Survival of the Richest…?

…Or survival of the smartest? Ali Muriel, Research Economist at the Institute for Fiscal Studies, looks at the unusual economics of health and longevity.

Start with some facts which may sound stark, but probably won’t surprise you: rich people live longer than poor people. Lawyers live longer than builders. University graduates live longer than school dropouts. In country after country, year after year, medical studies consistently find that the people with the longest, healthiest lives tend to be those with more education, higher incomes and higher status jobs. As Figure 1 shows, in England & Wales the most skilled professionals (doctors, lawyers etc.) can expect to live up to seven years longer than their less skilled compatriots.

**Figure 1 Manual workers die earlier: life expectancy at birth, by social class and sex, England & Wales 1997-99**

And this pattern isn’t just seen in mortality – it’s evident across a range of health conditions from diabetes to heart attacks. Figure 2 shows the patterns of illness among middle aged men in England, uncovered by a team of researchers from the IFS, RAND and UCL, using detailed new data from the English Longitudinal Study of Ageing. For every condition in the chart, those with lower incomes are more likely to suffer.
Figure 2  *Poorer means sicker:* health outcomes by income level in England (men 55–64 years old)

![Health outcomes by income level in England](image)


But the interesting (and surprisingly difficult) question is: why? What is driving this yawning health gap between people of higher and lower socioeconomic status?

You might think the answer is obvious – richer people can afford better healthcare (and more of it) than the poor. But the consensus among researchers is that this explanation simply isn’t adequate. If access to healthcare was all that mattered, then the creation of Britain’s National Health Service in 1948 – offering free healthcare even to the poor – should have made the health gap between rich and poor smaller. In fact, according to an Office for National Statistics report, the gap in mortality widened – so much so that “by the early 1970’s it was wider than it had been in the early part of the [20th] Century, both in absolute and relative terms.”

Even more intriguingly, two famous surveys looked at the health of British civil servants (the ‘Whitehall I’ and ‘Whitehall II’ Studies, collected 20 years apart), from the highest status advisors to the lowliest messengers. These are people who worked in the same offices, with stable jobs, and the same access to free medical care – none of them truly ‘poor’ in the traditional sense. Yet even among this tightly-defined group, steep health inequalities were found between the higher and lower-status workers. Workers with higher grades consistently lived longer than their lower grade colleagues. More puzzling still, this gap did not shrink in the 20 years between Whitehall I (collected in 1967) and Whitehall II (1985), despite the millions poured into healthcare by successive governments. If anything, the gap had actually widened.

This all suggests that access to medical care is not the whole story, but still leaves us none the wiser about which aspects of wealth or status really matter for health. This is the question which researchers of all stripes – epidemiologists, sociologists, economists – have struggled to answer for decades. The problem is that higher socioeconomic status brings a whole bundle of benefits, all of which might improve health. High status people are likely to be better educated, better informed about healthcare, have more money to spend on gym membership, have less monotonous jobs, they’re less likely to smoke, less likely to lead a sedentary (‘couch-potato’) lifestyle, and so on and so forth. How can we disentangle which of these many aspects of ‘high status’ really matter for people’s health?
The answer is not just of academic interest – it’s crucial for policymakers as well. Suppose the government starts redistributing income from rich to poor, arguing that people with higher incomes have better health. It may be that it’s really education that matters for health, not financial wealth or income. In which case the government’s policy may have far less effect than expected. Redistribution may be a sensible policy for other reasons, but not for improving health.

To make matters even worse, we have to worry about feedback. So far we’ve only talked about how wealth might affect health, but causation could easily go the other way, too: your health could affect your wealth. If an illness forces you to leave your job, cut down your hours, or spend money on expensive therapies, that’s likely to leave you poorer. So you might be poor because you’re sick, or sick because you’re poor, and most data won’t tell us anything one way or the other.

This is where an economic approach can be useful – and where economists start trampling into a debate traditionally dominated by epidemiologists, sociologists and doctors. Problems of correlation and feedback are what economists deal with all the time, usually without the luxury of controlled experiments. In questions from development economics (does democracy cause economic growth?) to education (does increased education cause higher earnings?), disentangling causation from correlation is what many econometric tools are designed for.

In order to look at the true ‘effect’ of socioeconomic status on health, we need to find changes in socioeconomic status which weren’t caused by health. This is what economists refer to as ‘exogenous variation’ – the holy grail of econometric research. Finding such variation would allow us to peer through the tangle of correlation and feedback, and start to unpick exactly what it is about socioeconomic status that matters for health.

Jim Smith, a health economist at RAND, used the stock market surge seen in the United States in the 1990’s as exactly such a source of variation. His argument is deceptively simple: shareholders in the 1990’s saw large increases in their wealth which were most likely not caused by their health. What’s more, the rocketing share prices were so startling that it’s unlikely people anticipated them – so they probably didn’t take up smoking in, say, the 1980’s, in anticipation that their Yahoo shares would pay the medical bills. If it’s really money that matters for health, then increases in stock market wealth should be associated with better health in the future.

Smith’s results are striking: among the group he studies, money simply doesn’t seem to matter much for health. Whether he looks at family income, household wealth, or stock market wealth – the correlation with health is either weak or non-existent. By contrast, education – an aspect of status not affected by the stock market gains – is consistently and strongly correlated with better health. It appears to be schooling, not money, which staves off sickness. Smith acknowledges that there are limitations to this approach – people who own shares are usually reasonably well off – but it’s a start.

Further evidence comes from the Princeton economist Adriana Lleras-Muney. She found another source of ‘exogenous variation’ which casts light on the problem - changes in education which weren’t caused by wealth. Normally education and wealth are tightly bound together – children of wealthier parents are much more likely to stay in school, and go on to university. So we observe correlations between education and health, but again we can’t be sure what’s causing what.

Lleras-Muney pointed out that, at the dawn of the 20th Century, American states started passing laws forcing children to stay in school longer. If education really
makes a difference to mortality, then states which forced children to stay in school longer ought to have seen increases in life expectancy. What’s more, these laws applied to all children – rich and poor – so we can observe a truly ‘causal’ link between education and mortality.

Her results caused a quite a stir. She found that an extra year of education could be associated with increased life expectancy of as much as 1.7 years – a larger effect than most researchers had found before. Since many developing countries today have average education levels similar to those in America in the 1900’s (about 9 years), her results suggest that “aggressive education policies could dramatically increase adult longevity in such countries.”

All this research still leaves open some fascinating questions: which aspects of education matter for health? Is it that well-educated people know more about their health? Are they better at following instructions from their doctors? Do they just plan ahead more effectively? These are the sorts of questions which health economists and others are scrambling to answer – always on the look out for those nuggets of exogenous variation to work out what’s really causing what.

For now, though, a clear picture is starting to emerge from this literature. As a recent New York Times article put it, health economists may have uncovered “the surprising secret of a long life: stay in school.”