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# 3 Risk Factors for Heart Disease and Stroke Among American Indians and Alaska Natives, by State

## High Blood Pressure

High blood pressure (hypertension) is a major risk factor for heart disease and stroke. For every 20 mm Hg systolic or 10 mm Hg diastolic increase in blood pressure, there is a doubling of deaths from both ischemic heart disease and stroke, according to the *Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (Hypertension 2003;42:1206–52)*.

The JNC7 report also notes that only 34% of Americans with high blood pressure have it under control. Research shows that even a 5 mm Hg decrease in diastolic blood pressure can reduce heart disease risk by 21% (*Arch Intern Med* 2001;161:2657–60). A systolic blood pressure <120 mm Hg and a diastolic blood pressure <80 mm Hg is considered normal.

The IHS is working to better identify and reduce high blood pressure among American Indian and Alaska Native (AI/AN) people—for example, through electronic alerts to health care providers and audits of patients’ charts. It also is administering

numerous diabetes grants that include strategies to reduce high blood pressure and other cardiovascular risk factors.

CDC funds state programs to assess the prevalence of high blood pressure, increase compliance with treatment guidelines among managed care organizations, and prevent high blood pressure in the United States, with special programs tailored to minority groups and inner-city residents.

### Definition of High Blood Pressure

We defined self-reported high blood pressure on the basis of the following Behavioral Risk Factor Surveillance System (BRFSS) question: “Have you ever been told by a doctor, nurse, or other health care professional that you have high blood pressure?” This question was only asked in odd-numbered years, so the data for this analysis are from 2001 and 2003. Age-adjusted prevalences were calculated for adults ages  $\geq 18$  years.

### Prevalence Variations

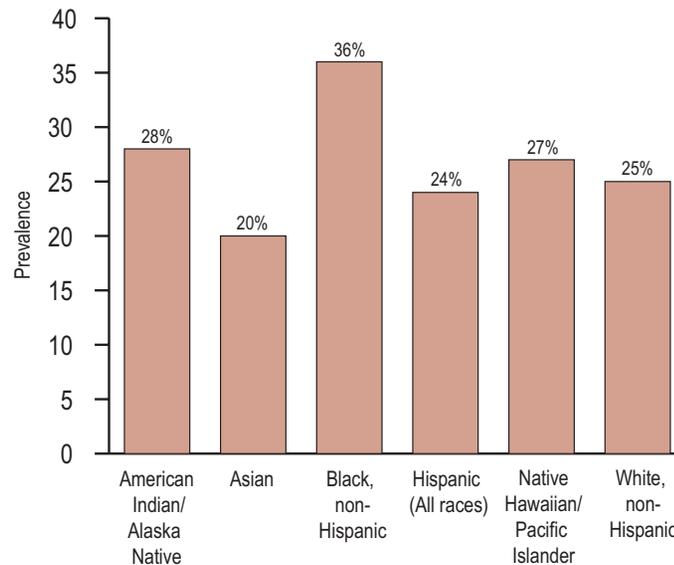
We found substantial state-to-state differences in the prevalence of high blood pressure among AI/AN people (see facing map and Table 1). A 1.8-fold difference existed between the midpoint of the lowest quartile (20%) and that of the highest quartile (35%).

The national prevalence among all AI/AN people was 28%. Prevalences were 26% for women and 29% for men. AI/AN people ranked second among U.S. racial/ethnic groups (see Figure 1).

### A Cautionary Note

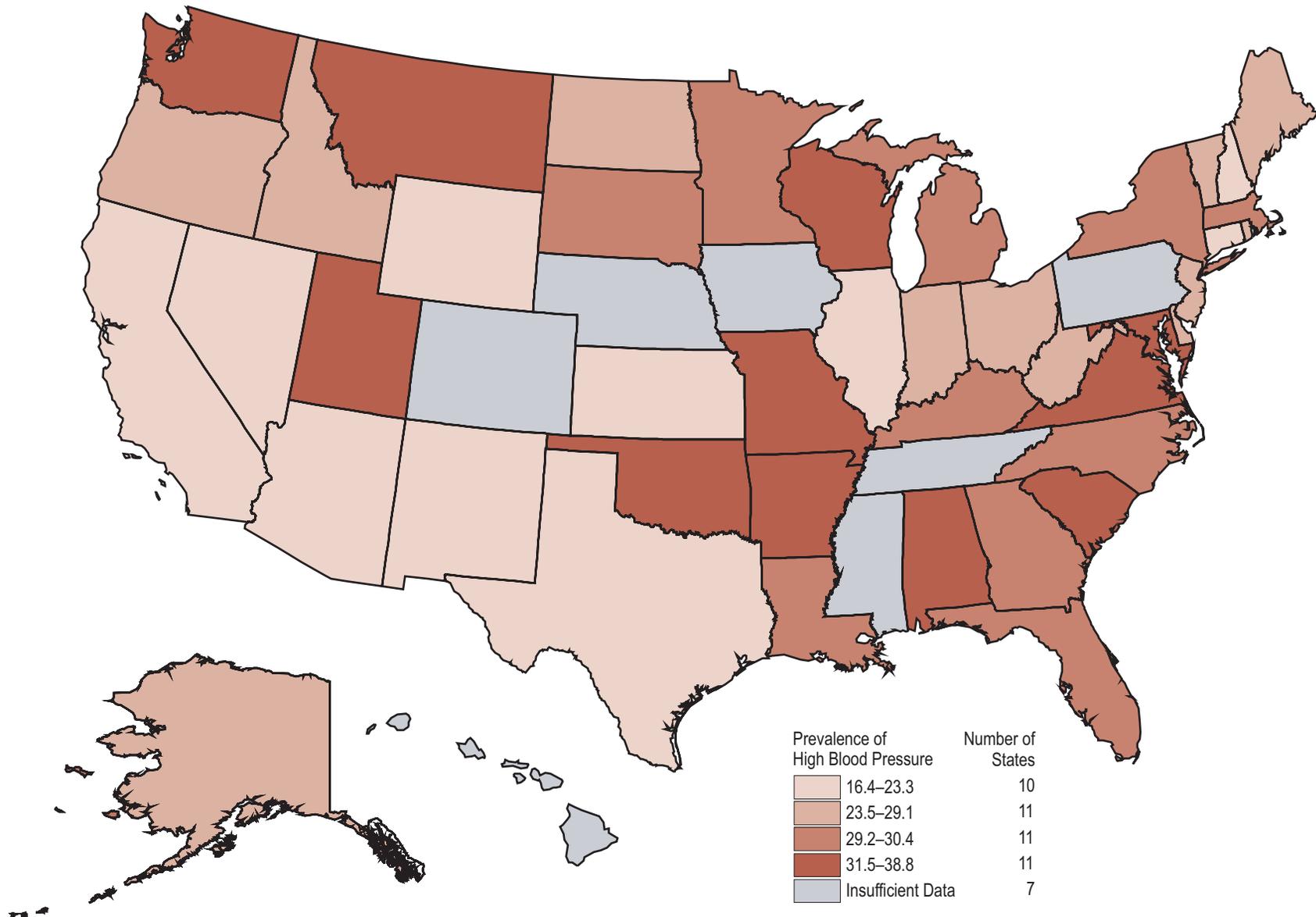
Prevalences are based on a sample of AI/AN people surveyed by telephone for the BRFSS. They are likely lower than the true prevalence of high blood pressure and are more representative of AI/AN people living in urban rather than rural areas or on reservations (see Appendix B for details).

**Figure 1.**  
Prevalence of  
Self-Reported  
High Blood  
Pressure Among  
Adults  $\geq 18$  Years  
by Race/Ethnicity,  
BRFSS, 2001 and  
2003 Combined



## Prevalence of Self-Reported High Blood Pressure 2001 and 2003 Combined

## American Indians and Alaska Natives Ages 18 Years and Older



**Table 1. Prevalence of Self-Reported High Blood Pressure Among American Indians and Alaska Natives, by State,**

State	Total Population			Women			Men		
	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†
Alabama	76	38.8	27.5–50.1	36	‡		40	‡	26.9–56.8
Alaska	1047	28.5	24.5–32.5	592	33.0	28.0–37.9	455	24.5	19.0–30.0
Arizona	272	21.7	14.3–29.2	176	19.5	10.6–28.5	96	27.5	16.0–39.0
Arkansas	107	35.1	26.8–43.4	62	29.4	22.2–36.7	45	‡	
California	86	23.0	14.0–31.9	58	18.0	8.9–27.0	28	‡	
Colorado	48	‡	15.1–34.9	32	‡		16	‡	
Connecticut	76	23.3	12.9–33.7	37	‡		39	‡	
Delaware	63	29.2	17.0–41.3	34	‡		29	‡	
District of Columbia	23	‡		9	‡		14	‡	
Florida	102	30.3	18.3–42.3	53	30.3	14.6–45.9	49	‡	
Georgia	102	29.3	20.6–38.0	55	37.4	27.1–47.6	47	‡	
Hawaii	43	‡		21	‡		22	‡	
Idaho	124	27.9	19.7–36.2	76	28.7	17.5–39.8	48	‡	
Illinois	75	19.3	9.7–28.9	44	‡		31	‡	
Indiana	68	29.0	19.6–38.4	36	‡		32	‡	
Iowa	26	‡		16	‡		10	‡	
Kansas	89	23.2	14.1–32.4	51	24.1	12.1–36.1	38	‡	
Kentucky	71	29.4	17.2–41.5	28	‡		43	‡	
Louisiana	92	30.3	20.5–40.2	60	31.4	19.3–43.6	32	‡	
Maine	63	28.8	17.0–40.7	36	‡		27	‡	
Maryland	74	32.1	19.6–44.5	39	‡		35	‡	
Massachusetts	95	29.8	20.1–39.6	60	25.8	19.4–32.3	35	‡	
Michigan	56	29.4	17.7–41.2	31	‡		25	‡	
Minnesota	53	30.4	17.5–43.2	30	‡		23	‡	
Mississippi	45	‡		28	‡		17	‡	
Missouri	88	34.3	21.2–47.5	45	‡		43	‡	
Montana	744	32.2	27.1–37.3	449	33.5	27.6–39.3	295	31.7	24.3–39.1
Nebraska	46	‡		27	‡		19	‡	
Nevada	84	22.9	16.1–29.7	40	‡		44	‡	
New Hampshire	73	19.2	9.7–28.7	37	‡		36	‡	
New Jersey	95	28.8	16.4–41.1	54	27.6	15.1–40.2	41	‡	
New Mexico	356	19.9	14.5–25.4	201	19.8	12.2–27.4	155	19.6	11.3–27.8

Note: To compare these prevalences with those for the total U.S. population, see Appendix A.

## Behavioral Risk Factor Surveillance System (BRFSS), 2001 and 2003 Combined\*

State	Total Population			Women			Men		
	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†
New York	73	29.6	16.3–42.8	47	‡		26	‡	
North Carolina	298	29.8	22.5–37.0	193	34.6	25.0–44.1	105	24.5	13.7–35.3
North Dakota	161	29.1	20.8–37.4	100	22.4	14.2–30.6	61	40.0	27.2–52.8
Ohio	63	27.3	17.3–37.2	33	‡		30	‡	
Oklahoma	898	33.4	30.2–36.6	573	34.3	30.2–38.4	325	32.5	27.4–37.5
Oregon	110	24.0	15.1–32.9	55	27.0	13.2–40.8	55	23.5	10.9–36.1
Pennsylvania	37	‡		20	‡		17	‡	
Rhode Island	69	23.5	14.4–32.5	36	‡		33	‡	
South Carolina	90	33.1	24.0–42.2	46	‡		44	‡	
South Dakota	491	29.9	25.6–34.1	317	30.4	25.3–35.5	174	29.4	22.3–36.4
Tennessee	37	‡		21	‡		16	‡	
Texas	103	22.5	14.2–30.7	56	20.4	10.4–30.3	47	‡	
Utah	56	37.8	25.4–50.1	29	‡		27	‡	
Vermont	77	26.5	14.7–38.2	35	‡		42	‡	
Virginia	68	33.2	21.4–44.9	32	‡		36	‡	
Washington	392	31.9	24.7–39.1	210	28.9	20.3–37.5	182	33.1	22.6–43.7
West Virginia	59	27.9	16.8–39.0	26	‡		33	‡	
Wisconsin	89	31.5	24.2–38.8	48	‡		41	‡	
Wyoming	101	16.4	9.0–23.8	61	13.3	4.5–22.1	40	‡	
<b>United States</b>	<b>7734</b>	<b>27.7</b>	<b>25.4–29.8</b>	<b>4491</b>	<b>26.1</b>	<b>23.3–28.9</b>	<b>3243</b>	<b>29.1</b>	<b>25.8–32.3</b>

Region§	Respondents	%	95% C.I.	Respondents	%	95% C.I.	Respondents	%	95% C.I.
East	2206	29.1	25.6–32.6	1332	29.0	24.6–33.4	874	29.0	23.8–34.3
Northern Plains	1835	29.8	25.5–34.1	1115	27.5	21.9–33.1	720	32.0	25.6–38.4
Southwest	816	23.3	18.6–28.0	478	21.1	14.8–27.4	338	26.6	21.0–32.2
Pacific Coast	712	24.8	17.9–31.6	399	19.8	12.3–27.4	313	31.4	20.0–42.7
Alaska	1047	28.5	24.5–32.5	592	33.0	28.0–37.9	455	24.5	19.0–30.0

\* Data are based on “yes” responses to the following BRFSS question: “Have you ever been told by a doctor, nurse, or other health professional that you have high blood pressure?” Data are for adults ≥18 years, are age-adjusted to the 2000 U.S. population, and are weighted for the probability of sampling.

† Confidence interval.

‡ Estimates for states with <50 respondents are considered unstable and are not reported.

§ The Indian Health Service (IHS) provides services to American Indians and Alaska Natives in 35 states. Only these 35 states were used for the regional estimates. Regions are defined as follows: East = Alabama, Connecticut, Florida, Louisiana, Maine, Massachusetts, Mississippi, New Jersey, New York, Pennsylvania, Rhode Island, South Carolina, Texas, Oklahoma, and Kansas. Northern Plains = Indiana, Iowa, Michigan, Minnesota, Montana, Nebraska, North Dakota, South Dakota, Wisconsin, and Wyoming. Southwest = Arizona, Colorado, Nevada, New Mexico, and Utah. Pacific Coast = California, Idaho, Oregon, and Washington. Alaska = Alaska. These regional definitions were first used in CDC’s *Health Behaviors of American Indians and Alaska Natives: Findings from the Behavioral Risk Factor Surveillance System, 1993–1996*.

Studies have shown that people with blood cholesterol levels in the highest 10% of the population are four times more likely to die of heart disease and stroke than those with cholesterol levels in the lowest 10% (*MMWR* 1992;41[36]). Diet modification, physical activity, weight control, and medication can help to lower blood cholesterol levels, according to the American Heart Association.

Cholesterol is a fatty substance that the human body needs to function properly. When there is too much cholesterol in the body, it deposits in arteries, causing them to narrow. People with blood cholesterol levels >240 mg/dL are considered to be at high risk for heart disease and stroke (National Cholesterol Education Program).

Prevalence of high cholesterol is increasing among American Indian and Alaska Native (AI/AN) people (*MMWR* 2003;52 [47]1148–52). In response, the IHS has developed several programs to ensure appropriate screening and to improve control of this risk factor. Sample activities include educating people

about the dangers of high cholesterol levels, implementing electronic systems for quality assurance and reminders to health care providers, and awarding diabetes and cardiovascular health grants to tribes and AI/AN communities.

CDC currently funds 32 states and the District of Columbia to develop strategies and implement programs that reduce the prevalence of heart disease and stroke and related risk factors, including high cholesterol.

### Definition of High Cholesterol

We defined self-reported high cholesterol on the basis of “yes” answers to the following Behavioral Risk Factor Surveillance System (BRFSS) question: “Have you ever been told by a doctor or other health professional that your cholesterol is high?” This question was only asked in odd-numbered years, so the data for this analysis are from 2001 and 2003. Age-adjusted prevalences were calculated for adults ages ≥18 years.

### Prevalence Variations

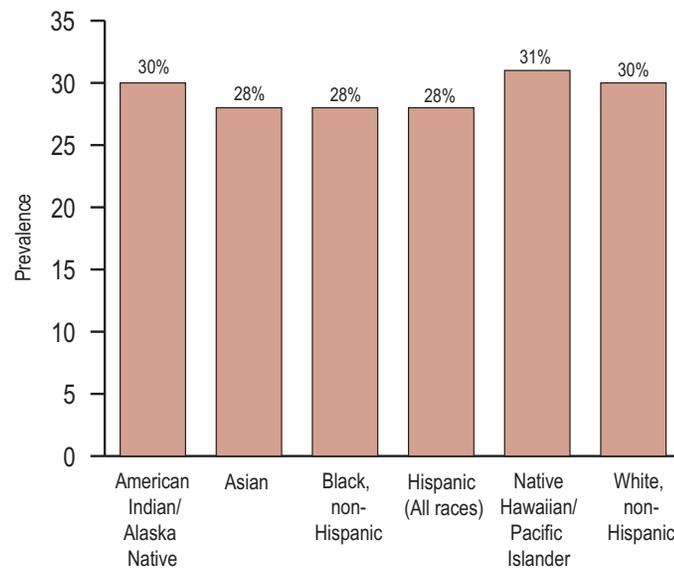
We found substantial state-to-state differences in the prevalence of high cholesterol among AI/AN people (see facing map and Table 2). A greater than 1.8-fold difference existed between the midpoint of the lowest quartile (23%) and that of the highest quartile (41%). Many of the states in the eastern half of the United States did not have sufficient data (i.e., <50 BRFSS respondents) to calculate a stable prevalence.

The national prevalence for all AI/AN people was 30%. Prevalences were similar for women (29%) and men (31%). The prevalence for AI/AN people was similar to those for other U.S. racial/ethnic groups (see Figure 2).

### A Cautionary Note

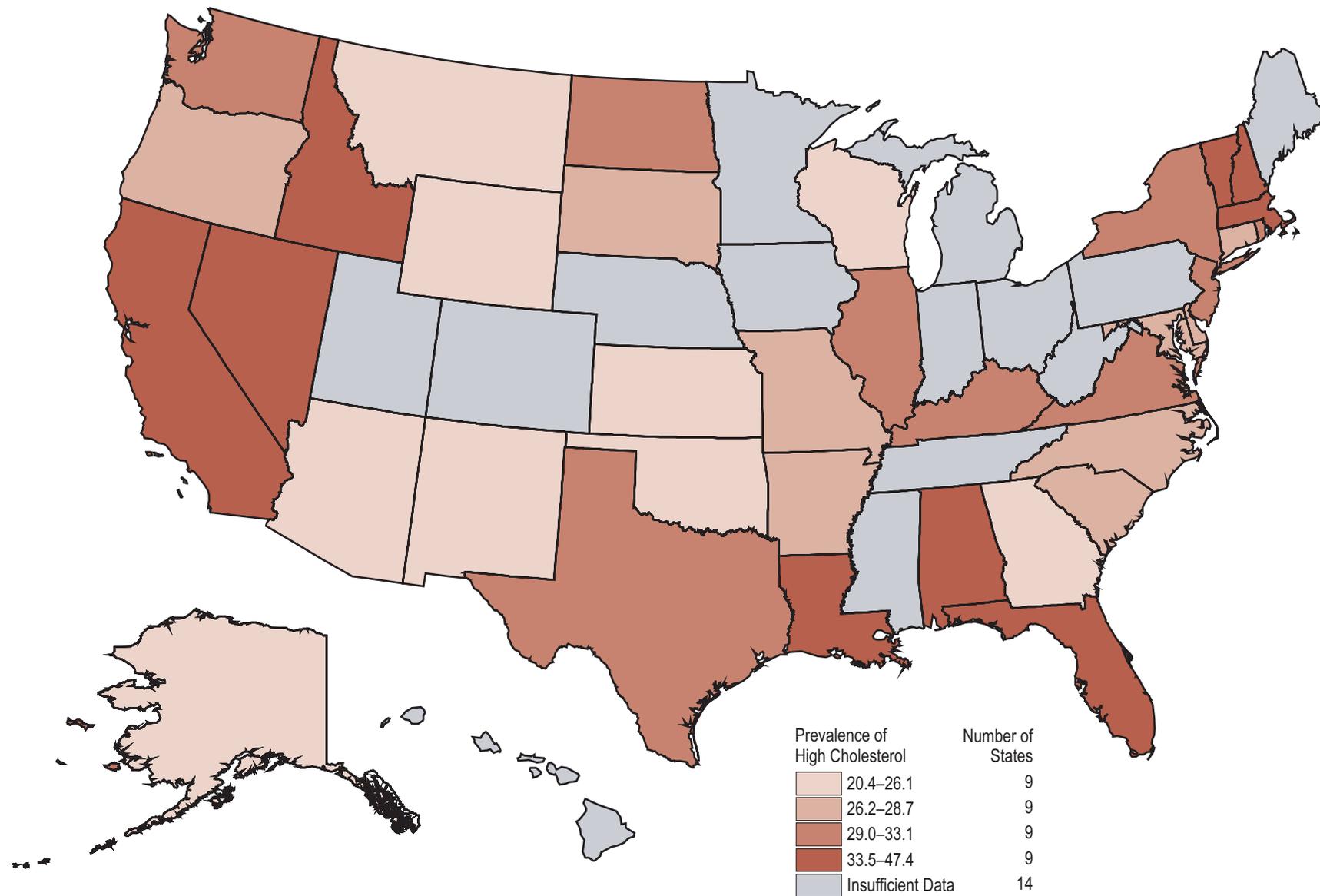
Prevalences are based on a sample of AI/AN people surveyed by telephone for the BRFSS. They are likely lower than the true prevalence of high cholesterol and are more representative of AI/AN people living in urban rather than rural areas or on reservations (see Appendix B for details).

**Figure 2.**  
Prevalence of  
Self-Reported  
High Cholesterol  
Among Adults  
≥18 Years by  
Race/Ethnicity,  
BRFSS, 2001 and  
2003 Combined



## Prevalence of Self-Reported High Cholesterol 2001 and 2003 Combined

## American Indians and Alaska Natives Ages 18 Years and Older



**Table 2. Prevalence of Self-Reported High Cholesterol Among American Indians and Alaska Natives, by State,**

State	Total Population			Women			Men		
	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†
Alabama	52	47.4	34.6–60.3	24	‡		28	‡	
Alaska	579	22.6	18.2–27.0	334	21.0	15.7–26.4	245	24.4	17.4–31.3
Arizona	164	20.4	11.9–28.9	111	13.7	6.6–20.8	53	37.3	21.9–52.6
Arkansas	76	27.5	18.8–36.2	50	26.8	17.4–36.2	26	‡	
California	68	40.6	28.8–52.3	44	‡		24	‡	
Colorado	36	‡		26	‡		10	‡	
Connecticut	59	28.7	17.2–40.2	25	‡		34	‡	
Delaware	53	26.2	14.1–38.2	29	‡		24	‡	
District of Columbia	23	‡		9	‡		14	‡	
Florida	77	33.6	21.1–46.0	41	‡		36	‡	
Georgia	77	20.6	11.2–29.9	39	‡		38	‡	
Hawaii	37	‡		17	‡		20	‡	
Idaho	88	33.5	23.5–43.4	58	33.0	20.5–45.4	30	‡	
Illinois	51	29.2	16.6–41.8	30	‡		21	‡	
Indiana	48	‡		27	‡		21	‡	
Iowa	15	‡		9	‡		6	‡	
Kansas	69	25.1	15.6–34.6	41	‡		28	‡	
Kentucky	59	32.5	19.1–45.9	21	‡		38	‡	
Louisiana	68	33.8	21.4–46.1	44	‡		24	‡	
Maine	44	‡		26	‡		18	‡	
Maryland	64	26.9	16.2–37.6	35	‡		29	‡	
Massachusetts	76	34.7	24.2–45.1	48	‡		28	‡	
Michigan	44	‡	18.9–50.6	23	‡		21	‡	
Minnesota	40	‡		23	‡		17	‡	
Mississippi	27	‡		15	‡		12	‡	
Missouri	71	27.0	15.5–38.5	38	‡		33	‡	
Montana	485	26.1	20.7–47.3	305	28.9	21.3–36.4	180	23.1	16.1–30.0
Nebraska	30	‡		20	‡		10	‡	
Nevada	59	40.6	26.2–54.9	27	‡		32	‡	
New Hampshire	52	34.1	20.4–47.8	28	‡		24	‡	
New Jersey	74	30.8	20.0–41.7	44	‡		30	‡	
New Mexico	233	24.9	19.3–30.4	136	22.3	15.8–28.9	97	27.0	17.7–36.3

Note: To compare these prevalences with those for the total U.S. population, see Appendix A.

## Behavioral Risk Factor Surveillance System (BRFSS), 2001 and 2003 Combined\*

State	Total Population			Women			Men		
	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†
New York	52	32.5	18.1–46.8	35	‡		17	‡	
North Carolina	216	27.4	19.2–35.5	134	29.8	19.0–40.6	82	24.2	12.7–35.6
North Dakota	107	29.0	19.8–38.2	67	30.9	20.0–41.9	40	‡	
Ohio	40	‡		22	‡		18	‡	
Oklahoma	639	24.2	20.8–27.7	409	25.9	21.2–30.6	230	22.8	17.6–28.1
Oregon	76	26.9	16.3–37.5	42	‡		34	‡	
Pennsylvania	27	‡		14	‡		13	‡	
Rhode Island	63	29.1	18.4–39.7	33	‡		30	‡	
South Carolina	68	27.0	16.2–37.7	38	‡		30	‡	
South Dakota	328	27.3	22.2–32.4	217	24.2	17.6–30.8	111	31.0	23.8–38.2
Tennessee	31	‡		17	‡		14	‡	
Texas	83	33.1	23.9–42.3	44	‡		39	‡	
Utah	36	‡		21	‡		15	‡	
Vermont	58	37.0	24.9–49.2	30	‡		28	‡	
Virginia	59	29.8	16.8–42.8	29	‡		30	‡	
Washington	280	32.2	24.3–40.4	146	29.4	19.9–38.9	134	35.0	24.0–46.0
West Virginia	45	‡		22	‡		23	‡	
Wisconsin	68	23.1	13.6–32.7	39	‡		29	‡	
Wyoming	72	24.5	15.1–33.9	43	‡		29	‡	
<b>United States</b>	<b>5346</b>	<b>30.0</b>	<b>27.3–32.7</b>	<b>3149</b>	<b>28.6</b>	<b>25.3–31.9</b>	<b>2197</b>	<b>31.1</b>	<b>27.1–35.1</b>

Region§	Respondents	%	95% C.I.	Respondents	%	95% C.I.	Respondents	%	95% C.I.
East	1620	29.1	25.3–32.9	971	31.7	26.4–37.0	649	26.5	21.3–31.8
Northern Plains	1237	29.2	23.7–34.7	773	26.9	20.4–33.3	464	31.3	23.0–39.5
Southwest	528	22.9	17.4–28.3	321	18.6	12.5–24.7	207	30.3	21.5–39.1
Pacific Coast	512	37.8	28.9–46.8	290	29.3	19.0–39.7	222	47.0	34.0–60.0
Alaska	579	22.6	18.2–27.0	334	21.0	15.7–26.4	245	24.4	17.4–31.3

\* Data are based on “yes” responses to the following BRFSS question: “Have you ever been told by a doctor or other health professional that your blood cholesterol is high?” Data are for adults ≥18 years, are age-adjusted to the 2000 U.S. population, and are weighted for the probability of sampling.

† Confidence interval.

‡ Estimates for states with <50 respondents are considered unstable and are not reported.

§ The Indian Health Service (IHS) provides services to American Indians and Alaska Natives in 35 states. Only these 35 states were used for the regional estimates. Regions are defined as follows: East = Alabama, Connecticut, Florida, Louisiana, Maine, Massachusetts, Mississippi, New Jersey, New York, Pennsylvania, Rhode Island, South Carolina, Texas, Oklahoma, and Kansas. Northern Plains = Indiana, Iowa, Michigan, Minnesota, Montana, Nebraska, North Dakota, South Dakota, Wisconsin, and Wyoming. Southwest = Arizona, Colorado, Nevada, New Mexico, and Utah. Pacific Coast = California, Idaho, Oregon, and Washington. Alaska = Alaska. These regional definitions were first used in CDC’s *Health Behaviors of American Indians and Alaska Natives: Findings from the Behavioral Risk Factor Surveillance System, 1993–1996*.

## Cholesterol Screening

Screening for blood cholesterol levels in the general population is important because high cholesterol can be lowered with medication and behavior change. Studies have shown that a 1% decrease in cholesterol level can reduce the risk for heart disease and stroke by 2% (*MMWR* 1992;41[36]). Cholesterol levels <200 mg/dL are considered desirable (National Cholesterol Education Program, <http://hin.nhlbi.nih.gov/ncep.htm>).

In 1998, about 67% of U.S. residents ages  $\geq 20$  years reported having their cholesterol level checked within the past 5 years (*Healthy People 2010*). *Healthy People 2010* calls for raising this proportion to 80%. National guidelines recommend that people ages  $\geq 20$  years have their cholesterol measured at least once every 5 years (National Heart, Lung, and Blood Institute).

The IHS is working to increase cholesterol screening among American Indian and Alaska Native (AI/AN) people. It is developing an electronic system to notify health care providers of current national guidelines, remind them to screen

patients, and track compliance. The IHS also is administering numerous diabetes and cardiovascular health grants that include strategies (e.g., cholesterol screening) to reduce cardiovascular risk factors.

CDC currently funds 32 states and the District of Columbia to 1) develop strategies, such as policy, environmental, and systems changes, that improve prevalence of cholesterol screening and 2) conduct activities to reduce the burden of heart disease and stroke.

### Definition of Cholesterol Screening

We defined self-reported cholesterol screening on the basis of “yes” responses to the following Behavioral Risk Factor Surveillance System (BRFSS) question: “Have you ever had your blood cholesterol checked?” This question was only asked in odd-numbered years, so the data for this analysis are from 2001 and 2003. Age-adjusted prevalences were calculated for adults ages  $\geq 18$  years.

### Prevalence Variations

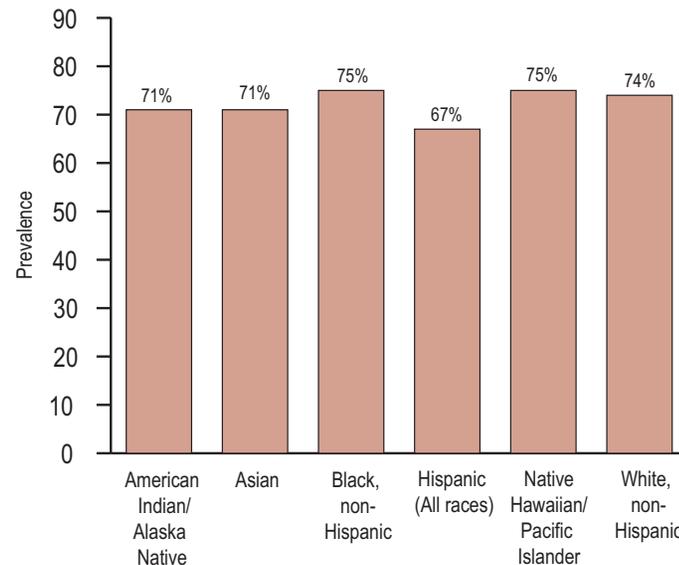
We found state-to-state differences in cholesterol screening prevalence among AI/AN people (see facing map and Table 3). A 1.3-fold difference existed between the midpoint of the lowest quartile (61%) and that of the highest quartile (82%).

The national prevalence for all AI/AN people was 71%. Prevalences were similar for women (72%) and men (71%). The prevalence for AI/AN people was higher than that for Hispanics, the same as Asians, and somewhat lower than other U.S. racial/ethnic groups (see Figure 3).

### A Cautionary Note

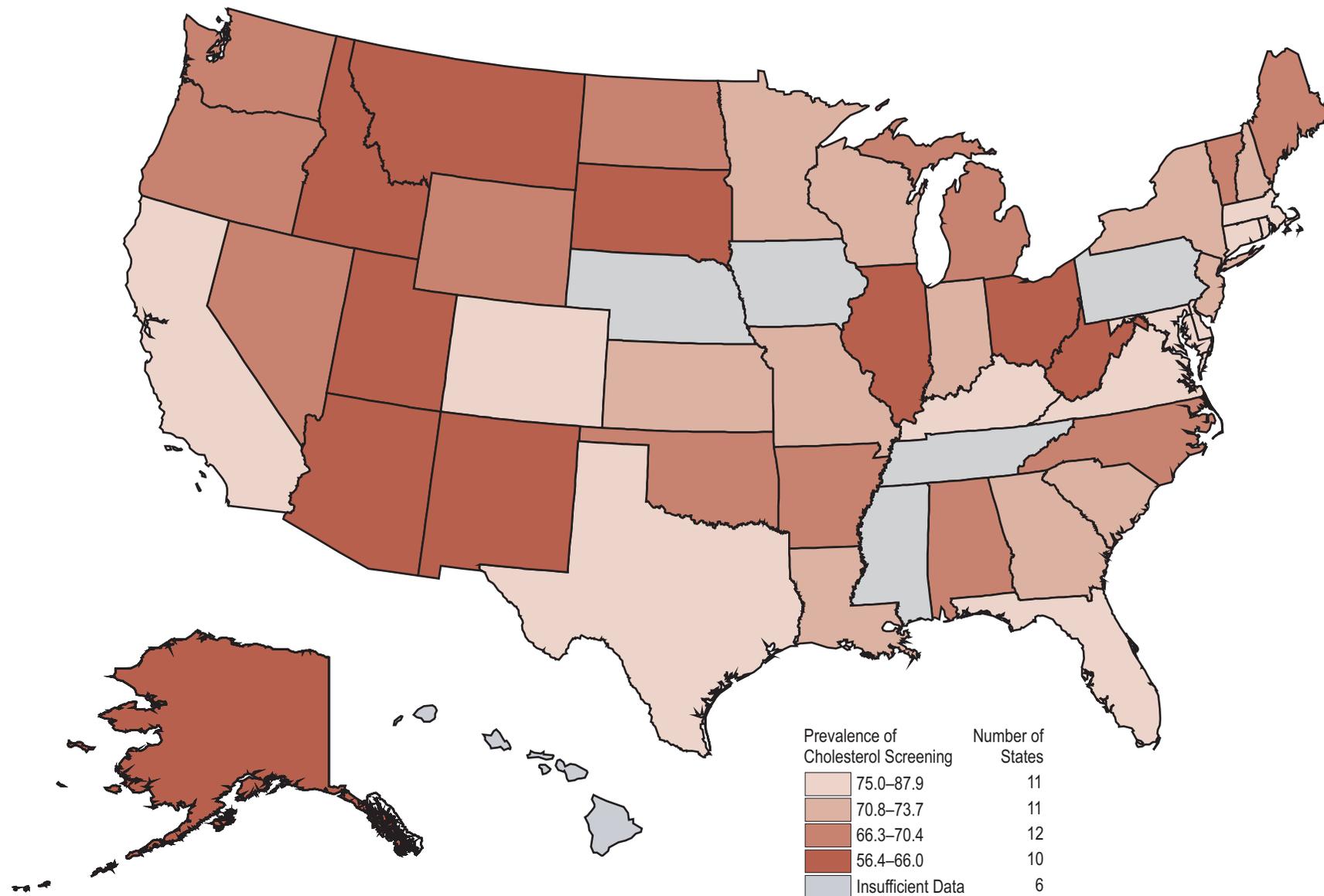
Prevalences are based on a sample of AI/AN people surveyed by telephone for the BRFSS. They are likely higher than the true prevalence of cholesterol screening and are more representative of AI/AN people living in urban rather than rural areas or on reservations (see Appendix B for details).

**Figure 3.**  
**Prevalence of**  
**Self-Reported**  
**Cholesterol**  
**Screening Among**  
**Adults  $\geq 18$  Years**  
**by Race/Ethnicity,**  
**BRFSS, 2001 and**  
**2003 Combined**



## Prevalence of Self-Reported Cholesterol Screening 2001 and 2003 Combined

## American Indians and Alaska Natives Ages 18 Years and Older



**Table 3. Prevalence of Self-Reported Cholesterol Screening Among American Indians and Alaska Natives,**

State	Total Population			Women			Men		
	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†
Alabama	75	66.4	55.3–77.5	35	‡		40	‡	49.9–77.6
Alaska	992	59.6	55.4–63.7	560	59.0	53.8–64.3	432	60.2	53.9–66.6
Arizona	268	59.8	52.0–67.7	175	61.5	51.6–71.4	93	56.8	45.1–68.6
Arkansas	104	66.3	56.0–76.5	62	79.0	68.3–89.7	42	‡	
California	83	75.0	63.4–86.6	55	79.0	67.5–90.5	28	73.3	57.2–89.4
Colorado	46	80.2	70.3–90.1	31	‡		15	‡	
Connecticut	72	82.1	71.4–92.9	35	‡		37	‡	
Delaware	63	81.8	72.5–91.1	34	‡		29	‡	
District of Columbia	23	‡		9	‡		14	‡	
Florida	99	76.7	66.8–86.6	52	68.2	54.0–82.5	47	‡	
Georgia	96	72.7	64.5–81.0	52	67.7	59.2–76.2	44	‡	
Hawaii	43	‡		21	‡		22	‡	
Idaho	118	63.0	52.8–73.2	72	69.1	56.0–82.2	46	‡	
Illinois	72	60.2	47.3–73.1	42	‡		30	‡	
Indiana	66	71.2	61.2–81.1	34	‡		32	‡	
Iowa	26	‡		16	‡		10	‡	
Kansas	87	72.2	62.0–82.4	49	‡		38	‡	
Kentucky	67	79.1	68.4–89.8	27	‡		40	‡	
Louisiana	89	72.9	63.7–82.1	59	69.6	59.1–80.1	30	‡	
Maine	61	66.3	55.2–77.4	35	‡		26	‡	
Maryland	69	87.2	79.1–95.3	36	‡		33	‡	
Massachusetts	93	77.8	69.5–86.0	58	87.5	81.0–93.9	35	‡	
Michigan	56	66.8	56.9–76.7	31	‡		25	‡	
Minnesota	52	72.8	59.6–86.0	30	‡		22	‡	
Mississippi	44	‡		27	‡		17	‡	
Missouri	85	73.7	63.7–83.7	44	‡		41	‡	
Montana	725	65.6	61.0–70.2	438	69.6	64.2–75.0	287	61.6	54.1–69.1
Nebraska	43	‡		26	‡		17	‡	
Nevada	82	69.6	58.0–81.3	38	‡		44	‡	
New Hampshire	71	71.6	59.9–83.2	36	‡		35	‡	
New Jersey	91	72.2	59.1–85.3	52	86.6	76.5–96.8	39	‡	
New Mexico	351	66.0	60.3–71.8	197	69.6	61.8–77.3	154	62.4	53.9–70.9

Note: To compare these prevalances with those for the total U.S. population, see Appendix A.

## by State, Behavioral Risk Factor Surveillance System (BRFSS), 2001 and 2003 Combined\*

State	Total Population			Women			Men		
	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†
New York	72	70.8	62.1–79.6	46	‡		26	‡	
North Carolina	289	70.2	61.2–79.2	187	74.7	68.2–81.3	102	66.2	52.2–80.3
North Dakota	160	66.6	58.8–74.3	100	64.9	55.3–74.4	60	69.2	57.2–81.3
Ohio	61	56.4	45.8–67.0	32	‡		29	‡	
Oklahoma	867	70.1	66.8–73.5	553	69.0	64.7–73.4	314	71.6	66.6–76.6
Oregon	104	70.4	61.6–79.2	53	82.3	72.0–92.7	51	62.9	50.2–75.6
Pennsylvania	37	‡	57.5–89.4	20	‡		17	‡	
Rhode Island	69	82.0	74.7–89.3	36	‡		33	‡	
South Carolina	87	73.6	64.5–82.7	43	‡		44	‡	
South Dakota	483	64.9	60.3–69.4	311	66.2	60.7–71.7	172	62.7	55.0–70.3
Tennessee	38	‡		21	‡		17	‡	
Texas	100	79.1	71.1–87.2	54	69.4	58.6–80.3	46	‡	
Utah	54	64.9	50.4–79.4	29	‡		25	‡	
Vermont	74	66.4	56.2–76.6	34	‡		40	‡	
Virginia	68	87.9	79.6–96.3	32	‡		36	‡	
Washington	377	69.1	62.6–75.6	201	69.1	61.7–76.6	176	68.3	59.2–77.5
West Virginia	59	63.3	52.3–74.4	26	‡		33	‡	
Wisconsin	89	71.8	60.2–83.4	48	‡		41	‡	
Wyoming	98	68.7	59.7–77.7	59	66.4	55.7–77.1	39	‡	
<b>United States</b>	<b>7498</b>	<b>71.0</b>	<b>68.7–73.3</b>	<b>4353</b>	<b>71.9</b>	<b>68.8–75.0</b>	<b>3145</b>	<b>70.6</b>	<b>67.4–73.8</b>

Region§	Respondents	%	95% C.I.	Respondents	%	95% C.I.	Respondents	%	95% C.I.
East	2141	26.5	23.5–29.5	1289	27.2	23.6–30.8	852	25.9	21.4–30.4
Northern Plains	1798	30.6	26.0–35.3	1093	29.1	23.0–35.2	705	31.3	25.3–37.3
Southwest	801	35.0	30.3–39.6	470	32.4	25.9–38.9	331	37.7	31.5–43.8
Pacific Coast	682	72.4	64.0–80.9	381	77.3	67.8–86.9	301	69.6	58.5–80.7
Alaska	992	40.4	36.3–44.6	560	41.0	35.7–46.2	432	39.8	33.4–46.1

\* Data are based on “yes” responses to the following BRFSS question: “Have you ever had your blood cholesterol checked?” Data are for adults ≥18 years, are age-adjusted to the 2000 U.S. population, and are weighted for the probability of sampling.

† Confidence interval.

‡ Estimates for states with <50 respondents are considered unstable and are not reported.

§ The Indian Health Service (IHS) provides services to American Indians and Alaska Natives in 35 states. Only these 35 states were used for the regional estimates. Regions are defined as follows: East = Alabama, Connecticut, Florida, Louisiana, Maine, Massachusetts, Mississippi, New Jersey, New York, Pennsylvania, Rhode Island, South Carolina, Texas, Oklahoma, and Kansas. Northern Plains = Indiana, Iowa, Michigan, Minnesota, Montana, Nebraska, North Dakota, South Dakota, Wisconsin, and Wyoming. Southwest = Arizona, Colorado, Nevada, New Mexico, and Utah. Pacific Coast = California, Idaho, Oregon, and Washington. Alaska = Alaska. These regional definitions were first used in CDC’s *Health Behaviors of American Indians and Alaska Natives: Findings from the Behavioral Risk Factor Surveillance System, 1993–1996*.

Diabetes is the sixth leading cause of death in the United States, accounting for more than 200,000 deaths each year. More than 18 million Americans have diabetes, and the disease costs nearly \$132 billion annually ([http://www.cdc.gov/nccdphp/aag/aag\\_ddt.htm](http://www.cdc.gov/nccdphp/aag/aag_ddt.htm)). Surprisingly, about one-third of people with diabetes are unaware that they have the disease (*Diabetes Care* 1998;21:518–24).

Adults with diabetes are 2–4 times more likely than those without diabetes to die of heart disease or stroke (<http://www.cdc.gov/diabetes>). High blood pressure, high blood cholesterol, and obesity—all risk factors for heart disease and stroke—also are common among people with diabetes.

Diabetes was once rare among American Indian and Alaska Native (AI/AN) people, but the prevalence is rising dramatically. The IHS recently received a significant increase in funding to prevent and control diabetes among AI/AN people. In addition, it has funded numerous community grants and prevention efforts, as well as an aggressive medical intervention program.

In 2001, CDC and the National Institutes of Health conducted a landmark clinical trial that found that Americans at risk for diabetes can reduce this risk 58% with lifestyle changes in diet and exercise. CDC also supports 59 state and territorial diabetes prevention and control programs (<http://www.cdc.gov/diabetes/news/docs/dpp.htm>).

## Definition of Diabetes

We defined self-reported diabetes on the basis of “yes” responses to the following Behavioral Risk Factor Surveillance System (BRFSS) question during 2001–2003: “Have you ever been told by a doctor that you have diabetes?” Age-adjusted prevalences were calculated for adults ages ≥18 years.

## Prevalence Variations

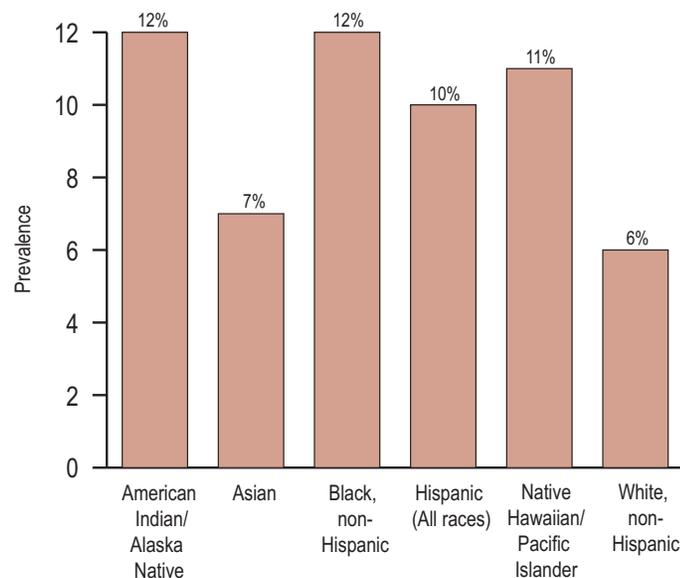
We found dramatic state-to-state differences in the prevalence of diabetes among AI/AN people (see facing map and Table 4). A threefold difference existed between the midpoint of the lowest quartile (5.7%) and that of the highest quartile (18%).

The national prevalence for all AI/AN people was 12%. Prevalences were similar for women (12%) and men (11%). They also were highest in the Northern Plains (14%) and lowest in Alaska (5%) (see Table 4). The prevalence for AI/AN people was the same as that for blacks (see Figure 4).

## A Cautionary Note

Prevalences are based on a sample of AI/AN people surveyed by telephone for the BRFSS. They are likely lower than the true prevalence of diabetes and are more representative of AI/AN people living in urban rather than rural areas or on reservations (see Appendix B for details).

**Figure 4.**  
Prevalence of  
Self-Reported  
Diabetes Among  
Adults ≥18 Years  
by Race/Ethnicity,  
BRFSS, 2001–2003





**Table 4. Prevalence of Self-Reported Diabetes Among American Indians and Alaska Natives, by State,**

State	Total Population			Women			Men		
	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†
Alabama	118	10.6	3.9–17.3	59	13.6	2.2–25.1	59	10.2	1.4–18.9
Alaska	1581	5.1	3.3–6.9	912	4.7	2.7–6.7	669	5.6	2.6–8.6
Arizona	395	15.0	9.6–20.4	254	15.4	9.2–21.6	141	14.1	5.7–22.5
Arkansas	168	7.8	3.7–11.8	94	8.8	3.6–14.0	74	6.4	0–12.9
California	120	10.4	4.5–16.3	75	12.1	4.1–20.0	45	‡	
Colorado	80	10.4	0.9–19.8	53	8.2	0–17.4	27	‡	
Connecticut	102	6.6	1.4–11.8	51	4.9	0–11.5	51	7.6	0.9–14.3
Delaware	86	13.7	6.1–21.2	46	‡		40	‡	
District of Columbia	32	‡	5.6–20.9	14	‡		18	‡	
Florida	155	13.2	5.7–20.8	79	12.5	2.7–22.4	76	13.5	3.0–24.1
Georgia	139	3.2	0.6–5.7	73	1.3	0–3.3	66	3.7	0.4–6.9
Hawaii	82	6.6	1.3–11.9	45	‡		37	‡	
Idaho	189	12.0	6.9–17.1	115	14.9	7.6–22.1	74	8.4	2.4–14.5
Illinois	117	10.1	5.1–15.0	68	10.7	3.8–17.6	49	‡	
Indiana	118	8.4	3.0–13.7	63	11.0	3.8–18.3	55	6.2	0–13.3
Iowa	39	‡		25	‡		14	‡	
Kansas	137	8.0	3.6–12.3	80	12.1	4.2–20.0	57	5.6	0.8–10.4
Kentucky	99	14.4	3.6–25.2	36	‡		63	9.0	0.7–17.2
Louisiana	150	7.4	2.6–12.1	97	9.4	2.1–16.6	53	8.0	0–17.0
Maine	90	9.2	2.9–15.6	50	11.0	2.9–19.1	40	‡	
Maryland	102	12.3	3.6–20.9	52	9.9	2.1–17.6	50	10.8	0.3–21.3
Massachusetts	148	8.2	2.2–14.3	89	7.6	1.9–13.2	59	9.0	0–19.7
Michigan	102	17.5	9.9–25.1	55	15.1	5.4–24.8	47	‡	
Minnesota	85	12.7	6.0–19.3	49	‡		36	‡	
Mississippi	63	21.5	10.9–32.1	42	‡		21	‡	
Missouri	159	6.3	2.6–10.1	77	5.4	0–11.3	82	8.2	2.8–13.7
Montana	1088	12.8	10.2–15.4	659	12.8	9.4–16.3	429	13.2	9.4–17.0
Nebraska	74	8.0	1.3–14.6	45	‡		29	‡	
Nevada	132	4.8	1.9–7.7	68	6.2	1.0–11.4	64	6.3	0.8–11.7
New Hampshire	126	8.1	3.2–13.0	58	6.1	0.3–12.0	68	9.5	2.4–16.6
New Jersey	129	10.8	3.0–18.6	73	5.3	0–10.5	56	16.2	3.4–28.9
New Mexico	552	12.2	8.6–15.7	314	14.2	9.5–18.9	238	10.0	5.0–15.0

Note: To compare these prevalences with those for the total U.S. population, see Appendix A.

## Behavioral Risk Factor Surveillance System (BRFSS), 2001–2003\*

State	Total Population			Women			Men		
	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†
New York	107	17.3	9.7–24.9	66	17.6	6.5–28.8	41	‡	
North Carolina	481	13.1	8.3–17.9	306	16.8	10.4–23.1	175	9.6	2.5–16.8
North Dakota	250	12.7	7.2–18.2	156	13.1	6.4–19.8	94	12.8	3.2–22.4
Ohio	98	17.8	9.2–26.4	46	‡	0.1–19.0	52	17.3	8.2–26.5
Oklahoma	1372	13.6	11.5–15.6	858	13.7	11.2–16.1	514	13.4	10.0–16.8
Oregon	164	12.8	7.1–18.5	89	11.2	3.8–18.7	75	14.4	6.0–22.8
Pennsylvania	98	10.4	4.3–16.4	48	‡		50	13.2	3.3–23.0
Rhode Island	99	8.2	2.9–13.4	53	8.3	1.7–15.0	46	‡	
South Carolina	122	17.9	10.8–25.1	64	13.9	8.5–19.3	58	18.3	7.0–29.6
South Dakota	670	18.5	14.7–22.4	426	17.3	12.8–21.7	244	20.3	14.0–26.6
Tennessee	56	12.4	2.0–22.8	27	‡		29	‡	
Texas	164	10.8	5.0–16.5	95	9.1	3.2–15.1	69	13.4	2.5–24.2
Utah	90	5.0	0–10.5	46	‡		44	‡	
Vermont	119	10.0	4.4–15.6	48	‡		71	12.6	5.1–20.0
Virginia	101	10.1	3.1–17.2	47	‡		54	11.8	3.6–20.1
Washington	475	10.8	6.8–14.8	256	16.7	9.5–23.9	219	6.1	2.2–10.0
West Virginia	76	14.2	6.9–21.6	36	‡		40	‡	
Wisconsin	144	13.7	6.1–21.3	76	21.2	11.0–31.4	68	5.9	0.7–11.1
Wyoming	144	13.7	7.6–19.8	84	18.3	9.9–26.6	60	7.1	0–14.9
<b>United States</b>	<b>11587</b>	<b>11.9</b>	<b>10.4–13.4</b>	<b>6697</b>	<b>12.4</b>	<b>10.3–14.5</b>	<b>4890</b>	<b>11.4</b>	<b>9.4–13.4</b>
Region <sup>§</sup>	Respondents	%	95% C.I.	Respondents	%	95% C.I.	Respondents	%	95% C.I.
East	3406	13.0	10.7–15.4	2037	13.4	10.3–16.4	1369	12.7	9.1–16.3
Northern Plains	2714	13.6	10.9–16.4	1638	15.1	11.3–18.9	1076	12.2	8.3–16.1
Southwest	1249	11.6	8.8–14.5	735	11.9	8.5–15.3	514	11.5	6.8–16.3
Pacific Coast	948	11.0	6.5–15.5	535	13.0	6.6–19.4	413	7.7	3.1–12.4
Alaska	1581	5.1	3.3–6.9	912	4.7	2.7–6.7	669	5.6	2.6–8.6

\* Data are based on “yes” responses to the following BRFSS question: “Have you ever been told by a doctor that you have diabetes?” Data are for adults ≥18 years, are age-adjusted to the 2000 U.S. population, and are weighted for the probability of sampling.

† Confidence interval.

‡ Estimates for states with <50 respondents are considered unstable and are not reported.

§ The Indian Health Service (IHS) provides services to American Indians and Alaska Natives in 35 states. Only these 35 states were used for the regional estimates. Regions are defined as follows: East = Alabama, Connecticut, Florida, Louisiana, Maine, Massachusetts, Mississippi, New Jersey, New York, Pennsylvania, Rhode Island, South Carolina, Texas, Oklahoma, and Kansas. Northern Plains = Indiana, Iowa, Michigan, Minnesota, Montana, Nebraska, North Dakota, South Dakota, Wisconsin, and Wyoming. Southwest = Arizona, Colorado, Nevada, New Mexico, and Utah. Pacific Coast = California, Idaho, Oregon, and Washington. Alaska = Alaska. These regional definitions were first used in CDC’s *Health Behaviors of American Indians and Alaska Natives: Findings from the Behavioral Risk Factor Surveillance System, 1993–1996*.

Cigarette smoking is a major cause of heart disease and stroke, accounting for 30% of all U.S. deaths from coronary heart disease (*Circulation* 1997;96:3243–7). Cigarette smokers are 2–4 times more likely than nonsmokers to develop coronary heart disease (*Reducing the Health Consequences of Smoking: 25 Years of Progress*; 1989) and twice as likely to suffer a stroke (*Circulation* 1997;96:3243–7). For both conditions, the smoking-related risk for death increases if other CHD risk factors are present.

CDC provides national leadership for a comprehensive approach to reducing tobacco use that includes preventing young people from starting to smoke, eliminating human exposure to secondhand smoke, promoting smoking cessation, and eliminating disparities in tobacco use among different populations. CDC also funds eight tribal tobacco control support centers, which provide resources for tobacco prevention and cessation in American Indian and Alaska Native (AI/AN) communities.

Tobacco control programs in AI/AN communities must distinguish between traditional ceremonial use and addictive

abuse of tobacco. In ceremonial settings, small amounts of tobacco are used, and the potential for addiction or health problems is low (*BMJ* 1997;75:1690–3). IHS offers numerous tobacco cessation programs, many of which were developed with partners and other federal agencies. In areas with high smoking prevalences, IHS actively promotes cessation through clinic-based and community programs.

### Definition of Cigarette Smoking

We defined self-reported current cigarette smoking on the basis of responses to two questions from the Behavioral Risk Factor Surveillance System (BRFSS) during 2001–2003. The first was, “Have you smoked at least 100 cigarettes in your entire life?” Respondents who answered “yes” were then asked a follow-up question: “Do you now smoke cigarettes every day, some days, or not at all?” People who reported smoking at least 100 cigarettes in their lifetime and smoking now every day or some days were defined as current smokers. Age-adjusted prevalences were calculated for adults ages  $\geq 18$  years.

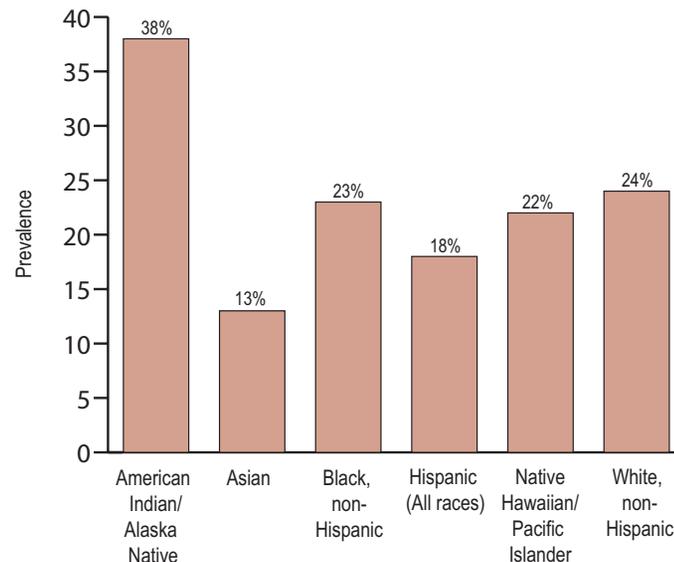
### Prevalence Variations

We found dramatic state-to-state differences in smoking prevalence among AI/AN people (see facing map and Table 5). A twofold difference existed between the midpoint of the lowest quartile (21%) and that of the highest quartile (50%). The national prevalence for all AI/AN people was 38%, with men (42%) smoking more than women (34%). This gender difference is similar to that observed for the general U.S. population. The Northern Plains (41.3%) and Alaska (41.1%) had the highest prevalence (41%), whereas the Southwest had the lowest (21%) (see Table 5). AI/AN people had the highest smoking prevalence among U.S. racial/ethnic groups (see Figure 5).

### A Cautionary Note

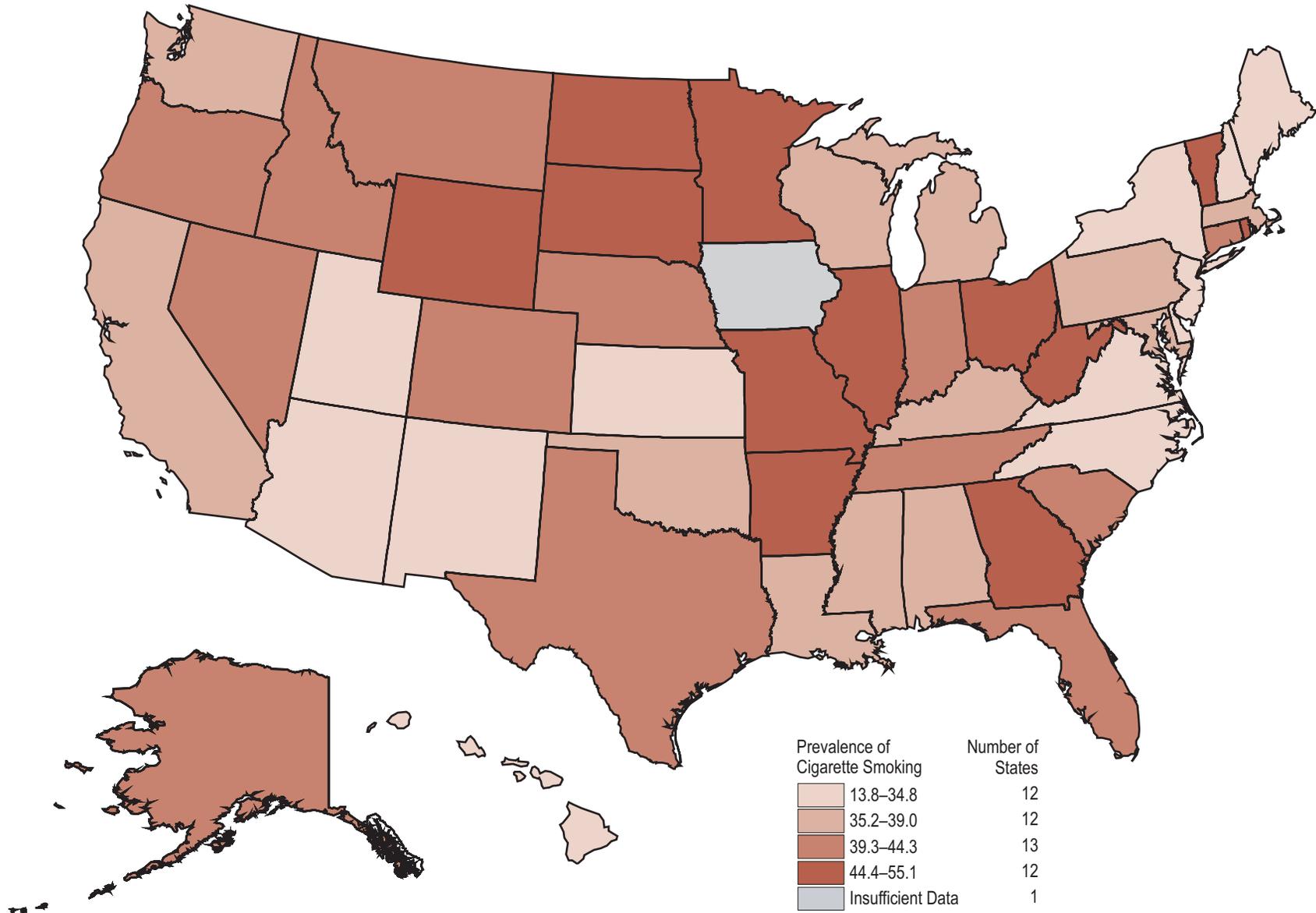
Prevalences are based on a sample of AI/AN people surveyed by telephone for the BRFSS. They are likely lower than the true prevalence of cigarette smoking and are more representative of AI/AN people living in urban rather than rural areas or on reservations (see Appendix B for details).

**Figure 5.**  
Prevalence of  
Self-Reported  
Cigarette  
Smoking Among  
Adults  $\geq 18$  Years  
by Race/Ethnicity,  
BRFSS, 2001–2003



**Prevalence of Self-Reported Cigarette Smoking  
2001–2003**

**American Indians and Alaska Natives  
Ages 18 Years and Older**



**Table 5. Prevalence of Self-Reported Cigarette Smoking Among American Indians and Alaska Natives, by State,**

State	Total Population			Women			Men		
	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†
Alabama	118	38.8	28.7–48.8	59	35.7	24.3–47.1	59	39.9	26.3–53.6
Alaska	1573	41.1	37.4–44.7	904	37.3	32.9–41.8	669	45.3	39.7–50.9
Arizona	396	13.8	9.6–18.0	255	12.8	7.7–17.9	141	15.1	8.3–21.9
Arkansas	169	44.4	35.8–52.9	95	45.3	34.0–56.6	74	43.8	31.5–56.0
California	120	36.7	27.1–46.2	75	31.3	20.2–42.4	45	‡	
Colorado	79	43.7	29.8–57.5	52	52.1	36.3–67.9	27	‡	
Connecticut	101	42.8	32.5–53.0	50	37.0	23.1–51.0	51	42.6	30.1–55.1
Delaware	86	34.6	23.3–45.9	46	‡		40	‡	
District of Columbia	31	‡		14	‡		17	‡	
Florida	156	42.7	32.0–53.5	80	41.1	30.5–51.6	76	39.8	24.3–55.4
Georgia	139	46.2	36.0–56.4	73	33.5	20.1–46.8	66	53.3	38.6–67.9
Hawaii	82	23.5	11.1–35.9	45	‡		37	‡	
Idaho	189	39.6	32.1–47.1	115	38.4	28.9–47.9	74	40.9	28.7–53.2
Illinois	117	49.3	39.2–59.3	68	42.9	31.4–54.3	49	‡	
Indiana	119	44.3	34.6–54.0	63	37.5	25.0–49.9	56	53.2	39.5–67.0
Iowa	39	‡		25	‡		14	‡	
Kansas	137	32.1	23.9–40.2	80	35.5	24.7–46.3	57	29.1	17.3–40.9
Kentucky	99	38.5	27.5–49.4	36	‡		63	43.0	27.4–58.6
Louisiana	150	37.4	29.0–45.7	97	34.5	24.0–45.0	53	38.4	25.7–51.2
Maine	89	34.2	24.7–43.8	49	‡		40	‡	
Maryland	102	37.4	27.0–47.8	52	19.0	9.0–29.0	50	46.3	32.8–59.8
Massachusetts	148	36.3	26.8–45.9	89	31.7	20.7–42.7	59	43.9	28.3–59.5
Michigan	101	37.0	27.1–47.0	54	32.8	19.6–46.0	47	‡	
Minnesota	85	49.4	38.6–60.3	49	‡		36	‡	
Mississippi	62	39.0	26.4–51.6	41	‡		21	‡	
Missouri	158	48.9	39.5–58.4	77	33.6	22.1–45.0	81	54.1	42.5–65.6
Montana	1089	42.5	38.3–46.8	659	45.7	40.2–51.3	430	38.7	32.3–45.2
Nebraska	74	41.2	29.7–52.7	45	‡		29	‡	
Nevada	132	40.3	29.1–51.6	68	36.2	21.2–51.1	64	47.5	32.4–62.6
New Hampshire	126	32.3	23.6–41.1	58	40.3	26.8–53.8	68	26.9	17.1–36.7
New Jersey	129	25.6	14.3–36.9	73	23.6	10.5–36.7	56	26.8	10.0–43.5
New Mexico	552	17.1	12.6–21.7	314	9.9	6.3–13.4	238	24.7	16.8–32.6

Note: To compare these prevalences with those for the total U.S. population, see Appendix A.

## Behavioral Risk Factor Surveillance System (BRFSS), 2000–2003\*

State	Total Population			Women			Men		
	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†
New York	107	34.8	23.3–46.2	66	21.5	11.2–31.8	41	‡	
North Carolina	481	33.7	26.3–41.0	305	29.4	21.3–37.5	176	37.6	27.3–47.8
North Dakota	250	48.4	41.6–55.2	156	58.1	49.5–66.6	94	35.3	25.6–45.0
Ohio	97	53.7	41.9–65.6	45	‡		52	65.3	53.5–77.0
Oklahoma	1371	37.9	34.7–41.0	858	33.9	30.2–37.6	513	42.3	37.4–47.3
Oregon	164	39.7	31.6–47.9	89	39.0	26.8–51.2	75	42.8	32.7–52.8
Pennsylvania	98	35.2	24.2–46.3	48	‡		50	35.3	21.6–49.0
Rhode Island	97	55.1	43.7–66.6	52	57.8	43.7–72.0	45	‡	
South Carolina	122	43.1	33.6–52.5	63	37.6	26.8–48.5	59	41.2	28.1–54.3
South Dakota	670	44.6	40.0–49.2	426	42.4	37.1–47.7	244	49.0	41.5–56.5
Tennessee	56	39.3	25.9–52.6	27	‡		29	‡	
Texas	164	43.1	34.8–51.3	95	45.0	33.8–56.2	69	41.3	28.9–53.7
Utah	90	19.4	8.5–30.3	46	‡		44	‡	
Vermont	119	45.6	36.4–54.9	48	‡		71	49.9	38.6–61.2
Virginia	101	31.0	20.0–41.9	47	‡		54	40.0	25.5–54.5
Washington	476	38.1	31.1–45.2	255	34.2	25.2–43.2	221	41.2	31.1–51.3
West Virginia	76	54.9	44.2–65.5	36	‡		40	‡	
Wisconsin	144	37.5	28.0–47.0	76	22.5	12.2–32.8	68	51.2	37.0–65.4
Wyoming	145	53.5	44.5–62.5	85	49.1	37.4–60.9	60	57.5	44.2–70.8
<b>United States</b>	<b>11575</b>	<b>38.1</b>	<b>36.1–40.0</b>	<b>6683</b>	<b>33.6</b>	<b>31.3–35.9</b>	<b>4892</b>	<b>42.3</b>	<b>39.2–45.3</b>
Region§	Respondents	%	95% C.I.	Respondents	%	95% C.I.	Respondents	%	95% C.I.
East	3401	38.9	35.8–42.1	2032	35.3	34.8–38.8	1369	42.0	36.9–46.9
Northern Plains	2716	41.3	37.4–45.2	1638	36.8	32.1–41.0	1078	46.2	40.0–52.3
Southwest	1249	20.7	17.4–24.0	735	18.7	14.4–22.9	514	24.3	19.0–29.5
Pacific Coast	949	36.8	30.1–43.6	534	32.1	24.0–40.2	415	42.1	31.3–52.8
Alaska	1573	41.1	37.4–44.7	904	37.3	32.9–41.8	669	45.3	30.1–35.3

\* Data are based on “yes” responses to the following BRFSS question: “Have you smoked at least 100 cigarettes in your entire life?” Respondents who answered “yes” were then asked, “Do you now smoke every day, some days, or not at all?” People who reported smoking at least 100 cigarettes in their lifetime and smoking now every day or some days were defined as current smokers. Data are for adults ≥18 years, are age-adjusted to the 2000 U.S. population, and are weighted for the probability of sampling.

† Confidence interval.

‡ Estimates for states with <50 respondents are considered unstable and are not reported.

§ The Indian Health Service (IHS) provides services to American Indians and Alaska Natives in 35 states. Only these 35 states were used for the regional estimates. Regions are defined as follows: East = Alabama, Connecticut, Florida, Louisiana, Maine, Massachusetts, Mississippi, New Jersey, New York, Pennsylvania, Rhode Island, South Carolina, Texas, Oklahoma, and Kansas. Northern Plains = Indiana, Iowa, Michigan, Minnesota, Montana, Nebraska, North Dakota, South Dakota, Wisconsin, and Wyoming. Southwest = Arizona, Colorado, Nevada, New Mexico, and Utah. Pacific Coast = California, Idaho, Oregon, and Washington. Alaska = Alaska. These regional definitions were first used in CDC’s *Health Behaviors of American Indians and Alaska Natives: Findings from the Behavioral Risk Factor Surveillance System, 1993–1996*.

Obesity and a sedentary lifestyle account for about \$90 billion in direct health care costs each year ([http://www.cdc.gov/nccdphp/aag/aag\\_dnpa.htm](http://www.cdc.gov/nccdphp/aag/aag_dnpa.htm)). Obesity also increases the nation's prevalence of weight-related risk factors for cardiovascular disease, including high blood pressure, high blood cholesterol, and diabetes (*Arch Intern Med* 2004;164:249–58).

Preventing or reducing these risk factors by eating a healthy diet and increasing physical activity can lower a person's risk for heart disease and stroke. For example, losing at least 10 lbs and maintaining that loss for 36 months can lower a person's blood pressure significantly (*Ann Intern Med* 2001;134:1–11).

CDC provides national leadership for obesity control through programs that promote increased fruit and vegetable consumption (e.g., 5 A Day for Better Health) and physical activity (e.g., KidsWalk-to-School) among adults and children. CDC also sponsors 12 state programs to help prevent obesity by improving nutrition and increasing physical activity in these states.

The high prevalence of obesity among American Indian and Alaska Native (AI/AN) people is contributing to a high incidence of diabetes in this population. The IHS recently received a significant increase in funding to prevent and control diabetes among AI/AN people. It is implementing community and health care system programs as part of the IHS Director's Prevention Initiative.

## Definition of Obesity

We defined self-reported obesity on the basis of questions from the Behavioral Risk Factor Surveillance System (BRFSS) that asked respondents their height and weight during 2001–2003. We used this information to calculate respondents' body mass index (BMI). People with a BMI  $\geq 30.0$  were considered obese. Age-adjusted prevalences were calculated for adults ages  $\geq 18$  years.

## Prevalence Variations

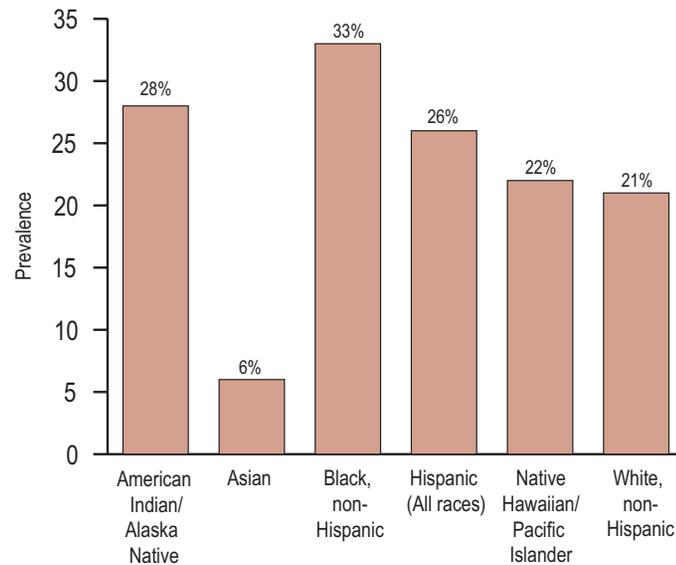
We found dramatic state-to-state differences in the prevalence of obesity among AI/AN people (see facing map and Table 6). A twofold difference existed between the midpoint of the lowest quartile (17%) and that of the highest quartile (36%).

The national prevalence for all AI/AN people was 28%. Prevalences were similar for women (28%) and men (27%). AI/AN people ranked second among U.S. racial/ethnic groups, with only blacks having a higher prevalence (see Figure 6).

## A Cautionary Note

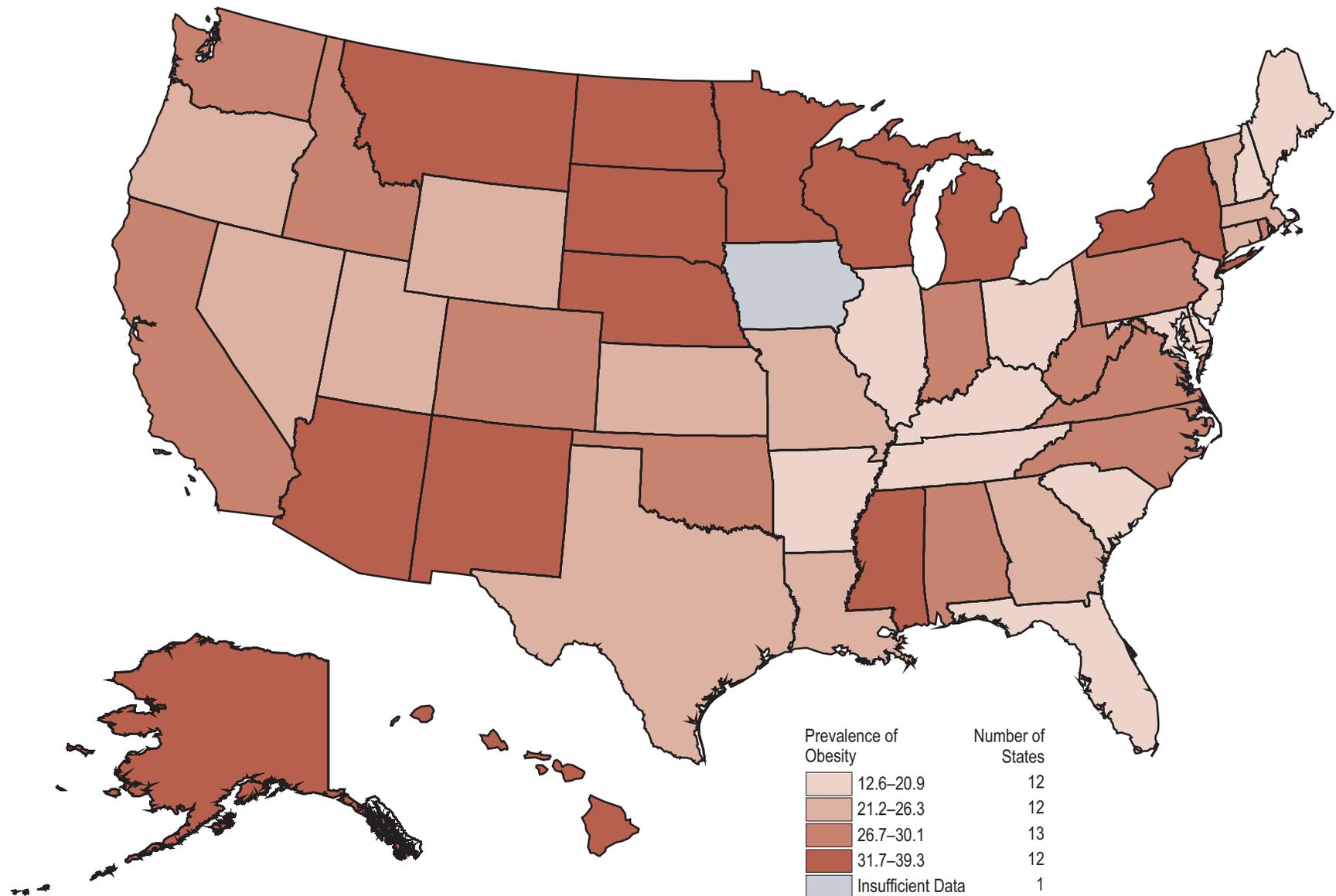
Prevalences are based on a sample of AI/AN people surveyed by telephone for the BRFSS. They are likely lower than the true prevalence of obesity and are more representative of AI/AN people living in urban rather than rural areas or on reservations (see Appendix B for details).

**Figure 6.**  
Prevalence of  
Self-Reported  
Obesity Among  
Adults  $\geq 18$  Years  
by Race/Ethnicity,  
BRFSS, 2001–2003



**Prevalence of Self-Reported Obesity  
2001–2003**

**American Indians and Alaska Natives  
Ages 18 Years and Older**



**Table 6. Prevalence of Self-Reported Obesity Among American Indians and Alaska Natives, by State,**

State	Total Population			Women			Men		
	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†
Alabama	116	29.4	20.6–38.2	57	35.8	20.6–51.1	59	27.6	17.5–37.7
Alaska	1521	29.1	25.5–32.6	856	32.3	27.3–37.4	665	25.4	20.6–30.1
Arizona	383	35.2	28.5–42.0	246	32.8	24.1–41.5	137	35.5	26.4–44.5
Arkansas	164	20.1	13.8–26.4	91	22.0	13.5–30.5	73	18.2	8.8–27.4
California	119	28.0	19.3–36.7	75	28.8	18.3–39.2	44	‡	13.7–40.4
Colorado	76	28.9	16.9–40.8	49	‡	16.6–40.2	27	‡	
Connecticut	98	21.2	12.0–30.4	48	‡		50	27.9	14.4–41.3
Delaware	80	16.8	8.5–25.2	40	‡		40	‡	
District of Columbia	31	‡		13	‡		18	‡	
Florida	153	17.0	9.4–24.5	78	11.9	4.5–19.4	75	21.1	9.7–32.4
Georgia	135	25.1	16.9–33.3	70	28.7	15.9–41.4	65	23.2	12.7–33.6
Hawaii	80	34.2	18.7–49.8	44	‡		36	‡	
Idaho	177	29.5	22.0–37.1	104	39.1	28.1–50.1	73	18.9	9.7–28.1
Illinois	110	19.2	10.8–27.7	65	20.6	10.9–30.2	45	‡	
Indiana	112	28.5	19.5–37.5	56	33.0	19.6–46.4	56	24.9	12.5–37.2
Iowa	38	‡		24	‡		14	‡	
Kansas	130	26.2	18.2–34.2	74	21.4	11.6–31.1	56	33.2	21.0–45.4
Kentucky	93	20.1	10.8–29.3	31	‡		62	28.5	13.2–43.8
Louisiana	140	23.4	15.8–31.1	89	18.7	9.7–27.6	51	33.0	19.2–46.8
Maine	80	19.1	10.9–27.3	41	‡		39	‡	
Maryland	99	12.6	5.8–19.4	49	‡		50	17.7	6.7–28.8
Massachusetts	134	21.5	12.5–30.4	76	28.6	17.6–39.6	58	16.2	5.2–27.2
Michigan	98	35.6	23.8–47.3	51	32.8	20.3–45.4	47	‡	
Minnesota	83	38.1	26.9–49.2	47	‡		36	‡	
Mississippi	59	39.3	25.1–53.6	38	‡		21	‡	
Missouri	153	24.8	16.7–32.9	72	24.3	13.4–35.2	81	24.5	14.1–34.9
Montana	1061	38.0	33.7–42.3	634	35.3	29.3–41.2	427	41.5	35.4–47.6
Nebraska	70	35.0	22.2–47.8	42	‡		28	‡	
Nevada	128	24.1	12.5–35.6	65	26.7	13.3–40.1	63	15.1	6.8–23.3
New Hampshire	120	20.6	13.3–27.9	53	14.5	5.3–23.6	67	24.4	14.2–34.5
New Jersey	123	15.9	7.5–24.4	68	13.6	4.4–22.9	55	21.5	7.5–35.5
New Mexico	537	31.7	26.6–36.8	303	34.2	27.3–41.1	234	29.3	22.3–36.3

Note: To compare these prevalences with those for the total U.S. population, see Appendix A.

## Behavioral Risk Factor Surveillance System (BRFSS), 2001–2003\*

State	Total Population			Women			Men		
	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†
New York	101	39.1	26.9–51.2	62	38.8	26.1–51.5	39	†	
North Carolina	465	29.1	22.7–35.6	293	31.3	22.7–39.9	172	27.2	17.9–36.5
North Dakota	244	36.0	28.1–43.9	151	34.0	24.3–43.8	93	37.1	25.1–49.2
Ohio	94	18.2	10.3–26.1	43	†		51	18.7	7.9–29.5
Oklahoma	1319	29.7	26.9–32.6	811	29.9	26.2–33.5	508	29.6	25.1–34.0
Oregon	155	29.3	21.2–37.5	80	22.5	13.2–31.8	75	34.5	22.3–46.6
Pennsylvania	96	26.7	15.9–37.5	46	†		50	21.1	10.9–31.4
Rhode Island	94	28.0	17.2–38.8	50	31.3	17.5–45.1	44	†	
South Carolina	117	20.9	13.2–28.5	58	17.1	8.8–25.5	59	20.9	10.7–31.1
South Dakota	656	36.4	31.8–40.9	411	33.4	28.2–38.7	245	39.3	32.1–46.6
Tennessee	52	18.8	9.7–27.8	24	†		28	†	
Texas	160	25.9	18.3–33.5	92	26.6	16.1–37.1	68	27.5	14.8–40.2
Utah	90	25.4	15.2–35.5	46	†		44	†	
Vermont	110	23.3	14.4–32.3	41	†		69	20.6	11.0–30.3
Virginia	99	28.0	17.4–38.5	45	†		54	27.9	15.1–40.7
Washington	455	30.1	23.4–36.7	238	32.6	24.1–41.0	217	28.6	19.3–37.9
West Virginia	75	27.8	17.3–38.4	35	†		40	†	
Wisconsin	141	32.3	24.5–39.9	73	35.0	24.2–45.7	68	27.6	17.3–37.9
Wyoming	143	24.0	16.2–31.8	84	24.7	14.7–34.6	59	20.7	9.8–31.5
<b>United States</b>	<b>11167</b>	<b>27.8</b>	<b>25.9–29.7</b>	<b>6332</b>	<b>28.3</b>	<b>25.7–30.9</b>	<b>4835</b>	<b>27.1</b>	<b>24.5–29.7</b>
Region <sup>§</sup>	Respondents	%	95% C.I.	Respondents	%	95% C.I.	Respondents	%	95% C.I.
East	3262	26.7	23.9–29.6	1913	27.7	24.0–31.4	1349	25.9	21.8–30.0
Northern Plains	2646	35.1	30.7–39.5	1573	35.9	30.6–41.1	1073	33.1	27.1–39.2
Southwest	1214	31.7	27.5–35.8	709	30.9	25.3–36.5	505	30.8	25.8–35.9
Pacific Coast	906	29.0	22.7–35.4	497	30.0	21.8–38.1	409	27.9	18.7–37.0
Alaska	1521	29.1	25.5–32.6	856	32.3	27.3–37.4	665	25.4	20.6–30.1

\* Data are based on self-reported height and weight from the BRFSS, which was used to calculate body mass index (BMI). BMI >30.0 was considered obese. Data are for adults ≥18 years, are age-adjusted to the 2000 U.S. population, and are weighted for the probability of sampling.

† Confidence interval.

‡ Estimates for states with <50 respondents are considered unstable and are not reported.

§ The Indian Health Service (IHS) provides services to American Indians and Alaska Natives in 35 states. Only these 35 states were used for the regional estimates. Regions are defined as follows: East = Alabama, Connecticut, Florida, Louisiana, Maine, Massachusetts, Mississippi, New Jersey, New York, Pennsylvania, Rhode Island, South Carolina, Texas, Oklahoma, and Kansas. Northern Plains = Indiana, Iowa, Michigan, Minnesota, Montana, Nebraska, North Dakota, South Dakota, Wisconsin, and Wyoming. Southwest = Arizona, Colorado, Nevada, New Mexico, and Utah. Pacific Coast = California, Idaho, Oregon, and Washington. Alaska = Alaska. These regional definitions were first used in CDC's *Health Behaviors of American Indians and Alaska Natives: Findings from the Behavioral Risk Factor Surveillance System, 1993–1996*.

## Physical Inactivity

Physical inactivity and unhealthy diets the leading causes of preventable death in the United States (*JAMA* 2004;291: 1238–42). In addition to reducing a person’s risk for death, increased physical activity can reduce the risk for chronic diseases and conditions such as cardiovascular disease, diabetes, obesity, and musculoskeletal conditions (*Proceedings of the 1992 International Conference on Physical Activity, Fitness and Health*; 1994).

CDC recommends at least 30 minutes of moderate-intensity physical activity (e.g., walking briskly, mowing the lawn, dancing, swimming, bicycling) at least 5 days a week (*Physical Activity and Health: A Report of the Surgeon General*; 1996).

*Healthy People 2010* calls for reducing the proportion of the total U.S. population with no leisure-time physical activity to 20%. It also seeks to increase the proportion of people who regularly participate in moderate physical activity to 30%.

The IHS is implementing community-based programs that promote healthier diets and increased physical activity among American Indian and Alaska Native (AI/AN) people in the context of their traditional values and cultures.

### Definition of Physical Inactivity

We defined self-reported physical inactivity on the basis of “no” responses to the following Behavioral Risk Factor Surveillance System (BRFSS) question during 2001–2003: “During the past month, other than your regular job, did you participate in any physical activities or exercise such as running, calisthenics, golf, gardening, or walking for exercise?” Age-adjusted prevalences were calculated for adults ages  $\geq 18$  years.

### Prevalence Variations

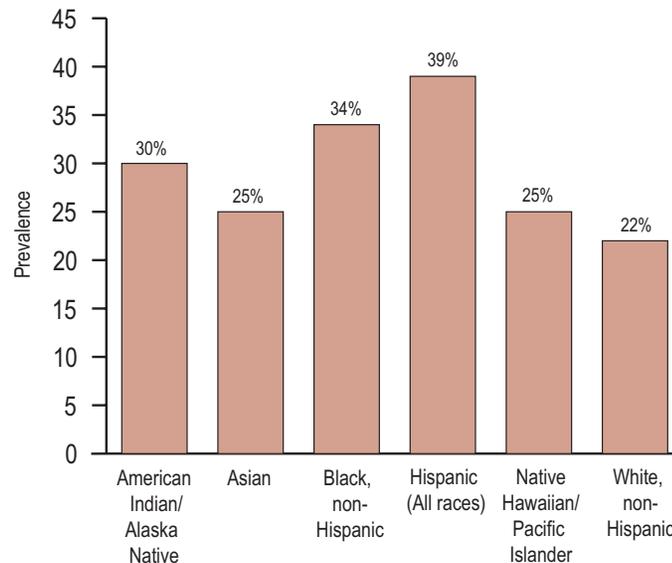
We found dramatic state-to-state differences in the prevalence of physical inactivity among AI/AN people (see facing map and Table 7). A 1.7-fold difference existed between the midpoint of the lowest quartile (23%) and that of the highest quartile (40%).

The national prevalence for all AI/AN people was 30%. The prevalence was higher for women (32%) than for men (28%). The prevalence for AI/AN people was lower than those for blacks and Hispanics and somewhat higher than those for other U.S. racial/ethnic groups (see Figure 7).

### A Cautionary Note

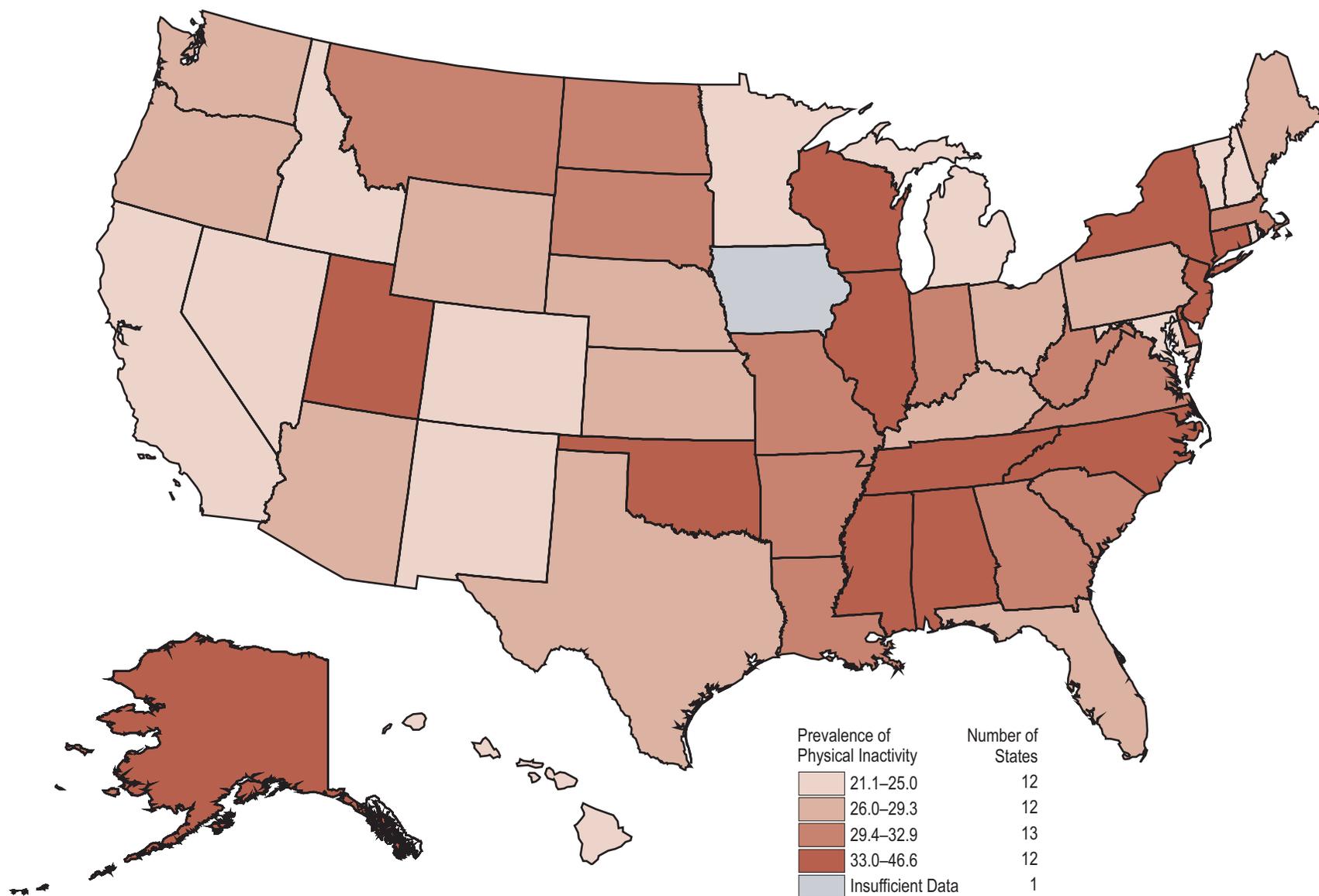
Prevalences are based on a sample of AI/AN people surveyed by telephone for the BRFSS. They are likely lower than the true prevalence of physical inactivity and are more representative of AI/AN people living in urban rather than rural areas or on reservations (see Appendix B for more details).

**Figure 7.**  
Prevalence of  
Self-Reported  
Physical Inactivity  
Among Adults  
 $\geq 18$  Years by  
Race/Ethnicity,  
BRFSS, 2001–2003



## Prevalence of Self-Reported Physical Inactivity 2001–2003

## American Indians and Alaska Natives Ages 18 Years and Older



**Table 7. Prevalence of Self-Reported Physical Inactivity Among American Indians and Alaska Natives, by State,**

State	Total Population			Women			Men		
	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†
Alabama	118	35.2	24.0–46.4	59	34.7	22.0–47.4	59	37.6	22.4–52.9
Alaska	1582	32.5	28.6–36.3	910	38.4	32.9–43.9	672	25.8	21.3–30.4
Arizona	394	27.9	21.1–34.7	254	30.4	21.7–39.2	140	24.4	14.7–34.1
Arkansas	169	32.9	25.0–40.8	95	33.9	23.2–44.6	74	29.7	18.8–40.6
California	113	21.6	13.4–29.7	71	20.8	11.7–29.9	42	‡	
Colorado	80	21.1	9.9–32.4	53	22.4	9.6–35.1	27	‡	
Connecticut	102	46.6	35.3–57.8	51	46.7	33.5–59.9	51	41.7	27.4–56.0
Delaware	86	35.4	22.2–48.7	46	‡		40	‡	
District of Columbia	32	‡		14	‡		18	‡	
Florida	155	29.3	19.6–39.0	80	34.3	20.2–48.3	75	26.2	13.8–38.5
Georgia	139	29.4	19.6–39.2	73	30.6	18.5–42.6	66	28.0	15.6–40.5
Hawaii	82	25.0	13.8–36.2	45	‡		37	‡	
Idaho	188	23.1	16.2–29.9	114	19.9	11.4–28.4	74	26.0	15.9–36.1
Illinois	117	33.0	23.8–42.3	68	33.5	21.5–45.4	49	‡	
Indiana	119	32.5	23.2–41.7	63	30.7	19.2–42.2	56	34.0	20.8–47.3
Iowa	39	‡		25	‡		14	‡	
Kansas	137	28.6	20.2–36.9	80	22.2	12.2–32.3	57	32.2	20.3–44.1
Kentucky	99	28.1	18.2–37.9	36	‡		63	33.2	22.2–44.1
Louisiana	150	32.8	24.8–40.9	97	34.4	24.8–44.1	53	37.6	25.3–49.9
Maine	90	27.0	17.3–36.6	50	24.7	14.4–34.9	40	‡	
Maryland	102	24.9	14.0–35.8	52	40.0	24.7–55.3	50	16.5	5.5–27.5
Massachusetts	148	31.2	21.0–41.4	89	39.7	27.1–52.4	59	23.0	9.8–36.2
Michigan	102	24.6	15.9–33.3	55	18.7	8.3–29.1	47	‡	
Minnesota	85	23.7	14.1–33.3	49	‡		36	‡	
Mississippi	63	38.0	24.4–51.5	42	‡		21	‡	
Missouri	159	31.0	23.4–38.6	77	26.2	15.3–37.0	82	36.8	26.6–47.0
Montana	1088	31.5	27.2–35.7	658	31.3	25.6–37.0	430	32.2	26.2–38.1
Nebraska	74	28.9	18.1–39.8	45	‡		29	‡	
Nevada	132	24.5	13.2–35.9	68	32.5	16.5–48.5	64	13.7	6.3–21.1
New Hampshire	126	21.9	14.6–29.2	58	26.3	14.1–38.4	68	18.5	9.9–27.1
New Jersey	129	40.6	27.2–54.0	73	39.9	25.4–54.3	56	38.7	23.7–53.7
New Mexico	552	23.7	19.3–28.1	314	26.5	20.7–32.4	238	20.2	14.3–26.1

Note: To compare these prevalences with those for the total U.S. population, see Appendix A.

## Behavioral Risk Factor Surveillance System (BRFSS), 2001–2003\*

State	Total Population			Women			Men		
	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†
New York	106	34.5	23.5–45.5	65	42.6	29.4–55.7	41	†	
North Carolina	483	38.1	30.9–45.3	307	37.2	28.8–45.6	176	39.0	27.6–50.4
North Dakota	251	30.2	23.0–37.4	156	27.1	19.0–35.3	95	35.4	23.9–46.9
Ohio	97	27.5	17.5–37.5	46	†		51	32.4	18.6–46.2
Oklahoma	1374	34.4	31.5–37.3	859	38.5	34.7–42.2	515	29.7	25.3–34.1
Oregon	164	28.5	21.2–35.8	89	24.9	15.2–34.6	75	32.8	21.8–43.9
Pennsylvania	96	28.4	16.8–40.0	48	†		48	†	
Rhode Island	99	21.6	13.2–30.1	53	35.1	23.1–47.1	46	†	
South Carolina	123	31.3	21.8–40.8	64	21.0	11.2–30.9	59	38.2	24.2–52.3
South Dakota	671	31.6	27.1–36.1	426	30.3	24.9–35.7	245	33.6	26.6–40.6
Tennessee	56	38.1	25.2–51.0	27	†		29	†	
Texas	164	28.8	21.2–36.3	95	35.4	25.0–45.9	69	20.7	10.2–31.2
Utah	90	36.9	26.0–47.8	46	†		44	†	
Vermont	119	23.9	15.7–32.1	48	†		71	24.1	13.7–34.5
Virginia	101	32.4	22.4–42.4	47	†		54	23.9	11.1–36.8
Washington	475	26.8	20.3–33.3	255	30.3	21.4–39.2	220	24.6	15.9–33.4
West Virginia	76	30.3	19.7–40.9	36	†		40	†	
Wisconsin	144	36.9	28.6–45.1	76	37.5	26.4–48.5	68	37.2	24.8–49.5
Wyoming	145	26.0	18.5–33.5	85	28.0	18.1–37.9	60	24.9	13.5–36.3
<b>United States</b>	<b>11585</b>	<b>29.7</b>	<b>27.9–31.6</b>	<b>6692</b>	<b>31.6</b>	<b>29.1–34.0</b>	<b>4893</b>	<b>28.1</b>	<b>25.4–30.7</b>
Region <sup>§</sup>	Respondents	%	95% C.I.	Respondents	%	95% C.I.	Respondents	%	95% C.I.
East	3408	32.5	29.6–35.4	2039	36.2	32.4–40.0	1369	29.1	24.8–33.4
Northern Plains	2718	29.9	26.4–33.4	1638	29.9	25.2–34.5	1080	30.4	25.3–35.5
Southwest	1248	26.3	22.5–30.2	735	28.4	23.1–33.8	513	22.9	17.9–27.8
Pacific Coast	940	23.1	17.2–29.0	529	22.0	15.0–28.9	411	24.3	14.9–33.7
Alaska	1582	32.5	28.6–36.3	910	38.4	32.9–43.9	672	25.8	21.3–30.4

\* Data are based on “yes” responses to the following BRFSS question: “During the past month, other than your regular job, did you participate in any physical activities or exercise such as running, calisthenics, golf, gardening, or walking for exercise?” Data are for adults ≥18 years, are age-adjusted to the 2000 U.S. population, and are weighted for the probability of sampling.

† Confidence interval.

‡ Estimates for states with <50 respondents are considered unstable and are not reported.

§ The Indian Health Service (IHS) provides services to American Indians and Alaska Natives in 35 states. Only these 35 states were used for the regional estimates. Regions are defined as follows: East = Alabama, Connecticut, Florida, Louisiana, Maine, Massachusetts, Mississippi, New Jersey, New York, Pennsylvania, Rhode Island, South Carolina, Texas, Oklahoma, and Kansas. Northern Plains = Indiana, Iowa, Michigan, Minnesota, Montana, Nebraska, North Dakota, South Dakota, Wisconsin, and Wyoming. Southwest = Arizona, Colorado, Nevada, New Mexico, and Utah. Pacific Coast = California, Idaho, Oregon, and Washington. Alaska = Alaska. These regional definitions were first used in CDC’s *Health Behaviors of American Indians and Alaska Natives: Findings from the Behavioral Risk Factor Surveillance System, 1993–1996*.

Self-perception of health is often used as a representative measurement of a range of factors that can affect a person's general health and functional status. For example, studies show that a person's perception of his general health can predict his risk for death and disability. Even after adjusting for socioeconomic (e.g., education) and health risk (e.g., number of physician visits) variables, people who report poor or fair health have an approximately twofold greater risk of death (*Am J Epidemiol* 1999;149:41–66).

People who report poor health also are more likely to think that they are at greater risk of having a heart attack (*Behav Med* 2000;26:4–13). In addition, self-perception of poor health has been linked to risk factors associated with heart disease and stroke, such as diabetes, smoking, high blood pressure, and physical inactivity (*MMWR* 1996;46:906–11).

To support the *Healthy People 2010* goal of increasing Americans' quality and years of healthy life, CDC developed

the Healthy Days surveillance measure to monitor leading health indicators such as physical activity, obesity, and tobacco use (*Measuring Healthy Days*; 2000). The resulting data can guide policy changes designed to improve the health of the nation and decrease the number of people reporting poor general health.

### Definition of Poor Health

We defined self-reported poor health on the basis of “poor” responses to the following Behavioral Risk Factor Surveillance System (BRFSS) question during 2001–2003: “Would you say that in general your health is excellent, very good, good, fair, or poor?” Age-adjusted prevalences were calculated for adults ages  $\geq 18$  years.

### Prevalence Variations

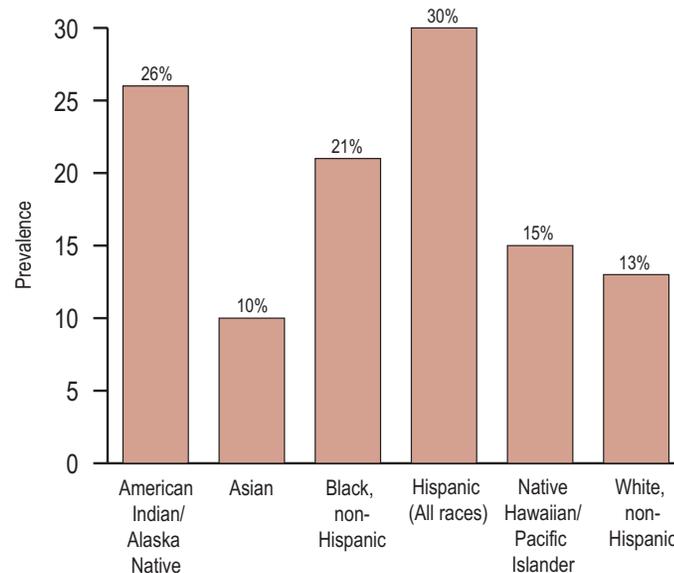
We found substantial state-to-state differences in the prevalence of poor health among American Indian and Alaska Native (AI/AN) people (see facing map and Table 8). A two-fold difference existed between the midpoint of the lowest quartile (18%) and that of the highest quartile (36%).

The national prevalence for all AI/AN people was 26%. The prevalence was higher for women (28%) than for men (24%). AI/AN people ranked second among U.S. racial/ethnic groups, with only Hispanics having a higher prevalence (see Figure 8).

### A Cautionary Note

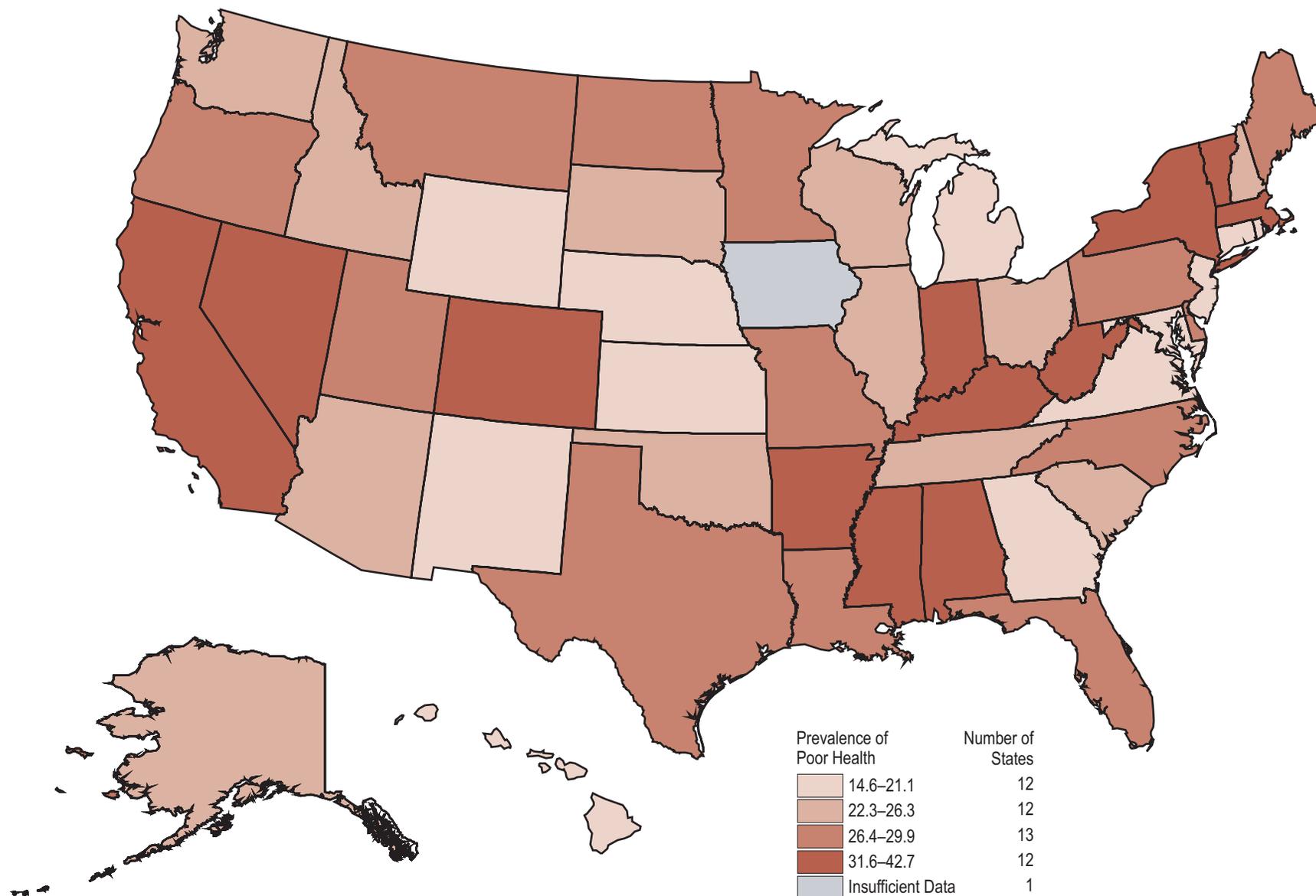
Prevalences are based on a sample of AI/AN people surveyed by telephone for the BRFSS. They are likely lower than the true prevalence of poor health and are more representative of AI/AN people living in urban rather than rural areas or on reservations (see Appendix B for more details).

**Figure 8.**  
Prevalence of  
Self-Reported  
Poor Health  
Among Adults  
 $\geq 18$  Years by  
Race/Ethnicity,  
BRFSS, 2001–2003



## Prevalence of Self-Reported Poor Health 2001–2003

## American Indians and Alaska Natives Ages 18 Years and Older



**Table 8. Prevalence of Self-Reported Poor Health Among American Indians and Alaska Natives, by State,**

State	Total Population			Women			Men		
	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†
Alabama	118	35.6	26.5–44.6	59	40.5	31.3–49.7	59	34.0	21.6–46.4
Alaska	1581	22.3	18.7–25.9	910	24.0	18.6–29.3	671	20.8	16.1–25.4
Arizona	393	25.7	18.6–32.8	255	23.6	15.4–31.7	138	31.2	21.1–41.2
Arkansas	166	32.7	24.9–40.5	93	29.7	20.2–39.2	73	36.3	24.3–48.2
California	120	32.1	22.6–41.7	75	34.9	23.4–46.3	45	‡	
Colorado	80	33.1	25.1–41.1	53	34.6	24.7–44.5	27	‡	
Connecticut	101	16.6	8.4–24.9	50	19.6	7.7–31.5	51	13.7	4.3–23.0
Delaware	86	28.4	17.2–39.5	46	‡	13.4–42.0	40	‡	
District of Columbia	32	‡	3.2–23.4	14	‡		18	‡	
Florida	155	28.0	18.9–37.0	80	34.9	22.0–47.7	75	22.1	10.7–33.5
Georgia	138	20.3	12.6–28.0	72	24.7	13.1–36.4	66	17.3	7.8–26.7
Hawaii	82	18.9	6.7–31.1	45	‡		37	‡	
Idaho	188	25.0	18.1–31.8	115	28.8	19.8–37.9	73	20.0	10.7–29.3
Illinois	116	25.2	17.2–33.2	67	29.2	78.5–39.8	49	‡	
Indiana	119	34.1	24.4–43.8	63	37.3	24.6–49.9	56	29.9	15.7–44.1
Iowa	39	‡		25	‡		14	‡	
Kansas	137	19.0	11.9–26.1	80	22.5	12.2–32.9	57	15.1	6.5–23.7
Kentucky	99	37.6	25.6–49.7	36	‡		63	34.2	23.0–45.4
Louisiana	149	29.1	21.5–36.7	96	31.4	21.1–41.6	53	22.4	11.4–33.5
Maine	89	26.6	16.9–36.3	50	29.8	16.8–42.8	39	‡	
Maryland	101	20.9	10.2–31.5	52	16.2	6.4–26.0	49	‡	
Massachusetts	148	32.1	21.8–42.4	89	33.9	22.8–44.9	59	28.3	13.5–43.0
Michigan	102	20.0	11.4–28.5	55	24.5	11.9–37.2	47	‡	
Minnesota	85	29.8	20.1–39.5	49	‡		36	‡	
Mississippi	61	38.7	25.3–52.1	40	‡		21	‡	
Missouri	159	29.1	20.3–37.8	77	28.4	17.8–38.9	82	28.6	17.3–40.0
Montana	1089	28.3	24.3–32.2	659	30.4	25.1–35.7	430	25.8	20.4–31.2
Nebraska	74	19.7	9.3–30.0	45	‡		29	‡	
Nevada	132	36.6	25.9–47.2	68	39.9	26.4–53.5	64	25.8	12.5–39.1
New Hampshire	126	23.4	15.7–31.1	58	33.4	21.7–45.2	68	17.2	7.3–27.1
New Jersey	129	14.6	5.7–23.6	73	11.1	3.0–19.1	56	17.1	3.9–30.4
New Mexico	551	16.6	12.9–20.4	314	21.7	16.4–27.0	237	11.9	7.0–16.8

Note: To compare these prevalences with those for the total U.S. population, see Appendix A.

## Behavioral Risk Factor Surveillance System (BRFSS), 2001–2003\*

State	Total Population			Women			Men		
	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†	Respondents	%	95% C.I.†
New York	107	31.6	21.2–42.0	66	26.9	15.7–38.1	41	‡	
North Carolina	481	28.1	21.9–34.4	305	28.8	21.5–36.0	176	27.4	17.7–37.1
North Dakota	250	29.9	22.7–37.1	156	31.8	23.0–40.6	94	28.2	16.4–39.9
Ohio	98	26.3	16.3–36.3	46	‡		52	21.7	10.3–33.1
Oklahoma	1370	24.1	21.6–26.6	858	26.3	23.1–29.6	512	21.7	17.7–25.6
Oregon	163	26.4	19.5–33.3	89	23.4	14.6–32.3	74	27.8	17.6–38.0
Pennsylvania	98	27.5	17.0–38.1	48	‡		50	28.4	14.9–41.8
Rhode Island	99	15.9	8.7–23.1	53	18.8	8.2–29.4	46	‡	
South Carolina	121	25.1	16.3–34.0	63	19.9	9.4–30.4	58	27.0	15.1–39.0
South Dakota	667	22.7	18.7–26.6	423	24.1	19.4–28.7	244	21.1	14.9–27.2
Tennessee	56	25.1	15.9–34.3	27	‡		29	‡	
Texas	164	26.4	19.0–33.7	95	29.0	18.9–39.1	69	21.4	11.1–31.6
Utah	89	28.5	16.3–40.6	45	‡		44	‡	
Vermont	119	31.6	22.1–41.2	48	‡		71	37.5	25.0–50.0
Virginia	101	21.1	12.8–29.4	47	‡		54	23.9	13.7–34.1
Washington	477	22.6	16.8–28.4	256	27.2	19.1–35.2	221	19.8	12.0–27.6
West Virginia	76	42.7	31.1–54.2	36	‡		40	‡	
Wisconsin	144	22.6	14.4–30.9	76	21.7	10.8–32.7	68	23.3	11.0–35.6
Wyoming	144	19.8	12.6–26.9	85	26.4	16.7–36.1	59	8.7	1.9–15.5
<b>United States</b>	<b>11569</b>	<b>26.2</b>	<b>24.4–28.1</b>	<b>6685</b>	<b>28.0</b>	<b>25.5–30.5</b>	<b>4884</b>	<b>24.3</b>	<b>21.7–27.0</b>
Region§	Respondents	%	95% C.I.	Respondents	%	95% C.I.	Respondents	%	95% C.I.
East	3398	26.6	23.9–29.3	2032	28.5	25.0–32.1	1366	24.4	20.6–28.3
Northern Plains	2713	24.8	21.3–28.2	1636	26	21.5–30.6	1077	23.8	18.9–28.7
Southwest	1245	25.6	21.6–29.5	735	26.6	21.5–31.8	510	23.7	18.3–29.2
Pacific Coast	948	29.2	22.4–36.0	535	32.2	23.7–40.7	413	25.3	15.4–35.2
Alaska	1581	22.3	18.7–25.9	910	24	18.6–29.3	671	20.8	16.1–25.4

\* Data are based on people who answered “poor” to the following BRFSS question: “Would you say that in general your health is excellent, very good, good, fair, or poor?” Data are for adults ≥18 years, are age-adjusted to the 2000 U.S. population, and are weighted for the probability of sampling.

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