

## Scrooge and intellectual property rights

*A medical prize fund could improve the financing of drug innovations*



At Christmas, we traditionally retell Dickens's story of Scrooge, who cared more for money than for his fellow human beings. What would we think of a Scrooge who could cure diseases that blighted thousands of people's lives but did not do so? Clearly, we would be horrified. But this has increasingly been happening in the name of economics, under the innocent sounding guise of "intellectual property rights."

Intellectual property differs from other property—restricting its use is inefficient as it costs nothing for another person to use it. Thomas Jefferson, America's third president, put it more poetically than modern economists (who refer to "zero marginal costs" and "non-rivalrous consumption") when he said that knowledge is like a candle, when one candle lights another it does not diminish from the light of the first. Using knowledge to help someone does not prevent that knowledge from helping others. Intellectual property rights, however, enable one person or company to have exclusive control of the use of a particular piece of knowledge, thereby creating monopoly power. Monopolies distort the economy. Restricting the use of medical knowledge not only affects economic efficiency, but also life itself.

We tolerate such restrictions in the belief that they might spur innovation, balancing costs against benefits. But the costs of restrictions can outweigh the benefits. It is hard to see how the patent issued by the US government for the healing properties of turmeric, which had been known for hundreds of years, stimulated research. Had the patent been enforced in India, poor people who wanted to use this compound would have had to pay royalties to the United States.

In 1995 the Uruguay round trade negotiations concluded in the establishment of the World Trade Organization, which imposed US style intellectual property rights around the world. These rights were intended to reduce access to generic medicines and they succeeded. As generic medicines cost a fraction of their brand name counterparts, billions could no longer afford the drugs they needed. For example, a year's treatment with a generic cocktail of AIDS drugs might cost \$130 (£65; €170) compared with \$10 000 for the brand name version.<sup>1</sup> Billions of people living on \$2-3 a day cannot afford \$10 000, though they might be able to scrape together enough for the generic drugs. And matters are getting worse. New drug regimens recommended by the World Health

Organization and second line defences that need to be used as resistance to standard treatments develops can cost much more.

Developing countries paid a high price for this agreement. But what have they received in return? Drug companies spend more on advertising and marketing than on research, more on research on lifestyle drugs than on life saving drugs, and almost nothing on diseases that affect developing countries only. This is not surprising. Poor people cannot afford drugs, and drug companies make investments that yield the highest returns. The chief executive of Novartis, a drug company with a history of social responsibility, said "We have no model which would [meet] the need for new drugs in a sustainable way . . . You can't expect for-profit organizations to do this on a large scale."<sup>2</sup>

Research needs money, but the current system results in limited funds being spent in the wrong way. For instance, the human genome project decoded the human genome within the target timeframe, but a few scientists managed to beat the project so they could patent genes related to breast cancer. The social value of gaining this knowledge slightly earlier was small, but the cost was enormous. Consequently the cost of testing for breast cancer vulnerability genes is high. In countries with no national health service many women with these genes will fail to be tested. In countries where governments will pay for these tests less money will be available for other public health needs.

A medical prize fund provides an alternative. Such a fund would give large rewards for cures or vaccines for diseases like malaria that affect millions, and smaller rewards for drugs that are similar to existing ones, with perhaps slightly different side effects. The intellectual property would be available to generic drug companies. The power of competitive markets would ensure a wide distribution at the lowest possible price, unlike the current system, which uses monopoly power, with its high prices and limited usage.

The prizes could be funded by governments in advanced industrial countries. For diseases that affect the developed world, governments are already paying as part of the health care they provide for their citizens. For diseases that affect developing countries, the funding could be part of development assistance. Money spent in this way might do as much to improve the wellbeing of people in the developing world—and even their productivity—as any other that they are given.

The medical prize fund could be one of several ways to promote innovation in crucial diseases. The most important ideas that emerge from basic science have never been protected by patents and never should be. Most researchers are motivated by the desire to enhance understanding and help humankind. Of course money is needed, and governments must continue to provide money through research grants along with support for government research laboratories and research universities. The patent system would continue to play a part for applications for which no one offers a prize. The prize fund should complement these other methods of funding; it at least holds the promise that in the future more money will be spent on research than on advertising and marketing of drugs, and that research concentrates on diseases that matter. Importantly, the medical prize fund would ensure that we make the best possible use of whatever knowledge we acquire, rather than hoarding it and limiting usage to those who can afford it, as

Scrooge might have done. It is a thought we should keep in mind this Christmas.<sup>3-6</sup>

Joseph E Stiglitz *professor*

(jb2632@columbia.edu)

Columbia University, New York, NY 10025, USA

Competing interests: JES was chief economist of the World Bank from 1997 to 2000 and a member and then chairman of President Clinton's Council of Economic Advisers from 1993 to 1997. He won the Nobel Prize for economics in 2001.

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## Shooting down the NHS reform track

*Why ministers cannot pull the brake even if they want to*

Anyone who wants to understand the process of change in England's National Health Service could do worse than to summon up memories of watching the bobsleigh events in the winter Olympics. The bobsleigh riders hurtle down the icy track at great speed. There is nothing they can do to change direction. Their course and goal is determined for them, and there is little they can do apart from keeping their balance and their nerve as they round the terrifying bends. If they were to brake suddenly, regretting that they had ever got themselves involved in such a high risk sport, disaster would strike.

The policy makers engaged in transforming the NHS are in a similar position to those bobsleigh riders. Once the government had decided on the new three part model for the NHS, the course was set. In turn, the logic of the model—competing providers, active purchasers, and money following the patient—drives policy, and allows for no deviation or delay. Moreover, just like the bobsleigh riders, ministers are racing against the clock. For the time being, extra billions are flowing into the NHS at an unprecedented rate.

But the government's commitment to this increased rate of spending ends in 2008. Thereafter, the annual increment in expenditure may be less generous, especially if the extra investment does not produce commensurate improvements. So, in effect, a deadline exists for the new model to show that it is working—that ministerial rhetoric about greater efficiency, improved responsiveness, and rising quality is being turned into reality—and for the NHS to turn into a political asset, not a political liability, for the government.

The government may well have stumbled into devising the new model incrementally.<sup>1</sup> But once adopted, the model drives the adopters. Success for the government depends on combining the elements of

competition, purchasing, and payment by results; delay in introducing any element puts the whole model at risk. This interdependence of the various strands of policy explains the relentless pace of change, with ministers deaf to all pleas for adopting a less hectic pace for fear of derailing the whole exercise. If competition is to exist, private providers must be tempted to enter the market, even if they have to be paid over the odds. For active purchasing to occur, primary care trusts must be strengthened through amalgamation, even if this means adding to organisational disruption in the NHS. If payment by results is to provide the dynamic for greater efficiency and responsiveness, providers and purchaser trusts must balance their books, even if this leads to staffing cuts and painful service reconfigurations.

The point about fiscal balance helps to explain the past and has implications for the future. The NHS has always been the envy of the world for its ability to contain spending within the annual budgetary limits set by the Treasury. But collective discipline went hand in hand with individual indulgence. An opaque system of loans and brokerage allowed some trusts to accumulate large year-on-year deficits, so smoothing out turbulence and avoiding the political embarrassment of painful cutbacks.

However, this system is incompatible with the new model. If trusts are not required to stay within budget, if they can be rescued when needed, where is the incentive to be efficient and responsive? Which is why a minor financial blip in 2005-6—which turned out to be a deficit of £500m (£743m; \$989m), the loose change in a £75bn budget—produced disproportionate shock waves and pain in the NHS as ministers cranked up the pressure on trusts to balance their books. Moreover, this will be the story of the NHS in 2007, even though its budget is rising to £82bn; the



BMJ 2006;333:1280-1