Economics focus

Health and wealth

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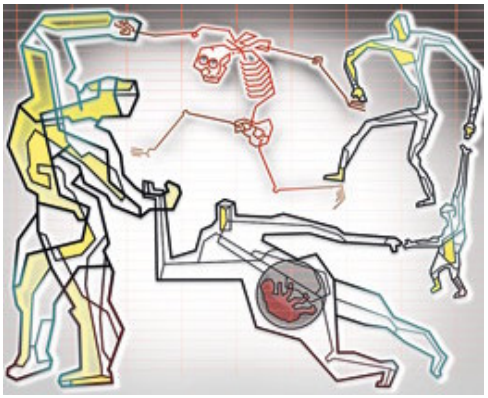
Improved health does not always make countries richer

Illustration by Jac Depczyk



JEFFREY SACHS, a development economist, writes in his book "The End of Poverty" of a telling phrase by Gro Harlem Brundtland, then the director-general of the World Health Organisation (WHO). "If you want to get someone's attention about the health crises in Africa, 'show them the money'," she once remarked to him. This is something that governments and international agencies have long known: emphasising that an idea is good for economic growth makes it easier to sell. The WHO has used the same argument to press for more investment in health.

The link between health and income seems pretty uncontroversial. After all, healthy people can work longer and harder than sick people. Healthier children are likely to stay in school longer and learn more, earning more when they enter the workforce. Even across countries the relationship seems clear: those with better health are generally richer, and those that improve their citizens' health grow faster. So the conclusions of two recent papers that improving life expectancy at birth (a common indicator of better health) can depress income per head for as long as two generations may come as a shock.

Correlation or causation?

Daron Acemoglu and Simon Johnson, both of the Massachusetts Institute of Technology (Mr Johnson is a former chief economist of the IMF), are sceptical* about the notion that healthier countries are richer, because it is not clear where the causality lies: countries with higher incomes may simply spend more on health. To investigate, they needed to study health improvements that were not driven by economic growth in the countries concerned. The expansion of the international public-health system after 1940, the researchers found, fitted the bill.

Beginning in the 1940s, several medical innovations involving penicillin, streptomycin and DDT made it easier to treat diseases—such as tuberculosis, malaria and yellow fever—that disproportionately affected people in developing countries. Because these ideas originated in the rich world and were spread by organisations such as the WHO, any improvements in health they led to would have been unconnected with prior improvements in the economic circumstances of poor countries.

This international revolution in public health did lead to substantial increases in life expectancy in poor countries by the 1950s. However, the researchers found that income per head actually declined when life expectancy went up and did not recover for up to an astonishing 60 years.

The reason was that increased life expectancy led to a higher population using a limited stock of things like land and capital, thus depressing income per person. Over time, reduced fertility, more investment and the entrepreneurial benefits of having more people could reverse some of this, but the data suggested that reductions in fertility in particular took a long time.

Researchers at Brown University reached a similar conclusion†. They used estimates of how various health improvements affected different economic variables, such as schooling, and how schooling in turn affected

adult wages, in a model of the economy to work out the broader impact of an increase in life expectancy. Their results looked forward and confirmed what Messrs Acemoglu and Johnson had found by looking back: increased population would more than wipe out any productivity benefits of better health. For the first 30 years after an increase in life expectancy from 40 to 60, income per person would be lower than it would have been if life expectancy had not improved.

Hoyt Bleakley of the University of Chicago thinks‡ these results may be too pessimistic. He argues that the Malthusian spectre of diminishing returns as more people crowd on to the same plot of farm land is less relevant in a fast-urbanising developing world, as well as in one more open to trade and capital flows.

Mr Bleakley also argues that focusing on life expectancy may miss the point. Some health improvements may not lead to a longer life, but may nonetheless make people more productive. Hookworm infection, whose eradication from the American South Mr Bleakley has studied, is a case in point. Getting rid of hookworm disease made children quicker learners in school, and increased their incomes when they started working. However, it did not increase life expectancy since the infection was not fatal and so did not lead to a rise in population, which could have prevented individual benefits from carrying over to the economy as a whole. Policies that improve health without affecting the length of life may well be the ones that have a bigger economic pay-off, and a focus on life expectancy may miss this.

Some of Mr Bleakley's other work points in this direction. Studying the impact of the eradication of malaria in Colombia, he noted that parts of the country were affected by a species of the malarial parasite called *Plasmodium vivax*, which led to very poor health but was rarely fatal. The more lethal version, *P. falciparum*, affected other areas. He found that eliminating *P. vivax* led to significant gains in human capital and income; eliminating *P. falciparum* did not.

So even if the researchers at Brown and MIT are correct that increasing life expectancy does not quickly increase income per head, particular health improvements may well do so. Meanwhile, the lesson is that careful analysis should precede any sweeping statements about the economic benefits of specific policies. It may be best to make a case for improving health because it is a good thing in itself, rather than on the basis of presumed economic benefits that may not appear for generations.

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* "Disease and Development: The Effect of Life Expectancy on Economic Growth".
†"When Does Improving Health Raise GDP?" By Qamurul Ashraf, Ashley Lester and David Weil.
‡"Comments on Acemoglu and Johnson (2006)"; and "Comments on Ashraf, Lester and Weil (2008)".

Links to the References given in the Footnote on page 2:

Disease and Development: The Effect of Life Expectancy on Economic Growth (National Bureau of Economic Research, 2006)*
http://qed.econ.queensu.ca/pub/faculty/lloyd-ellis/econ835/readings/acemogluhealth.pdf

When Does Improving Health Raise GDP? (Brown University, 2008)
http://www.brown.edu/Departments/Economics/Papers/2008/2008-7_paper.pdf

Disease and Development: Comments on Acemoglu and Johnson (2006) (University of Chicago, 2006)
http://home.uchicago.edu/~bleakley/Bleakley_Comments_Acemoglu_Johnson.pdf

When Does Improving Health Raise GDP? Comments on Ashraf, Lester, and Weil (2008) (NBER, 2008)
http://www.nber.org/chapters/c7279.pdf

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*__See also:__ Disease and Development in Historical Perspective (*Journal of the European Economic Association*, 2003)
http://www.people.fas.harvard.edu/~jrobins/researchpapers/publishedpapers/jr_diseasedev.pdf