



The Effects of Education on Health

Rubén Hernández-Murillo, *Senior Economist*
Christopher J. Martinek, *Senior Research Associate*

Existing research suggests that more education leads to better, higher-paying jobs. Economists recently found that more education may also lead to healthier behavior, and thus better personal health and longer lives. In the United States, for example, wide disparity exists in the health of individuals with different levels of education. The chart shows the age-adjusted mortality rate (deaths per 100,000 people) for Americans 25 to 64 years of age who attained different levels of education. In 2007, the mortality rates for the three groups were as follows: fewer than 12 years of education, 664.4; 12 years of education, 477.0; and 13 or more years of education, 195.4. In 1997, the disparity was smaller: fewer than 12 years of education, 585.3; 12 years of education, 474.5; and 13 or more years of education, 219.1.

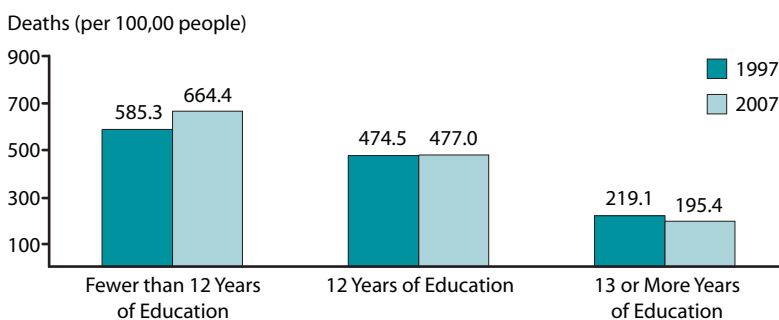
In the United States, wide disparity exists in the health of individuals with different levels of education.

Using the National Health Interview Survey, economists David Cutler and Adriana Lleras-Muney studied education-related health disparities of Americans. The survey's various measures of health include mortality and the incidence of common acute and chronic diseases (e.g., heart conditions, stroke, hypertension, high cholesterol, diabetes, and asthma). The authors found that more-educated people are less likely to die or suffer from these health problems, primarily because they are more likely to engage in healthier behaviors: They exercise more, smoke and drink less, and use seat belts and preventative medicines more often.¹ In 2007, for example, an estimated 9 percent of individuals with a bachelor's degree

or higher smoked, whereas 30 percent of those with a high school diploma or less education smoked.²

Because more education generally leads to higher incomes and increased access to health care, Cutler and Lleras-Muney also evaluated education-related health outcomes relative to income. They found, however, that differences in income account for only about 20 percent of the positive effect of higher education on health-related behaviors.³ As an alternative explanation, the authors propose that education provides individuals with *better access to information* and improves *critical thinking skills*. The authors estimate that cognitive skills account for up to 30 percent of the positive effect of higher education on health-related behaviors. Those with more education seem to better understand the dangers of smoking, drinking, and other unhealthy behaviors. They also seem more likely to (i) be informed about and use new drugs or complex medical procedures and (ii) better understand discharge instructions after emergency room visits. Overall, those with more education tend to make better health-related decisions. ■

Mortality Rates for People 25 to 64 Years of Age by Years of Education



NOTE: The 2007 data cover 26 states that still use the 1989 version of the U.S. Standard Certificate of Death. States that use the 2003 version, which classifies schooling by level rather than years of education, exhibit the same trend.

SOURCE: National Vital Statistics Reports.

¹ Cutler, David M. and Lleras-Muney, Adriana. "Education and Health: Evaluating Theories and Evidence." NBER Working Paper No. 12352, National Bureau of Economic Research, June 2006; www.nber.org/papers/w12352.

² Centers for Disease Control and Prevention. "Health, United States, 2010: With Special Feature on Death and Dying." Table 59, 2011; www.cdc.gov/nchs/data/hus/hus10.pdf.

³ Cutler, David M. and Lleras-Muney, Adriana. "Understanding Differences in Health Behaviors by Education." *Journal of Health Economics*, January 2010, 29(1), pp. 1-28.

Posted on May 2, 2011

Views expressed do not necessarily reflect official positions of the Federal Reserve System.