The 2009 Connecticut Health Disparities Report

NOTES ON THE ELECTRONIC (PDF) VERSION

After hardcopy printing, the following changes to *The 2009 Connecticut Health Disparities Report* were made and have been incorporated into this PDF version of the document. Changes are highlighted in *italics*.

- Page 75, Table 19. The Age-adjusted Death Rate for White Connecticut Residents now reads: *1*.2 (deaths per 100,000 persons).

- Page 126, last paragraph. The last paragraph on page 126 has been modified to read: In Connecticut, the diversity of our population is not reflected in the health care workforce. Figure 49 indicates the disparity between the state's racial and ethnic populations and the racial and ethnic breakdown of physicians serving the population. The Kaiser Family Foundation noted that in 2007, *of the total state physician population who reported race or ethnicity,* 49% were White, 1% was Black, 3% were Asian, and 2% were Hispanic. *Approximately 41% of Connecticut physicians did not their report race or ethnicity* (Kaiser Family Foundation 2007). In order to better address health disparities in Connecticut, however, full description of the health care workforce is necessary.

- Page 173, top of the page. The formula for excess deaths (events) now reads: Excess deaths (or events) = Number of deaths (or events) x [1 – (1/relative risk)]

THE 2009 CONNECTICUT HEALTH DISPARITIES REPORT

The Connecticut Health Disparities Project
Connecticut Department of Public Health
Hartford, Connecticut

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PREFACE

> *[H]ow we develop, grow, age, ail, and die necessarily reflects*
> *a constant interplay, within our bodies, of our*
> *intertwined and inseparable social and biological history.*
> —Nancy Krieger (1999, 296)

Over the last ten years, the Connecticut Department of Public Health (DPH) has published three reports that highlighted health disparities among population groups in Connecticut. The first report, *Multicultural Health: The Health Status of Minority Groups in Connecticut*, called attention to areas of health disparities and examined these differences in the context of social and economic conditions of Connecticut (Hynes, Mueller, Bower, and Hofmann 1999, 1). In 2001, *Connecticut Women's Health* presented the social context of health problems, disparities, and access to health care experienced by women in the state (Hofmann and Hooper 2001). In 2005, *Mortality and its Risk Factors in Connecticut, 1989–1998* (Hynes, Mueller, Li and Amadeo 2005) assessed trends in the leading causes of death among Connecticut residents by gender, race, ethnicity, and age.

In 2006, the Connecticut Health Foundation (CHF) awarded DPH a two-year grant to improve the statewide infrastructure for documenting, reporting and addressing health disparities among racial and ethnic minority residents. This initiative is known as the Connecticut Health Disparities Project. This report, *The 2009 Connecticut Health Disparities Report*, is one product of the Connecticut Health Disparities Project, and provides a recent picture of health disparities in Connecticut.

The purpose of this report is to describe and contextualize health disparities experienced by various populations in Connecticut. Herein, we clarify and describe what is meant by "health disparities" and compare statewide data on key health and socioeconomic indicators for racial and ethnic minorities and other disparity populations with those of the majority (White) population in Connecticut. The report provides a descriptive monitoring and analysis—or surveillance—of data on various populations who experience health inequalities. Underlying factors that contribute to inequalities in people's health outcomes, and their access to and quality of health care are examined. This report will be helpful to policy makers, researchers, health professionals, advocates, and others who are working to improve health of all people in Connecticut.

The report is divided into five major sections: Part I: Introduction and Background, Part II: Health Indicators, Part III: Other Vulnerable Populations, Part IV: Summary and Discussion, and Part V: Appendices and References. Part I provides a brief discussion of health disparities, race and ethnicity, and selected sociodemographic determinants of health disparities. A general description of the state's social context is presented, and summary background information is provided for Connecticut's racial and ethnic populations. Part II provides data and narratives for selected health indicators of Connecticut's populations. Part III focuses on health disparity populations for whom there is little or no consistently-reported health data (e.g., homeless persons, persons with disabilities, ethnic subpopulations, or sexual and gender minorities). Part IV summarizes and discusses the report findings, and Part V provides supporting material for the report.

Selection of health indicators in this report was based on established national and state indicators, including the leading causes of death, reportable diseases, maternal and child health, chronic disease, oral health, injury, environmental health, and occupational health indicators. The choice of indicators for display in this report was accomplished in consultation with Connecticut Department of Public Health program and analytic staff.

Wherever appropriate, statistical tests of significance were conducted for all analyses in this report, including all mortality, all hospitalization, infant mortality, and all behavioral risk factor surveillance indicators. Whenever subgroup differences are noted in the report narrative, tests of statistical significance have indicated that these differences are significant at the $p \leq .05$ level. Whenever subgroup rates are reported as not being different, tests of statistical significance have shown that differences are not significant at the $p \leq .05$ level.

In this report, designations for all racial and ethnic groups are capitalized (e.g., Hispanic or Latino, White, Black or African American), and reflect the federal Office of Management and Budget's (OMB) race and ethnicity classification standards. The reader will also find a Technical Note on this topic and on classifications such as "Other" or "Unknown," which are often used in health data collection and reporting. We have made a concerted effort to include all racial and ethnic groupings that the OMB classifications suggest. However, many data are not yet consistently available for these categories.

Moreover, in Connecticut the population numbers for American Indians and Alaska Natives, Asians, and Native Hawaiians and Other Pacific Islanders are small, or are unstable for statistical analysis. In addition, because data sources use different race and ethnicity categories, the report's narrative and table and figure headings reflect these differences in terminology. This report focuses on the racial and ethnic groups that form the majority of our population, and for which we have the best available data. Therefore, not all racial and ethnic categories may be listed in all of the data tables and figures.

Finally, unless otherwise noted, all racial groupings (e.g., "Black," "Asian/Pacific Islander," "White") *exclude* persons of Hispanic ethnicity. A Hispanic or Latino ethnicity category is included in figures and tables reflecting data separate from race categories. Therefore, the modifier "Non-Hispanic or Latino" is assumed, and exceptions (e.g., "Hispanic Whites") will be marked in the text. Further discussions of race and ethnicity classifications may be found in Appendices III, IV, and VII.

EXECUTIVE SUMMARY

INTRODUCTION

The 2009 Connecticut Health Disparities Report provides the contexts and descriptions for health disparities experienced by various populations in Connecticut. The Connecticut Department of Public Health's definition of "health disparities" and sociodemographic characteristics of Connecticut's population are presented as background for the report's findings. Health indicator data reported herein are the result of careful analysis of available information by Connecticut Department of Public Health staff. Indicators of health status are presented by race, ethnicity, and/or other sociodemographic factors such as education or income level. Findings about the health issues of other vulnerable populations, such as homeless persons, sexual and gender minorities, and immigrants and refugees are also included in the report. Despite excellent overall health among Connecticut residents, we have documented the existence of a number of significant health disparities that present a formidable challenge to public health. Key findings are summarized below.

BACKGROUND

- Health disparities refer to those *avoidable* differences in health that *result from cumulative social disadvantage.*
- Public health research has demonstrated that a wide variety of health outcomes are influenced by social factors such as socioeconomic status, behaviors, social support, stress, discrimination, and environmental exposures. Health disparities are evidence of inequalities in these social factors.
- Racial and ethnic diversity is increasing in Connecticut. From 2000–2007, the state's Asian population increased by 38.2%, the Native Hawaiian or Other Pacific Islander population increased by 29.3%, and the Hispanic or Latino population increased by 24.8%. Hispanics or Latinos have shown the most growth of any Connecticut racial or ethnic subgroup in terms of overall numbers from 2000–2007.
- In 2007, the Hispanic or Latino population comprised 11.5% of the Connecticut population, Black or African Americans, 9.3%, and Asians, 3.4%.
- Compared with the White population in Connecticut, Blacks or African Americans were almost 3.6 times, American Indians or Alaska Natives about 3.3 times, Hispanics or Latinos about 4.7 times, and persons reporting "Some Other Race" about 5.4 times more likely to be living in poverty in 1999.
- While Connecticut compares favorably with the nation and with other states in terms of overall health statistics and broad measures of socioeconomic position, data in this report consistently show that there are striking health and social inequalities between racial and ethnic population groups in our state. Connecticut data provide evidence for health disparities, and mirror the findings of many such studies nationwide.
- The federal Office of Management and Budget (OMB) requires that all producers of federal statistics be compliant with OMB 1997 data collection and reporting standards by January 1, 2003, in order to standardize race and ethnicity categories across all federal agencies. Inconsistent implementation of these standards across federal and state agencies continues to lead to inconsistent or absent data.

KEY FINDINGS

All-Cause Mortality

- The mortality rate for all causes is a key measure of health status across populations. From 2000–2004, Black or African American Connecticut residents had the highest death rate from all causes, approximately 1.2 times higher that White residents. White residents had the second highest death rate from all causes followed by Hispanic and American Indian or Alaska Native residents, both of whom had about 0.8 times the all-cause death rate of Whites. Asian or Pacific Islander residents of Connecticut had the lowest death rate from all causes, which was approximately 0.4 times that of White residents.

Chronic Disease

- In 2000–2004, heart disease was the leading cause of death in Connecticut. Black or African American Connecticut residents had the highest death rate from heart disease, about 1.2 times higher than that of White residents. American Indians or Alaska Natives had similar heart disease death rates as Whites. Hispanic and Asian or Pacific Islander residents had lower heart disease death rates compared with White residents (0.7 and 0.4 times the death rate of Whites, respectively).

- In 2000–2004, cancer was the second leading cause of death in Connecticut. Black or African American Connecticut residents had the highest death rate from cancer, about 1.1 times higher than that of White residents. Hispanic, American Indian or Alaska Native, and Asian or Pacific Islander residents had lower cancer death rates compared with White residents.

- In 2000–2004, cerebrovascular disease or stroke was the third leading cause of death in Connecticut. Black or African American Connecticut residents had the highest death rate from stroke, about 1.4 times higher than that of White residents. Hispanic and Asian or Pacific Islander residents had lower stroke death rates compared with White residents (0.8 and 0.5 times the death rate of Whites, respectively). There were too few reported deaths due to stroke among American Indian or Alaska Native residents to calculate reliable rates.

- In 2004–2006, an estimated 5.9% of Connecticut adults aged 18 years and older had diagnosed diabetes. Connecticut adults aged 60 years and over have the highest rates, and lower-income adults are more likely to have diagnosed diabetes than are adults with higher income. Black or African American and Hispanic adults have significantly higher age-adjusted diabetes prevalence rates than White adults.

- Diabetes was the seventh leading cause of death in Connecticut in 2000–2004. Black or African American Connecticut residents had the highest death rate from diabetes, about 2.5 times higher than that of White residents. Hispanics had about 1.5 times the death rate from diabetes compared with Whites. There were too few reported diabetes deaths among Asian or Pacific Islander and American Indian or Alaska Native residents to calculate reliable rates.

- In 2005, Black or African American Connecticut residents had the highest hospitalization rate for diabetes and lower-extremity amputations of all racial and ethnic groups, with 3.8 times the hospitalization rate of White residents for both conditions. Hispanics had 2.3 times the rate of diabetes and 3.1 times the rate of lower extremity hospitalizations compared with Whites.

Behavioral Risk Factors for Chronic Disease

- In 2004–2006, lower-income adults in Connecticut were much less likely to obtain recommended screening tests for certain types of cancers compared with those of higher income. Low-income women were less likely to receive a recommended mammogram in the past two years and a recommended Pap test in the past three years compared with higher-income women. Among Connecticut adults aged 50 years and over, those with low income were less likely to have had a colonoscopy or sigmoidoscopy screening for colorectal cancer compared with those of high income.

- Cigarette smoking has been linked to numerous chronic diseases including cancer, cardiovascular diseases, respiratory diseases, and pneumonia. In 2005, 16% of Connecticut adults reported being current smokers. Connecticut adult smokers are more likely to be younger and have lower incomes and less education than non-smokers. In 2004–2006, an estimated 33.4% of adults with less than a high school education smoked compared with only 9% of adults who graduated from college.

- Obesity and overweight have been linked to numerous health problems including high blood pressure, high blood cholesterol, high triglycerides, diabetes, and heart disease, and increased likelihood of developing certain types of cancers. Lower-income adults are more likely to be obese than higher-income adults. In 2004–2006, an estimated 25.4% of adults with household incomes of less than $25,000 per year were obese, compared with 17.3% of adults with household incomes of $75,000 or more per year.

- High blood pressure (HBP) is a major risk factor for heart attack and the most important modifiable risk factor for stroke. In 2004–2005, about 25.1% of Connecticut adults reported that they had HBP, and Black or African American adults experienced high blood pressure more than White and Hispanic adults. Black or African American adults were also more likely to report taking medication for HBP.

- High blood cholesterol is a major risk factor for heart disease and a moderate risk factor for stroke. During 2004–2006, an estimated 17.8% of Connecticut adults had never had their blood cholesterol checked. Persons without health insurance, and those with lower incomes and less education were more likely to report never having had their blood cholesterol checked.

- Physical inactivity is linked to increased risk of several chronic health conditions, including cardiovascular disease, diabetes, some cancers, high blood pressure, overweight and obesity, back problems, and osteoporosis. Physical inactivity increases with age. 2005 Behavioral Risk Factor Surveillance Survey (BRFSS) data show that about 59% of Connecticut adults aged 65 years and older did not meet the federally recommended physical activity levels.

Injury

- Unintentional injury deaths include those due to motor vehicle injuries, poisonings, falls and fall-related injuries, and suffocation. In 2000–2004, unintentional injury was the fifth-ranked leading cause of death in Connecticut and the first-ranked leading cause of death for Connecticut residents aged one to 44 years.

- In 2000–2004, suicide was the 12th leading cause of death in Connecticut and the second leading cause for residents aged 15–19 and 25–34 years. Connecticut males were 4.1 times more likely to commit suicide than females. Firearms were the most common method, followed by suffocation by hanging and other means, drug or alcohol poisoning, and poisoning by carbon monoxide and other substances.

- In 2000–2004, homicide was the 17th leading cause of death overall, but it was the sixth leading cause of death among Black or African American males and the seventh leading cause of death among Hispanic males. Homicide deaths and death rates were highest among males, and highest among 25–29 year-olds.

Infectious and Sexually Transmitted Diseases

- Diagnosed cases of HIV/AIDS for 2001–2005 were most prevalent in persons of Hispanic origin and Blacks. These groups experienced 7.4 and 6.6 times the rates of HIV/AIDS diagnoses as Whites, respectively.
- During 2001–2005, African Americans in Connecticut disproportionately experienced chlamydia infection, gonorrhea, and syphilis compared with Whites and Hispanics. For chlamydia, the incidence rate among African Americans was 18 times that of Whites; for gonorrhea, the rate was 29 times that of Whites; and for primary and secondary syphilis, the rate was three times that of Whites.
- The incidence rates of invasive pneumococcal disease in Connecticut among Blacks and Hispanics were three and two times that of Whites, respectively, during 2001–2005.
- Tuberculosis (TB) trends in Connecticut mirror those of the nation. From 2000 to 2005, the incidence rates of TB among foreign-born persons and racial and ethnic minorities were higher than the incidence among Whites in Connecticut. The Connecticut TB incidence rate for 2000–2005 was highest among Asians (23 times that of Whites).

Maternal and Child Health

- The infant mortality rate (IMR) is a key measure of population health status. Between 2001–2005, the Connecticut IMR was 5.9 deaths per 1,000 live births. During this time, the IMR for White infants was 3.9, while for Black or African American infants, the IMR was 13.0, and for Hispanics, it was 6.5 per 1,000 live births.
- Hispanic women and Black women had the highest percentages of those with late or no prenatal care in the first trimester of pregnancy, at 23.6% and 21.8% of women, respectively. Black women had the highest percentage of low birth weight infants, at 12.9%, compared with 6.7% for White infants, 8.2% Asian/Pacific Islanders, and 8.5% for Hispanics.

Oral Health

- Good oral health is key to maintaining good overall health. An oral health survey of Connecticut kindergarteners and third graders conducted in 2006–2007 demonstrated that 41% of third graders surveyed had experienced tooth decay, as had 31% of children enrolled in Head Start and 27% of kindergarteners.
- There were statistically significant differences between the White kindergarten and third grade students' oral health screening results and that of racial and ethnic minority children. Hispanic children had the largest percentage of tooth decay experience (49.3%), followed by African American (42.8%) and Asian students (42.0%). Among the White children surveyed, 28.9% had experienced tooth decay.

Environmental and Occupational Health

- In 2001–2005, New Haven, Connecticut had the highest asthma hospitalization rates for children 0–17 years old (71.6 hospitalizations per 10,000), compared with Hartford (41.5), Waterbury (38.6), Bridgeport (24.2) and Stamford (17.5). In 2004, Hispanic and Black children 0–17 years old had the highest rate of emergency department visits, at 169.7 and 151.2 per 10,000, respectively, compared with White children (32.7 per 10,000). Connecticut Black and Hispanic residents of all ages had the highest asthma hospitalization rates in

2005: 316.7 and 331 per 100,000 population, respectively, compared with the White rate of 84.5 per 100,000 population.

- In 2006, New Haven had the highest percent of screened children who had a confirmed elevated lead blood level (≥10µg/dL) (5.7%), compared with the state overall (1.6%). Although there were relatively few Native American children in Connecticut screened that year, almost three times as many of them had elevated blood lead compared with screened White children. Likewise, Black children also had high rates of elevated blood lead, with 2.7 times that of White children who were screened.

- Hispanics in Connecticut had about 2.4 times more non-fatal work-related injuries and illnesses than White workers in 2006, a disparity that has remained despite an overall decrease in injuries and illnesses in the workplace over the last several years.

Access to Health Care; Health Care Workforce

- Lack of health insurance is an urgent health problem facing many state residents. In Connecticut, Hispanic residents are about 5.4 times more likely, and Black residents 2.7 times more likely, to be uninsured than White residents.

- During fiscal years 2000–2006, the number of preventable hospitalizations in Connecticut grew by nearly 4%. Racial and ethnic minority populations accounted for 100% of the growth in preventable hospitalizations between FYs 2000 and 2006, while preventable hospitalizations among Whites decreased 3% over this same time period. Hispanics and Blacks represented 44% and 31%, respectively, of the increase in preventable hospitalizations between FY2000 and FY2006.

- Connecticut ranks fifth in the nation in terms of physicians per 100,000 population. However, health care providers are not evenly distributed throughout the state, and there are 95 federally designated health care workforce shortages areas in the state. In order to better address health disparities, a more detailed description of the health care workforce is necessary.

OTHER VULNERABLE POPULATIONS

- Many other populations suffer from health disparities, including: rural residents, older and younger persons, sexual and gender minorities, persons with disabilities, immigrants and refugees, limited English proficient (LEP) populations, and homeless persons. Health data for these populations are inconsistently collected and often are not easily accessed. Therefore, public health professionals, health care providers, and policy makers have incomplete understandings of their health status and needs.

FUTURE DIRECTIONS

- Current state data provide a limited picture of the health status of various populations in Connecticut. Health data (e.g., births, deaths, risk factor prevalence) collected on smaller population subgroups, specifically American Indians or Alaska Natives, Asians, and Native Hawaiians or Other Pacific Islanders, are often limited due to low numbers of reported occurrences. More information about the health and health-related experiences of these groups is needed.

- Compared with other population subgroups, there is relatively more health information available for Hispanics or Latinos in Connecticut. However, because the Connecticut Hispanic or Latino population is rapidly increasing in both size and diversity, more detailed in-

- Mortality data show that compared with other racial and ethnic subgroups in Connecticut, Blacks or African Americans suffer disproportionately from the major chronic diseases (heart disease, stroke, diabetes) and other causes of death such as HIV/AIDS and homicide. Detailed information is lacking, however, on subgroups within the Black or African American population, as well as the influences of poverty, low-income neighborhood environments, and discrimination on health outcomes.

- The amount of available health and social data are generally good for the White, non-Hispanic population in Connecticut relative to other subgroups; however, White residents are socioeconomically and ethnically diverse, and detailed information is lacking on the role of socioeconomic status, geographic area of residence, and living environments on health, as well as access to appropriate health care in this population.

- Creation of a more detailed picture of the health status of Connecticut population subgroups is achievable through increased collaboration between local communities and public and private agencies who are committed to providing more in-depth descriptions (and understanding) of the health needs and health status of the residents of our state. Such an effort would entail use of both qualitative (ethnography, participant observation, focus groups) and quantitative (survey) methods as well increased use of GIS (Geographic Information Systems) technology so that accurate and vivid depictions of the health status and needs of smaller, diverse subgroups are captured.

PART 1
INTRODUCTION AND BACKGROUND

- KEY ISSUES IN HEALTH INEQUALITIES
- CONNECTICUT'S SOCIODEMOGRAPHIC CONTEXT
- RACIAL AND ETHNIC GROUPS IN CONNECTICUT
- LIMITATIONS OF THE DATA

KEY ISSUES IN HEALTH INEQUALITIES

INTRODUCTION

> *[P]ublic health is what we, as a society, do collectively to assure the conditions in which people can be healthy.*
> —Institute of Medicine (1988, 1)

Extraordinary improvements in the health of all Americans have been made since the early 20th century. However, not everyone benefits equally from advances in the public's health, and economic and health inequalities have become noticeably larger in the last 28 years (Smedley, Stith and Nelson 2003; The Nation Online 2008). This has led to an increasing concern in public health for monitoring, analyzing, and reducing health disparities in the United States.

Over the last 30 years, the U.S. Surgeon General's *Healthy People* reports have delineated national targets and objectives for health promotion and disease prevention. Recognizing that inequalities between population groups still persist for many health indicators, *Healthy People* has identified the elimination of health disparities as a primary national health goal (U.S. Department of Health and Human Services [U.S. DHHS] 1990, 2000a). The latest report, *Healthy People 2010*, emphasizes that individual health is inseparable from the health of communities, and that the only way to improve the health status of the nation is to increase the health of all communities in all states and territories (U.S. DHHS 2000a, 1–2). *Healthy People 2010* also endorses an approach to achieving health equity that includes "improving health, education, housing, labor, justice, transportation, agriculture, and the environment, [and] data collection" (U.S. DHHS 2000a, 16).

But what are health disparities? Whom do they affect and how do they occur? How and why do they persist over time? What types of data are crucial for understanding the complex health issues of underserved and underrepresented populations? How healthy are we in Connecticut, and how can we improve the health of *all* state residents?

HEALTH DISPARITIES: DEFINITIONS

The U.S. federal government has provided leadership in defining health disparities and priority populations, and in highlighting the underlying processes and consequences of health disparities. The National Institutes of Health (NIH) define health disparities as “differences in the incidence, prevalence, mortality, and burden of diseases and other adverse health conditions that exist among specific population groups in the United States” (NIH 2000). One important mission of the NIH is to address health disparities by both improving knowledge about the underlying processes that give rise to and maintain health disparities, and disseminating interventions based on this knowledge (NIH 2006).

Healthy People 2010 defines health disparities as health “differences that occur by gender, race or ethnicity, education or income, disability, geographic location, or sexual orientation” (U.S. DHHS 2000a, 11). While the federal government recognizes these groups as “priority populations,” not all of the 467 *Healthy People* objectives have specific target objectives for each of the groups identified (U.S. DHHS 2000a).

Other definitions of health disparities, particularly those for the World Health Organization (WHO), focus on health differences resulting from social disadvantages that are considered “avoidable, unfair and unjust” (Whitehead 1990, 5). In the United States, “disparity” has been the most common term used to express these health outcome differences. In other countries, the words “health inequities” or “health inequalities” are used to highlight the avoidable, unfair, and unjust aspects of health differences and their persistence (Carter-Pokras and Baquet 2002).

In addition to priority populations identified in national reports, there are other population subgroups likely to experience health disparities. These include immigrants, refugees, limited English proficiency populations, and homeless persons. Public health research has shown that these groups tend to have limited access to health care and/or adverse health outcomes relative to the majority population (Friedman 2005; Donohoe 2004). Considering the national definitions and other available research evidence, the authors have earlier (Stratton, Hynes, and Nepaul 2007) developed the following working definition of health disparities for Connecticut:

> *Health disparities refer to the differences in disease risk, incidence, prevalence, morbidity, and mortality and other adverse conditions, such as unequal access to quality health care, that exist among specific population groups in Connecticut. Population groups may be based on race, ethnicity, age, gender, socioeconomic position, immigrant status, sexual minority status, language, disability, homelessness, and geographic area of residence. Specifically, health disparities refer to those avoidable differences in health that result from cumulative social disadvantage.*
>
> — Stratton, Hynes, and Nepaul (2007)

While it may not be possible to provide detailed analyses of each population subgroup in our state, the Connecticut Department of Public Health (DPH) has identified the abovementioned groups as priority population groups in its monitoring of health disparities. Although health disparities among racial and ethnic minority populations are a main concern of DPH surveillance efforts, DPH has recognized that multiple factors, such as socioeconomic position, discrimination, language spoken, and geography are inextricably intertwined with all health disparities.

EXPLAINING HEALTH DISPARITIES

Researchers employ different approaches to explain health, illness, and health disparities. The underlying approach that one takes to health disparities analysis is important since it frames the ways that health issues will be conceptualized, explored, and addressed. Researchers may focus on racial-genetic explanations of disparity, individual health decision-making and behaviors, inequalities in socioeconomic status, psychosocial effects of stress, or how structural inequalities in social institutions affect health outcomes (Dressler, Oths, and Gravelee 2005:236). When researchers or policy makers put into practice, or “operationalize,” these approaches to data collection and explanation, they focus on certain ways to collect, analyze, and report data about people’s health.

THE CONCEPTS OF "RACE" AND "ETHNICITY" IN PUBLIC HEALTH

> *Health disparities are* evidence *of ideologies of differentiation—including race and ethnicity classifications—that have been fundamental aspects of American society.*

Differential treatment of people based on the ideas of race and ethnicity is a social reality for all Americans and has a great impact on Americans' health and general well-being. In order to track the health impact of the ideas of race and ethnicity, health departments at all levels need to collect consistent and comprehensive health information using racial and ethnic classification tools. Such surveillance also assists with implementation of the U.S. Surgeon General's goal to eliminate health disparities by 2010, compliance with Title VI of The Civil Rights Act of 1964, and justification of funding for health programming (Office of Management and Budget [OMB] 1997; U.S. DHHS 2000a).

It is difficult to define "race" and "ethnicity." Scholars, policy makers, activists, medical personnel, and the general population have been arguing for centuries over the concepts of "race" and "ethnicity," and how to collect and analyze data about our population groups (Lee 1993; Nepaul, Hynes and Stratton 2007). Being classified as "Black" or "American Indian" in this society has real social, economic, and health consequences, including negative outcomes for a variety of health indicators. Exactly how and why these disparities persist is still a matter of vigorous debate, but the fact that the inequalities exist is clear.

The "race" concept has generally focused on classifying people according to perceived differences in appearance (e.g. skin color), and association of those differences with heritability and a geographical region. Attempts have been made to connect human genetics with ancestral region and physical appearance, but firm results have been impossible to produce due to "the difficulty of defining a 'population,' the clinal nature of variation, and heterogeneity across the genome," among other considerations (National Human Genome Research Institute 2005, 519). In other words, because of the gradual changes in morphology or physiology in human groups across environmental or geographic transitions, one cannot pin down exactly where one group of humans is separated from another group. One cannot tell exactly where on a given scale of physical characteristics "Black" people become "White" or "Asian" and cease being "Black." Indeed, the peoples of the world *cannot be categorized* into four or five genetically distinct groups (e.g., “White,” “Black,” “Asian”). As genetic and anthropological research have repeatedly shown, there are more genetic differences *within* racial categories than there are *between* racial categories (American Anthropological Association 1998; National Human Genome Research Institute 2005).

“Ethnicity” has generally referred to the cultural, behavioral, religious, linguistic, and/or geographical commonalities imputed to people belonging to a particular group, as opposed to genetic heritability. The boundaries of authenticity (i.e., who or what “counts” as being a member of an ethnic group) are often changeable and can depend on social, political, and historical situations. In the United States, federal officials have determined that for data collection purposes, there are only two “ethnicities”: Hispanic or Latino, and Not Hispanic or Latino (OMB 1997; U.S. Census Bureau 2000a, 2001). Currently, public officials use terms such as “country of origin,” “ancestry,” “heritage,” and “language spoken at home” to gather data about population diversity within racial and ethnic subpopulations (U.S. Census Bureau 2004a).

The concepts of “race” and “ethnicity” are historical products of particular American classification systems created to differentiate people based on changing political, economic, and social values of those in power (Lee 1993; American Anthropological Association 1997; Kaplan and Bennett 2003). For example, residents in Brazil and Japan have created—and currently use—different racial and ethnic classification systems than the U.S., which reflect their own social, cultural, political histories (Kottak 2007, 67–72). While people may have ideas about “racial” or “ethnic” groupings, these ideas are *culturally learned* and have social meanings attached to them: they are neither natural nor genetic certainties.

Given the complications of theorizing, classifying, and collecting accurate “race” and “ethnicity” data, should they still be collected? Yes—because while “race” may be a sociopolitical and historical creation, *all* Americans share in the effects of its existence. The concepts of race and ethnicity *create* differential social, political, economic and health-related realities for everyone. These realities include the structures, beliefs and practices of health care, medicine, and economics that contribute to health disparities for minority populations (Williams, Lavizzo-Mourey and Warren 1994). Continued collection of race and ethnicity data can help illuminate the historical contexts of health disparities and their impact on current populations (e.g., discrimination, slavery, immigration laws, etc.). As Williams and Jackson note, "As long as being Black remains consequential for every aspect of life, and as long as racial status continues to reflect differences in power and desirable resources in society, it is important to assess race" (Williams and Jackson 2000, 1728).

SOCIAL DETERMINANTS OF HEALTH DISPARITIES

Nonetheless, focusing solely on race and ethnicity may result in overlooking the negative health effects of social and economic inequalities. Individual and population health outcomes result from people acting in social, economic, political, and environmental contexts that overlap, interconnect, and shape each other. Health disparities are the products of these contexts and practices within medical and health care systems, as well as experiential, personal, and cultural realities in people's everyday lives.

Social determinants of health may be defined as "factors in the social environment that contribute to or detract from the health of individuals and communities" (Centers for Disease Control and Prevention [CDC] and Agency for Toxic Substances and Disease Registry 2005). According to a recent World Health Organization (WHO) report, the most important social determinants of health include: the "social gradient" of health (i.e., each level of a social hierarchy exhibits better health outcomes than lower levels), stress, early life conditions, social exclusion, work, unemployment, social support, addiction, food, and transport (Wilkinson and Marmot 2003; National Research Council 2001). Other research has pointed out the roles of health behaviors, individual biological susceptibility, environmental and occupational exposures, and access to power and decision-making (Williams and Collins 1996). Discrimination, stigma, residential segregation, and everyday life experiences as a minority in America also can translate in people's bodies as various forms of stress (Adler et al. 2007; Williams and Collins 2001; Gee et al. 2007).

Finally, studies that have examined national structures of social (in)equality have shown that "a country's level of egalitarian social and economic policy is linked to the nature of SES [socioeconomic status] differentials in health within that country" (Williams and Collins 1996, 33). That is, the more socially and economically egalitarian a society is, the less marked the health disparities are in that country (Williams and Collins 1996). A society's ideas about personal (or communal) responsibility and the economic and political structures of that society will affect opportunities for, and norms of, health care and health-seeking behaviors. Although difficult to measure quantitatively, these social determinants have inspired much health disparities work (California Newsreel 2008; Coburn 2000, 2004; Farmer 2004; McGregor 2001; Navarro 2004; Raphael 2008).

The persistence of health inequalities, despite national improvements and specially-targeted interventions, must concern people involved with public health. There are many reasons for the persistence of health disparities, and not all of them are understood clearly. While race and ethnicity characteristics may be important pieces of the health disparities puzzle, they must be put into social, political, and economic contexts as we try collectively to assure the conditions in which people can be healthy.

CONNECTICUT'S SOCIODEMOGRAPHIC CONTEXT

In this section of the report, various population characteristics of Connecticut residents are presented. First, the overall distribution and composition of the Connecticut resident population are introduced. Second, a range of social and economic factors that affect the health of Connecticut residents, from income and poverty to social networks and residential segregation, are discussed.

DISTRIBUTION OF THE POPULATION

Connecticut is a small state with large contrasts. Statistics given for Connecticut usually show that the state has a high percentage of residents with high education levels, very high per capita income compared with the national average, a high percentage of naturalized immigrants, and better adult insurance coverage rates for all residents compared with the rest of the country (Capps et al. 2005, 34). However, "overall" or "average" statistics do not tell the full story of the socioeconomics, demographics, and health statuses of Connecticut residents. There is a great deal of concentrated disparity between our cities and rural areas, between racial and ethnic groupings, and between income brackets (Center for Population Research 2004, 30). Aggregate numbers obscure marked inequalities in economic opportunity, income, educational attainment, and health disparities. Because of these contrasts, Connecticut presents an interesting profile for health disparities research and surveillance.

Connecticut is the third smallest state in the United States (behind Delaware and Rhode Island) with an area of 4,844 square miles (FedStats 2007). Yet, Connecticut is the fourth most densely settled state in the nation, with 723 persons per square mile compared with the national average of 85 persons per square mile (U.S. Census Bureau 2006a). Though ranked 29th in terms of population size, with 3,510,297 residents as of July 2005 (U.S. Census Bureau 2006b), Connecticut is an urban state. The business and residential corridors along the Connecticut and Thames Rivers and the region's major interstate highways (I-95, I-91, and I-84) are home to industrial, educational, and population centers for the state and the New England region. The state's three largest Metropolitan Statistical Areas (MSAs) accounted for almost 84% of the state's population in 2005 (U.S. Census Bureau 2006c).

Nonetheless, Connecticut maintains its rural, New England character, with quiet villages, open spaces, and farms in the northwest and northeast corners of the state. However, rural Connecticut's people also experience deep socioeconomic and health contrasts: some of our state's poorest—and richest—residents live in rural areas where access to jobs, health care, and transportation may be difficult.

Connecticut's population is older relative to the United States. In 2007, the state's median age was 39.1 years, as compared with 36.7 years for the U.S. (U.S. Census Bureau 2007a). An aging population has far-reaching implications for state and federal expenditures for health care and insurance, education, transportation, and the kinds of jobs that the state will be able to attract and retain in the future. Table 1 presents the estimated age distribution by race and ethnicity for Connecticut's population (U.S. Census Bureau 2008a).

In general, Connecticut's racial and ethnic minority populations are younger than the White population. One out of three Hispanics or Latinos, nearly one out of three Blacks or African Americans, one out of three American Indians or Alaska Natives, and one out of four Native Hawaiians or Other Pacific Islanders are 17 years old or younger, compared with about one in five Whites in Connecticut. For reasons yet to be fully clarified, the youngest population is in the "Two or More Races" category. This category is composed of about 46% of people who are 17 years old or younger. About 5% of Hispanics or Latinos, 5% of people reporting Two or More Races, 6% of Asians, 8% of Blacks or African Americans, 8% of Native Hawaiians or Other Pacific Islanders, and 9% of American Indian or Alaska Natives are ages 65 years or older, compared with 16% of Whites in Connecticut.

Table 1. Age Distribution of Connecticut's Population, by Race or Ethnicity, 2007

	Percent by Race[a] or Ethnicity						
Age Group	Black or African American	Hispanic or Latino	Asian	American Indian or Alaska Native	Native Hawaiian or Other Pacific Islander	Two or More Races	White
0–4	7.5	9.9	7.9	9.2	7.0	13.5	5.0
5–17	21.2	23.2	17.4	19.1	18.0	32.4	15.8
18–34	25.9	29.3	28.2	23.6	32.4	24.7	18.3
35–64	37.3	33.0	40.7	39.3	34.5	24.7	44.8
65 & over	8.1	4.7	5.8	8.8	8.1	4.7	16.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: U.S. Census Bureau 2008a.

[a] Race groupings exclude persons of Hispanic or Latino ethnicity. Hispanic or Latino persons may be of any race.

In addition, racial and ethnic diversity is increasing in Connecticut. Table 2 reflects the estimated increase in Connecticut's population by race or ethnicity between 2000 and 2007. Hispanics or Latinos are now the largest racial or ethnic group in the state, followed by Blacks or African Americans at 9.3%, and Asians at 3.4% of the state's population.

Table 2. Connecticut's Population, by Race or Ethnicity, 2000 and 2007

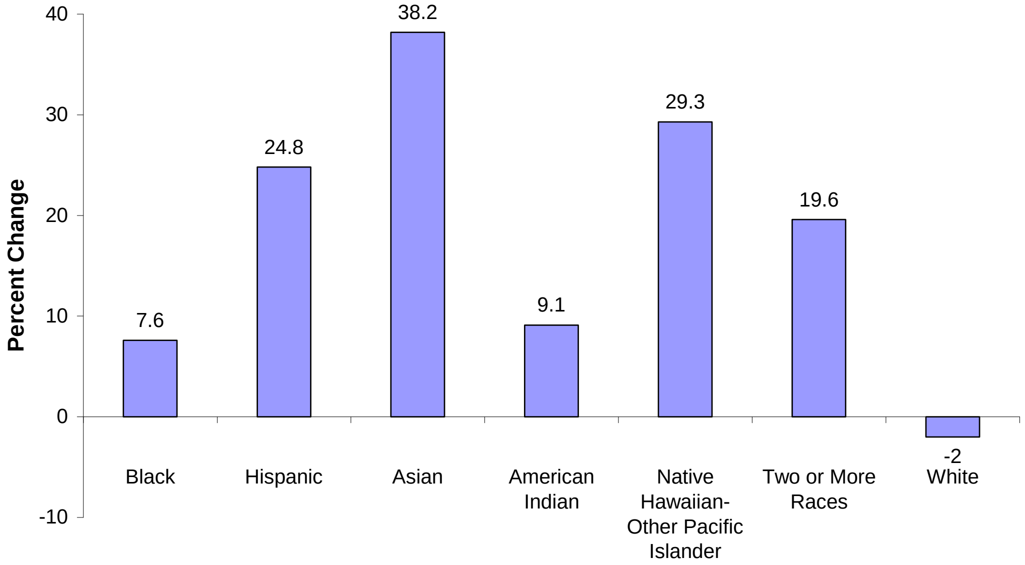
	2000		2007	
Race[a] or Ethnicity	Number	Percent	Number	Percent
Black or African American	304,265	8.9	327,250	9.3
Hispanic or Latino	323,283	9.5	403,375	11.5
Asian	85,117	2.5	117,628	3.4
American Indian or Alaska Native	7,495	0.2	8,178	0.2
Native Hawaiian or Other Pacific Islander	1,066	0.0	1,378	0.0
Two or More Races	33,572	1.0	40,151	1.2
White	2,657,464	77.9	2,604,349	74.4
All Persons	3,412,262	100.0	3,502,309	100.0

Source: U.S. Census Bureau 2005a, 2008a.

[a] Race groupings exclude persons of Hispanic or Latino ethnicity. Hispanic or Latino persons may be of any race.

Figure 1 shows the percent change for racial or ethnic groups from 2000 to 2007. Asians, Native Hawaiians or other Pacific Islanders, and Hispanics or Latinos showed the largest growth in population from 2000–2007, at 38.2%, 29.3%, and 24.8% respectively (U.S. Census Bureau 2008a). The percentage of the population who self-identified as Two or More Races grew by 19.6%, while the Black or African American population grew by 7.6% and the American Indian or Alaska Native population grew by 9.1% (U.S. Census Bureau 2008a). During this time, the White population in the state decreased by 2% (U.S. Census Bureau 2008a).

Figure 1. Percent Change in Population by Race or Ethnicity, Connecticut, 2000–2007



Source: U.S. Census Bureau 2005a, 2008a.

Table 3 indicates the distribution of racial and ethnic groups in selected Connecticut cities for Census 2000. Racial and ethnic minorities tend to be geographically concentrated in the urban areas of the state. In the state's three largest cities, Bridgeport, Hartford, and New Haven, Hispanics or Latinos and Blacks or African Americans comprise the majority population. Hispanic or Latino persons comprise large percentages of the residents in many of our cities: 40.5% in Hartford, 21.4% in New Haven, and 31.9% in Bridgeport (U.S. Census Bureau 2000b). Blacks or African Americans comprise 36.1% of the population in New Haven, 36% in Hartford, and 29.4% in Bridgeport (U.S. Census Bureau 2000b). In the other five of the state's biggest cities (Waterbury, Stamford, Norwalk, New Britain, and Danbury), as well as in the rest of the state, the White population comprises the majority population.

Table 3. Percentages of Racial or Ethnic Group Populations in Selected Connecticut Cities, 2000

	Race[a] or Ethnicity							
City	Black	Hispanic	Asian	American Indian	Native Hawaiian or Other Pacific Islander	Some other Race	Two or More Races	White
Bridgeport	29.4	31.9	3.2	0.3	0.1	0.9	3.4	30.9
Danbury	6.3	15.8	5.4	0.2	0.0	1.5	2.8	68.1
Norwalk	14.7	15.6	3.2	0.1	0.0	0.2	1.8	64.3
Stamford	14.9	16.8	5.0	0.1	0.0	0.2	1.8	61.2
Hartford	36.0	40.5	1.6	0.3	0.0	0.6	3.2	17.8
New Britain	9.7	26.8	2.3	0.1	0.0	0.2	2.1	58.8
New Haven	36.1	21.4	3.9	0.3	0.0	0.3	2.4	35.6
Waterbury	15.2	21.8	1.5	0.3	0.0	0.6	2.4	58.2

Source: U.S. Census Bureau 2000b.

[a] Race groupings exclude persons of Hispanic or Latino ethnicity. Hispanic or Latino persons may be of any race.

SOCIAL AND ECONOMIC CHARACTERISTICS

INTRODUCTION

While race and ethnicity classifications play major roles in the way health and illness are experienced in the United States, socioeconomic factors in people’s lives, such as income, educational attainment, occupation, and wealth, also greatly contribute to health outcomes. Public health and social science research have shown the connections between low socioeconomic position and increased levels of disease, morbidity, mortality, disability, and decreased access to routine and specialized health care (e.g., Smedley, Stith, and Nelson 2003; Berkman and Kawachi 2000; WHO 2008a). As Wilkinson and Marmot note, “It is not simply that poor material circumstances are harmful to health, [but] the social meaning of being poor, unemployed, socially excluded, or otherwise stigmatized also matters” (Wilkinson and Marmot 2003, 9).

Income, educational attainment, and occupation are the most commonly used measurements for understanding the relative economic and social statuses of populations, and have been strongly linked to health outcomes and with people's access to and quality of health care. In this section of the report, the context and statistics for Connecticut state data on income levels, educational attainment, occupation, unemployment levels, and poverty status are reviewed. Other factors such as wealth, child poverty, residential segregation, and racial discrimination are also summarized in order to highlight their roles in health disparities.

Socioeconomic Position (SEP)

"Socioeconomic position" (SEP) refers to "both the material and social resources available to individuals, as well as their rank or status in the social hierarchy" (Washington State Department of Health 2007). SEP measurements (such as educational attainment and income) are quantifiable proxies for the nuanced ways in which social meanings about class, prestige, and power produce health consequences over time and in different places (e.g., Kreiger 2001; Wilkinson and Marmot 2003). If people change social positions throughout their life courses, they may have different incomes and occupations, which are given social meanings and have varying socioeconomic (and health) consequences.

At both national and state levels, the impacts of SEP are striking. People with more wealth, higher education, and higher incomes get higher-paying jobs and live in healthier neighborhoods, and in healthier houses than others. They are more able to garner financial and social networks and resources. Racial and ethnic minority populations tend to have disproportionately lower levels of education, lower-paying jobs, lower incomes, lower wealth, higher unemployment, and live in unhealthier homes and neighborhoods than those of the majority population.

Economic Measures: Income, Wealth, Self-Sufficiency Standard

Low income can be both a cause and a consequence of poor health. Higher income is associated with better health because it enables people to access education and better jobs, to afford better housing in healthier surroundings, and to obtain health care and better nutrition. Poor health can affect a person's ability to work and study, and constrains the types of employment available.

In 1999, Connecticut's per capita income, or income per person, was $28,766, the highest in the nation (U.S. Census Bureau 2000j). However, Connecticut's high per capita income obscures striking economic disparities by geographical location and race and ethnicity. The highest incomes in Connecticut are concentrated in Fairfield County near New York City; the lowest are concentrated in the state's biggest cities (New Haven, Bridgeport and Hartford). For example, in 1999, the town of Darien, Connecticut had a per capita income of $77,519, whereas per capita income in Hartford was $13,428 (both in 1999 dollars) (U.S. Census Bureau 2000e).

The 1999 per capita income of Connecticut residents by race or ethnicity is shown in Table 4. Connecticut's White residents had the highest per capita income in the state, followed by Asians (U.S. Census Bureau 2000e). In contrast, the per capita incomes of Blacks or African Americans, Hispanics or Latinos, and people who identified as Some Other Race or Two or More Races were less than 55% that of Whites in Connecticut.

Table 4. Per Capita Income in the United States and Connecticut, by Race or Ethnicity, 1999

	United States		Connecticut	
Race[a] or Ethnicity	Per Capita Income	Ratio of Minority to White Income	Per Capita Income	Ratio of Minority to White Income
Black or African American	$14,437	0.60	$16,685	0.53
Hispanic or Latino	12,111	0.51	13,123	0.42
Asian	21,823	0.91	27,948	0.89
American Indian or Alaska Native	12,893	0.54	18,186	0.58
Native Hawaiian and Other Pacific Islander	15,054	0.63	18,345	0.58
Some Other Race	10,813	0.45	11,045	0.35
Two or More Races	13,405	0.56	15,099	0.48
White	23,918	1.00	31,505	1.00
All CT	21,587		28,766	

Source: U.S. Census Bureau 2000e.

[a] Race groupings exclude persons of Hispanic or Latino ethnicity. Hispanic or Latino persons may be of any race.

Wealth, a factor not often used in reporting health disparities, is the amount of resources a person or family has to draw on immediately—the difference between assets and liabilities—to face health problems or other trials (U.S. Census Bureau 2003a). Individual or family wealth is crucial for paying for insurance, medical emergencies, or long-term care. In Connecticut, where the cost of living is high, the ability to call on personal and family wealth and other resources may be critical to health and well-being.

The *self-sufficiency standard* is another measure that reflects the cost of living in Connecticut (Pearce 2005). The self-sufficiency standard "[c]alculates how much money working adults need to meet their basic needs without subsidies of any kind…and accounts for the costs of living and working as they vary by family size and composition and by geographic location" (Pearce 2005). The standard realistically reflects the ability of families and individuals to confront health care costs or crises. For example, in 2003, the federal poverty threshold for a single parent family with one infant and one school-aged child living anywhere in the U.S. was $14,494 (in 2002 dollars) (Canny and Hall 2003). In contrast, the self-sufficiency standard for the same family configuration ranged from $37,123 in Hartford to $52,254 in Stamford-Norwalk (in 2002 dollars) (Canny and Hall 2003). Our understanding of health disparities may benefit from the use of economic measures such as wealth and the self-sufficiency standard (see Appendix IV for further definitions).

ECONOMIC MEASURES: EDUCATIONAL ATTAINMENT

Educational attainment, (i.e., the highest level of education completed), is a standard measurement that helps indicate economic standing and is a part of understanding socio-economic position. Higher education is strongly linked to better health status, better health care access, and quality and increased income and job opportunities. Education can affect health outcomes, by increasing one's knowledge of and ability to access information about health and health systems, and by increasing the opportunities for higher-paying jobs and higher income. Higher educational attainment levels enable people to obtain safe and sanitary housing in safer and healthier neighborhoods, healthy food, safer work conditions, jobs with better benefits, and appropriate health care.

Over the last several decades, educational attainment for all residents in the U.S. has grown, but not all population subgroups have the same levels of educational attainment. In 2000, of the Connecticut resident population aged 25 years old or older, 84% had a high school degree or more schooling compared with the overall U.S. rate of 80.4% (U.S. Census Bureau 2000k). In addition, in 2000, 31.4% of Connecticut residents aged 25 years or older had attained a bachelor's degree or higher level of education, compared with the U.S. rate of 24.4% (U.S. Census Bureau 2000l). But when these rates are closely examined, educational disparities by race and ethnicity are evident in the state. Among people aged 25 years or older the proportion who did not complete high school or an equivalency degree ranged from 13.7% for people identifying their race as White, to 46.2% for people identifying as Some Other Race. The percentage of people aged 25 years or older who had a bachelor's degree or higher level of education in 2000 ranged from 7.7% for people reporting Some Other Race, to 57.7% of people reporting their race as Asian.

The "Some Other Race" category includes responses of people who did not identify with the existing Census race categories, and who wrote in race and/or ethnicity responses (U.S. Census Bureau 2001, 2). The majority of respondents (97%) who reported Some Other Race on Census 2000 were of Hispanic or Latino ethnicity (U.S. Census Bureau 2001:11). For more information about the "Some Other Race" category, see Appendix VII.

Table 5. Educational Attainment of Connecticut Residents, 25 Years of Age or Older, by Race or Ethnicity, 2000

Race[a] or Ethnicity	Population	Percent
Black or African American	175,527	
Less than high school graduate	45,738	26.1
High school diploma or equivalency	59,445	33.9
Some college or associate degree	46,218	26.3
Bachelor's degree or higher	24,126	13.7
Hispanic or Latino	162,962	
Less than high school graduate	67,586	41.5
High school diploma or equivalency	45,937	28.2
Some college or associate degree	31,013	19.0
Bachelor's degree or higher	18,426	11.3
Asian	51,977	
Less than high school graduate	7,791	15.0
High school diploma or equivalency	6,873	13.2
Some college or associate degree	7,336	14.1
Bachelor's degree or higher	29,977	57.7
American Indian or Alaska Native	5,760	
Less than high school graduate	1,857	32.2
High school diploma or equivalency	1,497	26.0
Some college or associate degree	1,504	26.1
Bachelor's degree or higher	902	15.7
Native Hawaiian or Other Pacific Islander	700	
Less than high school graduate	138	19.7
High school diploma or equivalency	241	34.4
Some college or associate degree	165	23.6
Bachelor's degree or higher	156	22.3
Some Other Race	73,382	
Less than high school graduate	33,905	46.2
High school diploma or equivalency	20,948	28.5
Some college or associate degree	12,895	17.6
Bachelor's degree or higher	5,634	7.7
Two or More Races	39,141	
Less than high school graduate	11,392	29.1
High school diploma or equivalency	10,991	28.1
Some college or associate degree	9,422	24.1
Bachelor's degree or higher	7,336	18.7
White	1,949,130	
Less than high school graduate	266,835	13.7
High school diploma or equivalency	553,305	28.4
Some college or associate degree	476,127	24.4
Bachelor's degree or higher	652,863	33.5

Source: U.S. Census Bureau 2000g, 2000h.

[a] Race groupings exclude persons of Hispanic or Latino ethnicity. Hispanic or Latino persons may be of any race.

ECONOMIC MEASURES: UNEMPLOYMENT AND OCCUPATION

Unemployment

The *unemployment rate* is defined as the percentage of people in a population who do not have jobs, but who would like to have employment and are actively seeking work (Fedstats 2008). Rates of unemployment, poverty level, and lack of access to education have been consistently linked to health disparities (Williams 2007a, 2007b; Krieger 1999, 2004). Other aspects of personal and community health, such as violence, accidents, and crime have also been linked to unemployment and poverty (U.S. Government Accountability Office [GAO] 2007). In more subtle ways, the protective health effects of having a job (e.g., provision for self and family, dignity, and value to the community, self, and family) are placed in jeopardy when one cannot find employment.

In 2006, the national rate of unemployment for the population 16 years and older was 6.4%, while for Connecticut, it was 6.2% (U.S. Census Bureau 2006d). However, the overall Connecticut rates of unemployment mask racial, ethnic, geographical, and age differences. In 2006, of the entire Connecticut population 16 years or older, Blacks or African Americans had an unemployment rate of 11.0%, while Hispanics or Latinos in the state had an unemployment rate of 11.9% (U.S. Census Bureau 2006d). That same year, Asians had a 3.4% unemployment rate, while Whites had a rate of 5.2% (U.S. Census Bureau 2006d).

These rates are markedly different by geographical location and by age group. In 2006, Hartford’s unemployment rate was 17.6%, almost three times the state unemployment rate. In 2006, for Hispanics or Latinos 16 years and older living in Hartford the unemployment rate was 25.9%, and among Blacks or African Americans living in Hartford it was 16.2% (U.S. Census Bureau 2006d). The unemployment rate for youth ages 16–19 in Hartford was 46.1% as compared with the national youth rate of 21.7%, and compared with 7.1% for youth living in Stamford (U.S. Census Bureau 2006d).

Occupation

In the last few decades, the U.S. economy has experienced changes in the ways work is organized. Many people have shifted into working as individual contractors, part-time workers, working flexible hours, and even working from home (Harvey 1990; Regan 2007; Rozen 2007). Restructuring of employment affects workers’ self-reported feelings of control over jobs, physical or psychological stressors or benefits perceived in changing jobs, the actual types of labor required, and the pace of work (Peter et al. 2002; Rahkonen et al. 2006; Smith et al. 2008). The amount of control workers feel they have over their working lives has been linked to adverse health outcomes such as incidence of coronary health disease in men and women (Wilkinson and Marmot 2003,18). Moreover, studies have repeatedly shown that there are occupational class differences in life expectancy (Wilkinson and Marmot 2003, 10, 18–19).

In addition, difficult workplace conditions are known to increase the risk of illness. Different materials in the work environment (chemicals, toxins, air purification systems, location and type of industry, and structure of workplaces), as well as the skills needed and types of activities required (e.g., climbing, welding, farming, lifting) will help determine the health risks involved in certain types of jobs (National Institute for Occupational Safety and Health [NIOSH] 2008a, 2008b).

ECONOMIC MEASURES: POVERTY STATUS

Poverty has long been closely associated with increased morbidity and premature mortality (Berkman and Kawachi 2000; Kawachi 2000; Lynch and Kaplan 2000; Subramanian and Kawachi 2004). There is also evidence to suggest that poor health status can lead to “persistent poverty and poorer economic growth” (Subramanian and Kawachi 2004, 78). The recent U.S. GAO *Report on Poverty* notes that lower labor force participation, worse health outcomes, loss of human capital, increased crime rates, and social unrest result from large percentages of people living in poverty (GAO 2007).

There are two basic measurements of poverty used by federal and state agencies and programs: poverty guidelines and poverty thresholds (see Appendix IV for definitions). *Poverty guidelines* are issued by the U.S. DHHS each year to help determine people’s eligibility for federal programs (U.S. DHHS 2007a). The U.S. *poverty thresholds*, determined by the U.S. Census Bureau and used to calculate poverty statistics, are based on type of family and household structure (U.S. DHHS 2007a). The original threshold was developed in 1964 by Mollie Orshanksy of the Social Security Administration based on the estimation that families of three or more persons spent about one-third of their family budget on food, and was meant mainly as a guide for spending on nutrition (U.S. DHHS 2007a). Since then, food has gotten relatively cheaper, and housing, transportation, energy, and child care costs have gotten relatively more expensive for a typical family. It is generally agreed that the federal thresholds are too low to identify large segments of the population that do not have adequate economic means to provide for basic food, clothing, and medical care (Ali 2007; Pearce 2005; Polednak 1997; U.S. Census Bureau 2005b).

The *poverty rate* is defined as the percentage of people in a population whose income falls below the federal poverty thresholds for their type of family or household structure. Poverty statistics for Connecticut residents in 1999 are shown in Table 6. In 1999, 7.9% of all residents were living below the federal poverty threshold in Connecticut. However, compared with White persons, Blacks or African Americans were almost 3.6 times, American Indians or Alaska Natives about 3.3 times, Hispanics or Latinos about 4.7 times, and persons reporting Some Other Race about 5.4 times more likely to be living in poverty in 1999 in Connecticut. Although White persons accounted for about 5.3% of the state's poor, there are more Whites in the overall population. Thus, White persons accounted for about 55% of all people living in poverty in Connecticut in 1999.

Table 6. People Living in Poverty, by Race or Ethnicity, Connecticut, 1999

Race[a] or Ethnicity	Number of Persons with Known Poverty Status	People Living Below Federal Poverty Threshold	
		Number	Percent
Total	3,300,416	259,514	7.9
Black or African American	288,897	54,879	19.0
Hispanic or Latino	308,629	76,190	24.7
Asian	79,715	6,679	8.4
American Indian or Alaska Native	8,980	1,584	17.6
Native Hawaiian and Other Pacific Islander	1,171	187	16.0
Some Other Race	144,306	41,302	28.6
Two or More Races	76,560	12,560	16.4
White	2,700,787	142,323	5.3

Source: U.S. Census Bureau 2000f.

[a] Race groupings exclude persons of Hispanic or Latino ethnicity. Hispanic or Latino persons may be of any race.

The child poverty rate (the percentage of children living in poverty) is an indicator of how well a society cares for its most vulnerable residents. Child poverty is associated with single female-headed households and with poor health outcomes for children and families. Associated disparities by race, ethnicity, and geography can be obscured by aggregate state statistics.

In 2004 in the United States, 17.8% of all children under 18 years old were living in poverty, including 33.2% of Black or African American children and 28.9% of Hispanic or Latino children (National Poverty Center 2007). In 2000, the percentage of all Connecticut children living in poverty was 10% (among family households with related children under 18 years only) (Finison 2007, 51). However, among this family household type, 24% of Black or African American children, and 31% of Hispanic or Latino children were living in poverty in 2000, compared with 6% of Asian children and 5% of White children (Finison 2007, 51). For single-female-headed households that were classified as Hispanic or Latino, the percentage of children under 18 living in poverty was 50.7%, while the corresponding rates for White households was 23.3%, and for Asian households was 14.8% (Finison 2007, 51).

Persistent and concentrated poverty exists in many of our state's urban areas. Connecticut Voices for Children reports that in 2006, 43.4% of children in Hartford, 33.5% in Waterbury, and 29.5% in Bridgeport were living in poverty (Ali 2007). Racial, housing, and employment discrimination have been linked to persistent poverty of certain population groups and to certain geographic areas.

RACIAL DISCRIMINATION, RESIDENTIAL SEGREGATION, AND HEALTH

> *Stated simply, the epidemiology of health consequences of discrimination is, at heart, the investigation of intimate connections between our social and biological existence. It is about how truths of our body and body politic engage and enmesh, thereby producing population patterns of health, disease, and well-being.*
>
> —Krieger (2000, 67)

There is a long history of discrimination based on race, ethnicity, gender, and sexual orientation (among other things) in the United States. Discrimination takes many forms depending on how it is expressed, by whom, and against whom—from interpersonal discriminatory interactions to the more invisible and institutional biases of political, economic, residential, and educational establishments (Krieger 2000, 41). Discrimination exists in all facets of life. Individuals may experience multiple forms of discrimination concurrently—for example, sexism, racism and homophobia.

Discrimination by race and ethnicity has been shown to cause: 1) differences in socioeconomic position; 2) differences in physical and psychosocial neighborhood geographies (due to residential segregation); 3) differential access to, and experiences of, clinical encounters; and 4) the accumulation of detrimental physical and psychosocial effects (e.g., higher mortality rates, hypertension, stress, depression) (National Research Council 2001, 103,108–109; Smedley, Stith and Nelson 2003, 102; Krieger et al. 1993; Williams, Lavizzo-Mourey and Warren 1994).

Residential segregation refers to the patterns of "unevenness, isolation, clustering, centralization and concentration" of populations in metropolitan areas (Acevedo-Garcia and Lochner 2003, 267). Residential segregation based on race and ethnicity creates "differential neighborhood and community conditions [...including] unequal access to municipal services and medical care, lower levels of social participation, higher levels of undesirable land uses, higher rates of crime, and poor-quality housing" (National Research Council 2001, 108; Massey and Denton 1993; Acevedo-Garcia and Lochner 2003). Such environments have economic, political, social, and health effects for the residents. Therefore, the concentration of poverty caused by the history of residential segregation must be considered when accounting for health disparities.

The *cumulative* effects of bias over the life course based on one's perceived race can also help explain health inequalities. The "weathering hypothesis" forwarded by Geronimus notes the cumulative effects of "chronic exposure to adverse living conditions" that may be found especially in older persons of vulnerable populations (Geronimus 2001; Williams and Collins 1996, 23). Psycho-physiological affects of accumulated stress of minor, daily discriminatory or prejudicial actions or remarks are being researched (Gee et al. 2007; Gee and Payne-Sturges 2004; Krieger 1999). Krieger (among others) has noted the various pathways by which societal, local, and individual characteristics can lead to disease or disability. These include: economic and social deprivation, exposure to toxic substances and hazardous conditions, socially inflicted trauma, and the inadequate provision and quality of health care (Krieger 1999, 332).

LANGUAGE AND HEALTH

Language spoken by adults in a family has been linked to health status and people's access to and quality of health care (Berkman et al. 2004; Connecticut Health Foundation 2006; Hispanic Health Council [HHC] 2006). Ability to speak English well is also linked to educational attainment, employment opportunities, and other access issues (HHC 2006). Between 1990 and 2000 there was a 25.3% increase in the number of people in the U.S. who reported speaking a language other than English at home (U.S. Census Bureau 2003b, 5).

In 2005–2007, an average of 19.4% of Connecticut residents over 5 years of age spoke a language other than English at home (U.S. Census Bureau 2007e). In 2006–2007, the Connecticut State Department of Education (CSDE) reported that 129 different languages were spoken by students in the state (CSDE 2008a, 12). In the 2006–2007 school year, "[a]pproximately 1 in 8 Connecticut students comes from a home where English is not regularly spoken. The languages spoken in these students' homes include Spanish, Portuguese, Polish, Chinese, Creole-Haitian, Vietnamese, Albanian, Arabic, Serbo-Croatian, Urdu, Russian, and many more" (CSDE 2008b, 11). In the period 2005–2007, approximately 9.2% of all Connecticut residents over the age of five spoke Spanish at home (U.S. Census Bureau 2007f). Other languages spoken by Hispanic or Latino-identified persons include a large variety of Central and South American Indian languages and Ladino.

While the majority of people in Connecticut speak English "very well" or "well," the above figures point to potential linguistic barriers during health care encounters that may lead to disparities in health care, employment, housing, and general health status. A discussion on limited English proficiency (LEP) populations may be found in Part III of this report.

ACCULTURATION

Acculturation refers to the cultural give-and-take due to "continuous first-hand contact, with subsequent changes in the original culture patterns of either or both groups" (Redfield, Linton, and Herskovits 1936, 149). Acculturative processes especially affect persons in non-dominant social or economic positions in their host country, as they may have to give up the diets, customs, and social networks that act as protective factors against negative health events or stressors. Length of residency in a host country or state, level of proficiency in English, and access to medical care all affect people's health. The unique migration experience of each nationality group (and each person) will affect acculturation processes in the host country.

Over time, immigrants and their children become exposed to—and may increasingly adopt—the diets, customs, belief systems, and sociocultural factors of living in the U.S. that contribute to stress and ill health. What this means for health is that after a few years or generations of the acculturative process, people from immigrant backgrounds show increased morbidity and mortality rates for diseases that plague native-born persons (e.g., heart disease, cancer, diabetes, stroke, and obesity) (Lara et al. 2005). While the exact mechanisms by which acculturation affects an individual's health are not yet clear, American cultural norms do have an impact on the types of social, economic, and political opportunities immigrants may have—and therefore the types of health outcomes they may experience.

SOCIAL "BELONGING" AND HEALTH

Numerous studies have shown that when people lack social ties and social support, they are at higher risk of dying during a follow-up period than those who had many social contacts (Berkman and Glass 2000; Kawachi and Berkman 2000). Prominent examples of this research include: the Alameda County, California studies, the Tecumsah, Michigan studies, the Durham, North Carolina studies, social isolation studies in Göteborg, Sweden, and Finnish studies of male cardiovascular disease risk (Berkman and Glass 2000, 159).

Aspects of social life that researchers have pursued include: social cohesion and social capital (conceived of as *collective* characteristics of a society), and social networks and social supports (most often measured as characteristics of an *individual*) (Kawachi and Berkman 2000, 175). All of these concepts try to account for the influences that humans have on each other, whether they are seeking access to jobs, social power, engaging in certain health behaviors, or exchanging material, informational, and emotional support (Berkman and Glass 2000,142, 144; Berkman and Syme 1979, quoted in National Research Council 2001, 97).

Interestingly, research has shown that involvement in social networks, support, and social engagement *before* a health event such as stroke or cardiovascular-related disease may not be as helpful as when such networks are available *after* such a health event. Recovery and length of hospital and rehabilitation stay are affected by the availability and use of social connections (Berkman and Glass 2000, 160–163). However, there are potentially *negative* aspects of connectedness and networking. For example, the pathways for and responses to diseases such as the common cold and HIV/AIDS have also been analyzed in terms of social support and social networks (Berkman and Glass 2000, 163–164). Although social connectedness has been shown to influence people's health—both positively and negatively—figuring out *how* that happens continues to be a challenge for researchers in this area.

All of the sociodemographic factors discussed above contribute to the health or disease burden of Connecticut residents. Individuals' memberships in multiple social groups, and those groups' characteristics and their positions in American society, cannot be ignored in any comprehensive effort to measure health behaviors, risk factors, and the spread of and recovery from disease. Socioeconomic position and societal norms—and their extensive and persistent effects—are physically embodied in health disparities seen in morbidity, mortality, and disability (Kreiger 1999).

RACIAL AND ETHNIC GROUPS IN CONNECTICUT

The U.S. Census Bureau asks questions about race and ethnicity order to help implement federal statutes with respect to the Voting Rights Act and the Civil Rights Act, to assist with state-level program management, and to meet local legislative requirements, such as the Public Health Act or the Community Reinvestment Act (U.S. Census Bureau Question and Answer Center 2007). In 1997, the federal Office of Management and Budget issued standards for the use of five "race" and two "ethnicity" categories by all producers of federal statistics (OMB 1997; U.S. Census Bureau 2000a, 2001). These classifications are not intended to be scientific in nature, but are designed to promote consistency in federal record keeping and data presentation (OMB 1997). Below, selected characteristics of Connecticut's ethnic and racial populations are presented to help provide context for health disparities.

ETHNICITY CATEGORIES

HISPANIC OR LATINO POPULATIONS IN CONNECTICUT

In 2007, Hispanics or Latinos of all races represented about 15.1% of the U.S. population, or roughly 45.4 million individuals (U.S. Census Bureau 2007c). In Connecticut, people reporting Hispanic ethnicity now comprise the largest racial or ethnic minority group. From 2000–2007, the Hispanic or Latino population in Connecticut rose from 9.4% to 11.5% of the state's population (U.S. Census Bureau 2000c, 2008a). This group has also shown the most growth in terms of absolute numbers of any ethnic or racial minority in the state—from 323,283 people in 2000 to 403,375 in 2007, a growth in population of about 25% (U.S. Census Bureau 2005a, 2008a).

The largest subpopulation of people of Hispanic or Latino ethnicity in Connecticut claims Puerto Rican heritage, comprising about 55.1% of the Hispanic or Latino population in the state (DPH 2007a). Outside of New York, the Hartford area continues to have the second largest population of people from Puerto Rico in the nation. However, recent years have seen the increase of immigrants from Central and South America and the Caribbean to Connecticut. The state's Hispanic or Latino population now includes increasing percentages of people from Mexico (9.6%), Ecuador (5.7%), Colombia (4.4%), Dominican Republic (4.0%), Guatemala (3.2%), Peru (2.6%), and Cuba (2.1%) (DPH 2007a). About 60% of all Connecticut Hispanics or Latinos live in the state's eight largest cities.

In contrast, only about 24% of all Connecticut residents live in these eight largest cities (DPH 2007a). In addition, the age distribution of Hispanics or Latinos in Connecticut tends to show a younger population as compared with the overall state population (DPH 2007a). Younger populations' health care services may differ from older populations in, for example, the areas of nutrition, oral health, education, reproductive health, motor vehicle use, violence, and substance and tobacco use.

Access to health care, broadly conceived, remains a major issue for Hispanics or Latinos in Connecticut. About 35% of Connecticut Hispanics or Latinos did not have health insurance compared with 6.5% of White people. In addition, Hispanics or Latinos have difficulty accessing preventive care, and may experience language barriers to appropriate care (DPH 2007a). Health problems disproportionately affecting Hispanics or Latinos include: obesity, diabetes death, lifetime asthma prevalence, cervical cancer incidence and mortality, and HIV/AIDS (CDC 2007l). Subpopulations of Hispanics or Latinos are also unique in their risk factors, morbidity and mortality. For example, the CDC reports that "Puerto Ricans suffer disproportionately from asthma, HIV/AIDS, and infant mortality, while Mexican Americans suffer disproportionately from diabetes" (CDC 2007a). While completeness of data for Hispanics and Latinos is generally good, there may be some cases in which the existing data may not be sufficient to make statistically meaningful group comparisons (especially among subpopulations) for some of the health indicators included in this report.

RACE CATEGORIES

AMERICAN INDIANS OR ALASKA NATIVES IN CONNECTICUT

In 2004, persons who identified only as American Indian or Alaska Native constituted 0.8% of the United States population, or approximately 2.5 million individuals (U.S. Census Bureau 2007d). In Connecticut in 2007, about 8,178 people, or about 0.2% state residents, self-identified as American Indian or Alaska Native alone (U.S. Census Bureau 2008a). There is extraordinary diversity in the American Indian or Alaska Native population living in the state (see Appendix II). They are enrolled in or claim affiliation with tribal nations in North, Central, and South America, including the five tribal nations recognized by Connecticut: Mashantucket Pequots, the Pawcatuck Eastern Pequots (or the Eastern Pequot Indians of Connecticut), the Mohegans, the Golden Hill Paugussetts, and the Schaghticokes.

The American Indian or Alaska Native population in the United States generally bears a disproportionate burden of poverty, low educational attainment, unemployment, and geographic isolation. Colonial and postcolonial history, the remote geographic locations of some reservations, and centuries of cultural and linguistic suppression have left their marks on the political voice, socioeconomic status, and health of these populations today. In addition, some health practices of Western medicine (as practiced in clinics and hospitals) may run counter to some healing and religious beliefs of American Indians or Alaska Natives. Many American Indian or Alaska Native people may first seek out traditional healers, or will seek both traditional healers and Western medical practitioners at the same time. These cultural and religious preferences must be addressed in order to better serve American Indian or Alaska Native residents.

Federally-recognized tribes are sovereign nations. Historical treaties with the United States government have entitled American Indians or Alaska Natives to health care through the federally-funded Indian Health Service (IHS). Only persons who are considered to be members of federally-recognized tribes and who live on or near reservations may use IHS facilities (IHS 2008a; CDC 2007b). However, because over 67% of American Indians or Alaska Natives live in urban areas, many of them cannot access or use IHS services (Urban Indian Health Commission 2007, 1).

While health initiatives try to meet the demand in urban areas, there continue to be marked health disparities in American Indian or Alaska Native populations. The IHS stated that between 2002 and 2004, American Indians and Alaska Natives died at higher rates than other Americans from: “tuberculosis (750% higher), alcoholism (550% higher), diabetes (190% higher), unintentional injuries (150% higher), homicide (100% higher) and suicide (70% higher)” (IHS 2008b). Because they make up a small proportion of the overall Connecticut population, however, statistically meaningful group comparisons may not be possible for the American Indian or Alaska Native population for many of the health indicators presented in this report.

ASIANS IN CONNECTICUT

Although this population category represents a small percentage of the racial and ethnic minorities in Connecticut (about 3.4% in 2007), Asians are a rapidly growing and diverse group (U.S. Census Bureau 2008a). Asian Indians, Chinese, and Filipinos form the largest subpopulations of Asians in Connecticut, at about 33%, 25%, and 9.5% of the state's total Asian population, respectively (U.S. Census Bureau 2007c). These three groups alone constitute 67.5% of the total Asian population in the state. The category "Other Asian" accounts for 14.7% of Connecticut's Asian population (U.S. Census Bureau 2007c). Before 2000, the U.S. Census Bureau combined "Asians" with "Pacific Islanders" ("Asian/Pacific Islander", "API") so some trend data in this report may rely on those earlier classifications.

The Asian population includes peoples of varied subpopulations from a vast continental region. The heterogeneous "Asian" population in Connecticut comes from at least 22 national and ethnic backgrounds (U.S. Census Bureau 2005c). Political, economic, religious, cultural and linguistic traditions differ widely on the Asian continent, and these peoples often experience life and health in the United States differentially. Indeed, the U.S. DHHS has noted that Asians "represent both extremes of socioeconomic and health indices" (U.S. DHHS 2007b). Some groups (e.g., Hmong, Laotian, Cambodian, Vietnamese) may experience marked linguistic and cultural isolation and adverse health conditions. This may be due to trauma during and after the Vietnam War, living in refugee camps, and their journeys to the United States. Other Asian subpopulations (especially Asian Indian) may have high educational attainment, use English as a first language, have high median family incomes, and be able to afford and access health services more easily (Narayan 2004; Narayan and Mitra 2004).

While the overall health of the Asian population is good compared with most other race and ethnicity groups, there are disparities within Asian subpopulations. Language and cultural barriers and the lack of health insurance may lead some Asians not to access health care services. According to the CDC, Asians are most at risk for certain cancers, heart disease, stroke, unintentional injuries, and diabetes (CDC 2006a). For example, McCracken et al. note that some Asian subpopulations with "more recent immigration histories, such as Vietnamese and Koreans, have a higher burden of cancers that are not typically observed at high rates in Westernized countries (e.g., stomach and liver)" (McCracken et al. 2007, 204). In contrast, Asian groups who have been here longer (e.g., Japanese and Filipinos), have higher burdens of cancers more commonly seen in the U.S., such as colorectal and breast cancers (McCracken et al. 2007, 204). In addition, Asians have a high prevalence of chronic obstructive pulmonary disease, hepatitis B, HIV/AIDS, smoking, tuberculosis, and liver disease, but again, certain Asian subgroups are at higher risk than others for these conditions (CDC 2006a, 2007j; McCracken et al. 2007). Due to their small proportion of the overall Connecticut population, statistically meaningful group comparisons may not be possible for Asians for many health indicators presented in this report.

BLACKS OR AFRICAN AMERICANS IN CONNECTICUT

Blacks or African Americans comprise the second largest racial or ethnic minority group in Connecticut. In 2000, the population of Black or African American persons in our state was 309,843 out of a population of 3,405,565, or 9.1% (U.S. Census Bureau 2000d). In 2007, the estimate for the Black or African American population was about 327,250 persons, or about 9.3% the state's population (U.S. Census Bureau 2008a). Connecticut's Black or African American population is clustered in and around the state's urban areas, especially in and near Bridgeport, New Haven, and Hartford (Finison 2007, 39).

Blacks or African Americans in Connecticut are a very diverse population, and their cultures and languages reflect this fact. The broad category "Black or African American" veils differences in belief, language, culture, and history which all have very important effects on health status and their access to and quality of health care. Today, most Blacks or African Americans in Connecticut are U.S.-born, though new immigrants and refugees are settling here from sub-Saharan Africa (e.g., Cape Verde, Liberia, Nigeria, and Somalia) (U.S. Census Bureau 2007g). Additionally, non-Hispanic Caribbean people (especially from Jamaica and Haiti) have settled in the state (U.S. Census Bureau 2007g).

Overall, people reporting Black or African American race consistently suffer worse health outcomes than people in other racial or ethnic categories. Although the top three causes of death for Whites and Blacks or African Americans in the U.S. and Connecticut are the same (e.g., heart disease, cancer, stroke), the incidence, morbidity, and mortality rates for these diseases and injuries often are greater for Blacks or African Americans than for Whites (CDC 2005e). In addition, Blacks or African Americans have lower life expectancy, worse maternal and child health outcomes, and higher rates of hypertension compared with Whites (CDC 2007k). In Connecticut, Blacks or African Americans have significantly higher age-adjusted death rates compared with White residents for several leading causes of death—heart disease, cancer, stroke, diabetes, and HIV/AIDS (Hynes et al. 2005). Although state data for Blacks and African Americans is generally quite good, in some cases the existing data may not be sufficient to make statistically meaningful group comparisons among subpopulations for some of the health indicators included in this report.

NATIVE HAWAIIANS OR OTHER PACIFIC ISLANDERS IN CONNECTICUT

In 1977, the Office of Management and Budget (OMB) established “Asian or Pacific Islander” as one of four race categories. This category was used in the 1980 and 1990 U.S. Censuses. In 1997, the OMB revised the race and ethnicity classification standards for federal agencies such that there were five race categories—“Asian or Pacific Islander” was replaced by the separate categories “Asian” and “Native Hawaiian or Other Pacific Islander.” Thus, the 2000 Census was the first national enumeration of the population of self-identified Native Hawaiians or Other Pacific Islanders.

The population of Native Hawaiians or Other Pacific Islanders is very small in Connecticut. Nationally, those who identify only as Native Hawaiians or Other Pacific Islanders comprise 0.1% of the American population, or almost 400,000 individuals. The majority of this group lives in the western coastal states and in Hawaii. In Connecticut in 2000, people identifying as “Native Hawaiian or Other Pacific Islander alone” amounted to 1,066 persons, or 0.03% of the CT population (U.S. Census Bureau 2005a). In 2007, this rose to 1,378 people or 0.04% of the Connecticut population, an increase of 29.3% (U.S. Census Bureau 2008a).

Because Native Hawaiians or Other Pacific Islanders are a small population in Connecticut, statistically meaningful group comparisons are not possible for the health indicators included in this report. However, national statistics show that Native Hawaiians or Other Pacific Islanders are more at risk for obesity, tuberculosis, and hepatitis B, and from “developing and dying from cancer, heart disease, diabetes, and other diseases. Factors contributing to poor health outcomes among [Native Hawaiians or Other Pacific Islanders] include cultural barriers, limited access to health care, and poor nutrition and lifestyle” (CDC 2007c).

WHITES IN CONNECTICUT

In 2007 in Connecticut, people reporting White race comprised about 74% of the state’s overall population (U.S. Census Bureau 2008a). This large population reflects a long history in the state of immigration and settlement, mainly of Europeans and their descendants in North America. The White population is heterogeneous in its composition, representing diverse ancestries, heritages, immigration histories, and all socioeconomic positions, including people living in poverty and with low educational attainment levels.

The U.S. Census uses the term "ancestry" to count and describe geographical heritage of Americans. In 2007, the top six ancestry groups reported in Connecticut included: Italian (15.6% of Connecticut's total population), Irish (11.7%), English (6.3%), German (5.9%), Polish (5.8%), and French (4.1%) (U.S. Census Bureau 2007g). The White population comprises the majority of the population in many Connecticut towns and cities (especially in rural areas), but less than 40% of the population in the state's three largest cities, Bridgeport, Hartford, and New Haven (U.S. Census Bureau 2000b).

The White population in Connecticut is older than the other racial or ethnic populations. Almost 61% of the White population in Connecticut were aged 35 years or older in 2007. In contrast, about 38% of the state Hispanic or Latino population, and about 45% of Blacks or African Americans were aged 35 or older in 2007. As the population ages in Connecticut, a growing number of older people will need targeted health services that will differ from those for younger subpopulations.

The health status of White Americans is often used as the "baseline" against which other racial and ethnic groups are measured, as in this report. However, people reporting White race experience many of the same health problems as other groups. Factors that contribute to poor health outcomes among Whites include poverty, lack of access to health care, and lack of health insurance (CDC 2007d). Whites also suffer disproportionately from hypertension, obesity, and Alzheimer's disease (CDC 2007d). Since Whites make up the majority of Connecticut's population in absolute numbers, there are actually more White people who are affected by poverty, low educational achievement, mortality, and morbidity than racial and ethnic minority populations in the state.

LIMITATIONS OF THE DATA

The limitations of this report fall into four categories: analytic limitations due to the inconsistent use of race and ethnicity classifications; the small numbers of some minority populations and subpopulations of interest in Connecticut; limitations of the databases used; and limitations of the methodology used.

LIMITATIONS OF RACE AND ETHNICITY CLASSIFICATION

The federal Office of Management and Budget's 1997 standards for the classification of race and ethnicity data set out the minimal categories for collecting and analyzing data on "race" and "ethnicity" in the United States for producers of federal statistics. The standardization of race and ethnicity categories by the federal government is necessary for civil rights monitoring and allocation of services and interventions. However, race and ethnicity categories are also widely understood to be historical and social creations that change over time, and the OMB categories, U.S. Census categories, and data collection practices reflect these changes over time (e.g., Lee 1993; Ellison et al. 2007; Nepaul, Hynes and Stratton 2007). This means that some data about race or ethnicity may not be fully comparable from study to study or from year to year as terminology and measurement tools have changed.

For example, until 1997, "Asian or Pacific Islander" (sometimes abbreviated as "API," "A/PI," "AAPI") was widely used for data collection. In 1997, the OMB separated the category into two—"Asian" and "Native Hawaiian or Other Pacific Islander"—in response to community input and in order to better describe the different experiences of these groups. Efforts have been made herein to standardize the health data, but in many cases, data are necessarily presented that reflect the older, non-standard categories. Please see Appendix VII for further information.

LIMITATIONS OF SMALL NUMBERS

Adequate data in critical areas of health are often not available for the Asian, Native Hawaiian or Other Pacific Islander, and American Indian or Alaska Native populations of Connecticut for a few reasons. First, because Asians, Native Hawaiians, Pacific Islanders, American Indians, and Alaska Natives form relatively small proportions of the total state population, numbers of cases reported for most indicators are small even when pooled over several years. Natality, infectious disease, and some mortality and hospitalization data are available for the aggregate group "Asians," but numbers are not large enough to report data for Asian subpopulations in Connecticut. Because Asians are a growing percentage of the Connecticut population, it is through the examination of data over time that an adequate picture of the health status of this population will emerge. In addition, it may be necessary to pool health data over much longer time periods to view the health status and health care needs of these populations comprehensively.

Second, some populations (e.g., persons who are homeless) may only recently have been labeled as "priority health disparity populations," and therefore there is little centralized, regularly reported health data about these populations. While some individual health centers, hospitals, clinics, or health programs may know a great deal about these groups, there has been little or no sustained state- or nationwide effort to collect and analyze these groups' health data.

LIMITATIONS OF THE DATABASES

Databases differ with respect to racial and ethnic and other sociodemographic classification options. Limitations in this regard include comparability of race and ethnicity categories and misclassification of people's racial or ethnic status. See Appendices III, IV, and VII for information on data sources and race and ethnicity classifications, including "Other" and "Unknown" race or ethnicity classifications.

Racial and ethnic status is subject to misclassification, particularly in databases for which second-party reporting, or "observer report," is standard practice, such as for mortality and hospitalization statistics. Research has consistently shown that mortality statistics nationwide significantly underestimate mortality of minorities, particularly American Indians or Alaska Natives (Bertolli et al. 2007; CDC 1993). Because American Indians or Alaska Natives do not necessarily fit a stereotypical racial or ethnic profile when evaluated by surname or appearance, they, in particular, are subject to misclassification by hospital personnel. This in turn will produce artificially low rates of hospitalizations or other health events for some racial and ethnic subgroups.

THE METHODOLOGY AND ITS LIMITATIONS

Throughout this report two key statistics are used to quantify health disparities: relative risk and excess events. “Relative risk” refers to the risk or likelihood of a minority group having the condition compared with the White population. “Excess events/deaths” represent the additional number of events or deaths experienced by the minority group beyond what one would expect if their rates were the same as that of the White population (U.S. DHHS 1985). In cases where a given minority group has fewer events or fewer deaths relative to the White population, this figure is printed in parentheses. Detailed explanations of relative risk and excess deaths or excess events are provided in Appendix IV.

There are a few limitations to the analytic strategy employed in this report. These limitations reflect two dimensions of the analysis: 1) the choice of comparison groups, and 2) the summary indicators used to compare these groups. First, in this report we have chosen to focus on health disparities relative to the White population in Connecticut. While identifying disparities is an important step, this approach may obscure instances in which there are major problems in both the White and minority group populations.

The second limitation is that comparisons between White and minority groups tend to obscure important health concerns within particular minority groups. Cancer, for example, is the leading cause of death for Asian residents of Connecticut. Comparisons of relative risk and excess event estimates show that Asians have the lowest relative risk of all groups and fewer deaths from cancer compared with the White population. These statistics do not address the fact that cancer accounts for more deaths among Asians than any other cause and, as such, may be a concern for some subgroups within the Asian population.

Finally, the choice of statistics used to compare these groups presents some limitations. This is an important consideration for smaller minority populations. Relative risk estimates are relevant for all groups, but especially for the smaller minority groups like Asians and American Indians. The excess deaths methodology has been used extensively in comparisons between the Black and White populations nationwide (U.S. DHHS 1985). As used in this report, this statistic is most informative in characterizing the disparities in health indicators for Blacks or African Americans and Hispanics or Latinos, the two largest minority groups in Connecticut, compared with Whites.

PART II
HEALTH INDICATORS

- ALL-CAUSE MORTALITY
- CHRONIC DISEASE
- INJURY
- INFECTIOUS AND SEXUALLY TRANSMITTED DISEASES
- MATERNAL AND CHILD HEALTH
- ORAL HEALTH
- ENVIRONMENTAL AND OCCUPATIONAL HEALTH
- ACCESS TO HEALTH CARE; HEALTH CARE WORKFORCE

ALL-CAUSE MORTALITY

INTRODUCTION

Mortality data are some of the best sources of information about the health of living communities. They are virtually complete for all U.S. residents and they are tracked uniformly and consistently over time in all states across the nation. Mortality data act as a mirror for current health problems and suggest patterns of risk across population subgroups. Many causes of death are preventable or treatable and, therefore, warrant the attention of public health prevention efforts. Mortality data are important indicators of where federal, state, and local prevention efforts should be placed in building healthy communities.

The age distribution of a population influences the death rate, and so the death rates are usually "age-adjusted" to take into account age differences in racial and ethnic subgroups. See Appendix IV for an extended discussion of mortality data collection and reporting, and Appendix IX for a listing of the leading causes of death by gender, race or ethnicity subgroups.

Each mortality table in this report includes the following information: 1) number of deaths; 2) age-adjusted death rates; 3) the "relative risk" or ratio of the minority group rate relative to the White rate; and 4) "excess" (or fewer) deaths, which represent the additional (or fewer) number of deaths within the minority group beyond what would be expected if the minority population rate were the same as the White population rate (U.S. DHHS 1985). See Appendix IV for a detailed explanation of relative risk and excess death methodology.

All-Cause Mortality

The death rate from all causes is a key measure of health status across populations. Between 2000 and 2004, Black or African American Connecticut residents had the highest death rate from all causes, about 1.2 times higher than that of White residents, with an estimated excess of 376 deaths per year. Hispanic, Asian/Pacific Islander, and American Indian or Alaska Native residents had lower all-cause death rates compared with White residents. Hispanic residents had 0.8 times the death rate of White residents with an estimated 232 fewer deaths per year; Asian/ Pacific Islander residents had 0.4 times the death rate of White residents with an estimated 176 fewer deaths per year; and American Indian or Alaska Native residents had 0.8 times the death rate of White residents with an estimated 8 fewer deaths per year.

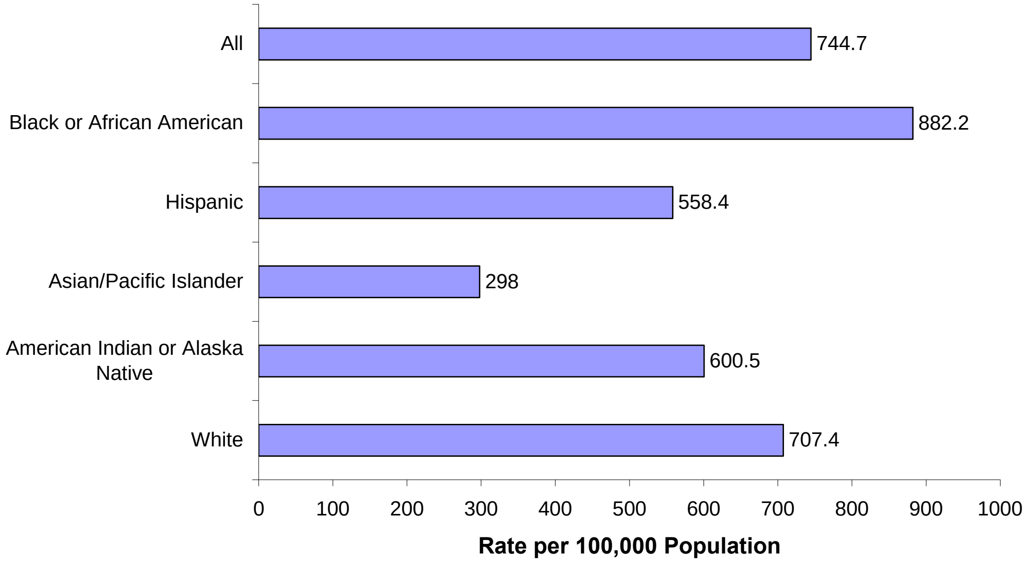
Table 7. All Causes of Death[a], Connecticut Residents, by Race or Ethnicity, 2000–2004

Race[b] or Ethnicity	Number of Deaths	Age-adjusted Death Rate[c]	Relative Risk[d] (Minority/White)	Excess (Fewer) Deaths/Year[e]
Total	148,659	744.7	--	--
Black or African American	9,502	882.2	1.2	376
Hispanic	4,351	558.4	0.8	(232)
Asian/Pacific Islander	641	298.0	0.4	(176)
American Indian or Alaska Native	212	600.5	0.8	(8)
White	128,439	707.4	1.0	0
Other	16	--	--	--
Missing	5,498	--	--	--

Source: DPH 2008b, 2008y.

[a] Includes all causes of death using ICD-10 codes.
[b] Race groupings exclude persons of Hispanic ethnicity. Hispanic persons may be of any race.
[c] Rates are per 100,000 persons based on race- and ethnicity-specific population estimates. Age-adjusted rates were calculated by the direct method using the 2000 standard million.
[d] "Relative risk" is estimated to be the ratio of the minority group to the White rate.
[e] "Excess deaths" are the deaths per year that would not have occurred if the minority group had the same rate as the White population. Numbers in parentheses indicate fewer deaths.

Figure 2. Age-adjusted Death Rates, Connecticut Residents, by Race or Ethnicity, 2000–2004



Source: DPH 2008b, 2008y.

CHRONIC DISEASE

During the twentieth century, chronic diseases replaced the infectious diseases, such as pneumonia, tuberculosis, and diarrhea, as the leading causes of death in the United States and Connecticut. Chronic diseases—including all cardiovascular diseases, all cancers, diabetes mellitus, and chronic lower respiratory diseases—accounted for 68.5% of all deaths among Connecticut residents during the period 2000–2004 (DPH 2008b). The chronic diseases of heart disease, stroke, diabetes, and cancer are discussed in the section below.

CARDIOVASCULAR DISEASE

Cardiovascular diseases involve the body's vascular system, which is responsible for supplying oxygen and nutrients to the body's organs and cells. Heart disease and cerebrovascular disease (or stroke), the major cardiovascular diseases, are the first and third leading causes of death, respectively, in Connecticut and the United States (Hynes and Jung 2006a).

Heart Disease Mortality

Heart disease is the leading cause of death in Connecticut, accounting for 28.5% (42,434) of all Connecticut resident deaths from 2000 to 2004. Heart disease mortality encompasses several subcategories with varying etiologies, including ischemic heart disease, hypertensive heart disease, hypertensive heart and renal disease, pulmonary circulatory diseases, rheumatic fever and rheumatic heart disease, and "other forms of heart disease," which include cardiac arrest, heart failure, cardiomyopathy, and valve disorders (DPH 2008b).

Between 2000 and 2004, Black or African American Connecticut residents had the highest death rate from heart disease, about 1.2 times higher than that of White residents with an estimated excess of 70 deaths per year. Hispanic and Asian/Pacific Islander residents had lower heart disease death rates compared with White residents. Hispanic residents had 0.7 times the death rate of White residents with an estimated 73 fewer deaths per year, and Asian/Pacific Islander residents had 0.4 times the death rate of White residents with an estimated 41 fewer deaths per year. American Indian or Alaska Native residents had similar heart disease death rates as White residents (Table 8, Figure 3).

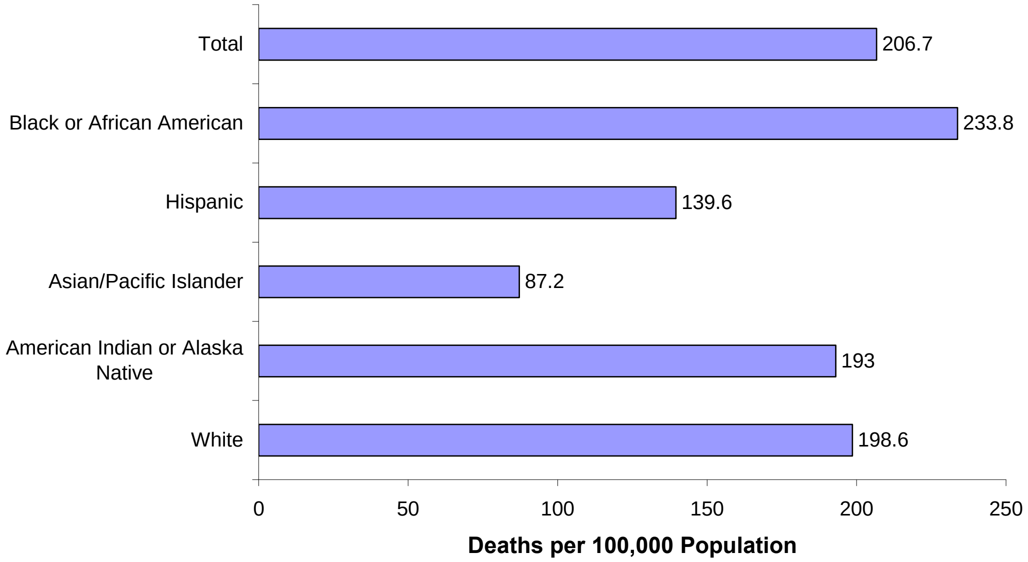
Table 8. Heart Disease Deaths[a], Connecticut Residents, by Race or Ethnicity, 2000–2004

Race[b] or Ethnicity	Number of Deaths	Age-adjusted Death Rate[c]	Relative Risk[d] (Minority/White)	Excess (Fewer) Deaths/Year[e]
Total	42,434	206.7	--	--
Black or African American	2,343	233.8	1.2	70
Hispanic	864	139.6	0.7	(73)
Asian/Pacific Islander	160	87.2	0.4	(41)
American Indian or Alaska Native	61	193.0	1.0	0
White	37,533	198.6	1.0	0
Other	2	--	--	--
Missing	1,471	--	--	--

Source: DPH 2008b, 2008y.

[a] Includes ICD-10 codes I00-09, I11, I13, I20-51.
[b] Race groupings exclude persons of Hispanic ethnicity. Hispanic persons may be of any race.
[c] Rates are per 100,000 persons based on race- and ethnicity-specific population estimates. Age-adjusted rates were calculated by the direct method using the 2000 standard million.
[d] "Relative risk" is estimated to be the ratio of the minority group to the White rate.
[e] "Excess deaths" are the deaths per year that would not have occurred if the minority group had the same rate as the White population. Numbers in parentheses indicate fewer deaths.

Figure 3. Age-adjusted Death Rates for Heart Disease, Connecticut Residents, by Race or Ethnicity, 2000–2004



Source: DPH 2008b, 2008y.

Stroke Mortality

Stroke is the most severe clinical manifestation of cerebrovascular disease, and we use the terms interchangeably in this report. Stroke is responsible for about 6% of all deaths in Connecticut (9,318 deaths between 2000 and 2004), and includes two major types—ischemic stroke and hemorrhagic stroke (DPH 2008b).

Between 2000 and 2004, Black or African American Connecticut residents had the highest death rate from stroke, about 1.4 times higher than that of White residents with an estimated excess of 28 deaths per year. Hispanic and Asian/Pacific Islander residents had lower stroke death rates compared with White residents. Hispanic residents had 0.8 times the death rate of White residents with an estimated 10 fewer deaths per year, and Asian/Pacific Islander residents had 0.5 times the death rate of White residents with an estimated 9 fewer deaths per year. There were too few deaths due to stroke among American Indian or Alaska Native residents to calculate reliable rates (Table 9, Figure 4).

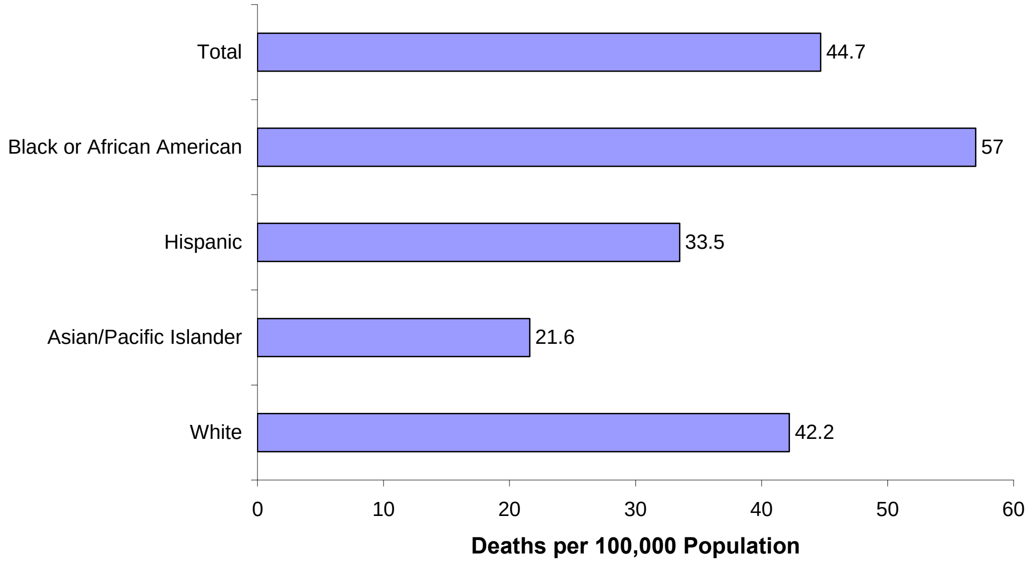
Table 9. Stroke Deaths[a], Connecticut Residents, by Race or Ethnicity, 2000–2004

Race[b] or Ethnicity	Number of Deaths	Age-adjusted Death Rate[c]	Relative Risk[d] (Minority/White)	Excess (Fewer) Deaths/Year[e]
Total	9,318	44.7	--	--
Black or African American	549	57.0	1.4	28
Hispanic	196	33.5	0.8	(10)
Asian/Pacific Islander	46	21.6	0.5	(9)
American Indian or Alaska Native	14	†	†	†
White	8,171	42.2	1.0	0
Missing	342	--	--	--

Source: DPH 2008b, 2008y.

[a] Includes ICD-10 codes I60-69.
[b] Race groupings exclude persons of Hispanic ethnicity. Hispanic persons may be of any race.
[c] Rates are per 100,000 persons based on race- and ethnicity-specific population estimates. Age-adjusted rates were calculated by the direct method using the 2000 standard million.
[d] "Relative risk" is estimated to be the ratio of the minority group to the White rate.
[e] "Excess deaths" are the deaths per year that would not have occurred if the minority group had the same rate as the White population. Numbers in parentheses indicate fewer deaths.
[†] Statistics are not calculated for fewer than fifteen events.

Figure 4. Age-adjusted Death Rates for Stroke, Connecticut Residents, by Race or Ethnicity, 2000–2004



Source: DPH 2008b, 2008y.

Circulatory Disease Hospitalizations

There were a total of 60,188 Connecticut resident hospitalizations for circulatory diseases in 2005, which represents almost 19% of all hospitalizations excluding newborn, birth, and pregnancy-related hospitalizations (DPH 2008e).

Hospitalization rates for all circulatory conditions, which include all heart and cerebrovascular diseases, differ by race or ethnicity in Connecticut. In 2005, Black or African American Connecticut residents had significantly higher rates of hospitalizations for all circulatory diseases compared with other racial and ethnic subgroups, with an estimated 1,369 excess hospitalizations relative to White residents (Table 10, Figure 5). Hispanic residents had similar hospitalization rates compared with White residents with a total of 12 estimated excess hospitalizations. Asian/Pacific Islander and American Indian residents had fewer hospitalizations with an estimated 613 and 67 fewer hospitalizations, respectively, than White residents.

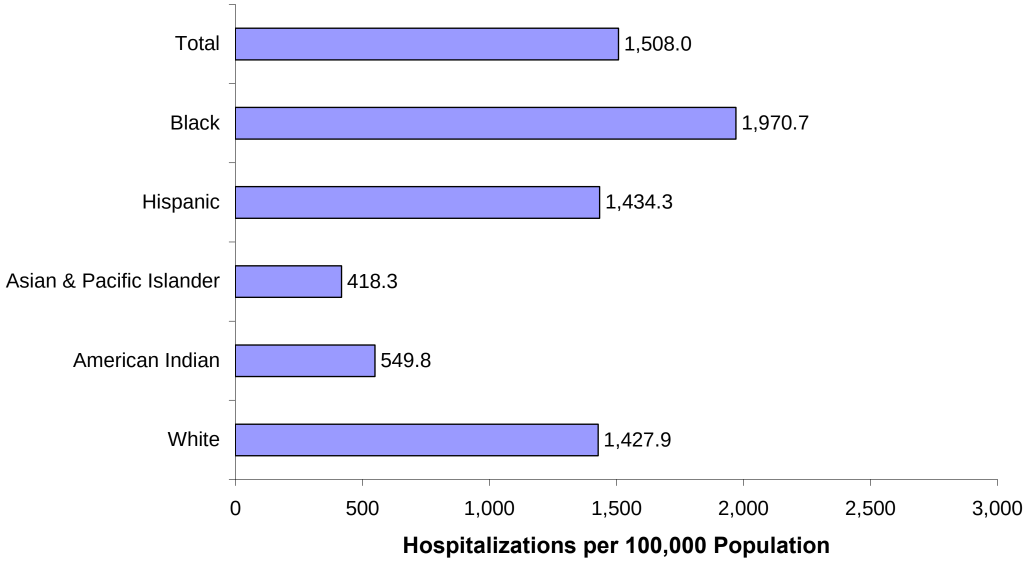
Table 10. Hospitalizations[a] for Circulatory Diseases[b], Connecticut Residents, by Race or Ethnicity, 2005

Race[c] or Ethnicity	Number of Hospitalizations	Age-adjusted Hospitalization Rate[d]	Relative Risk[e] (Minority/White)	Excess (Fewer) Events/Year[f]
Total	60,188	1,508.0	--	--
Black	4,972	1,970.7	1.4	1,369
Hispanic	2,759	1,434.3	1.0	12
Asian & Pacific Islander	254	418.3	0.3	(613)
American Indian	42	549.8	0.4	(67)
White	50,293	1,427.9	1.0	0
Other[g]	2,163	--	--	--

Sources: DPH 2008c, 2008e.

[a] Hospitalization is synonymous with discharge because these data are derived from the hospital discharge abstract and billing database.
[b] Includes ICD-9-CM codes 390-459.
[c] Race groupings exclude persons of Hispanic ethnicity. Hispanic persons may be of any race.
[d] Rates are per 100,000 persons based on race- and ethnicity-specific population estimates. Age-adjusted rates were calculated by the direct method using the 2000 standard million.
[e] “Relative risk” is estimated to be the ratio of the minority group to the White rate.
[f] “Excess events” are the hospitalizations per year that would not have occurred if the minority group had the same rate as the White population. Numbers in parentheses indicate fewer events.
[g] Other non-White and non-Hispanic.

Figure 5. Age-adjusted Hospitalization Rates for Circulatory Diseases, Connecticut Residents, by Race or Ethnicity, 2005



Source: DPH 2008c, 2008e.

CONNECTICUT HEART DISEASE AND STROKE PREVENTION EFFORTS

The Connecticut Heart Disease and Stroke Prevention Program is a U.S. Centers for Disease Control and Prevention (CDC) funded program, which is housed at the Connecticut Department of Public Health. Its main goal is to reduce the burden of heart disease and stroke in our state, and an important priority of the program is to eliminate health disparities in heart disease and stroke based on gender, race or ethnicity, income, and geography. It has also worked to develop culturally-appropriate approaches to promote cardiovascular health within specified racial and ethnic minority populations (DPH 2008t).

The Connecticut Heart Disease and Stroke Prevention Program has provided leadership in several areas. The Heartsafe Communities Program is a collaboration of local Connecticut towns, the American Heart Association, and the Department of Public Health that works to improve the chances of survival from sudden cardiac arrest through a coordinated system of emergency response (DPH 2008u). The Primary Stroke Center Designation Program for acute care hospitals was developed to ensure rapid and appropriate diagnostic evaluation and treatment of stroke patients throughout the state (DPH 2008t). A State Stroke Prevention Plan, which represents the efforts of statewide partners from community-based organizations, state and local coalitions, academic and health care institutions, and state agencies, has outlined statewide efforts to reduce stroke-related morbidity and mortality and improve the state response system (DPH in press).

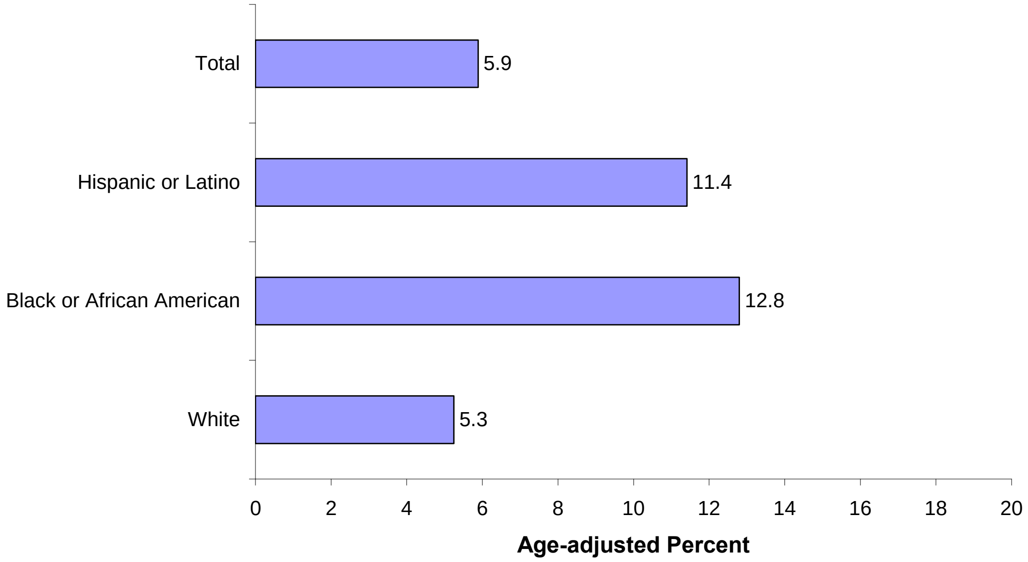
DIABETES

Diabetes mellitus is characterized by high levels of blood glucose, which result from deficient insulin production and/or insulin action. Diabetes is associated with serious complications and premature death, and people with diabetes are at increased risk for many adverse health outcomes, including heart disease and stroke (CDC 2008a).

Diabetes Prevalence

Diabetes prevalence estimates for Connecticut adults presented here are age-adjusted to take into account differences in the age structures of the population groups compared. Age-adjustment is commonly used when comparing two population groups with different age structures, such as Hispanics and Whites (See Appendix IV for a discussion of age-adjustment). An estimated 5.9% of Connecticut adults, 18 years and older, have diagnosed diabetes (2004–2006, age-adjusted analyses) (DPH 2008a). Diabetes prevalence rates vary by age, race or ethnicity, and household income levels. Prevalence increases by age with Connecticut adults aged 60 and over having the highest rates and adults aged 18–29 having the lowest rates of diabetes. Lower-income adults are more likely to have diagnosed diabetes than are higher-income adults in Connecticut (Hynes and Jung 2006b). Among racial and ethnic subgroups, Black or African American and Hispanic or Latino adults have significantly higher age-adjusted diabetes prevalence rates than White adults. An estimated 12.8% of Black or African American, 11.4% of Hispanic or Latino, and 5.3% of White adults aged 18 and older in Connecticut have diagnosed diabetes (age-adjusted analyses) (Figure 6). There were too few Asian/Pacific Islander and American Indian or Alaska Native adult residents included in the BRFSS survey to calculate reliable diabetes prevalence rate estimates (DPH 2008a).

Figure 6. Diabetes Prevalence, Connecticut Residents, by Race or Ethnicity, 2004–2006



Source: DPH 2008a.

Diabetes Mortality

Diabetes is the seventh leading cause of death in Connecticut, accounting for 3,541 of all Connecticut resident deaths from 2000 to 2004. Most people with diabetes die from related complications rather than directly from the disease itself; therefore, examination of diabetes as the underlying cause of death alone does not accurately represent its extensive contribution to overall mortality. Diabetes was listed as a primary or secondary ("diabetes-related") cause of death for 13,698 Connecticut residents (DPH 2008b). Yet, neither primary nor secondary cause-of-death data fully represent the impact of the disorder, and national data suggest that diabetes is underreported on death certificates (CDC 2008a).

Between 2000 and 2004, Black or African American Connecticut residents had the highest death rate from diabetes, about 2.5 times higher than that of White residents with an estimated excess of 49 deaths per year. Hispanics or Latinos had about 1.5 times the death rate from diabetes compared with Whites with an estimated 11 excess deaths per year. There were too few diabetes deaths among Asian/Pacific Islander and American Indian or Alaska Native residents to calculate reliable rates (Table 11, Figure 7).

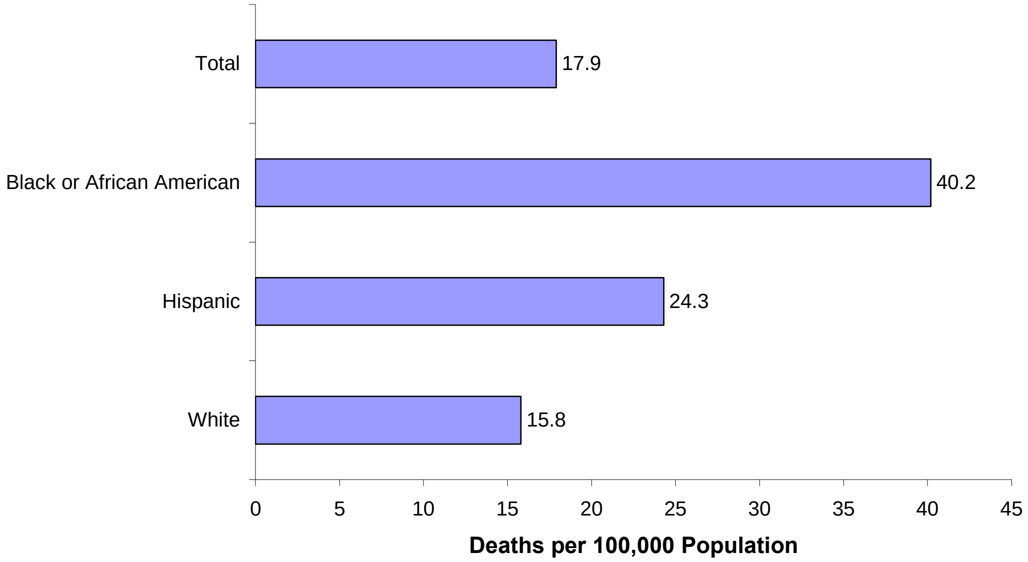
Table 11. Diabetes Deaths[a], Connecticut Residents, by Race or Ethnicity, 2000–2004

Race[b] or Ethnicity	Number of Deaths	Age-adjusted Death Rate[c]	Relative Risk[d] (Minority/White)	Excess (Fewer) Deaths/Year[e]
Total	3,541	17.9	--	--
Black or African American	407	40.2	2.5	49
Hispanic	157	24.3	1.5	11
Asian/Pacific Islander	13	†	†	†
American Indian or Alaska Native	6	†	†	†
White	2,848	15.8	1.0	0
Other	2	--	--	--
Missing	108	--	--	--

Source: DPH 2008b, 2008y.

[a] Includes ICD-10 codes E10-14.
[b] Race groupings exclude persons of Hispanic ethnicity. Hispanic persons may be of any race.
[c] Rates are per 100,000 persons based on race- and ethnicity-specific population estimates. Age-adjusted rates were calculated by the direct method using the 2000 standard million.
[d] "Relative risk" is estimated to be the ratio of the minority group to the White rate.
[e] "Excess deaths" are the deaths per year that would not have occurred if the minority group had the same rate as the White population. Numbers in parentheses indicate fewer deaths.
[†] Statistics are not calculated for fewer than fifteen events.

Figure 7. Age-adjusted Death Rates for Diabetes, Connecticut Residents, by Race or Ethnicity, 2000–2004



Source: DPH 2008b, 2008y.

Diabetes Hospitalizations

Lack of timely, appropriate medical care for diabetes may contribute to serious medical complications, such as lower extremity amputations, end-stage renal disease, and blindness. Appropriate self-care and medical management of diabetes can forestall such complications. Regrettably, multiple hospitalizations are common among persons with diabetes. Nearly one-third of people with diabetes are hospitalized two or more times in the same year due to complications associated with the disease. Low-income people with diabetes are more likely to experience multiple hospitalizations (AHRQ 2005).

In 2005, Black or African American Connecticut residents had the highest hospitalization rates for diabetes and lower-extremity amputations of all racial and ethnic groups, with 3.8 times the hospitalization rates of White residents for both conditions (Table 12, Figure 8). Blacks or African Americans had an estimated 753 excess hospitalizations for diabetes and 137 excess hospitalizations for lower extremity amputations relative to Whites. Hispanics had 2.3 times the rate of diabetes and 3.1 times the rate of lower extremity amputation hospitalizations compared with Whites, with an estimated excess of 309 hospitalizations for diabetes and an estimated 80 excess hospitalizations for lower extremity amputations relative to Whites. There were too few diabetes and lower-extremity amputation hospitalizations among Asian and Pacific Islander and American Indian or Alaska Native residents to calculate reliable rates (Table 13, Figure 9).

Table 12. Hospitalizations for Diabetes[a], Connecticut Residents, by Race and Ethnicity, 2005

Race[b] or Ethnicity	Number of Hospitalizations	Age-adjusted Hospitalization Rate[c]	Relative Risk[d] (Minority/White)	Excess (Fewer) Events/Year[e]
Total	4,647	124.8	--	--
Black	1,021	359.4	3.8	753
Hispanic	555	213.4	2.3	309
Asian & Pacific Islander	13	†	†	†
American Indian	11	†	†	†
White	2,924	94.5	1.0	0
Other[f]	123	--	--	--

Sources: DPH 2008c, 2008e.

[a] Hospitalization is synonymous with discharge because these data are derived from the hospital discharge abstract and billing database. Includes ICD-9-CM codes 250.

[b] Race groupings exclude persons of Hispanic ethnicity. Hispanic persons may be of any race.

[c] Rates are per 100,000 persons based on race- and ethnicity-specific population estimates. Age-adjusted rates were calculated by the direct method using the 2000 standard million.

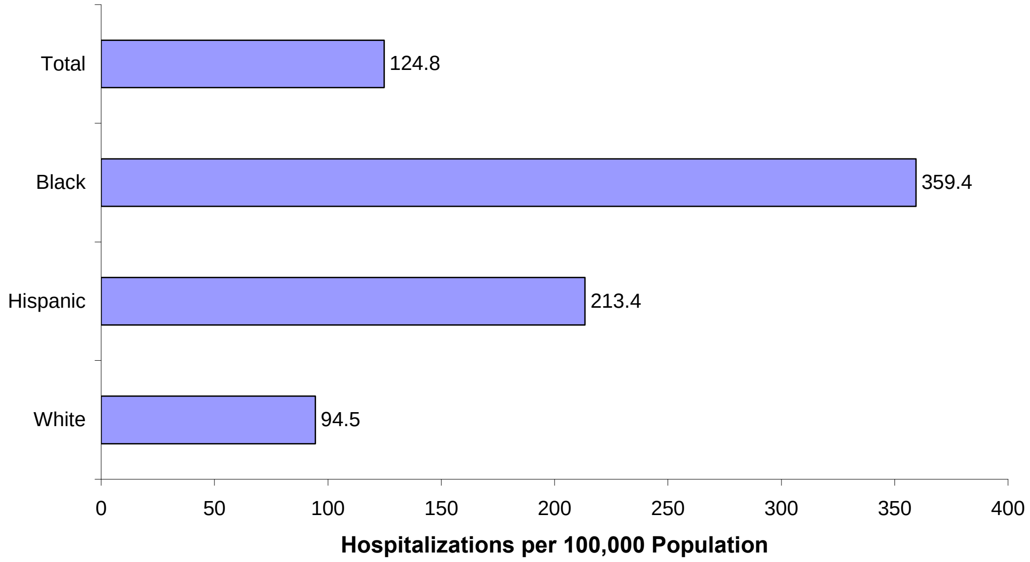
[d] "Relative risk" is estimated to be the ratio of the minority group to the White rate.

[e] "Excess events" are the hospitalizations per year that would not have occurred if the minority group had the same rate as the White population.

[f] Other non-White and non-Hispanic.

† Statistics are not calculated for fewer than fifteen events.

Figure 8. Age-adjusted Hospitalization Rate for Diabetes, Connecticut Residents, by Race or Ethnicity, 2005



Source: DPH 2008c, 2008e.

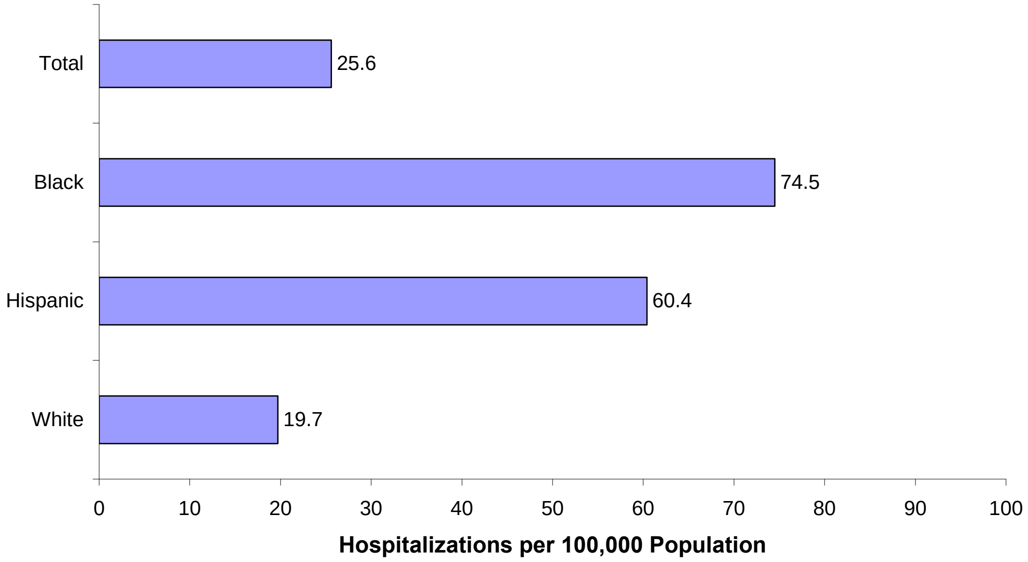
Table 13. Hospitalizations for Diabetes with Lower Extremity Amputation[a], Connecticut Residents, by Race or Ethnicity, 2005

Race[b] or Ethnicity	Number of Hospitalizations	Age-adjusted Hospitalization Rate[c]	Relative Risk[d] (Minority/White)	Excess (Fewer) Events/Year[e]
Total	990	25.6	--	--
Black	186	74.5	3.8	137
Hispanic	118	60.4	3.1	80
Asian & Pacific Islander	0	--	--	--
American Indian	0	--	--	--
White	667	19.7	1.0	0
Other[f]	19	--	--	--

Source: DPH 2008c, 2008e.

[a] Hospitalization is synonymous with discharge because these data are derived from the hospital discharge abstract and billing database. Includes ICD-9-CM codes for any diagnosis of 250 with a procedure code 84.1 and not having 985-897. Denominator for rate is total population, not estimated persons with diabetes.
[b] Race groupings exclude persons of Hispanic ethnicity. Hispanic persons may be of any race.
[c] Rates are per 100,000 persons based on race- and ethnicity-specific population estimates. Age-adjusted rates were calculated by the direct method using the 2000 standard million.
[d] "Relative risk" is estimated to be the ratio of the minority group to the White rate.
[e] "Excess events" are the hospitalizations per year that would not have occurred if the minority group had the same rate as the White population.
[f] Other non-White and non-Hispanic.

Figure 9. Age-adjusted Hospitalization Rates for Diabetes with Lower Extremity Amputation, Connecticut Residents, by Race or Ethnicity, 2005



Source: DPH 2008c, 2008e.

CONNECTICUT DIABETES PREVENTION AND CONTROL PROGRAM

The Connecticut Diabetes Prevention and Control Program (DPCP) is a CDC-funded initiative housed at the Department of Public Health, which works to support a state system of diabetes care and prevention. Its goals are to reduce the onset of diabetes and its complications and enhance the quality of life for people with diabetes (DPH 2008s). DPCP is the convener of a statewide network of individuals representing community-based organizations, advocacy groups, academic, business and health care institutions, and state agencies. It has led efforts to develop a State Diabetes Plan for Connecticut for 2007 through 2012 (DPH 2007b) with annual updates (DPH 2008v). The Connecticut Diabetes Prevention and Control Plan focuses on goals in two areas: the diabetes system of care and care outcomes. Its intended impacts fall within two categories: creating a comprehensive system of care and prevention and improving the quality of life for people with diabetes.

A high priority of the DPCP is to address disparities in risk factors for diabetes and in diabetes care and treatment based on gender, race or ethnicity, income, and geography. DPCP has worked with partners throughout the state to develop culturally appropriate initiatives about diabetes and its risk factors within specific racial and ethnic minority populations (DPH 2008s).

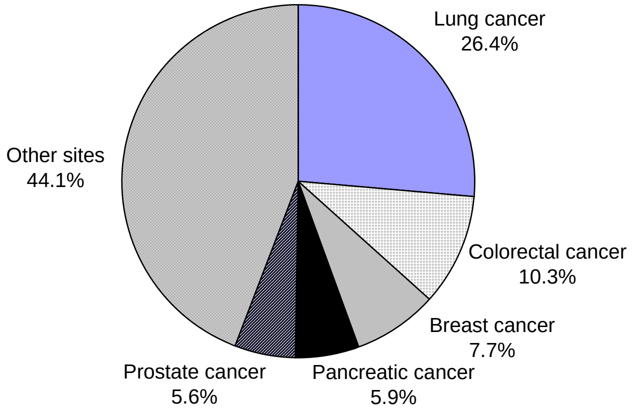
CANCER

Cancer is the second leading cause of death in Connecticut and the United States, accounting for 23.8% (35,434) of all Connecticut resident deaths from 2000 to 2004 (DPH 2008b). In 2006, 19,731 new invasive cancers were diagnosed in Connecticut residents (Connecticut Tumor Registry, unpublished data). The chance of developing cancer increases with age, with almost 60% of cancers occurring in people 65 and older (Connecticut Cancer Partnership 2006, 3).

Cancer Mortality

Connecticut resident cancer mortality includes deaths due to lung cancer (26.4%), colorectal cancer (10.3%), breast cancer (7.7%), pancreatic cancer (5.9%), prostate cancer (5.6%), leukemia (3.9%), ovarian cancer (2.6%), bladder cancer (2.5%), meninges, brain, and central nervous system cancer (2.2%), skin cancer (1.5%), lip, oral, and pharynx cancers (1.2%), uterine cancer (0.6%), and cervical cancer (0.5%) (Figure 9). Cancer is the first leading cause of death for Asian or Pacific Islander Connecticut residents, and the second leading cause of death for Black or African American, Hispanic, American Indian or Alaska Native, and White Connecticut residents (See Appendix IX) (DPH 2008b).

Figure 10. Cancer Deaths, Percent by Subtype, Connecticut Residents, 2000–2004



Source DPH 2008b.

Between 2000 and 2004, Black or African American Connecticut residents had the highest death rate from cancer, about 1.1 times higher than that of White residents with an estimated excess of 56 deaths per year. Hispanic and Asian/Pacific Islander residents had lower cancer death rates compared with White residents. Hispanic residents had 0.6 times the death rate of White residents with an estimated 93 fewer deaths per year, Asian/Pacific Islander residents had 0.4 times the death rate of White residents with an estimated 53 fewer deaths per year, and American Indian or Alaska Native residents had 0.6 times the cancer death rates as White residents with an estimated 5 fewer deaths per year (Table 14, Figure 11).

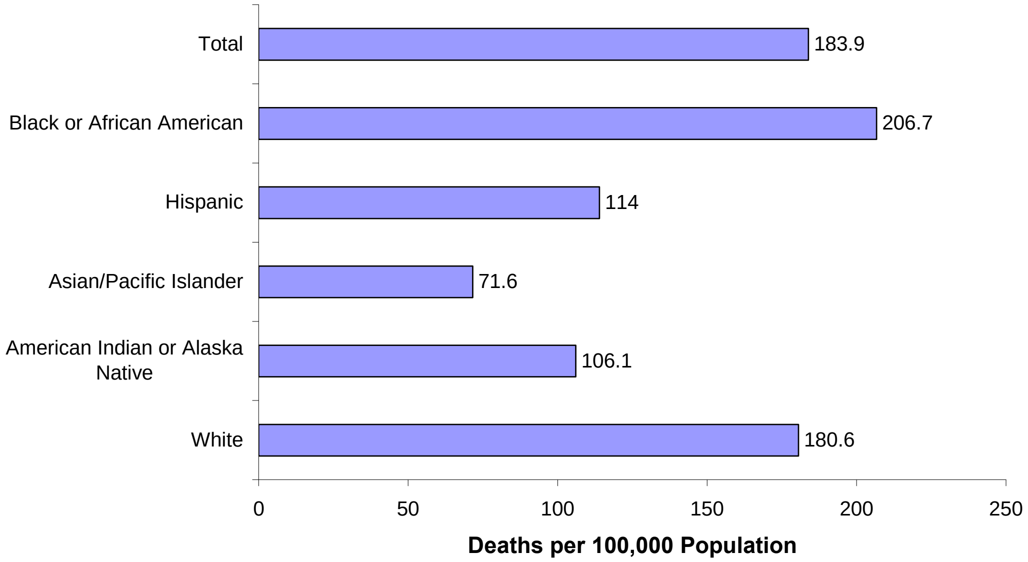
Table 14. Cancer Deaths[a], Connecticut Residents, by Race or Ethnicity, 2000–2004

Race or Ethnicity[b]	Number of Deaths	Age-adjusted Death Rate[c]	Relative Risk[d] (Minority/White)	Excess (Fewer) Deaths/Year[e]
Total	35,434	183.9	--	--
Black or African American	2,198	206.7	1.1	56
Hispanic	800	114.0	0.6	(93)
Asian/Pacific Islander	174	71.6	0.4	(53)
American Indian or Alaska Native	36	106.1	0.6	(5)
White	31,227	180.6	1.0	0
Other	3	--	--	--
Missing	996	--	--	--

Source: DPH 2008b, 2008y.

[a] Includes ICD-10 codes C00-97.
[b] Race groupings exclude persons of Hispanic ethnicity. Hispanic persons may be of any race.
[c] Rates are per 100,000 persons based on race- and ethnicity-specific population estimates. Age-adjusted rates were calculated by the direct method using the 2000 standard million.
[d] "Relative risk" is estimated to be the ratio of the minority group to the White rate.
[e] "Excess deaths" are the deaths per year that would not have occurred if the minority group had the same rate as the White population. Numbers in parentheses indicate fewer deaths.

Figure 11. Age-adjusted Death Rates for Cancer, Connecticut Residents, by Race or Ethnicity, 2000–2004



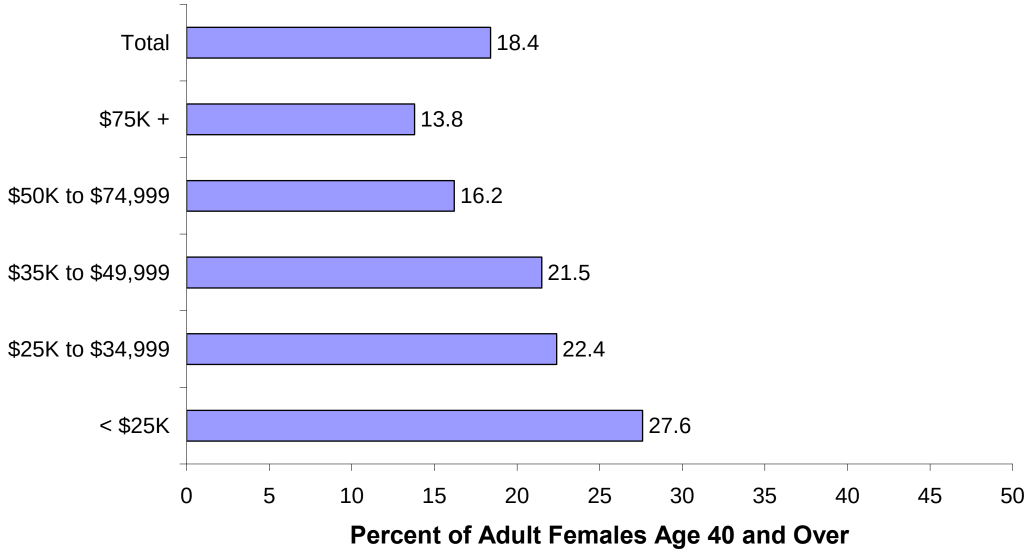
Source: DPH 2008b, 2008y.

Early Detection and Screening for Cancer

For some types of cancer, early detection can improve chances of survival and quality of life. Screening is recommended for breast, cervical, and colorectal cancers in specific age and risk groups based on available scientific evidence (U.S. Preventive Services Task Force 2008). Screening rates tend to differ by income level and health insurance status in Connecticut. Low-income people and those without health insurance tend to have fewer cancer screenings and often do not seek or obtain care until their cancers are more advanced. The Connecticut Cancer Partnership has noted that: "The burden of cancer often is greatest for those with low income and less education, and for people of color, especially those who have no health insurance or do not speak English well" (Connecticut Cancer Partnership 2006, 5).

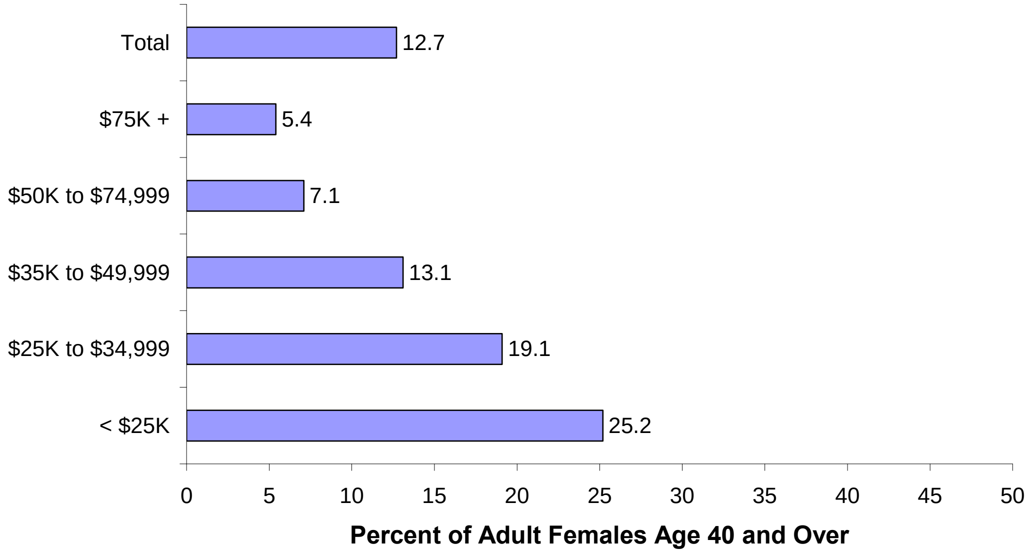
Connecticut Behavioral Risk Factor survey data for 2004 and 2006 indicate that lower-income adults are much less likely to obtain recommended screening tests compared with higher-income adults. Among Connecticut women aged 40 and over, an estimated 27.6% of women with household incomes of $25,000 or less per year did not receive a mammogram in the past two years compared with 13.8% of women with household incomes of $75,000 or more (unadjusted analyses) (Figure 12). Among women aged 18 and over, an estimated 25.2% with household incomes of $25,000 or less per year did not obtain a Pap screening test for cervical cancer in the past three years compared with 5.4% of women with household incomes of $75,000 or more (unadjusted analyses) (Figure 13). Among Connecticut adults aged 50 and over, an estimated 39.2% with household incomes of less than $25,000 never had a colonoscopy or sigmoidoscopy screening for colorectal cancer compared with 29.9% with household incomes of $75,000 or more (unadjusted analyses) (Figure 14) (DPH 2008a).

Figure 12. Did Not Receive a Mammogram in the Past Two Years, Connecticut Adult Females, Age 40 and Over, by Household Income, 2004, 2006



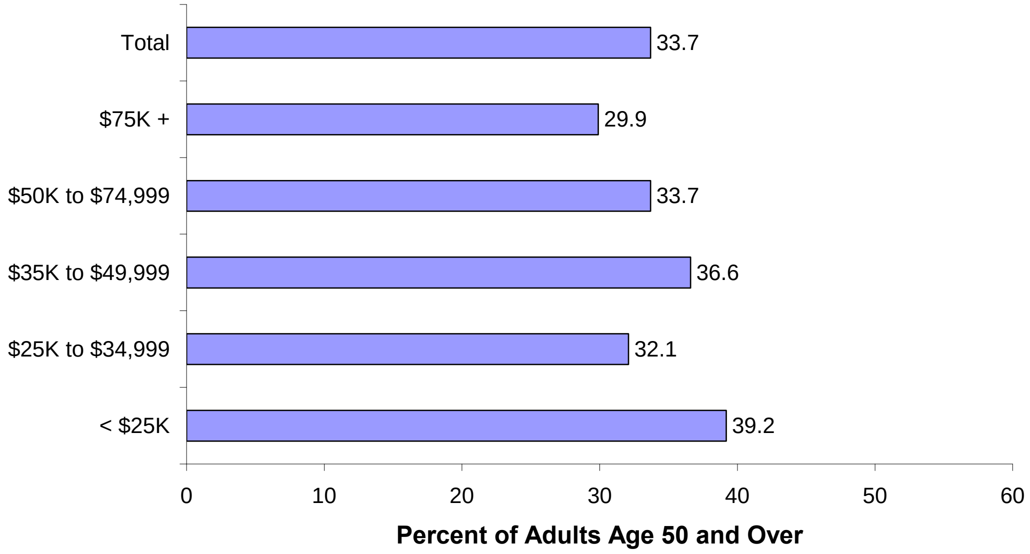
Source: DPH 2008a.

Figure 13. Did Not Receive a Pap Test in the Past Three Years, Connecticut Adult Females, Age 40 and Over, by Household Income, 2004, 2006



Source: DPH 2008a.

Figure 14. Did Not Ever Receive a Colonoscopy or Sigmoidoscopy, Connecticut Adults, Age 50 and Over, by Household Income, 2004, 2006



Source: DPH 2008a.

Connecticut Tumor Registry (CTR)

Detailed information on cancer incidence among Connecticut residents is available through the Connecticut Tumor Registry (CTR), which is a population-based resource for examining cancer patterns in Connecticut. The Registry has been part of the National Cancer Institute's Surveillance, Epidemiology and End Results (SEER) Program since 1973. The SEER Program includes 17 population-based registries in the United States. The CTR database includes all reported cancers diagnosed in Connecticut residents from 1935 to the present, as well as follow-up, treatment and survival data on reported cases. All hospitals and pathology laboratories in Connecticut are required by public health legislation to report incident cases, along with information on follow-up and treatment (DPH 2008w).

Connecticut Comprehensive Cancer Control Efforts

The Connecticut Comprehensive Cancer Control Program is a CDC-funded effort, which has brought together various partners to develop and implement a plan that addresses the continuum of cancer care in our state (Connecticut Cancer Partnership 2008).

The Program acts as the convener of the state network, the Connecticut Cancer Partnership, which includes the following founding organizations: American Cancer Society, the Connecticut State Medical Society, the Connecticut Department of Public Health, the University of Connecticut Health Center, and the Yale Cancer Center. Since 2003, these organizations together with other state partners representing community and advocacy groups, businesses, insurers, academic and clinical institutions, and state agencies, have met to develop a state plan whose goal is to address prevention, screening, treatment, survivorship, and palliative/end-of-life care efforts related to reducing disability and death due to cancer in Connecticut. Through their efforts, the *Connecticut Comprehensive Cancer Control Plan, 2005–2008* was released to the public. The plan outlines an agenda for cancer control and prevention in our state (Connecticut Cancer Partnership 2005, 2006). Implementation of this plan is currently being carried out through various work groups of the Partnership.

BEHAVIORAL RISK FACTORS FOR CHRONIC DISEASES

Risk factors are classified as “non-modifiable” and “modifiable” factors. Non-modifiable risk factors for most chronic diseases include increasing age and family history of the disease. In this section, five key modifiable risk factors for chronic diseases are discussed: cigarette smoking; overweight and obesity; high blood pressure; high cholesterol; and lack of physical activity. While much of the burden of chronic disease may be reduced by lifestyle modification, public health research points out that individual risk factors for disease should be viewed in the context of larger social conditions in a given community (Link and Phelan 1995). Social factors such as educational level, degree of poverty and resultant stress, housing quality, neighborhood environmental quality, environmental exposures, amount of leisure time, and access to quality consumer goods and medical care all impinge on individuals’ choices and behaviors.

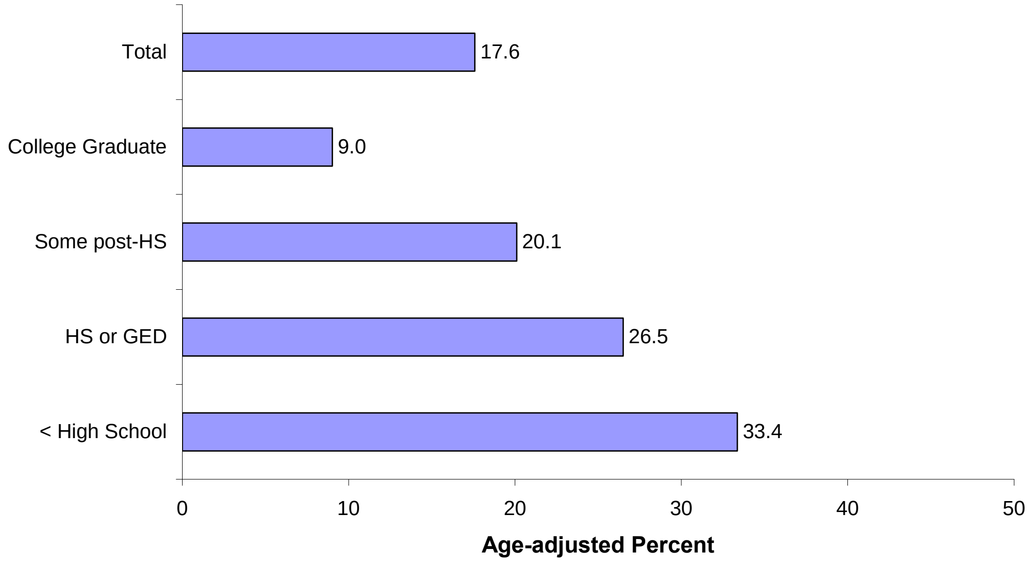
The behavioral risk factor data discussed in this section are taken from the state-based 2004 through 2006 Behavioral Risk Factor Surveillance System (BRFSS), a randomized survey of adults, aged 18 years and older. When significant, survey data are reported here (or noted) by household income, educational attainment level, and race or ethnicity of respondents. Racial and ethnic survey data are reported for Black or African American, Hispanic or Latino and White Connecticut adults only. The numbers of American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander Connecticut residents surveyed are not large enough to produce reliable estimates for these groups.

Cigarette Smoking

The 2004 U.S. Surgeon General's Report concludes that not only does smoking diminish the health status of smokers, but scientific evidence has demonstrated a causal relationship between smoking and several cancers (e.g., lung, larynx, oral cavity and pharynx), cardiovascular diseases (e.g., coronary heart disease, stroke, abdominal aortic aneurysm), respiratory diseases and effects (e.g., COPD, pneumonia, decreased lung function), reproductive effects (e.g., low birth weight, pregnancy complications), cataract, hip fracture, low bone density, and peptic ulcer disease (CDC 2004b). Each year in the United States, an estimated 438,000 premature deaths, 5.5 million years of productive life lost, and $92 billion in productivity losses result from cigarette smoking and exposure to tobacco smoke (CDC 2005f).

In 2005, about 16% of Connecticut adults reported being current smokers compared with about 20% of adults nationwide (Hynes and Jung 2006a). Connecticut adult smokers are more likely to be younger, with lower incomes, and less educated. For example, 24.7% of Connecticut adults aged 18 to 24 years old smoke compared with only 19.4% of those aged 45 to 54, and 6.9% of those aged 65 and older (DPH 2008a). About 27.1% of adults with household incomes under $15,000 smoke, compared with 11% of adults with household incomes of $75,000 or more (age-adjusted analyses). An estimated 33.4% of adults with less than a high school education smoke compared with only 9% of adults who graduated from college (age-adjusted analyses) (Figure 15) (DPH 2008a).

Figure 15. Current Smoking Rates, Connecticut Adults, by Educational Level, 2004–2006



Source: DPH 2008a.

Overweight and Obesity

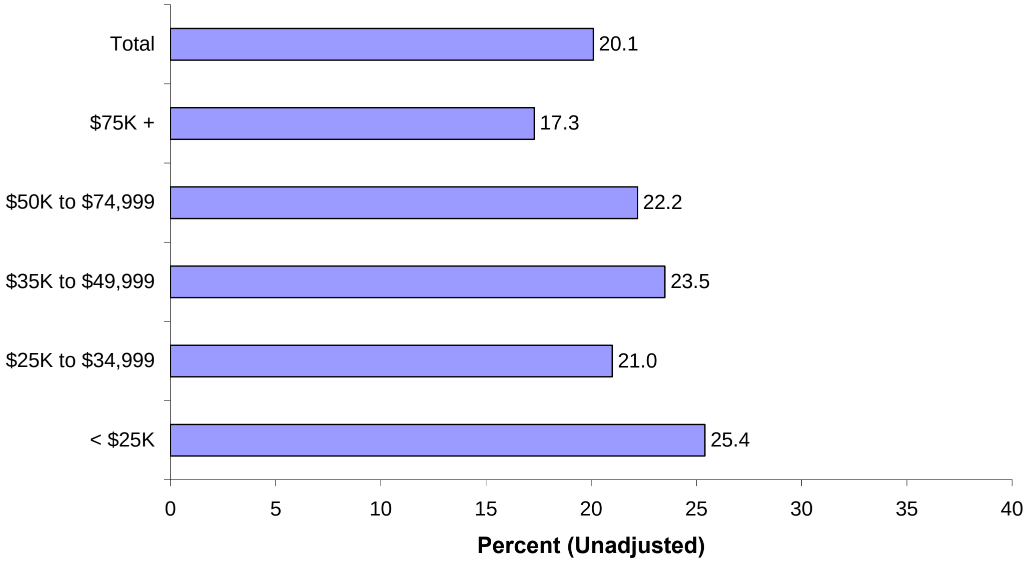
Obesity is considered a metabolic disorder, which can be explained by a combination of hereditary and environmental factors. High calorie diets along with less physical activity have contributed to the obesity epidemic in the United States (Eckel 1997). Body mass index (BMI), or weight adjusted for height, is a widely used screening method for obesity. Medical guidelines identify normal/desirable weight as a BMI under 25, overweight as a BMI of 25 to 29.9, and obese as a BMI of 30 or more (U.S. Preventive Services Task Force 2005).

People who are overweight are at much greater risk of developing type 2 diabetes than are normal-weight individuals. Abdominal obesity has been found to place individuals at higher risk for health problems, including high blood pressure, high blood cholesterol, high triglycerides, diabetes, and heart disease (American Heart Association 2008). Obesity also increases the likelihood of developing certain types of cancers, including colon, kidney, esophageal, and endometrial cancers (Connecticut Cancer Partnership 2006).

An estimated 20.1% of Connecticut adults are obese, about 37.7% are overweight, and 42.2% are normal or desired weight. Adults in the lowest-income and least-educated groups are more likely to be obese than adults in the highest-income and highest-educated groups. For example, an estimated 25.4% of adults with household incomes of less than $25,000 per year are obese, compared with 17.3% of adults with household incomes of $75,000 or more per year (unadjusted analyses) (Figure 16) (DPH 2008a).

An estimated 21.2% of adult males and 19.0% adult females in Connecticut are obese. Among males, racial or ethnic differences in obesity are not significant. Among adult females, however, Blacks or African Americans are more likely to be obese (37.8 %) compared with Hispanics (26.5%) and Whites (17.2%) (age-adjusted analyses) (DPH 2008a).

Figure 16. Obesity Prevalence, Connecticut Adults, by Household Income, 2004–2006



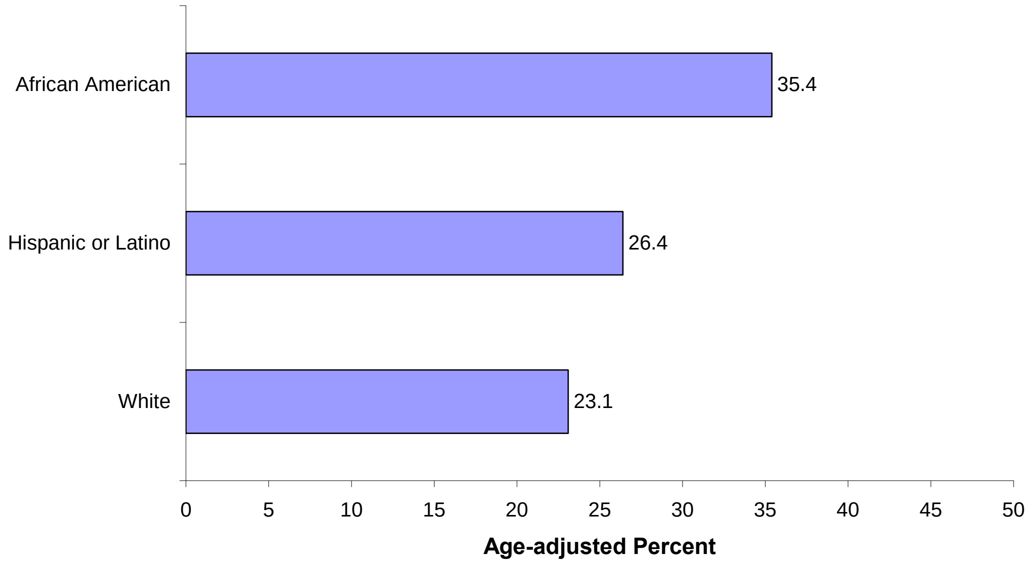
Source: DPH 2008a.

<u>High Blood Pressure</u>

High blood pressure (HBP), or hypertension, is a major risk factor for heart attack and the most important modifiable risk factor for stroke. New federal guidelines classify normal blood pressure as below 120/80 mm Hg and readings from 120/80 Hg up to 140/90 mmHg as prehypertensive (Chobanian et al. 2003). People with elevated blood pressure (≥140mm Hg systolic / 90 mmHg diastolic) are 2 to 4 times more likely to develop coronary heart disease as are people with blood pressure below 140mm Hg systolic / 90 mmHg diastolic (Newschaffer, Brownson and Dusenbury 1998). About 26% of all stroke mortality is attributable to HBP (Goldstein, Adams, and Becker 2001). The risks for hypertension-related cardiovascular disease increase markedly with age, as does the prevalence of hypertension, and drug treatment for high blood pressure (Brookes 2005).

Approximately one quarter of Connecticut adults report that they have HBP or hypertension (2004–2005). High blood pressure is associated with increasing age, and lower-income and less-educated Connecticut adults are more likely to report having high blood pressure than those with higher incomes and more education. Black or African American Connecticut adults experience high blood pressure more than White and Hispanic adults. About 35.4% of Black or African American Connecticut adults report that they were told by a doctor or other health care professional that they had hypertension compared with 23.1% of White, and 26.4% of Hispanic adults in Connecticut (age-adjusted analyses) (Figure 17). Black or African American adults are also more likely to report taking medication for high blood pressure. An estimated 69.8% of Black or African American adults, compared with 59.7% of White adults, and 54.7% of Hispanic adults, report taking medication for high blood pressure (age-adjusted analyses, 2004–2005) (DPH 2008a).

Figure 17. High Blood Pressure Awareness Rates, Connecticut Adults, by Race or Ethnicity, 2004–2005



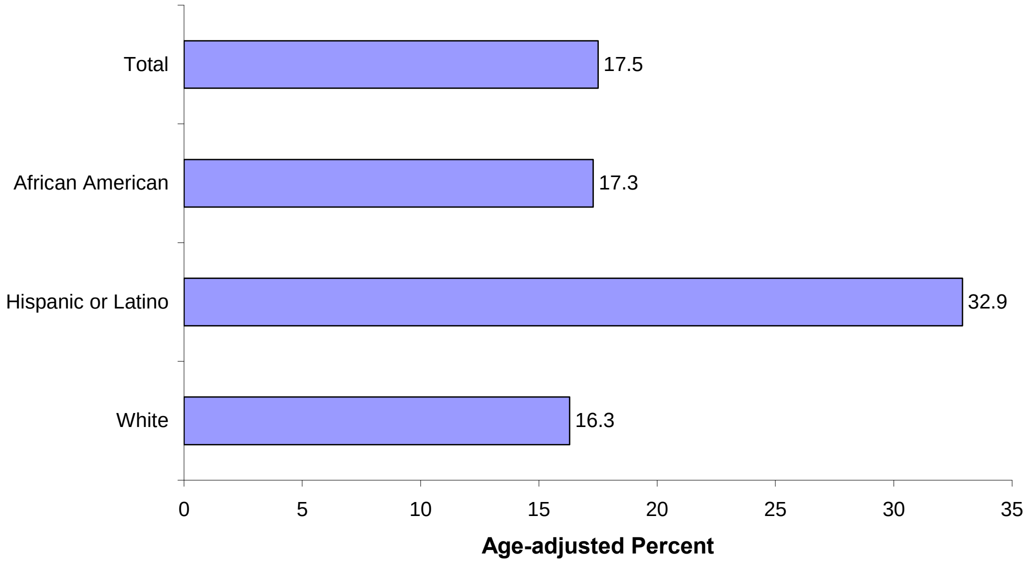
Source: DPH 2008a.

High Blood Cholesterol

High blood cholesterol (HBC) is considered a major risk factor for heart disease and a moderate risk factor for stroke. Studies have shown that among people without heart disease, lowering cholesterol can reduce the risk of developing the disease; and among people with heart disease, lowering cholesterol can reduce the risk of dying from the disease (CDC 2008k). Studies have found that stroke risk can be reduced with cholesterol-lowering medication among persons with high cholesterol levels and persons with coronary artery disease (Goldstein et al. 2001).

The CDC estimates that more than 80% of people with high blood cholesterol do not have it under control (CDC 2008k). Overall, an estimated 17.8% of Connecticut adults have never had their blood cholesterol checked. Persons without health insurance, and those with lower incomes and less education are most likely to report never having had their blood cholesterol checked. An estimated 38.2% of persons without health care coverage report never having been screened compared with 15.6% of those with health care coverage. More Hispanics or Latinos report never having been screened for high cholesterol (32.9%) compared with Whites (16.3%) and African Americans (17.3%) (age-adjusted analyses) (Figure 18) (DPH 2008a).

Figure 18. Never Had Blood Cholesterol Checked, Connecticut Adults, Rates by Race or Ethnicity, 2005



Source: DPH 2008a.

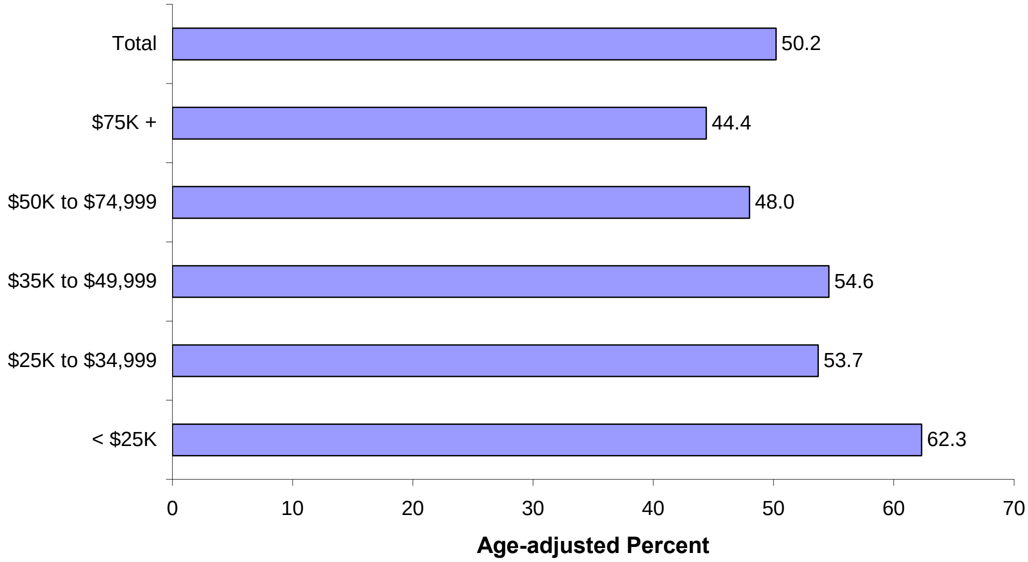
Physical Inactivity

Physical inactivity and poor diet are associated with an increased risk of a number of chronic health conditions including cardiovascular disease, diabetes, some cancers, high blood pressure, overweight and obesity, back problems, and osteoporosis (Duke University 2006). Physical inactivity indirectly increases the risk of stroke because it is associated with high blood pressure.

The CDC and the American College of Sports Medicine (ACSM) recommend that all adults should engage in "at least 30 minutes of moderate-intensity physical activity on five or more days of the week" (CDC 2006b). Approximately one-half of all Connecticut adults report having less than thirty minutes of moderate physical activity five or more days per week and are, therefore, considered inactive (DPH 2008a).

Physical inactivity increases with age. About 59% of Connecticut adults aged 65 and older do not meet the recommended CDC/ACSM activity levels compared with 34% of Connecticut adults aged 18 to 24 (Hynes and Jung 2006a). Adults in the lowest-income and least-educated groups are more likely to be physically inactive compared with those in the highest-income and highest-educated groups. For example, about 62.3% of Connecticut adults with household incomes of less than $25,000 per year are inactive compared with 44.4% of Connecticut adults with household incomes of $75,000 or more (age-adjusted analyses, 2005) (Figure 19) (DPH 2008a).

Figure 19. Physical Inactivity, Connecticut Adults, by Household Income, 2005



Source: DPH 2008a.

CONNECTICUT NUTRITION, PHYSICAL ACTIVITY, AND OBESITY PREVENTION EFFORTS

In 2005, the Connecticut Department of Public Health's Nutrition, Physical Activity and Obesity Program (NPAO) partnered with groups throughout the state, including community-based organizations, advocates, academic, business and health care institutions, and state agencies to develop a set of goals and objectives for health promotion and obesity prevention through healthy eating and active living. This group developed the plan *Healthy Eating and Active Living—Connecticut's Plan for Health Promotion*, which was focused on the establishment of a statewide infrastructure through partnerships, surveillance, interventions, and state and local policies (DPH 2005a). Five levels of implementation were identified: the community, school systems, health care infrastructure, institution/industry, and worksite. The program also established the Connecticut Childhood Obesity Council, which is a collaborative initiative of state government agencies and representatives form the legislative branch of government. The purpose of the Council is to establish state priorities that prevent and reduce childhood obesity and related health risks. The Council held a statewide conference in 2008 that brought together stakeholders from government, advocacy, and research and policymaking sectors. The NPAO oversees about 30 intervention programs in obesity prevention, improved nutrition, and physical activity, which are supported by the U.S. Centers for Disease Control and Prevention Preventive Health Block Grant and the Tobacco and Health Trust Fund.

INJURY

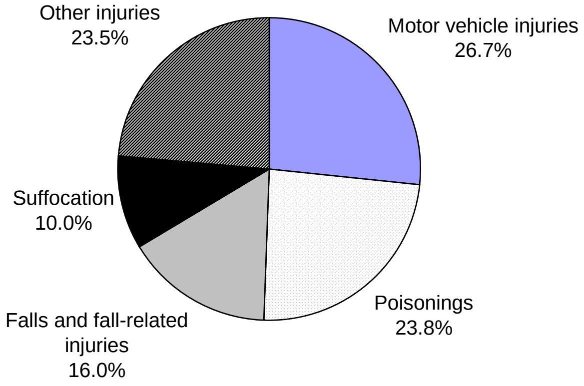
Injuries are a leading cause of premature death in the United States and Connecticut (Hynes et al. 2005; DPH 2008b). They include unintentional types, such as motor vehicle crashes, falls, and suffocation, as well as intentional types, such as homicides and suicides. Injury deaths, by definition, are preventable, and reducing their risk requires an understanding of how injuries vary across physical and social environments. Effective prevention strategies can be developed through an understanding of injury patterns across many settings in which people spend time, including home, school, workplace, playground, and on the road.

The following section of this report first discusses patterns of unintentional injuries, and second, suicides and homicides among Connecticut residents with a consideration of differences by age group, gender, and racial and ethnic subgroups.

UNINTENTIONAL INJURY

Unintentional injury is the fifth-ranked leading cause of death in Connecticut. In 2000–2004, 5,693 Connecticut residents died from unintentional injuries (see Appendix IX) (DPH 2008b). Unintentional injury was the first-ranked leading cause of death for Connecticut residents aged 1 to 44 during this period. Major categories of unintentional injury deaths include motor vehicle injuries (26.7%), poisonings (23.8%), falls and fall-related injuries (16.0%), and suffocation (10%) (Figure 20) (Hewes and Mohamed 2007).

Figure 20. Major Categories of Unintentional Injury Deaths, Connecticut Residents, 2000–2004



Source: Hewes and Mohamed 2007.

During the 2000–2004 period, age-adjusted death rates due to unintentional injuries did not differ among Black or African American, Hispanic, and White residents of Connecticut. Asian/Pacific Islander residents had the lowest death rates due to unintentional injuries among racial and ethnic subgroups in Connecticut with an estimated 12 fewer deaths per year compared with White residents. There were too few unintentional injury deaths among American Indian or Alaska Native residents to calculate reliable rates (Table 15).

It is worth noting that race or ethnicity information is missing for a large number of unintentional injury decedents (N=400). As a result, the age-adjusted unintentional injury death rate for the total Connecticut population, which includes those with missing race or ethnicity, appears higher than the rates for each racial or ethnic subgroup population. If cases with missing race or ethnicity information were removed from the total, the age-adjusted mortality rate for the total Connecticut resident population would be 28.8 deaths per 100,000 population, which is about the same as for the White population.

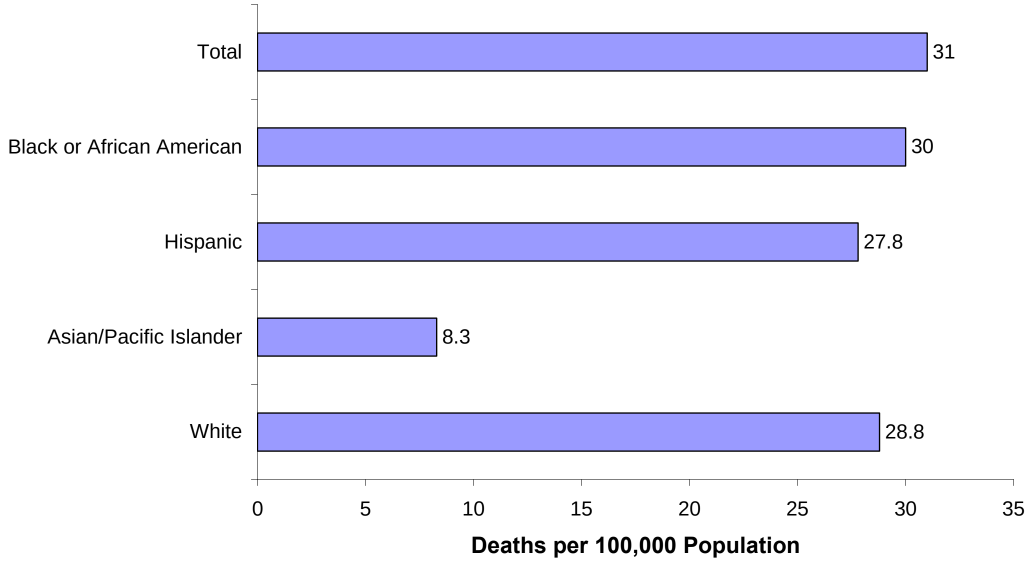
Table 15. Unintentional Injury Deaths[a], Connecticut Residents, by Race or Ethnicity, 2000–2004

Race[b] or Ethnicity	Number of Deaths	Age-adjusted Death Rate[c]	Relative Risk[d] (Minority/White)	Excess (Fewer) Deaths/Year[e]
Total	5,693	31.0	--	--
Black or African American	431	30.0	1.0	3
Hispanic	415	27.8	1.0	(3)
Asian/Pacific Islander	25	8.3	0.3	(12)
American Indian or Alaska Native	12	†	†	†
White	4,409	28.8	1.0	0
Other	1	--	--	--
Missing	400	--	--	--

Source: DPH 2008b, 2008y.

[a] Includes ICD-10 codes V01-X59, Y85-86.
[b] Race groupings exclude persons of Hispanic ethnicity. Hispanic persons may be of any race.
[c] Rates are per 100,000 persons based on race- and ethnicity-specific population estimates. Age-adjusted rates were calculated by the direct method using the 2000 standard million.
[d] "Relative risk" is estimated to be the ratio of the minority group to the White rate.
[e] "Excess deaths" are the deaths per year that would not have occurred if the minority group had the same rate as the White population. Numbers in parentheses indicate fewer deaths.
† Statistics are not calculated for fewer than fifteen events.

Figure 21. Age-adjusted Death Rates for Unintentional Injury, Connecticut Residents, by Race or Ethnicity, 2000–2004



Source: DPH 2008b, 2008y.

Dramatic differences in unintentional injury death rates by gender are found in Connecticut. In the period 2000–2004, males were 2.8 times more likely to die from unintentional injuries than females with an estimated 439 excess deaths per year.

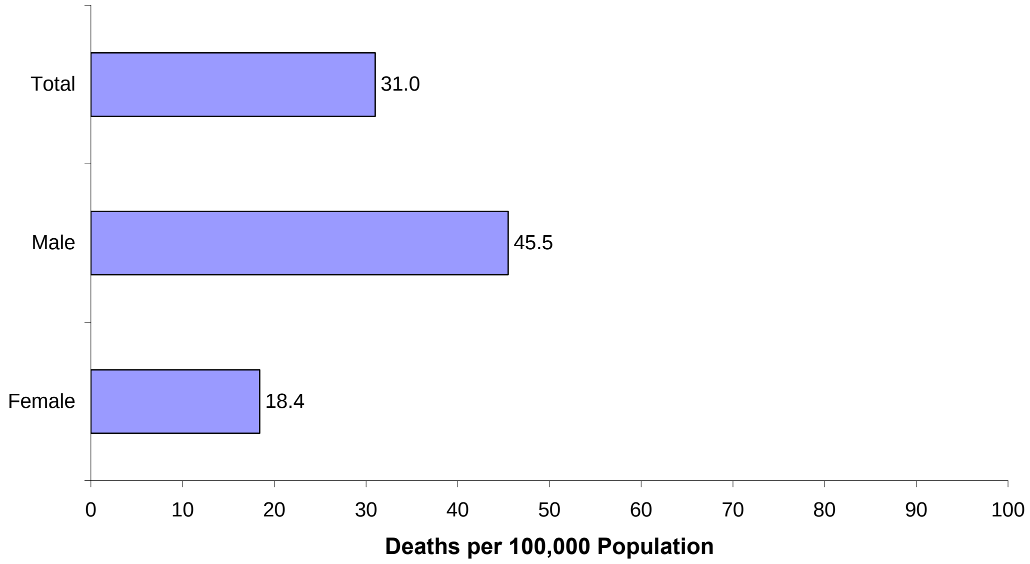
Table 16. Unintentional Injury Deaths[a], Connecticut Residents, by Gender, 2000–2004

Gender	Number of Deaths	Age-adjusted Death Rate[b]	Relative Risk[c] (Male/Female)	Excess (Fewer) Deaths/Year[d]
Total	5,693	31.0	--	--
Male	3,686	45.5	2.5	439
Female	2,007	18.4	--	--

Source: DPH 2008b, 2008y.

[a] Includes ICD-10 codes V01-X59, Y85-86.
[b] Rates are per 100,000 persons based on gender-specific population estimates. Age-adjusted rates were calculated by the direct method using the 2000 standard million.
[c] “Relative risk” is estimated to be the ratio of the male to the female rate.
[d] “Excess deaths” are the deaths per year that would not have occurred if the male population had the same rate as the female population.

Figure 22. Age-adjusted Death Rates for Unintentional Injury, Connecticut Residents, by Gender, 2000–2004



Source: DPH 2008b, 2008y.

SUICIDE

A total of 1,395 Connecticut residents committed suicide during the 2000–2004 period (DPH 2008b). Firearms were the most common method, accounting for 36.2% of all suicides. Other common methods of completed suicides were suffocation by hanging and other means (31.4%), drug or alcohol poisoning (9.2%), and poisoning by carbon monoxide and other substances (7.4%) (Hewes and Mohamed 2007).

Certain age groups in the population are at higher risk for suicide death (Hynes et al. 2005). While suicide was the twelfth leading cause of death in Connecticut during the 2000–2004 period, it was the second leading cause for residents aged 15 to 19 and those aged 25 to 34, and the third leading cause for residents aged 20 to 24 (Hewes and Mohamed 2007).

During the 2000–2004 period, age-adjusted death rates due to suicide were highest among White residents of Connecticut followed by Hispanic and Black or African American residents. Black or African Americans had one-half the death rates of Whites with an estimated 13 fewer deaths per year, and Hispanics had suicide rates that were 70% that of Whites with an estimated 8 fewer deaths per year. There were too few suicide deaths among Asian/Pacific Islander and American Indian or Alaska Native residents to report reliable rates.

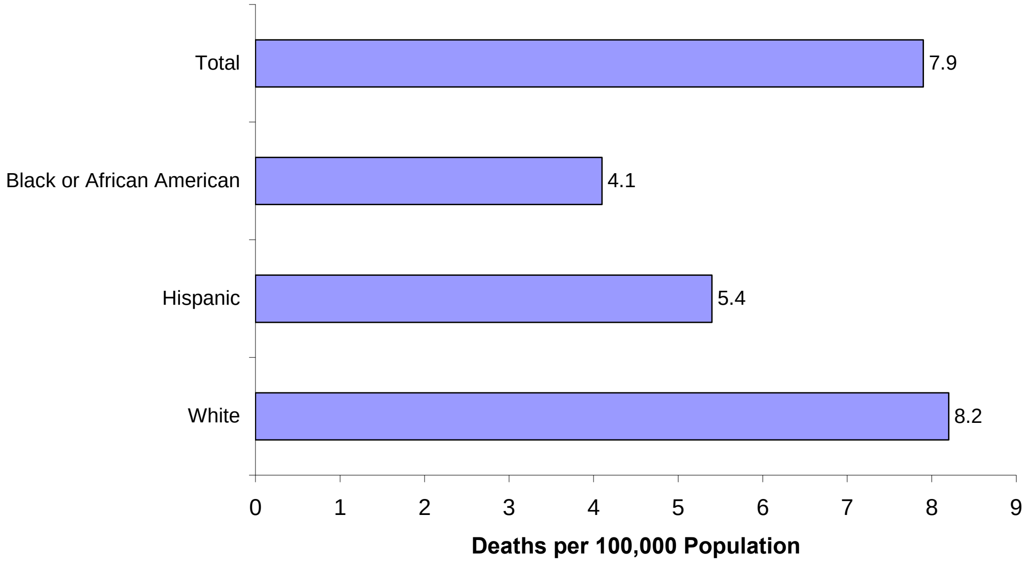
Table 17. Suicide Deaths[a], Connecticut Residents, by Race or Ethnicity, 2000–2004

Race[b] or Ethnicity	Number of Deaths	Age-adjusted Death Rate[c]	Relative Risk[d] (Minority/White)	Excess (Fewer) Deaths/Year[e]
Total	1,395	7.9	--	--
Black or African American	64	4.1	0.5	(13)
Hispanic	80	5.4	0.7	(8)
Asian/Pacific Islander	10	†	†	†
American Indian or Alaska Native	5	†	†	†
White	1,166	8.2	1.0	0
Other	1	--	--	--
Missing	69	--	--	--

Source: DPH 2008b, 2008y.

[a] Includes ICD-10 codes X60-X84, Y87.0.
[b] Race groupings exclude persons of Hispanic ethnicity. Hispanic persons may be of any race.
[c] Rates are per 100,000 persons based on race- and ethnicity-specific population estimates. Age-adjusted rates were calculated by the direct method using the 2000 standard million.
[d] "Relative risk" is estimated to be the ratio of the minority group to the White rate.
[e] "Excess deaths" are the deaths per year that would not have occurred if the minority group had the same rate as the White population. Numbers in parentheses indicate fewer deaths.
[†] Statistics are not calculated for fewer than fifteen events.

Figure 23. Age-adjusted Death Rates for Suicide, Connecticut Residents, by Race or Ethnicity, 2000–2004



Source: DPH 2008b, 2008y.

As a group, males are at considerably higher risk for suicide than are females (Hynes et al. 2005), and they accounted for 79% of all Connecticut resident suicide deaths during the 2000–2004 period. Men are about four times more likely to commit suicide than are females in Connecticut with an estimated 167 excess deaths per year (Table 18, Figure 24) (DPH 2008b).

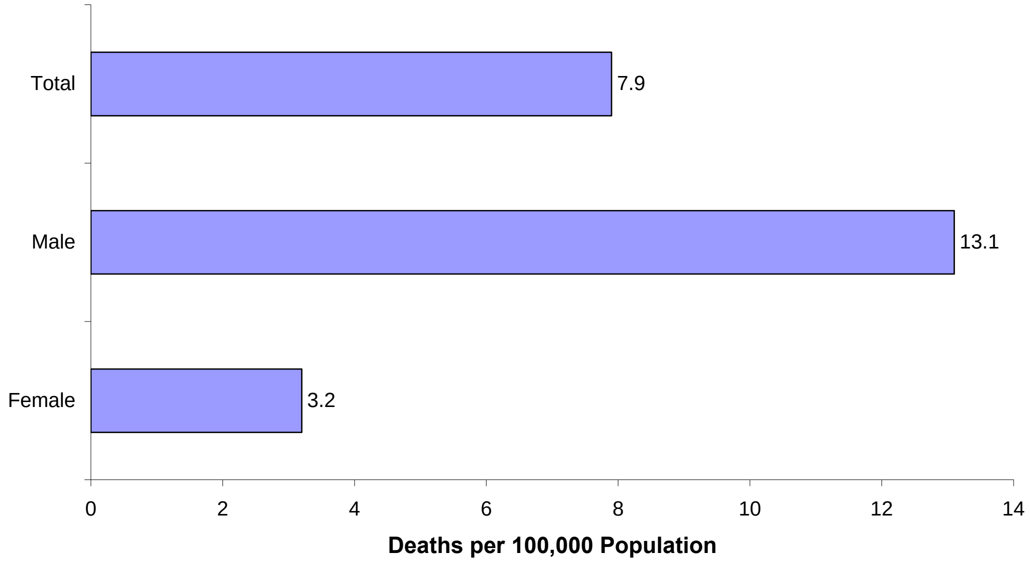
Table18. Suicide Deaths[a], Connecticut Residents, by Gender, 2000–2004

Gender	Number of Deaths	Age-adjusted Death Rate[b]	Relative Risk[c] (Male/Female)	Excess Deaths/Year[d]
Total	1,395	7.9	--	--
Male	1,102	13.1	4.1	167
Female	293	3.2	--	--

Source: DPH 2008b, 2008y.

[a] Includes ICD-10 codes X60-84, Y87.0.
[b] Rates are per 100,000 persons based on gender-specific population estimates. Age-adjusted rates were calculated by the direct method using the 2000 standard million.
[c] "Relative risk" is estimated to be the ratio of the male to the female rate.
[d] "Excess deaths" are the deaths per year that would not have occurred if the male population had the same rate as the female population.

Figure 24. Age-adjusted Death Rates for Suicide, Connecticut Residents, by Gender, 2000–2004



Source: DPH 2008b, 2008y.

HOMICIDE

Homicide includes deaths inflicted by another person with the intention to injure or kill. During the 2000–2004 period, 510 Connecticut residents died of homicide (DPH 2008b). Homicide does not rank among the top ten leading causes of death for Connecticut residents (It is the seventeenth leading cause of death). However, it ranks high within certain population subgroups; it is the sixth leading cause of death among Black or African American males and the seventh leading cause of death among Hispanic males (See Appendix IX for leading cause of death tables). Homicide deaths and death rates were highest among males and in the 25–29 age group (Hudson et al. 2008).

During the 2000–2004 period, age-adjusted death rates due to homicide were highest among Black or African American and Hispanic residents of Connecticut. Black or African Americans had 10.4 times the homicide death rate compared with White residents with an estimated 38 excess deaths per year. Hispanic residents had 5.4 times the death rate of Whites with an estimated 16 excess deaths per year. There were too few homicide deaths among Asian/Pacific Islander and American Indian or Alaska Native residents to report reliable rates.

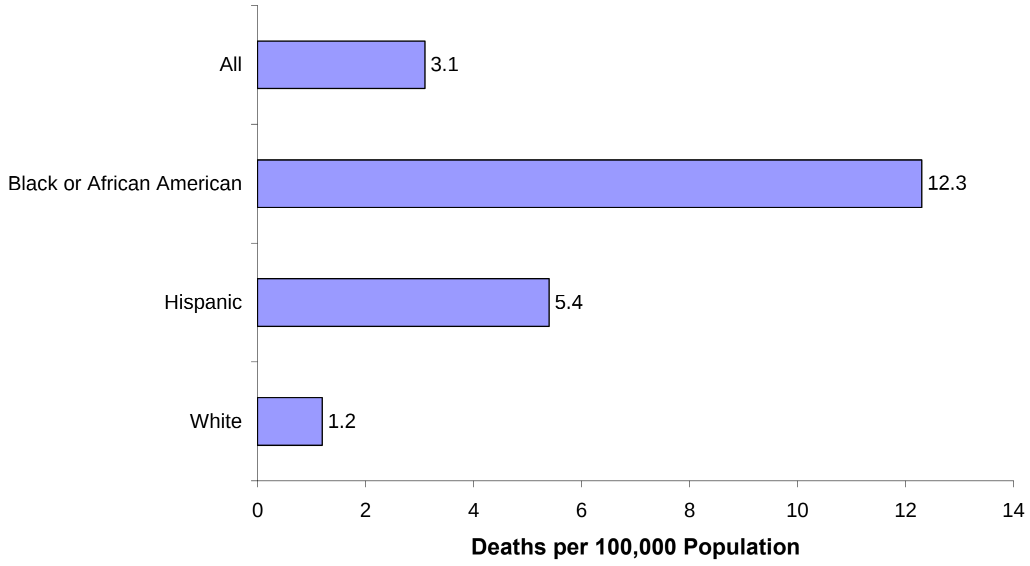
Table 19. Homicide Deaths[a], Connecticut Residents, by Race or Ethnicity, 2000–2004

Race[b] or Ethnicity	Number of Deaths	Age-adjusted Death Rate[c]	Relative Risk[d] (Minority/White)	Excess (Fewer) Deaths/Year[e]
Total	510	3.1	--	--
Black or African American	211	12.3	10.4	38
Hispanic	105	5.4	4.6	16
Asian/Pacific Islander	7	†	†	†
American Indian or Alaska Native	2	†	†	†
White	158	1.2	1.0	0
Other	2	--	--	--
Missing	26	--	--	--

Source: DPH 2008b, 2008y.

[a] Includes ICD-10 codes X85-Y09, Y87.1.
[b] Race groupings exclude persons of Hispanic ethnicity. Hispanic persons may be of any race.
[c] Rates are per 100,000 persons based on race- and ethnicity-specific population estimates. Age-adjusted rates were calculated by the direct method using the 2000 standard million.
[d] "Relative risk" is estimated to be the ratio of the minority group to the White rate.
[e] "Excess deaths" are the deaths per year that would not have occurred if the minority group had the same rate as the White population. Numbers in parentheses indicate fewer deaths.
† Statistics are not calculated for fewer than fifteen events.

Figure 25. Age-adjusted Death Rates for Homicide, Connecticut Residents, by Race or Ethnicity, 2000–2004



Source: DPH 2008b, 2008y.

Males are much more likely to die from homicide compared with females in Connecticut. In the period 2000–2004, males were 3.1 times more likely to die from homicide than females with an estimated 51 excess deaths per year.

Table 20. Homicide Deaths[a], Connecticut Residents, by Gender, 2000–2004

Gender	Number of Deaths	Age-adjusted Death Rate[b]	Relative Risk[c] (Male/Female)	Excess Deaths/Year[d]
Total	510	3.1	--	--
Male	375	4.7	3.1	51
Female	135	1.5	--	--

Source: DPH 2008b, 2008y.

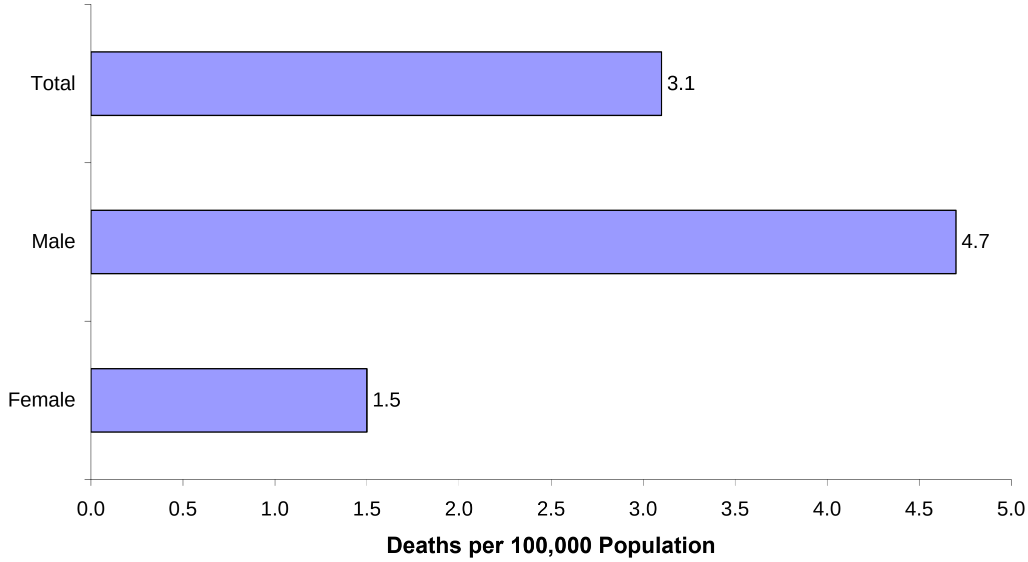
[a] Includes ICD-10 codes X85-Y09, Y87.1.

[b] Rates are per 100,000 persons based on gender-specific population estimates. Age-adjusted rates were calculated by the direct method using the 2000 standard million.

[c] “Relative risk” is estimated to be the ratio of the male to the female rate.

[d] “Excess deaths” are the deaths per year that would not have occurred if the male population had the same rate as the female population.

Figure 26. Age-adjusted Death Rates from Homicide, Connecticut Residents, by Gender, 2000–2004



Source: DPH 2008b, 2008y.

CONNECTICUT INJURY PREVENTION AND CONTROL EFFORTS

In 2007, the Connecticut Department of Public Health's Injury Prevention Program published *Injury in Connecticut: Deaths and Hospitalizations, A Data Book, Connecticut Residents, 2000–2004*, which provided detailed analyses of injury deaths and hospitalizations among Connecticut residents (Hewes and Mohamed 2007). In 2008, the Injury Prevention Program produced the *Connecticut Injury Prevention and Control Plan 2008–2012* in collaboration with the Statewide Injury Community Planning Group and other partners. These state partners represent community-based organizations, state and local advocacy groups, academic and health care institutions, and state agencies (Hudson et al. 2008). The Plan builds on ongoing activities and together with the Data Book, it assists state partners in their efforts to reduce morbidity and mortality due to injury in Connecticut. Development of the Data Book and Plan were supported by an Integrated Core Injury Prevention and Control Cooperative Agreement from the Centers for Disease Control and Prevention.

INFECTIOUS AND SEXUALLY TRANSMITTED DISEASES

HEPATITIS B

Hepatitis B virus (HBV) is a bloodborne and sexually transmitted virus. Chronic HBV infection may manifest as liver cancer or cirrhosis, or be asymptomatic. According to the CDC case definition published in 2000, acute hepatitis B is an acute illness with discrete onset of symptoms (e.g., nausea, vomiting, fever, abdominal pain) and jaundice or elevation of the liver enzyme aminotransferase in serum (CDC 2008h). The laboratory criteria for diagnosis are positive findings of specific antibodies or HBV surface antigens (CDC 2008h).

An estimated 10% of persons over age 5 with acute HBV infection develop chronic HBV infection (CDC 2008f), and about 90% of acute cases in infants develop into chronic hepatitis B (CDC 2005c). Risk factors for hepatitis B include sexual activity and injection drug use. A disproportionate number of persons with chronic hepatitis B are immigrants from countries in which HBV is endemic (CDC 2005b). In 2006, there were approximately 46,000 new HBV infections in the United States (CDC 2008g, 5). During 1990–2006, the national incidence of acute hepatitis B declined to 1.6 cases per 100,000, the lowest rate ever recorded since nationwide surveillance began in 1966 (CDC 2008g). The decline was most marked among persons less than 15 years old, the population group to which the national recommendations for routine childhood and adolescent vaccination apply. Males 25–44 years old continue to be at higher risk of HBV infection than other groups. While progress has been made to reduce racial or ethnic disparities in hepatitis B rates, rates among Blacks are two times greater than those of other racial or ethnic populations.

Prior to 2004, surveillance for acute hepatitis B in Connecticut was conducted using only the laboratory criteria for diagnosis. As such, persons with false-positive laboratory results may have been classified as having acute hepatitis B. Also, in the absence of clinical case information, individuals with chronic HBV infection may have been misclassified as having acute HBV infection. How the change in case definition affects surveillance should be considered when interpreting the five-year trend data on HBV presented here.

In Connecticut during 2001–2005, the incidence of acute HBV infection was highest among persons classified as Asian/Pacific Islander. The rate of acute HBV infection was three times higher among the Connecticut Asian/Pacific Islander population than Whites. Information on Hispanic ethnicity was collected for 62.7% of all acute hepatitis B cases reported during 2001–2005. Among these cases, the incidence of acute hepatitis B in Hispanics was twice that of non-Hispanics.

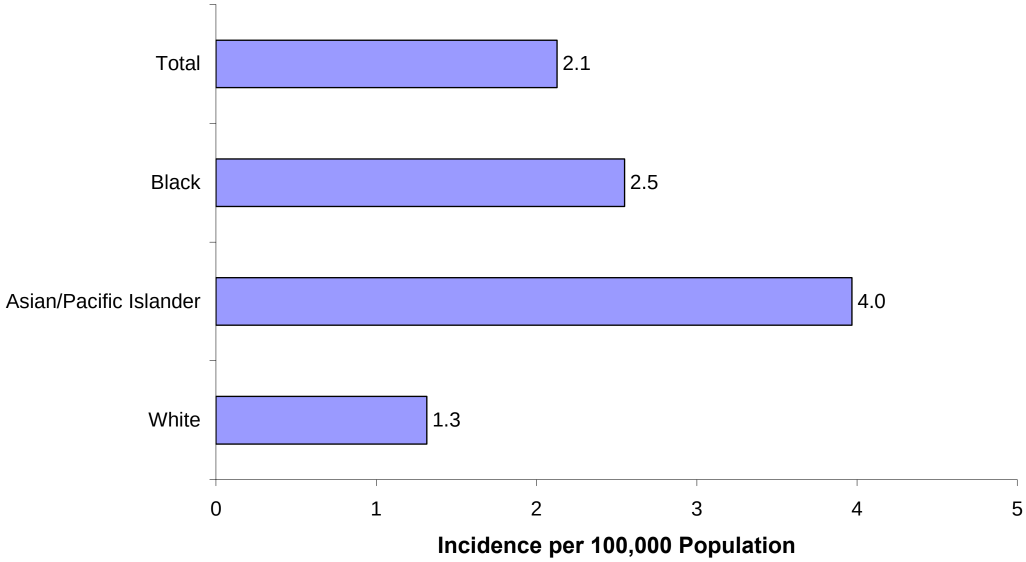
Table 21. Acute Hepatitis B Incidence, Connecticut Residents, by Race, 2001–2005

Race[a]	Number of Reported Cases	Incidence Rate[b]	Relative Risk[c] (Minority/White)	Excess[d] (Fewer) Events/Year
Total	370	2.1	--	--
Black	42	2.5	1.9	4
Asian/Pacific Islander	21	4.0	3.0	3
Native American	0	--	--	--
White	176	1.3	1.0	0
Other[e]	2	--	--	--
Unknown	129	--	--	--

Sources: DPH 2008l, 2008y.

[a] These categories *include* persons of Hispanic ethnicity.
[b] Rates are per 100,000 persons based on race- and ethnicity-specific population estimates
[c] "Relative risk" is estimated to be the ratio of the minority group rate to the White rate.
[d] "Excess events" are the events that would not have occurred if the minority group had the same rate as the White population.

Figure 27. Acute Hepatitis B Incidence Rates, Connecticut Residents, by Race, 2001–2005



Source: DPH 2008l, 2008y.

HUMAN IMMUNODEFICIENCY VIRUS (HIV) AND ACQUIRED IMMUNODEFICIENCY SYNDROME (AIDS)

Acquired Immunodeficiency Syndrome (AIDS) was first identified in 1981. Since that time, biomedical research has characterized the infectious agent that causes AIDS, the human immunodeficiency virus (HIV), and much from anthropological and epidemiological studies has been learned about HIV transmission, prevention, and control.

In 1982, AIDS was made a reportable disease in Connecticut. According to the *Epidemiologic Profile of HIV/AIDS in Connecticut* published by the Connecticut Department of Public Health's AIDS and Chronic Disease Section in 2007, from 1981 to December 2006, there have been 14,917 AIDS cases reported to DPH (DPH 2007e). Overall, 71.8% of these AIDS cases were male. Males most at risk for AIDS were injection drug users (IDU) and men who had sex with men (MSM). The majority of White males with AIDS were MSM (53.0%). Among Hispanic and Black males with AIDS, 60% were IDU. White and black females with AIDS were more likely to be IDU than Hispanic females. The percent of AIDS cases among Hispanics has increased from approximately 25% in the late 1990s to an average of 36.9% from 2002 to 2006.

In 2002, HIV infection in adults was added to DPH's *List of Reportable Diseases and Laboratory Findings*. From 2002 to 2006, 2,561 cases of HIV have been reported. Thus, from 1981 to 2006, 17,478 cases of HIV/AIDS have been reported to the DPH. Although trends have historically been represented using only AIDS cases, the current convention is to represent newly reported HIV/AIDS cases. There have been on average 1,138 HIV/AIDS cases reported per year in Connecticut since 2002. There were 9,871 people living with HIV/AIDS reported at the end of 2006. Of these persons, 47% reported residence in Bridgeport, Hartford, or New Haven.

HIV/AIDS incidence rates for the years 2001 to 2005 are shown in Figure 28. Diagnosed cases of HIV/AIDS were most prevalent in persons of Hispanic origin and Blacks, with these groups experiencing 7.4 and 6.6 times the rates of HIV/AIDS diagnoses as Whites, respectively (Table 22).

Data on HIV/AIDS deaths among Connecticut residents are presented in Table 23. Age-adjusted death rates for AIDS in 1993–1997 among African Americans and Hispanics were 7.6 and 4.6 times that of Whites, respectively (Hynes et al. 1999, 37). From

2000–2004, Blacks experienced the highest death rate attributed to HIV/AIDS—14.9 times that of Whites. For Hispanics, the death rate due to HIV/AIDS was 9.8 times that of Whites. There were too few HIV/AIDS deaths among Asians and American Indian/Alaska Natives to calculate reliable rates.

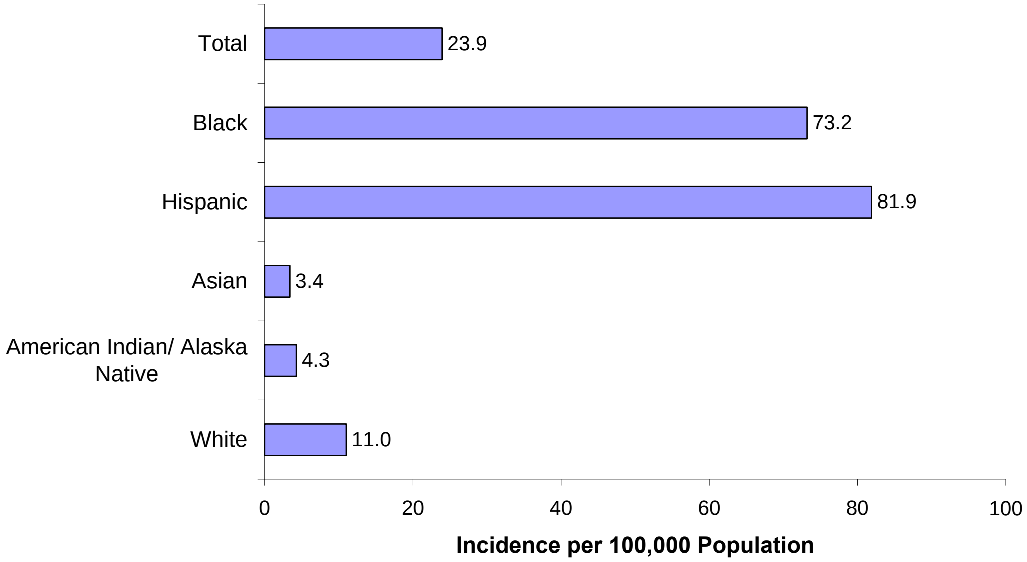
Table 22. HIV/AIDS Incidence, Connecticut Residents, by Race or Ethnicity, 2001–2005

Race[a] or Ethnicity	Number of Reported Cases	Incidence Rate[b]	Relative Risk[c] (Minority/White)	Excess[d] (Fewer) Events/Year
Total	4,159	23.9	--	--
Black	1,206	73.2	6.6	205
Hispanic	1,461	81.9	7.4	253
Asian[e]	18	3.4	0.3	(8)
American Indian/ Alaska Native	2	†	†	†
White	1,472	11.0	1.0	0
Multirace[f]	6	--	--	--

Source: DPH 2008m, 2008y.

[a] Racial groupings exclude persons of Hispanic ethnicity. Hispanic persons may be of any race.
[b] Rates are per 100,000 persons based on race- and ethnicity-specific population estimates.
[c] “Relative risk” is estimated to be the ratio of the minority group to the White rate.
[d] “Excess events” are the events that would not have occurred if the minority group had the same rate as the White population. Numbers in parentheses indicate fewer events.
[e] The population estimate for the classification “Asian/Pacific Islander” was used to calculate incidence.
[f] This category includes persons who reported more than one race.
[†] Statistics are not calculated for fewer than five events.

Figure 28. HIV/AIDS Incidence Rates, Connecticut Residents, by Race or Ethnicity, 2001–2005



Source: DPH 2008m, 2008y.

Table 23. HIV/AIDS Deaths[a], Connecticut Residents, by Race or Ethnicity, 2000–2004

Race[b] or Ethnicity	Number of Deaths	Age-adjusted Death Rate[c]	Relative Risk[d] (Minority/White)	Excess (Fewer) Deaths/Year[e]
Total	950	5.3	--	--
Black/African American	398	27.0	14.9	74
Hispanic	247	17.8	9.8	44
Asian/Pacific Islander	3	†	†	†
American Indian/ Alaska Native	2	†	†	†
White	263	1.8	1.0	0
Other	1	--	--	--
Missing	36	--	--	--

Source: DPH 2008b, 2008y.

[a] Includes ICD-10 codes B20-24.
[b] Race groupings exclude persons of Hispanic ethnicity. Hispanic persons may be of any race.
[c] Rates are per 100,000 persons based on race- and ethnicity-specific population estimates. Age-adjusted rates were calculated by the direct method using the 2000 standard million.
[d] “Relative risk” is estimated to be the ratio of the minority group to the White rate.
[e] “Excess deaths” are the deaths per year that would not have occurred if the minority group had the same rate as the White population. Numbers in parentheses indicate fewer deaths.
† Statistics are not calculated for fewer than fifteen events.

SEXUALLY TRANSMITTED DISEASES

Sexually transmitted diseases (STDs) can cause serious complications, including infertility, ectopic pregnancy, blindness, fetal and infant deaths, and congenital defects. The presence of STDs can facilitate the transmission of HIV (Fleming and Wasserheit 1999). Racial and ethnic minorities are at higher risk for sexually transmitted diseases, experiencing higher rates of disease and disability than the overall population (CDC 2007g, 69–75). Three sexually transmitted diseases—chlamydia, gonorrhea, and syphilis—were systematically monitored in Connecticut during 2001–2005.

Chlamydia

Chlamydia infection, especially when left untreated, leads to pelvic inflammatory disease (PID), a serious condition that disproportionately affects young women 15–19 years of age (Washington et al. 1991). Incidence rates for Connecticut residents are presented in Table 24. The highest rates of chlamydia infection were reported among African Americans (18 times higher than the rate among whites) and Hispanics (nine times that of whites). Statewide, chlamydia incidence for 2001–2005 was 273.3 per 100,000 persons. In 2005, Connecticut ranked 26th among the 50 states in chlamydial infections and reported rates of chlamydia were three times greater among women than among men (CDC 2007h).

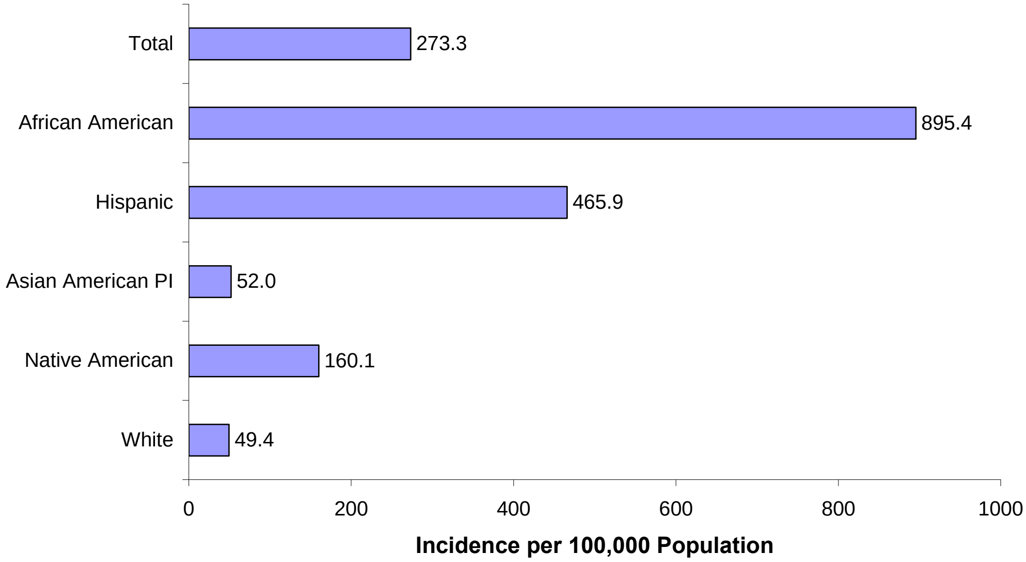
Table 24. Chlamydia Incidence, Connecticut Residents, by Race or Ethnicity, 2001–2005

Race[a] or Ethnicity	Number of Reported Cases	Incidence Rate[b]	Relative Risk[c] (Minority/White)	Excess[d] (Fewer) Events/Year
Total	47,505	273.3	--	--
African American[e]	14,755	895.4	18.1	2,788
Hispanic	8,312	465.9	9.4	1,486
Asian American/PI	275	52.0	1.1	3
Native American[f]	75	160.1	3.2	10
White	6,613	49.4	1.0	0
Missing[g]	17,475	--	--	--

Source: DPH 2008n, 2008y.

[a] Racial groupings exclude persons of Hispanic ethnicity. Hispanic persons may be of any race.
[b] Rates are per 100,000 persons based on race- and ethnicity-specific population estimates.
[c] "Relative risk" is estimated to be the ratio of the minority group to the White rate.
[d] "Excess events" are the events that would not have occurred if the minority group had the same rate as the White population.
[e] The population estimate for the classification "Black" was used to calculate incidence.
[f] The population estimate for the classification "American Indian/Alaska Native" was used to calculate incidence.
[g] Data on race or ethnicity is missing.

Figure 29. Chlamydia Incidence Rates, Connecticut Residents, by Race or Ethnicity, 2001–2005



Source: DPH 2008n, 2008y.

Gonorrhea

Gonorrhea is a leading cause of pelvic inflammatory disease and can result in infertility and ectopic pregnancy (Fox et al. 1998). Incidence rates for Connecticut residents during 2001–2005 are presented in Table 25 and Figure 30. There has been a downward trend since 2002. The statewide rate of gonorrhea for 2001–2005 was 83.4 per 100,000 population. During this period, gonorrhea incidence rates were highest for African Americans (almost 29 times that of Whites) and Hispanics (almost eight times that of Whites). In 2005, Connecticut ranked 30th among the 50 states in gonorrheal infections (CDC 2007h).

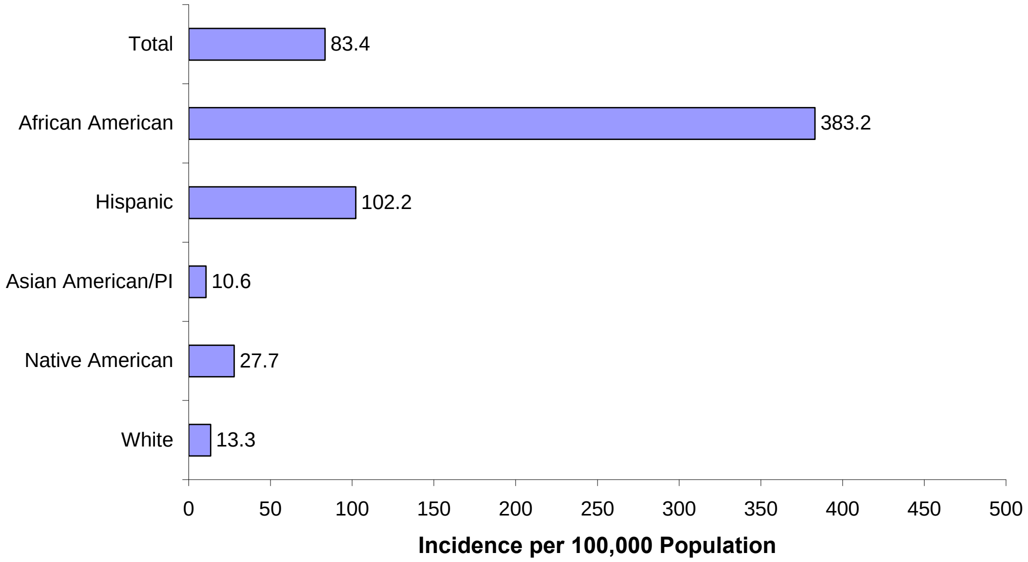
Table 25. Gonorrhea Incidence, Connecticut Residents, by Race or Ethnicity, 2001–2005

Race[a] or Ethnicity	Number of Reported Cases	Incidence Rate[b]	Relative Risk[c] (Minority/White)	Excess[d] (Fewer) Events/Year
Total	14,505	83.4	--	--
African American[e]	6,314	383.2	28.8	1,219
Hispanic	1,823	102.2	7.7	317
Asian American/PI	56	10.6	0.8	(3)
Native American[f]	13	†	†	†
White	1,782	13.3	1.0	0
Missing[g]	4,517	--	--	--

Source: DPH 2008n, 2008y.

[a] Racial groupings exclude persons of Hispanic ethnicity. Hispanic persons may be of any race.
[b] Rates are per 100,000 persons based on race- and ethnicity-specific population estimates.
[c] “Relative risk” is estimated to be the ratio of the minority group to the White rate.
[d] “Excess events” are the events that would not have occurred if the minority group had the same rate as the White population. Numbers in parentheses indicate fewer events.
[e] The population estimate for the classification “Black” was used to calculate incidence.
[f] The population estimate for the classification “American Indian/Alaska Native” was used to calculate incidence.
[g] Data on race or ethnicity is missing.
† Statistics not calculated for fewer than five events.

Figure 30. Gonorrhea Incidence Rates, Connecticut Residents, by Race or Ethnicity, 2001–2005



Source: DPH 2008n, 2008y.

Primary and Secondary Syphilis

From 2001–2005, the overall incidence of primary and secondary (P&S) syphilis in Connecticut residents was one per 100,000 population. P&S syphilis incidence rates during this period were highest for African Americans (three times that of whites) (Table 26, Figure 31). The rate of P&S syphilis declined 89.7% between 1990 and 2000 (CDC 2007g, 33). However, beginning in 2001, cases were primarily observed among men. Nationwide, the male to female ratio for P&S syphilis has steadily increased since 1996 (CDC 2007g, 34–5). Since 2001 in Connecticut, there has been an emergence of syphilis in men who have sex with men (MSM) (Figure 32).

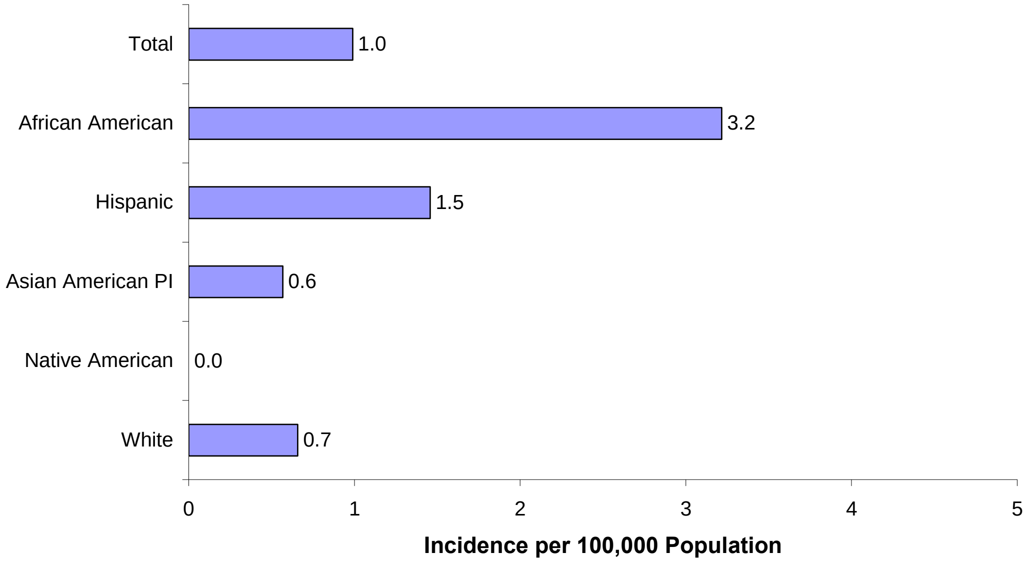
Table 26. Primary & Secondary (P&S) Syphilis Incidence, Connecticut Residents, by Race or Ethnicity, 2001–2005

Race[a] or Ethnicity	Number of Reported Cases	Incidence Rate[b]	Relative Risk[c] (Minority/White)	Excess[d] (Fewer) Events/Year
Total	172	1.0		
African American[e]	53	3.2	4.9	8
Hispanic	26	1.5	2.2	3[†]
Asian American/PI	3	‡	‡	‡
Native American	0	--	--	--
White	88	0.7	1.0	

Source: DPH 2008n, 2008y.

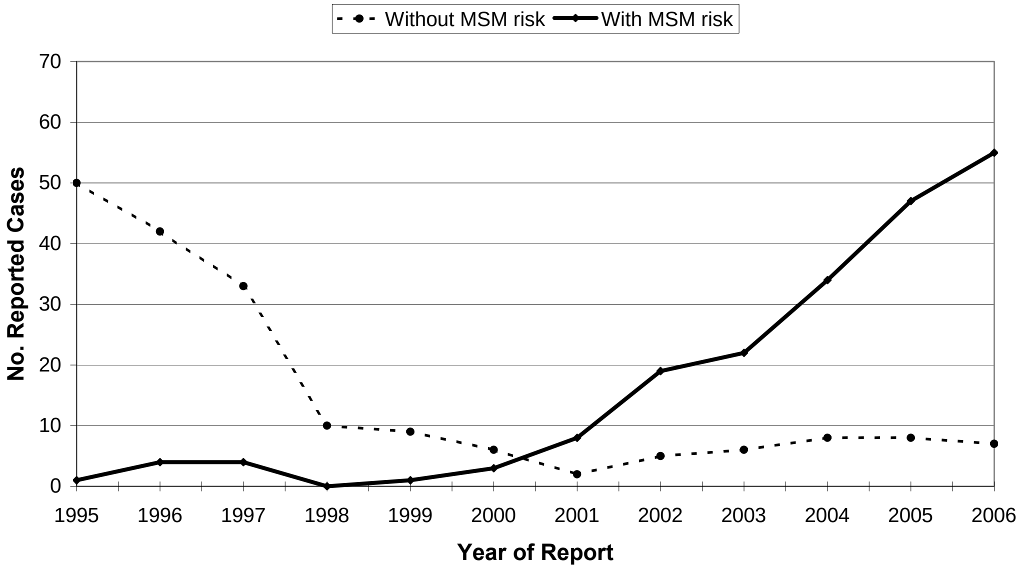
[a] Racial groupings exclude persons of Hispanic ethnicity. Hispanic persons may be of any race.
[b] Rates are per 100,000 persons based on race- and ethnicity-specific population estimates.
[c] "Relative risk" is estimated to be the ratio of the minority group to the White rate.
[d] "Excess events" are the events that would not have occurred if the minority group had the same rate as the White population.
[e] The population estimate for the classification "Black" was used to calculate incidence.
[†] Figure considered unreliable due to small numbers.
[‡] Statistics not calculated for fewer than five events.

Figure 31. Primary & Secondary (P&S) Syphilis Incidence Rates, Connecticut Residents, by Race or Ethnicity, 2001–2005



Source: DPH 2008n, 2008y.

Figure 32. Number of Male Syphilis Cases Without and With MSM Risk, Connecticut, 1995–2006



Source: DPH 2007e, 74.

INVASIVE PNEUMOCOCCAL INFECTION

Streptococcus pneumoniae infections are among the leading causes of death and illness worldwide in the elderly, young children, and persons with underlying debilitating medical conditions. In the United States prior to 2000, pneumococcal infections resulted in approximately 3,000 cases of meningitis, 63,000 bloodstream infections (bacteremia), 125,000 cases of pneumonia requiring hospitalization, and 6,800,000 cases of otitis media (middle ear infection). Approximately 10% of persons with invasive pneumococcal disease die of their illness (Hawley, Walker, and Whitney 2002). In addition, the CDC notes that, "neurologic sequelae and/or learning disabilities can occur in meningitis patients, [and] hearing impairment can result from recurrent otitis media" (CDC 2008d).

Pneumococcal polysaccharide vaccine (PPV) was introduced in the early 1980's followed by the pneumococcal conjugate vaccine (PCV) in 2000. Concerted public health efforts to immunize children, the elderly, and the immunocompromised have resulted in decreased incidence of pneumococcal disease. From 1997 to 2005, cases of invasive pneumococcal disease declined by 34%, and deaths were reduced by 25.4% (Roush et al. 2007). However, resistance of pneumococci to penicillin and other antibiotics has complicated the treatment of persons with severe infections.

For the period 1995–1998, the invasive pneumococcal incidence rate among African Americans in Connecticut was almost three times that of Whites (Hynes et al. 1999). The incidence data for invasive pneumococcal disease in Connecticut residents for 2001-2005 are shown in Table 27 and Figure 33. The incidence rate among Blacks is almost twice that of Whites. Hispanics had the second highest rate. The rate for Asians/Pacific Islanders may not be reliable, as only 12 cases of pneumococcal disease were reported for the five-year period.

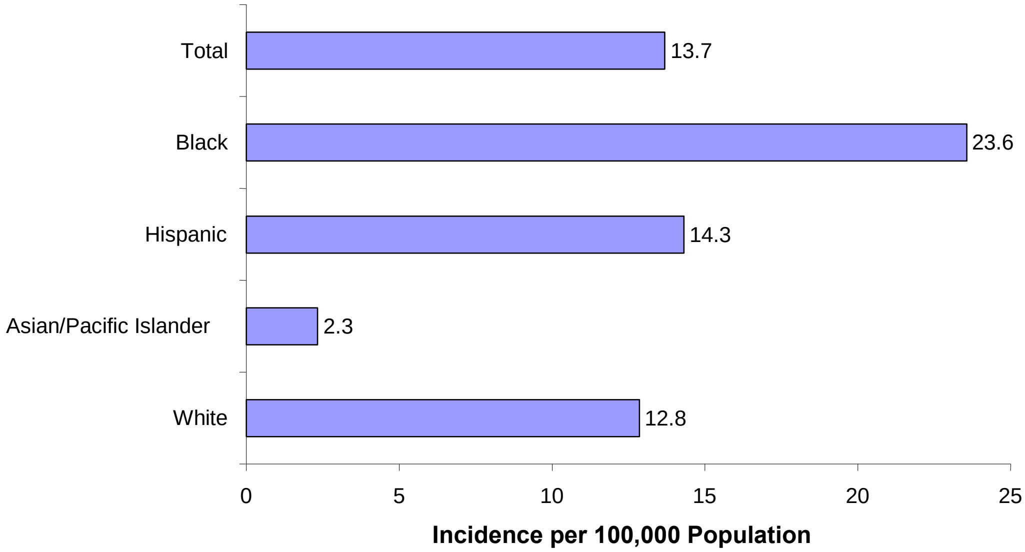
Table 27. Invasive Pneumococcal Infection Incidence, Connecticut Residents, by Race or Ethnicity, 2001–2005

Race[a] or Ethnicity	Number of Reported Cases	Incidence Rate[b]	Relative Risk[c] (Minority/White)	Excess[d] (Fewer) Events
Total	2,374	13.7	--	--
Black	371	23.6	1.8	34
Hispanic	255	14.3	1.1	5
Asian/Pacific Islander	12	2.3	0.2	(11)[†]
White	1,703	12.8	1.0	0
Other[e]	19	--	--	--

Sources: DPH 2008o; U.S. Census Bureau 2007b.

[a] Racial groupings exclude persons of Hispanic ethnicity. Hispanic persons may be of any race.
[b] Rates are per 100,000 persons based on race- and ethnicity-specific population estimates
[c] "Relative risk" is estimated to be the ratio of the minority group rate to the White rate.
[d] "Excess events" are the events that would not have occurred if the minority group had the same rate as the White population. Numbers in parentheses indicate fewer events.
[e] "Other" includes cases classified as such in hospital charts and may also include American Indian or Alaska Native.
[†] Figure considered unreliable due to small numbers.

Figure 33. Invasive Pneumococcal Infection Incidence Rates, Connecticut Residents, by Race or Ethnicity, 2001–2005



Source: DPH 2008o; U.S. Census Bureau 2007b.

TUBERCULOSIS

Although tuberculosis (TB) is no longer a leading cause of death in the U.S., it remains a leading cause of death worldwide. With the advent of the AIDS epidemic, TB reemerged in urban areas of the U.S. during the late 1980s through the 1990s. Although the resurgence was suppressed by renewed TB prevention and control efforts and categorical funding of state health departments, TB remains an important cause of preventable morbidity in minority groups both nationwide and in Connecticut.

Certain population subgroups are at particular risk for tuberculosis. Persons with immunosuppressive conditions like HIV infection are at increased risk of progressing to active TB once infected with the tubercle bacillus. TB disproportionately affects foreign-born persons and racial and ethnic minorities in the U.S. By the end of 2006, the rate of TB in foreign-born persons was 9.5 times that of the rate for persons born in the U.S. (CDC 2007f). Other risk factors for TB include: "spending a lot of time where TB is more common, such as in homeless shelters, drug treatment centers, health care clinics, nursing homes, jails, or prisons," having a history of drug or alcohol use, or having other health conditions (e.g., diabetes) that make it hard to fight off infection (CDC 2005d, 5; DPH Tuberculosis Control Program, pers. comm., September 10, 2008).

TB trends in Connecticut mirror those of the nation. From 2000 to 2004, 62% of TB cases in Connecticut occurred among the foreign-born (Condren et al. 2006). In 2006, TB rates among Hispanics, Blacks, and Asians in the United States were 7.6, 8.4, and 21.2 times higher than rates among Whites, respectively (CDC 2007f). From 2001 to 2005 in Connecticut, TB incidence rates among Hispanics, Blacks, and Asians were 8.0, 8.6, and 23 times that of Whites, respectively (Table 28, Figure 34).

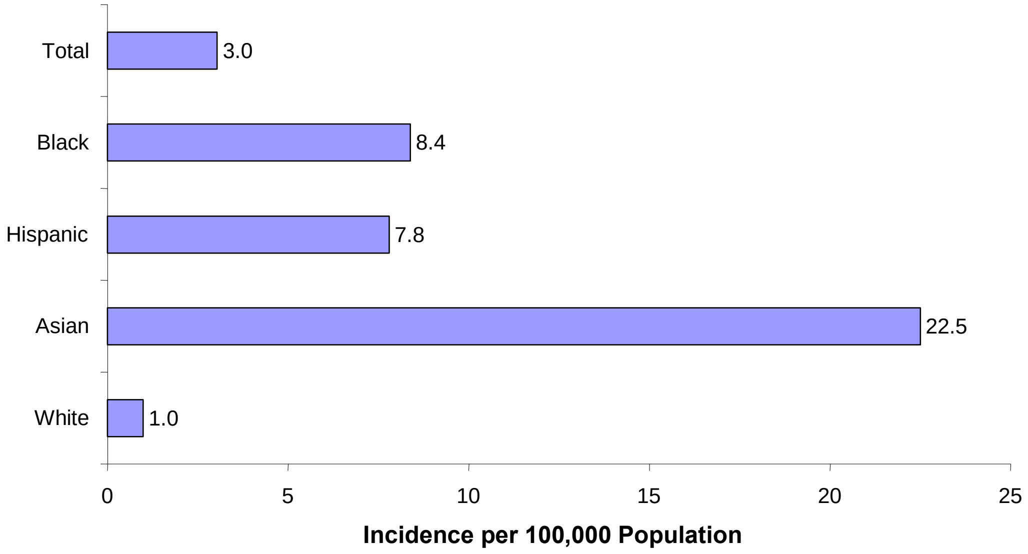
Table 28. Tuberculosis Incidence, Connecticut Residents, by Race or Ethnicity, 2001-2005

Race[a] or Ethnicity	Number of Reported Cases	Incidence Rate[b]	Relative Risk[c] (Minority/White)	Excess[d] (Fewer) Events/Year
Total	527	3.0	--	--
Black	138	8.4	8.6	24
Hispanic	139	7.8	8.0	24
Asian[e]	119	22.5	23.0	23
American Indian/ Alaskan Native	0	0.0	--	--
White	131	1.0	1.0	0

Source: DPH 2008p, 2008y.

[a] Race groupings exclude persons of Hispanic ethnicity. Hispanic persons may be of any race.
[b] Rates are per 100,000 persons based on race- and ethnicity-specific population estimates.
[c] "Relative risk" is estimated to be the ratio of the minority group to the White rate.
[d] "Excess events" are the events that would not have occurred if the minority group had the same rate as the White population.
[e] Incidence for this category was calculated using the estimated population of Asian/Pacific Islanders. Population estimates for Asians and Native Hawaiians or Other Pacific Islanders were not available.

Figure 34. Tuberculosis Incidence Rates, Connecticut Residents, by Race or Ethnicity, 2001–2005



Source: DPH 2008p, 2008y.

VACCINE-PREVENTABLE DISEASES

For the past ten years, Connecticut has been among the top five states in the nation with the highest childhood immunization coverage levels among children aged 19–35 months (CDC 1999, 2000, 2001, 2002, 2003, 2004a, 2005g, 2006c, 2007m, 2008l). The Advisory Committee on Immunization Practices (ACIP) recommends that children (0 to 6 years old) be routinely immunized against the following diseases at specific ages: diphtheria, hepatitis A, hepatitis B, *Haemophilus influenzae* type b (Hib) disease, influenza, measles, mumps, pertussis (whooping cough), pneumococcal disease, poliomyelitis, rotavirus, rubella (German measles), tetanus (lockjaw), varicella (chickenpox), and meningitis (CDC 2008l). Nationwide, there are no significant differences in childhood vaccination coverage across racial or ethnic groups; however, for some vaccines, fewer children who live below the poverty level receive scheduled vaccinations that children who live at or above the poverty level (CDC 2008m).

Connecticut General Statutes Sec.19a-7f mandates that Commissioner of Public Health determine the standard of care for immunization of Connecticut children and establish an immunization program. The standard of care in Connecticut is consistent with the ACIP recommendations. The DPH Immunization Program actively supports adherence to the childhood immunization schedule using three major approaches: the Connecticut Immunization Registry and Tracking System (CIRTS), the Immunization Action Plan (IAP), and the Vaccines for Children Program (VFC). These activities have contributed to Connecticut’s high childhood immunization coverage levels among children aged 19–35 months.

CIRTS, initiated in 1998, is a statewide, computerized registry that maintains immunization records on children up to six years old. Eighty-four percent of the 251,515 registered births in Connecticut during 2000 to 2005 were recorded in CIRTS. By the end of 2007, 83% of the 2005 CIRTS birth cohort had received the recommended immunizations on schedule by their second birthdays (DPH 2008q). Through the CDC-sponsored IAP, DPH currently funds 16 local health departments and healthcare agencies to improve delivery of immunization services in medically underserved areas and/or areas of large population density where immunization coverage of pre-school children is low. The VFC provides the ACIP-recommended childhood vaccines to participating providers for free so that the cost of vaccine will not be a barrier to age-appropriate vaccination.

The DPH Immunization Program also addresses immunization of adults statewide. Program staff work with local health department and health care providers to increase immunization coverage rates and reduce adult morbidity and mortality for hepatitis A and B, influenza, and pneumococcal disease in high-risk populations. They encourage private healthcare organizations to offer immunizations during events like National Influenza Vaccination Week, work with community-based providers like Visiting Nurse Associations to increase access to vaccines by high-risk populations, and participate in the Connecticut Influenza and Pneumococcal Coalition.

Persons age 65 years and older and those with chronic and/or immunosuppressive conditions are at particularly high risk for complications from flu and pneumonia. The national *Healthy People 2010* target for both influenza and pneumococcal vaccination of non-institutionalized adults aged 65 years and older is 90% (U.S. DHHS 2000b). The 2004–2006 BRFSS data demonstrate that approximately 71.8% of Connecticut adults ≥ 65 years old had a flu shot within the past year and 68.4% had ever received a pneumonia shot. While these estimates are below the *Healthy People 2010* target, they are higher than nationwide percentages. The estimates from National Health Interview Survey data for 2004–2006 are that among adults aged ≥ 65 years, 62.9% had a flu shot within the past year and 56.7% had ever received a pneumococcal vaccination (Schiller, Heyman, and Barnes 2008).

MATERNAL AND CHILD HEALTH

Connecticut's overall state statistics for such maternal and child heath (MCH) indicators as infant mortality, late or no prenatal care, and low birth weight compare favorably both with the nation and with other states. These same three indicators, however, show wide variability among the state's racial and ethnic subpopulations. This section presents data for three indicators used to measure health status and risk factors associated with health in the MCH population.

INFANT MORTALITY

The infant mortality rate (IMR), or the number of deaths of infants less than one year old, per 1,000 live births, is a barometer of a nation's commitment to care for its most vulnerable members. In 2006, the U.S. IMR of about 7 deaths per 1,000 live births was more than twice the IMR for such countries as the Czech Republic, Finland, and Japan, all of whose 2006 infant mortality rates were 3 deaths per 1,000 live births (WHO 2008b, 37–45). The U.S. ranks approximately 39th for IMR among the 193 WHO member nations (WHO 2008b, 37–45).

Infant mortality rates have declined in the United States, however. Between 1989–1991 and 2002–2004, infant mortality rates in the U.S. declined from 9.0 to 6.9 (National Center for Health Statistics 2007, 160). In Connecticut between 2001 and 2005, the overall IMR was 5.9 per 1,000 live births (DPH 2008j). While lower than the national rate, the overall Connecticut IMR masks inequalities in infant mortality between various racial and ethnic groups. Black or African American infants consistently have had higher infant mortality rates than White and Hispanic infants. The IMR for Blacks or African Americans, though improving from 24.4 in 1981 to 12.9 in 2005, persists in its marked elevation when compared with the IMR for Whites (DPH 2008j).

Table 29 and Figure 35 present data for IMR in Connecticut between 2001 and 2005. The 2001–2005 Connecticut IMR for White infants was 3.9 per 1000 births, but for Black or African American infants, the rate was 13.0 per 1,000 births—over three times the rate for White infants (DPH 2008j). The Hispanic IMR from 2001 to 2005 of 6.5 per 1,000 births falls between the Black and the White IMR (DPH 2008j).

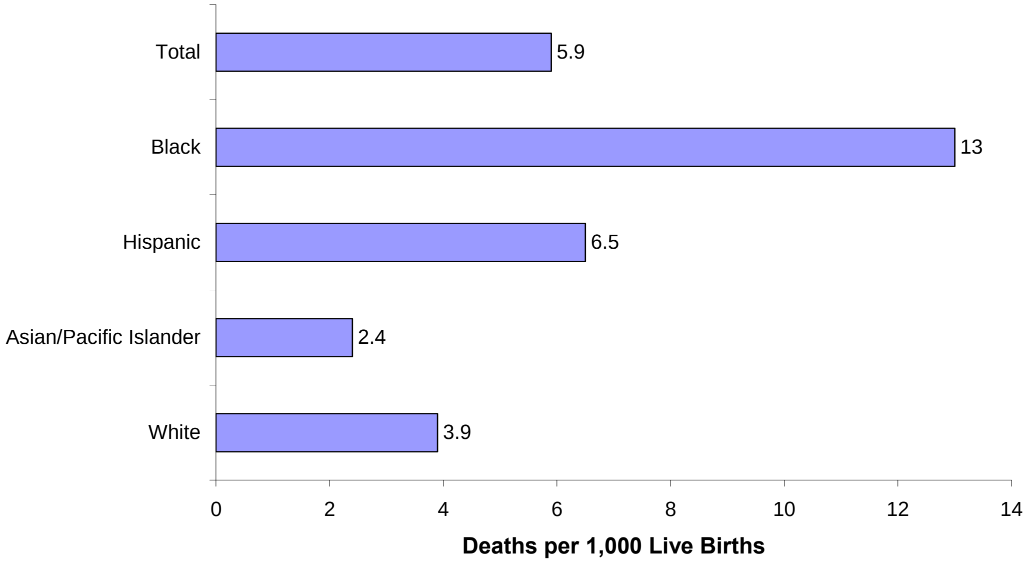
Table 29. Infant Deaths[a], Connecticut Residents, by Race or Ethnicity, 2001-2005

Race[b] or Ethnicity	Number of Deaths	Rate[c]	Relative Risk[d] (Minority/White)	Annual Excess (Fewer) Deaths[e]
Total	1,109	5.9	--	--
Black	314	13.0	3.3	44
Hispanic	251	6.5	1.7	20
Asian/Pacific Islander	24	2.4	0.6	(3)
American Indian/ Alaska Native	3	†	†	†
White	515	3.9	1.0	0

Source: DPH 2008j.

[a] The infant mortality rate (IMR) represents the number of deaths among infants under one year of age per 1,000 live births.
[b] Race groupings exclude persons of Hispanic ethnicity. Hispanic persons may be of any race.
[c] Infant death rates are per 1,000 live births based on race- and ethnicity-specific population estimates
[d] "Relative risk" is estimated to be the ratio of the minority group to the White rate.
[e] "Annual excess deaths" are the deaths that would not have occurred per year if the minority group had the same rate as the White population. Numbers in parentheses indicate fewer deaths.
[†] Statistics not calculated for fewer than 15 events.

Figure 35. Infant Mortality Rate (IMR), Connecticut Residents, by Race or Ethnicity, 2001–2005



Source: DPH 2008j.

LATE OR NO PRENATAL CARE

Late or no prenatal care, defined as no care within the first trimester of pregnancy, is associated with poor birth outcomes, and is an indicator of difficulties accessing health care. Good prenatal care provides for early diagnosis and management of illness, gestational diabetes, and complications of pregnancy. Many factors may contribute to women deciding to seek prenatal care. Some women may be put off by perceived or experienced discrimination by health care providers or the health care system, and others may not deem prenatal care as necessary, or as a norm in childbearing.

Although disparities between racial and ethnic groups are narrowing, early prenatal care is less often attained by Black or Hispanic women than by White women (DPH 2008k). In Connecticut from 2002 to 2006, Hispanic women had the highest percentage of late or no prenatal care (23.6%), about triple that of White women (7.8%), followed by Black women (21.8%), American Indian/Alaska Native women (13.7%), and Asian/Pacific Islander women (12.3%).

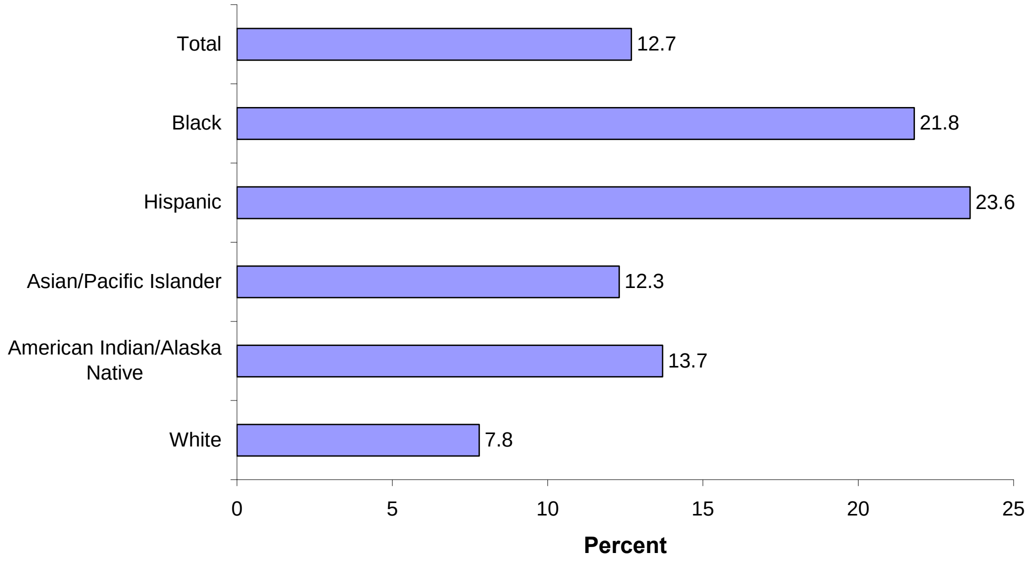
Table 30. Women Receiving Late or No Prenatal Care[a], Connecticut Residents, by Race or Ethnicity, 2002–2006

Race[b] or Ethnicity	Number	Percent without Care in the First Trimester[c]	Relative Risk[d] (Minority/White)	Excess Annual Events[e]
Total	26,259	12.7	--	--
Black	5,179	21.8	2.8	665
Hispanic	9001	23.6	3.0	1,206
Asian/Pacific Islander	1243	12.3	1.6	91
American Indian/ Alaska Native	144	13.7	1.8	12
White	10,273	7.8	1.0	0

Source: DPH 2008k.

[a] ”Late or no prenatal care” is defined as no care within the first trimester of pregnancy.
[b] Race groupings exclude persons of Hispanic ethnicity. Hispanic persons may be of any race.
[c] Percentages are based on live births, excluding unknown care.
[d] “Relative risk” is estimated to be the ratio of the minority group to the White percent.
[e] “Excess Annual number” are the cases that would not have occurred each year if the minority group had the same percent late or no prenatal care as the White population.

Figure 36. Percent of Women Receiving Late or No Prenatal Care, Connecticut Residents, by Race or Ethnicity, 2002–2006



Source: DPH 2008k.

LOW BIRTH WEIGHT (LBW)

Low birth weight refers to an infant born weighing less than 2,500 grams, or 5 lbs., 8 oz., and is a major cause of infant mortality as well as long-term health problems. LBW infants are at much greater risk for conditions such as: infant death, developmental disabilities, mental retardation, cerebral palsy, hearing and vision impairments, poor educational performance, and behavioral problems (Morin 2008). Low birth weight is more common among infants of Black or African American and Hispanic mothers than among White mothers. From 2002 to 2006 in Connecticut, almost 8% of all live births were LBW infants, as shown in Table 31 and Figure 37 below. In this same time period, Blacks had the highest rate of LBW infants (almost double that of Whites), followed by Hispanics, American Indian/Alaska Natives, and Asian/Pacific Islanders. The number of excess LBW relative to Whites was markedly higher among Blacks and Hispanics.

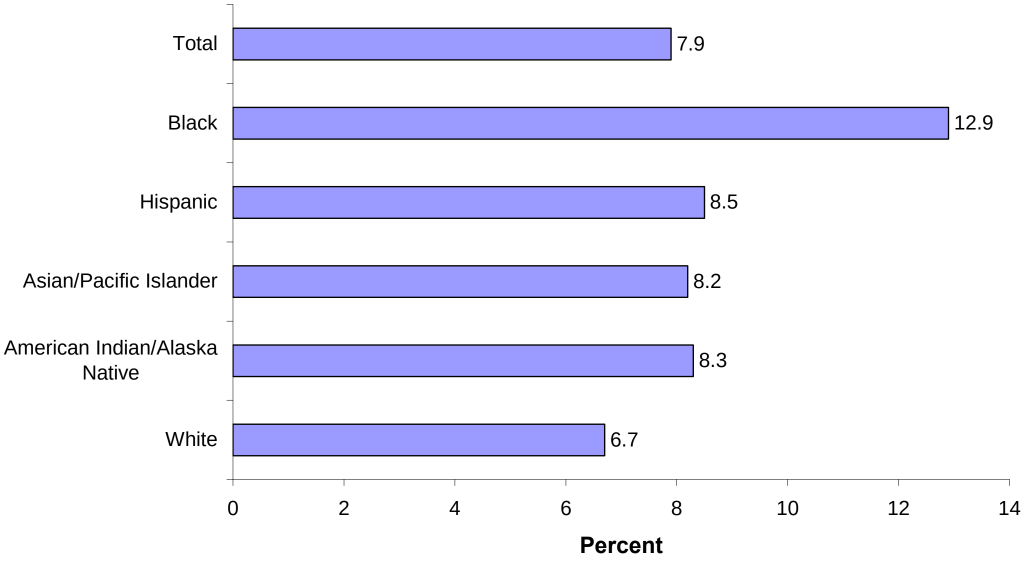
Table 31. Live Births with Low Birth Weight[a], Connecticut Residents, by Race or Ethnicity, 2002–2006

Race[b] or Ethnicity	Number of LBW Live Births	Percent Total Births[c]	Relative Risk[d] (Minority/White)	Excess Annual Events[e]
Total	16,646	7.9	--	--
Black	3,113	12.9	1.9	299
Hispanic	3,275	8.5	1.3	139
Asian/Pacific Islander	835	8.2	1.2	31
American Indian/ Alaska Native	88	8.3	1.2	3
White	8,897	6.7	1.0	0

Source: DPH 2008k.

[a] "Low birth weight is considered a birth weight of less than 2,500 grams (approximately 5 lbs., 8 oz.)
[b] Race groupings exclude persons of Hispanic ethnicity. Hispanic persons may be of any race.
[c] Percentages based on live births, excluding unknown birth weight.
[d] "Relative risk" is estimated to be the ratio of the minority group to the White rate.
[e] "Excess Annual Events" are the births with low birth weight that would not have occurred if the minority group had the same rate as the White population.

Figure 37. Percent of Live Births with Low Birth Weight, Connecticut Residents, by Race and Ethnicity, 2002–2006



Source: DPH 2008k.

ORAL HEALTH

ORAL HEALTH: AN OVERVIEW

According to the 2000 U.S. Surgeon General's *Oral Health in America*, "oral health" is defined as:

> …being free of chronic oral-facial pain, oral and pharyngeal cancers, oral soft tissue lesions, birth defects such and cleft lip and palate and scores of other diseases and disorders that affect oral, dental and craniofacial tissues, collectively known as the *craniofacial complex*. These are tissues whose functions we often take for granted, yet they represent the very essence of our humanity. They allow us to speak and smile; sigh and kiss; smell taste, touch, chew and swallow; cry out in pain; and convey a world of feelings and emotions through facial expressions (U.S. DHHS 2000c, emphasis in original).

Such reflections of our humanity and physical well-being as can be found in the craniofacial complex are both biologically *and* socially important indeed. Oral diseases may act as "a focus of infection which can influence the outcomes of serious health problems such as cardiovascular disease, diabetes, and pre-term low birth weight" (DPH 2007c, 4). In addition, "nutritional deficiencies as well as a number of systemic disease, immune disorders and some cancers" can be detected with a full oral health exam (U.S. DHHS 2000c, 1–2). But equally as important, psychosocial and employment difficulties due to physical appearance, pain, and lost days of work also plague people with unchecked oral disease.

Disparities in wealth, education, and access to health care are starkly highlighted in the area of oral health. The prevention of tooth decay and periodontal (gum) disease is dependent upon patients being able to easily access and afford the services of dental practitioners. According to the DPH Office of Oral Health, the most vulnerable populations are persons who are elderly, poor, uninsured, disabled, members of racial and ethnic minorities, and those who have barriers to oral care access, such as transportation (DPH 2007c, 4). The U.S. Surgeon General noted that, "Over 108 million children and adults lack dental insurance, which is over 2.5 times the number who lack medical insurance" (U.S. DHHS 2000c, 2).

However, many people postpone dental exams or treatment even when they *do* have insurance and access to dental care. Even having tooth pain may not cause people to go to the dentist, since many people anticipate pain, stress, or discomfort from the dental care itself (Handwerker 2003). Other, perhaps familiar, reasons that people postpone dental care include: high cost, inconvenience, time expenditures, difficult office staff, anxiety, and fear (Handwerker 2003). Moreover, many people simply do not think that dental care is particularly important, that it is a matter of cost or cosmetics, or are unwilling to take the necessary steps to improve their dental hygiene (Handwerker 2003; DPH 2007c, i).

Unfortunately, postponed oral health care can often lead to more difficult dental and systemic health problems, as well as higher costs for performing and paying for services. If "the mouth is the mirror of the body" (Folkenberg 1989), oral diseases both affect and are affected by the rest of the bodily systems. In this section we will look at selected oral health indicators of Connecticut children and adults.

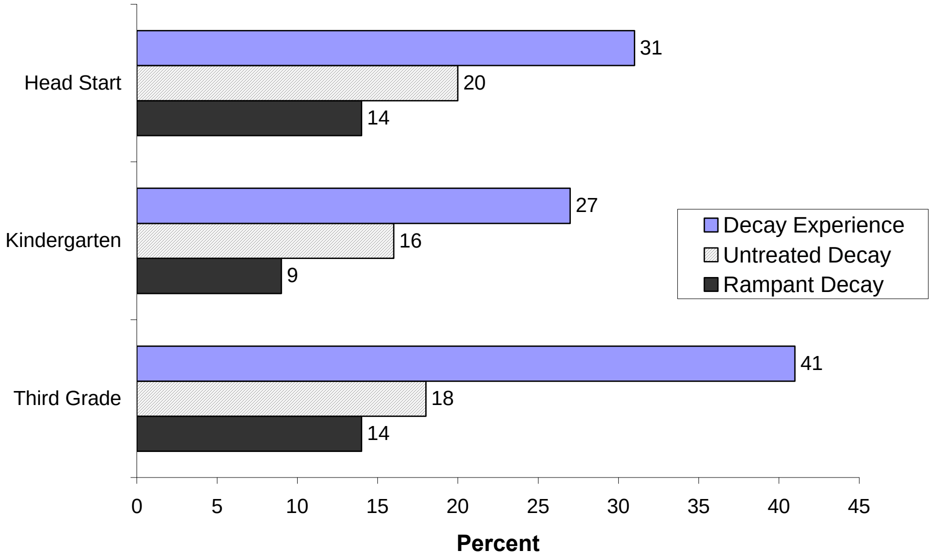
ORAL HEALTH OF CHILDREN

A recent Surgeon General's report, *Oral Health in America*, stated that "[d]ental caries (the disease that causes tooth decay) is the single most common childhood disease in the nation—5 times more common than asthma and 7 times more common than hay fever" (U.S. DHHS 2000c, 2). Children's level of oral health care is directly linked to socioeconomic differences. The Surgeon General's report noted, "Poor children suffer twice as much dental caries as their more affluent peers…[and] nearly 12 times more restricted activity days [i.e., days away from school] than children from higher income families" (U.S. DHHS 2000c, 2).

Professionals in the area of children's oral health care are concerned with "decay experience" (tooth decay in primary or adult teeth in his or her lifetime); untreated decay; "rampant decay" (5 or more treated or untreated decayed teeth), and the use of dental sealants (a plastic material put onto teeth to prevent decay). During the 2006–2007 school year, the Office of Oral Health at DPH conducted an oral health survey of 9,300 Head Start (preschool), kindergarten, and third grade students. The survey results are representative of more than 8,000 Head Start children and about 85,000 kindergarteners and third graders (DPH 2007d, 16–17). Some key findings were that: 1) dental decay is a significant public health problem for children; and 2) there are significant oral health disparities in the state, with minority and low-income children having the highest level of dental disease and the lowest level of dental sealants (DPH 2007d, i, 3). Because the survey was a screening rather than a comprehensive examination with x-rays, it "is reasonable to assume that these numbers actually underestimate the proportion of children needing dental care" (DPH 2007d, 5).

Figure 38 illustrates the substantial percent of surveyed young children who had decay experience: 41% of third grade children showed decay experience, with 14% having rampant decay, and 18% having untreated decay. Of the three age groups screened, the Head Start children showed the second worst experience overall and the kindergarten children showed smaller percentages of decay than either of the other grades (DPH 2007d, 4).

Figure 38. Percent of Connecticut Children with Decay Experience and Untreated Decay, 2006–2007



Source: DPH 2007d, 4.

As mentioned earlier in this report, a common measurement to determine the level of child poverty and family resources is the eligibility for free or reduced-price meals at school (CSDE 2008b, 10). Access to adequate income, information, dental insurance, and other resources are key to reducing the income disparities in oral health care for children. In the DPH Office of Oral Health survey, the trend was clear: as income lowered, so did oral health outcomes (DPH 2007d, 23–24). This is illustrated by Table 32 below—as the percentage of children in a school who were eligible for Free and Reduced Lunch programs increased, so did the percentage of children with decay experience, untreated decay, and those needing dental treatment (DPH 2007d, 23–24).

Table 32. Oral Health Status of Connecticut's Kindergarten and Third Grade Children, by Free and Reduced Lunch Eligibility of School, 2006–2007

	Less than 25% eligible for FRL	25–49% eligible for FRL	50–74% eligible for FRL	More than 75% eligible for FRL
% children with caries experience	27.9	38.3	41.4	49.2
% of children with untreated decay	12.3	19.4	21.4	27.6
% children needing treatment	7.9	17.8	17.6	20

Source: DPH 2007d, 24.

In addition, data in Table 33 show statistically significant differences between the White kindergarten and third grade students' oral health screening results and that of racial and ethnic minority children for most of the measures reported here. Hispanic children had the largest percentage of decay experience (49.3%), followed by African American (42.8%) and Asian students (42.0%). Hispanics and African Americans had statistically significant and higher percentages than White children for all four of the measures. Asian children had the second-highest percentage of rampant decay (18.1%), second to African American children (19.5%), compared to 7.9% of White students having rampant decay.

Table 33. Oral Health Status of Connecticut's Kindergarten and Third Grade Children, by Race or Ethnicity as a Percent of Each Racial or Ethnic Group, 2006–2007

Race[a] or Ethnicity	% with caries experience	% with untreated decay	% with rampant decay	% needing treatment
African American (n=938)	42.8*	25.0*	16.4*	19.8*
Hispanic (n=859)	49.3*	26.9*	19.5*	20.9*
Asian (n=173)	42.0*	18.8	18.1*	15.3
White (n=5,579)	28.9	13.0	7.9	9.1

Source: DPH 2007d, 22.

[a] Racial groupings exclude persons of Hispanic ethnicity. Hispanic persons may be of any race. Gender, race and ethnicity were determined by the screener (DPH 2007d, 16). Data for children classified as "Other/ Unknown Race" (n=1,194) are not included in this graph.

*Significantly different (p<0.05) from White children.

ORAL HEALTH OF ADULTS

In 2006, the nationwide Behavioral Risk Factor Surveillance Survey (BRFSS) asked three questions about oral health. It asked whether respondents 65 years and older had had all their natural teeth pulled; whether adult respondents had ever had any permanent teeth pulled; and whether respondents had visited the dentist or dental clinic for any reason in the past year (BRFSS 2008). Connecticut ranks first in the nation for the percentage of adults 65 years and above that have kept their natural teeth, with only 12.8% having had all natural teeth removed, compared to the U.S. average of 19.3% (BRFSS 2008).

In terms of oral health disparities, Connecticut adults with higher incomes and higher education levels were less likely to have had all their teeth removed. For example, in 2006, only 4.7% of college graduates were likely to have had all their natural teeth removed, as compared to 30.6% of older adults with less than a high school education (BRFSS 2008). Racial and ethnic disparities exist for oral health as well: Hispanics and Blacks were less likely to have visited a dentist or dental clinic in the previous year (69.1% and 70.6%, respectively, compared to 82.7% of Whites) (BRFSS 2008). In 2004, for those Connecticut adults who did not suffer total tooth loss, 14.2% of African Americans reported 6 or more teeth missing, as compared to 10% of Whites (DPH 2007d, 6).

In 2004, the Connecticut BRFSS researchers asked adults (ages 18 and older) if cost prevented them from seeing a dentist in the past year. In 2004, 10% of Connecticut adults reported that cost prevented them from visiting a dentist in the past year: 24% of Hispanics said this was the case, compared with 15% of Blacks, and just 7% of Whites (DPH 2007c, 16–17). In 2006, only 57.3% of people with annual incomes less than $15,000 went to a dentist or dental clinic, as opposed to 87.4% of adults who had incomes of $50,000 and above (BRFSS 2008).

Older adults have unique oral health concerns. The population of elder adults, aged 65 years and older, is increasing in the state and nationally. Additionally, increasing ethnic and linguistic diversity, varied living situations (such as those living alone, in nursing homes, or other homebound persons), and varied oral health beliefs will all have increased effects on delivery of dental care. Complications with managing multiple medical and dental prescription drugs may also increase. In addition, the rates of Medicare and Medicaid reimbursements to dentists will become increasingly important in order to maintain or increase dental care for elders in the coming years (DPH 2008g, 4).

A recent report by the Connecticut Office of Oral Health noted that, “One third of older adults have dental caries, and 40 percent have periodontal (gum) disease. Twenty-three percent have severe periodontal disease that can compromise oral function and overall health” (DPH 2008g, 4). In addition, the majority of people who are diagnosed with oral cancer every year are older adults. The 5-year survival rates for oral cancer are low, ranging from 34% in minority populations to 56% in White populations (DPH 2008g, 4).

Data for older populations’ oral health, as well as for the general population, are lacking. Institutionalization, living at home or in social isolation, language barriers, low income or education levels, and complications from other diseases affect oral health and delivery of dental care. Most of the data presented here are from the BRFSS (a nationwide telephone survey of adults, which often underestimates the public’s oral health problems) and from Connecticut public school data (A. Wilson, pers. comm., September 29, 2008). The Office of Oral Health’s survey of Connecticut children was a direct observation open-mouth survey (DPH 2007d). However, because the most prevalent oral diseases do not have the same reporting requirements as some medical conditions, the data presented above are underestimated.

ENVIRONMENTAL AND OCCUPATIONAL HEALTH

INTRODUCTION

Environmental health encompasses “all the physical, chemical, and biological factors external to a person, and all the related factors” influencing human behaviors, and includes the “assessment and control of those environmental factors that can potentially affect health” (WHO 2008c). Several environmental health programs within the Connecticut DPH perform regulatory activities and monitor and disseminate information about issues such as: asbestos, occupational health, food protection, indoor and outdoor air quality (pollution), private well and recreational waters, lead poisoning, and radon. Also housed at DPH is the Environmental Public Health Tracking (EPHT) program, a CDC-led initiative that refers to the “the ongoing collection, integration, analysis, interpretation, and dissemination of data on environmental hazards, exposures to those hazards, and health effects that may be related to the exposures” (CDC 2008c). DPH also provides surveillance, intervention, and education activities targeting work-related environmental hazards and exposures through its Occupational Health Unit.

The socioeconomic and political histories of populations and neighborhoods (including residential segregation, racial and ethnic discrimination, industry location, crime, poverty, and economic downturns) are inextricably tied to environmental conditions and to the health of people who live and work in those areas (Bullard et al. 2007; Gee and Payne-Sturges 2004; Massey and Denton 1993; Williams and Collins 1996, 2001). Some people suffer disproportionately from toxic or harmful environmental exposures because they live or work in urban, low-income, or minority communities, or work in jobs that have higher exposure to environmental or toxic hazards, lower job control and job security, and higher job stressors (Peter et al. 2002; Rahkonen et al. 2006; Smith et al. 2008). Transportation hubs are concentrated in urban areas, with concomitant increased risk of particulate matter and air pollution for the populations who live and work near them. Older housing stock, waste disposal sites, and industrial pollution are also concentrated in our state’s urban areas, where high percentages of low-income and minority residents live and work (Connecticut Coalition for Environmental Justice 2000a, 2000b; Bullard et al. 2007).

Environmental health issues are social justice issues, and the federal government has taken steps to reduce health disparities due to environmental hazards. The United States

Environmental Protection Agency (EPA) defines environmental justice as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, culture, education, or income with respect to the development, implementation, and enforcement of environmental laws, regulations and policies” (EPA 2008). The EPA intends that no group should disproportionately bear negative environmental consequences, and that potentially affected residents should have meaningful opportunities to take part in the decision-making processes about environment- and health-related operations (EPA 2008; Executive Order 12898, 1994).

However, despite more political action, the results of environmental and residential inequality are still evident. A recent report for The United Church of Christ notes that compared to other New England states, Connecticut has the highest concentration of Hispanics or Latinos and Blacks or African Americans living in neighborhoods that have hazardous waste sites (Bullard et al. 2007; 12–13), and adds that in 2007, “people of color…are more concentrated in areas with commercial hazardous sites than in 1987” (Bullard et al. 2007, 5, 12–13).

ASTHMA

Asthma is a common but complex chronic disorder of the airways that is characterized by variable and recurring symptoms, airflow obstruction, bronchial hyper-responsiveness, and an underlying inflammation (National Heart, Lung and Blood Institute [NHLBI] and National Asthma Education and Prevention Program [NAEPP] 2007, 12). In people who are susceptible, this inflammation causes recurrent episodes of wheezing, breathlessness, chest tightness, and coughing, associated with widespread but variable airflow obstruction (NHLBI and NAEPP 2007, 14). Asthma is a serious condition, but its symptoms may be managed or reversed with treatment (NHBLI and NAEPP 2007, 14). Successful treatment, in turn, may lessen the number of hospitalizations, emergency department (ED) visits, and other related health care costs associated with asthma.

Researchers continue to uncover interactions between the multiple environmental and social factors that contribute to asthma. <u>Environmental factors</u> include: urban life, housing conditions (i.e., potential allergens such as molds, dust mites, and old housing stock), traffic air pollution, work-related conditions and exposures, industrial emissions, access to health care, maternal cigarette smoking, and obesity. <u>Community and societal factors</u> include: neighborhood poverty, crime and violence, residential segregation, loss of control over job or health, and stressors related to perceived discrimination (Gold and Wright 2005, 97–104; Rosenbaum 2008). Furthermore, populations that are disproportionately affected by asthma may lack resources to access health care systems and providers. Equitable access to insurance coverage and timely asthma diagnosis, education, treatment, and follow-up are of great concern, since asthma symptoms can be controlled given proper resources.

According to the 2006 BRFSS, 19.2 million adults, or 8.5% of adults in the United States, reported that they have asthma (Peng, Rodriguez, and Hewes 2008, 1). In Connecticut between 2000 and 2006, the prevalence rate of current asthma among adults was slightly higher than in the United States as a whole. Current asthma prevalence among adults increased from 7.8% per in 2000 to 9.3% in 2006, while the United States as a whole increased from 7.3% in 2000 to 8.5% in 2006 (Peng, Rodriguez, and Hewes 2008, 1).

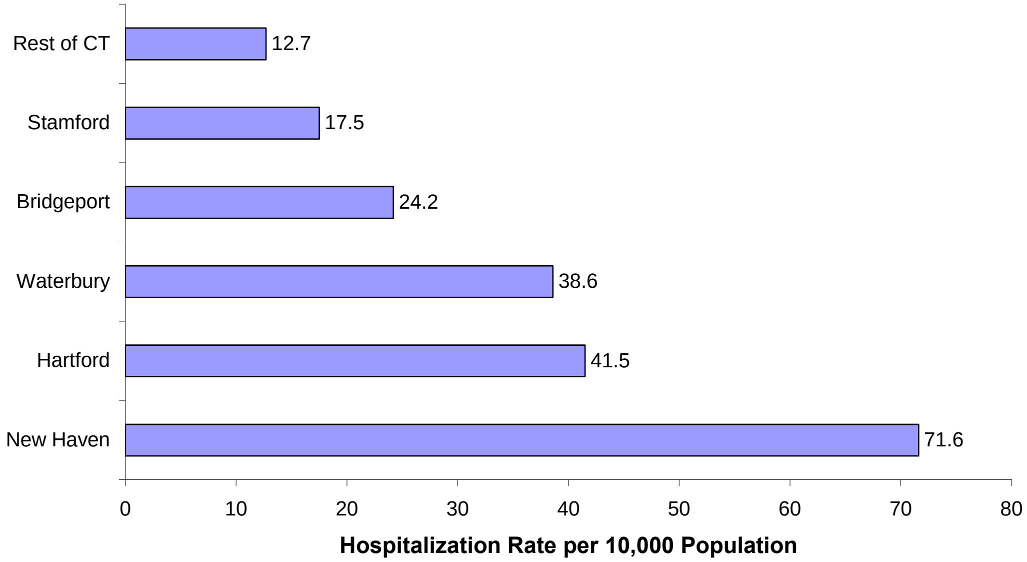
Nationally, asthma is one of the most common chronic diseases of childhood: according to the 2006 National Health Information Survey, about 13.5% of U.S. children less than 18 years old reported having asthma at some point in their lives (CDC 2007e). In Connecticut in 2005, approximately 14.9%, or 123,000, of Connecticut children reported ever having been diagnosed with asthma, and approximately 10.5%, or 86,000, of children reported that they currently have asthma (Peng, Rodriguez, and Hewes 2008, 2).

Although anyone may be affected by asthma, certain subpopulations suffer disproportionately from asthma. Older adult women, young children, elderly people, people with lower household incomes, and residents of urban areas are disproportionately likely to be affected by asthma (Gold and Wright 2005; Peng, Rodriguez, and Hewes 2008, 93–94). In Connecticut, Black people and Hispanic people of all ages were more likely to be hospitalized or to visit the Emergency Department (ED) than White people (Peng, Rodriguez, and Hewes 2008). Additionally, studies have shown that Puerto Rican Hispanics suffer higher asthma prevalence and mortality rates compared to other Hispanic subpopulations (notably, Mexican Americans) (Gold and Wright 2005, 96; Children's Hospital Boston Pressroom 2006; Rosenbaum 2008; CDC 2007i).

In addition, geographical location of residence contributes to asthma experience. The CDC notes that during 2001–2003, current asthma prevalence was higher in those residing in the Northeast (8.1%) compared with those living in other regions of the nation

(6.7%–7.5%) (CDC 2007i). Five of Connecticut's largest cities accounted for 42.1% of all asthma hospitalizations among children in Connecticut, with a combined rate of 38.7 per 10,000, as compared to 12.7 per 10,000 for the rest of the state (Peng, Rodriguez, and Hewes 2008, 44). Figure 39 presents hospitalization rates for children for the state's five largest cities as compared with the rate for the rest of the state. The asthma hospitalization rate for children in New Haven was about 5.6 times higher than for the rest of the state.

Figure 39. Asthma Hospitalization Rates (Primary Diagnosis), by Five Largest Cities vs. Rest of Connecticut, Children 0–17 Years of Age, 2001–2005



Source: Peng, Rodriguez, and Hewes 2008, 44; U.S. Census Bureau 2007b.

Hospital stays and ED visits for asthma are costly—literally and figuratively—to both the patient and to the health care system. In 2005, the median amount of days per hospital stay for persons with asthma as a principal diagnosis was 3.0 days, and about $52.3 million in hospitalization charges due to asthma as a principal diagnosis were incurred (DPH 2008c). With reference to ED visits, Connecticut spent $13.4 million on ED visit charges due to asthma as a primary diagnosis during the five years between 2000–2004 (Peng, Rodriguez, and Hewes 2008, 93). As noted above, treatment and control are key tools for reducing visits to hospitals and emergency departments for people with asthma.

The sections below illustrate data on hospitalization and ED visit data for those with primary diagnosis of asthma. It is not possible to collect complete and exact incidence data on asthma because many people who have asthma manage it through private insurance, private doctors, alternative therapies, and other practitioners, and may not be seen at EDs or hospitals. However, hospitalization rates and ED visits are incidence proxies and are therefore useful for understanding the management of asthma, and the health care options used by people who do not have access to adequate primary, preventive, and asthma management care.

Hospitalization Rates: Adults and Children

In 2005, the age-adjusted asthma hospitalization rate among all Connecticut residents was 130.3 per 100,000 population (DPH 2008c). But as illustrated in Table 34 and Figure 40, this figure masks great differences among racial or ethnic groups' rates. In 2005, the age-adjusted rate of asthma hospitalization for Whites was 84.5 per 100,000, 316.7 per 100,000 for Blacks, and 331.0 per 100,000 for Hispanics (DPH 2008e). Blacks suffered about 3.7 times more asthma hospitalizations than Whites that year, while Hispanics were hospitalized at 3.9 times the rate of Whites.

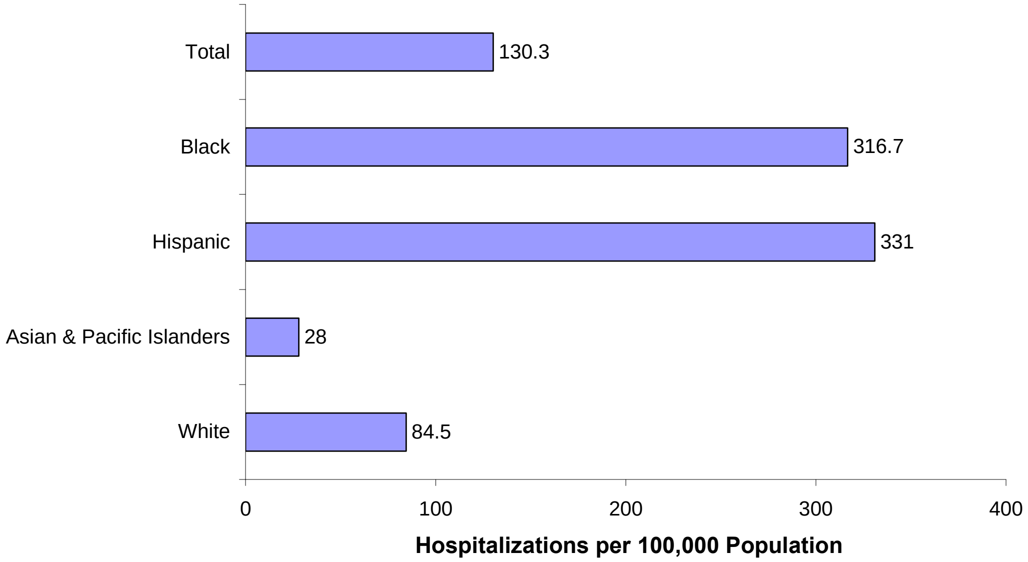
Table 34. Asthma Hospitalizations, Connecticut Residents, by Race or Ethnicity, 2005

Race[a] or Ethnicity	Number of Hospitalizations	Age-adjusted Rate[b]	Relative Risk[c] (Minority/White)	Excess (Fewer) Events[d]
Total	4,589	130.3		
Black	1,038	316.7	3.7	761
Hispanic	988	331.0	3.9	736
Asians & Pacific Islanders	26	28.0	0.3	(53)
American Indian	7	†	†	†
White	2,354	84.5	1.0	0
Other[e]	209	--	--	--
Missing	8	--	--	--

Source: DPH 2008e.

[a] Race groupings exclude persons of Hispanic ethnicity. Hispanic persons may be of any race.
[b] Rates are per 100,000 persons based on race- and ethnicity-specific population estimates. Age-adjusted rates are age-adjusted to the U.S. 2000 population and are expressed as discharges per 100,000 population.
[c] "Relative risk" is estimated to be the ratio of the minority group to the White rate.
[d] "Excess events" are the events that would not have occurred if the minority group had the same rate as the White population. Numbers in parentheses indicate fewer events.
[e] Other non-White and non-Hispanic. There is a separate hospitalization category but no separate population category for "Other non-White, non-Hispanic" persons. No rates are calculated for this classification.
† Statistics are not calculated for fewer than fifteen events.

Figure 40. Age-adjusted Asthma Hospitalization Rates, Primary Diagnosis, Connecticut Residents, by Race or Ethnicity, 2005



Source: DPH 2008e.

In 2005, the Connecticut hospitalization rate for females with a principal diagnosis of asthma was 148.0 per 100,000 population as compared to 109.0 for males, or almost 1.4 times more hospitalizations for females (DPH 2008d). The majority of asthma hospitalizations were for adults aged 18 years and older. However, the highest (crude) rates of child hospitalizations, across all racial and ethnic categories, were for the youngest children (0–4 years of age) (DPH 2008e).

Emergency Department (ED) Visits: Adults and Children

Connecticut data for emergency department (ED) visits for asthma are available from the ChimeData Program, part of Chime, an affiliate of the Connecticut Hospital Association. These data do not represent all persons with asthma, but they provide a picture of those people with the most severe or poorly controlled asthma, and those people who may not have appropriate access to preventive care (Peng, Rodriguez, and Hewes 2008, 49).

Over the 5-year period from 2000 to 2004, there were an average of 14,800 ED visits each year among adults with a primary diagnosis of asthma, or 56.1 per 10,000 (Peng, Rodriguez, and Hewes 2008, 52). Women’s asthma ED visit rate was 1.7 times higher than that of men, and the asthma ED visit rate among adults aged 18–34 years old was 4.2 times higher than among adults aged 65 and over (Peng, Rodriguez, and Hewes 2008, 52). Hispanic and Black adults had asthma ED visit rates over 4.6 and 3.7 times higher, respectively, than among White adults (Peng, Rodriguez, and Hewes 2008, 52).

From 2000–2004, there were an average of 7,200 ED visits each year among children (0–17 years old) with a primary diagnosis of asthma, or a rate of 85.6 per 10,000 (Peng, Rodriguez, and Hewes 2008, 59). The asthma ED visit rate among boys was 1.4 times higher than among girls (Peng, Rodriguez, and Hewes 2008, 59). Children aged 0–4 years had an asthma ED visit rate two times higher than children aged 15–17 years (Peng, Rodriguez, and Hewes 2008, 59).

Table 35 and Figure 41 present data for asthma ED visit rates among Connecticut resident children 0–17 years old in 2004. The visit rates for Hispanic children and Black children were 5.2 and 4.6 times greater, respectively, than among White children (Peng, Rodriguez, and Hewes 2008, 59).

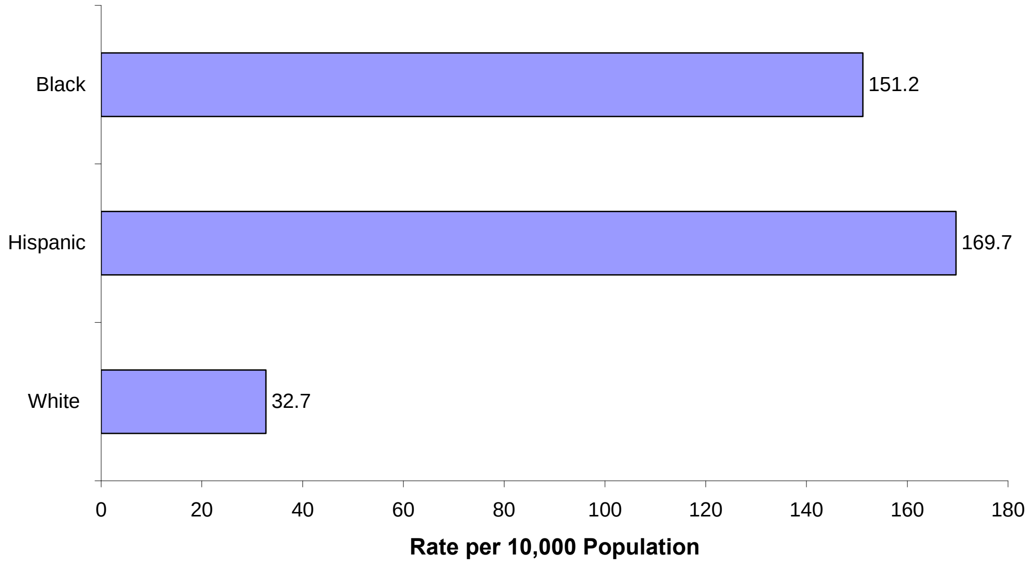
Table 35. Asthma Emergency Department (ED) Visits, Connecticut Resident Children 0–17 Years of Age, by Race or Ethnicity, 2004

Race [a] or Ethnicity	Number of ED Visits	Rate per 10,000[b]	Relative Risk[c] (Minority/White)	Excess Events[d]
Total	7067	84.3		
Black	1,442	151.2	4.6	1,130
Hispanic	2,126	169.7	5.2	1,716
White	1,870	32.7	1.0	0
Other Non-Hispanic[e]	345			
No Known Race or Ethnicity[f]	1284			

Source: Peng, Rodriguez, and Hewes 2008, 114; U.S. Census Bureau 2007b.

[a] Race groupings exclude persons of Hispanic ethnicity. Hispanic persons may be of any race.
[b] Rates are per 10,000 persons based on race and ethnicity-specific population Census 2000 estimates. Rates are not age-adjusted.
[c] “Relative risk” is estimated to be the ratio of the minority group to the White rate.
[d] “Excess events” are the events that would not have occurred if the minority group had the same rate as the White population.
[e] This racial category was complied by the Asthma Program for reporting purposes.
[f] Data on race or ethnicity are unknown or missing.

Figure 41. Rates of Emergency Department (ED) Visits, Primary Diagnosis of Asthma, Connecticut Resident Children 0–17 Years of Age, by Race or Ethnicity, 2004



Source: Peng, Rodriguez, and Hewes 2008, 114; U.S. Census Bureau 2007b.

WORK-RELATED ASTHMA (WRA) AND REACTIVE AIRWAYS DYSFUNCTION SYNDROME (RADS)

Work-related asthma (WRA) is defined as "asthma that is caused, or made worse, by exposures in the workplace" (Peng, Rodriguez and Hewes 2008, 87). WRA is often divided into two categories: *occupational asthma*, which is asthma newly caused by a particular work environment, and *work-aggravated asthma*, which is when pre-existing asthma is made worse by exposure in the workplace (Peng, Rodriguez and Hewes 2008, 87). *Reactive airways dysfunction syndrome* (RADS) is an asthma-like condition that results from acute exposure to respiratory irritants in the workplace, and is often considered together with WRA (Peng, Rodriguez and Hewes 2008, 87).

Between 1992 and 2006, service, manufacturing, and public administration industries accounted for over 80% of the reported cases of WRA/RADS (Peng, Rodriguez and Hewes 2008, 89). During this time, the majority of people who were reported to have WRA or RADS were women (58.5%), and about two-thirds of adults reporting WRA or RADS were between 35 and 54 years old (Peng, Rodriguez, and Hewes, 2008,88).

LEAD POISONING

Childhood lead poisoning is one of the most common, yet most preventable pediatric health problems in Connecticut today. Elevated blood lead levels in young children (10 micrograms or greater of lead per deciliter of blood [≥10µg/dL]) can affect nearly every system in the body, and can result in learning disabilities, behavioral problems, and at very high levels, seizures, coma, and even death (CDC 2008b). High blood levels in young children are often caused by lead-based paint, lead-contaminated dust and soil, and contaminated water from household plumbing (CDC 2008b; Hynes et al. 1999, 48). In addition, elevated blood lead can result from certain hobbies (stained-glass work), working with batteries, and from certain traditional home health remedies (e.g., azarcon, greta, litargirio, pay-loo-ah, and sindoor) (CDC 2005a, 2008b; U.S. Federal Drug Administration [FDA] 2007).

While lead-based paints were banned for use in housing in 1978, homes built earlier than 1978, especially earlier than 1950, contain high concentrations of lead-based paint. In Connecticut, approximately 63% of the dwelling units were constructed before 1970, and 31% were built before 1950 (U.S. Census Bureau 2000i). Urban areas in Connecticut contain a larger percentage of older dwellings than rural areas, and are more likely to contain housing with lead-based paint in poor condition, especially in low-income neighborhoods (Connecticut Coalition for Environmental Justice 2000a, 2000b; Hynes et al. 1999, 48). In addition, the three largest cities—Bridgeport, New Haven and Hartford—have large percentages of low-income populations, older housing stock, and higher proportions of racial and ethnic minority populations compared to the rest of the state (Hynes et al. 1999). Therefore, children of racial and ethnic minority populations, children living in low-income neighborhoods, and children living in urban areas are disproportionately exposed to lead.

In response to children who are confirmed to have elevated blood lead levels, the Connecticut Department of Public Health's Lead Poisoning Prevention and Control Program (LPPCP) oversees local health departments which are required to conduct inspections to identify and help eliminate or control any lead hazards that may exist in the child's home or where the child spends time (i.e. day care). The LPPCP also works to educate state refugee resettlement agencies that work with Connecticut's refugee populations about the hazards of lead poisoning (DPH 2008f). Additional educational outreach efforts target cultural and linguistic populations who may be unaware of lead poisoning hazards. Screening and assistance are also given to workers who are exposed to lead in the workplace and to adults who are exposed through hobbies or other activities (i.e., during manufacture of ceramics or stained glass, auto body repair, shooting on firing ranges, metal salvaging, ship building or repair) (DPH 2005b).

Effective January 1, 2009, primary care providers in Connecticut will be required to conduct annual lead screening of every child age 9–35 months, and to conduct lead screening of any child 36–72 months who has not previously been screened. Passed in 2007, Connecticut Public Act No. 07-2 will expand lead screening to all Connecticut children, regardless of income or location.

In 2006, 69,315 children from birth to 6 years of age were tested for lead poisoning in Connecticut (Hung 2008, 4). While there has been continuous improvement in screening for elevated blood lead and a decrease in lead poisoning over time, disparities in screening and poisoning continue to exist among Connecticut populations. Just three Connecticut cities (Bridgeport, Hartford, and New Haven) accounted for 48.8% of children with elevated blood lead levels in the state in 2006. Table 36 and Figure 42 illustrate the percent of screened children under 6 years of age who have elevated blood lead levels (≥10μg/dL) in those three major cities as compared to all of Connecticut.

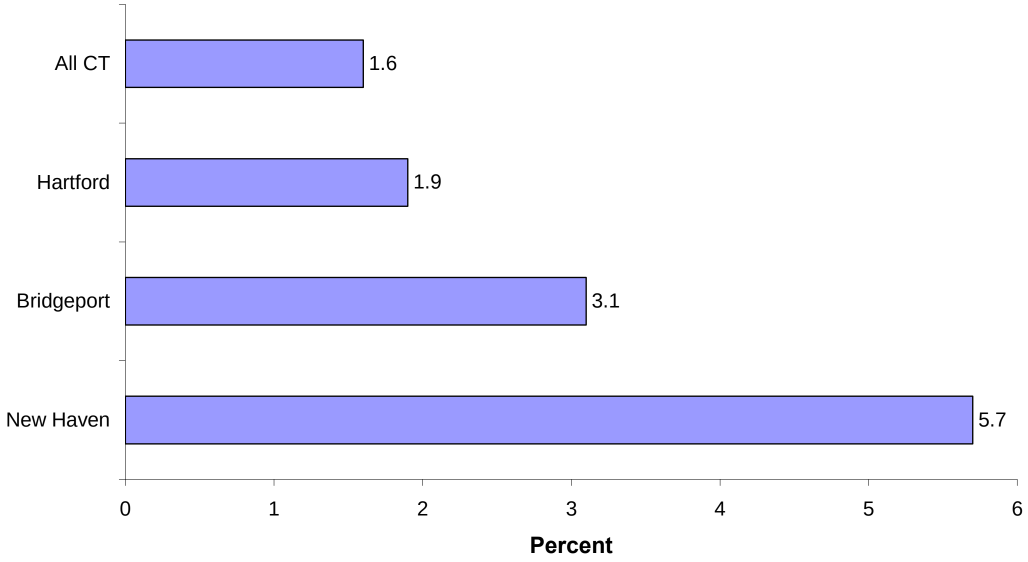
Table 36. Percent of Screened [b] Children with Elevated Blood Levels (>10 μg/dL) in Connecticut, Hartford, Bridgeport, and New Haven, 2006

Location	Number of Children under Age 6[a]	Number (Percent) of Children Screened [b]	Number of Children with Confirmed Lead Test	Number (Percent) of Screened [b] children with a Confirmed Blood Lead level of >10 μg/dL
All CT	270,187	69,315 (25.7)	68,828	1,082 (1.6)
Hartford	12,134	5,486 (45.2)	5,427	105 (1.9)
Bridgeport	13,635	6,257 (45.9)	6,209	192 (3.1)
New Haven	10,431	4,146 (39.7)	4,086	231 (5.7)

Source: Hung 2008.

[a] Population data obtained from U.S. Census 2000.
[b] "Screened" indicates children who received any test (capillary or venous). Children are counted only once, regardless of the number of times they are tested.

Figure 42. Percent of Screened Children with Elevated Blood Lead Levels (≥10μg/dL) in Connecticut, Hartford, Bridgeport, and New Haven, 2006



Source: Hung 2008.

In addition, the racial and ethnic disparities in elevated blood lead levels among children screened in 2006 are apparent in Table 37, Figure 43, and Figure 44. Although there were relatively few Native American children screened, almost three times as many of them had elevated blood lead compared to screened White children, and Black children also had high rates of elevated blood lead, at 2.7 times the White children who were screened. Note that the Lead Poisoning Prevention and Control Program collected data for race and ethnicity separately, according to the Office of Management and Budget guidelines of 1997. Therefore, racial categories in the following tables and figures *include* persons of Hispanic ethnicity, and numbers and rates for ethnicity classifications are shown separately below.

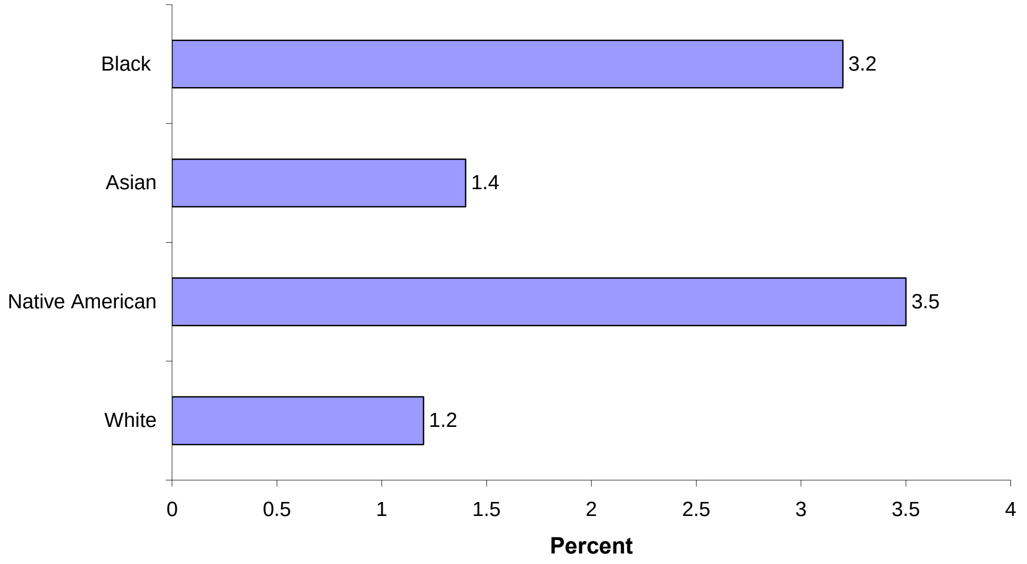
Table 37. Children Under 6 Years of Age Who Had a Lead Screening, and Percentage with Elevated Blood Lead, Connecticut, by Race *and* Ethnicity, 2006

	Race and Ethnicity Characteristics of Children Under 6 Years of Age who had a Lead Screening – Connecticut CY 2006		Percent of Children Under 6 Years of age with Elevated Blood Lead – Connecticut CY 2006
Race[a]	Number	Percent	
Black	10,353	14.9%	3.2%
Asian	2,502	3.6%	1.4%
Native American	321	0.5%	3.5%
Hawaiian or Pacific Islander	6	<0.1%	0.0%
White	46,023	66.4%	1.2%
Unknown	10,110	14.6%	
Ethnicity[a]			
Hispanic	17,516	25.3%	2.1%
Non-Hispanic	44,557	64.3%	1.3%
Unknown	7,242	10.4%	

Source: Hung 2008.

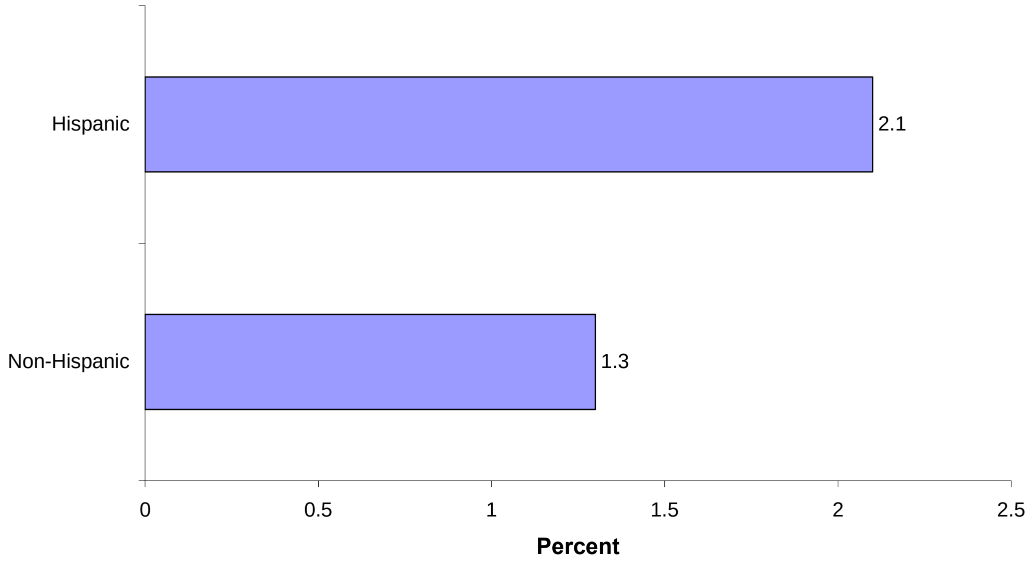
[a] In this table, racial groupings *include* persons of Hispanic ethnicity. Hispanic ethnicity was asked separately from race, in accordance with federal Office of Management and Budget guidelines (OMB 1997). Responses regarding Hispanic ethnicity are therefore listed separately.

Figure 43. Percent of Children Under 6 Years of Age with Elevated Blood Lead, Connecticut, by Race, 2006



Source: Hung 2008.

Figure 44. Percent of Children Under 6 Years of Age with Elevated Blood Lead, Connecticut, by Ethnicity, 2006



Source: Hung 2008.

OCCUPATIONAL HEALTH

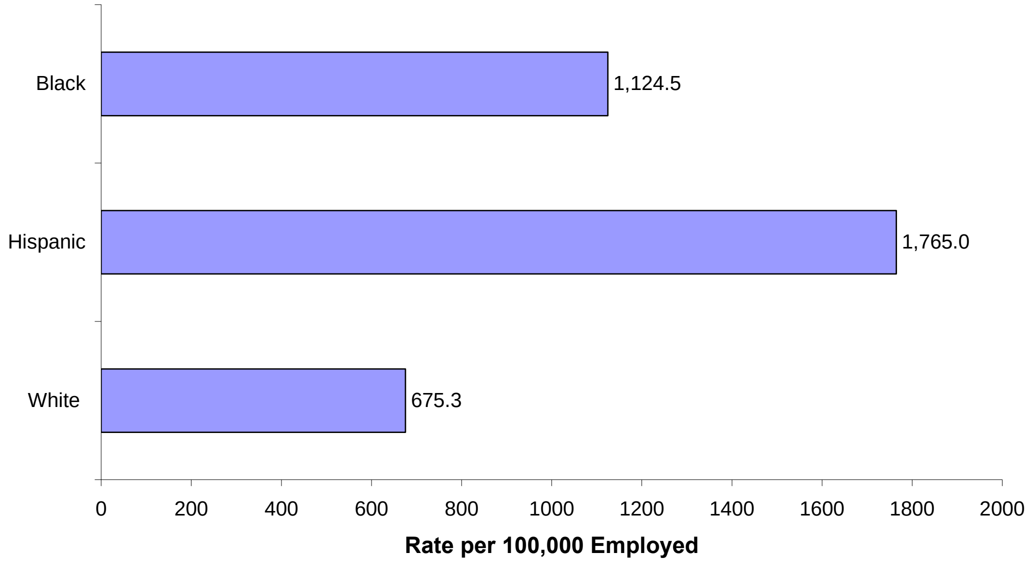
Work may be seen as a source of individual and familial resources and benefits as well as an integral component of social organization. It is also an arena where people may be exposed to environmental hazards and other job stressors, with resulting health effects depending on several work-life factors, including individual, social, economic and political factors and resources. Lipscomb et al. note that in order to understand health disparities, the definition of "work" should include "the effects of government policy, historical segregation (by race, gender, ethnicity, or class), geographic variation, unrecognized social norms, economic opportunity, and long-standing patterns of exploitation" (Lipscomb et al. 2006, 43). That is, any meaningful focus on occupational health disparities must take into account the effects of national and regional economic policies that can lead to inequalities in the workplace (including the work environment and the organization of work), and differential effects on workers' health.

Occupational health surveillance involves the "identification and control of the risks arising from physical, chemical, and other workplace hazards in order to establish and maintain a safe and healthy working environment" (National Institute for Environmental Health Sciences [NIEHS] 2008). Occupational surveillance data are used to guide efforts to improve worker safety and health, and to monitor trends and progress over time (National Institute for Occupational Safety and Health [NIOSH] 2008a). Many environmental hazards, such as chemical exposures, heavy metals, noise or vibration, dust exposures, electrical hazards, and dangerous machinery, exist in a variety of workplaces and generally depend on the type of work being performed in that workplace (NIOSH 2008b).

Also generally present in all workplaces are "non-environmental" hazards that pose significant health risks to workers, such as workplace violence, poor organization of work and ergonomics, and job stress. National and state officials regularly monitor a variety of occupational indicators, including changes in workforce demographics, workplace-related illness and injury, and workplace-related fatalities. In addition, they provide workforce training and workplace interventions in response to health and safety needs of the working population. Occupational health disparities has been one focus of Connecticut DPH's Occupational Health Unit for many years, and has included issues surrounding young workers, non-English-speaking workers, and other special working populations (e.g., migrant farm workers, older workers). Because the affected numbers of Asian, Native Hawaiian and Other Pacific Islander, and American Indian or Alaska Native workers in Connecticut are generally very small, estimates derived from national survey data are often too unstable to be reported as representative of these worker populations.

Figure 45 illustrates the average non-fatal occupational injury and illness rates for selected racial and ethnic groups from 2000 to 2006. While the rates of injuries and illnesses have been decreasing for White, Black, and Hispanic worker populations, Hispanic workers still suffer from about 2.6 times as many workplace injuries and illnesses as White workers, and about 1.6 times as many as Black workers. These disparities have been relatively unchanged from year to year, even while the overall rates across all racial and ethnic categories continue to decline. Figure 46 shows that in 1999 the rate of non-fatal work-related injury and illness in Hispanic workers in Connecticut was 2.3 times higher than the rate for White workers. Despite a 42% decline among Hispanics in work-related non-fatal illness and injury, the disparity remained in 2006, at 2.4 times higher for Hispanic workers in 2006.

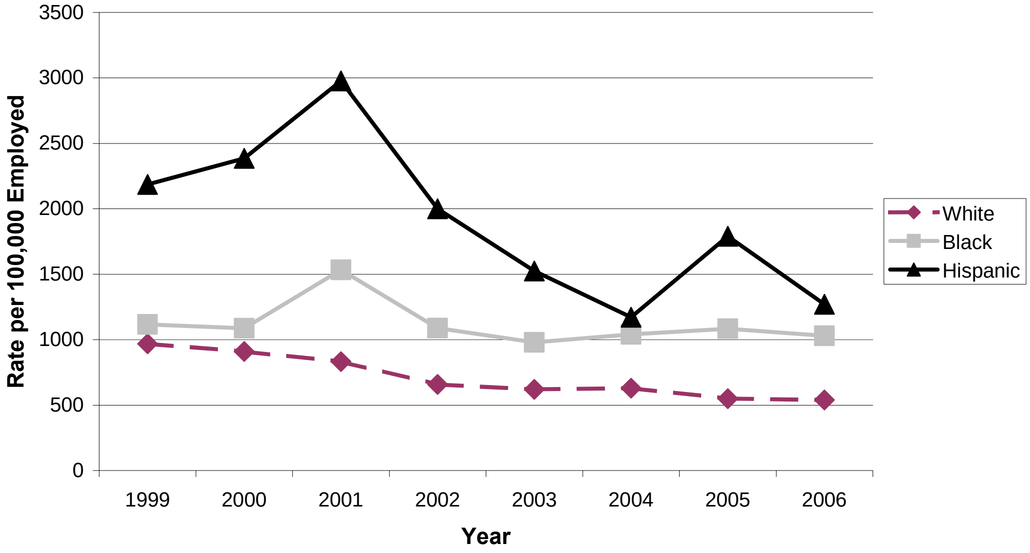
Figure 45. Non-fatal Work-related Injuries and Illnesses Connecticut—Private Industry, by Race[a] or Ethnicity, 2000–2006



Source: DPH 2008h.

[a] Bureau of Labor Statistics only collects data on ethnicity-exclusive categories. White, Black, and Hispanic categories are exclusive of each other.

Figure 46. Rate of Non-fatal Work-related Injuries and Illnesses Involving Days Away from Work, Connecticut—Private Industry, by Race[a] or Ethnicity, 1999–2006



Source: DPH 2008h.

[a] Bureau of Labor Statistics only collects data on ethnicity-exclusive categories. White, Black, and Hispanic categories are exclusive of each other.

The work-related fatality rates for White workers and Hispanic workers in Connecticut reflect a marked disparity between the two populations. In the periods 2000–2002 and 2004–2006, Connecticut's Hispanic workers had a work-related fatality rate that was disproportionately high for their worker population—about three times higher than that of White workers (6.4% and 2.1%, respectively). Hispanic work-related fatalities for these periods numbered 50, while White work-related fatalities numbered 188. Bureau of Labor Statistics data are not reported for fewer than three events; therefore, Hispanic work-related fatalities for 2003 were not reported. Potential reasons for higher Hispanic worker death include: inadequate knowledge of and control of workplace health and safety hazards, inadequate training and supervision of workers, use of different languages, and varying literacy levels of workers (CDC 2008e; St. Louis 2007; Premji, Messing and Lippel 2008).

ACCESS TO HEALTH CARE; HEALTH CARE WORKFORCE

ACCESS TO HEALTH CARE

To most people "lack of access to health care" implies the inability to pay for health insurance. But while health insurance (or the lack of it) is fundamental to the operation of our health care system, "access to health care" also refers to: adequate numbers of health care providers in all geographical areas; transportation to and from these providers; equal access to medical procedures; ability and willingness to overcome language and cultural barriers in medical encounters; health literacy; physical accessibility of health care institutions and equipment; and lack of discrimination in treatment (e.g., Agency for Healthcare Research and Quality [AHRQ] 2008, 113). In order to reduce the burden of disease and eliminate health disparities, attention must be paid to all aspects of "access," not just health insurance.

However, since these important facets of access are neither easily quantified nor consistently recorded, public health professionals must rely on other proxies for levels of health care access. Two standard measurable characteristics of health care access, health insurance and preventable hospitalizations, are presented below. These measures are often used as markers for gaps in primary care, people's lack of a "medical home," and the degree of over-reliance on costly emergency department services in a community.

Health Insurance: Who Is Uninsured?

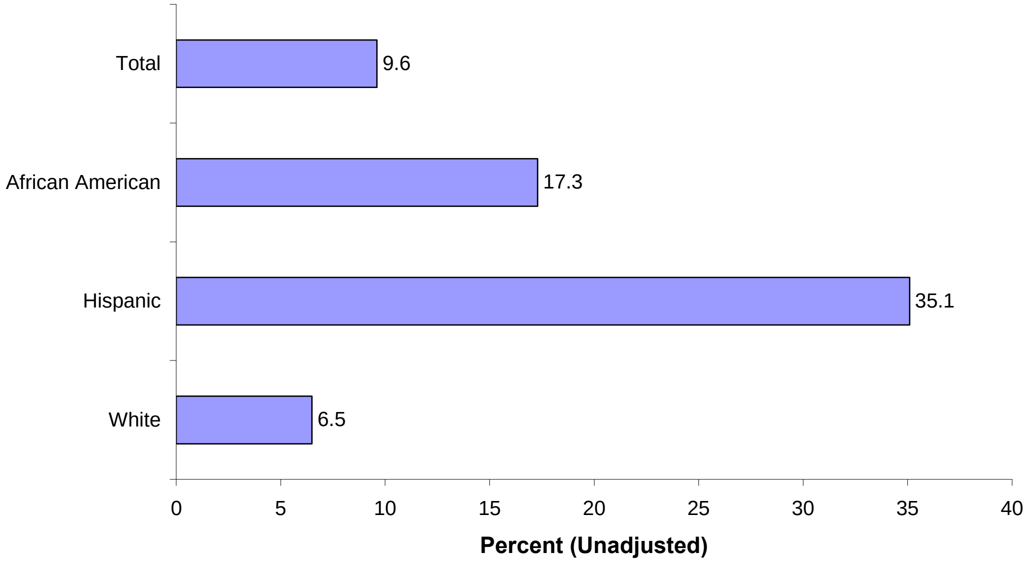
Barriers to health care, such as lack of health insurance, are experienced differently by different segments of our population, both nationally and locally. The category, "uninsured persons," includes: young adults between the ages of 18 and 39 years old; unemployed people; racial and ethnic minority populations; persons with low income; people with low educational attainment; and working people who cannot afford, are not offered, or are ineligible for, their employer's insurance plans (Connecticut Office of Health Care Access [OHCA] 2006; DPH 2008a).

Indeed, most people without insurance *do* work, and most of them work full-time. In 2004, the Institute of Medicine (IOM) stated that, nationally, "... more than eighty percent of uninsured children and adults live in working families…" (IOM 2004, 4). OHCA found that "61 percent of the uninsured are working adults, over half of whom hold permanent full-time positions" (OHCA 2006, 1).

In 2005, the rate of uninsured persons in the United States was 14.6%, compared to 9.6% of Connecticut's population (DPH 2007e). Nevertheless, Figure 47 below illustrates yet again the marked racial and ethnic disparities in health insurance coverage in Connecticut. In 2005, about 35.1% of surveyed Hispanic adults were uninsured, compared to 17.3% of African American adults and 6.5% of White adults (unadjusted analyses) (DPH 2008a). Hispanics were 5.4 times more likely, and African American adults were 2.7 times more likely, to be uninsured than White adults (see OHCA 2006, 3).

In the growing Hispanic or Latino population, "[w]idespread lack of health insurance is arguably one of the most urgent health problems facing Latinos today, contributing to poor health outcomes and premature death" (Hispanic Health Council [HHC] 2006, 28). In addition to Hispanics or Latinos, many other populations confront a "web of barriers" in attempting to access—and use—linguistically and culturally appropriate health insurance and health care (HHC 2006). Incorrect or incomplete medical communication due to language, cultural or other barriers contributes to increased physical, emotional, and economic costs to our state, communities, and families (HHC 2006). To reduce and eliminate health disparities, "access" in all its forms, including health insurance enrollment, must be regularly considered.

Figure 47. Percent of Connecticut Adults with No Health Insurance, by Race or Ethnicity, 2004–2006



Source: DPH 2008a.

Preventable Hospitalizations

OHCA defines preventable hospitalizations as "instances of inpatient hospital care for health conditions or illnesses typically treated or managed outside of the hospital"(OHCA 2008, 1). Tracking preventable hospitalizations helps identify potential gaps in the primary care system, gaps in access to care, and illustrates areas of potential cost savings (OHCA 2008, 1). In Connecticut, OHCA uses "Preventable Quality Indicators" (PQI) and "Pediatric Quality Indicators" (PDI) to measure preventable hospitalizations. These indicators are 19 health conditions considered "preventable" by the federal government, since timely primary care would "prevent" most people with such conditions from getting so ill that they would need hospital care (OHCA 2008, 1). PQIs include chronic conditions (e.g., asthma and diabetes), and acute episodes of illness (e.g., bacterial pneumonia or urinary tract infections) (OCHA 2008, 1, 5)

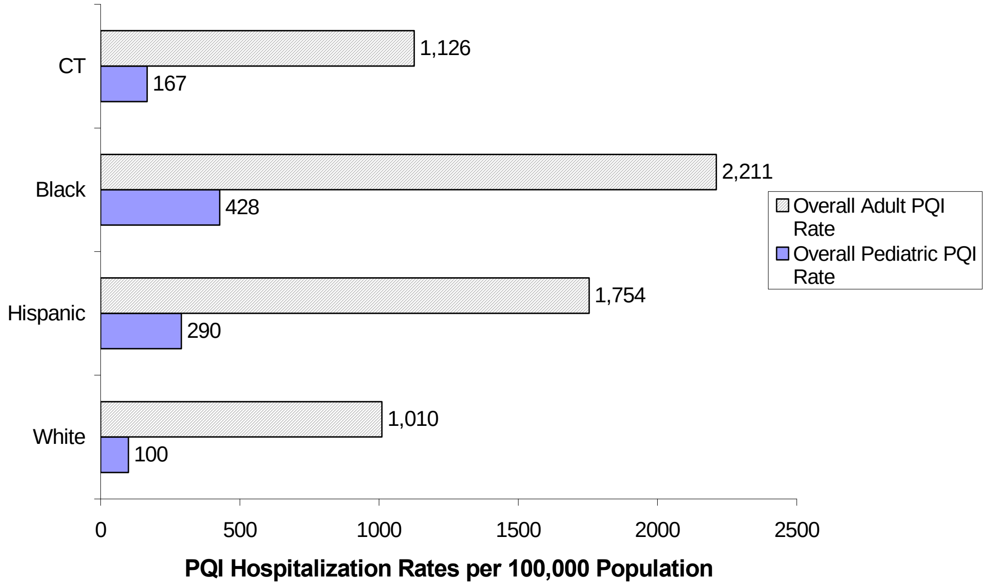
As with many overall health statistics, Connecticut fared well compared to the United States as a whole—the state had lower hospitalization rates for 16 of the 19 PQI conditions in fiscal year (FY) 2006, with about 48,000 preventable hospitalizations (OHCA 2008, 38). However, from FYs 2000 through 2006, the number of preventable hospitalizations grew by nearly 4%, and total preventable hospitalization charges increased from $596 million to over $1 billion, a 69% increase (OHCA 2008, 7). In FY 2006, 83% of all hospitalizations for PQI conditions were admitted through the emergency department (OHCA 2008, 38).

Racial and ethnic minority populations accounted for 100% of the growth in preventable hospitalizations between FYs 2000 and 2006, while preventable hospitalizations among Whites decreased 3% over this same time period. Hispanics and Blacks represented 44% and 31%, respectively, of the increase in preventable hospitalizations between FY 2000 and FY 2006 (OHCA 2008, 16). Figure 48 provides hospitalization rates for PQI and PDI conditions in FY 2006 by selected racial and ethnic groups for Connecticut adults and children. This figure illustrates the overall higher hospitalization rates in Blacks and Hispanics when compared with the White population in both adults and children. Blacks showed the highest rates for 16 of the 19 indicators (OHCA 2008, 17).

The OHCA report notes that since FY 2000, PQI hospitalizations for Hispanics increased 43%, and the Hispanic population hospitalized was younger than for other racial and ethnic groups, with 27% of PQI hospitalizations in the under-18 age group (OHCA 2008, 34–35). Among Blacks, PQI hospitalizations increased about 19%: an estimated

51% of those hospitalized for PQI conditions were in the working age group of 18–64 years of age (OHCA 2008, 36–37).

Figure 48. Adult and Pediatric Hospitalization Rates for PQI and PDI Conditions, Connecticut, by Race or Ethnicity, FY 2006



Source: Connecticut Office of Health Care Access (OHCA) 2008, 17.

HEALTH CARE WORKFORCE

With our national and state populations' increased education, diversity, and longevity, it is critical to monitor shortages in, distribution of, and diversity within, the health care workforce (IOM 2008, 1; Perlino 2006; Johnson 2008; GAO 2008, 12; Kasprak 2006). Indeed, according to the federal Health Resources and Services Administration (HRSA), "Connecticut is projected to have the second greatest decline in the supply of nurses nationally over a 20 year period [2000–2020]" (Kasprak 2006). Below, basic information on federally-designated Health Professional Shortage Areas (HPSAs), and the diversity of Connecticut's health care workforce are presented.

Health Care Profession Shortages

In 2004, Connecticut ranked fifth in the nation with 369 physicians per 100,000 population, compared to the U.S. average of 281 per 100,000, and ranked 23rd in terms of numbers of dentists (Kasprak 2006). In 2005, Connecticut ranked among the top ten states for rate of registered nurses and physician assistants per 100,000 population (Kasprak 2006). However, not all individuals with Connecticut licenses practice in our state, nor are they all accessible by location, language, finance or other important access criteria to those in need. Some practitioners do not take insurance, or refuse to serve Medicaid/Medicare patients due to low reimbursement rates.

At the national level, HRSA has developed several strategies to address medical professional shortages, including the designation of "Health Professional Shortage Areas," or "HPSAs." Designation as a HPSA indicates shortages of "primary medical care, dental or mental health providers" and may be "geographic, demographic (low income population) or institutional (comprehensive health center, federally qualified health center or other public facility)" (U.S. DHHS 2008a). This designation can provide communities with evidence to qualify for federal resources such as the National Health Service Corps, J-1 visa physician staffing, loan repayment, and enhanced reimbursements for services to Medicaid and Medicare patients (U.S. DHHS 2008a). Connecticut currently has 95 shortage designations representing all or parts of 36 towns, focused in low-income urban and rural areas throughout the state (DPH 2008i, 3).

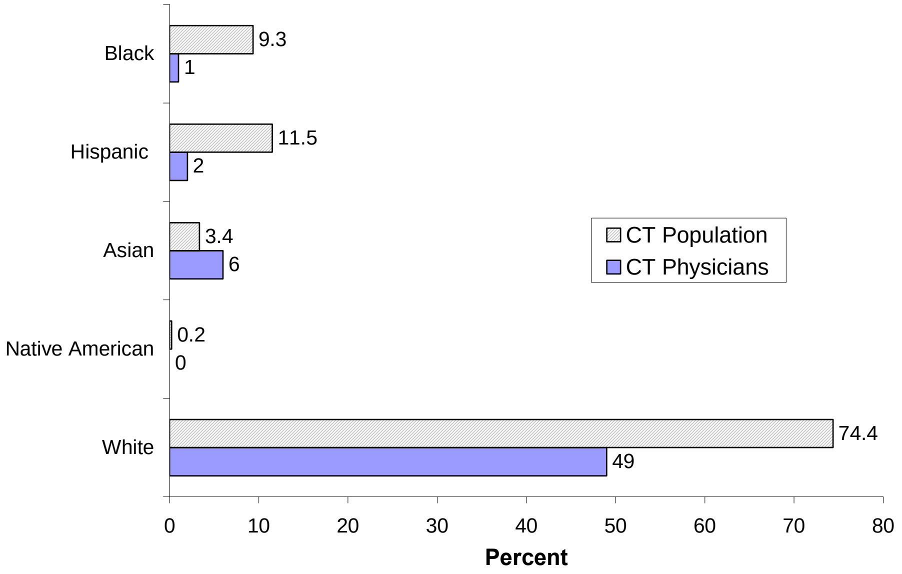
Federally Qualified Health Centers (FQHC) (also known as "Community Health Centers" or "Comprehensive Health Centers" [CHCs]), are governmental reactions to health care professional shortages in areas of need. Historically, patients targeted and served by CHCs include "low income populations, the uninsured, those with limited English proficiency, migrant and seasonal farm workers, individuals and families experiencing homelessness, and those living in public housing" (U.S. DHHS 2008b). Connecticut has thirteen FQHC model health centers that provided 918,426 patient visits in 2006, an increase of almost 23 percent since 2003 (DPH 2006).

Diversity of the Health Care Work Force

Initiatives have been undertaken at national, state, and local levels to encourage racial, ethnic, linguistic and cultural concordance between patients and their health care providers, including training and outreach in: cultural competency; linguistic competency; health literacy and use of Plain English; medical interpretation; and translation of health materials (e.g., Cooper and Roter 2003; Cooper and Powe 2004; U.S. DHHS n.d.; The Plain Language Action and Information Network 2008). A 2006 report by HRSA noted that increased diversity in the health care workforce will "increas[e] access to care for underserved populations, and…opportunities for minority patients to see practitioners with whom they share a common race, ethnicity or language,…which is associated with better patient-practitioner relationships and communication…" (U.S. DHHS 2006b).

In Connecticut, the diversity of our population is not reflected in the health care workforce. Figure 49 indicates the disparity between the state's racial and ethnic populations and the racial and ethnic breakdown of physicians serving the population. The Kaiser Family Foundation noted that in 2007, of the total state physician population who reported race or ethnicity, 49% were White, 1% was Black, 3% were Asian, and 2% were Hispanic. Approximately 41% of Connecticut physicians did not their report race or ethnicity (Kaiser Family Foundation 2007). In order to better address health disparities in Connecticut, however, full description of the health care workforce is necessary.

Figure 49. Percent of Connecticut Population Compared with Percent of Connecticut Physicians, by Race or Ethnicity, 2007



Source: Kaiser Family Foundation 2007; U.S. Census Bureau 2008a.

PART III
OTHER VULNERABLE POPULATIONS

- RURAL HEALTH
- AGE AND HEALTH
- SEXUAL AND GENDER MINORITIES
- PERSONS WITH DISABILITIES
- IMMIGRANTS AND REFUGEES
- LIMITED ENGLISH PROFICIENCY POPULATIONS
- HOMELESS PERSONS

OTHER VULNERABLE POPULATIONS

In this section of the report, health and data collection issues of other vulnerable populations are briefly addressed. These are social groups who are “impoverished and disenfranchised, or those who are subject to discrimination, intolerance, subordination, and stigma” (Flaskerud et al. 2002; Peternelj-Taylor 2005). For a variety of reasons, these people may find it difficult to receive or afford appropriate health information or health care, or to make their own health care decisions. Consistent, integrated, or easily accessible health information for these groups is often limited or difficult to find. This section provides a brief discussion of selected health concerns of these populations.

RURAL HEALTH

Although Connecticut is a densely-populated state, “rural” areas are very much a part of the state’s geography. In 2004, sixty-five out of Connecticut’s 169 towns were designated rural (Holt, Wexler and Farnam 2006, 3). The racial and ethnic composition of the rural areas in Connecticut tends to be overwhelmingly White (96.6%) and non-Hispanic (98%) compared to urban areas or to the state overall (Holt, Wexler and Farnam 2006, 7; Connecticut State Office of Rural Health [ORH] 2001, 20).

Recent rural health reports have noted important issues affecting our rural residents: 1) an aging rural population which will require more intensive health care services; 2) the coordination of and access to transportation to healthcare providers or facilities; 3) the effects of seasonal work (e.g. tourism, agriculture) on family economies and health care access; 4) the level of education and type of employment options for rural residents; 5) travel time to work and health care facilities; and 6) the small but growing proportion of rural racial and ethnic minority residents (ORH 2001; Holt, Wexler, and Farnam 2006; New England Rural Health RoundTable 2007). Echoing national concerns for rural populations, providers in Connecticut also note how difficult it is to provide chronic disease management, oral health, and mental health services to rural populations, and especially to low-income residents (Agency for Healthcare Research and Quality (AHRQ) 2008). Finally, health care providers are often unwilling or unable to accept insurance reimbursement levels, which is a significant barrier to health care for rural residents (Holt, Wexler, and Farnam 2006).

AGE AND HEALTH

Different age groups have different health needs and concerns. The health and social needs for *young children* include good nutrition, good oral health practices, healthy indoor and outdoor environments, and quality education. Major public health concerns of a younger population include poor nutrition/food choices and physical inactivity, which can lead to childhood obesity, lead poisoning, asthma, and risk of injury in both the home and outdoors. *Adolescents and young adults* must manage health issues such as motor vehicle use, violence, substance use, sexual behavior, and tobacco use. They must also learn to balance social factors such as their family, peer groups, school, and community expectations (CDC 2008i). In Connecticut, Hispanics or Latinos are overall a younger population than the White population. Hispanics or Latinos are especially overrepresented in the 0–19 age group, and underrepresented in the 65 and over age group relative to the state's White population. This population distribution will shape health intervention programming at the local and state levels.

Connecticut has one of the country's oldest populations: The Connecticut State Data Center projects that by 2030, the median age in Connecticut will be 41.5, while the national median age will be 39 (Connecticut State Data Center n.d.). The median ages among our state's racial and ethnic groups also will increase by 2030, and aging in our rural areas will be dramatic, which will lead to increasing demand for transportation and health care services at (University Communications 2007). Health concerns for *older adults* center around prevention efforts, managing chronic conditions, healthy lifestyle behaviors, and using early detection practices (e.g., screening for cancer, diabetes, and depression) (CDC 2008j; U.S. DHHS 2002, 2007c). In 2005, 66.3% people in the state's oldest age cohort (85+) report having a disability, compared with 12.9% of the general population (Center for Personal Assistance Services 2008). In addition, many racial and ethnic minority elders are uninsured or underinsured for their conditions, may have limited English proficiency, and are more likely than White elders to live in poverty (CDC and Merck 2007, 3). Elders living in poverty may be less likely or less able to access health care services and other support services (U.S. DHHS 2002, 2007c).

SEXUAL AND GENDER MINORITIES

Sexual and gender minorities (e.g., lesbian, gay, bisexual and transgender [LGBT] persons) are as diverse as the rest of the population and are parts of our neighborhoods, families and social fabric (See Appendices IV and VII). In 2000, *Healthy People 2010* recognized sexual and gender minorities as populations who experience health disparities (U.S. DHHS 2000a). Yet nine years after the publication of that report, there is a dearth of systematic collection and reporting of data on LGBT populations—nationally and at the state level (excepting HIV/AIDS and sexually transmitted infection and disease risk among men who have sex with men) (Blank, Asencio and Descartes in press; Gay and Lesbian Medical Association [GLMA] and LGBT Health Experts 2001, 19). In addition to the lack of systematic data collection with these populations, each of these subgroups may have health issues that affect one group much more than the others. For example, with certain health risks, the gay male population may have a different risk level than the lesbian population, or the transgendered population may be more likely to have an elevated risk for a certain health concern as compared to the other subpopulations and the general population (Blank, Asencio and Descartes in press). Also, the transsexual population and intersexual population that have undergone surgical sex reassignment may have additional health concerns and consequences that are not necessarily shared by others embedded in the larger category of sexual and gender minorities. Thus, any discussion of the data should take into account data limitations as well as the commonalities and differences among these populations in terms of a particular health disparity.

Among the LGBT population, discrimination, harassment, and family, community and peer pressures or violence can lead to serious physical and mental health concerns. In addition, the health care system uses “heteronormative standards that may or may not be appropriate or useful for ensuring the health of [LGBT] people and their families” (Blank, Asencio and Descartes in press). LGBT people who also belong to racial or ethnic minorities face special vulnerabilities based on the combination of these identities (GLMA and LGBT Health Experts 2001, 19).

Within the LGBT community, individuals are at risk for not only HIV/AIDS but other health conditions as well. The emerging literature suggests higher rates of breast cancer, hepatitis B and influenza (GMLA and LGBT Health Experts, 2001, 19). Additional heath issues include post-traumatic stress syndrome, mental health and suicide issues as well as provider ignorance and misconduct (Dean et al. 2000, 111–125). While this is not an exhaustive list, it points to the ongoing need to record and monitor health disparities within this population.

There are also health issues that affect or are more salient to LGBT persons at different points in their life span or throughout their life span. LGBT *teens* often have to deal with issues of their family or social network dissolution and reformulation (sometimes due to their coming out process), running away or leaving school early, and the challenges of urban life, including poverty and possible involvement in prostitution. LGBT *homeless* teens have many similar issues to their heterosexual homeless teen counterparts, but may more frequently be “victims of parental physical abuse, substance abusers, and have both mental and general physical health problems” (Cochran et al. 2002, 773). In the case of the aging gay male population and the “graying of HIV/AIDS,” Medicare/Medicaid reimbursements for services may be problematic, as well as early aging due to the disease and its long-term treatments (Engel 2008). Additionally, older LGBT individuals may suffer from social isolation, depression, and internalization of the hetersexism of the majority society (Blank, Asencio and Descartes in press).

PERSONS WITH DISABILITIES

> *Everyone will have some kind of disabling condition at some point in his or her life. Indeed, it is often said that,“it is not* whether, *but* when, *not so much* which one, *but* how many, *and* in what combination.”
> —Zola (1993, 18, emphasis in original)

According to Census 2000, about 50 million people in the United States have some kind of long-lasting health condition or disability (U.S. Census Bureau 2003c). This number represents 19.3% of the 257.2 million people who were aged 5 and older in the civilian non-institutionalized population—or nearly one person in five (U.S. Census Bureau 2003c). In 2007 in Connecticut, 12.8% of the population aged 5 or older in the civilian non-institutionalized population had a disability, with a prevalence ranging from 5.3% ages 5 to 15 years old, to 47.6% of people aged 75 and older (Rehabilitation Research and Training Center on Disability Demographics and Statistics [StatsRRTC] 2007a, 3). Both nationally and in Connecticut, people with disabilities had lower educational attainment levels and employment rates, and higher poverty rates than people without disabilities (StatsRRTC 2007a, 2007b). In 2006, prevalence rates of disability for non-institutionalized people ages 21–64 years in Connecticut were: 13.3% among Blacks or African Americans, 15.6% of Native Americans, 10.4% of Whites, and 5.7% of Asians. This database did not analyze data for Hispanics or Latinos for 2006 (StatsRRTC 2007a, 20).

Federal legislation and policies have created more than 67 definitions of “disability” (Drum et al. 2005, 31; Caruk et al. 2007, 3; StatsRRTC 2007b). Therefore, disability statistics vary widely depending on definitions, data collection instruments, and purposes of data collection. Moreover, the idea that “health” and “disability” are mutually exclusive terms may cloud health care provision and data collection.

People with disabilities are more likely than the general population to experience early deaths, chronic conditions, high rates of oral disease, and higher rates of diabetes (Drum et al. 2005, 36). People with disabilities also have relatively fewer preventive and routine health screenings and services (i.e., blood pressure and cholesterol screening, mammography, and counseling about alcohol and substance abuse, diet and eating habits, exercise, and smoking cessation) (Drum et al. 2005, 36–37; National Center on Birth Defects and Developmental Disabilities [NCBDDD] 2001). People with disabilities also confront systemic barriers to treatments such as: provider ignorance or insensitivity, equipment inaccessibility, transportation difficulties, cost of health care and programs, and lack of health information in alternative print, plain language, or sign language (Drum et al. 2005, 37–38; NCBDDD 2001).

IMMIGRANTS AND REFUGEES

IMMIGRANTS

Immigrants and persons with limited English proficiency (LEP) often have difficulty getting appropriate medical interpreter services and culturally competent heath care, which often leads these groups to defer health care services (Capps et al. 2005). In addition, immigrants have many diverse economic, political, health and social needs. For example, one of the largest and growing subgroups in Connecticut’s Asian population is South Asians from India (U.S. Census Bureau 2005a, 2008a.). Many people in this population are highly-educated, English-speaking professionals, well-trained for jobs in high-paying job sectors and have higher per capita/household incomes than the White population in the state (Narayan 2004; Capps et al. 2005).

In sharp contrast are Asian refugees from Vietnam, Thailand, Cambodia, and Laos, including Hmong populations. Beginning in the mid-1970s, these populations were resettled in Connecticut and in the U.S., and resettlement and secondary migration continues to this day. Many of these people suffered years of flight from their homelands, living in refugee camps and enduring torture, degradation, malnutrition, and social and familial collapse (U.S. DHHS 2006a). Their health issues stem from little or no primary, dental, or mental health care during years of extremely traumatic experiences, and from culture shock and linguistic isolation in their new country.

Nationally, immigration statistics show that “Latin American and Caribbean immigrants account for over half of all immigrants (52%), and Mexico alone accounts for almost a third” (Capps et al. 2005:6). However, Connecticut’s immigrant population is not overwhelmingly dominated by one subgroup or ancestry. Our immigrant population is made up of 22% Asian; 22% Latin American, 14% Caribbean, and 5% African immigrants (Capps et al. 2005:7). Connecticut’s largest immigrant population is from Europe (38%), reflecting earlier waves of immigration, but this is an older and aging population compared to the newer immigrants. Poland and Jamaica are the most common countries of birth for immigrants in Connecticut, at 8% and 7% respectively in 2004 (Capps et al. 2005, 7). Increasing numbers of people have immigrated from Mexico and Central America (10%) and South America (12%), but the largest Hispanic or Latino ethnic subpopulation in Connecticut remains Puerto Ricans, who are U.S. citizens (Capps et al. 2005, 7).

Immigrants in particular may suffer health problems due to lack of access to health care. Cultural and linguistic factors, relatively lower education and income levels, and location and availability of health care providers affect the health status of immigrants. In addition, insurance coverage may be too expensive, too complicated to decipher, or simply unavailable to immigrants in their jobs (Capps et al. 2005).

REFUGEES

The term “*refugee*” refers to persons “who [are] outside his or her country of nationality who [are] unable or unwilling to return to that country because of persecution or a well-founded fear of persecution. Persecution or the fear thereof must be based on the alien's race, religion, nationality, membership in a particular social group, or political opinion” (U.S. Department of Homeland Security 2007). Refugees represent a small portion of the overall immigrant population, and are usually folded into the latter for purposes of census surveys. In the U.S., the majority of refugees are coming from the following countries: Somalia, Liberia, Sudan, Ethiopia, Afghanistan, Iran, Iraq, Former USSR, Cuba, Laos, Myanmar, and Vietnam (Immigration and Refugee Services of America 2006). Connecticut received about 380 people in federal fiscal year 2008 (Connecticut Department of Social Services 2008).

Refugees have unique personal history issues (war, torture, trauma, history of living in refugee camps), health concerns (certain diseases), culture shock, and linguistic difficulties (linguistic isolation, resettlement without others from same nation/region, lack of interpreters for uncommon languages or dialects) possibly not faced as often by other immigrants. Refugee populations suffer from high rates of tuberculosis, parasitic diseases, dental problems, and post-traumatic stress disorder diagnoses due to war, torture, displacement, and culture shock (Lobato, Mohamed, and Hadler 2007; U.S. DHHS 2006a).

LIMITED ENGLISH PROFICIENCY (LEP) POPULATIONS

One source estimates that 90 million people in the U.S. have trouble understanding basic health information (National Library of Medicine 2004). People who do not speak, read or write English well will very often have limited or inconsistent access to healthcare and lowered health status. Medical histories, symptoms, diagnoses, treatment regimens, and illness belief systems are more likely to be misunderstood or incompletely described when there is language discordance between patients and health care providers (Smedley, Stith, and Nelson 2003). Increased patient mistrust or refusal of care, missed medication or office appointments, and reliance on emergency room services may result without proper interpretation, translation, and comprehension of medical information (Smedley, Stith and Nelson 2003; Hispanic Health Council 2006, 31). In 2005, about 22% of Connecticut doctors reported that they felt unprepared to treat patients with limited English proficiency (Hispanic Health Council 2006, 31–32).

In the last few decades, the federal government has repeatedly supported the use of linguistically appropriate social services, including health care. Institutions that receive federal funding must comply with the language access provisions of Title VI of the Civil Rights Act of 1964 (U.S. DHHS 2001, 1, 8–11; Meyers 2007, 19). The “culturally and linguistically appropriate services (CLAS) standards” are designed to provide meaningful access to health services (U.S. DHHS 2001). The only standards that are *mandated* are those that deal with the language needs of clients, such as competent and available interpreter and translation services, and the translation of health-related materials into commonly-used languages found in a service area (U.S. DHHS 2001, 8–11).

While most people in Connecticut's LEP population speak Spanish, there are other persons who come from small language populations (i.e., Mexican indigenous languages, African ethnic dialects, Asian ethnic dialects) that may make it difficult to find qualified medical interpreters. Although hospitals and medical professionals frequently respond to the needs of LEP populations, there is a need for greater emphasis on better linguistic services (Connecticut Health Foundation 2006). Hospital and agency employees, telephone interpreter services, community volunteers, licensed on-site medical interpreters, and multilingual picture cards in binders have all been used to help alleviate the problems of translation in medical settings (U.S. DHHS n.d.).

HOMELESS PERSONS

It has been estimated that 2.5 to 3.5 million people now experience homelessness each year in the United States (Donohoe 2004, see Appendix IV for definitions). In 2001, the Reaching Home Campaign estimated that about 33,000 individuals experience homelessness in Connecticut every year (Connecticut Coalition to End Homelessness [CCEH] et al. 2007, 4). In Connecticut between January 1, 2008 and March 31, 2008, there were 8,337 people experiencing homelessness who were recorded by 13 communities that use the state Homeless Management Information System [HMIS] (CCEH 2008a). A point-in-time survey on January 30, 2008 estimated that 3,444 households experienced homelessness that night (CCEH et al. 2008, 3–4). The 2008 samples show that Connecticut's homeless persons show that 38% are White, 30% Black, and 25% Latino/a (CCEH 2008a). 87% of adults in sheltered families were females, while single homeless people, sheltered or unsheltered, tended to be male (about 72%–73%) (CCEH et al. 2008, 24).

Rates and severity of disease among homeless populations occur differentially depending on where one lives—whether on the streets, in shelters, or in supportive housing (McLaughlin, Glasser and Maljanian 2002; Glasser and McLaughlin 2006; Hwang 2001, 230). Homeless persons tend to die earlier than the general population, suffer disproportionately from chronic and infectious diseases, and develop health disabilities at younger ages than the general population (Donohoe 2004; Hwang 200, 230). In Connecticut, the most reported conditions among a 2002 health survey of homeless persons were: drug abuse, depression, alcohol abuse, chronic back problems, severe headaches, chronic allergies, trouble seeing, mental health issues, toothaches, and physical disability (McLaughlin, Glasser and Maljanian 2002, 63). In general, homeless persons also suffer from skin and foot problems related to living on the street, walking long distances and standing with inadequate shoes (Hwang 2001, 230). In addition, regular maintenance of personal hygiene and access to washing machines that could get rid of pests, insects, and vermin may be difficult or expensive (HCH Clinicians' Network 2005). Finally, homeless persons experience violence (e.g., assault and rape), sexual and reproductive health issues, and unintentional injuries (e.g., being struck by a vehicle, accidental drug or alcohol overdoses, or exposure to the elements) more often than the general population (Hwang 2001, 230–1).

PART IV

SUMMARY AND CONCLUSION

SUMMARY AND CONCLUSION

SUMMARY

This report emphasizes health disparities experienced by racial and ethnic minority residents relative to the White resident population of Connecticut. However, disparities due to income level, educational attainment, and gender are also apparent for many of the health indicators presented. While the data presented highlight certain statuses (race, ethnicity, gender, income), individuals have multiple statuses that may put them in a higher risk category for certain health outcomes. Thus, when discussing health disparities, it is especially important to identify the multiple levels of disparities affecting individuals.

Limitations of the data used in this report (see pages 36–38) include limited reporting of reliable statistics due to small numbers of some population groups and use of relative risk and excess events as overall measures of disparities. Health data collected on smaller population subgroups, specifically Asians, Native Hawaiians or Other Pacific Islanders, and American Indians or Alaska Natives, are often limited due to the small numbers of occurrences. Because the Asian/Pacific Islander and American Indian or Alaska Native resident populations of Connecticut are relatively small, the numbers of estimated annual excess or fewer events represented by these relative risks are not large.

Inconsistent use of racial and ethnic classifications within and between data sources and missing information or misclassification of race and ethnicity in databases are other important limitations. Some, but not all, of the data used in this report are compliant with current federal standards (OMB 1997) for the classification and collection of race and ethnicity information. Differences in terminology used by the different data sources are reflected throughout this report.

Table 38 summarizes selected findings of this report, using two measures of disparities, relative risks and excess events. There is no absolute standard against which to compare health indicators for various population groups. In this report, the White population is used as the comparison group because it is by far the largest population in Connecticut, and there are sufficient data for all health conditions with which to compare health indicators for smaller population groups. While some methodologists have advocated use of “the best group” approach for racial and ethnic subgroup comparisons, this is largely not possible in Connecticut due to the small numbers of, and unreliable rate estimates for, the main racial and ethnic subgroup populations (Keppel, Pamuk, Lynch, et al. 2005).

Table 38. Summary of Annualized Excess Events and Relative Risks for Health Indictors in Racial and Ethnic Group Compared to White Residents, Connecticut [a, b], Various Years

		Black or African American		Hispanic[c]		Asian or Pacific Islander		American Indian or Alaska Native	
Indicator	Year(s)	Relative Risk	Excess (Fewer) Events	Relative Risk	Excess (Fewer) Events	Relative Risk	Excess (Fewer) Events	Relative Risk	Excess (Fewer) Events
Mortality									
All Causes [γ]	2000-2004	1.2	376	0.8	(232)	0.4	(176)	0.8	(8)
Cancer [γ]	2000-2004	1.1	56	0.6	(93)	0.4	(53)	0.6	(5)
Diabetes [γ]	2000-2004	2.5	49	1.5	11	‡	‡	‡	‡
Heart Disease [γ]	2000-2004	1.2	70	0.7	(73)	0.4	(41)	1.0	0
HIV/AIDS [α, γ, ≠]	2000-2004	14.9	74	9.8	44	‡	‡	‡	‡
Homicide [γ]	2000-2004	10.4	38	4.6	16	‡	‡	‡	‡
Stroke [γ]	2000-2004	1.4	28	0.8	(10)	0.5	(9)	‡	‡
Suicide [γ]	2000-2004	0.5	(13)	0.7	(8)	‡	‡	‡	‡
Unintentional injuries [γ]	2000-2004	1.0	3	1.0	(3)	0.3	(12)	‡	‡
Infectious Disease/STD Incidence									
Acute Hepatitis B [α,γ,ε]	2001-2005	1.9	4	--	--	3.0	3	--	--
Chlamydia [§, //, ε]	2001-2005	18.1	2,788	9.4	1,486	1.1	3	3.2	10
Gonorrhea [§, //, ε]	2001-2005	28.8	1,219	7.7	317	0.8	(3)	‡	‡
HIV/AIDS [α, δ, ≠]	2001-2005	6.6	205	7.4	253	0.3	(8)	‡	‡
Invasive pneumococcal infection [α,γ]	2001-2005	1.8	34	1.1	5	0.2	(11)	--	--
P & S syphilis [§,//,ε]	2001-2005	4.9	8	2.2	3	‡	‡	--	--
Tuberculosis [α, δ, ≠]	2001-2005	8.6	24	8.0	24	23.0	23	--	--
Pregnancy and Birth Outcomes									
Infant deaths [α, γ, ≠]	2001-2005	3.3	44	1.7	20	0.6	(3)	0.7	0
Late or no prenatal care [α, γ, ≠]	2002-2006	2.8	665	3.0	1,206	1.6	91	1.8	12
Low birthweight [α, γ, ≠]	2002-2006	1.9	299	1.3	139	1.2	31	1.2	3

[a] For Whites for all indicators relative risk = 1.0 and excess events = 0.

[b] Racial groupings (Black or African American, Asian or Pacific Islander, American Indian or Alaska Native) exclude persons of Hispanic ethnicity for the following indicators: all mortality, pregnancy and birth outcomes, hospitalization indicators, and asthma emergency department visits. Racial groupings exclude persons of Hispanic ethnicity for all infectious diseases and STDs with the exception of acute hepatitis B.

[c] Hispanic category includes any race.

[d] "Relative risk" is the ratio of the minority group rate to the White rate.

[e] "Excess events are the events that would not have occurred if the minority group had the same rate as the White population, and are presented on an annualized or per year basis. Parentheses indicate fewer events.

‡ Statistic not calculated due to small numbers.

-- Data not available.

[α] Black
[§] African American

[¶] Asian & Pacific Islander
[γ] Asian/Pacific Islander
[//] Asian American/PI
[δ] Asian

[≠] American Indian/Alaska Native
[ε] Native American
[#] American Indian

Table 38 (continued). Summary of Annualized Excess Events and Relative Risks for Health Indicators in Racial and Ethnic Group Compared to White Residents, Connecticut [a, b], Various Years

		Black or African American		Hispanic[c]		Asian or Pacific Islander		American Indian or Alaska Native	
Indicator	Year(s)	Relative Risk	Excess (Fewer) Events	Relative Risk	Excess (Fewer) Events	Relative Risk	Excess (Fewer) Events	Relative Risk	Excess (Fewer) Events
Hospitalizations									
Asthma [α, ¶, #]	2005	3.7	761	3.9	736	0.3	(53)	0.8	(2)
Circulatory conditions [α, ¶, #]	2005	1.4	1,369	1.0	12	0.3	(613)	0.4	(67)
Diabetes [α, ¶, #]	2005	3.8	753	2.3	309	‡	‡	‡	‡
Diabetes with lower extremity amputation [α,¶, #]	2005	3.8	137	3.1	80	‡	‡	‡	‡
Other									
Asthma Emergency Department Visits [α]	2004	4.6	1,130	5.2	1,716	--	--	--	--

[a] For Whites for all indicators relative risk = 1.0 and excess events = 0.

[b] Racial groupings (Black or African American, Asian or Pacific Islander, American Indian or Alaska Native) exclude persons of Hispanic ethnicity for the following indicators: all mortality, pregnancy and birth outcomes, hospitalization indicators, and asthma emergency department visits. Racial groupings exclude persons of Hispanic ethnicity for all infectious diseases and STDs with the exception of acute hepatitis B.

[c] Hispanic category includes any race.

[d] "Relative risk" is the ratio of the minority group rate to the White rate.

[e] "Excess events are the events that would not have occurred if the minority group had the same rate as the White population, and are presented on an annualized or per year basis. Parentheses indicate fewer events.

‡ Statistic not calculated due to small numbers.

-- Data not available.

[α] Black
[§] African American

[¶] Asian & Pacific Islander
[γ] Asian/Pacific Islander
[//] Asian American/PI
[δ] Asian

[≠] American Indian/Alaska Native
[ε] Native American
[#] American Indian

MORTALITY (2000–2004)

Racial or ethnic disparities in all-cause mortality and the top three leading causes of death for Connecticut residents (heart disease, cancer, stroke) were presented in this report. Other leading causes of death that were presented—diabetes, HIV/AIDS, and homicide—were selected based on their disproportionate impact on one or more racial or ethnic subgroups. Deaths caused by unintentional injury and suicide were also included. While there did not appear to be a racial or ethnic minority disparity in either unintentional injury or suicide deaths for the 2000–2004 period, there appears to be a large *gender* disparity, with males having significantly higher mortality rates from both causes relative to females. It is also worth noting that in an earlier time period (1993–1997) there *were* racial or ethnic minority disparities in unintentional injury Connecticut resident deaths (Hynes et al. 1999). See Appendix IX for the Leading Cause of Death Tables by Gender and Race or Ethnicity of Connecticut Residents.

Of all the racial and ethnic groups considered in this report, Blacks or African American Connecticut residents had the highest relative risk for and excess deaths from all causes. Compared with White residents, Blacks or African Americans had an estimated total of 376 excess deaths per year from 2000 to 2004. Blacks or African Americans had the highest death rates and risk relative to White residents for HIV/AIDS (an estimated 74 excess deaths per year), heart disease (70 excess deaths), cancer (56 excess deaths), diabetes (49 excess deaths), homicide (38 excess deaths), and stroke (28 excess deaths). Blacks or African Americans had similar unintentional injury death rates to Whites, and lower suicide death rates (approximately 50% lower with an estimated 13 fewer deaths).

Numerous research studies have documented the link between lower socioeconomic status and higher mortality (Kitagawa and Hauser 1973; Adler et al. 1994). Higher mortality among Blacks or African Americans relative to Whites has been connected to their lower socioeconomic profile (Sorlie, Rogot, Anderson et al. 1992; Howard, Anderson, Russell, et al. 2000) and residential segregation in urban areas (Polednak 1997; Collins and Williams 1999). Closer consideration of the role of poverty, residential segregation, and low-income environments on the mortality of Black or African American residents of Connecticut is warranted.

From 2000 to 2004, relative to the White population, Hispanic residents of Connecticut had lower age-adjusted mortality rates for the following: all causes, the chronic conditions of heart disease, stroke, and cancer, and suicide. Hispanics had an estimated total of 232 fewer deaths per year compared with Whites, including 73 fewer heart disease deaths, ten fewer stroke deaths, 93 fewer cancer deaths, and eight fewer suicide deaths. Hispanic residents had higher age-adjusted death rates for diabetes (11 excess deaths), HIV/AIDS (44 excess deaths), and homicide (16 excess deaths) compared with White residents. Hispanics had similar unintentional injury death rates as Whites.

In general, these findings are consistent with both national statistics and previous analyses for Connecticut (Hynes, Mueller, and Amadeo 2004; Hynes et al. 2005). National studies have documented lower age-adjusted, and income-adjusted mortality rates due to heart disease, stroke, and cancer among Hispanics relative to non-Hispanic Whites, which is contrary to expectation given Hispanics' lower socioeconomic profile. This phenomenon has been termed the "Latino or Hispanic mortality paradox." Various explanations have been advanced to account for it, including that Hispanics may have better health practices and social support relative to Whites, and thus are at lower risk of death despite their lower socioeconomic position (Abraido-Lanza et al. 1999). These two protective factors (health practices and social support) are mentioned in the context of a "mortality paradox," but they likely play a role in other health status comparisons as well. Nevertheless, in terms of mortality, protective factors are hypothesized to positively influence health status and mortality outcomes among Hispanics.

A contrasting explanation is that the phenomenon of lower mortality among Hispanics relative to Whites is not real, but rather an artifact of undercounting of Hispanics on death certificates. A study of mortality in Texas suggested that when decedent names were matched to a Hispanic surname list, numbers of Hispanic deaths and death rates increased substantially. The authors thereby concluded that the Hispanic paradox as described in research studies is not real; it is the result of inconsistencies in counts of Hispanic-origin decedents and populations (Smith and Bradshaw 2006). Because Hispanics are a large, diverse, and rapidly growing subgroup in Connecticut, the continued monitoring of trends in the leading causes of death is especially important regardless of the underlying explanation for Hispanics' lower mortality rates compared with Whites.

Asian/Pacific Islander Connecticut residents had lower age-adjusted all-cause mortality rates relative to the White resident population, with an estimated 176 fewer total deaths per year. Asians/Pacific Islanders had fewer deaths per year due to cancer (53 fewer deaths), heart disease (41 fewer deaths), stroke (nine fewer deaths), and unintentional injury (12 fewer deaths) compared with the White population. There were too few deaths due to diabetes, HIV/AIDS, homicide, and suicide reported among Asians/Pacific Islanders in Connecticut from 2000 to 2004 to calculate reliable rates.

As noted previously, Asian/Pacific Islanders are a heterogeneous group, in national origin, cultural practices, and socioeconomic status. While some Asians are recent immigrants, others have been here for generations. While some Asian immigrants are highly educated, high-income earners who speak English fluently, others are recent refugees from war, unrest, and social upheaval, and are less educated, and more likely to live in poverty. These varied experiences may appear as differences in the mortality of Asian/Pacific Islander subgroups; however, analyses of these data are not possible due to small numbers of reported deaths.

Mortality data for American Indian or Alaska Native residents of Connecticut are extremely limited due to the small numbers of this population. Between 2000 and 2004, American Indian or Alaska Native residents had lower all-cause mortality rates compared with Whites with an estimated eight fewer deaths per year. The only other causes of death with sufficient numbers for which to calculate reliable mortality rates for this subgroup were heart disease and cancer. American Indian or Alaska Native residents had similar heart disease mortality rates as Whites, and slightly lower estimated cancer mortality with an estimated five fewer deaths per year. National studies suggest that, historically, there has been substantial misclassification of American Indians or Alaska Natives on death certificates, and that this has not improved much over time (Arias et al. 2008).

INFECTIOUS DISEASE AND STD INCIDENCE (2001–2005)

Compared with Whites, Blacks or African Americans in Connecticut were disproportionately affected by all infectious and sexually transmitted diseases considered in this report for the 2001–2005 period. The rate of acute hepatitis B infection was 1.9 times with an estimated four excess events; invasive pneumococcal infection 1.8 times with 34 estimated excess events; tuberculosis 8.6 times with 24 estimated excess events; and HIV/AIDS 6.6 times that of Whites with 205 excess events. Blacks or African Americans were also disproportionately affected by high rates of sexually transmitted diseases with rates of chlamydia 18.1 times (2,788 estimated excess events), gonorrhea 28.8 times

(1,219 estimated excess events), and primary and secondary syphilis about 4.9 times (eight estimated excess events) that of White residents.

Hispanics had higher relative risks among all infectious diseases considered (acute hepatitis B statistics were not calculated because Hispanic ethnicity was counted separate from race). The rate of invasive pneumococcal infection was 1.1 times (5 estimated excess events), tuberculosis 8.0 times (24 estimated excess events), and HIV/AIDS 7.4 times (253 estimated excess events) that of Whites. Hispanics were also disproportionately affected by high rates of sexually transmitted diseases with rates of chlamydia 9.4 times (1,486 estimated excess events), gonorrhea 7.7 times (317 estimated excess events), and primary and secondary syphilis 2.2 times (3 estimated excess events) that of White residents.

Asian/Pacific Islanders had higher risks relative to the White population in Connecticut for tuberculosis (23 times higher with 23 excess events estimated), acute hepatitis B infection (3.0 times higher with three excess events estimated), and chlamydia (1.1 times higher with three excess events estimated). Relative to the White population, Asian/Pacific Islander residents had lower risk due to invasive pneumococcal infection, HIV/AIDS, and gonorrhea, and consequently, fewer estimated events or cases.

There were too few cases for six of the seven infectious and sexually transmitted disease conditions among American Indian or Alaska Native residents to calculate reliable statistics. Chlamydia was the one condition for which sufficient cases exist—Native American residents had 3.2 times the risk of White Connecticut residents with an estimated excess of 10 events per year.

Epidemiological studies suggest that geographical location and social networks in a given community, rather than race or ethnicity per se, are the salient factors to consider in understanding the dynamics of infectious and sexually transmitted diseases (Aral and Wasserheit 1998; Fullilove 1998). For example, while not all Black or African American and Hispanic Connecticut residents are at high risk for infectious and sexually transmitted diseases, they are more likely to live in high poverty neighborhoods where a core of high risk individuals live. Detailed analyses of risk factors, including place of residence, income level, and social networks, may help identify higher risk subgroups within Connecticut.

Earlier and more recent analyses suggest that the completeness of reported race and ethnicity data for chlamydia and gonorrhea may be higher in urban rather than suburban areas of Connecticut (see Hynes, et al. 1999, and Appendix III of this report). This would create a potential bias toward reporting race and ethnicity status more often for Black or African Americans and Hispanics, given their overrepresentation in urban areas of the state. Thus, the relative risks and excess events for Black or African Americans and Hispanics may be overestimated for chlamydia and gonorrhea.

PREGNANCY AND BIRTH OUTCOMES (2000–2005; 2002–2006)

The infant death (or mortality) rate is a key measure of the health of populations. For 2001 to 2005, the infant mortality rate for Black Connecticut residents was 3.3 times higher than that for White residents, with an estimated 44 excess deaths per year. Late or no prenatal care (no care within the first trimester of pregnancy) for Black mothers in 2002–2006 was 2.8 times that of White mothers, with an estimated annual excess of 665 Black mothers with late or no prenatal care. Low birth weight, a major contributor to infant mortality and long-term health problems, was 1.9 times higher among Black mothers compared with White mothers from 2002 to 2006, with an estimated 299 annual excess low birth weight births.

Hispanics in Connecticut experienced an infant mortality rate 1.7 times higher than that of White residents in 2001–2005, with an estimated 20 excess deaths per year. Late or no prenatal care for Hispanic mothers (2002–2006) was three times that of White mothers, with an estimated annual excess of 1,206 Hispanic mothers with late or no prenatal care. Low birth weight was 1.3 times higher among Hispanic mothers compared with White mothers (2002–2006), with an estimated 139 annual excess low birth weight births.

During 2001–2005, the infant mortality rate for Asians/Pacific Islanders in Connecticut was 60% of that for White residents, with an estimated three fewer deaths per year. Late or no prenatal for Asian/Pacific Islander mothers (2002–2006) was 1.6 times that of White mothers, with an estimated annual excess of 91 Asian/Pacific Islander mothers with late or no prenatal care. Low birth weight was 1.2 times higher among Asian/Pacific Islander mothers compared with White mothers (2002–2006), with an estimated 31 annual excess low birth weight births.

American Indians/Alaska Natives in Connecticut had an infant mortality rate that was similar to that of White residents (2001–2005). Late or no prenatal for American Indian/Alaska Native mothers (2002–2006) was 1.8 times that of White mothers, with an estimated annual excess of 12 American Indian/Alaska Native mothers with late or no prenatal care. Low birth weight was 1.2 times higher among American Indian/Alaska Native mothers compared with White mothers (2002–2006), with an estimated three annual excess low birth weight births.

HOSPITALIZATIONS (2005) AND EMERGENCY DEPARTMENT VISITS (2004)

Black Connecticut residents had higher hospitalization and emergency department visit rates for asthma, and all other conditions considered in this report (hospitalization rates for all circulatory conditions, diabetes, and diabetes with lower extremity amputations) relative to White residents. Blacks had 3.7 times the asthma hospitalization rate with 761 annual excess events in 2005, and 4.6 times the asthma emergency department visit rate in 2004 with 1,130 annual excess events. In 2005, Black residents had 1.4 times the hospitalization rate for circulatory conditions (1,369 annual excess events), and 3.8 times the diabetes and diabetes-related lower extremity amputation rates (753 and 137 annual excess events, respectively) of White residents.

Similarly, Hispanic Connecticut residents had higher hospitalization and emergency department visit rates for asthma, and higher hospitalization rates for diabetes and diabetes with lower extremity amputations relative to White residents. Hispanics had 3.9 times the asthma hospitalization rate with 736 annual excess events in 2005; 5.2 times the asthma emergency department visit rate in 2004 with 1,716 annual excess events; 2.3 times the diabetes hospitalization rate with 309 annual excess events in 2005; and 3.1 times the diabetes-related lower extremity amputation rate with 80 annual excess events relative to White residents in 2005. Hispanic residents had a similar rate of hospitalizations for circulatory diseases as Whites.

Asian/Pacific Islander Connecticut residents had lower hospitalization rates for asthma and all circulatory conditions relative to the White population in 2005, with an estimated 53 fewer asthma hospitalizations and 613 fewer hospitalizations for circulatory conditions per year. There were too few reported hospitalizations of Asian/Pacific Islander Connecticut residents for diabetes and diabetes with lower extremity amputation (2005) and asthma emergency department visits (2004) to calculate reliable rates.

American Indian or Alaska Native Connecticut residents had a lower hospitalization rate for all circulatory conditions relative to the White population in 2005, with an estimated 67 fewer hospitalizations per year for circulatory conditions. Asthma hospitalization rates for American Indian or Alaska Native Connecticut residents were similar to those of Whites. There were too few reported hospitalizations of American Indian or Alaska Native Connecticut residents for diabetes and diabetes with lower extremity amputation (2005) and asthma emergency department visits (2004) to calculate reliable rates.

FUTURE DIRECTIONS

Current state data provide a limited picture of the health status of various Connecticut population subgroups. In particular, although Asians are the fastest growing subgroup in Connecticut, there is still little is known about their risk factors for major chronic diseases and ability to access care. More detailed data on this exceedingly socioeconomically and ethnically diverse population is needed.

Compared with other population subgroups, there is relatively more health information collected and available about Hispanics in Connecticut. However, because the Connecticut Hispanic or Latino population is rapidly increasing in both size and diversity, more detailed information, particularly on issues related to access to quality health care and language barriers, is needed.

Mortality data show that Blacks or African Americans suffer disproportionately more than other racial and ethnic subgroups in Connecticut from the major chronic diseases of heart disease, stroke, diabetes, and other causes of death such as HIV/AIDS and homicide. Detailed information is lacking, however, on subgroups within the Black or African American population, as well as on the influences of poverty, low-income neighborhood environments, residential segregation, and discrimination on health outcomes.

Available health and social data are generally good for the White population in Connecticut relative to other subgroups; however, White residents are socioeconomically and ethnically diverse, and detailed information is lacking on the role of socioeconomic status, geographic area of residence, and living environments on health, as well as access to appropriate health care in this population.

It is important to note that certain racial and ethnic minority populations may fare better than the White population on a given indicator (e.g., age-adjusted suicide rates). It has been observed that protective factors such as social support, social networks, and other health practices may have positive influences on health outcomes for certain minority subgroups (e.g., Abraido-Lanza, et al. 1999). Additional investigation of such factors may offer insight into protective aspects of cultural practices on health outcomes.

This report has described other vulnerable populations in Connecticut, for which limited information is available. Such populations include residents of rural areas, sexual and gender minorities, persons with disabilities, immigrants and refugees, limited English proficiency populations, and homeless persons. While available national data show that each of these population groups have specific health needs and concerns, little systematically-collected health data are available on these populations in Connecticut.

CONCLUSION

This report has presented the contexts and descriptions of health disparities experienced by various populations in Connecticut. First, social context was provided by presenting the definition of "health disparities," and outlining selected sociodemographic characteristics of Connecticut residents. Social factors implicated in health disparities, such as socioeconomic position, behaviors, social support, stress, discrimination, and environmental exposures, were also discussed. Health outcomes for populations based on characteristics such as race, ethnicity, gender, educational attainment and income level were presented, as was the dearth of consistently-collected data on various vulnerable populations (i.e., older or younger persons, those living in rural areas, sexual and gender minorities, persons with disabilities, immigrants and refugees, limited English proficiency populations, and homeless persons).

Second, using available data from the state of Connecticut and the U.S. Census, this report has documented and described some disparities in the health status of Connecticut racial and ethnic minority groups relative to the White population. A few disparities by household income and education were also documented. The patterns of disparities documented here are generally consistent with previous analyses for Connecticut and with those observed nationally. With adequate resources and attention, a number of documented gaps in health status can be narrowed. Improvements in the quality of data collected will further increase our statewide capacity to accurately monitor and devise plans to reduce health disparities. Improvements in data quality involve several tasks including: consistent collection of race and ethnicity according to current federal standards; improved collection of other sociodemographic information, such as educational attainment, employment status, and preferred language, which are known to influence health outcomes; and enhanced use of geographic information system (GIS) management and routine performance of spatial analysis using residential address information, so that health outcomes can be reported for smaller geographic areas of the state.

In 2007, the Connecticut Department of Public Health (DPH) outlined a series of recommendations to enhance data collection and reporting and information technology, as well as increasing the knowledge of data users and reporters (Nepaul, Hynes, and Stratton 2007). In 2008, DPH set forth a *Policy on Collecting Sociodemographic Data* (DPH 2008x). Implementation of the recommendations of the 2007 report, in concert with the system-wide adoption of the DPH data collection policy, should greatly improve data quality and efforts related to monitoring and reporting of health disparities.

A more detailed and clearer picture of the health status of Connecticut population subgroups is achievable through increased collaboration between local communities and public and private agencies who are committed to providing more in-depth descriptions (and understanding) of the health needs and health status of the residents of our state. Such an effort would entail use of both qualitative (ethnography, participant observation, focus groups) and quantitative (survey) methods as well as increased use of geographic information systems (GIS) technology so that accurate and vivid depictions of the health status and needs of small neighborhoods are captured.

In 2010, the U.S. decennial census will provide an updated picture of the Connecticut population, and the *Healthy People 2020* health objectives for the nation will be released. These enterprises, together with this report, will provide Connecticut with important new information. This knowledge will be invaluable to public health practitioners, state and local leaders, academic researchers, and others engaged in identifying health priorities and objectives for the next decade that can help assure the conditions in which all people can be healthy.

PART V
APPENDICES, REFERENCES

APPENDIX I

PLACE OF BIRTH OF CONNECTICUT RESIDENT WOMEN WHO GAVE BIRTH, 2006

This appendix lists reported places of birth of Connecticut resident women who gave birth in 2006. "Places of birth" may include countries, provinces, states, territories, and protectorates.

Afghanistan
Albania
Algeria
Angola
Antigua/Barbuda/Redonda
Argentina
Armenia
Aruba
Australia/Ashmore Island/
Cartier Island
Austria
Azerbaijan
Bahamas
Bangladesh
Barbados
Belarus
Belgium
Belize
Benin
Bermuda Islands
Bolivia
Bosnia/Hercegovina
Brazil
British Columbia
Bulgaria
Burkina Faso/Upper Volta
Burma
Burundi
Cambodia
Cameroon
Canada
Cape Verde
Chile
China
Colombia
Congo (Brazzaville)
Costa Rica
Croatia
Cuba
Cyprus
Czech Republic
Denmark
Dominica
Dominican Republic
Ecuador
Egypt
El Salvador
England
Estonia
Ethiopia
Finland
France
Gambia
Georgia (Republic)
Germany
Ghana
Greece
Grenada
Grenadines/St. Vincent
Guam
Guatemala
Guinea
Guyana
Haiti
Honduras
Hong Kong
Hungary
Iceland
India
Indonesia
Iran
Iraq
Ireland
Israel
Italy
Ivory Coast
Jamaica
Japan
Jordan
Kazakhstan
Kenya
Kuwait
Kyrgyzstan
Laos
Latvia
Lebanon
Liberia
Libya
Lithuania
Macedonia
Malaysia
Malta
Mexico
Moldova
Mongolia
Morocco
Montserrat
Mozambique
Nepal
Netherlands Antilles
Netherlands
New Zealand
Nicaragua
Niger
Nigeria
Northern Ireland
Norway
Ontario
Pakistan
Panama
Paraguay
Peru
Philippine Islands
Poland
Portugal/Azores
Puerto Rico
Qatar
Romania
Russia (Federation)
Rwanda
Saudi Arabia
Scotland
Senegal

Sierra Leone
Singapore
Slovakia
Slovenia
South Africa
South Korea
Somalia
Spain
Sri Lanka
St. Kitts-Nevis
St. Lucia
Sudan
Surinam
Sweden
Switzerland
Syria
Taiwan (Republic of China)
Tanzania
Thailand
Togo
Trinidad/Tobago
Tunisia
Turkey
Uganda
Ukraine
United Kingdom
United States
Uruguay
Uzbekistan
Venezuela
Vietnam
Virgin Islands (British)
Virgin Islands (U.S.)
Yemen
Yugoslavia
Zaire
Zambia

Source: DPH 2008r.

APPENDIX II

TRIBAL AFFILIATIONS OF CONNECTICUT'S AMERICAN INDIAN OR ALASKA NATIVE RESIDENTS, 2000

The following is a partial list of tribal affiliations of Connecticut residents and the five tribes recognized by the State of Connecticut.

<u>American Indians</u>

- Abenaki Nation of Missiquoi
- Algonquin
- Apache
  - Apache
  - Mescalero Apache
  - San Carlos Apache
  - White Mountain Apache
- Arapahoe
- Arikara
- Blackfeet
- Brotherton
- Caddo
- Cahuilla
  - Agua Caliente Band of Cahuilla Indians
- California Tribes
  - Mattole
  - Bear River Band of Rohnerville Rancheria
- Canadian and Latin American Indian
  - Canadian Indian
  - Central American Indian
  - French American Indian
  - Mexican American Indian
  - South American Indian
  - Spanish American Indian
- Catawba Indian Nation
- Chemehuevi
- Cherokee
  - Cherokee
  - Cherokee Alabama
  - Cherokees of Northeast Alabama
  - Eastern Cherokee
  - Echota Cherokee
  - Nothern Cherokee Nation of Missouri and Arkansas
  - Western Cherokee
  - White River Band of the Chickamauga-Cherokee
- Cheyenne
  - Cheyenne
  - Northern Cheyenne
- Chickahominy
  - Chickahominy Indian Tribe
- Chickasaw
- Chippewa
  - Bad River Band of the Lake Superior Tribe
  - Grand Portage
  - Grand Traverse Band of Ottawa and Chippewa Indians
  - Keweenaw Bay Indian Community of the L'Anse and Ontonagon Bands
  - Minnesota Chippewa
  - Red Lake Band of Chippewa Indians
  - Saginaw Chippewa
  - St. Croix Chippewa
  - Sault Ste. Marie Chippewa
  - Turtle Mountain Band
  - White Earth
- Rocky Boy's Chippewa Cree
- Chitimacha Tribe of Louisiana
- Choctaw
  - Mississippi Band of Choctaw
  - Oklahoma Choctaw
- Choctaw-Apache Community of Ebarb
- Coharie
- Colville
- Comanche
- Costanoan
- Coushatta
- Cowlitz
- Cree
- Creek
  - Muscogee (Creek) Nation
  - Poarch Creek
- Croatan
- Crow
- Delaware
  - Delaware
  - Lenni-Lanape
  - Ramapough Mountain
- Eastern Tribes
  - Biloxi
  - Natchez
  - Golden Hill Paugussett
  - Southeastern Indians
  - Susquehanock
  - Waccamaw Siouan
  - Meherrin Indian Tribe
- Shoshone-Bannock Tribes of the Fort Hall Reservation
- Haliwa-Saponi
- Hidatsa
- United Houma Nation
- Indians of Person County
- Iroquois
  - Cayuga Nation
  - Iroquois
  - Mohawk
  - Oneida Nation of New York
  - Onondaga
  - Seneca
  - Seneca Nation
  - Tuscarora
- Juaneno (Acjachemem)
- Karuk Tribe of California
- Kickapoo
- Kiowa
- Klamath
- Long Island
  - Montauk
  - Poospatuck
- Luiseno
  - Pala Band of Luiseno Mission Indians
  - Pechanga Band of Luiseno Mission Indians
- Lumbee
- Maidu
- Maliseet
- Menonminee
- Miami
  - Indiana Miami
  - Miami
  - Oklahoma Miami
- Micmac
  - Aroostook Band
  - Micmac
- Me-Wuk

- Mohegan
- Monocan
- Nanticoke
- Narragansett
- Navajo
  - Tohajiileehee Navajo (Canoncito)
  - Navajo
- Nez Perce
- Nipmuc
- Northwest Tribes
  - Columbia
- Oneida Tribe of Wisconsin
- Osage
- Otoe-Missouria
- Ottawa
- Paiute
  - Paiute
  - Walker River
- Pamunkey Indian Tribe
- Passamaquoddy
- Pawnee
- Penobscot
- Pequot
  - Mashantucket Pequot
  - Pequot
  - Paucatuck Eastern Pequot
- Pima
- Pit River
  - Pit River Tribe of California
- Ponca
- Potawatomi
  - Citizen Potawatomi Nation
  - Potawatomi
  - Prairie Band of Potawatomi Indians
- Powhatan
- Pueblo
  - Hopi
  - Isleta
  - Laguna
  - Pueblo
  - Santo Domingo
  - Zia
  - Zuni
- Puget Sound Salish
  - Nooksack
  - Snoqualmie
- Quapaw
- Sac and Fox
  - Sac and Fox Tribe of the Mississippi in Iowa
  - Sac and Fox
- Salish
- Salish and Kootenai
- Schaghticoke
- Seminole
  - Florida Seminole
  - Seminole
- Shasta
- Shawnee
  - Absentee Shawnee Tribe of Indians of Oklahoma
  - Shawnee
- Shinnecock
- Shoshone
- Sioux
  - Blackfoot Sioux
  - Brule Sioux
  - Crow Creek Sioux
  - Dakota Sioux
  - Lower Brule Sioux
  - Oglala Sioux
  - Shakopee Mdewakanton Sioux Community (Prior Lake)
  - Rosebud Sioux
  - Sioux
  - Sisseton-Wahpeton
  - Sisseton Sioux
  - Standing Rock Sioux
  - Teton Sioux
  - Yankton Sioux
- Stockbridge-Munsee Community of Mohican Indians of Wisconsin
- Tohono O'Odham
- Ute
- Wampanoag
  - Gay Head (Aquinnah) Wampanoag
  - Mashpee Wampanoag
  - Seaconeke Wampanoag
  - Wampanoag
- Washoe
- Winnebago
  - Ho-Chunk Nation of Wisconsin
  - Winnebago
- Wintun
  - Cachil Dehe Band of Wintun Indians of the Colusa Rancheria
  - Wintun
- Wiyot
- Yaqui
- Yuman
  - Hualapai
  - Quechan
- Yurok
- American Indian
  - (Tribe Not Specified)

Alaska Natives

- Alaskan Athabascan
  - Alaskan Athabascan Nenana Native Association
  - Pedro Bay Village
  - Native Village of Tyonek
  - Kenaitze Indian Tribe
- Tlingit-Haida
  - Haida
  - Tlingit
- Tsimshian
- Eskimo Tribes
  - Eskimo
- Inuit
- Inupiat Eskimo
  - King Island Native Community
- Yup'ik
  - Algaaciq Native Village (St. Mary's)
- Aleut
- Chugach Aleut
- Koniag Aleut
- Unangan Aleut
  - Qagan Tayagungin Tribe of Sand Point Village
- Alaska Native
  - (Tribe Not Specified)
- Alaska Indian
  - (Tribe Not Specified)
- American Indian or Alaska Native
  - (Tribe Not Specified)

Source: U.S. Census Bureau 2004b.

APPENDIX III
DATA SOURCES USED IN THIS REPORT

A. CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC)

BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM (BRFSS)

The Behavioral Risk Factor Surveillance System (BRFSS) is a state-based random-digit-dialed telephone survey of civilian, non-institutionalized adults aged 18 years and older conducted in the 50 states, the District of Columbia, Puerto Rico, and other U.S. Territories. The survey, which is coordinated by the U.S. Centers for Disease Control and Prevention (CDC), is designed to monitor the prevalence of major behavioral risks associated with chronic disease, injuries, and preventable infectious diseases among adults. Hispanic or Latino ethnicity is determined by one question, and race designations are obtained from another question, and include the categories: White, Black or African American, Asian, Native Hawaiian or Other Pacific Islander, American Indian or Alaska Native, or Other. Race and ethnicity are based on the self-report of the interviewee.

The CDC defines a core set of questions that are asked by all states as part of the BRFSS. Individual states have the option of including additional questions on a variety of health topics. Since surveys such as the BRFSS include only a sample of the population of interest, all prevalence percentages represent an estimate of the true population percent. In order to calculate these estimates, data from the sample are weighted to be more representative of the entire population. BRFSS data are weighted to reflect the age and gender distribution of the Connecticut population as well as to account for the probability of selection for the survey. In addition, selection probability is affected by the number of individuals living in a household and the number of phone numbers serving a particular household.

Connecticut BRFSS presents estimates for the following racial and ethnic population subgroups: White, Non-Hispanic; Black, Non-Hispanic; and Hispanic. The numbers of American Indians or Alaska Natives, Asians, and Native Hawaiian or Other Pacific Islanders surveyed in Connecticut are too small to present reliable estimates.

B. U.S. CENSUS BUREAU

CENSUS OF THE POPULATION

The 2000 Census was conducted mainly through self-enumeration. Responses were based mostly on self-administered questionnaires. For the telephone and in-person interviews, census interviewers were instructed to read the questions directly from the questionnaire. The decennial census has two parts: 1) the "short form," which counts the population; and 2) the "long form," which obtains demographic, housing, social, and economic information from a 1-in-6 sample of households. Information from the long form is used for the administration of federal programs and the distribution of billions of federal dollars.

Hispanic or Latino ethnicity was asked prior to asking about race. The 2000 Census included fifteen separate response categories for race and three areas where respondents could write in a more specific race group. The response categories and write-in answers were combined to create the five Office of Management and Budget race categories (White, Black or African American, Asian, Native Hawaiian or Other Pacific Islander, American Indian or Alaska Native), plus "Some other race" (U.S. Census Bureau 2002, 3).

AMERICAN COMMUNITY SURVEY (ACS)

The ACS is a nationwide survey that will replace the decennial census' "long form" in future censuses and is a critical element in the Census Bureau's reengineered 2010 Census. The ACS collects and produces population and housing information every year instead of every ten years. In 2005, the ACS expanded its sample to housing units in all counties in the 50 states and the District of Columbia and to all 78 *municipios* in Puerto Rico. About three million housing unit addresses are sampled annually throughout the United States and Puerto Rico. In 2006, the ACS sample was expanded to include the population living in group quarters (e.g., nursing homes, correctional facilities, military barracks, and college/university housing) (U.S. Census Bureau 2008c). The ACS is conducted using three methods of data collection to contact households: Mail (Self-enumeration through mail-out/mail-back); telephone (Computer Assisted Telephone Interviewing [CATI]); and by personal visits (Computer Assisted Personal Interviewing [CAPI]) (U.S. Census Bureau 2008c).

"Beginning with the 2005 ACS, and continuing every year thereafter, 1-year estimates of demographic, social, economic and housing characteristics are available for geographic areas with a population of 65,000 or more. This includes the nation, all states and the District of Columbia, all congressional districts, approximately 800 counties, and 500 metropolitan and micropolitan statistical areas, among others" (U.S. Census Bureau 2008c). For rural areas and city neighborhoods or population groups of less than 20,000 people, it will take five years to accumulate a sample that is similar to that of the decennial census.

POPULATION ESTIMATES BY AGE, SEX, RACE, AND HISPANIC ORIGIN: 2000–2005

State population estimates by age, sex, race and Hispanic ethnicity (ASRH) are produced annually by the National Center for Health Statistics (NCHS). NCHS provides annual population estimates by race using broad, single-race categories. This is a simpler race classification format than the 31 single and multiple-race categories published by the U.S. Census in 2000 (DPH 2008y).

"Bridged estimates" are the result of statistically reallocating multiple-race counts to single-race categories. Bridged population estimates are particularly useful since many health data systems still collect information using single-race categories (e.g. White, Black, American Indian/Alaskan Native, and Asian/Pacific Islander). Bridged estimates provide rate denominators that can be used to calculate the race-specific rates used to monitor many health indicators (DPH 2008y).

These files contain estimates of the population of Connecticut by single year of age (age 0 to 4, 5 to 9,…85 and over), sex (male, female), modified race, and Hispanic Origin. Racial and ethnic categories for these population estimates are reported as follows: White (Hispanic); White (non-Hispanic); Black (Hispanic); Black (non-Hispanic); American Indian, Eskimo, and Aleut (Hispanic); American Indian, Eskimo, and Aleut (non-Hispanic); Asian and Pacific Islander (Hispanic); and Asian and Pacific Islander (non-Hispanic). Yearly estimates produced by DPH appear at the department website (http://www.ct.gov/dph) under Population Statistics. There is one file for each year's estimates, July 1, 2000; July 1, 2001; July 1, 2002; July 1, 2003; July 1, 2004; July 1, 2005 (DPH 2008y).

C. U.S. DEPARTMENT OF LABOR

SURVEY OF OCCUPATIONAL INJURIES AND ILLNESSES (SOII)

The Survey of Occupational Injuries and Illnesses (Annual Survey), conducted by the Bureau of Labor Statistics (BLS) in the U.S. Department of Labor, provides annual estimates of the numbers and incidence rates of work-related injuries and illnesses among private sector workers nationwide. Information is collected through an Annual Survey mailed to a stratified random sample of establishments. Employers are asked to provide information on all work-related injuries and illnesses recorded as required under the Occupational Safety and Health Administration (OSHA) record-keeping standard 29 CFR 1904. Recordable injuries and illnesses include those that result in loss of consciousness, one or more days away from work to recuperate, restricted work activity, transfer to another job, or medical treatment beyond simple first aid. More detailed information on worker demographics and the nature and circumstances of the injuries and illnesses is collected for cases resulting in days away from work. The Annual Survey also collects data on the average number of workers employed and the total hours worked at each establishment, information that allows BLS to calculate rates. Since 1996, the Survey sample has included approximately 180,000 private sector establishments nationwide.

The BLS collects labor force, employment, and unemployment statistics for Whites, Blacks or African Americans, Asians, and persons of Hispanic or Latino ethnicity (U.S. Bureau of Labor Statistics (BLS) 2008).

Because the Annual Survey is based on a sample of all establishments, the Survey findings are estimates with corresponding sampling errors. In some participating states, the sample sizes are insufficient to generate statistically reliable state-specific results for all the detailed categories BLS publishes for the nation. BLS adheres to strict publication guidelines based on the reliability of the estimates; numbers and rates are not published or released by BLS if the estimates do not meet these guidelines.

The self-employed, farms with fewer than 11 employees, private households, federal agencies, and the military are not covered in the Survey. In states that do not participate or choose not to collect public sector data, the Survey also does not cover state and municipal employees. In addition, it is well recognized that the Survey undercounts work-related illnesses, especially long-latency illnesses that may not appear until years after individuals have left their place of employment. There is also some evidence that work-related injuries are underreported.

CENSUS OF FATAL OCCUPATIONAL INJURIES (CFOI)

The Census of Fatal Occupational Injuries (CFOI), conducted by the BLS in the U.S. Department of Labor, is a federal-state cooperative program that compiles an annual census of fatal occupational injuries at both the state and national levels. For a death to be counted, the decedent must have been working for pay, compensation or profit at the time of the event, engaged in a legal work activity, or present at the site of the incident as a requirement of his or her job. The census includes unintentional injuries (e.g., falls, electrocutions, motor vehicle crashes) and intentional injuries (homicide and suicide). Deaths due to occupational illnesses are excluded.

CFOI uses multiple data sources to identify and document work-related injury deaths. These sources include, among others, death certificates, workers' compensation records, reports to regulatory agencies, and medical examiner and police reports, as well as reports in the news media. Multiple sources are used because studies have found that no single source captures all deaths. In addition, two or more sources are required to ensure an accurate count by independently substantiating that incidents were work-related. Due to this methodology, CFOI counts are considered a complete or nearly complete ascertainment of work-related injury deaths.

CURRENT POPULATION SURVEY (CPS)

The Current Population Survey (CPS) is a monthly survey of about 60,000 households representing the civilian non-institutionalized population of the United States. It is conducted by the U.S. Census Bureau for the Bureau of Labor Statistics. The CPS ascertains demographics, employment status, weekly hours worked, and industry and occupation of each household member aged 15 years and older. The inquiry relates to activity or status during the calendar week that includes the 12th day of the month.

The CPS undercounts certain workers who have no permanent address or are migratory in nature. Because CPS estimates are based on a survey rather than a complete census of the population, they are subject to sampling error. The categories for collecting data on race or ethnicity are as follows: White, Black or African American, Asian (as of 2002), and Hispanic or Latino ethnicity (BLS 2008).

The occupational and industrial classifications of CPS data for 1992 through 2002 were based on the coding systems used in the 1990 Census. Since then, the CPS has changed its coding systems for occupation and industry. More information can be found at the U.S. Census Bureau website: http://www.census.gov.

D. CONNECTICUT DEPARTMENT OF PUBLIC HEALTH (DPH)

INFECTIOUS DISEASES SECTION

The Infectious Diseases Section collects data on the occurrence of selected infectious diseases for which reporting by health care providers and laboratories to DPH is required pursuant to Connecticut General Statutes Section 19a-215 and the Annual Lists of Reportable Diseases and Laboratory Findings. Reports on each individual with a reportable disease or laboratory finding are submitted by health care providers and laboratories to DPH. Among the required elements for each report, if the information is available, is information on the race and on the ethnicity of each person being reported.

The recorded race and ethnicity of each person may be self-reported, if the individual filled out his/her own registration information on site, or it may be based on the observation of the health care provider. The Department of Public Health does not attempt to validate the reported race and ethnicity. While the standard state report forms contain separate categories for race and ethnicity and options based on the U.S. Bureau of the Census, it is unusual when “Hispanic” is checked to have a race category also completed. Thus, most reportable disease information is reported to DPH in mutually exclusive race and ethnicity categories: White, non-Hispanic; Black, non-Hispanic; Hispanic of any race; Asian or Pacific Islander, non-Hispanic; American Indian or Alaska Native, non-Hispanic; and Other, non-Hispanic.

Completeness of reporting of race and ethnicity is variable. It is 99–100% complete for diseases for which there is routine medical chart review or follow-up of the patient or a need to get additional information. Such diseases include: syphilis, tuberculosis, most vaccine-preventable diseases of childhood, hepatitis B and AIDS. Race and ethnicity data are less complete for diseases for which most reporting is laboratory-based and for which the laboratories are not directly attached to clinical settings where information on the person’s race and ethnicity is available. Such diseases include: chlamydia (66% complete), gonorrhea (75% complete) and most food-borne diseases (as low as 20% complete).

A caveat to interpreting race and ethnicity data when reporting is less than 100% complete is that race and ethnicity data are apt to be more complete when they come from urban areas rather than suburban areas. For chlamydia for 2007, for example, the reports of persons living in the largest urban areas included race and ethnicity status 73% of the time, whereas those coming from other parts of the state recorded race and ethnicity only 55% of the time. This creates a possible bias toward reporting race and ethnicity status more often on Blacks and Hispanics than Whites, given that these two minority groups make up a higher percentage of the population of urban than non-urban areas of Connecticut. Thus, the relative risk of disease for these two minority groups could be somewhat over-estimated for some diseases such as chlamydia and gonorrhea.

Other considerations when interpreting race and ethnicity data for reportable diseases are whether there could be any selective bias in detection/diagnosis of the diseases by race and ethnicity (only confirmed cases are counted, so if one does not get tested, one does not get counted), and whether there could be any selective reporting of the diseases once diagnosed by race and ethnicity.

OFFICE OF VITAL RECORDS: BIRTH AND DEATH REGISTRIES

These registries are part of the state's vital statistics database that contains records pertaining to births and deaths that occur within the state as well as those events involving Connecticut residents that occur in other states and Canada. Registration of births in Connecticut is complete and there is virtually no underreporting of deaths. Birth data are highly reliable for two reasons: the race and ethnicity designations of infants are based on the mothers' self-reports. The statistics surrounding birth events are calculated using the number of live births in the denominator, thus both the numerator and the denominator are from the same source. The race and ethnicity designation is reported in mutually exclusive race and ethnicity categories: "White, non-Hispanic;" "Black, non-Hispanic;" "Hispanic of any race;" "Asian or Pacific Islander, non- Hispanic;" "American Indian or Alaska Native, non-Hispanic;" and "Other, non-Hispanic."

The race and ethnicity designation for death statistics is less reliable than that of birth statistics because the information is typically based on report by next of kin, a funeral director, coroner, or other official. Race and ethnicity designation based on observation may be reported incorrectly. A second source of error is the fact that death rates are calculated using two different sources of data—the death certificate for the numerator and the Census Bureau population estimates for the denominator. Errors in under- or over-counting populations by race and ethnicity will affect the death rates reported for these groups. Mortality data are reported using race categories that include persons of Hispanic origin (all Whites; all Blacks; all American Indians, Eskimos, and Aleuts; all Asian and Pacific Islanders) and by Hispanic ethnicity (Hispanics of any race).

Data for the Birth and Death Registries follows National Center for Health Statistics guidelines for coding race and Hispanic ethnicity of persons. In this coding scheme, persons of Brazilian ancestry or origin are included in the Hispanic category.

CONNECTICUT LINKED FILE OF LIVE BIRTHS AND INFANT DEATHS

This file comprises linked vital records for infants born in a given year who died in that year or the next year before their first birthday. The use of linked files avoids discrepancies in the reporting of race between the birth and infant death certificates. Data from this file are reported by race categories that include persons of Hispanic origin (all Whites; all Blacks; all American Indians, Eskimos, and Aleuts; all Asian and Pacific Islanders) and by Hispanic ethnicity (Hispanics of any race).

LEAD POISONING PREVENTION AND CONTROL PROGRAM (LPPCP)

LPPCP at the Department of Public Health collects data on blood lead levels for children who have not yet reached their sixth birthday. These values are reported on a mandatory basis by health care providers and laboratories according to state statute (Connecticut Public Act 07-2). Laboratories that perform blood lead tests are required to submit elevated blood lead test reports (i.e., ≥10 mcg/dL) to the CT DPH and to the local health department serving the town where the person or child lives. At least monthly, laboratories are required to submit to CT DPH a comprehensive report of all blood lead test results for Connecticut residents. Effective January 1, 2009, primary care providers in Connecticut will be required to conduct annual lead screening of every child age 9 months through 35 months, and to conduct lead screening of any child 36 through 72 months who has not previously been screened. Passed in 2007, Connecticut's Public Act No. 07-2 will expand screening to all Connecticut children, regardless of income or location.

At the end of 2004, the LPPCP upgraded the blood lead surveillance system and now has the ability to link birth records, Medicaid data, environmental data and child blood lead data. It should be noted that prior to 2004, lead surveillance reports were based on the number of valid or confirmed blood tests. Between 2004 and 2006, the surveillance reports were based on the number of individual children. Hispanic or Latino ethnicity is determined by one question, and race designations are obtained from another question, and include the categories: White, Black, Asian, Hawaiian or Pacific Islander, Native American, or Unknown. In this database, race categories *include* persons of Hispanic or Latino ethnicity.

E. OFFICE OF HEALTH CARE ACCESS

CONNECTICUT HOSPITAL DISCHARGE ABSTRACT AND BILLING DATABASE

This database, maintained by the Office of Health Care Access (OHCA), is the source of inpatient hospitalization data. It contains patient-level demographic, clinical, and billing data for all non-federal acute care hospitals in the state. In addition to age, gender, and town of residence, the demographic data elements include race and ethnicity. Based upon observation of the patient rather than self-reporting by the patient, race is designated as: White, non-Hispanic; Black, non-Hispanic; Asian and Pacific Islander, non-Hispanic; and American Indian, Asian/Pacific Islander, and Other Non-White, Non-Hispanic. Ethnicity is designated as: Hispanic or Non-Hispanic. There is a separate hospitalization category—but no separate population category—for "Other Non-White, Non-Hispanic." There is a missing race and ethnicity frequency of 8 (DPH 2008e).

It should be noted that counts reflect hospitalizations, not persons. For example, a patient admitted to a hospital on two separate occasions in 2005 would be counted twice in these data. Another limitation of the data is the fact that it is an administrative data set. It contains diagnoses and procedures based on ICD-9-CM codes. The literature contains many reports on the validity and reliability of hospital discharge data with clinical conditions emphasizing discrepancies between ICD-9-CM codes and the clinical data.

F. CONNECTICUT HOSPITAL ASSOCIATION: ChimeData

Connecticut Hospital Association (CHA) Data Services provides offers data collection and reporting services to its acute care hospital members through its ChimeData program. ChimeData maintains a proprietary healthcare information system, which incorporates clinical, financial, patient demographic, and provider information data submitted voluntarily by Connecticut's acute care, non-governmental hospitals. ChimeData collects and edits administrative discharge data from inpatient admissions, hospital-based outpatient surgery, and emergency department (ED) non-admissions. Data are submitted to CHIME under individual contract with each participating facility (Peng, Rodriguez, and Hewes 2008; CHA 2008).

ChimeData's is the most comprehensive hospital database in the state, containing nearly 31 million patient encounters dating back to 1980. ChimeData collects and edits administrative discharge (UB92 claims-based) data from inpatient admissions, hospital-based outpatient surgery, and emergency department (ED) non-admissions.

Data elements for patient race and ethnicity are based upon observation of the patient rather than self-report. As such, they are more subject to misclassification. Data are presented in racial categories exclusive of Hispanic ethnicity (White, non-Hispanic; Black, non-Hispanic; Other, non-Hispanic) and Hispanic ethnicity (Hispanics of any race).

APPENDIX IV
GLOSSARY

acculturation. The cultural give-and-take between two groups of people due to “continuous first-hand contact, with subsequent changes in the original culture patterns of either or both groups” (Redfield, Linton, and Herskovits 1936, 149). Acculturative processes especially affect persons in non-dominant social or economic positions, as they may have to give up their customs and beliefs in order to survive in their new environment.

African American. See **Black or African American**.

age-adjusted BRFSS rates. Some of the Behavioral Risk Factor Surveillance System (BRFSS) rate estimates presented in this report were age-adjusted, using the direct method, in order to eliminate differences in crude rates in populations of interest that result from differences in the populations’ age distributions, such as those of Hispanics and Whites. The following age distributions and age-adjustment weights, based on the 2000 projected U.S. population, were used (Klein and Schoenborn 2001):

Table 1. Age Distributions and Age-adjustment Weights, 2000 Projected U.S. Population

Age	Population in thousands	Adjustment weight
18 years and over	203,851	1.000000
18 – 24 years	26,258	0.128810
25 – 44 years	81,892	0.401725
45 – 64 years	60,991	0.299194
65 years and over	34,710	0.170271

age-adjustment. “Age adjustment, using the direct method, is the application of observed age-specific rates to a standard age distribution to eliminate differences in crude rates in populations of interest that result from differences in the populations’ age distributions. This adjustment is usually done when comparing two or more populations at one point in time or one population at two or more points in time. Age adjustment is particularly relevant when populations being compared have different age structures, for example, the U.S. white and Hispanic populations….” (Klein and Schoenborn 2001).

age-adjusted hospitalization rates (AAHR). AAHRs are used to compare relative hospitalization risk across groups and overtime. Age distributions were based on the 2000 U.S. standard million population distribution in 18 age groups. These 18 age groups are presented in Table 1 below, under **age-adjusted mortality rates**.

age-adjusted mortality rates (AAMR). AAMRs are used to compare relative mortality risk across groups and over time. They are not actual measures of mortality risk but rather an index of risk. They are weighted statistical averages of the age-specific death rates, in which the weights represent the fixed population proportions by age (Murphy 2000). The age-adjusted rates in these tables were computed by the direct method. Calculation of AAMRs was based on Fleiss’s (1981) formula and calculation of the standard error of AAMRs was based on that of Keyfitz (1966). The 1940 and 2000 U.S. standard million population distributions are shown below:

Table 2. 1940 and 2000 U.S. Standard Million Population

Age group	1940	2000
0–4	80,057	69,136
5–9	81,151	72,533
10–14	89,209	73,032
15–19	93,665	72,169
20–24	88,002	66,477
25–29	84,280	64,529
30–34	77,787	71,044
35–39	72,501	80,762
40–44	66,744	81,851
45–49	62,696	72,118
50–54	55,116	62,716
55–59	44,559	48,454
60–64	36,129	38,793
65–69	28,519	34,264
70–74	19,519	31,773
75–79	11,423	26,999
80–84	5,878	17,842
85+	2,765	15,508
Total	1,000,000	1,000,000

age standardization. This is a technique that allows for the comparison of death rates in two or more populations. The National Center for Health Statistics (NCHS) used the 1940 standard million population in reporting national mortality statistics for over 50 years. Implementation of the new year 2000 population standard began with deaths occurring in 1999. Age-adjustment based on the year 2000 standard often results in age-adjusted death rates that are larger than those based on the 1940 standard. The new standard affects trends in age-adjusted death rates for certain causes of death and decreases race and ethnicity differentials in age-adjusted death rates (Anderson and Rosenberg 1998).

AIDS. Acquired immunodeficiency syndrome.

Alaska Native. See **American Indian or Alaska Native**.

American Indian and Alaska Native. Race category used by the U.S. Census Bureau, according to current Office of Management and Budget (OMB) standards, to refer to persons who trace their ancestry to any of the original peoples of North America, including Alaska, and who maintain cultural identification by self-identification or tribal affiliation. “Alaska Native” encompasses the

U.S. Census designations of Eskimo and Aleut (See Appendix II) (U.S. Census Bureau 2000a, 2001, 2).

Asian. Race category used by the U.S. Census Bureau, according to current Office of Management and Budget (OMB) standards, to refer to persons having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent; for example, people who indicated their race or races as “Asian Indian,” “Chinese,” “Filipino,” “Korean,” “Japanese,” “Vietnamese,” “Other Asian,” “Burmese,” “Hmong, “Pakistani,” or “Thai” (U.S. Census Bureau 2000a, 2001, 2).

Asian/Pacific Islander, Asian American/Pacific Islander (A/PI, AAPI). See **Asian** and **Native Hawaiian or Other Pacific Islander**.

Behavioral Risk Factor Surveillance System (BRFSS). See Appendix III: Data Sources, under Centers for Disease Control and Prevention.

birth rate. This rate, expressed as live births per thousand population, is calculated by dividing the number of live births in a population in a given year by the midyear resident population estimate or census population, according to the equation:

$$\text{Birth rate} = \frac{\text{Total live births}}{\text{Total population}} \text{ x } 1000$$

birth weight. The first weight of a fetus or infant at time of delivery. This weight is usually measured during the first hour of life, before postnatal weight loss occurs.

Black or African American. Race category used by the U.S. Census Bureau, according to current Office of Management and Budget (OMB) standards, to refer to persons having origins in any of the Black racial groups of Africa (U.S. Census Bureau 2001, 2). It includes people who indicated their race or races on the Census as “Black, African American, or Negro,” or wrote in entries such as African American, Afro American, Nigerian, or Haitian (U.S. Census Bureau 2001, 2).

body mass index (BMI). Body mass index (BMI), or weight adjusted for height, is a widely used screening method for obesity. Medical guidelines identify normal/desirable weight as a BMI under 25, overweight as a BMI of 25 to 29.9, and obese as a BMI of 30 or more (U.S. Preventive Services Task Force 2005).

cause-of-death classification. Mortality statistics were compiled in accordance with the World Health Organization (WHO) regulations, which specify that member nations classify causes of death by the current Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death, which is the Tenth Revision of the International Classification of Diseases [ICD-10] (World Health Organization 1992).

Tabulations of cause-of-death statistics are based solely on the underlying cause of death unless otherwise stated. The “underlying” cause of death is the disease or injury that initiated the series of events leading directly to death, or the circumstances of the event that resulted in the fatal injury. If more than one cause or condition of death is entered, the underlying cause is then determined by the sequence of conditions on the death certificate and selection rules of the ICD (Murphy 2000).

Examination of the combination of all listed causes can shed additional light on factors related to mortality. Therefore, for selected diseases, “related” causes of death including both underlying and non-underlying (or “contributing”) causes, are reported. Appendix V contains the coding for causes of deaths included in this report with their ICD-10 codes.

cause-of-death rankings. Cause of death rankings are based on the National Center for Health Statistics List of 113 Selected Causes of Death (Anderson 2001). Ranks are based on the total number of deaths occurring during a specific time period. These tables rank number of deaths by gender, race and ethnicity for the period 2000–2004.

cline, clinal. Refers to gradual changes in morphology or physiology in human groups across environmental or geographic areas.

culture. The learned, patterned sets of ideas and behaviors that are acquired and used by people as members of society (Lavenda and Schultz 2007). Culture includes both non-material products (such as ideas, beliefs, languages, and religions) and material products, (such as food, clothes, houses, and cities).

current smokers. Persons who reported smoking at least 100 cigarettes in their lifetimes and presently smoke some days or every day.

disability. The U.S. Census 2000 defined people as having a disability if they responded "yes" to: 1) having a "sensory, physical, mental, or self-care disability; 2) having difficulty "going outside the home"; and/or 3) having an "employment disability" (U.S. Census Bureau 2003c, 2–3). The Americans with Disabilities Act of 1990 defines disabilities as: "a) a physical or mental impairment that substantially limits one or more of the major life activities of such individual; b) a record of such and impairment; or c) being regarded as having such impairment" (Americans with Disabilities Act or 1990, 42 U.S.C. Chap. 126 § 12102).

disparity. "The quantity that separates a group from a specified reference point on a particular measure of health that is expressed in terms of a rate, percentage, mean, or some other quantitative measure" (Keppel et al. 2005).

emergency department (ED). A hospital facility that provides unscheduled outpatient services 24 hours a day for conditions requiring immediate care.

environmental justice. This refers to "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, culture, education, or income with respect to the development, implementation, and enforcement of environmental laws, regulations and policies" (U.S. Environmental Protection Agency [EPA] 2008). As signed by President Clinton in 1994, Executive Order 12898 requires that all human health and environment-related federal programs ensure that no group should disproportionately bear negative environmental consequences, and that potentially affected residents should have meaningful opportunities to take part in decision-making processes about environment- and health-related operations (EPA 2008).

ethnicity. This term refers to the cultural, behavioral, religious, linguistic, and/or geographical commonalities imputed to people belonging to a particular group, as opposed to genetic heritability. The boundaries of authenticity (that is, who or what "counts" as being a member of an ethnic group) are often changeable and can depend on social, political and historical situations. In the United States, federal officials have determined that for data collection purposes, there are two "ethnicities": Hispanic or Latino, or Not Hispanic or Latino (OMB 1997; U.S. Census Bureau 2000a, 2001) (See Appendix VII).

excess deaths, **excess events.** Excess deaths or excess events refer to those deaths that would not have occurred if one population subgroup (e.g., Black or male) had the same death rate as another population subgroup (White or female). Excess deaths (or events) are calculated as follows:

Excess deaths (or events) = Number of deaths (or events) x [1 – (1 / relative risk)]

The estimated excess death (events) figures provided in these tables use the overall age-adjusted rate as the basis for assessing the relative risk in each race, ethnic, and gender group. For purposes of these estimates, the relative risk is treated as being equal over all ages. This assumption may not be true to the same extent for each cause of death or for each race, ethnic, and gender subgroup.

gender. This term refers to the cultural roles assigned to males or females, which vary considerably by society (how to behave like a "man" or a "woman"). The term *"sex"* refers to the physical characteristics that distinguish males from females in a species. In common usage, however, the two terms often become conflated (See Appendix VII).

gender identity minority. Gender identity refers to the ways in which one identifies with the available gender categories in a society (in the U.S.: "man" and "woman") (GLMA and LGBT Health Experts 2001, 445). A person's gender identity may not always match his or her biological sex. In this case the person might be termed a "*transgender*" individual: "a person whose gender identity or gender expression is not congruent with his or her biological sex" (GLMA and LGBT Health Experts 2001, 448).

Hispanic or Latino. See **ethnicity** and Appendix VII. Ethnicity category used by the U.S. Census Bureau, according to current Office of Management and Budget (OMB) standards, to refer to persons of Mexican, Puerto Rican, Cuban, South or Central American, or other Spanish culture or origin. Individuals identified as "Hispanic or Latino" can be of any race, and are also counted in the race breakdown as either "White," "Black or African American," "Asian" Native Hawaiian or Other Pacific Islander," "American Indian or Alaska Native." The category includes persons of Hispanic origin who self-identify as Spanish, Spanish-American, Hispanic, Hispano, or Latino (U.S. Census Bureau 2000a, 2001).

Hispanic mortality paradox. See **Latino mortality paradox.**

HIV. Human immunodeficiency virus.

homeless. The McKinney-Vento Homeless Assistance Act of 1986 (42 U.S.C [11301] [1987]) defines a "homeless" individual as someone who: "lacks a fixed, regular, and adequate nighttime residence; and has a primary nighttime residence that is (a) a supervised publicly or privately operated shelter designed to provide temporary living accommodations, (b) an institution that provides a temporary residence for individuals intended to be institutionalized, or (c) a public or private place not designed for, or ordinarily used as, a regular sleeping accommodation for human beings" (e.g., vehicles, streets, parks, subway tunnels, or abandoned buildings) (42 U.S.C. [11301] [1987]). Other categories include "precariously housed" or "near homeless" populations who may be "doubled-up" in friends' or family residences, or in crowded or substandard housing (U.S. Department of Housing and Urban Development 2007:1–2; MATRIX Public Health Consultants 2003, 52–3; Connecticut Coalition to End Homelessness et al. 2007, 13).

hospitalization. Admission as a registered inpatient into one of Connecticut's acute care general hospitals, with a stay of 24 hours or more. In this report, the term is used synonymously with discharge (the formal release of a patient from a hospital), because patient-specific information on hospitalizations derive from the hospital discharge abstract and billing data base maintained by the Office of Health Care Access.

Table 3. Coding Used for Selected Causes of Hospitalizations

Cause of Hospitalization	ICD-9-CM Code[a]
Asthma	493
Circulatory Conditions	390–459
Diabetes	250
Diabetes with Lower Extremity Amputation	Any diagnosis of 250 with a procedure code 84.1 and not having 895–897. Denominator for rate is total population, not the estimated number of persons with diabetes.
[a] Principal diagnosis unless otherwise specified.	

immigrant. The term “immigrant” as used by the U.S. Census Bureau includes people who are considered to be “foreign-born” and refers to: “anyone who is not a U.S. citizen at birth. This includes naturalized U.S. citizens, Lawful Permanent Residents (immigrants), temporary migrants (such as students), humanitarian migrants (such as refugees), and persons illegally present in the United States” (U.S. Census Bureau Question and Answer Center 2007).

ICD-9. See **International Classification of Diseases.**

ICD-9-CM. The International Classification of Diseases, Ninth Edition, Clinical Modification, which provides procedure codes for morbidity data. The procedures are classified as diagnostic and other non-surgical procedures or as surgical operation. See also **International Classification of Diseases.**

ICD-10. See **International Classification of Diseases.**

incidence: The number of cases of an illness having their onset during given period of time in a specified population (e.g., for infectious diseases); more generally, the number of new events, commonly expressed as a rate.

$$\text{Incidence rate} = \frac{\text{Number of new cases}}{\text{Population at risk}} \text{ x } 1000 \text{ or } 100{,}000$$

infant death. A death of an individual less than 1 year (365 days) of age.

infant mortality rate (IMR). This is the number of deaths of infants less than one year old, per 1000 live births. The IMR is often used as a barometer of a nation’s commitment to care for its most vulnerable members.

$$\text{Infant death rate} = \frac{\text{Number of infant deaths}}{\text{Number of live births}} \text{ x } 1{,}000$$

International Classification of Diseases (ICD). The ICD has been the internationally accepted coding system for determining cause of death since the early 1900s. It is periodically revised. The Ninth Revision **(ICD-9)** was in use from 1975 through 1998. Beginning with 1999 deaths, the Tenth Revision **(ICD-10)** is being used.

intersex, intersexual. "A broad term that is used to describe individuals who were born with a procreative or sexual anatomy that is different from the 'standard' categorical definitions of sex as male or female. There are many causes of intersex, and intersex anatomy can take a variety of forms. Intersex characteristics may not be visible until puberty or when an individual attempts to reproduce. *Intersex* has replaced the term *hermaphrodite*" (Ferber, Holcomb, and Wentling 2009, 556) (See Appendix VII).

late or no prenatal care. No prenatal care received at any time during the pregnancy, or prenatal care that was initiated after the first pregnancy.

Latino. See **Hispanic or Latino**.

Latino (Hispanic) mortality paradox. A term used by researchers to describe the following observation: Despite their less favorable socioeconomic profile, which would supposedly predispose them to higher mortality rates, Latinos in the United States have lower age-adjusted, all-cause mortality than do White, non-Latinos. This observation stands in contrast to the Black or African American mortality pattern, which is a lower socioeconomic profile and a higher all-cause mortality rate compared with Whites (Abraido-Lanza, et al. 1999; Smith and Bradshaw 2006).

leading cause of death. See **cause of death rankings.**

live birth. The complete expulsion or extraction from the mother of a product of conception, regardless of the duration of pregnancy; after such separation, shows signs of life (e.g., heartbeat, pulsation of the umbilical cord, or movement of voluntary muscles).

low birth weight. A birth weight of less than 2,500 grams (approximately 5 lbs., 8 oz).

minority. A group of people that relative to others in the sociopolitical hierarchy, is in a position of cultural and political non-dominance and disadvantage (Kottak 2007, 62–3).

morbidity. The extent of illness, injury, or disability in a defined population, expressed as general or specific rates of incidence or prevalence. Sometimes used to refer to any episode of disease.

Native American. See **American Indian and Alaska Native**.

Native Hawaiian and Other Pacific Islander (NHOPI). Race category used by the U.S. Census Bureau, according to current Office of Management and Budget (OMB) standards, to refer to persons having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands (U.S. Census Bureau 2001, 2). It includes people who indicated their race or races as "Native Hawaiian," "Guamanian or Chamorro," "Samoan," or "Other Pacific Islander," or wrote in entries such as Tahitian, Mariana Islander, or Chuukese (U.S. Census Bureau 2001, 2). U.S. citizens form a part of this category (e.g., people born in Hawaii, Guam, and other Territories or Protectorates of the U.S.), but this category also encompasses citizens of other Pacific Island states and of Pacific Island sociocultural heritage and geographic ancestry.

obesity. See **body mass index (BMI).**

Office of Management and Budget (OMB). Part of the Executive Branch of the federal government, the OMB "analyzes issues and presents options for national policy in the areas of budget, legislation, regulation, information, financial management, and procurement." In addition, the OMB "coordinates agencies' implementation of laws and develops government-wide policies that guide Federal agencies in areas such as procurement, privacy and security, and financial management" (OMB 2008). The OMB's *Race and Ethnic Standards for Federal Statistics and Administrative Reporting (Statistical Policy Directive No. 15)* of 1977 was the first attempt by the U.S. government to standardize race and ethnicity categories across all state agencies (OMB 1977; Nepaul, Hynes, and Stratton 2007). The 1977 categories "implemented the requirements of Public Law 94-311 of June 16, 1976, which called for the collection, analysis, and publication of economic and social statistics on persons of Spanish origin or descent" (OMB 1977). The OMB's *Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity* continued refining these standards, and required that all producers of federal statistics should be compliant with the standards by January 1, 2003 (Nepaul, Hynes, and Stratton 2007).

"Other" race. The categories "Other" or "Unknown" are sometimes used by databases to report and to record information race or ethnicity information. The term may mean a number of things: 1) that numbers of respondents were so small that the database compiled all information on smaller minority groups into one larger "Other" category; 2) that individuals filling out forms did not identify with the particular race or ethnicity choices given; or 3) that an observer filling out forms did not know or could not decide the race or ethnicity of the patient or client. (See Appendix VII).

overweight. See **body mass index (BMI)**.

Pacific Islander. See **Native Hawaiian and Other Pacific Islander.**

population bases. Population bases for computing rates are taken from the U.S. Census Bureau's *Estimates of the population of states by age, sex, race, and Hispanic origin*. These data are estimates of the population of Connecticut by 5-year age groups (age 0 to 4, 5 to 9,…85 and over), sex (male, female), modified race (White; Black or African American; American Indian or Alaska Native; Asian and Pacific Islander) and Hispanic origin (Hispanic or non-Hispanic) for each year, July 1, 2000 through July 1, 2005.

poverty. The federal government issues two different measures of poverty: poverty thresholds and poverty guidelines. *Poverty thresholds* are the original version of the federal poverty measure developed by the Social Security Administration, and are used for statistical purposes. The thresholds are updated annually by the U.S. Bureau of the Census based on changes in the consumer price index, and comprise a set of income thresholds that vary by family size and composition, taking into account age (under age 65 or age 65+) and number of related children under age 18. *Poverty guidelines* are simplified poverty thresholds, used for determining eligibility for programs. They are updated annually by the U.S. Department of Health and Human Services, and printed in the Federal Register. Poverty guidelines pertain to family units by size only, without regard to age or number of children. The 2007 poverty thresholds and 2008 poverty guidelines for family units of four or fewer persons are shown below.

Table 4. Federal Poverty Guidelines (2008) and Thresholds (2007)

	2008 U.S. DHHS Poverty Guidelines	*2007 U.S. Census Bureau Poverty Thresholds*					
		Related children under 18 years of age					
Size of Family Unit		None	One	Two	Three	Four	Five
One person	$10,400						
<65 years		$10,787					
65+ years		9,944					
Two persons	14,000						
One <65 yrs.		13,884	$14,291				
One 65+ yrs.		12,533	14,237				
Three persons	17,600	16,218	16,689	$16,705			
Four persons	21,200	21,386	21,736	21,027	$21,100		
Five persons	24,800	25,791	26,166	25,364	24,744	$24,366	
Six persons	28,400	29,664	29,782	29,168	28,579	27,705	$27,187
Seven persons	32,000	34,132	34,345	33,610	33,098	32,144	31,031

Source: Adapted from U.S. Census Bureau 2008b.

prevalence. The total number of individuals in a specified population who have a disease or other condition at a given time (e.g., for chronic diseases). Prevalence is often expressed as a rate.

$$\text{Prevalence rate} = \frac{\text{Number of existing cases}}{\text{Total population}} \text{x } 1{,}000 \text{ or } 100{,}000$$

race. In the United States, racial and ethnic classifications are used by federal, state and local governments, private agencies, as well as in research for the purpose of defining group characteristics, tracking morbidity and mortality, and documenting the health status of population groups. Race is widely considered a meaningful *social* characteristic, but not a valid biological or genetic category (Lewontin, 1995; Gould 1981). Available scientific evidence indicates that racial and ethnic classifications do not capture biological distinctiveness, and that there is more genetic variation within racial groups than there is between racial groups (Williams, Lavizzo-Mourey, and Warren 1994; American Anthropological Association 1998). Contemporary race divisions result from historical events and circumstances and reflect current social realities. Thus, racial categories may be viewed more accurately as proxies for social and economic conditions that put individuals at higher risk for certain disease conditions (See Appendix VII).

random variation. The mortality data in this report represent all Connecticut resident deaths and are, therefore, not subject to sampling error. Mortality data, however, may be affected by random variation. When the number of events is small (less than 100) and the probability of such an event is small, random variation may be relatively large, and thus considerable caution must be used in interpreting the data. Random variation is typically measured in terms of variance or standard error. The following formula was used in calculating the standard error for mortality rates in this report:

Standard error of the age-adjusted mortality rate:

$$\sqrt{\sum_{i=1}^{18} d_i \left(\frac{std_i}{n_i}\right)^2}$$

where

*Index i represents 18 age groups in five year increments ranging from ages 0 to 85 and older;
*d_i is the total number of deaths for age group i;
*std_i is the standard population for age group i, and
*n_i is the population for age group i.

refugee. An individual who is unable or unwilling to return to his or her country of nationality because of persecution or a well-founded fear of persecution. The persecution may be based on race, religion, nationality, membership in a particular social group, or political opinion.

relative risk. The ratio of the rate or percentage in the minority (or male) group to the rate or percentage for the comparison (White or female) group.

$$\text{Relative risk} = \frac{\text{Minority (or male) rate}}{\text{White (or female) rate}}$$

reportable disease. A reportable or notifiable disease is one that, when diagnosed, health care providers or laboratories are required, usually by law, to report to state or local public health officials. Reportable diseases are of interest usually because of their contagiousness, severity, or frequency of occurrence.

residence. The usual place of abode of the person to whom the event occurred. For births, residence is defined as the mother's usual place of domicile.

rural. Connecticut State Office of Rural Health (ORH) states that, "All towns in a designated Micropolitan Statistical Area with a population of less than 15,000 and those towns in Metropolitan Statistical Areas with a population of less than 7,000 are designated rural for the purposes of the Connecticut Office of Rural Health" (ORH 2007).

sexual orientation minority. Sexual orientation and sexual identity can be defined in terms of one's sexual behavior, self-identity, and or one's objects of desire, affection, or attraction. Sexuality and sexual identity are fluid and changeable over time and across societies. Sexual identity, or "what people call themselves with respect to their sexuality" (GLMA and LGBT Health Experts 2001, 448), reflects the parameters of a particular society's options for expressions of sexuality. In the United States, we recognize labels such as "heterosexual," " bisexual," "lesbian," "undecided," "gay," "asexual," and "questioning" as having to do with human sexuality and sexual identity and behavior (GLMA and LGBT Health Experts 2001, 448) (See Appendix VII).

social capital. *Social capital* has been defined as "those features of social structures—such as levels of interpersonal trust, and norms of reciprocity and mutual aid—which act as resources for individuals and facilitate collective action" (Kawachi and Berkman 2000, 175). Self-reported levels of health status, perceived trustworthiness of others, perceived norms of reciprocity and helpfulness, and membership in voluntary organizations are some measures of social capital used in health research (Kawachi and Berkman 2000, 182).

social cohesion. *Social cohesion* "refers to the extent of connectedness and solidarity among groups in society" (Kawachi and Berkman 2000, 175). Narrowly, we might conceive of such cohesion obtaining in industrial nations where there is universal, "cradle-to-grave," health care, housing, unemployment safety nets. A cohesive society might be a also small group, tribe, or clan who feel obliged to assist each other, knowing that they will also be assisted in time of need.

social gradient. This refers to the social and health differences that exist among populations in different socioeconomic positions in a society. If one occupies a lower SEP, the higher the tendency to have premature morality, higher morbidity and increased rates of disability. No matter where one stands on the social ladder, one will always be worse off than one's "social superiors," even within the highest socioeconomic brackets (e.g., Marmot 2000; Wilkinson and Marmot 2003).

social network. The term s*ocial network* describes ties between people and groups that cut across boundaries of family, work, class, and residential area (Berkman and Glass 2000, 140). For example, network analysis has been used to measure network influence on: access to jobs, social power, use of support systems, health behaviors, disease transmission, and information exchange (Berkman and Glass 2000, 142).

social support. This refers to the individuals, networks, and cohorts that share experiences and histories throughout the life course and provide various forms of support to each other (e.g., material, informational, emotional) (Berkman and Glass 2000, 144; Berkman and Syme 1979, quoted in National Research Council 2001, 97).

socioeconomic position (SEP). This term refers to "[a]n aggregate concept that includes both resource-based and prestige-based measures, as linked to both childhood and adult social class position" (Krieger 2001).

socioeconomic status (SES). A person's overall position or "class" within a social system. Measures of socioeconomic status used in health research include a person's educational level, occupational level, place of residence, and per capita income.

transgender. "(1) An umbrella term that includes persons who change, cross, or go beyond… the culturally defined gender categories ([e.g.,] woman/man); (2) a person whose gender identity is different from their biological or birth-assigned sex; common identity terms include transesexual, transwoman, transman, FtM, MtF" (Ferber, Holcomb and Wentling 2009, 557).

"Unknown" race. See "**Other" race.**

wealth. One's net worth, or "the sum of the market value of assets owned by every member of the household minus liabilities (secured or unsecured) owed by household members. The estimates represent the net worth of households at the end of the appropriate reference period. The net worth concept is based on the value of all assets minus all liabilities" (U.S. Census Bureau 2003a).

White. Race category used by the U.S. Census Bureau, according to current Office of Management and Budget (OMB) standards, to refer to persons having origins in any of the original peoples of Europe, the Middle East, or North Africa. It includes people who indicated their race or races as "White" or wrote in entries such as Irish, German, Italian, Lebanese, Near Easterner, Arab, or Polish (U.S. Census Bureau 2001).

APPENDIX V
CODING FOR CAUSES OF DEATH

Cause of Death	ICD-10 Code
All Causes	A00.0 – Y89.9
HIV Infection	B20 – B24
All Cancers	C00 – C97
Diabetes Mellitus	E10 – E14
Diseases of the Heart	I00 – I09, I11, I13, I20 – I51
Cerebrovascular Disease (Stroke)	I60 – I69
Asthma	J45 – J46
Unintentional Injuries	V01 – X59, Y85 – Y86
Suicide	X60 – X84, Y87.0
Homicide	X85 – Y09, Y87.1

APPENDIX VI

LIST OF SELECTED ACRONYMS

AAMR	age-adjusted mortality rate
BRFSS	Behavioral Risk Factor Surveillance System
CDC	Centers for Disease Control and Prevention
CSDE	Connecticut State Department of Education
DPH	Connecticut Department of Public Health
ED	emergency department
GAO	U.S. Government Accountability Office
HHC	Hispanic Health Council
IMR	infant mortality rate
IOM	Institute of Medicine
LEP	limited English proficiency
NIH	National Institutes of Health
OHCA	Connecticut Office of Health Care Access
OMB	U.S. Office of Management and Budget
U.S. DHHS	U.S. Department of Health and Human Services
WHO	World Health Organization

APPENDIX VII
TECHNICAL NOTES

"RACE," "ETHNICITY," "OTHER"

In the United States, racial and ethnic classifications are used by federal, state and local governments, private agencies, as well as in research, for the purpose of defining group characteristics, tracking morbidity and mortality, and documenting the health status of population groups. Race is widely considered a meaningful *social* characteristic, but not a valid biological or genetic category (Lewontin 1995; Gould 1981). Available scientific evidence indicates that racial and ethnic classifications do not capture biological distinctiveness, and that there is more genetic variation within racial groups than there is between racial groups (Williams, Lavizzo-Mourey, and Warren 1994; American Anthropological Association 1998). Contemporary race divisions result from historical events and circumstances and reflect current social realities. Thus, racial categories may be viewed more accurately as proxies for social and economic conditions that put individuals at higher risk for certain disease conditions.

EXPLANATION OF RACE AND HISPANIC ORIGIN CATEGORIES

The race and Hispanic origin categories used by the U.S. Census Bureau are mandated by the Office of Management and Budget *Statistical Policy Directive No. 15*, which requires all federal record keeping and data presentation to use five race categories (American Indian and Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, White) and two ethnicity categories (Hispanic or Latino and Not Hispanic or Latino). This system treats also race and ethnicity as separate and independent categories. This means that within the federal system everyone is classified as both a member of one of the above five race groups *and also* as either Hispanic or non-Hispanic. These classifications are designed to promote consistency in federal record keeping and data presentation. In addition, the U.S. Census Bureau notes that "[t]he concept of race the Bureau of the Census uses reflects self-identification by respondents; that is the individual's perception of his/her racial identity. The concept is not intended to reflect any biological or anthropological definition" (U.S. Census Bureau n.d.).

In 2000, the U.S. Census Bureau included the category "Some Other Race" for people who were unable to identify with the five standard Office of Management and Budget race categories. People who wrote in entries such as Moroccan, South African, Belizean, or a Hispanic origin (for example, Mexican, Puerto Rican, or Cuban) were included in the Some Other Race category (U.S. Census Bureau 2001, 2). This means that Some Other Race includes race as well as ethnicity responses. The U.S. Census Bureau has reported that 97% of people reporting their race as “Some Other Race alone” are of Hispanic or Latino ethnicity, as are 90% of people who reported Some Other Race in combination with another race (U.S. Census Bureau 2001, 11). The U.S. Census Bureau is reviewing whether the Some Other Race category will be asked in Census 2010 (U.S. Census Bureau News 2003).

Information on other ancestry groups may be collected in the “Not Hispanic or Latino” category. To count and describe persons and populations who claim ancestry or heritage from a *non*-Spanish speaking country or culture, public officials use terms such as “place of birth,” “ancestry,” “heritage,” and “language spoken at home.”

Demographic and health information for racial or ethnic subpopulations in Connecticut is often not easily or accurately obtained. For this reason, statistically meaningful subpopulation comparisons are not possible for many of the health indicators included in this report.

“OTHER” OR “UNKNOWN” RACE CLASSIFICATIONS

Databases will often use the classification “Other” to indicate several issues with race or ethnicity data. People may be classified as “Other” by the database or record if the patient did not respond to the questions; if the data collector did not know or could not guess the race; if the records provide for such a classification (such as hospital charts); or if small numbers of people in some racial groups (in Connecticut: American Indian or Alaska Native, Asian, Native Hawaiian or Other Pacific Islander) are being reflected in a combined category.

“Unknown” race is also indicated in many databases, reflecting either that an observer did not know the race of the person, or that no response was given by the patient or respondent.

QUALITY OF RACE AND ETHNICITY DATA

Several studies have examined the reliability of racial status reported on the death certificate by comparing race on the death certificate with that reported on another data source, such as the census or a survey. Differences occur as a result of differences in who provides race information on the two records. Race information on the death certificate is reported by the funeral director as provided by a next of kin or on the basis of observation. Race information on the Census or on the

Current Population Survey (CPS) is obtained by self-report of the individual or by another household member. As such, racial information reported on the census and CPS is considered more valid than death certificate information. High levels of agreement between the death certificate and the census or survey report are indicative of unbiased death rates by race (Hoyert, Kochanek, and Murphy 1999). The National Longitudinal Mortality Study (NMLS) has been used to evaluate discrepancies in these records.

Several studies show that persons self-reported as American Indian or Asian on census or survey records are sometimes reported as White on the death certificate. The net effect of such misclassification is an underestimate of deaths and death rates for races other than White and Black. In addition, under-coverage of minority groups in the census and resultant population estimates introduces biases into death rates by race (Hoyert, Kochanek, and Murphy 1999). It is estimated that the net effect of the combined bias due to race misclassification on death certificates and under-numeration on the 1990 census has resulted in an overstatement of death rates for Whites and Blacks by about one and five percent, respectively, in official U.S. publications. Mortality rates for American Indians or Alaska Natives continue to be understated, as there has been little improvement over time in the substantial misclassification of this population on death certificates (Arias et al. 2008). Race misclassification on death certificates for Asians or Pacific Islanders has been reduced over time, but Asian or Pacific Islander mortality rates due to these corrections did not change greatly (Arias et al. 2008).

In 1988, the Connecticut death certificate was revised to include a question regarding the Hispanic origin of the decedent and the change was implemented in 1989. There was an extensive amount of incomplete Hispanic origin information for the 1989 deaths with only 32.8% of 1989 Connecticut resident death certificates reporting Hispanic-origin status (Mueller et al. 1989). Reliability of Hispanic origin data nationwide has been assessed by the National Center for Health Statistics (NCHS). Death rates for the Hispanic-origin population are affected by biases in the numerator (underreporting of deaths) and the denominator (underestimates of the population). Taking both sources of bias into account it was estimated that Hispanics death rates are understated by 2 percent in official mortality statistics of the U.S. produced by NCHS (Rosenberg et al. 1999). Accuracy of Hispanic origin data has improved during over time nationally and in Connecticut; however, mortality measures for subgroups of Hispanics still need to be improved, especially due to the important intragroup differences in Hispanic or Latino health and mortality profiles (Arias et al. 2008).

The studies above refer to the 1977 race and ethnicity classifications promulgated by the OMB; further study using the updated 1997 OMB racial and ethnic categories will be possible when more states adopt the U.S. 2003 Standard Death Certificate (Arias et al. 2008).

SEX, GENDER, SEXUAL ORIENTATION, AND GENDER IDENTITY

"Sex" is the term used for the physical characteristics that are the evidence of sexual dimorphism in human beings, (i.e., genitalia, body hair, body shape, etc.) (Lavenda and Schultz 2007, 106). Not all people are born with biologically distinct female or male physical or genital characteristics. Individuals with ambiguous or both sets of genitalia are today termed "***intersex"*** persons. It is estimated that at least 1 in 2000 births in the U.S. have ambiguous external genitalia (Dean et al. 2000, 134), and that between 100–200 sex reassignment surgeries are done annually (Dean et al. 2000, 134). In some cases these surgeries are medically necessary, but the majority of the surgeries are not (Dean et al. 2000, 134). Parents and medical professionals may view sex reassignment surgery as *socially* necessary in order to avoid the stigma that ambiguous genitals might cause over the life course (Dean et al. 2000, 134). Increasingly, these procedures are being questioned, as a growing number of post-operative intersex adults are being more vocal about their experiences of surgical complications, incompatibility with their assigned sex and gender identity, or (Dean et al. 2000; Intersex Society of North America 2008).

Sexual orientation and ***sexual identity*** can be defined in terms of one's sexual behavior, self-identity, and or one's objects of desire, affection, or attraction. Additionally, human sexuality and sexual identity are fluid and changeable over time and across societies. Sexual identity ("what people call themselves with respect to their sexuality" [GLMA and LGBT Health Associates 2001, 448]) has to do with how people define themselves and their sexuality within the possible options in a given society. Here in the United States, we recognize labels such as "heterosexual,"" bisexual," "lesbian," "undecided," "gay," "asexual," "queer," and "questioning" as having to do with human sexuality and sexual identity and behavior (GLMA and LGBT Health Associates 2001, 448).

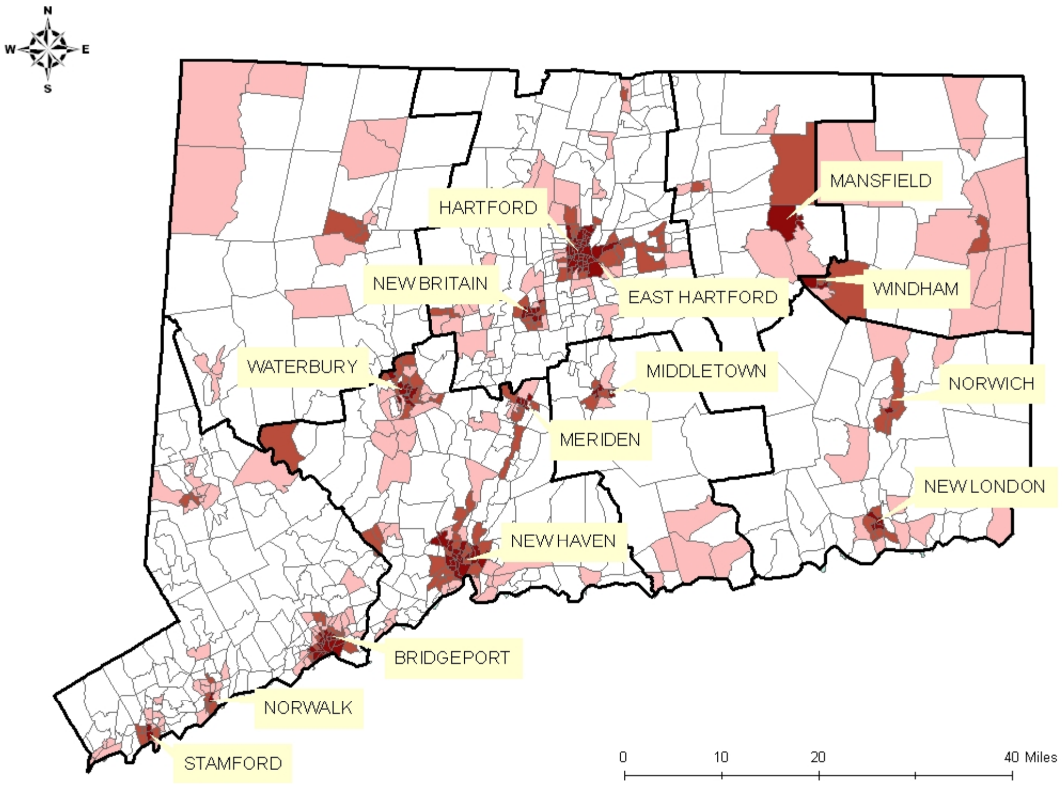
The term ***"gender"*** refers to the cultural roles assigned to males or females, which vary considerably by society (e.g., how to behave like a "man" or a "woman") (Lavenda and Schultz 2007, 106). "Gender" roles and categories are created and changed over time by members of a society in order to reflect social changes as they occur.

"Gender identity" is not the same as sexual identity. Gender identity has to do with how and in what ways one identifies with the available gender categories in a society (in the U.S.: "man" and "woman") (GLMA and LGBT Health Associates 2001, 445). A person's gender identity may not always match his or her biological sex. That is, a person may have been born with female genitalia but identify as a man. In this case the person might be termed a ***"transgender"*** individual: "a person whose gender identity or gender expression is not congruent with his or her biological sex" (GLMA and LGBT Health Associates 2001, 448). "Transgender" is also used as an umbrella term to describe other people who are cross-dressers/transvestites, androgynes, and transsexuals, although this use masks the differences in sexual and gender identity, behaviors, and community feeling of these different populations (Ferber, Holcomb and Wentling 2009; GLMA and LGBT Health Associates 2001, 448). Cross-culturally there are many examples of "in-between" or "third or fourth gender" categories or identities (e.g., Davies 2006; Kottak 2007; Nanda 1998) but in the U.S. there are few opportunities to act outside the two fundamental gender categories without societal opprobrium.

Health databases generally do collect data on sex or gender. Health databases often do not collect information on gender identity or sexual orientation, unless they are of explicitly programmatic interest.

APPENDIX VIII
GEOGRAPHICAL DISTRIBUTION OF POVERTY, CONNECTICUT, 1999

This map presents the percent of persons living below poverty level in 1999, by census tract. In 1999, the federal poverty threshold for a 4-person family with two related children under 18 years old was $16,896 (See Appendix IV for poverty definitions).



Source: Hayward 2008. Based on U.S. Census 2000 Tables, Matrix P87, 'Poverty Status in 1999'.

Percent Below Poverty Level

☐ 0.00-4.99

▨ 5.00-9.99

▨ 10.00-19.99

■ 20.00-100.00

County Boundaries

☐

APPENDIX IX

LEADING CAUSES OF DEATH BY GENDER AND RACE OR ETHNICITY, CONNECTICUT, 2000–2004

These tables present the leading causes of death by gender, for five racial and ethnic groups in Connecticut for the years 2000–2004.

Appendix IX. Leading Causes of Death[a] by Gender and Race or Ethnicity – All Connecticut Residents and American Indian/Alaska Native Residents, 2000–2004[b]

	All Connecticut Residents		American Indian/Alaska Native Residents	
Cause of Death (ICD-10 classification)	All Deaths	Rank – Deaths[a]	All Deaths	Rank – Deaths[a]
All Residents				
Diseases of the heart	42,434	1	61	1
All cancer	35,434	2	36	2
Cerebrovascular disease (stroke)	9,318	3	14	3
Chronic lower respiratory diseases	7,339	4	13	4
Unintentional Injuries	5,693	5	12	5
Diabetes mellitus	3,541	7	6	6
Septicemia	2,757	10	6	6
Nephritis, nephritic syndrome, nephrosis	2,827	9	6	6
Chronic liver disease and cirrhosis	1,544	11	5	9
Suicide	1,395	12	5	9
All Males				
Diseases of the heart	20,012	1	34	1
All cancer	17,624	2	20	2
Chronic lower respiratory diseases	3,126	5	6	3
Unintentional injuries	3,686	3	6	3
Nephritis, nephritic syndrome, nephrosis	1,346	8	4	5
Pneumonia and Influenza	1,825	6	4	5
Cerebrovascular disease	3,448	4	4	5
Diabetes mellitus	1,683	7	3	8
Septicemia	1,239	9	3	8
Chronic liver disease and cirrhosis	979	11	3	8
All Females				
Diseases of the heart	22,422	1	27	1
All cancer	17,808	2	16	2
Cerebrovascular disease (stroke)	5,870	3	10	3
Chronic lower respiratory diseases	4,213	4	7	4
Unintentional Injuries	2,007	7	6	5
Diabetes mellitus	1,858	8	3	6
Septicemia	1,518	9	3	6
Nephritis, nephritic syndrome, nephrosis	1,481	10	2	8
Chronic liver disease and cirrhosis	565	12	2	8
Suicide	293	15	2	8

Source: DPH 2008b.

[a] Ranks are based on the National Center for Health Statistics (NCHS) leading causes of death list. 2000–2004 deaths are classified according to the ICD-10 system (See Appendix V).

[b] Race groupings exclude persons of Hispanic ethnicity. Race and ethnicity information on the death certificate is typically based on report by next of kin, a funeral director, coroner, or other official. Race or ethnicity designation based on observation may be reported incorrectly.

Appendix IX. Leading Causes of Death[a] by Gender and Race or Ethnicity – All Connecticut Residents and Asian/ Pacific Islander Residents, 2000–2004[b]

	All Connecticut Residents		Asian/ Pacific Islander Residents	
Cause of Death (ICD-10 classification)	All Deaths	Rank – Deaths[a]	All Deaths	Rank – Deaths[a]
All Residents				
All cancer	35,434	2	174	1
Diseases of the heart	42,434	1	160	2
Cerebrovascular disease (stroke)	9,318	3	46	3
Unintentional injuries	5,693	5	25	4
Pneumonia and Influenza	4,343	6	18	5
Nephritis, nephritic syndrome, nephrosis	2,827	9	17	6
Chronic lower respiratory diseases	7,339	4	15	7
Diabetes mellitus	3,541	7	13	8
Septicemia	2,757	10	10	9
Suicide	1,395	12	10	9
All Males				
Diseases of the heart	20,012	1	93	1
All cancer	17,624	2	76	2
Cerebrovascular disease (stroke)	3,448	4	25	3
Unintentional injuries	3,686	3	20	4
Pneumonia and Influenza	1,825	6	9	5
Nephritis, nephritic syndrome, nephrosis	1,346	8	9	5
Chronic lower respiratory diseases	3,126	5	9	5
Diabetes mellitus	1,683	7	9	5
Suicide	1,102	10	9	5
Chronic liver disease and cirrhosis	979	11	5	10
All Females				
All cancer	17,808	2	98	1
Diseases of the heart	22,422	1	67	2
Cerebrovascular disease (stroke)	5,870	3	21	3
Pneumonia and Influenza	2,518	5	9	4
Nephritis, nephritic syndrome, nephrosis	1,481	10	8	5
Chronic lower respiratory diseases	4,213	4	6	6
Septicemia	1,518	9	6	6
Unintentional injuries	2,007	7	5	8
Aortic aneurysm and dissection	435	13	5	8
Diabetes mellitus	1,858	8	4	10

Source: DPH 2008b.

[a] Ranks are based on the National Center for Health Statistics (NCHS) leading causes of death list. 2000–2004 deaths are classified according to the ICD-10 system (See Appendix V).

[b] Race groupings exclude persons of Hispanic ethnicity. Race and ethnicity information on the death certificate is typically based on report by next of kin, a funeral director, coroner, or other official. Race or ethnicity designation based on observation may be reported incorrectly.

Appendix IX. Leading Causes of Death[a] by Gender and Race or Ethnicity – All Connecticut Residents and Black or African American Residents, 2000–2004[b]

	All Connecticut Residents		Black or African American Residents	
Cause of Death (ICD-10 classification)	All Deaths	Rank – Deaths[a]	All Deaths	Rank – Deaths[a]
All Residents				
Diseases of the heart	42,434	1	2,343	1
All cancer	35,434	2	2,198	2
Cerebrovascular disease (stroke)	9,318	3	549	3
Unintentional injuries	5,693	5	431	4
Diabetes mellitus	3,541	7	407	5
Human immunodeficiency virus (HIV) disease	950	15	398	6
Nephritis, nephritic syndrome, nephrosis	2,827	9	308	7
Chronic lower respiratory diseases	7,339	4	240	8
Septicemia	2,757	10	232	9
Homicide	510	17	211	10
All Males				
Diseases of the heart	20,012	1	1,158	1
All cancer	17,624	2	1,123	2
Unintentional injuries	3,686	3	314	3
Human immunodeficiency virus (HIV) disease	657	13	272	4
Cerebrovascular disease (stroke)	3,448	4	229	5
Homicide	375	16	180	6
Diabetes mellitus	1,683	7	158	7
Nephritis, nephritic syndrome, nephrosis	1,346	8	140	8
Chronic lower respiratory diseases	3,126	5	111	9
Septicemia	1,239	9	102	10
All Females				
Diseases of the heart	22,422	1	1,185	1
All cancer	17,808	2	1,075	2
Cerebrovascular disease (stroke)	5,870	3	320	3
Diabetes mellitus	1,858	8	249	4
Nephritis, nephritic syndrome, nephrosis	1,481	10	168	5
Septicemia	1,518	9	130	6
Chronic lower respiratory diseases	4,213	4	129	7
Human immunodeficiency virus (HIV) disease	293	15	126	8
Unintentional Injuries	2,007	7	117	9
Pneumonia and Influenza	2,518	5	88	10

Source: DPH 2008b.

[a] Ranks are based on the National Center for Health Statistics (NCHS) leading causes of death list. 2000–2004 deaths are classified according to the ICD-10 system (See Appendix V).

[b] Race groupings exclude persons of Hispanic ethnicity. Race and ethnicity information on the death certificate is typically based on report by next of kin, a funeral director, coroner, or other official. Race or ethnicity designation based on observation may be reported incorrectly.

Appendix IX. Leading Causes of Death[a] by Gender and Race or Ethnicity – All Connecticut Residents and Hispanic Residents, 2000–2004[b]

	All Connecticut Residents		Hispanic Residents	
Cause of Death (ICD-10 classification)	All Deaths	Rank – Deaths[a]	All Deaths	Rank – Deaths[a]
All Residents				
Diseases of the heart	42,434	1	864	1
All cancer	35,434	2	800	2
Unintentional injuries	5,693	5	415	3
Human immunodeficiency virus (HIV) disease	950	15	247	4
Cerebrovascular disease (stroke)	9,318	3	196	5
Diabetes mellitus	3,541	7	157	6
Chronic liver disease and cirrhosis	1,544	11	135	7
Chronic lower respiratory diseases	7,339	4	129	8
Septicemia	2,757	10	112	9
Homicide	510	17	105	10
All Males				
Diseases of the heart	20,012	1	473	1
All cancer	17,624	2	437	2
Unintentional injuries	3,686	3	303	3
Human immunodeficiency virus (HIV) disease	657	13	172	4
Chronic liver disease and cirrhosis	979	11	100	5
Cerebrovascular disease (stroke)	3,448	4	86	6
Homicide	375	16	82	7
Diabetes mellitus	1,683	7	73	8
Suicide	1,102	10	63	9
Septicemia	1,239	9	53	10
All Females				
Diseases of the heart	22,422	1	391	1
All cancer	17,808	2	363	2
Unintentional injuries	2,007	7	112	3
Cerebrovascular disease (stroke)	5,870	3	110	4
Diabetes mellitus	1,858	8	84	5
Chronic lower respiratory diseases	4,213	4	82	6
Human immunodeficiency virus (HIV) disease	293	15	75	7
Septicemia	1,518	9	59	8
Pneumonia and Influenza	2,518	5	57	9
Nephritis, nephritic syndrome, nephrosis	1,481	10	48	10

Source: DPH 2008b.

[a] Ranks are based on the National Center for Health Statistics (NCHS) leading causes of death list. 2000–2004 deaths are classified according to the ICD-10 system (See Appendix V).

[b] Race groupings exclude persons of Hispanic ethnicity. Race and ethnicity information on the death certificate is typically based on report by next of kin, a funeral director, coroner, or other official. Race or ethnicity designation based on observation may be reported incorrectly.

Appendix IX. Leading Causes of Death[a] by Gender and Race or Ethnicity – All Connecticut Residents and White Residents, 2000–2004[b]

	All Connecticut Residents		White Residents	
Cause of Death (ICD-10 classification)	All Deaths	Rank – Deaths[a]	All Deaths	Rank – Deaths[a]
All Residents				
Diseases of the heart	42,434	1	37,533	1
All cancer	35,434	2	31,227	2
Cerebrovascular disease (stroke)	9,318	3	8,171	3
Chronic lower respiratory diseases	7,339	4	6,726	4
Unintentional Injuries	5,693	5	4,409	5
Pneumonia and Influenza	4,343	6	3,927	6
Diabetes mellitus	3,541	7	2,848	7
Alzheimer's Disease	2,965	8	2,754	8
Nephritis, nephritic syndrome, nephrosis	2,827	9	2,322	9
Septicemia	2,757	10	2,319	10
All Males				
Diseases of the heart	20,012	1	17,425	1
All cancer	17,624	2	15,469	2
Cerebrovascular disease (stroke)	3,448	4	2,963	3
Chronic lower respiratory diseases	3,126	5	2,831	4
Unintentional injuries	3,686	3	2,756	5
Pneumonia and Influenza	1,825	6	1,630	6
Diabetes mellitus	1,683	7	1,389	7
Nephritis, nephritic syndrome, nephrosis	1,346	8	1,110	8
Septicemia	1,239	9	1,036	9
Suicide	1,102	10	917	10
All Females				
Diseases of the heart	22,422	1	20,108	1
All cancer	17,808	2	15,756	2
Cerebrovascular disease (stroke)	5,870	3	5,208	3
Chronic lower respiratory diseases	4,213	4	3,895	4
Pneumonia and Influenza	2,518	5	2,297	5
Alzheimer's Disease	2,095	6	1,949	6
Unintentional Injuries	2,007	7	1,653	7
Diabetes mellitus	1,858	8	1,459	8
Septicemia	1,518	9	1,283	9
Nephritis, nephritic syndrome, nephrosis	1,481	10	1,212	10

Source: DPH 2008b.

[a] Ranks are based on the National Center for Health Statistics (NCHS) leading causes of death list. 2000–2004 deaths are classified according to the ICD-10 system (See Appendix V).

[b] Race groupings exclude persons of Hispanic ethnicity. Race and ethnicity information on the death certificate is typically based on report by next of kin, a funeral director, coroner, or other official. Race or ethnicity designation based on observation may be reported incorrectly.

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