

# Indicators of Health Status in Alabama



**CEREBROVASCULAR DISEASES  
(STROKE)  
MORTALITY**

Jointly produced to assist those seeking to improve health care in rural Alabama

by

The Office of Primary Care and Rural Health,  
Alabama Department of Public Health

and

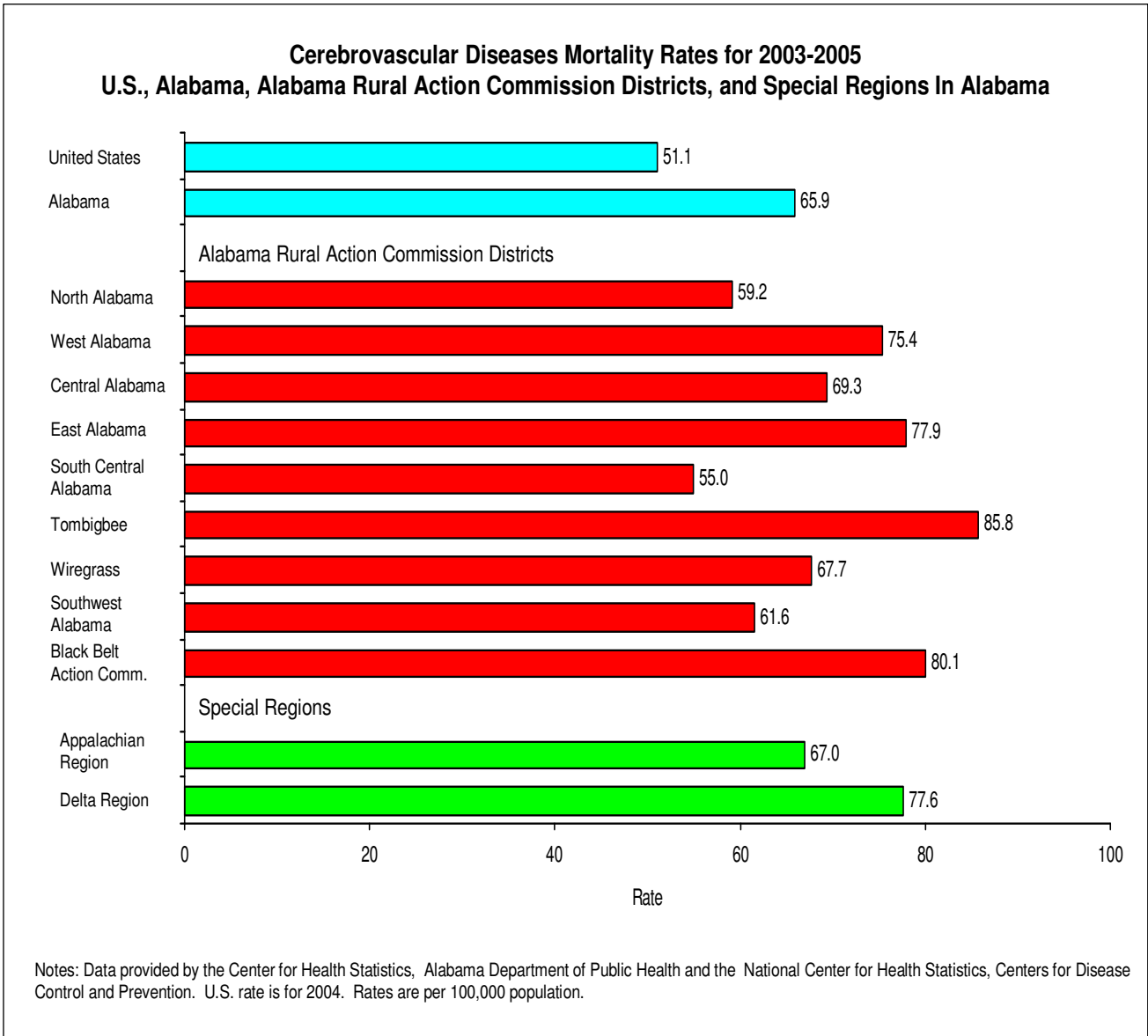
The Alabama Rural Health Association





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This and other reports in this series can be referenced on-line by visiting the "Reports" section of the Office of Primary Care and Rural Health Web site at <http://adph.org/ruralhealth/> or the "Rural/Urban Comparisons" section of the Alabama Rural Health Association Web site at [www.arhaonline.org](http://www.arhaonline.org)

**October 2007**

**Indicators of Health Status in Alabama: CEREBROVASCULAR DISEASES MORTALITY**



-  Alabama is a member of the “Stroke Belt,” an area consisting of the southeastern U.S. and the Mississippi Valley with high stroke mortality. Cerebrovascular diseases have been the third leading cause of death in Alabama since 1966.
-  Alabama currently has the 4<sup>th</sup> highest cerebrovascular disease mortality rate among all 50 states. Alabamians aged 25-64 years have the 3<sup>rd</sup> highest cerebrovascular disease mortality rate among all 50 states.
-  Alabama lost 8,934 residents to cerebrovascular diseases during 2003-2005.
-  41 of the 45 Alabama counties with the highest cerebrovascular disease mortality rates are rural counties.

Stroke usually occurs in individuals who:

- have high blood pressure (hypertension).
- smoke.
- have elevated cholesterol.

To prevent stroke, individuals should:

- balance food and physical activity to maintain a healthy weight.
- eat 5 or more servings of fruits and vegetables daily.
- be physically active four to five times a week.
  
- use more non-meat main dishes such as dried peas and beans, and tofu.
- avoid or eliminate use of cigarettes, including exposure to environmental tobacco smoke (ETS).
- visit physician regularly to check blood pressure.
- take blood pressure medication as directed.
- take cholesterol lowering medications as directed.

### **What Is Considered to be Rural In This Publication?**

There are several differing definitions for “rural” with most definitions being specific to programs or initiatives. “Rural” is not a concrete term. Opinions on what is considered as rural tend to change between geographical areas and over time. For additional information on what areas are considered as being “rural” for the various federal programs, visit the Rural Assistance Center at <http://maps.rupri.org/circ/racrural/amirural.asp> where an address can be entered to determine rural status for each program.

This publication considers entire counties as being “rural” or “urban” since most data of interest for studies is available at the county level, but not at sub-county levels. Counties are assigned a score using four major indicators of rurality in this definition. These are population per square mile, the size and number of cities in a county, percentage of total employment comprised by employment in public education, and per capita agricultural sales. For additional information on the determination of which counties are considered “rural,” please visit the “What Is Rural?” section at the Alabama Rural Health Association’s Web site, [www.arhaonline.org](http://www.arhaonline.org).

This publication also presents information on the eight regions established through the Alabama Rural Action Commission, the Black Belt Action Commission, Alabama’s Appalachian Region counties, Alabama’s Delta Region counties, Alabama’s “rural” counties, and Alabama’s “urban” counties. In addition, “rural” counties are further classified and presented as being “highly” or “moderately” rural according to their score. “Rural” counties are also classified and presented as being in “rural south” or “rural north” Alabama because of great demographic and health status variation in these portions of the state.

## **Counties in the Various Regions or Classifications Used in This Report:**

**North Alabama Action Commission** includes Colbert, Cullman, DeKalb, Franklin, Jackson, Lauderdale, Lawrence, Limestone, Madison, Marion, Marshall, Morgan, and Winston.

**West Alabama Action Commission** includes Bibb, Fayette, Greene, Hale, Lamar, Pickens, and Tuscaloosa.

**Central Alabama Action Commission** includes Blount, Chilton, Jefferson, St. Clair, Shelby, and Walker.

**East Alabama Action Commission** includes Calhoun, Chambers, Cherokee, Clay, Cleburne, Coosa, Etowah, Randolph, Talladega, and Tallapoosa.

**South Central Alabama Action Commission** includes Autauga, Bullock, Butler, Crenshaw, Elmore, Lee, Lowndes, Macon, Montgomery, Pike, and Russell.

**Tombigbee Action Commission** includes Choctaw, Clarke, Conecuh, Dallas, Marengo, Monroe, Perry, Sumter, Washington, and Wilcox.

**Wiregrass Action Commission** includes Barbour, Coffee, Covington, Dale, Geneva, Henry, and Houston.

**Southwest Alabama Action Commission** includes Baldwin, Escambia, and Mobile.

**Black Belt Action Commission** includes Bullock, Choctaw, Dallas, Greene, Hale, Lowndes, Macon, Marengo, Perry, Pickens, Sumter, and Wilcox counties.

**Rural Counties** include Autauga, Baldwin, Barbour, Bibb, Blount, Bullock, Butler, Chambers, Cherokee, Chilton, Choctaw, Clarke, Clay, Cleburne, Coffee, Colbert, Conecuh, Coosa, Covington, Crenshaw, Cullman, Dale, Dallas, DeKalb, Elmore, Escambia, Fayette, Franklin, Geneva, Greene, Hale, Henry, Jackson, Lamar, Lawrence, Limestone, Lowndes, Macon, Marengo, Marion, Marshall, Monroe, Perry, Pickens, Pike, Randolph, Russell, St. Clair, Sumter, Talladega, Tallapoosa, Walker, Washington, Wilcox, and Winston.

**Highly Rural Counties** include Barbour, Bibb, Blount, Bullock, Butler, Cherokee, Choctaw, Clarke, Clay, Cleburne, Coffee, Conecuh, Coosa, Covington, Crenshaw, Cullman, Dallas, DeKalb, Escambia, Fayette, Franklin, Geneva, Greene, Hale, Henry, Jackson, Lamar, Lawrence, Lowndes, Macon, Marengo, Marion, Marshall, Monroe, Perry, Pickens, Pike, Randolph, Sumter, Washington, Wilcox, and Winston.

**Moderately Rural Counties** include Autauga, Baldwin, Chambers, Chilton, Colbert, Dale, Elmore, Limestone, Russell, St. Clair, Talladega, Tallapoosa and Walker.

**Rural North Counties** include Bibb, Blount, Chambers, Cherokee, Chilton, Clay, Cleburne, Colbert, Coosa, Cullman, DeKalb, Elmore, Fayette, Franklin, Hale, Jackson, Lamar, Lawrence, Limestone, Macon, Marion, Marshall, Pickens, Randolph, St. Clair, Talladega, Tallapoosa, Walker, and Winston.

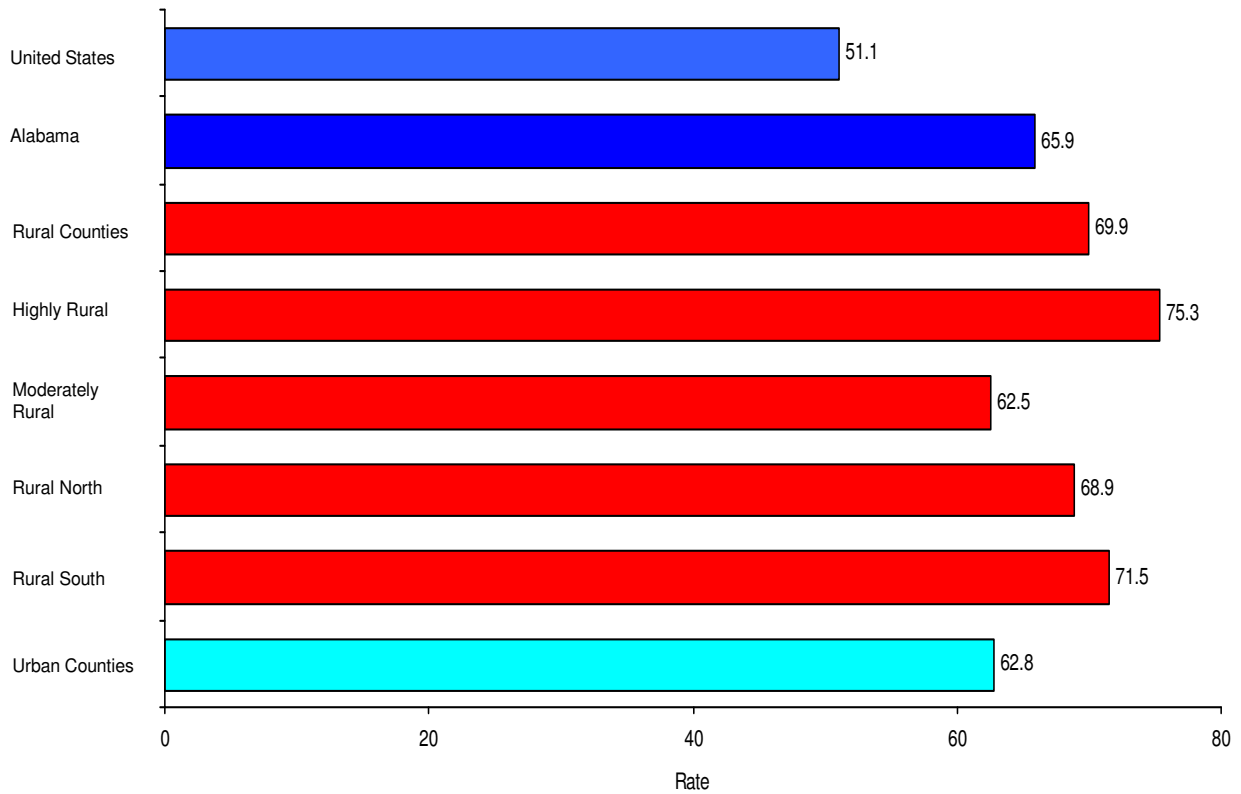
**Rural South Counties** include Autauga, Baldwin, Barbour, Bullock, Butler, Choctaw, Clarke, Coffee, Conecuh, Covington, Crenshaw, Dale, Dallas, Escambia, Geneva, Greene, Henry, Lowndes, Marengo, Monroe, Perry, Pike, Russell, Sumter, Washington, and Wilcox.

**Urban Counties** include Calhoun, Etowah, Houston, Jefferson, Lauderdale, Lee, Madison, Mobile, Montgomery, Morgan, Shelby, and Tuscaloosa.

**Appalachian Region** includes Bibb, Blount, Calhoun, Chambers, Cherokee, Chilton, Clay, Cleburne, Colbert, Coosa, Cullman, DeKalb, Elmore, Etowah, Fayette, Franklin, Hale, Jackson, Jefferson, Lamar, Lauderdale, Lawrence, Limestone, Macon, Madison, Marion, Marshall, Morgan, Pickens, Randolph, St. Clair, Shelby, Talladega, Tallapoosa, Tuscaloosa, Walker, and Winston counties.

**Delta Region** includes Barbour, Bullock, Butler, Choctaw, Clarke, Conecuh, Dallas, Escambia, Greene, Hale, Lowndes, Macon, Marengo, Monroe, Perry, Pickens, Russell, Sumter, Washington, and Wilcox counties.

**Cerebrovascular Diseases Mortality Rates  
U.S. and Selected Alabama Areas, 2003-2005**

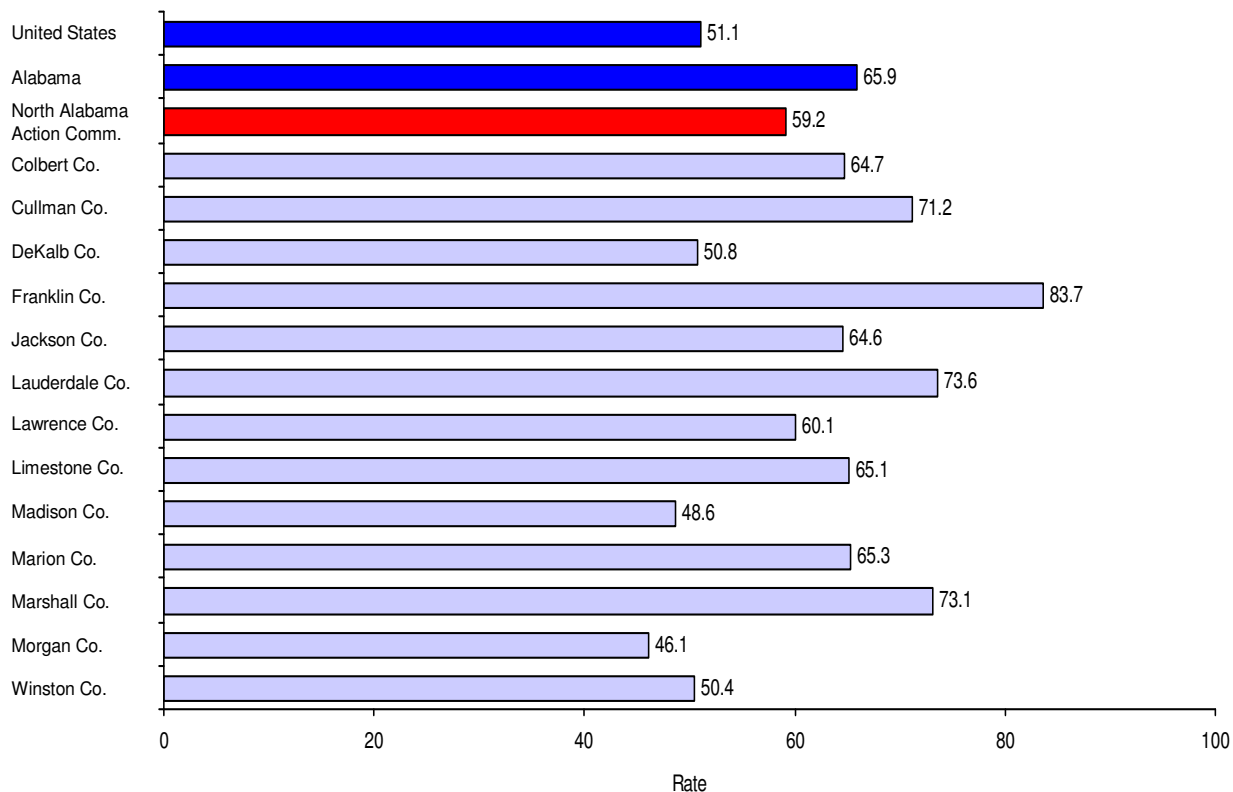


Notes: Data provided by the Center for Health Statistics, Alabama Department of Public Health and the National Center for Health Statistics, Centers for Disease Control and Prevention. U.S. rate is for 2004. Rates are per 100,000 population.

**Cerebrovascular Diseases (Stroke) Mortality and Mortality Rates  
U.S. and Selected Alabama Areas, 2003 – 2005**

Area	Is County Rural?	Deaths	Rate Per 100,000
<b>United States</b>	<b>Not Applicable</b>	<b>150,074</b>	<b>51.1</b>
<b>Alabama</b>	<b>Not Applicable</b>	<b>8,934</b>	<b>65.9</b>
<b>Rural Alabama Counties</b>	<b>Not Applicable</b>	<b>4,168</b>	<b>69.9</b>
<b>Highly Rural Alabama Counties</b>	<b>Not Applicable</b>	<b>2,601</b>	<b>75.3</b>
<b>Moderately Rural Alabama Counties</b>	<b>Not Applicable</b>	<b>1,567</b>	<b>62.5</b>
<b>Rural North Alabama Counties</b>	<b>Not Applicable</b>	<b>2,470</b>	<b>68.9</b>
<b>Rural South Alabama Counties</b>	<b>Not Applicable</b>	<b>1,698</b>	<b>71.5</b>
<b>Urban Alabama Counties</b>	<b>Not Applicable</b>	<b>4,766</b>	<b>62.8</b>

**Cerebrovascular Diseases Mortality Rates  
U.S. Alabama, and the North Alabama Action Commission Counties, 2003-2005**

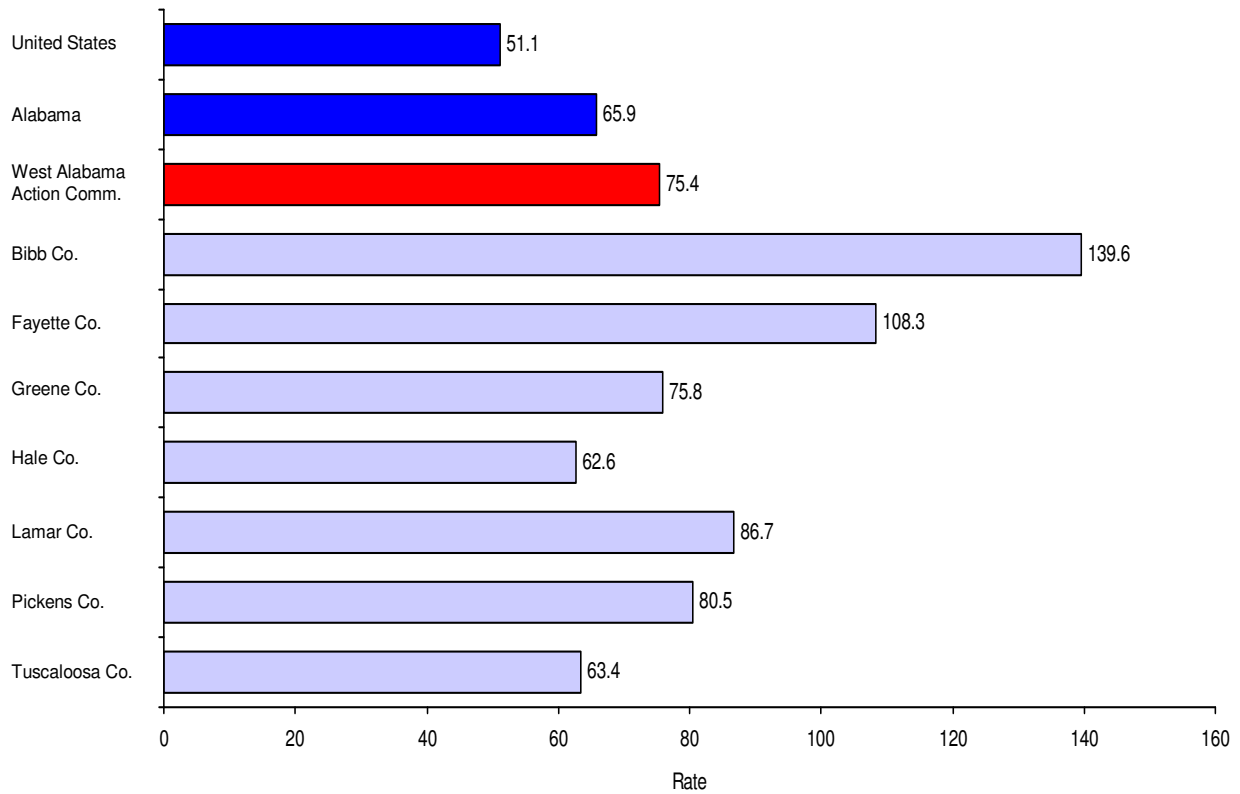


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**Cerebrovascular Diseases (Stroke) Mortality and Mortality Rates  
North Alabama Action Commission Counties, 2003 – 2005**

Area	Is County Rural?	Deaths	Rate Per 100,000
<b>North Alabama Action Commission</b>	<b>Not Applicable</b>	<b>1,814</b>	<b>59.2</b>
District's Rural Counties Combined	Not Applicable	1,037	65.5
District's Urban Counties Combined	Not Applicable	777	52.5
Colbert County	Yes	106	64.7
Cullman County	Yes	169	71.2
DeKalb County	Yes	102	50.8
Franklin County	Yes	77	83.7
Jackson County	Yes	104	64.6
Lauderdale County	No	193	73.6
Lawrence County	Yes	62	60.1
Limestone County	Yes	135	65.1
Madison County	No	428	48.6
Marion County	Yes	59	65.3
Marshall County	Yes	186	73.1
Morgan County	No	156	46.1
Winston County	Yes	37	50.4

**Cerebrovascular Diseases Mortality Rates  
U.S. Alabama, and the West Alabama Action Commission Counties, 2003-2005**

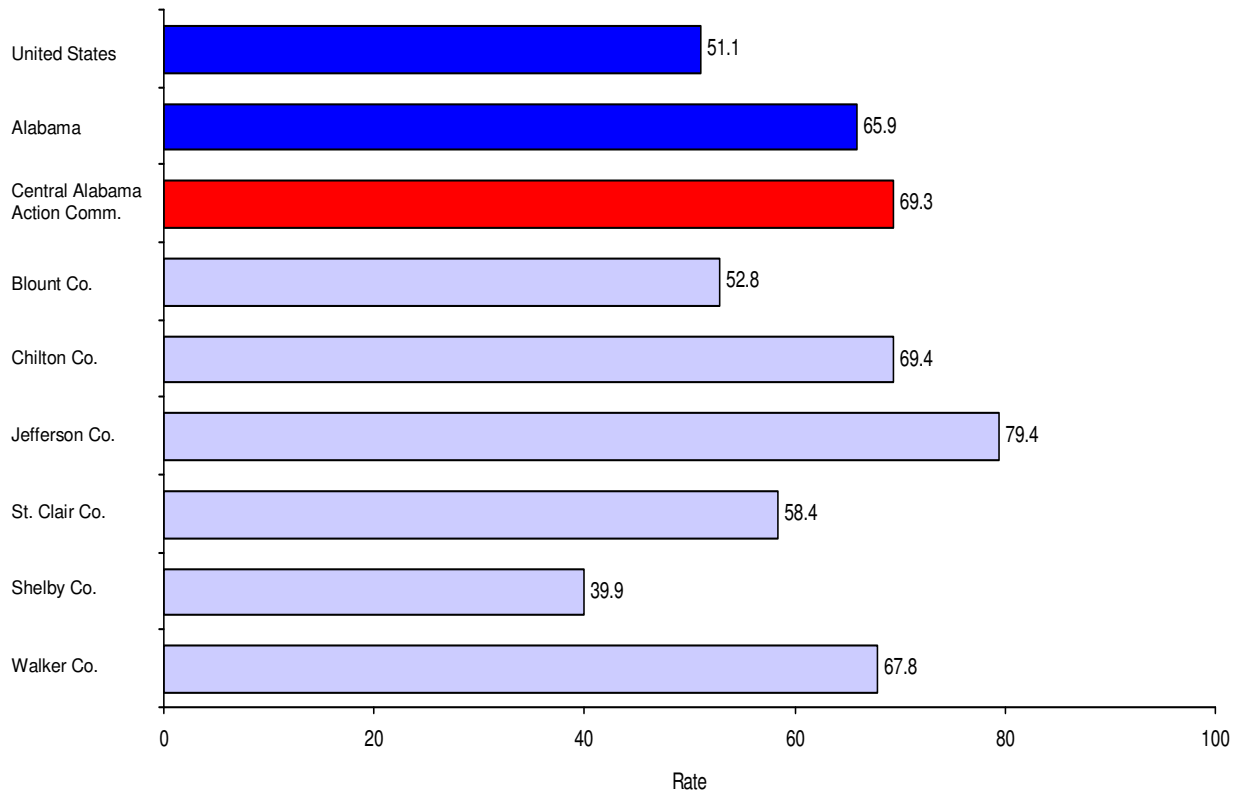


Notes: Data provided by the Center for Health Statistics, Alabama Department of Public Health and the National Center for Health Statistics, Centers for Disease Control and Prevention. U.S. rate is for 2004. Rates are per 100,000 population.

**Cerebrovascular Diseases (Stroke) Mortality and Mortality Rates  
West Alabama Action Commission Counties, 2003 – 2005**

Area	Is County Rural?	Deaths	Rate Per 100,000
<b>West Alabama Action Commission</b>	<b>Not Applicable</b>	<b>609</b>	<b>75.4</b>
District's Rural Counties Combined	Not Applicable	292	95.0
District's Urban Counties Combined	Not Applicable	317	63.4
Bibb County	Yes	89	139.6
Fayette County	Yes	59	108.3
Greene County	Yes	22	75.8
Hale County	Yes	34	62.6
Lamar County	Yes	39	86.7
Pickens County	Yes	49	80.5
Tuscaloosa County	No	317	63.4

**Cerebrovascular Diseases Mortality Rates  
U.S. Alabama, and the Central Alabama Action Commission Counties, 2003-2005**



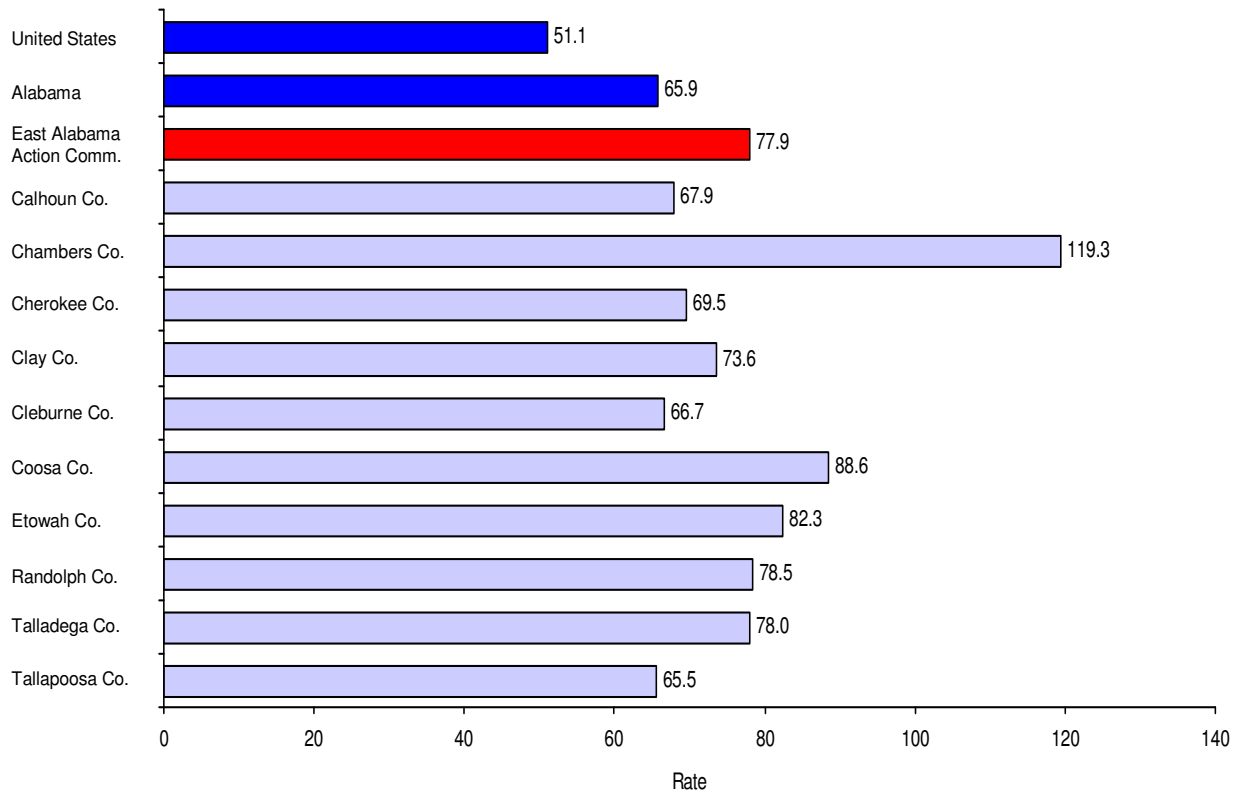
Notes: Data provided by the Center for Health Statistics, Alabama Department of Public Health and the National Center for Health Statistics, Centers for Disease Control and Prevention. U.S. rate is for 2004. Rates are per 100,000 population.

**Cerebrovascular Diseases (Stroke) Mortality and Mortality Rates  
Central Alabama Action Commission Counties, 2003 – 2005**

Area	Is County Rural?	Deaths	Rate Per 100,000
<b>Central Alabama Action Commission</b>	<b>Not Applicable</b>	<b>2,202</b>	<b>69.3</b>
District's Rural Counties Combined	Not Applicable	438	61.8
District's Urban Counties Combined	Not Applicable	1,764	71.5
Blount County	Yes	87	52.8
Chilton County	Yes	86	69.4
Jefferson County	No	1,566	79.4
St. Clair County	Yes	123	58.4
Shelby County	No	198	39.9
Walker County	Yes	142	67.8



**Cerebrovascular Diseases Mortality Rates  
U.S. Alabama, and the East Alabama Action Commission Counties, 2003-2005**

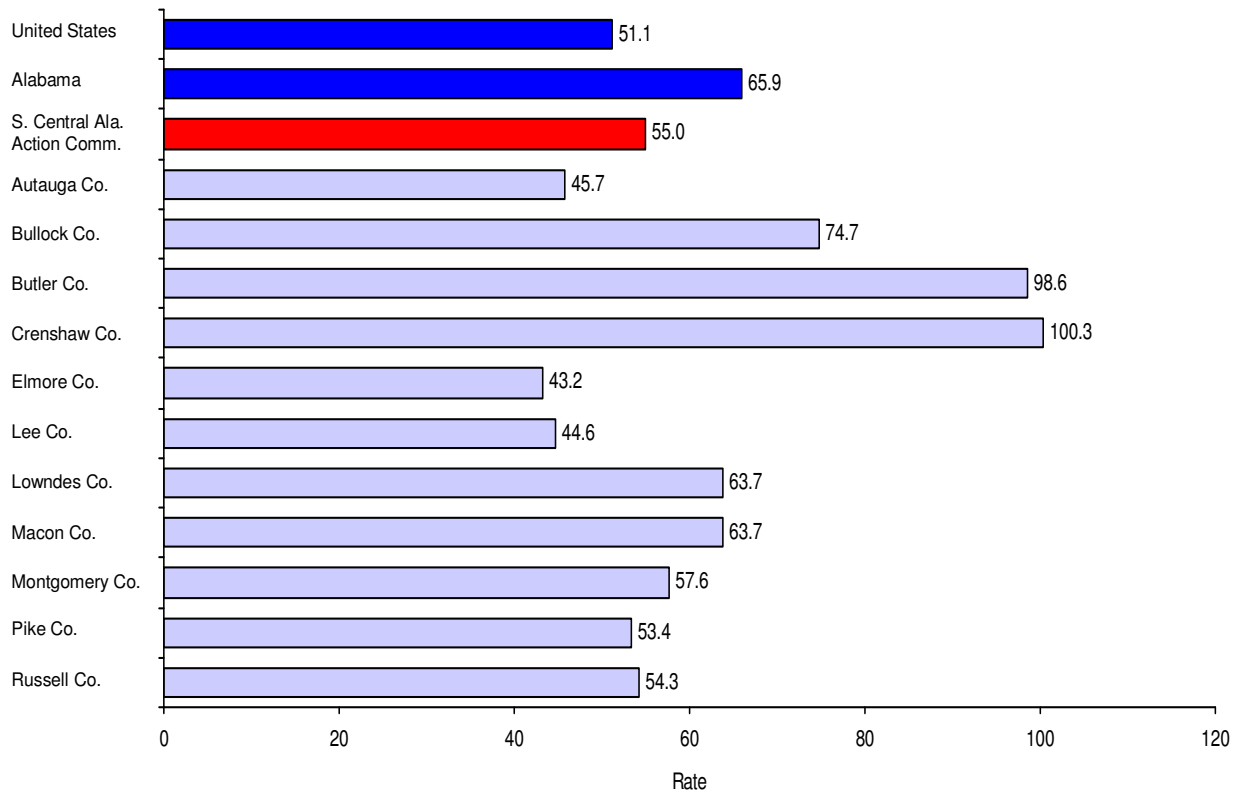


Notes: Data provided by the Center for Health Statistics, Alabama Department of Public Health and the National Center for Health Statistics, Centers for Disease Control and Prevention. U.S. rate is for 2004. Rates are per 100,000 population.

**Cerebrovascular Diseases (Stroke) Mortality and Mortality Rates  
East Alabama Action Commission Counties, 2003 – 2005**

Area	Is County Rural?	Deaths	Rate Per 100,000
<b>East Alabama Action Commission</b>	<b>Not Applicable</b>	<b>1,070</b>	<b>77.9</b>
District's Rural Counties Combined	Not Applicable	588	80.7
District's Urban Counties Combined	Not Applicable	482	74.8
Calhoun County	No	228	67.9
Chambers County	Yes	127	119.3
Cherokee County	Yes	51	69.5
Clay County	Yes	31	73.6
Cleburne County	Yes	29	66.7
Coosa County	Yes	30	88.6
Etowah County	No	254	82.3
Randolph County	Yes	53	78.5
Talladega County	Yes	187	78.0
Tallapoosa County	Yes	80	65.5

**Cerebrovascular Diseases Mortality Rates  
U.S. Alabama, and the South Central Alabama Action Commission Counties, 2003-2005**

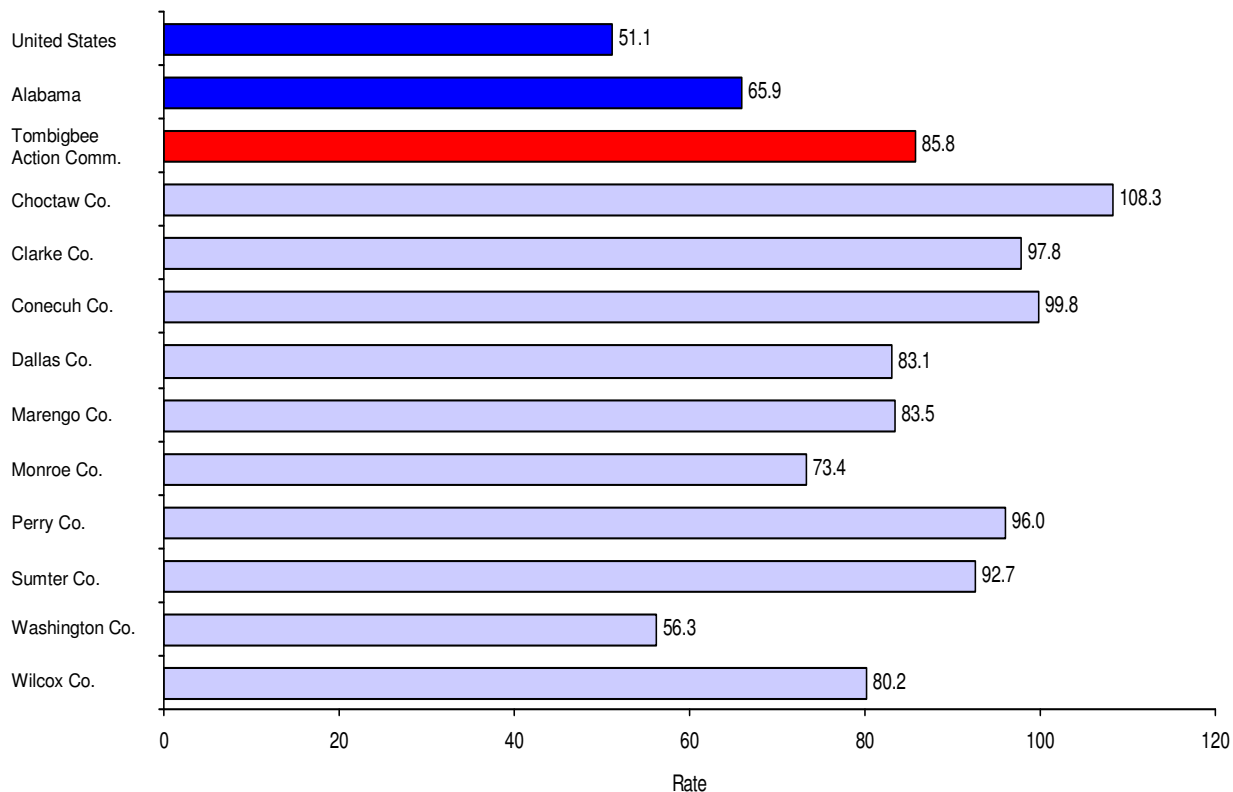


Notes: Data provided by the Center for Health Statistics, Alabama Department of Public Health and the National Center for Health Statistics, Centers for Disease Control and Prevention. U.S. rate is for 2004. Rates are per 100,000 population.

**Cerebrovascular Diseases (Stroke) Mortality and Mortality Rates  
South Central Alabama Action Commission Counties, 2003 – 2005**

Area	Is County Rural?	Deaths	Rate Per 100,000
<b>South Central Alabama Action Commission</b>	<b>Not Applicable</b>	<b>1,024</b>	<b>55.0</b>
District's Rural Counties Combined	Not Applicable	481	57.5
District's Urban Counties Combined	Not Applicable	543	53.0
Autauga County	Yes	65	45.7
Bullock County	Yes	25	74.7
Butler County	Yes	61	98.6
Crenshaw County	Yes	41	100.3
Elmore County	Yes	93	43.2
Lee County	No	161	44.6
Lowndes County	Yes	25	63.7
Macon County	Yes	44	63.7
Montgomery County	No	382	57.6
Pike County	Yes	47	53.4
Russell County	Yes	80	54.3

**Cerebrovascular Diseases Mortality Rates  
U.S. Alabama, and the Tombigbee Action Commission Counties, 2003-2005**

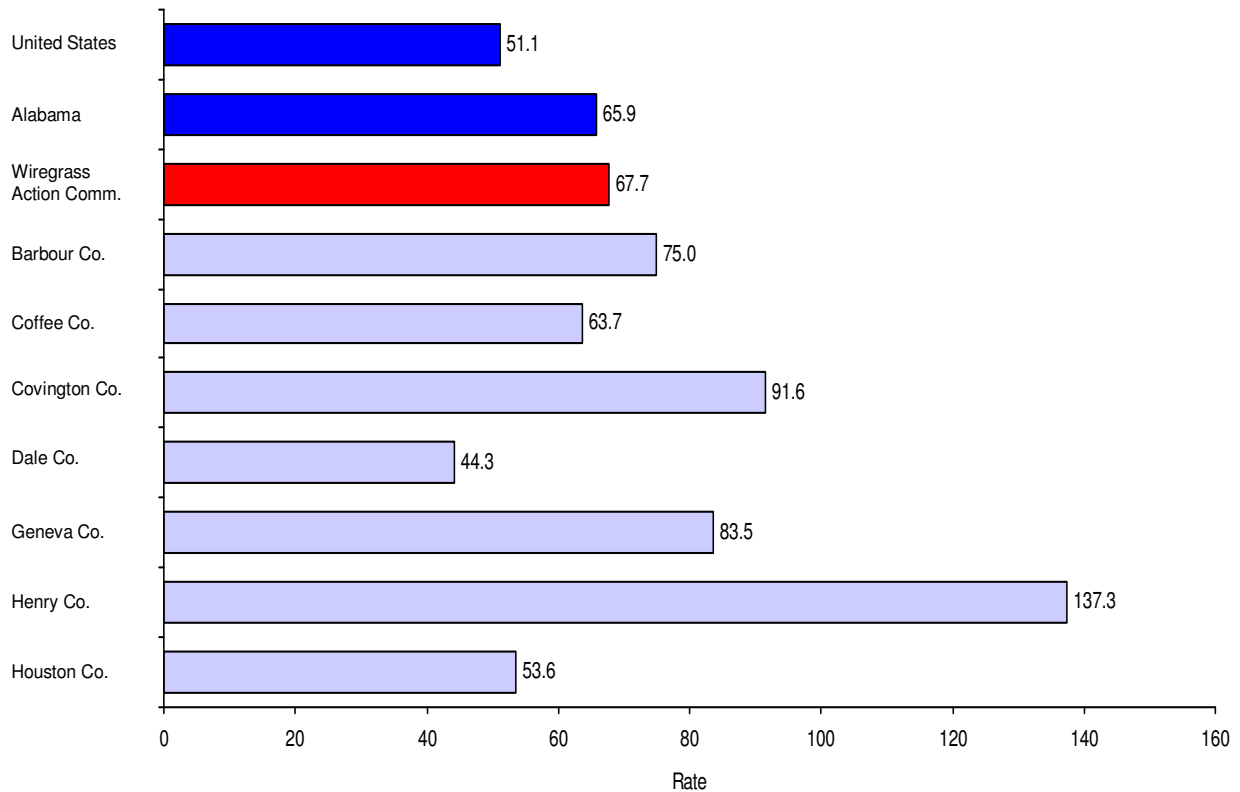


Notes: Data provided by the Center for Health Statistics, Alabama Department of Public Health and the National Center for Health Statistics, Centers for Disease Control and Prevention. U.S. rate is for 2004. Rates are per 100,000 population.

**Cerebrovascular Diseases (Stroke) Mortality and Mortality Rates  
Tombigbee Action Commission Counties, 2003 – 2005**

Area	Is County Rural?	Deaths	Rate Per 100,000
<b>Tombigbee Action Commission</b>	<b>Not Applicable</b>	<b>520</b>	<b>85.8</b>
District's Rural Counties Combined	Not Applicable	520	85.8
District's Urban Counties Combined	Not Applicable	No Urban Counties in District	
Choctaw County	Yes	49	108.3
Clarke County	Yes	80	97.8
Conecuh County	Yes	40	99.8
Dallas County	Yes	111	83.1
Marengo County	Yes	55	83.5
Monroe County	Yes	52	73.4
Perry County	Yes	33	96.0
Sumter County	Yes	39	92.7
Washington County	Yes	30	56.3
Wilcox County	Yes	31	80.2

**Cerebrovascular Diseases Mortality Rates  
U.S. Alabama, and the Wiregrass Action Commission Counties, 2003-2005**

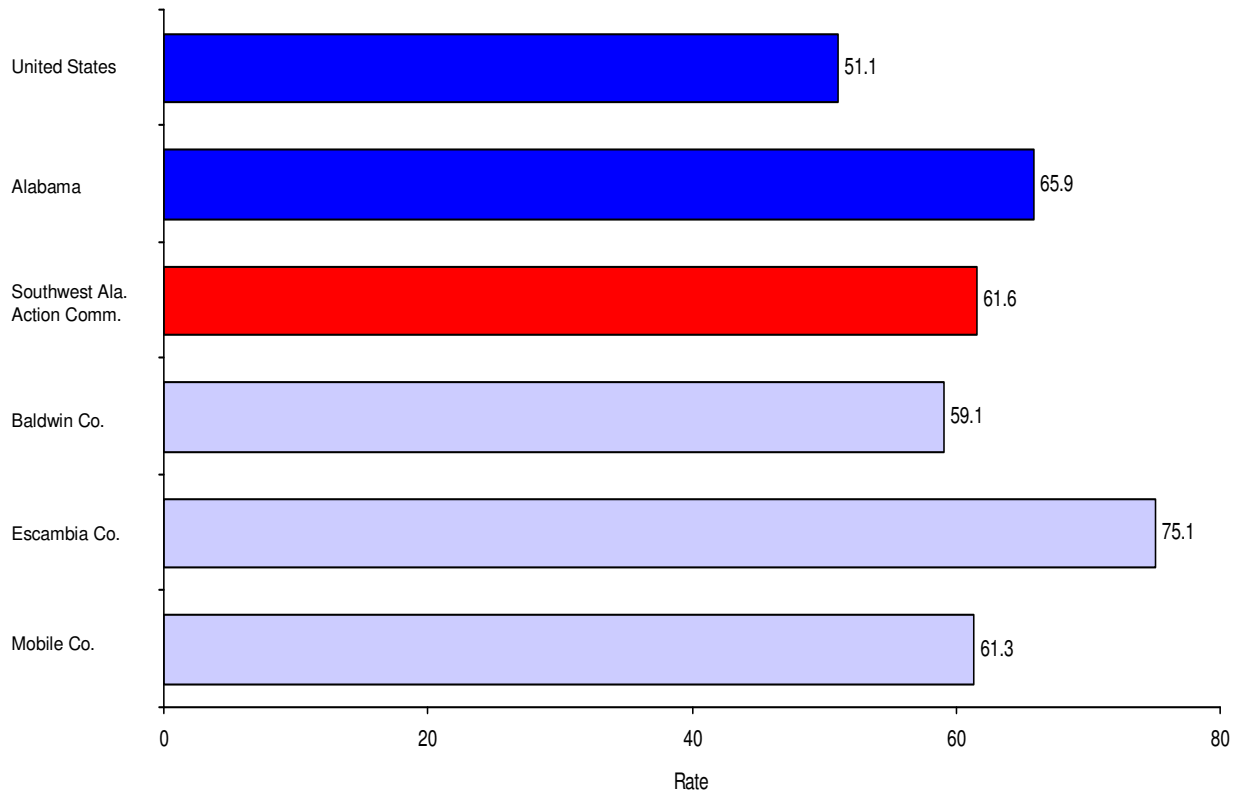


Notes: Data provided by the Center for Health Statistics, Alabama Department of Public Health and the National Center for Health Statistics, Centers for Disease Control and Prevention. U.S. rate is for 2004. Rates are per 100,000 population.

**Cerebrovascular Diseases (Stroke) Mortality and Mortality Rates  
Wiregrass Action Commission Counties, 2003 – 2005**

Area	Is County Rural?	Deaths	Rate Per 100,000
<b>Wiregrass Action Commission</b>	<b>Not Applicable</b>	<b>597</b>	<b>67.7</b>
District's Rural Counties Combined	Not Applicable	448	74.2
District's Urban Counties Combined	Not Applicable	149	53.6
Barbour County	Yes	64	75.0
Coffee County	Yes	86	63.7
Covington County	Yes	101	91.6
Dale County	Yes	65	44.3
Geneva County	Yes	64	83.5
Henry County	Yes	68	137.3
Houston County	No	149	53.6

**Cerebrovascular Diseases Mortality Rates  
U.S. Alabama, and the Southwest Alabama Action Commission Counties, 2003-2005**

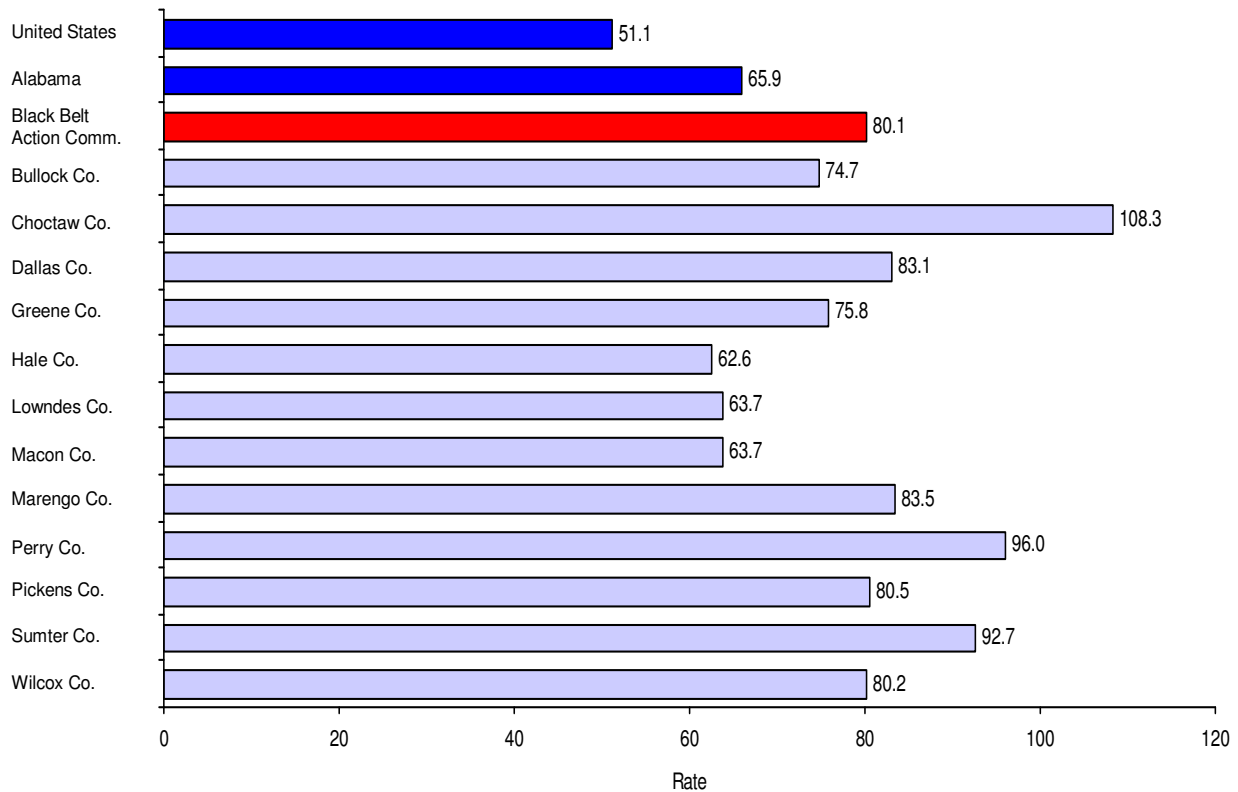


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**Cerebrovascular Diseases (Stroke) Mortality and Mortality Rates  
Southwest Alabama Action Commission Counties, 2003 – 2005**

Area	Is County Rural?	Deaths	Rate Per 100,000
<b>Southwest Alabama Action Commission</b>	<b>Not Applicable</b>	<b>1,098</b>	<b>61.6</b>
District's Rural Counties Combined	Not Applicable	364	62.2
District's Urban Counties Combined	Not Applicable	734	61.3
Baldwin County	Yes	278	59.1
Escambia County	Yes	86	75.1
Mobile County	No	734	61.3

**Cerebrovascular Diseases Mortality Rates  
U.S. Alabama, and the Black Belt Action Commission Counties, 2003-2005**



Notes: Data provided by the Center for Health Statistics, Alabama Department of Public Health and the National Center for Health Statistics, Centers for Disease Control and Prevention. U.S. rate is for 2004. Rates are per 100,000 population.

**Cerebrovascular Diseases (Stroke) Mortality and Mortality Rates  
Black Belt Action Commission Counties, 2003 – 2005**

Area	Is County Rural?	Deaths	Rate Per 100,000
<b>Black Belt Action Commission</b>	<b>Not Applicable</b>	<b>517</b>	<b>80.1</b>
District's Rural Counties Combined	Not Applicable	517	80.1
District's Urban Counties Combined	Not Applicable	No Urban Counties in District	
Bullock County	Yes	25	74.7
Choctaw County	Yes	49	108.3
Dallas County	Yes	111	83.1
Greene County	Yes	22	75.8
Hale County	Yes	34	62.6
Lowndes County	Yes	25	63.7
Macon County	Yes	44	63.7
Marengo County	Yes	55	83.5
Perry County	Yes	33	96.0
Pickens County	Yes	49	80.5
Sumter County	Yes	39	92.7
Wilcox County	Yes	31	80.2

**Cerebrovascular Diseases (Stroke) Mortality and Mortality Rates  
Alabama's Appalachian Region Counties, 2003 – 2005**

Area	Is County Rural?	Deaths	Rate Per 100,000
<b>Alabama's Appalachian Region</b>	<b>Not Applicable</b>	<b>5,810</b>	<b>67.0</b>
Region's Rural Counties Combined	Not Applicable	2,470	68.9
Region's Urban Counties Combined	Not Applicable	3,340	65.6
Bibb County	Yes	89	139.6
Blount County	Yes	87	52.8
Calhoun County	No	228	67.9
Chambers County	Yes	127	119.3
Cherokee County	Yes	51	69.5
Chilton County	Yes	86	69.4
Clay County	Yes	31	73.6
Cleburne County	Yes	29	66.7
Colbert County	Yes	106	64.7
Coosa County	Yes	30	88.6
Cullman County	Yes	169	71.2
DeKalb County	Yes	102	50.8
Elmore County	Yes	93	43.2
Etowah County	No	254	82.3
Fayette County	Yes	59	108.3
Franklin County	Yes	77	83.7
Hale County	Yes	34	62.6
Jackson County	Yes	104	64.6
Jefferson County	No	1,566	79.4
Lamar County	Yes	39	86.7
Lauderdale County	No	193	73.6
Lawrence County	Yes	62	60.1
Limestone County	Yes	135	65.1
Macon County	Yes	44	63.7
Madison County	No	428	48.6
Marion County	Yes	59	65.3
Marshall County	Yes	186	73.1
Morgan County	No	156	46.1
Pickens County	Yes	49	80.5
Randolph County	Yes	53	78.5
St. Clair County	Yes	123	58.4
Shelby County	No	198	39.9
Talladega County	Yes	187	78.0
Tallapoosa County	Yes	80	65.5
Tuscaloosa County	No	317	63.4
Walker County	Yes	142	67.8
Winston County	Yes	37	50.4

For additional information on the Appalachian Region, visit the Appalachian Regional Commission's Web site at <http://www.arc.gov/index.jsp>; the Appalachian Regional Commission – Alabama Programs Office Web site at <http://www.adeca.alabama.gov/default.aspx>; or contact Bonnie Durham, Alabama Program Manager at (256) 845-3472.

**Cerebrovascular Diseases (Stroke) Mortality and Mortality Rates  
Alabama's Delta Region Counties, 2003 – 2005**

Area	Is County Rural?	Deaths	Rate Per 100,000
<b>Alabama's Delta Region</b>	<b>Not Applicable</b>	<b>1,010</b>	<b>77.6</b>
Region's Rural Counties Combined	Not Applicable	<b>1,010</b>	<b>77.6</b>
Region's Urban Counties Combined	Not Applicable	No Urban Counties in Region	
Barbour County	Yes	64	75.0
Bullock County	Yes	25	74.7
Butler County	Yes	61	98.6
Choctaw County	Yes	49	108.3
Clarke County	Yes	80	97.8
Conecuh County	Yes	40	99.8
Dallas County	Yes	111	83.1
Escambia County	Yes	86	75.1
Greene County	Yes	22	75.8
Hale County	Yes	34	62.6
Lowndes County	Yes	25	63.7
Macon County	Yes	44	63.7
Marengo County	Yes	55	83.5
Monroe County	Yes	52	73.4
Perry County	Yes	33	96.0
Pickens County	Yes	49	80.5
Russell County	Yes	80	54.3
Sumter County	Yes	39	92.7
Washington County	Yes	30	56.3
Wilcox County	Yes	31	80.2

For additional information on the Delta Region, visit the Delta Regional Authority's Web site at <http://www.dra.gov/> or contact one of the Delta Regional Authority – Local Development District Offices as follows:

Alabama – Tombigbee Regional Commission, (334) 682-4234 (Choctaw, Clarke, Conecuh, Dallas, Marengo, Monroe, Perry, Sumter, Washington, and Wilcox counties)

Lee – Russell Council of Governments, (334) 749-5264 (Russell County)

South Alabama Regional Planning Commission, (251) 433-6541 (Escambia County)

South Central Alabama Development Commission (334) 244-6903 (Bullock, Butler, Lowndes, and Macon counties)

Southeast Alabama Regional Planning and Development Commission, (334) 794-4093 (Barbour County)

West Alabama Planning and Development Council, (205) 333-2990 (Greene, Hale, and Pickens counties)

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THIS REPORT**

For additional information please contact the Office of Primary Care and Rural Health Development at (334) 206-5396 or the Alabama Rural Health Association at (334) 281-3866.