



Munich Personal RePEc Archive

**Comment on David Cutler and Adriana
Lleras-Muney (2008): “Education and
Health: Evaluating Theories and
Evidence”**

Hlavac, Marek

Georgetown University

February 2011

Online at <https://mpra.ub.uni-muenchen.de/28533/>

MPRA Paper No. 28533, posted 01 Feb 2011 19:32 UTC

Comment on David Cutler and Adriana Lleras-Muney (2008):
“Education and Health: Evaluating Theories and Evidence”

Marek Hlavac¹

Georgetown University

Georgetown Public Policy Institute

February 2011

¹ Candidate, Master of Public Policy (MPP), Georgetown University, Expected 2011
A.B. in Economics, summa cum laude, Princeton University, 2008

ABSTRACT

In a recent research paper, health economists David Cutler and Adriana Lleras-Muney analyze data primarily from the National Health Interview Survey (NHIS), an annual cross-sectional household survey administered by the National Center for Health Statistics (NCHS) at the Centers for Disease Control and Prevention (CDC). They find that higher levels of education are associated with lower adult mortality rates, lower frequencies of self-reported incidence of chronic and acute diseases, better functioning and mental health, as well as with lower reports of lost work days or days spent in bed. In addition, they find that more education is associated with better health behaviors: Better-educated individuals smoke less, engage in less heavy drinking, wear seatbelts more often, and consume more preventive care. This comments discusses selected strengths and weaknesses of Cutler and Lleras-Muney's study.

MAIN TEXT

A large body of research in health economics has documented a positive association between education and health: Across countries, time periods, as well as across a wide variety of health measures, highly educated individuals tend to enjoy better health than those with less education. The observed correlation between education and health, however, does not reveal the direction of the causal effect:

- It could be that *education causes better health*, for instance by expanding individuals' health-related knowledge, by affecting their lifestyle choices, or by improving their ability or willingness to use medical innovations efficiently.
- On the other hand, *health could also cause people to obtain more education*: Children in better health may be able to attend school more regularly, or to perform better.
- Finally, there could be *other factors that may lead individuals to become both more educated, and to take better care of their health*, such as their family or socio-economic background, or differences in how much they value their future well-being.

These three possibilities differ in their implications for public policy: If education leads to better health outcomes,² policy-makers may wish to consider implementing policies that encourage people to obtain more education. If, however, education is instead a result of better health, or if both health and education are caused by third factors, policies to increase educational attainment will not cause any improvement in the population's health status.

² And, of course, if individuals do not already take the health benefits of education fully into account in their educational investment decisions.

In a recent research paper,³ health economists David Cutler and Adriana Lleras-Muney analyze data primarily from the National Health Interview Survey (NHIS), an annual cross-sectional household survey administered by the National Center for Health Statistics (NCHS) at the Centers for Disease Control and Prevention (CDC). They find that higher levels of education are associated with lower adult mortality rates, lower frequencies of self-reported incidence of chronic and acute diseases, better functioning and mental health, as well as with lower reports of lost work days or days spent in bed. In addition, they find that more education is associated with better health behaviors: Better-educated individuals smoke less, engage in less heavy drinking, wear seatbelts more often, and consume more preventive care. The authors find that an additional year of education increases life expectancy by 0.18-0.6 years, which – they argue – translates into \$13,500-\$44,000 in present value.

Cutler and Lleras-Muney's study has several important strengths: The authors look not only at aggregate statistics, such as adult mortality statistics, but also consider a variety of specific health conditions and behaviors. The result is a particularly rich analysis with results that are robust to various definitions of good health status and laudable health behaviors.

Throughout their discussion, furthermore, Cutler and Lleras-Muney are careful to distinguish between statistical and economic significance: Not content with only reporting a statistically significant relationship, they also report how much change in health status four additional years of education are associated with, compared to an appropriate baseline. They write, for instance, that “the magnitude of 4 years of schooling is roughly comparable in size to being female or being African American. These are not trivial effects.”

³ Cutler, David and Adriana Lleras-Muney. (2008). “Education and Health: Evaluating Theories and Evidence.” Published in *Making Americans Healthier: Social and Economics Policy as Health Policy*, Robert F. Schoeni, James S. House, George Kaplan and Harold Pollack, Eds., New York: Russell Sage Foundation.

In addition to presenting the results of their empirical analysis, the authors offer a comprehensive discussion of possible mechanisms through which education and health may be connected. These include obvious channels, such as income, occupational choice or the role of better health-related information, but also more nuanced mechanisms, such as the role of social networks, differential time discounting, or one's relative rank in society. They argue that findings in the research literature suggest some causal effect of education on health.

The study, however, also exhibits some shortcomings: In their mortality analyses, the authors rely on data from the National Death Index (NDI), a nation-wide database of information from death certificates. The mortality measure is "a binary indicator of death from any cause." The inclusion of death from "any cause," however, creates the risk of confounding fatalities that are related to an individual's health status with those that are not. If less educated people are more likely to suffer deaths related to, say, violent crime, Cutler and Lleras-Muney's results would overstate the positive association between health and education. The authors should consider limiting their measure of adult mortality to health-related deaths.

A more serious drawback of Cutler and Lleras-Muney's analysis concerns their use of a cross-sectional data set: The National Health Interview Survey (NHIS) is a cross-sectional study, and as such does not allow researchers to account for the influence of time-invariant individual-level characteristics, such as underlying 'ability', some hereditary characteristics, or family upbringing. As a result, the authors are unable to fully control for unobserved factors that may be acting both on education and on individuals' health status. The authors would, therefore, be well-

advised to try and replicate their analysis using a longitudinal data set, such as the National Longitudinal Survey of Youth (NLSY).⁴

All in all, Cutler and Lleras-Muney's study is a worthy addition to the research literature. Their finding that education likely causes some improvements in health status means that policy-makers should consider implementing measures that promote education. Further research is needed to establish a causal link between education and health more convincingly.

⁴ The National Longitudinal Survey of Youth do not include detailed information on the self-reported prevalence of specific diseases, conditions or health behaviors among the respondents. The researchers would therefore have to restrict their analysis to the variables – mostly of a general nature – included in the survey.

REFERENCES

Cutler, David and Adriana Lleras-Muney. (2008). "Education and Health: Evaluating Theories and Evidence." Published in *Making Americans Healthier: Social and Economics Policy as Health Policy*, Robert F. Schoeni, James S. House, George Kaplan and Harold Pollack, Eds., New York: Russell Sage Foundation.