

# **PART I**

# **INTRODUCTION AND**

# **BACKGROUND**

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



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## 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 20<sup>th</sup> 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 Nepal 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.

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**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



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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 29<sup>th</sup> 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).

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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**

Age Group	Percent by Race <sup>a</sup> or Ethnicity						
	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.

<sup>a</sup>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.

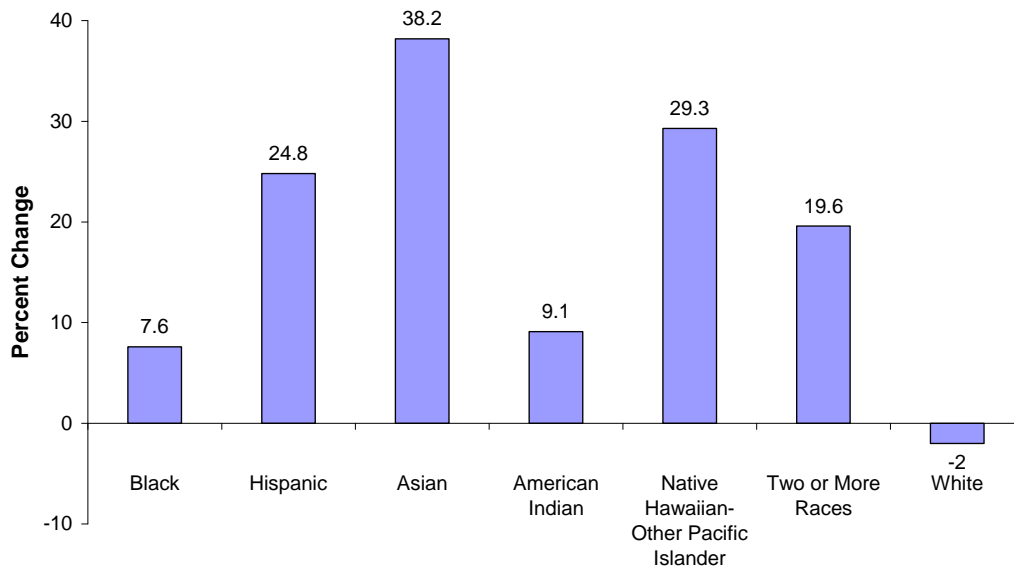
**Table 2. Connecticut's Population, by Race or Ethnicity, 2000 and 2007**

Race <sup>a</sup> or Ethnicity	2000		2007	
	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.

<sup>a</sup>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**

City	Race <sup>a</sup> or Ethnicity							
	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.

<sup>a</sup> 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**

Race <sup>a</sup> or Ethnicity	United States		Connecticut	
	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.

<sup>a</sup> 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 socioeconomic 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

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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 <sup>a</sup> or Ethnicity	Population	Percent
<i>Black or African American</i>	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
<i>Hispanic or Latino</i>	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
<i>Asian</i>	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
<i>American Indian or Alaska Native</i>	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
<i>Native Hawaiian or Other Pacific Islander</i>	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
<i>Some Other Race</i>	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
<i>Two or More Races</i>	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
<i>White</i>	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.

<sup>a</sup>Race groupings exclude persons of Hispanic or Latino ethnicity. Hispanic or Latino persons may be of any race.

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**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 Orshansky 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 <sup>a</sup> 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.

<sup>a</sup> 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



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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

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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 Tecumseh, 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).

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## **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 2007i). 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

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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; Nepal, 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.