offices and headquarters closer together, so that all parts of the organisation share a core mission and communicate common information, with a particular focus on getting information from the field to Geneva. To get there, a re-read of the WHO constitution might be in order—there is room within it for regions to be more directly linked to the main part of WHO than they currently are.

Global health has never enjoyed a higher profile on the world stage, and WHO must figure out how to take the most constructive role possible, within the bounds of its institutional constraints. We need an international health agency that leads, focused on providing strong, uncompromised technical expertise to improve the health of poor people and fortify the international community's ability to confront global health risks. Good leadership, bolstered by support from the many outsiders who want WHO to succeed, can do just that.

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Health economics

Investment in health could be good for Europe's economies

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A sick population is an expensive population. But a new European report shows the benefits of improved public health are likely to extend beyond reduced healthcare costs

Five years ago, the Commission on Macroeconomics and Health concluded that ill health was contributing to the low level of economic growth in poor countries.[1] The landmark report showed that investment in some basic health interventions would lead to substantial economic growth.[1] However, the commission did not look at rich countries, where the situation is quite different. Production in poor countries—for example, from agriculture and mining—is much more obviously affected by physical wellbeing. In addition, the measures to improve health in poor countries, such as immunisation and access to essential drugs, are less complex than those needed to manage the large burden of non-communicable disease in rich countries. Understanding the role of health as a driver of economic growth in Europe is important, given the stated commitment of Europe's governments in March 2000 to make Europe the most competitive and dynamic knowledge driven economy by 2010.

In this article we summarise the findings of a study that we did for the European Commission examining the link between health and wealth in rich countries. The full report has been published elsewhere,[2] and a summary of the methods is available on bmj.com.

How might health affect the economy?

Healthier individuals might affect the economy in four ways:[3]

- They might be more productive at work and so earn higher incomes
- They may spend more time in the labour force, as less healthy people take sickness absence or retire early
- They may invest more in their own education, which will increase their productivity
- They may save more in expectation of a longer life—for example, for retirement—increasing the funds available for investment in the economy.

It is not straightforward to determine whether these mechanisms exist in practice or how important they might be. Most studies use household survey data, capturing individuals at one point in time, although an increasing number use cross sectional time series (panel data), which overcomes some of the difficulties with one-off data. In particular, it is important to take account of the possibility that how people report their health is influenced by their employment status, as there may be financial or other benefits associated with being more or less healthy than you actually are. Another problem is that the relation between measures such as employment or income and health can work in both ways and both measures can be influenced separately by other factors. However, several statistical methods can be used to overcome these problems. The evidence below uses these methods. We focus on productivity and time in the workforce as there is little evidence from rich countries to support the existence of the other two mechanisms.

P+ *A summary of methods is on bmj.com*

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DAVID HURN/MAGNUM

A healthy workforce is a wealthy workforce

Do healthier people earn and work more?

Substantial and consistent evidence from rich countries shows that healthier people have higher earnings, although the scale of the association varies with research methods and data.[4 5] Some studies have examined measures such as height, which reflects health in childhood, and body mass index, which provides an indirect measure of health.[6 7] All other things considered, taller people earn more than average whereas obese people tend to earn less, although the adverse consequences of obesity are greater for women than for men. However, these findings could reflect biases linked to the social acceptability of body images rather than a direct link to productivity.[8]

Many studies show that better health increases both the number of hours worked and the probability that an individual will be employed.[9 10] In addition, poor health increases the likelihood that someone will retire early,[11] although the precise relation is affected by institutional frameworks—for example, rules on disability and early retirement benefits and whether health insurance is linked to employment, as in the United States.

Importantly, ill health matters not only to the people affected but also to their family. In general, men whose wives become ill reduce the amount they work whereas women work more if their husbands become ill. Again, these findings are sensitive to the availability of health and disability benefits.[12 13]

How does health affect the national economy?

Although the above findings are important for families and individuals, finance ministers are more interested in whether they translate into national gains. The current economic wealth of rich countries owes much to previous health gains. For example, about 30% of economic growth in the United Kingdom between 1790 and 1980 has been estimated to be attributed to better health and dietary intake.[14] Better health meant that British workers increased their ability to convert energy into productive work by over 50% during this period.[14] A study in 10 industrialised countries during the century to the mid-1990s found that better health increased the rate of economic growth by about 30%.[15]

Studies that have looked at only poor countries or all countries have consistently found that better health, typically measured by life expectancy, is a significant determinant of subsequent economic growth, in some cases contributing more than improved education.[16] However, the few studies looking only at rich countries have not found such a relation. This may be because, above a certain level of national wealth, better health no longer contributes to growth. However, this conclusion may be flawed, for two reasons.

Firstly, life expectancy is not a good way to compare health in rich countries because it varies relatively little. In contrast, death rates from cardiovascular disease among the population of working age vary substantially between rich countries. For example, the death rate from ischaemic heart disease among people under 65 in the United Kingdom, despite having fallen steeply in the past two decades, is still twice as high as in Spain. In an analysis of 26 rich countries during 1960 to 2000, reductions in cardiovascular mortality emerge as a robust predictor of subsequent economic growth. In one model, a 10% fall in cardiovascular mortality is associated with a 1% increase in per capita income. Although this may not seem large, it amounts to a substantial contribution over the long term.[17]

Secondly, existing analyses fail to take account of the scope to increase the official retirement age. A recent simulation exercise showed how an increase in the age of retirement that was consistent with gains in life expectancy would mitigate many of the adverse economic consequences attributed to ageing of societies.[18]

What more do we need to know?

This study was undertaken to inform policy makers in Europe. However, we were forced to draw on a comparatively large body of evidence from the United States, even though the institutional frameworks, in particular the lack of universal health coverage for people under 65, constrain the applicability of findings to Europe. Very few Europe-wide surveys have been done, and national surveys are often difficult to compare with one another. Europe's governments and institutions urgently need to support the creation of appropriate panel surveys, not least so that they can track the progress of their policies.

Our study confirmed the importance of investment in better health as a means of promoting economic development but says less about what this investment should involve. As Derek Wanless noted in his report to the UK Treasury,[19] we need more economic evaluations of health promoting policies as lack of evidence is a serious obstacle to achieving commitment by governments.

Debate is ongoing about the role of government in promoting health. Nevertheless, many of the people who advocate much greater individual responsibility view governments as having a legitimate role in creating the conditions that favour economic development. The true purpose of economic activity is to maximise social welfare and not simply to produce more goods and services. Since better health is an important component of social welfare, its value ought to be

Summary points

Most studies on the contribution of health to economic development focus on poor countries

Better health contributes positively to individuals' productivity and participation in the workforce even in rich countries

The effect on people's educational attainment and savings patterns in richer nations is largely unknown

Better health, measured appropriately, may contribute substantially to economic growth in all countries

included in measures of economic progress. This has been done successfully in the United States.[20] Similar moves in Europe could provide a new perspective on the investments made through their welfare states.

Contributors and sources: The article is a brief summary of a report written for the European Commission. The views expressed are those of the authors and do not necessarily reflect the official views of the institutions they are affiliated with. MS is in charge of the health and economic development work at his WHO office; MMcK manages a large research programme on health and health care in many European countries; RSA and ST have worked extensively on ageing and health; and JM is in charge of several European research networks on ageing and health. MMcK, MS, and JM produced the tender for the study and MS, ST, and RSA identified the literature. All authors contributed to the analysis, interpretation, and drafting of the article. MS is guarantor.

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A complication of becoming a centenarian

About three years ago a blind patient of mine reached his 100th birthday. He held an open house at his home, a fisherman's cottage perched high up overlooking the whole of Swansea bay. I was invited, as were many others, and even the mayor called in.

A few days later, he consulted me in my surgery, as he still does, with his daughter-in-law. Since his birthday he had been a hospital inpatient under a medical team, who had diagnosed a stroke on the basis of weakness in his right arm. As usual, we shook hands to greet each other, and I noticed how strong his right hand grip still was. This didn't concur with a stroke, and, on examining him further, I made a diagnosis of rotator cuff rupture as a consequence of shaking so many well-wishers' hands at his birthday party.

The patient was obviously pleased to learn of his less serious diagnosis, and his right shoulder function has since improved so that it presents no daily problem to him. His grip has remained as strong as ever, and he puts great store in greeting everybody with a strong handshake, especially as he is unable to see anybody's face.

I wonder if he had attended casualty, rather than being admitted directly under physicians, whether the correct diagnosis would have been made. This would have prevented a lot of worry to the patient and his family and prevented a costly hospital admission.

As an addendum, earlier this year I diagnosed significant essential hypertension in this patient—now at the ripe old age of 103. This presented a conundrum: should I treat or not? I decided to be non-ageist and started treatment, but he developed symptoms suggestive of postural hypotension, and I was glad indeed to advise him to stop his antihypertensive drug.

He is now 104 years old and continues to consult me infrequently in my surgery.

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