

November, 2001

Economic Status and Health in Childhood: The Origins of the Gradient

Anne Case, Darren Lubotsky, and Christina Paxson

The disadvantages of low income for children are numerous, and the ramifications can be enduring. Anne Case, Darren Lubotsky, and Christina Paxson, in their Center for Health and Wellbeing working paper **Economic Status and Health in Childhood**, find that not only do poor children suffer generally poorer health than higher-income children, but that the adverse health effects accumulate over childhood; that is, the disparity in health between income brackets, even among children with similar chronic conditions, widens with age. As a result, children from poor households enter adulthood in poorer general health and with more serious chronic conditions than children in higher-income families.

Findings

Case, Lubotsky, and Paxson start by looking at the relationship between income and parents' reports of their child's health. They find that children from lower-income families are, on average, in worse health than children from higher-income families. The income "gradient" in health status appears at all income levels; upper-income children do better than middle-income children, and middle-income children do better than lower-income children. Poorer children spend more days in bed, miss more days of school owing to illness, and experience more episodes of hospitalization.

These results are not because higher-income parents tend to have more education. Income continues to be protective of health even after controlling for parental education, although education itself is also associated with better health. Another possible explanation for these results—that poorer parents are more likely to report their children to be in poor health even if health is not actually worse—is ruled out because doctors also reported poorer children to be in worse health, on average.

The authors also find that the disparities in health between wealthier and poorer children become more pronounced with age. Even after controlling for parents' education, a doubling of household income increases the probability by 4% that a child ages 0–3 is in excellent or very good health. For children ages 4–8, the probability of good health increases by 5%; for children ages 9–12, the probability increases by 6%; and for children ages 13–17, it increases 7% when income is doubled. The increasingly stronger association between health and income carries into adulthood.

To better understand the link between income and health, Case, Lubotsky, and Paxson focus on the lasting effects of chronic conditions, such as asthma, respiratory conditions, kidney disease, heart conditions, diabetes, digestive disorders, and mental retardation. Some conditions, such as digestive disorders, hearing problems, heart conditions, and mental retardation, are more prevalent at lower incomes. Other conditions are equally prevalent at varying income levels, and a few (such as hay fever) are more likely for wealthier children. However, the effects of chronic conditions on health are consistently more severe for poorer children. Poorer children with chronic conditions have

poorer health, spend more days in bed, and have more hospitalizations than do than higher-income children with the same conditions. For example, poor children with asthma (e.g., those at the 25th percentile of income) spend 5.6 more days in bed per year, while higher-income children with asthma (75th percentile) spend 3.8 more days in bed compared with children in the same income brackets without asthma.

Finally, the authors explore what others have suggested might be important: the timing of income. Does rising household income in early childhood have more beneficial effects than income received in later years? The authors find no difference in health on the timing of income. They find that the greater the long-term average family income, the better the health of the child, and this effect grows progressively over the age span.

Why do poorer children fare worse? The mechanisms at work are still poorly understood. The authors find that simple genetic stories, in which parents who are in poor health have less healthy children and earn less, do not account for the results. Nor does it appear that access to health insurance is an important factor.

Policy Implications

A family's long-term income has a powerful influence on children's health. Greater income results in greater protection from chronic conditions and helps stem the deterioration of health as children age.

In addition to the direct welfare and financial costs of illness, poor childhood health stymies the human capital needed in the workforce. Less healthy children spend more time in bed and less time at school, and this effect is more pronounced for lower-income children. Children from lower income backgrounds enter adulthood with poorer health and less education. Whether this affects adult earnings, leading to an adulthood of poor health and low income, is yet unanswered.

Data

The authors use data from four sources: the 1986-1995 National Health Interview Survey (NHIS); the 1988 child health supplement to the NHIS; the Panel Study of Income Dynamics (PSID) and its 1997 Child Development Supplement; and the National Health and Nutrition Examination Survey (NHANES) conducted between 1988 and 1994. The NHIS has the advantage of large sample sizes, which is critical in analyzing conditions that are relatively rare. The PSID, a panel study, allows the researchers to follow household income across time. Children in the NHIS ranged in age from 0 to 17, and those in the PSID from 0–12.