

# INTRODUCTION

The problem of racial and ethnic health and health care disparities has received growing attention in recent years, yet very significant gaps remain in our knowledge of what causes the differences—in some cases, inequities—in access to health care and health outcomes between minority and White Americans. Much of what is known about racial and ethnic disparities is drawn from national information sources. These data can mask many of the notable state-level differences in economics, policies, provider availability, and population demographics that shape health and health care. There also has been increasing recognition that women and men interact with the health care system in different ways and experience different health problems. Though we know that men and women have different health experiences, state-level disparity research has either focused on differences between racial and ethnic groups using data that combines men and women, or has looked only at gender differences without consideration of racial and ethnic disparities.

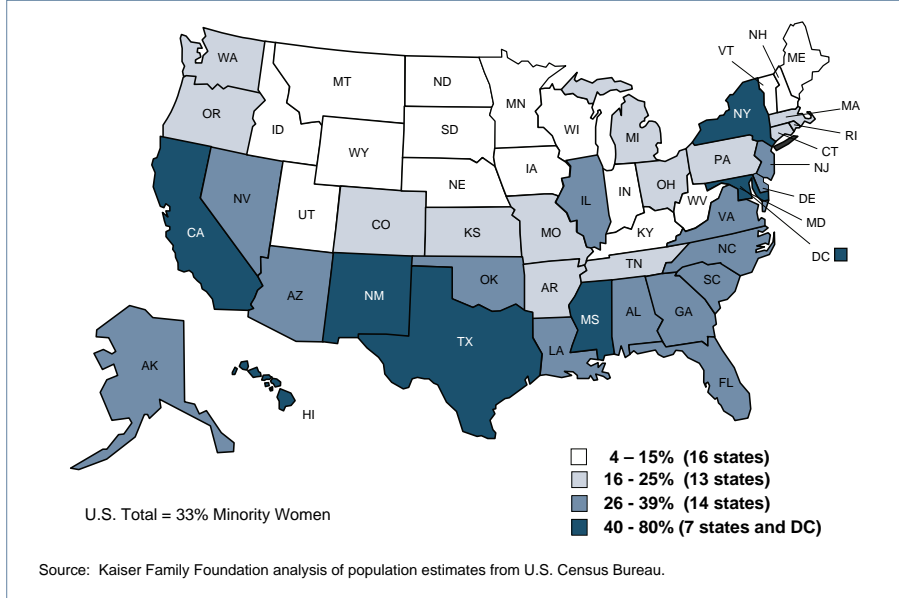
When we undertook this project we wanted to better understand not only how the health experiences of women of particular racial and ethnic population groups differed, but also how the broad range of women’s experiences differed by state. We also wanted to document the health and health care access problems experienced by groups that are often off the radar screen of policymakers (Asian American, Native Hawaiian and Other Pacific Islanders, and American Indians and Alaska Natives) because information for these groups is often difficult and costly to obtain due, in part, to their relatively small proportion in the population. In this report, we looked at the magnitude of the differences between women of color and White women. We called these differences health disparities, but recognize that others may call them health inequities or health inequalities.

Our conception of health, like that of the World Health Organization,<sup>3</sup> consists of more than just the absence of disease. An individual’s health is shaped by more than their biological make-up. It is affected by social and systemic factors which influence distribution of and access to health care services, and access to the resources necessary to survive and recover from an illness. *Putting Women’s Health Care Disparities on the Map* provides new information about how women of color between the ages of 18 and 64 fare at the state level by measuring their health status, access to care, and level of social disparities in each state. It also examines the key health care policies and resources that shape access at the state level. It builds on the important contributions of many researchers and organizations in the areas of women’s health and health care disparities at both the national and state level.<sup>4</sup>

Nationally, one-third of women between the ages of 18 and 64 self-identifies as a racial and ethnic minority. At the state level, variation is sizable. Around 5% of women in Maine, West Virginia, and Vermont are minorities, while in California, New Mexico, Hawaii, and the District of Columbia, minorities actually constitute a majority of the female population (Figure I.1 and Table I.1). These patterns reflect the general distribution of racial and ethnic minority Americans in the U.S.

Minority women often have different health and health care experiences than White women. Some communities of minority women have higher rates of chronic health problems, live shorter lives, and have higher levels of disability than White women.<sup>5,6</sup> While some minority groups have lower rates of some cancers, women of color who have those cancers are more likely to die as a result.<sup>7</sup> Fewer women of color graduate from high school, which translates into few economic opportunities, low-wage work, reduced access to employer-sponsored insurance, and greater coverage through publicly funded programs like Medicaid.

**FIGURE I.1. Proportion of Women Who Self-Identify as a Racial and Ethnic Minority, by State, 2003–2005**



They are also more likely to obtain services through government-supported providers such as Community Health Centers, public hospitals, and family planning clinics, and thus are disproportionately affected by public policies that shape these providers and the public programs that pay for them. Women are often the major health caregivers in the family—caring for their children and aging parents, and thus driving patterns of health care use for their families as well as themselves.

TABLE I.1. Percent Distribution of Adult Women Ages 18–64, by State and Race/Ethnicity, 2003–2005

States	White	All Minority*	Black	Hispanic	Asian and NHPI	American Indian/ Alaska Native	Two or More Races
All States	67.5	32.5	12.7	13.1	4.8	0.8	1.1
Alabama	68.6	31.4	27.3	1.8	1.0	0.5	0.8
Alaska	68.8	31.2	3.4	4.7	5.6	14.2	3.3
Arizona	62.9	37.1	3.1	25.9	2.8	4.3	1.0
Arkansas	77.3	22.7	16.0	3.7	1.2	0.7	1.0
California	45.2	54.8	6.4	32.4	13.7	0.6	1.7
Colorado	74.9	25.1	3.5	16.7	3.0	0.8	1.2
Connecticut	75.3	24.7	9.6	10.5	3.5	0.2	0.9
Delaware	70.0	30.0	20.9	5.0	2.9	0.3	0.8
District of Columbia	33.8	66.2	53.3	7.6	3.9	0.2	1.2
Florida	61.1	38.9	15.5	19.7	2.6	0.3	0.9
Georgia	60.1	39.9	30.6	5.3	2.9	0.3	0.8
Hawaii	25.0	75.0	2.0	7.1	50.5	0.4	15.0
Idaho	88.2	11.8	0.4	7.6	1.4	1.3	1.1
Illinois	66.6	33.4	15.3	12.7	4.6	0.2	0.7
Indiana	85.1	14.9	8.8	3.8	1.4	0.3	0.7
Iowa	92.2	7.8	2.1	3.0	1.7	0.3	0.6
Kansas	82.7	17.3	5.6	7.1	2.5	0.9	1.2
Kentucky	89.2	10.8	7.4	1.5	1.1	0.2	0.6
Louisiana	61.9	38.1	32.6	2.7	1.5	0.6	0.7
Maine	96.2	3.8	0.5	1.0	1.0	0.6	0.7
Maryland	58.0	42.0	30.3	5.1	5.3	0.3	1.0
Massachusetts	80.6	19.4	5.8	7.5	5.1	0.2	0.9
Michigan	78.1	21.9	14.5	3.3	2.4	0.6	1.0
Minnesota	87.8	12.2	3.8	3.0	3.4	1.1	0.9
Mississippi	59.2	40.8	37.6	1.4	0.9	0.4	0.5
Missouri	82.8	17.2	11.7	2.4	1.6	0.5	1.0
Montana	89.4	10.6	0.3	2.4	0.8	5.8	1.3
Nebraska	86.7	13.3	4.1	5.8	1.9	0.8	0.7
Nevada	62.2	37.8	7.1	20.5	7.4	1.1	1.8
New Hampshire	94.4	5.6	0.7	2.0	1.9	0.2	0.7
New Jersey	62.4	37.6	13.9	15.0	7.7	0.2	0.8
New Mexico	44.7	55.3	1.7	42.2	1.5	8.9	1.0
New York	59.8	40.2	15.8	15.9	7.2	0.3	1.0
North Carolina	69.0	31.0	22.3	4.8	2.0	1.2	0.7
North Dakota	91.2	8.8	0.6	1.6	0.8	5.0	0.7
Ohio	83.4	16.6	11.8	2.0	1.7	0.2	0.9
Oklahoma	73.8	26.2	7.6	5.6	2.0	7.7	3.4
Oregon	83.4	16.6	1.5	7.9	4.2	1.2	1.8
Pennsylvania	82.7	17.3	10.3	3.7	2.5	0.1	0.6
Rhode Island	81.1	18.9	4.6	9.9	3.0	0.4	1.0
South Carolina	65.4	34.6	29.8	2.5	1.3	0.4	0.6
South Dakota	88.4	11.6	0.6	1.7	0.9	7.5	0.9
Tennessee	78.2	21.8	17.1	2.3	1.4	0.3	0.7
Texas	50.9	49.1	12.0	32.3	3.6	0.4	0.8
Utah	85.0	15.0	0.6	9.4	2.9	1.2	0.9
Vermont	95.8	4.2	0.5	1.2	1.2	0.4	0.9
Virginia	68.2	31.8	19.8	5.4	5.1	0.3	1.1
Washington	78.4	21.6	3.0	7.3	7.7	1.5	2.1
West Virginia	94.5	5.5	3.0	0.9	0.7	0.2	0.6
Wisconsin	87.1	12.9	5.7	3.8	1.9	0.9	0.7
Wyoming	89.1	10.9	0.7	6.3	0.9	2.1	1.0

**Note:** \*All Minority women includes Black, Hispanic, Asian American and Native Hawaiian/Pacific Islander, American Indian/Alaska Native women, and women of two or more races.  
**Data:** SC-EST2007-agesex-res: Annual Estimates of the Resident Population by Single-Year of Age and Sex for the United States and States: April 1, 2000 to July 1, 2007.  
**Source:** Population Division, U.S. Census Bureau. <http://www.census.gov/popest/datasets.html>.

Uniform state-level data on women's health status and access to care that allow for the comparison of various subgroups is difficult to come by. It is costly to collect, and the existing data sources are limited. For some racial and ethnic groups that represent a small fraction of a state's population, such as American Indian and Alaska Natives or Asian American, Native Hawaiian and Other Pacific Islanders, data are often altogether lacking due to survey sample sizes that are too small to analyze. To address these gaps, our analysis relies on national surveys that provide representative state-level data, and we have combined several years of survey data to allow us to learn more about the experiences of women of color in various states. When the sample is sufficiently large in a state, we have included statistics for African American, Latina, and White women. We have also attempted to present statistics for American Indian and Alaska Native, Asian American, Native Hawaiian and Other Pacific Islander women to the extent possible. It is important to recognize that even among these groups there is tremendous variation within populations. For example, Black women who have family ancestry in the Caribbean often have very different experiences from those with African ancestry. The same is true of Latinas who come from North as opposed to Central or South America, and for Asian American, Native Hawaiian and Other Pacific Islander women whose origins are from a broad swath of nations with very different cultures and experiences.

## HOW TO USE THIS REPORT

Using a wide range of data sources available from federal agencies and other research organizations, *Putting Women's Health Care Disparities on the Map* assesses the status of women in all 50 states and the District of Columbia. It focuses on the magnitude of the racial and ethnic disparity among women for 24 of the 25 indicators grouped in three dimensions: Health Status, Access and Utilization, and Social Determinants (it is not possible to calculate a disparity score for residential segregation). Indicators were selected based on criteria that included both the relevancy of the indicator as a measure of women's health and access to care and the availability of the data.

This report presents original data on the prevalence and rates for 25 indicators for women of multiple racial and ethnic populations—White, Black, Hispanic, Asian American, Native Hawaiian and Other Pacific Islander, and American Indian and Alaska Native.

The report presents state-level disparity scores for 24 of the 25 indicators, provides a dimension score for each state on each of the three dimensions, and classifies each state on each dimension:

- The **disparity score** for each indicator describes how minority women in a state fare relative to the average non-Hispanic White woman in the same state. A disparity score of 1.00 indicates no disparity between women of color and White women. A score greater than 1.00 indicates that minority women were experiencing health problems, health care barriers, or socioeconomic disadvantages at rates higher than White women. A score of less than 1.00 indicates that more White than minority women experienced a problem.
- The **dimension score** is a standardized summary measure that captures the average of the indicator disparity scores, after adjusting for the prevalence of the indicators for White women in the state relative to White women nationally. Based on testing results, states were categorized within their respective groups of better than average, average, or worse than average according to how their dimension score compared with the national average.

This report also presents state-level data on eight indicators reflecting state policies and payments for Medicaid and family planning, and health care workforce availability. These indicators provide a context to help understand some of the disparity scores in the other dimensions.

This report is organized into four chapters:

- **Health Status.** Includes indicators for fair or poor health status, unhealthy days, limited activity days, diabetes, cardiovascular disease, obesity, smoking, cancer mortality, new AIDS cases, low-birthweight infants, and serious psychological distress.
- **Access and Utilization.** Addresses access to and utilization of health care services and includes indicators for no health insurance coverage, no personal doctor/health care provider, no routine checkup, no dental checkup, no doctor visit due to cost, no mammogram, no Pap test, and late initiation of or no prenatal care.
- **Social Determinants.** Examines the disparities in six indicators that reflect the social determinants of health and health care use such as poverty level, median household income, gender wage gap, educational attainment, single-parent female-headed households, and the index of dissimilation, which is a measure of residential segregation.

- **Health Care Payments and Workforce.** Presents information on health care payments and workforce resources that shape the availability of care for women, including the physician diversity ratio, primary care health professional shortage areas, mental health professional shortage areas, the Medicaid-to-Medicare fee index, Medicaid income eligibility for working parents, Medicaid/SCHIP income eligibility for pregnant women, family planning funding, and abortion access policies.

Each chapter begins with a short description of the dimension as well as the indicators contained within it. We next show the dimension score, and a map shows how dimension scores range across the states. We then present a short description of each indicator as well as highlights of the findings. For each indicator there is a graph which shows how states perform in terms of both prevalence of the indicator and their disparity score relative to other states and the national average for all White women. Indicators in the Health Care Payments and Workforce dimension are applicable to all women in the state, and are therefore not documented by race/ethnicity. This chapter includes maps rather than graphs to show how states compare. Crosscutting findings from the report are presented in the conclusion.

We believe this analysis makes an important contribution to the existing body of research on women's health and on health disparities between racial and ethnic groups. This report documents some of the considerable disparities that appear across the nation, but it also shows that all states have significant room for improvement across a broad range of indicators. It shows that in some states women of color do much better than their counterparts who live elsewhere, and that in others White women are as challenged by health and access problems as minority women. We hope that policymakers will use this report to see how women in their state are doing and use this data to inform policy and program change to strengthen the health of women and to improve the systems that provide them with care.

# METHODS

## CONCEPTUAL ISSUES

In preparing this report, we were faced with three major issues: selecting an appropriate set of indicators and finding data which measure those indicators by state across different racial and ethnic populations, deciding how to measure disparities between groups, and agreeing on the language to describe these groups.

The first issue, selecting the indicators and the data, was critical to all other tasks. While there has been much work done to identify indicators that are measures of health and access to care, data that allow analysis by both gender and race/ethnicity at the state level are limited. We ultimately selected 25 indicators that are central to women's health and 8 indicators that reflect the policy environment which affects a woman's access to care. Several important indicators of interest (e.g., avoidable hospitalizations, hypertension, STDs) were not available by gender, race/ethnicity, and state. This is an area that merits further investment of resources if we are to truly understand the health and access of communities across the nation. Furthermore, it should be noted that the data we were able to use did not permit us to assess the severity of the problems women experienced, nor did it allow us to assess the quality of the care they received, which are major considerations. For example, it is one thing to document the percent of women with diabetes, but when trying to reduce disparities it would be also useful to know how many of these women have uncontrolled diabetes.

Our second major issue was deciding on the approach and standard we would use to measure disparities between population groups. One issue we initially faced was what comparison group to identify as the benchmark standard. Racial and ethnic disparities are commonly measured as a comparison between Whites and a population group or groups of color (e.g., African Americans). Yet, others have compared racial and ethnic groups defining the benchmark standard as the group with either the best or worst outcome. Both approaches have merit. We developed what we have termed a "disparity score" for each indicator, which measures the level of disparity between non-Hispanic White women and minority women in a state, and allows for consistent comparison across all indicators.

Our final set of considerations centered on terminology. The questions raised included, should we refer to women as Black or African American? Hispanic or Latina? Women of color or minority women? There is much debate as to which of these terms is appropriate, but no consensus has been reached. This ongoing debate highlights several larger points. The first is that each population group is diverse in their national origins, socioeconomic characteristics, and views about this issue. It also reemphasizes the point that race is a socially defined construct rather than a biological construct, with varying meanings to different people. Since the aforementioned terms are used interchangeably in society, we too use them interchangeably throughout the report.

## CRITERIA FOR SELECTION OF INDICATORS

The decision to include an indicator was based on the following criteria: relevancy to the health of women; policy or programming relevance; adequate sample size to make estimates for minority populations, data reliability, and comparability across most or all states.

## DATA SOURCES

The findings presented in this report are from several data sources that are collected by the federal government and research institutions. The primary sources of population-based data were the Behavioral Risk Factor Surveillance System (BRFSS) and the Current Population Survey (CPS), combining years 2004–2006, which represented the most recent data at the time the project began, and the base years for most of the sources of data. The BRFSS and CPS questionnaires ask respondents about their experiences in the prior year, so data from these sources reflect information for the years 2003–2005.

- **Behavioral Risk Factor Surveillance System.** The Behavioral Risk Factor Surveillance System (BRFSS) was used for most of the health status and access and utilization measures. Established by the Centers for Disease Control and Prevention (CDC), the BRFSS is a state-based survey that collects information on health risk behaviors, preventive health practices, and health care access. It is a cross-sectional, annual, random-digit-dial telephone survey of adults ages 18 and over.

Data from the 2004, 2005, and 2006 BRFSS databases were combined for this report to increase sample sizes and stabilize estimates. The one exception to the combined years was Hawaii. Data for Hawaii for 2004 were not included in the data released by the CDC; therefore the BRFSS estimates for Hawaii are for years 2005–2006 only.

The study population was females ages 18–64 in all 50 states and the District of Columbia (unless otherwise indicated). For each state, data were reported for individual racial and ethnic groups if there were at least 100 valid responses in the racial and ethnic cell based on the merged data. If that criterion was not met, the data for that racial and ethnic group were not reported, but were included in the “All Minority” racial and ethnic category and were used to calculate disparity scores.

- **Current Population Survey.** The Current Population Survey (CPS) was the data source for the health insurance indicator and most of the social determinant indicators in this report. The CPS, administered by the U.S. Census Bureau, is an annual probability sample of the civilian noninstitutionalized population 15 years of age and older. It is the primary source for labor force statistics in the U.S. and also contains extensive demographic data.

The 2004, 2005, and 2006 CPS Annual Social and Economic Supplements were merged to increase sample size. Data were analyzed for females 18–64 in all 50 states and the District of Columbia. A minimum sample size criterion of 100 per cell was used to determine whether an estimate was reportable for a given population group. If a racial and ethnic group did not have a cell size of 100, that specific estimate was not reported and the data were included in the “All Minority” racial and ethnic group.

- **Area Resource File.** The Area Resource File (ARF) is a database containing more than 6,000 variables for each county in the U.S. The ARF was used to obtain Health Professional Shortage Area (HPSA) codes for each county, which were aggregated to the state level. The HPSA codes contained in the ARF are from the Bureau of Primary Health Care, Health Resources and Services Administration, U.S. Department of Health and Human Services.

Based on the Primary Medical Care HPSA codes and the Mental Health HPSA codes, health professional shortage areas for primary care and mental health were calculated for each state and for the District of Columbia for the year 2004. The ARF does not contain HPSA codes for 2005 and 2006.

## DIMENSIONS AND INDICATORS

The 25 indicators detailed in this report are grouped into three dimensions: health status, access and utilization, and social determinants. We also present eight indicators in a chapter on health care payments and workforce. Table M.1 lists all of the indicators used in this report, and their respective data sources.

## ANALYSIS OVERVIEW

### PREVALENCE ESTIMATES

- **BRFSS Indicators.** For indicators derived from BRFSS, we retained records for all women aged 18–64 in the 50 states and the District of Columbia, for 2004–2006. We concatenated the three years’ data into a single dataset retaining only selected variables. Variables with trivial questionnaire changes were synchronized across years.

Respondents to the BRFSS survey were asked whether they are Hispanic, and then what is their race.

Respondents who did not provide a single race were asked which racial group best represents their race. Analyses for this report used the single race identified in the first question or the best representative race identified in the follow-up question as the racial and ethnic group of the respondent. Responses to these questions were used to classify women into the following racial and ethnic groups: Latina, and Latina-exclusive race groups of White, Black, American Indian and Alaska Native, and the combined group of Asian American, Native Hawaiian and Other Pacific Islander.

With the exception of the unhealthy days and limited activity days indicators, each indicator from BRFSS was defined as a dichotomous variable with 1 representing the respondent being at risk and 0 representing her not being at risk. Definitions of the dichotomous indicators are included in Table M.1.

TABLE M.1. Description of Indicators, by Dimension

INDICATOR NAME	DESCRIPTION	DATA SOURCE
<b>SECTION 1. HEALTH STATUS</b>		
Fair or Poor Health	Percent of women who reported their health was fair or poor, based on the possible response categories of excellent, very good, good, fair, or poor.	BRFSS
Unhealthy Days	Mean number of days in the past 30 days when respondents felt their physical or mental health was "not good." It is based on two separate questions that measure the number of days when physical health or mental health were not good.	BRFSS
Limited Activity Days	Mean number of the past 30 days when physical or mental health kept respondents from doing their usual activities. The question was asked only of those respondents who reported at least one day when their physical or mental health was not good.	BRFSS
Diabetes	Percent of women who were ever told by a doctor that they have diabetes, excluding those with only gestational diabetes.	BRFSS
Cardiovascular Disease	Percent of women who were ever told that they had any of the following cardiovascular diseases: heart attack, angina or coronary heart disease, or stroke.	BRFSS
Obesity	The percent of women whose body mass index (BMI) is greater than or equal to 30.	BRFSS
Current Smoking	Percent of women who currently smoke. This measure is based on respondents who reported they have smoked at least 100 cigarettes in their lifetime and currently smoke either every day or some days.	BRFSS
Cancer Mortality Rate	The number of women who died from any cancer per 100,000 women in each population, between 2000-2004.	National Vital Statistics System from NCI
New AIDS Cases	The number of new AIDS cases per 100,000 women ages 13 and older, in 2004.	HIV/AIDS Surveillance Supplemental Report 2006, 12 (No. 2)
Low-Birthweight Infants	Percent of live births weighing less than 2,500 grams, in 2003-2005.	National Vital Statistics System, from Health US, 2007
Serious Psychological Distress	Percent of women who had a score of 13 or higher on the K6 scale.	SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2004, 2005, 2006, and 2007.
<b>SECTION 2. ACCESS AND UTILIZATION</b>		
Health Coverage	Percent of women without health coverage.	CPS
Lack of Personal Doctor/Health Care Provider	Percent of women who do not have a regular place they go to get care.	BRFSS
Routine Checkup	Percent of women who have not had a routine physical exam in the past two years.	BRFSS
Dental Checkup	Percent of women who have not had a routine dental exam in the past two years.	BRFSS
No Doctor Visit Due to Cost	Percent of women who did not see a doctor in the past year for financial reasons.	BRFSS
Mammogram	Percent of women ages 40-64 who did not have a mammogram in the past two years.	BRFSS
Pap Test	Percent of women who did not have a routine pap smear in the past two years.	BRFSS
Prenatal Care	Percent of women who initiated prenatal care late, or did not receive any prenatal care.	BRFSS
<b>SECTION 3. SOCIAL DETERMINANTS</b>		
Women in Poverty	Percent of women ages 18-64 with incomes below 100 percent of the federal poverty level.	CPS
Median Household Income	Median income of households with at least one woman between the ages of 18-64.	CPS
Gender Wage Gap	Ratio of earnings for full-time year round women to the earnings of full-time year round non-Hispanic White men.	CPS
Women with No High School Degree	Percent of women ages 18-64 who have not graduated from high school.	CPS
Female-Headed Households w/Children	Percent of women ages 18-64 living in a household with children that is headed by a woman.	CPS
Index of Dissimilation	How evenly distributed the population is relative to non-Hispanic Whites. Data were measured at the county level and aggregated to the state level.	Census Population Estimates
<b>SECTION 4. HEALTH CARE PAYMENTS AND WORKFORCE</b>		
Physician Diversity Ratio	The factor by which the physician workforce would need to be changed so that the ratio of minority physicians to the minority population would match the ratio of White physicians to the White population living in a state.	Trivedi AN, et al. Health Affairs, 2005.
Primary Care Shortage Area	The percent of women (all ages) living in a full or partial primary care health professional shortage area.	Area Resource File, 2004
Mental Health Shortage Area	The percent of women (all ages) living in a full or partial mental health professional shortage area.	Area Resource File, 2004
Medicaid/Medicare Fee Index	A measure of the differences between Medicaid and Medicare fees in 2003. The weighted sum of the ratios of each state's Medicaid fee for a given service to the Medicare fee, using 2000 expenditure weights.	Zuckerman S, et al. Health Affairs, 2004.
Medicaid Income Eligibility for Working Parents	State income eligibility threshold for working parents applying for Medicaid coverage.	Center on Budget and Policy Priorities
Medicaid/CHIP Income Eligibility for Pregnant	State income eligibility threshold for pregnant women applying for Medicaid coverage.	National Governors' Association.
Total Family Planning Funding Per Woman in Need	Per capita funding states invest in family planning services for low-income women who are considered in need of contraceptive services.	Guttmacher Institute
Abortion Composite Measure	Composite measure of three state policies affecting access to abortion services: waiting period, no use of state funds for abortions, percent of women living in counties without an abortion provider.	Guttmacher Institute

Note: BRFSS - Behavioral Risk Factor Surveillance System; CPS - Current Population Survey.

For indicators in the Health Status dimension, data were adjusted for differences in the age distribution of respondents among races using a post-stratification approach. Weights of observations were adjusted so that each sample of respondents represented the standardized age distribution shown in Table M.2. Indicators in the Access and Utilization and Social Determinants dimensions were not age-adjusted.

In estimating the prevalence of each indicator, respondents who refused to answer the specific question that was the basis of the indicator, and those who stated that they did not know the answer, were omitted. If fewer than 100 responses remained within a racial or ethnic category, data for that group were not reported. Prevalence estimates were obtained using SAS PROC SURVEYMEANS. Overall prevalence was estimated applying the procedure to all women in the dataset. The prevalence among all minority women was estimated by applying the procedure to the dataset after excluding non-Hispanic White women. Finally, the prevalence for each racial or ethnic group was estimated.

The prevalence was estimated for each year, then averaged across the three years weighted by effective sample size.<sup>8</sup> The coefficient of variation (CV) was expressed as the ratio of the standard error (SE) to the mean, and 95% confidence intervals were computed about prevalence estimates as the mean  $\pm$  1.96  $\times$  SE.

- **CPS and Area Resource File Indicators.** Prevalence rates for indicators from the ARF and CPS were calculated in a similar manner using SPSS. Data from the Area Resource File were aggregated to the state level, using weighted averages for each county. County weights were determined by the proportion of the state population residing in the county.

## INDICATOR DISPARITY SCORES

The disparity score for each indicator was obtained using the weighted average of the ratio of the mean prevalence for each racial and ethnic group divided by the mean prevalence for non-Hispanic White women in that state. Weights for averaging were based on the proportion of the state’s minority population. The exceptions to this calculation were median household income and gender wage gap, for which disparity scores were calculated using the inverse ratio. This was done to preserve the relationship between disparity scores greater than 1.00 and worse outcomes for women of color. All variables were coded so that higher prevalence rates were associated with poor outcomes, and lower prevalence rates were positive.

For indicators such as median household income and gender wage gap where higher numbers are considered to be positive, the disparity score was calculated as the ratio of median household income for non-Hispanic White women to that of women from all other racial and ethnic populations. With this method, a disparity score below 1.00 reflected a state where minority women had higher incomes than White women, as is the case for all other indicators. In the case of the gender wage gap, larger numbers represent more equitable wages. Here again, the disparity score was calculated as the ratio of White women to the weighted average for minority women.

In all instances, disparity scores equivalent to 1.00 corresponded to there being no disparity between women of color and non-Hispanic White women (i.e. the prevalence rates for both groups were the same). Disparity scores above 1.00 reflected worse outcomes for women of color compared to White women (i.e. the prevalence rate was higher for women of color than for White women), and disparity scores below 1.00 corresponded to women of color having better outcomes than White women (i.e., the prevalence rate for women of color was lower than that of White women). Table M.3 illustrates the relationship between disparity scores and prevalence rates for White women and women of color.

TABLE M.2. Standardized Population of Women in the U.S., by Age

Age Group	Standardized Population
18-29	22,852,201
30-39	21,576,587
40-49	21,515,659
50-64	21,607,152

**Note:** These groups were the basis for age-adjustment of indicators in the health status dimension.

TABLE M.3. Disparity Scores and Prevalence Rates for White and All Minority Women

State	Disparity Score	Prevalence White Women	Prevalence All Minority Women
State A	0.75	20.0%	15.0%
State B	1.00	20.0%	20.0%
State C	1.50	20.0%	30.0%
State D	2.00	20.0%	40.0%

## DIMENSION SCORES

Dimension scores were calculated for Health Status, Access and Utilization and Social Determinants using a three-step process. First, we adjusted all indicator disparity scores using the ratio of the prevalence of the indicator among White women in each state relative to its prevalence of the indicator among White women nationally. This process created disparity scores which compared the experiences of minority women in a given state to those of the average White woman nationwide (See Table M.4). In effect, the adjustment increased or decreased disparities depending on the relationship of minority women in a state to the average White woman nationwide. State A in Table M.4, for example, already had a disparity score less than 1.00 because women of color had a lower prevalence than White women.

**TABLE M.4. Comparison of Unadjusted and Adjusted Disparity Scores**

State	Disparity Score	Adjusted Disparity Score	Prevalence White Women	Prevalence All Minority Women
All States	1.30	--	20.0%	26.0%
State A	0.75	0.375	10.0%	7.50%
State B	1.00	1.00	20.0%	20.0%
State C	1.50	2.25	30.0%	45.0%
State D	2.00	1.50	15.0%	30.0%

Since the prevalence for women of color in State A was lower than the national average for White women, the disparity score decreased. In contrast, State C saw its disparity score increase because minority women in State C had a higher prevalence than the national average for White women.

Following the adjustment, we standardized disparity scores to the average disparity score of the 50 states and the District of Columbia. We did this by subtracting from the disparity score for each state and dividing by the standard deviation of all disparity scores. Finally, we calculated dimension scores as the average of each standardized disparity score. Thus, each indicator disparity score was weighted equally in calculating the dimension score. The resulting dimension score reflected

**TABLE M.5. Calculation of Standardized Dimension Score**

State	Indicator 1 Disparity Score	Indicator 2 Disparity Score	Indicator 3 Disparity Score	Dimension Score	P-Value
State A	-0.96	0.63	-0.80	-0.38	0.002
State B	1.01	-0.15	0.63	0.50	0.0001
State C	-0.14	-0.38	0.27	-0.08	0.067
State D	1.21	0.12	0.59	0.64	<0.0001

how far a given state was from the average disparity score. The average disparity score is equivalent to 0. States with negative dimension scores (States A and C in Table M.5) did better than the national average, while states with positive numbers (States B and

D) did worse than the national average. It is important to note that the average dimension score is not the equivalent of having parity between White women and women of color.

Using the bootstrap estimate procedure, we obtained variance estimates of the disparity score for all indicators from the BRFSS and CPS. Variance estimates were unavailable for indicators from secondary sources. These included new AIDS cases, low-birthweight, cancer mortality, and late prenatal care. Data from registries, such as low-birthweight infants and new AIDS cases, do not vary because they are reported cases, not estimates of these indicators.

## DIMENSION SCORE GROUPINGS

We classified states as “better than average,” “average,” or “worse than average” based on their relationship to the mean dimension score, which was represented by 0. We calculated the appropriate designation by testing each dimension score to determine whether it was different from 0. States with dimension scores no different from 0, such as State C in Table M.5, were labeled “average.” States with dimension scores less than 0 that were statistically different from 0 ( $p \leq 0.05$ ), were classified as “better than average” (e.g. State A) and states with positive dimension scores and p-values less than or equal to 0.05 were labeled “worse than average” (e.g. States B and D). In some cases, states with lower dimension scores (i.e. less disparity) were grouped differently from states with higher dimension scores because the statistical test provided evidence that the difference from the average was real or significant. Similarly, states with higher dimension scores (i.e. greater disparity) were grouped differently from states with lower dimension scores because of their p-values. For example, a state might have been classified as “better than average” with a dimension score of -0.15 while another state was classified as “average” with a dimension score of -0.30.