



**Early Deaths:  
West Virginians Have Some of the Shortest Life  
Expectancies in the United States  
A Report by West Virginians for Affordable Health Care**

Developed under a grant from the Claude Worthington Benedum Foundation.  
The West Virginia Council of Churches is the fiscal agent for this grant.

In April 2008 Harvard researchers published a report examining life expectancy in the United States.<sup>1</sup> The report examined life expectancy over a 38-year period by county and by gender. Their basic finding is that counties with high life expectancies continued to improve, while the life expectancy in the worst-off counties was stagnant or actually declined. The result is that the inequity in life expectancy among different counties increased from 1961 to 1999, the last year that data was available.

West Virginians for Affordable Health Care (WVAHC) examined the data used by this report. A summary of the counties with the lowest one percent of life expectancies in the country is attached as Appendix A. States that are most prevalent in this lowest one percent are: South Dakota, Mississippi, West Virginia and Arkansas. Major findings that relate to West Virginia include the following:

- West Virginians have lower life expectancy than the average in the United States.
- Southern West Virginia has some of the lowest life expectancy in the country. McDowell, Logan and Mingo counties were rated among the lowest one percent for shortest life expectancy in the United States.

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<sup>1</sup> M. Ezzati , A. Friedman, S. Kulkarni , C. Murray, "The Reversal of Fortunes: Trends in County Mortality and Cross-County Mortality Disparities in the United States." PLoS Med 5(4): e66. doi:10.1371/journal.pmed.0050066. (2008) Accessed June 2008 at <http://medicine.plosjournals.org/perlserv/?request=getdocument&doi=10.1371/journal.pmed.0050066> .

McDowell County residents were rated 14<sup>th</sup> out of 3,141 counties in the U.S. Logan County was rated 21<sup>st</sup>, and Mingo was rated 27<sup>th</sup>.

- Another three counties -- all in southern West Virginia -- were rated among the lowest ten percent for life expectancy in the U.S. Lincoln County was rated 100<sup>th</sup>, Wyoming County was rated 145<sup>th</sup>, and Boone County was rated 224<sup>th</sup>. Fayette County was only five counties above being in the lowest 10 percent and was rated 319<sup>th</sup>.
- Only four counties in West Virginia (Pendleton, Grant, Tucker and Monongalia) had life expectancy above the national median.<sup>2</sup>
- West Virginia women relative to other women in the U.S. had even lower life expectancies. Women in three counties (McDowell, Mingo and Logan) were all within the sixteen lowest life expectancy counties in the country. Another 4 counties were in the lowest 10 percent of counties in the country for life expectancy.

County	National Ranking for Both Men & Women	National Ranking for Women Only
McDowell	14	10
Mingo	21	15
Logan	27	16
Lincoln	100	53
Wyoming	145	58
Boone	224	107
Fayette	319	265

- In 1999 not a single county in West Virginia had life expectancy for women at or above the national average. The best county for women in West Virginia (Tucker County) had a life expectancy of 79.5 years, while the national average was 79.6 years.
- If women in McDowell County had life expectancies at the national average, they would live on average an additional 6.1 years. If women in McDowell County had the same life expectancy as women in the county with the highest life expectancy<sup>3</sup>, they would live on average an additional 11 years. Women in Logan County would add a decade of life if they had life expectancy equal

<sup>2</sup> The Harvard researchers provided a national average life expectancy for men in 1999 (74.1 years) and for women (79.6 years), but did not provide an average life expectancy combining both men and women. WVAHC used the median county; that is, the county with 50 percent greater life expectancy and 50 percent lower life expectancy; to determine the average for both men and women.

<sup>3</sup> Stearns County, Minnesota.

to the best in the country, and would live slightly more than five additional years if they had life expectancy at the national average.

- A number of counties in West Virginia experienced a reduction in life expectancy for both men and women, although in only two counties was the reduction in life expectancy more than one year. From 1995 to 1999 the life expectancy in Logan County fell by 1.49 years. In Wyoming County life expectancy fell by 1.31 years between 1992 and 1999.
- For women the reduction in life expectancy was far more pronounced. In ten West Virginia counties (or groups of counties<sup>4</sup>) life expectancy for women was reduced by at least one year. In three counties the reduction was more than two years. In Logan County life expectancy for women dropped by more than 2 ½ years from 1989 to 1999. In Boone County life expectancy fell by almost 2 ¼ years between 1992 and 1999. In Taylor/Barbour counties life expectancy for women fell by 2 ¼ years between 1988 and 1999.
- Other counties that experienced at least a one year drop in life expectancy for women include: McDowell County with a 1.97 years decline between 1993 and 1999; Lincoln County fell by 1.95 years between 1983 and 1999; Wyoming County declined 1.88 years between 1989 and 1999; Gilmer/Lewis counties with a 1 ½ years decrease between 1983 and 1999; Clay/Nicholas Counties dropped by 1.18 years between 1984 and 1999; and Pocahontas/Braxton/Webster counties had a decrease of 1.05 years between 1982 and 1999.

**Limitation of the Report:** The major limitation of this report is that there is no life expectancy data from 1999 to 2008. It is impossible to determine what has occurred in the intervening 9 years. The West Virginia Vital Statistics has data from 1999 through 2006 on average age at death by counties. While this data is not the same as life expectancy, it can be used as a proxy for life expectancy for the missing data between 1999 and 2008. As the chart below demonstrates the average age of death declined in each of the selected southern West Virginia counties. This is particularly true for both Boone and Wyoming counties which experienced a 3.1 years decline in the average age of death between 1999 and 2006, the last year these statistics are available. Lincoln County had more than a 2 ½ years decline in the average age of death during the 9-year interval.

This data is not reported by gender, so it is impossible to tell if women continued to experience greater reduction in their life span as was reported by the Harvard researchers.

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<sup>4</sup> The Harvard researchers decided that in order “to avoid unstable death rates, smaller counties were merged with adjacent counties to form units with a total population of at least 10,000 males and 10,000 females in 1990.” Ibid. at page 0002.

**Average Age of Death Selected Counties  
Between 1999 and 2005<sup>5</sup>**

	1999	2000	2002	2003	2004	2005	2006	Difference Between 2006 and 1999
Boone	71.2	71.8	70.0	70.2	68.9	70.2	68.1	-3.1
Fayette	72.9	73.3	72.7	72.7	73.1	72.2	72.5	-0.4
Lincoln	72.7	67.7	69.5	68.4	67.8	68.5	70.1	-2.6
Logan	68.9	69.9	70.1	70.6	69.6	68.6	68.4	-0.5
McDowell	69.1	71.7	67.1	69.4	68.1	68.2	67.3	-1.8
Mingo	68.8	69.3	68.0	70.2	68.3	67.5	67.7	-1.1
Wyoming	70.2	68.1	70.4	67.1	67.7	67.9	67.1	-3.1

Policy Implications:

The first step is to ensure that the data used to draw these conclusions is correct. WVAHC is requesting that the WVU Health Policy Research Institute review the data for its validity from start to the conclusions reached in this report. For example, was the raw data used by the Harvard researchers accurate? Is there something in the way that data is reported by West Virginia to the National Center for Health Statistics or sampling errors by the US Census Bureau that would result in data that underestimates the life expectancy of West Virginians, particularly southern West Virginians? Second, although highly unlikely, is there a flaw in the methodology used by the Harvard researchers? And finally, were there errors by WVAHC in interpreting the data? In short, is the basic data that decisions makers need to make decisions correct?

We should take our time to carefully verify the data, because if this data is accurate, it requires that we -- the Governor, the Legislature, local communities including schools and health care providers, and all West Virginians -- take immediate and meaningful action to reverse the unacceptably short lives that West Virginians are apparently experiencing.

Assuming that the data is accurate, WVAHC is making a series of proposals to decision makers in order to address the shorter life expectancy of West Virginians.

- While efforts should be directed statewide, efforts within southern West Virginia where life expectancy is the shortest should have the highest priority. The “focus area” is defined as Boone, Fayette, Lincoln, Logan, McDowell, Mingo and Wyoming counties.

<sup>5</sup> West Virginia 2006 Vital Statistics, West Virginia Department of Health and Human Resources, Available at <http://www.wvdhhr.org/bph/oehp/hsc/pubs/vital06/index.htm#death> . Accessed September 2, 2008.

➤ **Study**

One of the first questions most people ask when presented this data is: Why? WVAHC will try to work with Bluefield State College to see if a longitudinal study can be performed to determine the reason for short life expectancy in southern West Virginia, particularly among women.

**Public Health Initiative**

- The short life expectancy for southern West Virginians is first and foremost a public health issue. Investment in public health can reduce preventable disease by 10 percent according to a 2007 Marshall University report.<sup>6</sup> This report also found that for every dollar invested in public health, West Virginia would reap a \$1.69 return on investment.

Local county health departments do not have the staffing or resources necessary to conduct the extensive public health initiatives necessary to respond to this crisis. WVAHC is recommending that a regional Health Department be established for the focus area. The regional Health Department would be charged with determining the underlying causes of the low life expectancy in the focus area and developing initiatives to combat these causes. In addition, the regional Health Department must be provided the resources necessary to implement these initiatives. Several initiatives should begin immediately. They would include:

**Tobacco Usage:**

- The Bureau of Public Health within the Department of Health and Human Resources (DHHR) should conduct aggressive smoking prevention and cessation programs within the target area. The Health Departments in each of the target counties should adopt comprehensive indoor smoking ordinances by January 2009. The West Virginia Legislature should consider raising tobacco taxes to the national average during the 2009 Legislative session, with the proceeds directed to tobacco cessation programs and other health promotion programs.<sup>7</sup>

**Obesity:**

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<sup>6</sup> C. Kent, P. Rutsohn, K. Soward, A. Chandra, "People at Risk: The Financial Crisis in West Virginia Public Health," Marshall University Center for Business and Economic Research (November 2007) Huntington, West Virginia.

<sup>7</sup> The Center for Disease Control and Prevention has issued the *Guide to Community Preventive Services* which systematically reviews the effectiveness of interventions to reduce or prevent tobacco use. They focused on three areas: stop kids from beginning; increase cessation; and reduce exposure to second hand smoke. Details of their recommendations can be found at <http://www.thecommunityguide.org/tobacco/default.htm> .

- The state Superintendent of Schools should work with each county board of education within the focus area to ensure that no soft drinks are sold within the school day in any school within the target area by January 2009<sup>8</sup>. Additionally, the state Superintendent of Schools should ensure that every student within the target area is receiving the physical activity required by state Board policy, and take steps to restore elementary physical education teachers to schools in the focus area.
- The Secretary of Transportation should conduct an inventory of the county seats and other major municipalities within the focus area to determine whether these municipalities are walkable and bikeable, and make specific recommendations about how these southern West Virginia communities can promote pedestrian and bicycle usage. While this will be difficult given the steep hills and narrow valleys in the focus area, we need to make physical activity a normal part of life in southern West Virginia.
- The County Commissions in the target area shall fund recreational sites that promote physical activity with an emphasis on encouraging children to exercise.

#### **Nutrition:**

- The legislature should consider providing a tax incentive to grocery stores that provide fresh fruits and vegetables.
- The WVU Extension Service, in conjunction with the West Virginia Department of Agriculture and the faith-based community, should promote family and community vegetable gardens in the focus area. Additionally, the state Department of Agriculture and the Governor's Office of Economic Opportunity should establish farmers markets in the focus area.

During the 2009 legislative session, the legislature should consider adoption of menu labeling requirements for all franchise restaurants in West Virginia. The menu labeling would require restaurants to make readily available to customers the calories and nutritional content of foods being sold in the restaurants.

#### **Water and Sewage:**

- The Governor's Office of Economic and Community Development should conduct an inventory of drinking water supplies and sewage treatment

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<sup>8</sup> In 2007 the Institute of Medicine issued a report calling for the elimination of soft drinks in schools during the school day. They recommended that water, 100 percent juices and low and non-fat milk be sold in schools during the school day. The Executive Summary of the Institute of Medicine's report can be found at <http://www.iom.edu/Object.File/Master/42/505/Food%20in%20Schools.pdf>.

facilities in the focus area and prioritize areas in the greatest need of safe drinking water and sewage treatment facilities.

### **Early Childhood Education:**

- The State Board of Education, in conjunction with Head start and private child care centers and the Department of Health and Human Resources, shall submit a comprehensive plan for early childhood education that provides for universal pre-school for every child in the target area by school year 2009-2010. Additionally, the State Board of education should promote school-based health clinics for schools throughout the focus area.

### **Medical Homes:**

- The West Virginia Health Improvement Institute should target the focus area for establishment of pilot medical homes. Practice groups in the target area will be encouraged to apply for medical home accreditation through the Institute.

### **Technology:**

- The West Virginia Health Information Network should provide grants and technical assistance in order to ensure that every physician and hospital in the focus area has access to an interoperable electronic health record by January 2010. Additionally, the West Virginia Telemedicine Network should cooperate with hospitals and physicians in the focus area to ensure access to telemedicine.

### **Domestic Violence**

- The Department of Health and Human Resources shall provide greater technical and financial resources to the focus area in order to reduce the level of domestic violence and provide safe alternatives to victims of domestic violence.

The proposals outlined in this report will take a significant investment of resources. However, we owe the citizens of southern West Virginia a concentrated effort to improve their health status and ensure that they have life expectancy equal to the rest of the United States.

## Appendix A

### Counties in the United States with the Lowest One Percent of Life Expectancy

National Ranking	State	County	Majority Ethnicity
1	SOUTH DAKOTA	JACKSON	51% American Indian
2	SOUTH DAKOTA	WASHABAUGH	Unknown
3	SOUTH DAKOTA	TODD	81% American Indian
4	SOUTH DAKOTA	SHANNON	87% American Indian
5	SOUTH DAKOTA	BENNETT	55% American Indian
6	SOUTH DAKOTA	MELLETTTE	54% American Indian
7	<i>MARYLAND</i>	<i>BALTIMORE CITY</i>	<i>65% African American</i>
8	SOUTH CAROLINA	MARLBORO	52% African American
9	<i>VIRGINIA</i>	<i>PETERSBURG</i>	<i>78% African American</i>
10	ARKANSAS	PHILLIPS	61% African American
11	MISSISSIPPI	COAHOMA	73% African American
12	FLORIDA	UNION	74% European American
13	FLORIDA	BAKER	85% European American
14	<b>WEST VIRGINIA</b>	<b>MCDOWELL</b>	<b>88% European American</b>
15	<i>MISSOURI</i>	<i>ST. LOUIS CITY</i>	<i>51% African American</i>
16	MISSOURI	PEMISCOT	73% European American
17	ARKANSAS	CRITTENDEN	50% EA / 49% AA
18	MISSISSIPPI	SUNFLOWER	72% African American
19	<i>VIRGINIA</i>	<i>RICHMOND CITY</i>	<i>55% African American</i>
20	MISSISSIPPI	WASHINGTON	67% African American
21	<b>WEST VIRGINIA</b>	<b>LOGAN</b>	<b>96% European American</b>
22	MISSISSIPPI	TALLAHATCHIE	60% African American
23	MISSISSIPPI	TUNICA	72% African American
24	MISSISSIPPI	QUITMAN	69% African American
25	NORTH CAROLINA	MARTIN	54% European American
26	SOUTH CAROLINA	MARION	55% African American
27	<b>WEST VIRGINIA</b>	<b>MINGO</b>	<b>96% European American</b>
28	NORTH CAROLINA	ROBESON	38% AI/ 36% EA/ 25% AA
29	MISSISSIPPI	BOLIVAR	65% African American
30	ARKANSAS	MISSISSIPPI	64% European American
31	LOUISIANA	WASHINGTON	67% European American

West Virginia counties in bold and urban cities are in italic.

#### SUMMARY:

5 counties have a majority American Indian population and one has a plurality of American Indians.

14 counties have majority African American population.

10 counties have majority European American population.



Only four counties (italicized) appear to be in urban areas. 27 counties appear to be in rural counties.

## Appendix B

### West Virginia Rankings of Life Expectancy Among the 3,141 Counties within the United States for Both Men and Women

County	National Ranking	Years
McDowell	14	70.4
Logan	21	71.2
Mingo	27	71.4
Lincoln	100	72.6
Wyoming	145	72.8
Boone	224	73.3
Fayette	319	73.6
Mercer	477	74.2
Mason	543	74.4
Clay	559	74.4
Nicholas	560	74.4
Cabell	582	74.5
Gilmer	589	74.5
Lewis	590	74.5
Kanawha	690	74.8
Raleigh	704	74.8
Harrison	726	74.8
Taylor	780	74.9
Barbour	781	74.9
Pleasants	853	75.1
Ritchie	854	75.1
Doddridge	855	75.1
Mineral	861	75.1
Berkeley	862	75.1
Morgan	863	75.1
Monroe	922	75.3
Summers	923	75.3
Wirt	924	75.3
Calhoun	925	75.3
Roane	926	75.3
Pocahontas	959	75.3
Braxton	960	75.3
Webster	961	75.3
Wayne	980	75.4
Wetzel	987	75.4
Tyler	988	75.4
Randolph	990	75.4

Ohio	1033	75.5
Greenbrier	1034	75.5
Preston	1052	75.5
Jefferson	1053	75.5
Brooke	1137	75.7
Upshur	1214	75.8
Wood	1279	76.0
Hampshire	1291	76.0
Hardy	1292	76.0
Jackson	1356	76.1
Putnam	1366	76.2
Hancock	1406	76.2
Marion	1430	76.3
Marshall	1437	76.3
<b>National Median</b>		<b>76.5</b>
Pendleton	1853	76.9
Grant	1854	76.9
Tucker	1855	76.9
Monongalia	2024	77.2
<b>Best in the Country</b>		<b>81.3</b>

### Appendix C

West Virginia Ranking Among the  
3,141 Counties within the United  
States for Women's Life Expectancy

County	National Ranking	Life Expectancy
McDowell	10	73.5
Mingo	15	74.3
Logan	16	74.4
Lincoln	53	75.6
Wyoming	58	75.7
Boone	107	76.0
Fayette	265	76.8
Taylor	324	77.0
Barbour	325	77.0
Gilmer	384	77.2
Lewis	385	77.2
Mason	418	77.2
Clay	463	77.4
Nicholas	464	77.4
Cabell	488	77.4
Pocahontas	501	77.4
Braxton	502	77.4
Webster	503	77.4
Mercer	511	77.5
Harrison	523	77.5
Kanawha	567	77.6

Putnam	587	77.7
Jefferson	608	77.7
Randolph	612	77.7
Preston	628	77.8
Mineral	705	77.9
Raleigh	724	77.9
Pleasants	745	78.0
Ritchie	746	78.0
Doddridge	747	78.0
Greenbrier	768	78.0
Ohio	772	78.0
Jackson	897	78.2
Wood	941	78.3
Wirt	960	78.4
Calhoun	961	78.4
Roane	962	78.4
Brooke	974	78.4
Wayne	1119	78.6
Monroe	1122	78.6
Summers	1123	78.6
Berkeley	1144	78.7
Morgan	1145	78.7
Marshall	1274	78.9
Upshur	1336	79.0
Marion	1337	79.0
Hancock	1377	79.0
Hampshire	1388	79.1
Hardy	1389	79.1
Wetzel	1445	79.1
Tyler	1446	79.1
Monongalia	1561	79.3
Pendleton	1655	79.5
Grant	1656	79.5
Tucker	1657	79.5
<b>National Average</b>		<b>79.6</b>
<b>Best in the Country</b>		<b>84.5</b>

## Appendix D

### Rankings of Behavior Risk Factors and Health Conditions within West Virginia for Counties in the Focus Area<sup>9</sup>

County	Fair or Poor Health	No Health Insurance	Obesity	Cigarette Smoking	Diabetes	Hyper-tension	High Cholesterol
Boone and Lincoln	5	10	2	5	5	4	4
Fayette	9	11	6	12	18	26	30
Logan	4	5	1	11	10	3	3
McDowell	1	1	8	6	1	2	1
Mingo	2	2	3	2	4	1	19
Wyoming	3	7	18	1	23	6	7

Note: The West Virginia Health Statistics Center groups 31 counties into 12 groups “in order to obtain adequate sample size for analysis.” The best ranking for the state is 36 -- not 55, since these counties are grouped together.

<sup>9</sup> Source: 2004 - 2005 West Virginia Behavioral Risk Factor Survey Report, West Virginia Department of Health and Human Resources, May 2007. Available at <http://www.wvdhhr.org/bph/oehp/hsc/pubs/BRFSS2004and2005/default.htm>. Accessed July 31, 2008.