

HEALTH PROBLEMS LINKED TO DIFFERENCES IN EDUCATIONAL ATTAINMENT

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Preface. *This report explores some of the connections between selected health measures and educational attainment, using data from the 2007 round of the National Health Interview Survey (NHIS). The NHIS is a health survey conducted under the auspices of the Centers for Disease Control and Prevention. It provides national estimates for selected chronic conditions, functional limitations, health behaviors, and other measures for the U.S. civilian noninstitutionalized population of adults.¹ Children, the military, and people living in institutions such as nursing homes or prisons, thus, were excluded. The data on educational attainment refer to people aged 25 and above, most of whom have completed their formal education.*

Three primary factors have been used to measure socioeconomic status in adulthood: education, occupation, and income. Of these, education is typically used in the presentation of health data. There are several reasons for this preference. First, education is more completely reported by survey respondents. Second, information on educational attainment is available for all adults, including those not in the labor force. Third, for most people, education remains fixed after age 25, unlike income or occupation, which often change over time. Also, after age 25, education usually is not influenced by health, although health continues to be influenced by education.²

Health problems and lower educational attainment go hand in hand. In 2007, for example, 28% of people with less than a high school education reported that their overall health was fair or poor. In sharp contrast, only 6% of those with a bachelor's or higher degree made that claim. The fractions reporting fair or poor health were between these extremes for people with a high school diploma/GED (16%) and those with some college experience but not a bachelor's degree (13%).³

Health advantages for the better educated hold even within age and income categories. For example, low-income bachelor's degree holders were more likely than high school graduates *at any income level* to report their health as very good or excellent. Likewise, among people aged 55 to 64, 68% of four-year college graduates reported very good or excellent health, compared to only 28% of those who failed to complete high school. People over 65 with a bachelor's degree were more likely than high school graduates *of any age* to report very good or excellent health.⁴

Illnesses and disabilities present from birth and those that occur during childhood and adolescence, especially mental deficiencies, tend to limit educational attainment. Previous

research has shown that nondisabled young adults (ages 18 to 34) in Mississippi were substantially more likely to be enrolled in school in 2000 – 25.6% versus 18.3% for their disabled counterparts. Among disabled young adults not currently enrolled in school, two out of three had earned a high school diploma or GED, compared to four out of five of the nondisabled. Disabled young adults were far less likely to be enrolled in college or to have earned a bachelor's degree than their nondisabled counterparts.⁵ Thus chronic disability early in life limits educational attainment. In turn, educational deficits contribute to lifelong difficulties in getting good jobs and earning a good income.

The average Mississippian is less healthy by most measures than the average American. Mississippi leads the nation, for example, in such serious health problems as Type 2 diabetes, hypertension, and cardiovascular disease. Hence the data in this report, if available for Mississippi, would show higher rates than the tables indicate for all Americans.

Chronic Diseases and Conditions

Chronic diseases and conditions are long-lasting health problems that, once contracted,

Table 1. **PERCENTAGE OF CIVILIAN NONINSTITUTIONALIZED POPULATION AGED 25 AND OVER WITH SELECTED HEALTH PROBLEMS, BY EDUCATIONAL ATTAINMENT, UNITED STATES, 2007**

Health Problem	Less than High School Diploma	High School Diploma/ GED	Some College	Bachelor's Degree or More
Coronary heart disease	9.7	6.7	7.1	5.6
Hypertension	29.7	26.9	27.2	22.2
Stroke	4.0	2.9	2.7	1.9
Emphysema	3.8	2.1	1.8	0.6
Chronic Bronchitis	4.9	4.1	4.1	2.0
Diabetes	13.2	9.2	7.8	6.4
Ulcers	9.2	6.7	8.0	5.3
Arthritis	25.0	23.8	25.5	19.3
Hearing Trouble	18.0	17.3	17.6	13.6
Vision Trouble	13.4	10.9	11.3	7.3
No Natural Teeth	15.3	9.6	7.2	3.2

Sources: J.R. Pleis and J.W. Lucas, *Summary Health Statistics for U.S. Adults: National Health Interview Survey, 2007*, National Center for Health Statistics, Vital Health Stat 10 (240), 2009.

do not go away. In fact, they tend to get worse as a person ages. They include such problems as heart disease, hypertension, diabetes, and arthritis and “are among the most costly and common of all health conditions in the United States.” Many people suffer simultaneously from more than one chronic illness. Managing chronic illness, especially for those with multiple chronic conditions, is often complicated, time-consuming, and expensive.⁶

Table 1 contains data on the prevalence of serious chronic conditions by educational attainment. With minor exceptions (hypertension, for example), prevalence tends to fall as educational attainment rises. Clearly, such health problems diminish quality of life, burden the health care system, and impact the productivity of the work force. Diabetes, for instance, is the leading cause of blindness among working-age adults.⁷ Serious vision impairments affect one’s ability to work and conduct basic activities of daily living. One of many possible examples of the co-existence of

multiple chronic conditions in the same individual is that diabetes is both a major cause of blindness and a major contributor to heart disease.

Chronic diseases often lead to activity limitations. People with arthritis or heart disease, for example, may develop mobility problems that seriously limit their daily lives and ability to hold down a job. Arthritis is the leading cause of disability, chronic pain, and personal care difficulties in the United States, and sufferers have a low rate of labor force participation. It trails only heart disease as a cause of work disability.⁸ Such interactions between chronic disease and activity limitations should be borne in mind when interpreting the data in Table 2.

Activity Limitations

Limitation of activity refers to difficulty in performing, or the inability to perform, various physical movements of daily living without the assistance of another person or the use of special equipment.⁹ People with

Table 2. **PERCENTAGE OF CIVILIAN NONINSTITUTIONALIZED POPULATION AGED 25 AND OVER WITH SERIOUS DIFFICULTY DOING, OR UNABLE TO DO, SELECTED ACTIVITIES OF DAILY LIVING, BY EDUCATIONAL ATTAINMENT, UNITED STATES, 2007**

Activity	Less than High School Diploma	High School Diploma/ GED	Some College	Bachelor's Degree or More
Any physical difficulty	25.1	17.7	17.1	9.1
Walk a quarter of a mile	13.8	9.1	7.9	3.7
Climb up 10 steps without resting	11.2	6.5	5.8	2.5
Stand for 2 hours	15.6	10.3	10.1	5.2
Sit for 2 hours	6.7	3.9	3.8	1.2
Stoop, bend, or kneel	14.7	11.1	10.6	4.8
Reach over head	5.6	2.7	2.9	1.1
Grasp or handle small objects	3.4	1.9	1.8	0.7
Lift or carry 10 pounds	8.3	4.6	4.2	2.2
Push or pull large objects	12.5	7.6	6.9	3.4

Sources: J.R. Pleis and J.W. Lucas, *Summary Health Statistics for U.S. Adults: National Health Interview Survey, 2007*, National Center for Health Statistics, Vital Health Stat 10 (240), 2009.

activity limitations report more pain, depression, anxiety, and trouble sleeping than those not reporting activity limitations.¹⁰

Table 2 shows 2007 data on the extent of activity limitations for Americans age 25 and over by educational attainment. Recall that institutionalized persons, whose health status is typically worse than that of people living at home, were excluded from the survey.

The prevalence of activity limitations by highest level of education varies widely. Among people who never completed high school, for example, one in four experienced serious difficulty or was unable to do at least one of the everyday activities listed in the table. For people with a bachelor's or higher degree, in contrast, the ratio was less than one in ten. For intermediate levels of education – high school diploma/GED and some college – about one in six people suffered from serious activity limitations.

When it comes to specific impairments, such as finding it very difficult to sit or stand

for two hours, the education differentials consistently favored the better educated. Repeatedly, those lacking a high school diploma fared the worst, whereas bachelor's degree recipients fared best.

Serious impacts on labor force participation and earnings can be surmised from the data in Table 2. We know that high school dropouts face serious obstacles in today's highly competitive job market. When these educational shortcomings are found in combination with health limitations on everyday activities, individuals are doubly disadvantaged in the workplace. Those who cannot walk, stand, bend, reach, or even sit for two hours without difficulty must obviously struggle hard to find and keep a job.

Work, schooling, and health problems may interact in other ways. Among people not disabled in childhood, the less educated are more likely to become disabled as adults. This is because they tend to hold riskier and more physically demanding jobs, as con-

Table 3. **PERCENTAGE OF CIVILIAN NONINSTITUTIONALIZED POPULATION AGED 25 AND OVER REPORTING SELECTED BEHAVIORAL RISK FACTORS, BY EDUCATIONAL ATTAINMENT, UNITED STATES, 2007**

Behavioral Risk Factor	Less than High School Diploma	High School Diploma/GED	Some College	Bachelor's Degree or More
Everyday smoker	22.0	22.3	15.9	5.8
Obese	34.4	31.1	29.8	18.9
No vigorous leisure-time physical activity	83.6	72.7	61.3	46.4
No usual place of health care	22.6	15.4	12.1	9.4

Sources: J.R. Pleis and J.W. Lucas, *Summary Health Statistics for U.S. Adults: National Health Interview Survey, 2007*, National Center for Health Statistics, Vital Health Stat 10 (240), 2009.

struction laborers or heavy equipment operators, for example, which are by their nature more hazardous to health. The educationally disadvantaged, especially those who are functionally illiterate or mentally retarded, may face higher risks of occupational injuries because they are less attentive to safety precautions or less compliant with safety instructions. Higher levels of education, on the other hand, tend to be associated with safer, less physically demanding “desk” jobs.

Behavioral Risk Factors

Behavioral risk factors refer to personal habits that substantially increase a person’s chance of developing a serious chronic disease or long-term disability. Behaviors such as overeating, smoking, and failure to exercise explain much of the prevalence of chronic illnesses shown in Table 1 and the activity limitations listed in Table 2.

Table 3 shows national data from the 2007 NHIS on four of the most serious behavioral risk factors by educational attainment. The prevalence of smoking, obesity, and lack of physical activity all decline dramatically as educational level rises. Differences in the

prevalence of behavioral risk factors by educational attainment are consistent with the education differences in chronic diseases and disabilities. The nation’s current “epidemic” of diabetes, for instance, is largely a product of obesity and lack of exercise, whereas heart disease is one highly predictable result of a smoking habit.¹¹

Some explanation is needed for the inclusion of “no usual place of health care” as a behavioral risk factor. Lacking a medical “home” often means seeing a different practitioner on each visit, with consequence implications for continuity of care, including following up chronic problems to prevent complications and worsening of the condition. In contrast, a recent review of forty studies found that “having a continuous healing relationship with a personal physician” significantly improved health outcomes.¹²

Policy Implications and Conclusion

People who invest in their own human capital by staying in school demonstrate their ability to defer immediate gratification for a more secure future, with prospects for a better job, better on-the-job benefits (such as health insurance), and higher earnings. Hence

better educated people tend to have more resources than their less educated counterparts.

Moreover, *because* they are more educated, they tend to use their resources more efficiently in the pursuit of better health. For example, they will spend money on fruits and vegetables in the grocery store, instead of cigarettes and beer. They will purchase a safer car, always fasten their seatbelt, and never drive “under the influence.” They will seek to prevent illness and disability, see a doctor early if symptoms warrant, and follow medical advice. They will apply these habits to their children. It is worth noting that such investments in health may not entail monetary costs and may actually save money, in both the short term and the long term. It costs nothing, for example, to eat less, smoke less or not at all, fasten a seatbelt, or take a brisk walk.

Individuals can do much, at little or no cost, to invest in their own and their family’s health. In the workplace, businesses and industries can enhance safety programs, maintain equipment, educate workers to minimize accidents on the job, and offer healthy choices in the cafeteria. Screening programs, disease prevention programs, educational campaigns, and early treatment of such problems as obesity and hypertension can prevent or postpone worse problems, such as stroke and heart disease. With concerted effort, such steps can simultaneously reduce the need for expensive health services, use scarce resources more efficiently, create a healthier workforce, and enhance the quality of life in Mississippi.

Notes

1. J. R. Pleis and J. W. Lucas, *Summary Health Statistics for U.S. Adults: National Health Interview Survey, 2007*, National Center for Health Statistics, Vital Health Stat 10 (240), 2009, p. 1.
2. U.S. Department of Health and Human Services, *Tracking Healthy People 2010* Washington, D.C.: U.S. Government Printing Office, November 2002), p. A-20.
3. Pleis and Lucas, *op. cit.*, p. 61.
4. Sandy Baum and Jennifer Ma, “Education Pays: The Benefits of Higher Education for Individuals and Society,” College Board Trends in Higher Education Series, 2007.
5. Barbara J. Logue, “Education and Health,” *Mississippi’s Business*, Vol. 61, No. 4, April, 2003.
6. Carolyn M. Clancy, “Finding Your Way: New Hope for Treating Chronic Disease,” *AARP Bulletin Today*, September 23, 2009.
7. *Ibid.*
8. U.S. Department of Health and Human Services, *op. cit.*
9. *Ibid.*
10. Pleis and Lucas, *op. cit.*, p. 115.
11. U.S. Department of Health and Human Services, *op. cit.*
12. *Ibid.*
13. Jane E. Brody, “A Personal, Coordinated Approach to Care,” *New York Times*, June 23, 2009.