

## I. HEALTH ASSESSMENT

### C. HEALTH STATUS

#### 2. CHRONIC DISEASE

#### WHAT IS THE HEALTH STATUS OF DELAWARE RESIDENTS IN TERMS OF CHRONIC DISEASE?

Relative to benchmarks, Delaware residents have higher mortality rates of heart disease and diabetes, comparable rates of both chronic obstructive pulmonary disease and chronic liver disease, but slightly lower rates of cerebrovascular disease and kidney disorders.

- **Cardiovascular mortality rates and disease prevalence are greater in Delaware relative to most benchmark communities and the national rate.**

- Consistent with stakeholder beliefs, **major cardiovascular disease** is one of the leading causes of death for Delaware residents. Approximately 170 of every 100,000 persons living in Delaware died from cardiovascular diseases in 1997. Delaware residents die at slightly higher rates from major cardiovascular disease relative to most benchmark communities and the U.S.

- Delaware's **heart disease** mortality rate (138.3 deaths per 100,000 persons) was slightly higher than the national rate (130.4 deaths per 100,000 persons) and most neighboring states but 37 percent higher than Washington State. Similar to the national experience, females accounted for slightly more than half (51 percent) of all heart disease deaths in Delaware<sup>1</sup>.

- Based on self reported disease from a survey, **prevalence of ischemic heart disease** in Delaware was substantially higher than the national rate. The rate for Delaware residents was nearly triple the national estimated rate for individuals between 45 and 64 years and over double the national rate for individuals 65 years or older<sup>2</sup>.

#### **TECHNICAL NOTE**

*Due to the small number of incidents of several chronic diseases (i.e., diabetes, COPD and liver disease), slight year-to-year changes can lead to substantial fluctuations in annual rates. Delaware adjusts for these fluctuations by calculating five-year average rates. The Lewin Group chose to use single year statistics instead of five-year averages in order to benchmark Delaware against other states.*

*Most of the data presented in the Health Assessment are 1997 data from the National Center for Health Statistics. Although Delaware has published 1998 vital statistics data, The Lewin Group used 1997 data in order to compare Delaware to other states and the nation.*

<sup>1</sup> The five-year average mortality rate for heart disease in Delaware was 144.4.

<sup>2</sup> The methodology used to determine prevalence of disease in the Delaware community is different from the methodology used to determine national prevalence. National prevalence estimates were obtained from the 1996

- **Hypertension prevalence** estimates for Delaware residents are higher for every age group than the national prevalence estimates. For those over age 65, the prevalence is almost 50 percent, while the national estimate is 36 percent<sup>2</sup>.
- **Delaware residents have higher rates of diabetes and die more often from the disease than residents in most comparison communities.**
  - The estimated **prevalence of diabetes** in Delaware was double the national rate for individuals less than 45 years and over 30 percent higher than the national rate for Delaware residents older than 45 years<sup>2</sup>.
  - Reflecting community stakeholder concerns, the **diabetes mortality rate** in Delaware is higher than the U.S. and most benchmark communities. In 1997, the diabetes mortality rate in Delaware (16.1 deaths per 100,000 persons) was higher than those of all comparison communities except for Maryland<sup>3</sup>.
  - A survey of Delaware residents conducted by The Lewin Group in 2000 indicated that the vast majority of study respondents (94 percent) with diabetes were taking medication or insulin for this disease. However, only 80 percent of study respondents reported annual eye exams compared to the optimal performance level of 100 percent. Performance also was lower on standards for foot care. Only 57 percent of residents reported being asked by their doctor about foot care during the year.
- **The chronic obstructive pulmonary disease (COPD) mortality rate in Delaware is comparable to the U.S., slightly higher than neighboring states, but below Washington State and consensus-based standards.**
  - In 1997, Delaware residents died from **COPD** at a rate of 21.2 deaths per 100,000 persons. Delaware's COPD mortality rate is comparable to the national rate and higher than most comparison states except Washington State<sup>4</sup>.
    - Delaware met the Healthy People 2000 objective of reducing the **COPD** death rate to no more than 25.0 deaths per 100,000 persons.

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National Health Interview Survey, which is a multistage probability sample conducted through in-home interviews by the Bureau of the Census. Delaware prevalence estimates were obtained from a self-reported mail survey in 2000 conducted by The Lewin Group.

<sup>3</sup> The five-year average mortality rate for diabetes in Delaware was 14.2.

<sup>4</sup> The five-year average mortality rate for COPD in Delaware was 21.4.

- **The death rate for chronic liver disease and cirrhosis in Delaware is within the range of state and national benchmarks.**
  - In 1997, the **chronic liver disease and cirrhosis death rate** for Delaware (6.5 deaths per 100,000 persons) was lower than in the U.S. and fell within the range of comparison states' rates<sup>5</sup>.
- **Cerebrovascular disease mortality in Delaware is lower than the majority of benchmarks, but higher than consensus-based standards.**
  - In 1997, the **cerebrovascular disease mortality rate** in the Delaware (22.2 deaths per 100,000 persons) was 14 percent lower than the national rate (25.9 deaths per 100,000 persons) and those of most comparison communities<sup>6</sup>.
  - Though lower than rates in most benchmark communities, Delaware's **cerebrovascular disease mortality rate** was 11 percent higher than the Healthy People 2000 objective of 20 deaths per 100,000 persons.
  - Comparable to the national rate, women accounted for 59 percent of cerebrovascular disease deaths.
- **Delaware's mortality rate due to kidney disorders (e.g., nephritis, nephrotic syndrome and nephrosis) falls within the range of benchmarks.**
  - In 1997, Delaware experienced 4.9 kidney disorder-related deaths per 100,000 persons. Although 11 percent higher than the U.S. mortality rate and 113 percent higher than that of Washington State, Delaware's mortality due to kidney disorders was four percent to 17 percent lower than other comparison states<sup>7</sup>.

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<sup>5</sup> The five-year average mortality rate for chronic liver disease and cirrhosis in Delaware was 7.4.

<sup>6</sup> The five-year average mortality rate for cerebrovascular disease in Delaware was 22.6.

<sup>7</sup> The five-year mortality rate for kidney disease in Delaware was 5.7.

**Exhibit I-C-12:**

Chronic disease mortality statistics indicate that Delaware's experience is more favorable for cerebrovascular disease but less favorable for heart disease and diabetes compared to benchmarks.

### Health Status Indicators

Chronic Disease	
Major Cardiovascular Disease	↔
Heart Disease	—
Cerebrovascular Disease	+
Diabetes Mellitus	—
Chronic Obstructive Pulmonary Disease	↔
Chronic Liver Disease	↔
Kidney Disorders: Nephritis, Nephrotic Syndrome, and Nephrosis	↔

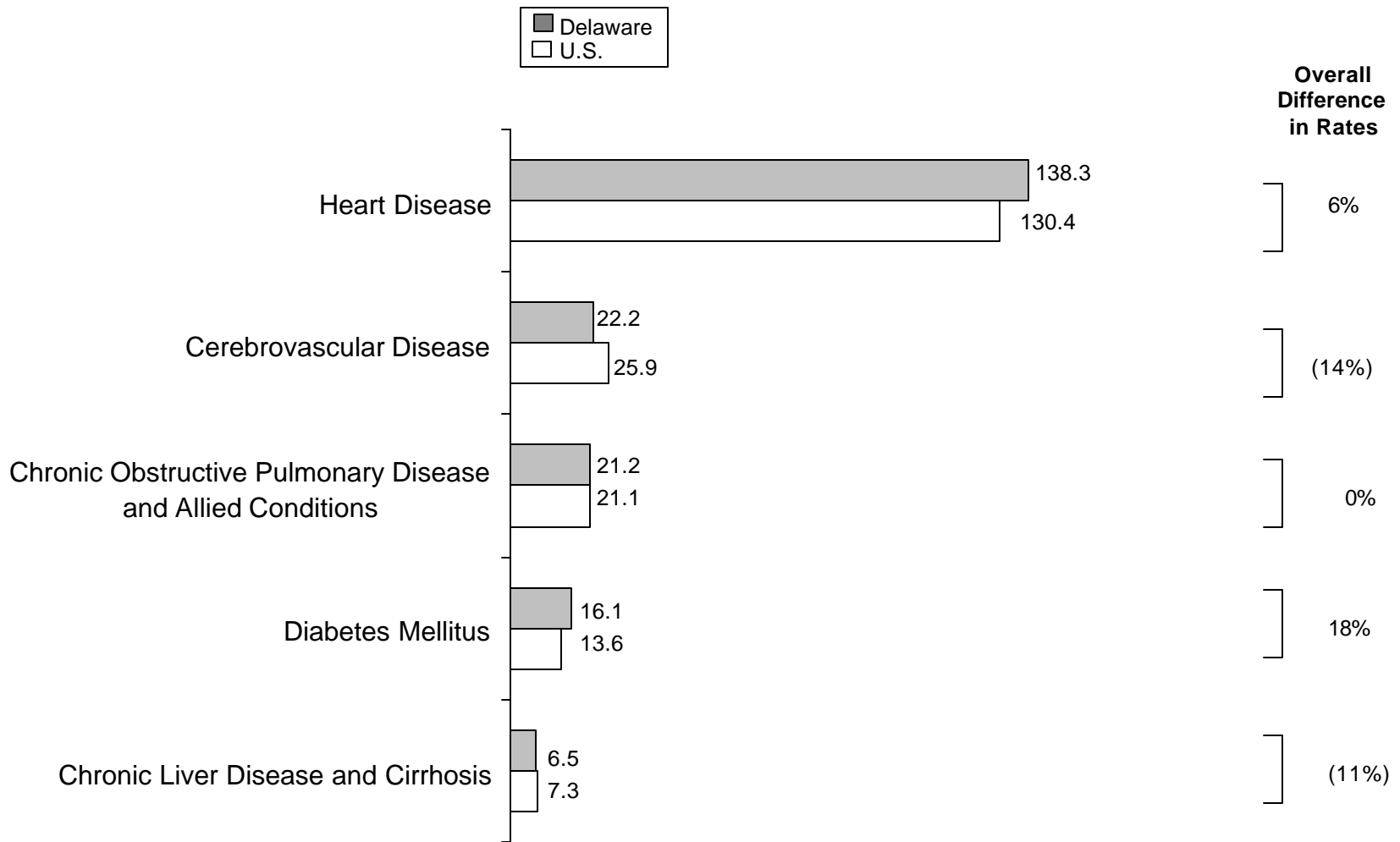
Performance Relative to Benchmarks:    **+** More Favorable    ↔ Comparable    — Less Favorable

HEALTH	RESOURCE	VALUE
Demographic	Socioeconomic	Health Status

**Exhibit I-C-13:**

In 1997, Delaware's diabetes rate was higher than the national average, while its rates of cerebrovascular disease and chronic liver disease were lower.

**Death Rates per 100,000 Persons<sup>(a)</sup> 1997**



Sources: 1997 data, U.S. National Center for Health Statistics; CDC, CDC Wonder Data Extraction Software.

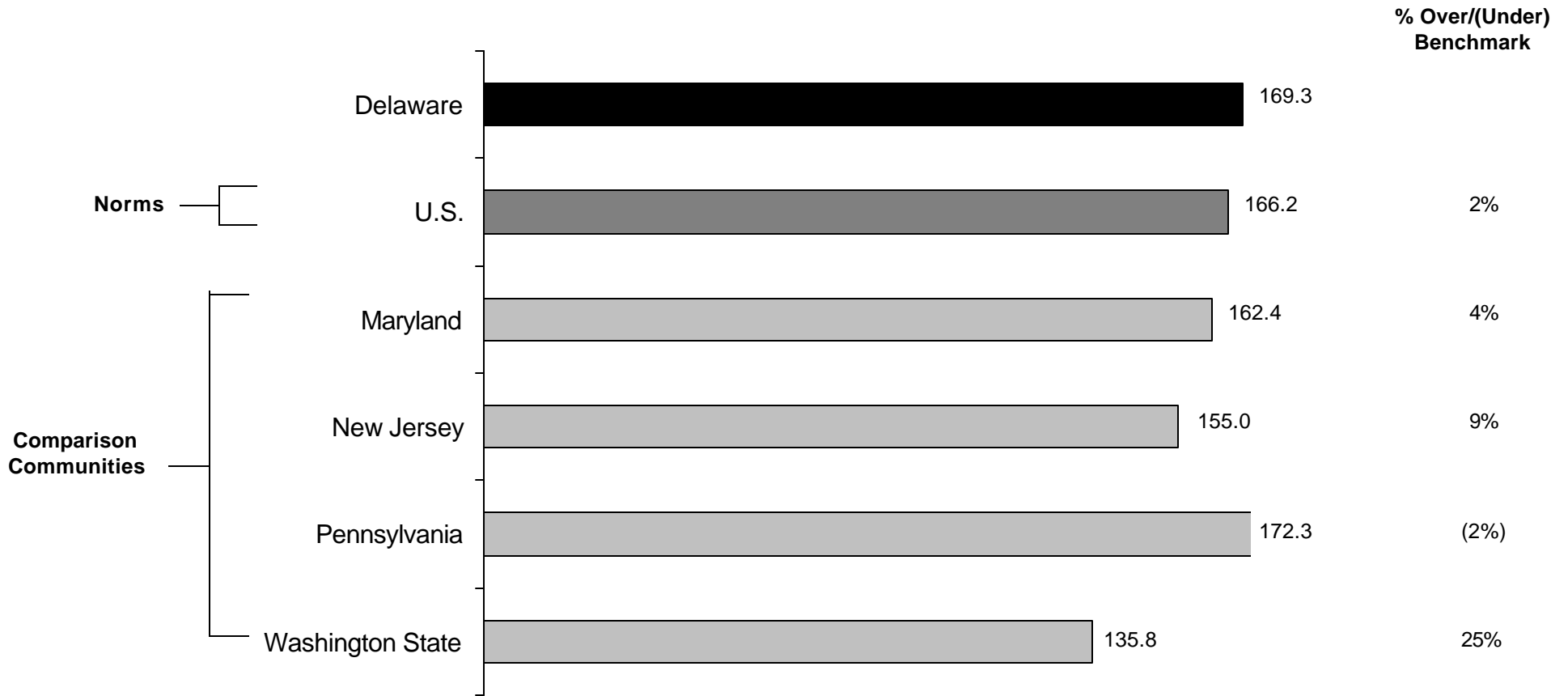
Notes: (a) Death rates are age-adjusted to the 1940 U.S. national population.

HEALTH	RESOURCE	VALUE
Demographic	Socioeconomic	Health Status

**Exhibit I-C-14:**

Major cardiovascular disease is one of the leading causes of death in Delaware, and Delaware residents died from cardiovascular disease at a comparable rate to most benchmarks.

**Major Cardiovascular Disease Deaths per 100,000 Persons<sup>(a)</sup> 1997**



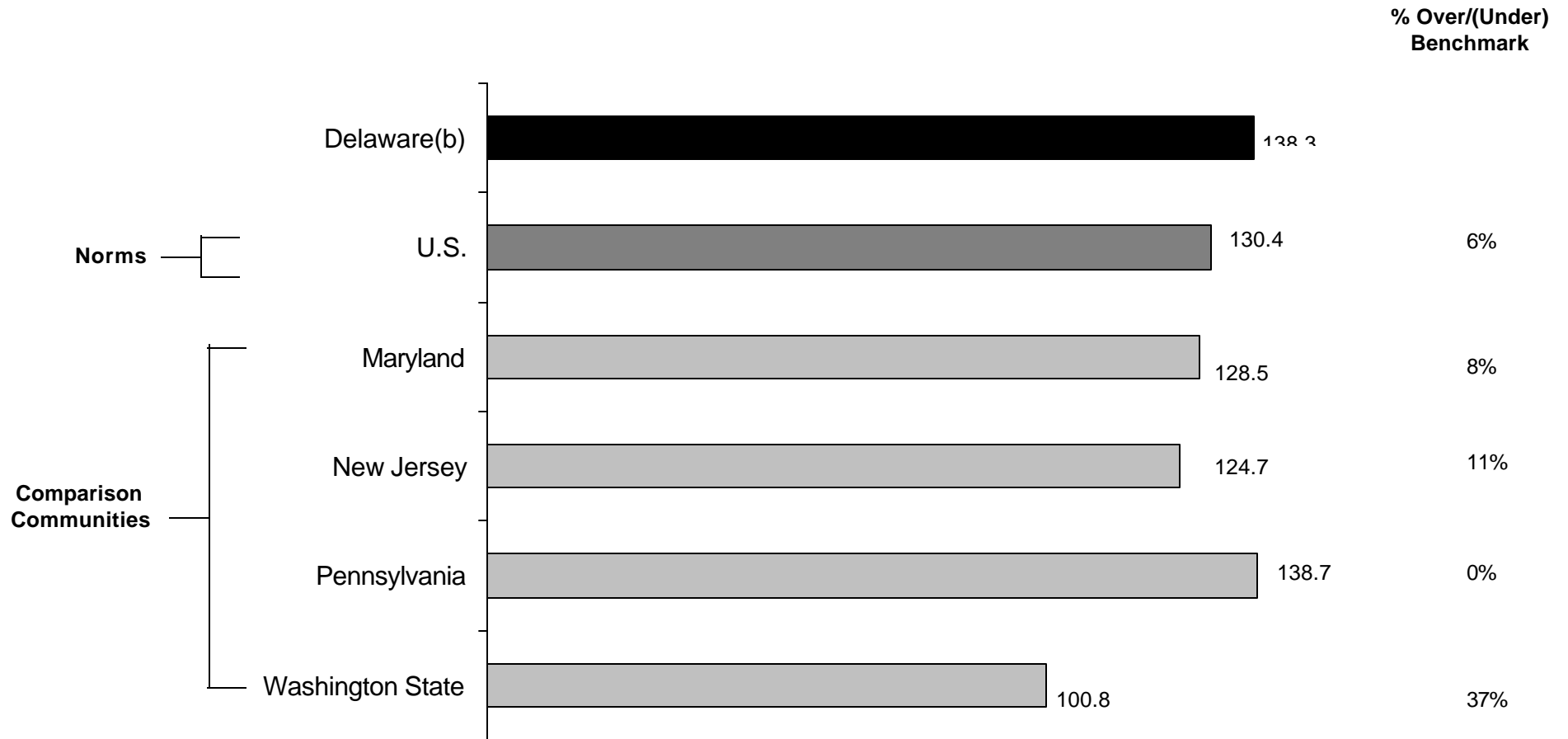
Sources: 1997 data, U.S. National Center for Health Statistics; CDC, CDC Wonder Data Extraction Software.

Notes: (a) Death rates are age-adjusted to the 1940 U.S. national population.

HEALTH	RESOURCE	VALUE
Demographic	Socioeconomic	Health Status

**Exhibit I-C-15:** Delaware's heart disease mortality rate was comparable to the U.S. but slightly higher than most state benchmarks.

**Heart Disease Deaths per 100,000 Persons<sup>(a)</sup> 1997**



Sources: 1997 data, U.S. National Center for Health Statistics; CDC, CDC Wonder Data Extraction Software.

Notes: (a) Death rates are age-adjusted to the 1940 U.S. national population.

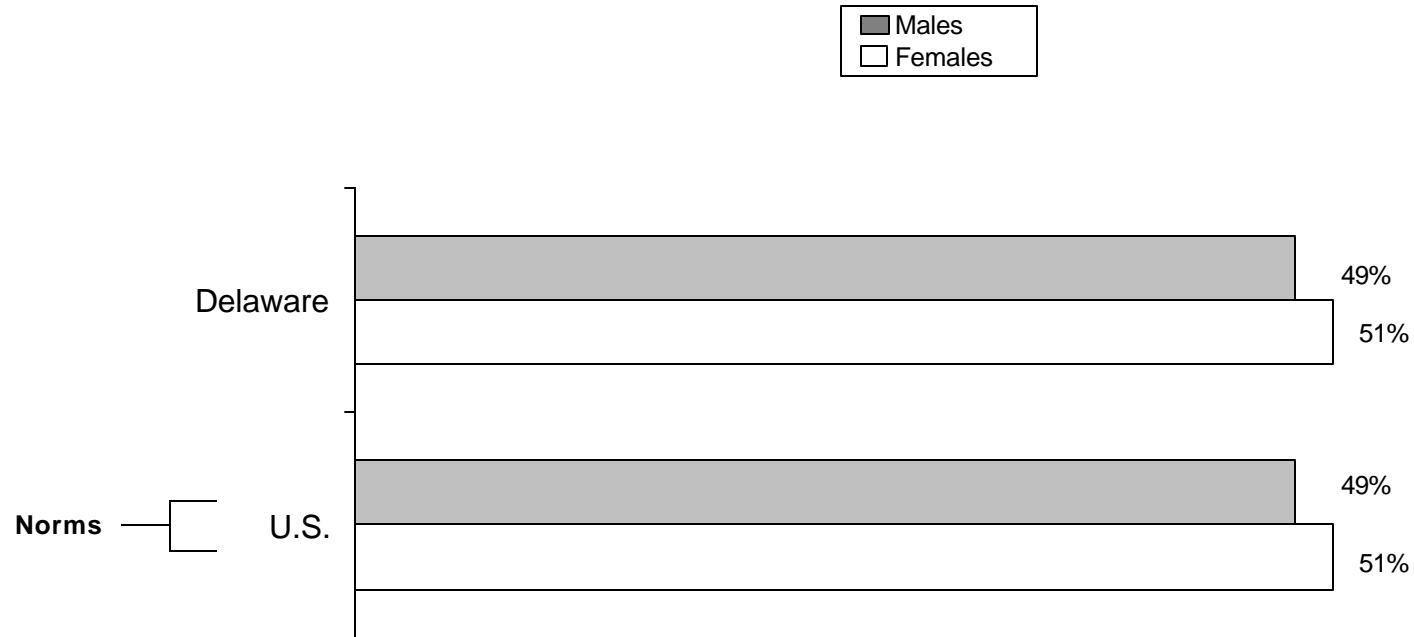
(b) Although Delaware uses five-year averages to compensate for small sample size, one-year rates are used here so that Delaware can be compared to benchmarks. The five-year average mortality rate for heart disease in Delaware was 144.4.

HEALTH	RESOURCE	VALUE
Demographic	Socioeconomic	Health Status

**Exhibit I-C-16:**

Similar to the national experience, heart disease deaths were nearly evenly split between men and women in Delaware.

**Proportion of Deaths by Sex  
Heart Disease 1997**



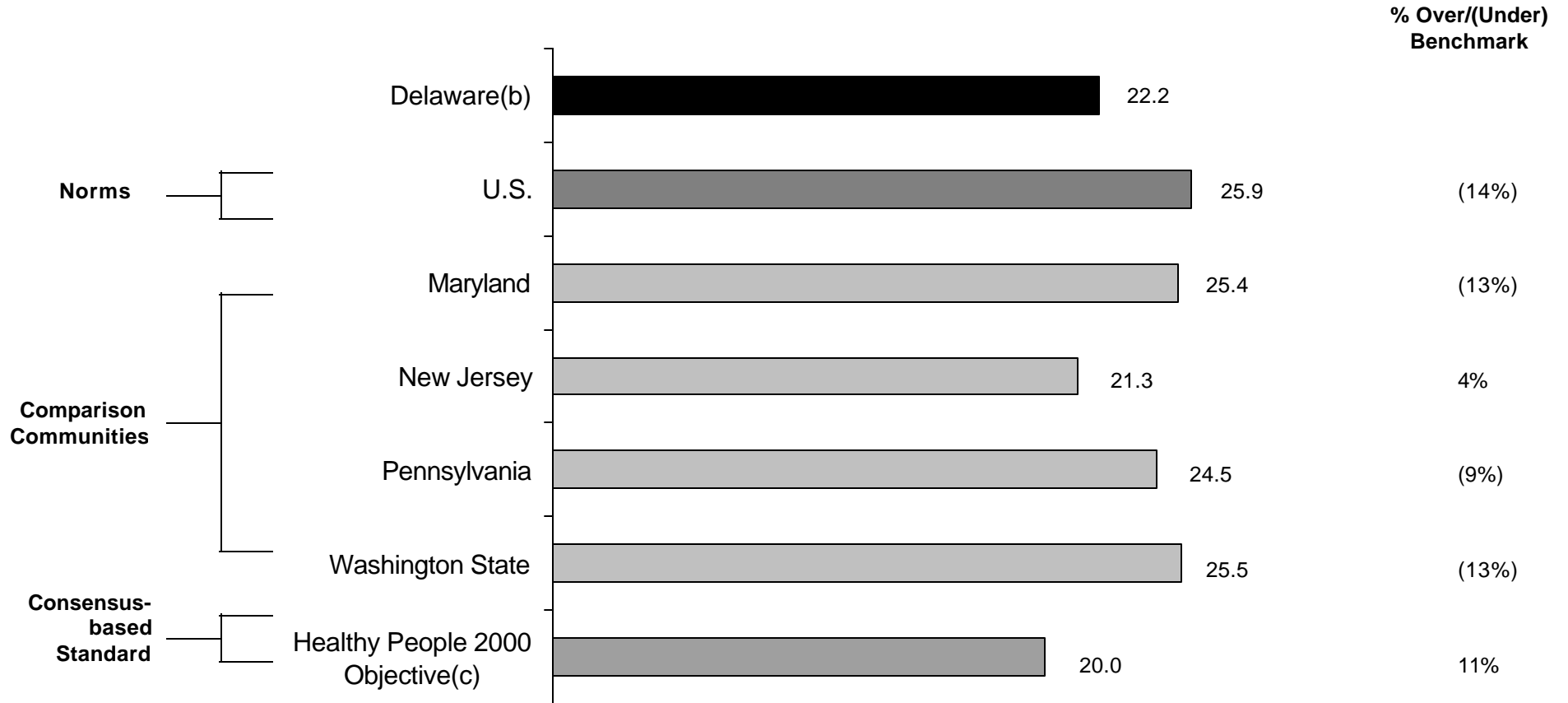
Sources: 1997 data, U.S. National Center for Health Statistics; CDC, CDC Wonder Data Extraction Software.

HEALTH	RESOURCE	VALUE
Demographic	Socioeconomic	Health Status



**Exhibit I-C-17:** Delaware's cerebrovascular death rate was lower than most benchmarks but it was 11 percent higher than the Healthy People 2000 Objective.

**Cerebrovascular Disease Deaths per 100,000 Persons<sup>(a)</sup> 1997**



Sources: 1-6) 1997 data, U.S. National Center for Health Statistics; CDC, CDC Wonder Data Extraction Software; 7) Healthy People 2000 Objectives.

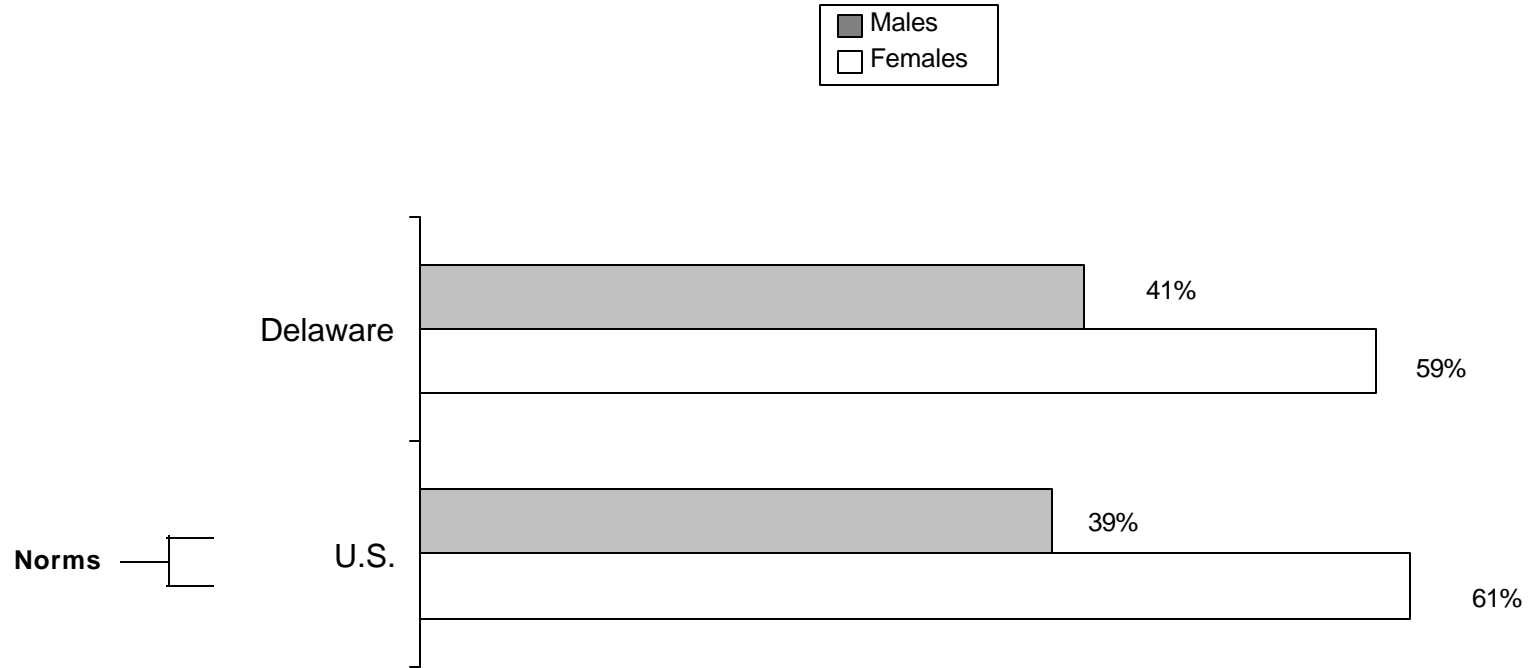
Notes: (a) Death rates are age-adjusted to the 1940 U.S. national population. (b) Although Delaware uses five-year averages to compensate for small sample size, one-year rates are used here so that Delaware can be compared to benchmarks. The five-year average mortality rate for cerebrovascular disease in Delaware was 22.6. (c) Healthy People 2000 objective to reduce "stroke" deaths.

HEALTH	RESOURCE	VALUE
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**Exhibit I-C-18:**

In 1997, females accounted for almost 60 percent of all cerebrovascular disease deaths in Delaware. This proportion mirrors that of the national experience.

**Proportion of Deaths by Sex Cerebrovascular Disease 1997**



Sources: 1997 data, U.S. National Center for Health Statistics; CDC, CDC Wonder Data Extraction Software.

HEALTH	RESOURCE	VALUE
Demographic	Socioeconomic	Health Status

**Exhibit I-C-19:** Delaware’s estimated rates of hypertension and ischemic heart disease are higher than the national estimated rate for these conditions.

**Estimated Prevalence of Cardiovascular Disease  
Delaware and U.S.**

<b>Condition</b>	<b>Delaware 2000</b>	<b>U.S. 1996</b>	<b>Percent Over U.S. Benchmark</b>
<b>Hypertension</b>			
< 45 Years of Age	9.0%	3.0%	200%
45 – 64 Years of Age	27.9%	21.4%	30%
≥ 65 Years of Age	47.6%	36.4%	31%
<b>Ischemic Heart Disease</b>			
< 45 Years of Age	4.5%	0.3%	1400%
45 – 64 Years of Age	14.1%	5.2%	171%
≥ 65 Years of Age	33.1%	14.1%	135%

Sources: 1) The Lewin Group, Inc., Delaware Community Assessment: Health Assessment Survey, 2000; 2) 1996 National Health Interview Survey.

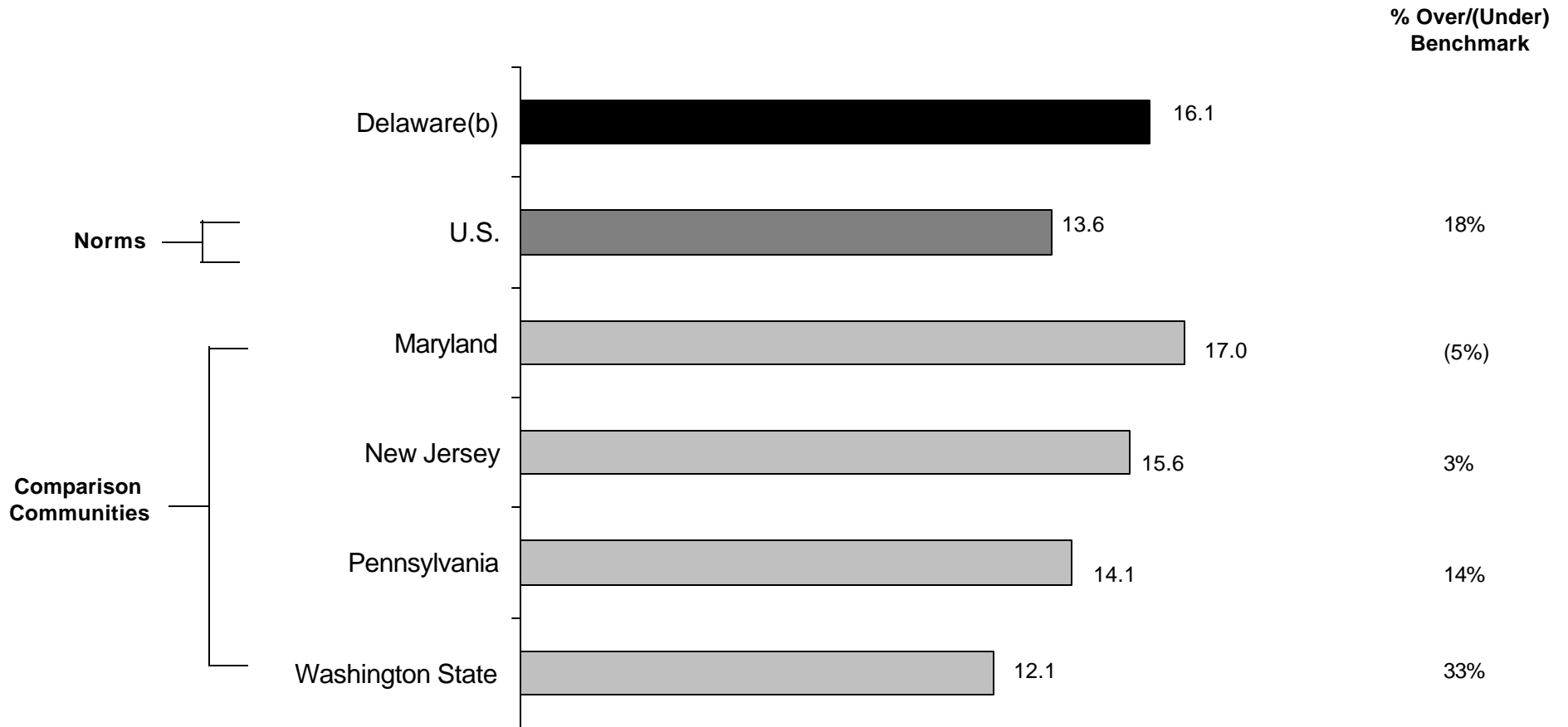
Notes: Delaware prevalence estimates do not include respondents for whom age could not be calculated because birth date was missing. Eight patients with no age reported having ischemic heart

<b>HEALTH</b>	<b>RESOURCE</b>	<b>VALUE</b>
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**Exhibit I-C-20:**

In 1997, Delaware experienced a higher diabetes mortality rate compared to the U.S. and two of the four comparison states.

**Diabetes Mellitus Deaths per 100,000 Persons<sup>(a)</sup> 1997**



Sources: 1997 data, U.S. National Center for Health Statistics; CDC, CDC Wonder Data Extraction Software.

Notes: (a) Death rates are age-adjusted to the 1940 U.S. national population.

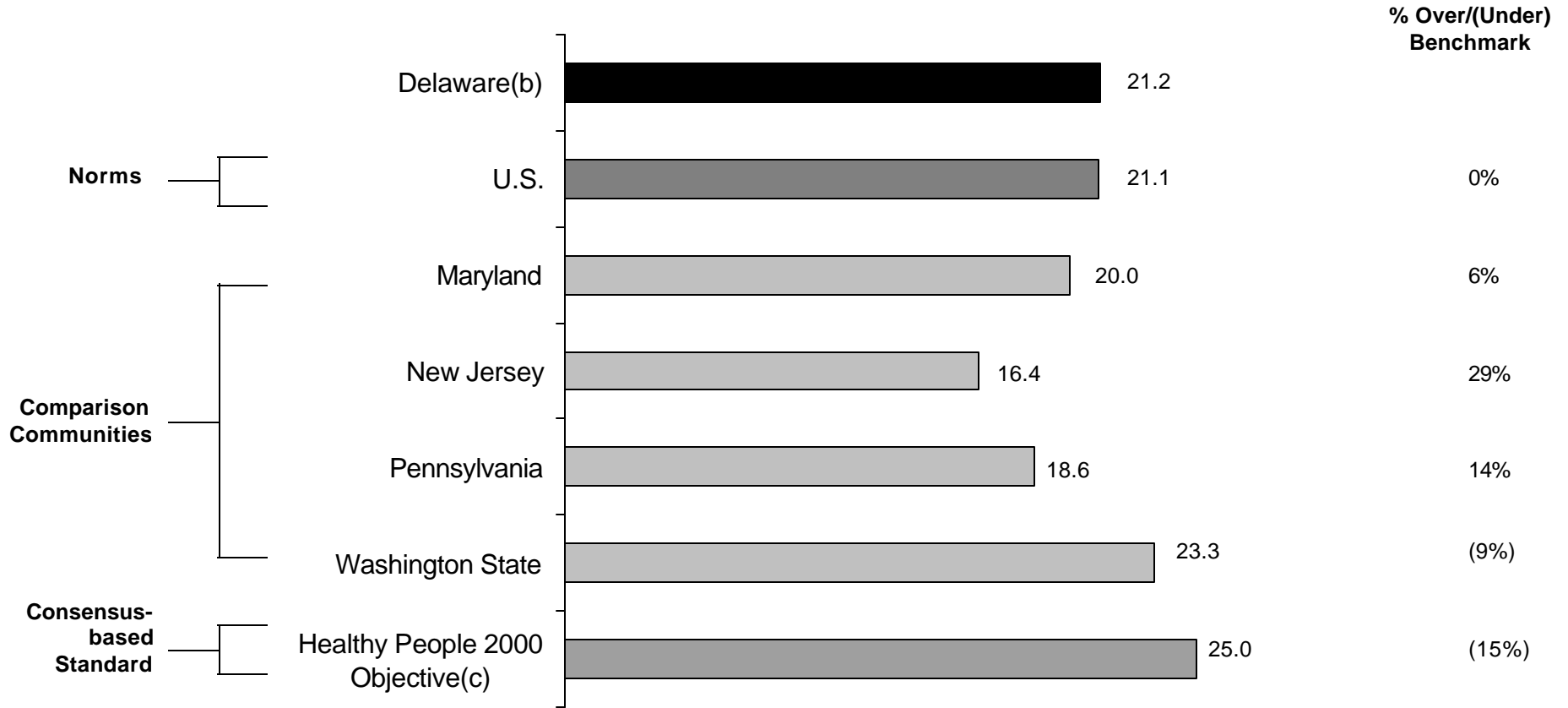
(b) Although Delaware uses five-year averages to compensate for small sample size, one-year rates are used here so that Delaware can be compared to benchmarks. The five-year average mortality rate for diabetes in Delaware was 14.2.

HEALTH	RESOURCE	VALUE
Demographic	Socioeconomic	Health Status

**Exhibit I-C-21:**

In 1997, Delaware's residents experienced a COPD mortality rate that fell within the range of benchmarks.

**Chronic Obstructive Pulmonary Diseases and Allied Conditions Deaths per 100,000 Persons<sup>(a)</sup> 1997**



Sources: 1-6) 1997 data, U.S. National Center for Health Statistics; CDC, CDC Wonder Data Extraction Software; 7) Healthy People 2000 Objectives.

Notes: (a) Death rates are age-adjusted to the 1940 U.S. national population.

(b) Although Delaware uses five-year averages to compensate for small sample size, one-year rates are used here so that Delaware can be compared to benchmarks. The five-year average mortality rate for COPD in Delaware was 21.4.

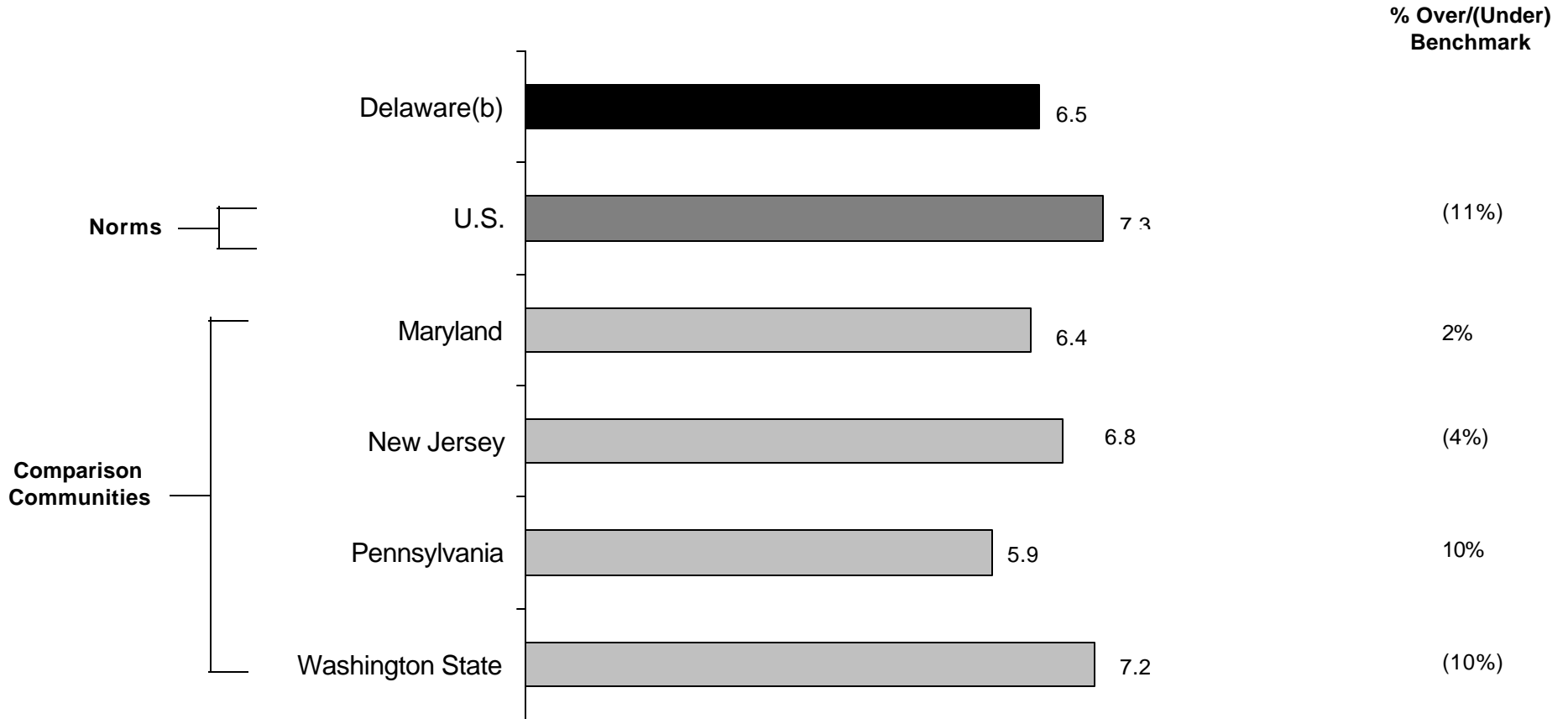
(c) Healthy People 2000 objective to slow the rising COPD death rate to no more than 25.0 deaths per 100,000 persons.

HEALTH	RESOURCE	VALUE
Demographic	Socioeconomic	Health Status

**Exhibit I-C-22:**

Delaware residents experienced a comparable rate of chronic liver disease and cirrhosis death rates compared to benchmarks.

**Chronic Liver Disease and Cirrhosis Deaths per 100,000 Persons<sup>(a)</sup> 1997**



Sources: 1997 data, U.S. National Center for Health Statistics; CDC, CDC Wonder Data Extraction Software.

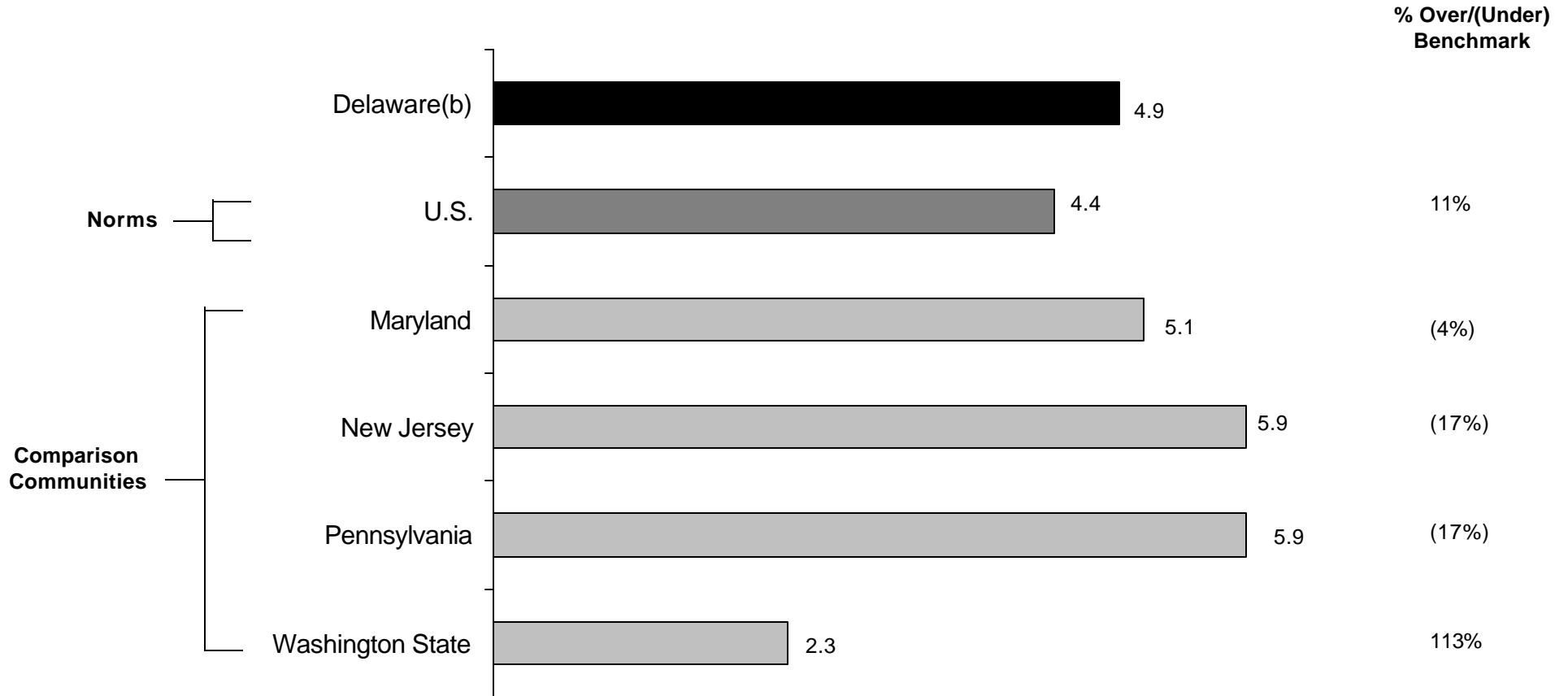
Notes: (a) Death rates are age-adjusted to the 1940 U.S. national population.

(b) Although Delaware uses five-year averages to compensate for small sample size, one-year rates are used here so that Delaware can be compared to benchmarks. The five-year average mortality rate for chronic liver disease and cirrhosis in Delaware was 7.4.

HEALTH	RESOURCE	VALUE
Demographic	Socioeconomic	Health Status

**Exhibit I-C-23:** Delaware's kidney disorder mortality rate fell within the range of benchmarks.

**Kidney Disorders: Nephritis, Nephrotic Syndrome, and Nephrosis Deaths per 100,000 Persons<sup>(a)</sup> 1997**



Sources: 1997 data, U.S. National Center for Health Statistics; CDC, CDC Wonder Data Extraction Software.

Notes: (a) Death rates are age-adjusted to the 1940 U.S. national population.

(b) Although Delaware uses five-year averages to compensate for small sample size, one-year rates are used here so that Delaware can be compared to benchmarks. The five-year average mortality rate for kidney disease in Delaware was 5.7.

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Demographic	Socioeconomic	Health Status