

How can we save lives—and save money—in St. Louis?

INVEST IN ECONOMIC AND EDUCATIONAL OPPORTUNITY

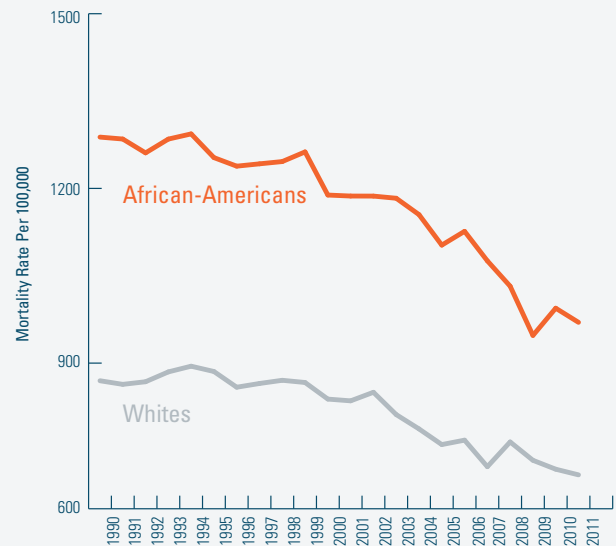
By Jason Purnell, PhD, MPH

August 2013 | Brief 1 of 5

There is growing awareness that the conditions in which people live, learn, work, and play have a strong impact on their health.¹ In fact, policies that address factors like education could have a bigger influence on health than all medical advances combined.² They may also help to prevent early death, giving families and communities more years of life to enjoy.

There is good news. Our community has come together to increase access to health care for its vulnerable citizens, and in the past ten years we've seen improvements in health among St. Louis residents.³ For example, overall death rates have decreased. However, there is still cause for concern because some people bear a greater burden of disease and death. The graph on the right shows that the death rate among African Americans is higher than that of Whites.

Death rates among St. Louis residents of all ages



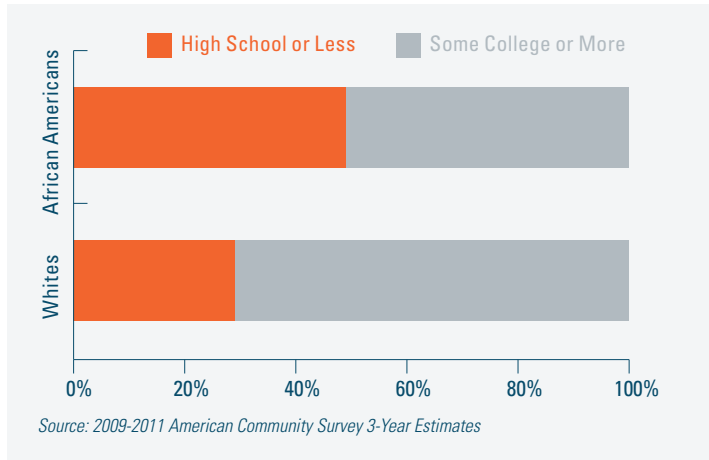
Rates are age-adjusted using the US 2000 standard population.
Source: Death MICA, Missouri Department of Health and Senior Services



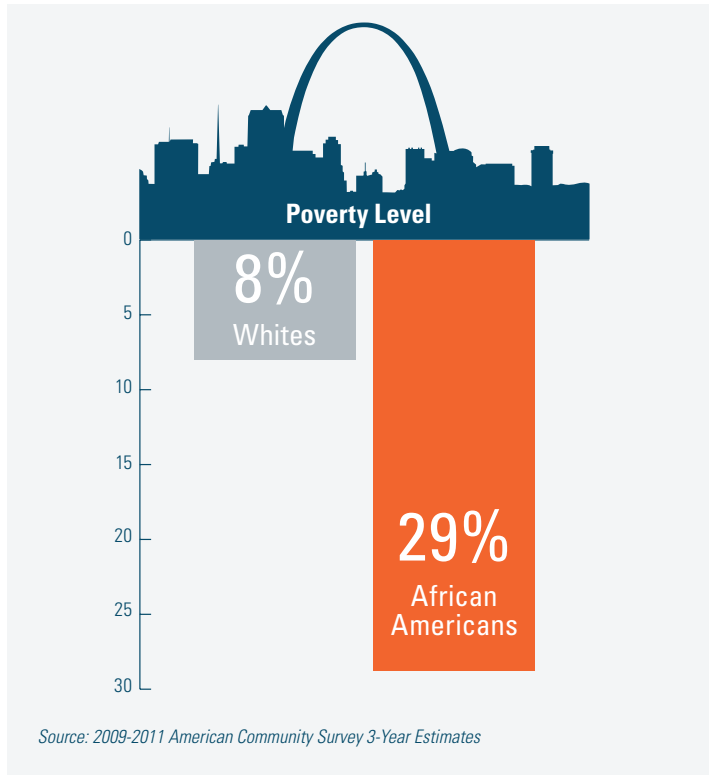
Differences In Education And Poverty

There are also differences in rates of education levels and poverty. But when most people think about health—and the ultimate health outcome of death—they rarely put these differences together. We are used to thinking of the leading causes of death in terms of specific diseases like cancer or heart disease. And we typically think preventing death and disease is a problem for doctors, pills, and medical treatments to solve.

Highest level of education among St. Louis residents 25 and older



Percent of St. Louis residents living below the poverty level



New research methods allow us to estimate the number of deaths that are caused by factors like low levels of education and poverty.⁴ Using data on African Americans from St. Louis City and County, and a formula based on decades of the best research into social factors and mortality, we can estimate that 305 deaths were due to poverty and 263 were due to having less than a high school education in 2011.*

305 DEATHS
DUE TO POVERTY

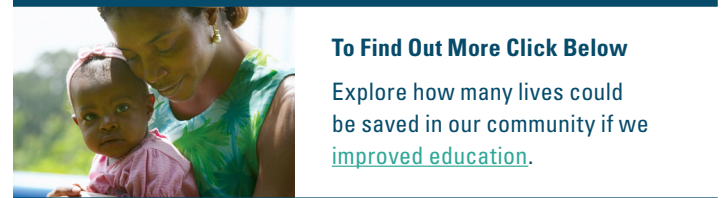
263 DEATHS
DUE TO LESS THAN HIGH SCHOOL EDUCATION

COMBINED THE NUMBER OF DEATHS COULD FILL OVER

7 METROLINK CARS

THE ESTIMATED COST OF THIS LOSS OF LIFE IS APPROXIMATELY

\$4.0 BILLION



To Find Out More Click Below
Explore how many lives could be saved in our community if we [improved education](#).

Early deaths due to limited economic and educational opportunity affect us all. The estimated cost of this loss of life is approximately \$4.0 billion.* This is just part of the cost of failing to effectively invest in human potential, which threatens our global competitiveness and everyone's quality of life.

There are no pills or medical treatments for poverty and lack of education. But there are policies and programs that can improve both. Access to quality medical care is essential to improving the health and well-being of African Americans, but the health sector cannot do it alone. It will require coordinated, regional efforts across multiple sectors, including government, education, nonprofits, and the business community.

Improving educational and economic opportunity is a **POWERFUL HEALTH INTERVENTION.**

Here Are The Steps We Can Take Right Now:

1 Invest in quality early childhood development for all children.

The impact of early childhood investments on educational, economic, and health outcomes is substantial.⁵ Every \$1 invested in early childhood returns \$7 of benefit for society according to the National Institute for Early Childhood Education Research. And in addition to better educational outcomes, children who participate in high quality early childhood programs have better health behaviors and health outcomes as adults than those who do not.⁷

Well-designed programs include:

- > Small classes and qualified teachers
- > Significant time spent on instruction and support that prepares children for school
- > School-family partnerships and a focus on effective parenting
- > An emphasis on social and emotional development
- > A focus on the health and mental health of children and their families

There are already several examples of high quality early childhood programming in St. Louis. For instance, the SouthSide Early Childhood Center is recognized by experts in the field for its integrated and holistic approach to the development of young children and focus on collaboration with families and community partners. Exemplary home visitation programs are offered by Nurses for Newborns, Parents as Teachers, the St. Louis Maternal, Child and Family Health Coalition, and the St. Louis County Department of Health's "Building Blocks" program.

Targeted investments would include:

- > Reversing the nearly \$10 million in cuts to early childhood programs in the state budget
- > Implementing a continuous quality improvement process with accountability measures
- > Relaxing eligibility requirements and improving the level of child care subsidies for low-income families
- > Expanding home visitation services that cover the prenatal through early childhood period.



To Find Out More Click Below

For more information on the power of [early childhood investments](#)

To learn more about [SouthSide Early Childhood Center](#)

2 Help low-to-moderate income families create economic opportunities.

Children who have savings in their names are up to 7 times more likely to attend college.⁶ And growing up in a low-income household can have lasting effects on health well into adulthood.¹

We can encourage families to save money by providing incentives and supports. A great deal of research has already gone into demonstrating that savings programs like Child Development Accounts and Individual Development Accounts can help reduce poverty and give families hope for the future.

A powerful St. Louis example is the Promise Account program that is part of Beyond Housing, Inc.'s 24:1 initiative in the Normandy School District. Through the generosity of a private donor, every kindergartner in the Normandy School District receives \$500 in a college savings account.

Targeted investments would include:

- > Making college savings accounts universally available for children at birth
- > Making financial advice and services easily accessible to families at all income levels

Working together, we can help to improve health and to save lives—

FOR THE SAKE OF ALL.



To Find Out More Click Below

Learn more about [Beyond Housing Inc.'s 24:1 Initiative](#)

Learn about the state of Oklahoma's experimental [savings program for children](#) and research conducted by the Center for Social Development on the [impact the program is already having](#)

Learn more about an innovative approach to providing [financial advice and support](#) to working families

This is the first in a series of five briefs prepared by a team of researchers at Washington University and Saint Louis University. The data and recommendations discussed in the briefs will be explored in-depth in the forthcoming report, "For the Sake of All: A Report on the Health and Well-Being of African Americans in St. Louis."

Next brief: *High School Dropout and Health*

**See [appendix](#) for a detailed description of how these estimates were obtained.*

Resources

1. Braveman P, Egerter S, Williams DR. The social determinants of health: coming of age. *Annu Rev Public Health.* 2011;32:381-398.
2. Woolf SH, Johnson RE, Phillips RL, Jr., Philipsen M. Giving everyone the health of the educated: an examination of whether social change would save more lives than medical advances. *Am J Public Health.* Apr 2007;97(4):679-683.
3. St. Louis Regional Health Commission. Decade review of health status for St. Louis City and County 2000-2010. St. Louis, MO; 2012.
4. Galea S, Tracy M, Hoggatt KJ, Dimaggio C, Karpati A. Estimated deaths attributable to social factors in the United States. *Am J Public Health.* Aug 2011;101(8):1456-1465.
5. Cohen AK, Syme SL. Education: a missed opportunity for public health intervention. *Am J Public Health.* Jun 2013;103(6):997-1001.
6. Elliott W, Beverly SG. The role of savings and wealth in reducing 'wilt' between expectations and college attendance. *Journal of Children & Poverty.* 2011;17(2):21p.
7. Muennig P, Robertson D, Johnson G, Campbell F, Pungello EP, Neidell M. The effect of an early education program on adult health: the Carolina Abecedarian Project randomized controlled trial. *Am J Public Health.* Mar 2011;101(3):512-516.



This project is funded in part by the Missouri Foundation for Health.

Appendix

1. Estimates of the number of deaths attributable to poverty and low levels of education were based on the work of Galea and colleagues (2011). In their paper in the *American Journal of Public Health* they describe the process of arriving at estimates of relative risk for various social factors by completing a meta-analysis that included 24 studies on the association of low levels of education (defined as less than high school) and all-cause mortality and 14 studies on the association of poverty (defined as below the federal poverty line) and all-cause mortality. Data were extracted for two broad age groups for each of these social factors: 25 to 64 years and 65 years or older. The authors then calculated the population-attributable fraction (PAF) for each social factor using the formula:

$$PAF = \frac{p(RR-1)}{p(RR-1)+1}$$

where *RR* is the summary relative risk estimate for mortality derived from the meta-analyses and *p* is the prevalence of the social factor in the US population in 2000. According to Galea et al. (2011), the population-attributable fraction “represents the proportion of all deaths that can be attributed to the social factor (i.e., the proportion of all deaths that would not have occurred in the absence of the social factors” (p. 1461).

For the current analysis, mortality, poverty, and educational attainment data were obtained for residents of St. Louis City and St. Louis County identifying as Black or African American alone according to conventions of the US Census and non-Hispanic Black/African American according to State of Missouri data collection conventions. Mortality data were drawn from the Missouri Department of Health and Senior Services’ Missouri Information for Community Assessment (MICA), Death MICA module for 2011. Poverty and education data are from the American Community Survey (3-year estimates, 2009-2011).

There were 3,101 deaths from all causes among non-Hispanic Black/African American residents of St. Louis City and St. Louis County older than 25 years in 2011. There were 1,244 deaths among those ages 25-64 years and 1,857 deaths among those ages 65 years and older. The Black/African American alone rate of poverty was 23.1% for those 25-64 and 17.5% for those 65+ in the City and County combined. Using the relative risk (*RR*) estimate of 1.75 for poverty among those 25-64 and 1.40 for those 65+, the *PAF* was calculated using the same formula as Galea et al. The result

was 184 deaths attributable to poverty in the 25-64 age group and 121 in the 65+ age group. The Black/African American alone rate of low education was 14.0% for those 25-64 and 34.5% for those 65+. With *RR* estimates of 1.81 for the 25-64 age group and 1.23 for the 65+ age group, the resulting number of attributable deaths were 127 and 137 respectively.

There are several limitations to these estimates that should be noted. First, the underlying studies for the meta-analysis upon which the relative risk estimates are based included racial and ethnic groups other than non-Hispanic Blacks/African Americans (usually Whites) and represented different geographical areas (often nationally representative samples or other geographically specific subsamples). These samples may not be representative of African Americans in the St. Louis region. In addition, the association of poverty and education with all-cause mortality was not directly estimated using local data in this analysis. Estimates of relative risk could be different in this specific geographic region, but the rigor with which the estimates of relative risk were obtained by Galea et al. make them preferable as reasonably reliable approximations of the true association between social factors and mortality. Another limitation, however, is the timeframe during which most of the studies in question were conducted. The meta-analysis included studies that were conducted as early as 1980. Most of the studies were conducted in the 1980s and 1990s, and the assumption is that the association between these social factors and mortality still held in 2011. Finally, it should be noted that poverty and low levels of education are highly correlated with one another, and as Galea et al. note, “deaths attributed to each factor are not necessarily mutually exclusive” (p. 1463). Despite these limitations, these estimates provide a useful approximation of the contribution that poverty and low levels of education make to all-cause mortality for African Americans in St. Louis City and St. Louis County.

2. The estimate of the cost of lives lost due to poverty and low levels of education reflects the “social value” of life, which is the same measure used across disciplinary fields and in benefit-cost analysis of regulatory impacts in public policy. We estimated the cost of lives lost based on the value of a statistical life (VSL) at \$7 million. The VSL concept of value is appropriate here because it reflects the willingness of society to pay for reductions in mortality risks. For further information and examples, see <http://yosemite.epa.gov/ee/epa/eed.nsf/pages/MortalityRiskValuation.html>.