscript{239} The increasing incidence of preeclampsia may be due to increasing rates of obesity, diabetes and high blood pressure. Another possible factor is the high rate of uterine fibroids in African American women. The lifetime incidence for fibroids is 80 percent for African American women, compared with 60 percent for white women.\textsuperscript{240}
Figure 18: Percentage of pregnant women who get prenatal care in the first semester, by race and ethnicity, 2008


2.10 Access to family planning services

African American women are three times as likely as white women to experience an unintended pregnancy; Hispanic women are twice as likely. In 2002, 15 percent of African American women at risk of unintended pregnancy (i.e. those who are sexually active, fertile and not wanting to be pregnant) were not practicing contraception, compared with 12 percent of Latinas and 9 percent of white women.  

Research suggests that Hispanic, white, and black women have equal access to family planning services. This could be due to Title X programs and Medicaid expansions implemented to improve access to family planning services for socioeconomically disadvantaged women. However, there are differences in the types of services women received. Specifically, Hispanic women are more likely to receive counseling about tubal sterilization, and both Hispanic and black women were more likely than white women to report receipt of counseling for a birth control method in general.

It is clear that for minority women there are issues other than access and affordability at play in how they use family planning services, specifically patient preferences and behaviors and provider-related factors. There is some research to suggest that that black
women are more likely to report perceived race-based discrimination when obtaining family planning services.\textsuperscript{243}

\textbf{Abortion rates}

Abortion rates have been declining in the United States for a quarter of a century, from a high of 29.3 per 1,000 women aged 15–44 years in 1981, to an historic low of 19.4 in 2005. Since then, the long-term decline in the rate has stalled and in 2008 the rate rose to 19.6. In 2008 about one-third of all abortions (36 percent) were obtained by white women, 30 percent by African American women, and 25 percent by Latinas. The abortion rates among women in minority communities have followed the overall downward trend over the three decades of legal abortion.\textsuperscript{244}

Although this is not reflected in the 2008 data cited above, a study using 2005 Guttmacher data found that African American women consistently have had the highest abortion rates, followed by Hispanic women. This held true even when controlling for income except for women below the poverty line, where Hispanic women had slightly higher rates than black women.\textsuperscript{245} The Guttmacher Institute has postulated that the plateau in abortion rates may reflect the current economic pressures facing American families,\textsuperscript{246} and it is possible that these pressures may also be the explanation for the increasing proportion of abortions in white women observed in 2008.

\textbf{3. Disease rates}

Racial and ethnic minorities have high rates of debilitating disease such as cancer, diabetes, and HIV/AIDS. One of the most glaring health disparities is apparent in the African American community, where 48 percent of adults suffer from a chronic illness compared to 39 percent of the general population.\textsuperscript{247}

\textbf{3.1 Cancer}

African Americans are more likely to develop and die from cancer than any other racial or ethnic group. Among American men, for all cancers combined, the rate of new cancer cases is highest among African American men, followed by White, Hispanic, Asian/Pacific Islander, and American Indian/Alaska Native men. Death rates are highest among African American men, followed by White, Hispanic, American Indian/Alaska Native, and Asian/Pacific Islander men.\textsuperscript{248}

Among American women, for all cancers combined, the rate of new cancer cases is highest among white women, followed by African American, Hispanic, Asian/Pacific Islander, and American Indian/Alaska Native women. Death rates are highest among African American, followed by White, American Indian/Alaska Native, Hispanic, and Asian/Pacific Islander women.\textsuperscript{249}
African Americans experience higher incidence and mortality rates from many cancers that are amenable to early diagnosis and treatment. For example, they are more likely than Whites to suffer from colorectal, prostate, and cervical cancers, and they are also more likely to die from these cancers. Although white women have the highest incidence of breast cancer, black women have the highest mortality rate from this cancer among all races and ethnicities. Although black women are just as likely as white women to get a mammogram, they are less likely to get timely access to quality care if they then receive an abnormal diagnosis.

Hispanics have a higher incidence rate of infection-related cancers, including stomach, liver, and cervical cancers. Hispanic women are less likely to be screened for cervical cancer than both white and black women.

Figure 19: Cancer deaths from all cancers, by race and ethnicity (rate per 100,000 people)

Screening rates are low for all groups, but particularly for Asians (see Table 15). It is disconcerting to note that the percentage of women who have had a pap smear in the past three years has declined since 2000 for all groups except those reporting two or more races. The rate of screening for colon cancer (as measured by the percentage of people aged 50 and over that had a FOBT test in the past 2 years) has also dropped by around 50 percent from rates in 2000 for all population groups. This may be due to a greater use of colonoscopies and other screening mechanisms.

Table 15: Access to cancer screening by race and ethnicity (percentage of eligible population)

<table>
<thead>
<tr>
<th></th>
<th>Total population</th>
<th>White</th>
<th>African American</th>
<th>Asian</th>
<th>AI/AN</th>
<th>Two + races</th>
<th>Hispanic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pap smear past 3 years</td>
<td>77.9</td>
<td>78.2</td>
<td>80.0</td>
<td>63.9</td>
<td>71.2</td>
<td>83.9</td>
<td>74.4</td>
</tr>
<tr>
<td>(2005)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mammogram past 2 years</td>
<td>66.6</td>
<td>67.3</td>
<td>64.5</td>
<td>54.0</td>
<td>67.1</td>
<td>63.6</td>
<td>58.9</td>
</tr>
<tr>
<td>(2005)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FOBT past 2 years</td>
<td>17.1</td>
<td>17.4</td>
<td>15.7</td>
<td>12.9</td>
<td>-</td>
<td>12.1</td>
<td>17.5</td>
</tr>
<tr>
<td>(2003)</td>
<td></td>
<td></td>
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Some support for this contention – or, alternatively, support for the fact that different surveys collect data differently - is found in the CDC data on colon cancer screening (see Table 16). These data, from the Behavioral Risk Factor Surveillance System, asks about people aged 50 and over who have had an FOBT within the past year or a colonoscopy within the past 10 years, and shows much higher screening rates that are arguably more in line with reality.
Table 16: Access to colon cancer screening by race and ethnicity, 2002-2008
(percentage of population aged 50 and over)

<table>
<thead>
<tr>
<th></th>
<th>White</th>
<th>African American</th>
<th>Asian/PI</th>
<th>AI/AN</th>
<th>Other</th>
<th>Hispanic</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>55.3</td>
<td>51.8</td>
<td>50.9</td>
<td>54.1</td>
<td>50.4</td>
<td>43.8</td>
</tr>
<tr>
<td>2004</td>
<td>58.2</td>
<td>55.3</td>
<td>39.6</td>
<td>45.2</td>
<td>56.0</td>
<td>46.0</td>
</tr>
<tr>
<td>2006</td>
<td>62.5</td>
<td>58.9</td>
<td>57.0</td>
<td>50.5</td>
<td>58.0</td>
<td>47.1</td>
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<tr>
<td>2008</td>
<td>66.2</td>
<td>62.9</td>
<td>62.9</td>
<td>57.8</td>
<td>57.9</td>
<td>51.5</td>
</tr>
</tbody>
</table>


3.2 HIV/AIDS

Minority communities, especially African-American and Hispanics, have been disproportionately affected by the HIV/AIDS epidemic, with the bulk of the disease burden borne by the African Americans. From 2005-2008, more than half of the diagnoses of HIV infection in the United States were in racial and ethnic minorities, with African Americans accounting for a disproportionate share.

From 2005-2008, African Americans accounted for 49 percent of the total estimated number of diagnoses of HIV infection in the 37 states and five U.S. dependent areas with confidential HIV infection reporting in place since at least January 2005. During this time period, African Americans accounted for 64 percent of the women diagnosed with HIV infection, 66 percent of HIV infections attributed to heterosexual contact, and 66 percent of the children diagnosed with HIV.254

In this same three-year time frame, Hispanics accounted for 20 percent of HIV infections diagnosed, 17 percent of the women diagnosed, 18 percent of all infections attributed to heterosexual contact, and 17 percent of children diagnosed with HIV.255
Figure 20: New cases of HIV/AIDS, by race and ethnicity, 2002-2007


HIV/AIDS in children

Racial and ethnic differences in the burden of HIV/AIDS among children have been apparent since the earliest days of the epidemic. During 1981-86, more than 75 percent of children with AIDS were African American or Hispanic.

During 2004–2007, the average annual overall rate of diagnoses of perinatal HIV infection was 2.7 per 100,000 infants aged younger than 12 months. The highest rates were among African American children (12.3 per 100,000), followed by Hispanic children (2.0), children of other or multiple races (1.6), and white children (0.5). From 2004 to 2007, the annual rate of diagnoses of perinatal HIV infection for black children decreased from 14.8 to 10.2 per 100,000), and the rate for Hispanic children decreased from 2.9 to 1.7 per 100,000. The rates for white children and for children of other or multiple races did not change significantly.\(^{256}\)
3.3 Cardiovascular diseases

Cardiovascular diseases (CVD) are the leading cause of death in the United States, and disproportionate rates are seen in racial and ethnic minority populations. This is not surprising given the racial and ethnic differences in cardiovascular disease risk factors such as smoking, obesity, hypertension and diabetes. Systematically assessing and quantifying modifiable cardiovascular disease risk factors is therefore crucial in minority populations.²⁵⁷

The prevalence of CVD is highest in American Indians/Native Alaskans (8.8 percent). The prevalence among African Americans is only slightly higher than that for Whites, but overall, African American women have a higher prevalence than white women for four related conditions - heart failure, coronary heart disease, hypertension, and stroke – and African American men have a higher prevalence than white men for three of the four conditions - heart failure, hypertension, and stroke.²⁵⁸ The prevalence is lower in Hispanics (5.8 percent) and lowest in Asians/Pacific Islanders (3.9 percent) (see Table 17).

Table 17: Age-adjusted percentage of coronary heart disease among person aged 18 years and older, by race and ethnicity, 2007.

<table>
<thead>
<tr>
<th></th>
<th>White</th>
<th>African American</th>
<th>AI/AN (2006 data)</th>
<th>Asian/PI</th>
<th>Hispanic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6.5</td>
<td>6.7</td>
<td>8.8</td>
<td>3.9</td>
<td>5.8</td>
</tr>
</tbody>
</table>


Deaths from CVD do not mirror the prevalence rates. African Americans have dramatically higher deaths rates than Whites, and American Indians/Alaska Natives and Hispanics both have lower rates. Asians/Pacific Islanders have the lowest death rates, especially for women (see Table 18). The bundling of Asians and Pacific Islanders hides a wide range of death rates. Data from Hawaiian residents show that these range from 180.3 for Japanese and 180.9 for Whites to 313.1 for Native Hawaiians and 366.3 for Filipinos.²⁵⁹
Table 18: Age-adjusted heart disease death rates per 100,000 population, by race and ethnicity, 2007

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>239.8</td>
<td>318.8</td>
<td>170.2</td>
<td>136.3</td>
<td>165.0</td>
</tr>
<tr>
<td>Women</td>
<td>153.0</td>
<td>208.2</td>
<td>113.2</td>
<td>87.3</td>
<td>118.8</td>
</tr>
</tbody>
</table>


It is likely that the high African American deaths rates are a reflection of the difficulties that they face in getting affordable access to health care and the quality of the care they receive. The reason for the low CVD deaths rates in the American Indian/Alaska Native population is not clear.

Repeated studies have shown that racial and ethnic minorities are more likely to receive poor cardiac care than Whites. For example, in spite of their higher mortality and morbidity for cardiovascular disease, African Americans and Hispanics are less likely to undergo treatment for their conditions and are especially less likely to receive high-technology cardiac procedures, such as cardiac catheterization and coronary revascularization.

3.4 Asthma

Asthma affects over 6.8 million children and adolescents in the United States. There is profound variability in the prevalence and morbidity of asthma among racial and ethnic groups.

Asthma prevalence is highest among African Americans, followed closely by American Indians/Alaska Natives. Over 9 percent of these minority groups suffer from asthma, compared to 7.6 percent of white Americans, and deaths from asthma, an outcome that should be wholly preventable through effective management of the disease, are also higher.

Disparities also appear to exist in how asthma is treated in minority populations. Even insured African Americans with asthma are more likely than insured Whites to be hospitalized for asthma-related health conditions and are less likely to be treated by an asthma specialist.

Despite the availability of effective treatment, minority children continue to experience disproportionate morbidity from asthma. African-American children are about three
times more likely to be hospitalized for asthma than their white peers, and about five
times more likely to seek care at an emergency room. Data from 2003-04 showed that
significantly fewer African American and Hispanic children reported using inhaled
corticosteroids, which have been shown improve long-term outcomes of patients with
asthma.\textsuperscript{263}

\section{Mental illness}

The prevalence of mental illness differs between white Americans and racial and ethnic
minority populations. The prevalence of any psychiatric disorder in the past 12 months is
15 percent for African Americans, 9 percent for Asian Americans, 16 percent for
Hispanics, and 21 percent for Whites. American Indians/Alaska Natives have the highest
rates of frequent mental distress, with nearly 18 percent of the population reporting 14 or
more mentally unhealthy days, and this group also has high rates of substance use
disorders and completed suicide.\textsuperscript{264}

Although African Americans and Hispanics have a lower risk of lifetime prevalence of
mental disorders than white Americans, they have a higher risk of persistence (longer
course of illness) and disability from mental illness. Among American Indian tribes, the
lifetime prevalence of any psychiatric disorder is higher (50-54 percent for men, 41-46
percent for women) than among the overall U.S. population (44 percent for men, 38
percent for women).\textsuperscript{265}

Racial and ethnic minorities who meet criteria for a mental disorder diagnosis may be
undiagnosed or misdiagnosed, and disparities exist in both access to and quality of mental
health care for racial and ethnic minority groups. Examples of these disparities include the
underutilization of psychiatric services by persons from ethnic minority groups, problems
in getting people from these groups to seek treatment, and the inappropriate prescribing
of antipsychotic medications for African Americans and Hispanics. African Americans
and Hispanics are less likely than Whites to receive guideline-based care for depression
and anxiety.\textsuperscript{266}

Many minorities face barriers in accessing mental health care, particularly with cost of
care and fragmented services. Limited English proficiency and limited health literacy
also pose barriers for immigrant populations. In a 2007 study, only 8 percent of Hispanics
who did not speak English and who reported a need for mental health services, received
services. Likewise, of the non-English speaking Asian/Pacific Islander population who
reported a need for mental health services, only 11 percent received services.\textsuperscript{267}

Only 20 percent of American Indians report that they access care through the IHS. A
study of Southwest and Northern Plains tribal members living on or near reservations
found that they are less likely than the overall population to seek help for mental illness
from specialists, other medical providers, or traditional or spiritual healers.\textsuperscript{268}
Suicide rates are highest in White and American Indian/Alaska Native populations (see Figure 21). There has been no significant change in these rates over the period 2001-2005.
3.6 Injury

Racial and ethnic minorities, including African Americans, Hispanics and American Indians, suffer disproportionately high rates of unintentional injuries. The increased death and suffering caused by unintentional injuries in these populations reflect in part the inequities that these population groups suffer with regards to SES, type of employment, and hazardous exposures. Each of these determinants has been shown to play a major role in the increased incidence of injury. Some of these issues and their impacts on health are discussed in previous sections describing SES and the built environment.

Research has shown that race/ethnicity is a significant predictor of the number of workdays missed in injured respondents. Among men, both Hispanic and African Americans missed significantly more days than Whites, and African American women missed significantly more days than white women. The implications of this finding are not entirely clear, as a combination of demographic, work-related, biomedical, economic, and psychosocial factors is believed to influence how long injured workers are absent from work.\textsuperscript{269}
**Children**

Accidental injury continues to be the greatest danger to children, causing more than half of all childhood deaths. The leading causes of death among children ages one to 14 years are motor vehicle crashes, drowning, and fires/burns.\(^{270}\)

Among children ages 14 years and under, black and Native American/Alaska Native children experience the highest rates of unintentional death and injury. Native American children are nearly twice as likely to die from an unintentional injury as white children. The unintentional injury death rate for black children is one and a half times that of white children. Children from lower income families and those living in rural areas are at increased risk.\(^{271}\)

Areas of disparity in unintentional injury in infants, children and youth include:

- **Motor-Vehicle--Traffic Injury.** American Indian/Alaska Native infants and children are disproportionately affected by motor vehicle and traffic accidents. This finding might be attributed, in part, to the rural residence of many of this population group, as motor vehicle death rates are higher in rural areas than non-rural areas. Other risk factors for this population groups include lack of passenger restraint use and alcohol consumption.\(^{272}\)

- **Drowning.** Between 2000 and 2007, the fatal unintentional drowning rate for African Americans across all ages was 1.2 times that of Whites. For American Indians and Alaskan Natives, this rate was 1.7 times that of Whites. Factors such as the physical environment (e.g., access to swimming pools) and a combination of social and cultural issues (e.g., valuing swimming skills and choosing recreational water-related activities) may contribute to the racial differences in drowning rates.\(^{273}\)

- **Fire and Burn Injury.** Fires and burns are a major cause of injury death among black children. Racial disparities in such rates are linked to economic factors, poor housing, and substandard electrical and heating systems. Minorities also are less likely to engage in safety practices (e.g., using fireplace guards, turning down water heater settings, and using smoke alarms).\(^{274}\)

- **Suffocation/Choking.** Unintentional suffocation/choking is a larger problem for Blacks and American Indians/Alaska Natives aged 0-9 years than for Whites, Hispanics, and Asians/Pacific Islanders. High suffocation rates among black infants might result from greater use of the stomach sleeping position and bed-sharing compared with Whites.\(^{275}\)
Figure 22: Unintentional injury death rates for children aged 0-14 years, by race and ethnicity, 2000-2004

With regard to intentional injury disparities, homicide rates are highest among black children. The majority of homicides of children aged less than 10 years are perpetrated by family members, particularly parents or guardians, and represent the most severe form of child maltreatment. Head trauma and brain damage due to violent shaking are the most common causes of fatalities attributed to child abuse.\textsuperscript{276}

The high homicide rates among black teenagers have been discussed previously. Homicide among children aged 10-19 years is more likely to involve a weapon. Risk factors include poor behavioral control, a history of early aggressive behavior, substance abuse, exposure to family violence, poor parental monitoring and supervision, low academic performance, and involvement in gang activity.\textsuperscript{277}

Young adults

The three leading causes of death for Americans in their twenties are tied to risky behavior and are largely preventable: accidents (unintentional injuries), homicide, and suicide. Together, these three causes accounted for 69 percent of the 42,000 deaths in this age group in 2007.\textsuperscript{278} There are considerable variations among racial and ethnic groups and between sexes (see Table 19). The death rate is more than two and a half times higher for men than women among Whites and about three times higher for young men
among Hispanics and African Americans. These disparities are clearly linked to why these young people die – gun violence, motor vehicle accidents, risky behavior and substance and alcohol abuse.

Table 19: Leading causes of death for young adults aged 20-29, by race and ethnicity, 2007 (deaths/100,000 population)

<table>
<thead>
<tr>
<th>Cause of death</th>
<th>White Male</th>
<th>White Female</th>
<th>African American Male</th>
<th>African American Female</th>
<th>Hispanic Male</th>
<th>Hispanic Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Injuries</td>
<td>70.8</td>
<td>22.3</td>
<td>49.0</td>
<td>14.8</td>
<td>55.7</td>
<td>13.0</td>
</tr>
<tr>
<td>Suicide</td>
<td>24.6</td>
<td>5.0</td>
<td>14.5</td>
<td>2.4</td>
<td>12.8</td>
<td>2.9</td>
</tr>
</tbody>
</table>


Rehabilitation

There is evidence that minority patients who have suffered traumatic brain and spinal cord injuries are less likely to be placed in rehabilitation than white patients, suggesting the existence of inequalities in access to these services. For example, one study found that even after accounting for injury severity insurance status, African American and Hispanic patients with traumatic brain injury (TBI) are 15 percent less likely to be placed in rehabilitation. A second study of TBI patients found that at discharge and one year post-injury, minorities had poorer functional outcomes compared with Whites on all measures. There are racial disparities in successful employment after spinal cord injury, particularly between Whites and Hispanics.

4. Chronic illnesses and comorbidities

Many studies have demonstrated that uninsured American adults receive less appropriate care and fewer needed health services than their insured peers. Chronically ill, uninsured patients are four to six times more likely than sick patients with insurance to have problems accessing care. A 2008 survey by the Commonwealth Fund found that chronically ill adults in the United States are far more likely to skip care because of costs. More than half (54 percent) of American chronically ill patients did not get recommended care, fill prescriptions, or see a doctor when sick because of costs.

A 2001 study looked at the effects of being uninsured on ethnic minorities' management of chronic illness and found that, compared with insured respondents, uninsured respondents were much less effective at managing their illnesses. The uninsured had poorly controlled illnesses, frequent health crises, difficulty procuring medication, used medication incorrectly, demonstrated poor understanding of their illness, and displayed
little knowledge of self-care measures or risk awareness. They rarely had a regular
physician or attended a specific health clinic. Lack of money was the primary reason
given for not seeking health care, and respondents often reported feeling extremely ill
before they sought care. Those who had identified and used a free clinic were much less
likely to delay seeking care.

Together, these facts mean that racial and ethnic minorities with chronic illnesses are at
increased risk of disabling and expensive consequences. For example, individuals whose
diabetes is not properly controlled are more susceptible to blindness, nerve damage, limb
amputation or dialysis for the rest of their lives.

Patients with chronic medical illness are known to have a high prevalence of comorbid
depression, which is associated with increased somatic symptoms, morbidity, mortality,
health care utilization, and health care costs. Elders with multiple comorbidities may be
particularly vulnerable to the debilitating impact of depression. The barriers that racial
and ethnic minorities face in accessing mental health services thus contribute further to
the health care disparities faced by chronically ill patients.

Table 20: Percentage of non-elderly adults with chronic conditions who lack
health insurance coverage

<table>
<thead>
<tr>
<th>Adults with:</th>
<th>Percentage uninsured</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any chronic condition</td>
<td>17%</td>
</tr>
<tr>
<td>- White</td>
<td>13%</td>
</tr>
<tr>
<td>- African American</td>
<td>19%</td>
</tr>
<tr>
<td>- Hispanic</td>
<td>35%</td>
</tr>
</tbody>
</table>

Data from The Urban Institute (2005). Uninsured Americans with chronic health conditions: key findings
from the National Health Interview Survey. Prepared for the Robert Wood Johnson Foundation by The
Urban Institute and the University of Maryland, Baltimore County. Accessed at
http://www.urban.org/uploadedpdf/411161_uninsured_americans.pdf
Table 21: Percent of adults with chronic illness who lack a usual source of health care, by insurance status

<table>
<thead>
<tr>
<th>Adults with</th>
<th>Percent without a usual source of care</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All adults</td>
</tr>
<tr>
<td>Any chronic condition</td>
<td>11%</td>
</tr>
<tr>
<td>- White</td>
<td>9%</td>
</tr>
<tr>
<td>- African American</td>
<td>11%</td>
</tr>
<tr>
<td>- Hispanic</td>
<td>20%</td>
</tr>
</tbody>
</table>


5. Preventable deaths

The excess rates of chronic illness in minority populations, much of which is preventable, impose cost burdens on public programs as well as on individuals and purchasers of private health insurance.

About 84,000 deaths occur in the United States each year due to the health care gap that separates minorities from non-minorities.\(^{287}\) This is ethically unacceptable, and generates huge social and economic costs on the individuals and communities involved and on the public at large.

It has been estimated that in 2009, racial and ethnic disparities cost the health care system $23.9 billion due to conditions such as diabetes, hypertension, stroke and renal disease – all of which are amenable to reductions in prevalence through disease prevention and management. Medicare alone spent an extra $15.6 billion, while private insurers incurred $5.1 billion in additional costs due to the elevated rates of chronic illness among African Americans and Hispanics. Over the next decade the total cost of these disparities is estimated to be approximately $337 billion, including $220 billion for Medicare.\(^{288}\)

Receiving medical treatment in a timely fashion is important for reducing mortality and long-term disability from many conditions, including stroke, heart attack, and bacterial infections. Minority patients often experience longer wait times for health care, both in the out-patient and acute care settings.\(^{289}\)

Each year in the United States, medical errors cause an estimated 44,000 to 98,000 deaths and cost an estimated $29 billion in lost income, disability, and increased healthcare costs.\(^{290}\) Errors and avoidable complications from surgery affect people of color more
than Whites. For example, Asians and Hispanics are more likely to die from complications during hospitalization than Whites, and African Americans are much more likely to suffer post-operative pulmonary embolism or deep vein thrombosis than Whites.\textsuperscript{291}
APPENDIX 3: THE ECONOMIC COSTS OF HEALTH DISPARITIES

Health disparities generate a significant human and economic cost that is borne directly by the individuals involved and indirectly by all Americans. The reduction or elimination of racial and ethnic disparities in health is not just a moral imperative but an economic issue.

1. Lost income and labor productivity

The increased burden of disease borne by racial and ethnic minorities adversely impacts their workforce participation, leading to an increased number of workdays lost due to illness and lower household earnings.\(^{292}\) Given that chronic illnesses tend to occur at younger ages in minorities, the number of work years may be shortened or spent in lower paying jobs. Many of these jobs do not offer paid sick leave or health insurance coverage, so a vicious cycle is established where poor health means lost income and missed work and the inability to access affordable health care which increasingly limits the ability to recover and return to work.

Because health disparities persist across all income levels, this is not just an issue for the less skilled and those with lower incomes. At every income level, racial and ethnic minorities have fewer opportunities for prosperity and success because of health disparities.\(^{293}\)

2. Health care costs

The excess rates of chronic disease borne by minority Americans impose cost burdens on public programs as well as individuals and other purchasers of private health insurance.

A recent paper from the Urban Institute\(^{294}\) estimated that in 2009, disparities among African Americans, Hispanics, and Whites as a consequence of elevated rates of selected chronic illnesses (diabetes, hypertension, stroke and renal disease) and general poor health cost the health care system $23.9 billion dollars. Most of this expenditure ($15.6 billion) was for Medicare, although private insurers spent $5.1 billion. Out-of-pocket costs were over $2 billion. Even without taking into any account projected growth in per capita health care spending, these annual costs will more than double to $50 billion by 2050 as the number of elderly Hispanics and African Americans increases.

Over the 10-year period from 2009 through 2018, it is estimated that the total cost of these disparities is approximately $337 billion, including $220 billion for Medicare. In reality these costs are much larger, as this analysis considered only selected chronic diseases among two minority groups, and they did not include nursing home costs.
A study commissioned by the Joint Center for Political and Economic Studies provides some insight into the full extent of the financial burden that racial and ethnic disparities are putting on the health care system and society at large. The study found that between 2003 and 2006, 30.6 percent of direct medical care expenditures for African Americans, Asians, and Hispanics were excess costs due to health disparities. When the indirect costs of these disparities such as lost productivity, lost wages, absenteeism, family leave, and premature death inequities were included, the total cost was $1.24 trillion. Eliminating health disparities for minorities would have reduced direct medical care expenditures by $229.4 billion over the three years studied.

Offsetting these costs to the health care system are the costs of the interventions to address health care disparities, so it is essential to consider the “business case” for these.

These new costs may be attributable to adding health care personnel, better educating patients or providers, and providing additional services. Any new cost can pose a substantial barrier to a health care provider’s willingness to introduce and sustain new interventions. This practical reality holds true even though the intervention may be expected to add value, by reducing disparities in the care provided, by raising the quality of services for minority patients, by reducing the downstream need for services, or by improving the future health of disadvantaged patients.

Table 22: Economic burden of health disparities, 2003-2006

| Potential reduction in the indirect costs associated with illness and premature death if minority health inequalities were eliminated. | $1 trillion |
| Potential reduction in direct medical care expenditures if minority health disparities were eliminated. | $229.4 billion |
| Percent excess direct medical care expenditures for African Americans, Asians, and Hispanics that were due to health inequalities. | 30.6% |

About the author

Lesley Russell is a Visiting Fellow at the Center for American Progress, a Visiting Professor in the Department of Health Policy at George Washington University, and a Senior Fellow at the Center for Australian and New Zealand Studies at Georgetown University. She also has affiliations with the Menzies Centre for Health Policy and the United States Studies Centre at the University of Sydney.

Dr Russell has substantial experience in working in health policy in the United States and Australia, both in and out of government. She is actively involved in health policy research, analysis and commentary across a wide range of issues and a number of collaborations. A particular focus has been on health care reforms in Australia and the United States, mental health, Indigenous health, health disparities, and the impact of cost on patients’ compliance with their treatment and medication regimes.

She has a PhD in Biochemistry from the John Curtin School of Medical Research at the Australian National University, a BA from the Australian National University and a BSc(Hons) from the University of Tasmania.
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113 Note that these figures, derived from the 2008 American Community Survey, do not exactly correlate with those in Table 9.

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