The wrong answer to high drug prices

Drug rationing hurts patients, discourages innovation

Philip Stevens

Around the world, tax-funded health systems are facing pressure from many directions. Populations are aging and consuming more health care, often for expensive, chronic conditions such as cancer. The latest treatments are becoming more expensive, as governments introduce ever more regulations into the drug development process. At the same time, increasingly consumerist patients in countries with state health monopolies are becoming less tolerant of government attempts to restrain access to these expensive medicines in order to contain costs.

This has led to enormous tensions between patients who want the latest drugs, and governments that are forced to ration those drugs in order to maintain some semblance of financial integrity for their state health systems. Such tensions underline the damaging absurdity of massive state intervention in both the drug development process and the health care systems that deliver those drugs.

Not so NICE

In state-run systems, cost pressures typically prompt governments to ration access to treatments for patients, often via waiting lists or low usage of medical technology. As the pharmaceutical industry has limited leverage over governments (as compared, for instance, to medical unions), it is politically easier for cash-strapped governments to limit the number of new treatments available to patients. In order to provide a veneer of scientific rationale for these restrictions, governments often employ cost-benefit analyses, known as "health technology assessments" (HTAs), before new treatments can be procured within the state health care system. Though these assessments may save money in the short term, they unleash a number of hidden but noxious economic consequences and create undue distress for dying patients.

Many countries are increasingly turning to these types of "comparative effectiveness" reviews to restrict access to expensive new drugs. Canada first instituted a Health Technology Assessment program in Quebec in 1988, and HTAs are now widely used at the national and provincial level. In 2004, Germany instituted the Institute for Quality and Economic Efficiency in the Health Care Sector (IQWiG), which provides "comparative effectiveness" information to health care insurers. Even the United States is poised to give more prominence to HTAs, as President Barack Obama has proposed to "establish an independent institute to guide reviews and research on comparative effectiveness" (Obama, 2008).

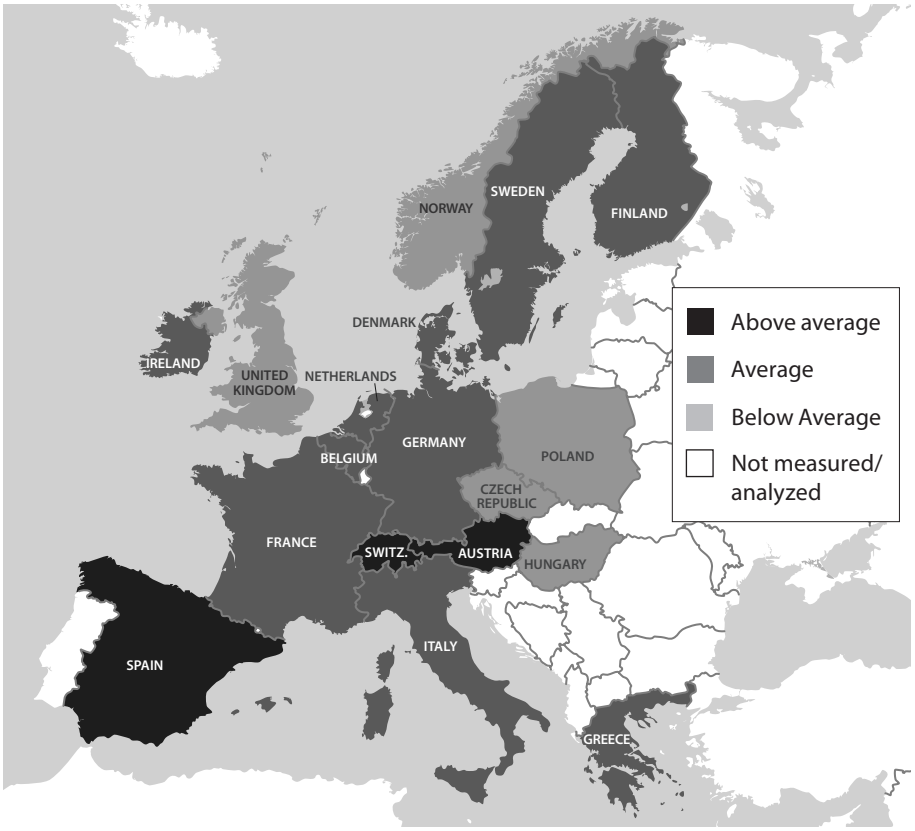
While many European countries make some use of HTAs, many other countries throughout the world, particularly in Asia and Latin America, are looking to the British health system for ideas about how to cut costs. All local providers within the British National Health System (NHS) are legally obliged to fund treatments recommended by the National Institute for Health and Clinical Excellence (NICE), created by the government in 1999. Conversely, if NICE deems a new treatment not to be cost effective, then all NHS providers will be prohibited from offering it to patients.

The National Institute for Health and Clinical Excellence comes to its decisions by reviewing a range of evidence submitted by parties such as drug manufacturers, independent academics, and patient groups. It typically considers a new drug's clinical effectiveness; cost per quality-adjusted life year (QALY)[1] saved; and impact on costs borne by the NHS (Raferty, 2001). Bearing in mind that the NHS constitutes 83% of the UK's expenditure on health (Klein, 2005), the blessing of NICE is absolutely vital if the vast majority of British patients are to benefit from a new treatment.

Judging from Britain's comparative international performance, NICE does a thorough job of keeping innovative drugs from patients covered by the NHS. According to Sweden's Karolinska Institute, for instance, the United Kingdom is below average for the uptake of innovative oncology drugs (Wilking and Jönsson, 2005) (figure 1). Rarely a week goes by without media coverage of a terminally ill patient denied access to a new medicine readily available in other European Union countries or in the United States. Most recently, NICE refused to recommend a drug for aggressive bone marrow cancer, despite the fact that the drug can extend the lives of patients for up to three years (Smith, 2008, Oct. 28).

NICE effectively serves as a nuclear weapon in the government's cost-containment arsenal. If a drug does not meet its criteria, it will simply be unavailable to NHS patients, no matter what their need.

Figure 1: Cancer drug uptake in Europe, 2005



Source: *BBC News*, 2005, Oct. 6.

Unfortunately, the criteria that form the basis of NICE's cost-benefit analyses are somewhat suspect. Most obviously, NICE takes a static view of the cost-effectiveness of new treatments, through which the expense of a drug is weighed against its immediate benefit to patients measured in quality-adjusted life years (QALYs). Although NICE does not publish any price cut-offs, it has tended only to approve drugs that cost less than CA$52,000 per QALY saved (Raferty, 2001). As a result, many innovative drugs are excluded.

This static approach ignores the long-term opportunity costs of not using a newer, more expensive treatment. In particular, not using innovative drugs sends a clear signal to research and development companies that future products are unlikely to be rewarded, meaning that there will likely be fewer innovative drugs in the future. Chronic or terminal conditions that could be made curable by future innovation will remain a burden on humanity (Jena and Philipson, 2008). Moreover, in countries that do not rely on these kinds of health technology assessments, such as the United States, the greater use of newer prescription drugs has limited the number of people on disability rolls, thereby creating huge downstream cost savings for both individuals and governments, as well as increasing general economic productivity (Lichtenberg, 2008).

There are also ethical questions regarding the withholding of approved treatments from patients—especially in Britain, where new treatments are available to private patients, but not to those enrolled in the public National Health Service.

The drug approval process

State-funded systems with pressurized budgets have been forced to limit the use of new technology because new drugs are expensive. But state intervention is largely responsible for the high cost of new drugs. Most new drugs gain approval either through the US Food and Drug Administration (FDA), the EU's European Medicines Agency (EMEA), or Health Canada. Before these regulators can grant marketing approval for a drug, the drug must pass through four phases of clinical trials. Less than one in one thousand molecules makes it past the first, pre-clinical stage, which lasts 42 months on average. The chances of a drug making it to approval are less than 0.03% (Abrantes-Metz et al., 2004), and the process can take between 8.5 and 13.5 years (FDA, 2002; Dranover and Meltzer, 1994) (table 1).

Every year, regulators add more mandatory tests. As a result, the average cost of bringing a new drug to market has risen from US$119 million in 1975 (Hansen, 1979) to almost US$900 million in 2003 (DiMasi et al., 2003). In many European countries and Canada, further delays are caused by the need for government-controlled health systems to determine whether the drug will be reimbursed, and, if so, at what level.

Clinical trials have become ever more expensive because of the increasing demands of regulators, an observation made by Sir Michael Rawlins, chairman of the National Institute for Health and Clinical Excellence. According to Sir Michael, regulators have adopted a precautionary approach to regulation that is characterized by a myopic focus on safety, which comes at the expense of efficiency and speed. Every year, regulators create further

Table 1: Duration and success rate for new chemical drugs

	Pre-clinical	Phase I	Phase II	Phase III and FDA approval	Total
Probability of success	0.1%	80.7%	57.7%	56.7%	0.03%
Successful duration	42 months	19.7 months	29.9 months	47 months	96.6 months

Source: Abrantes-Metz et al., 2004.

hurdles within clinical trials, which achieve little other than adding millions to the final cost of a drug (Rawlins, 2004). This is hardly surprising given that drug regulators are public monopolies. They do not have to compete for clients, and their main incentive, therefore, is to avoid politically embarrassing safety scandals.

Aside from driving up the final cost of drugs, the monopoly in drug regulation has a number of other perverse consequences. For example, in order to ensure that they can recoup their initial investment and turn a profit, manufacturers have strong incentives to concentrate their resources on developing "blockbuster" drugs—drugs that achieve extremely high levels of sales. This approach deters research into rarer diseases because companies are less able to recoup their enormous development costs from small patient populations. When drugs for rarer diseases are produced, their price has to be extremely high in order to turn a profit during the limited time before patent expiry. The same is true for tropical diseases, which afflict fairly large populations, but with extremely limited purchasing power.

To solve the problem of high drug prices, it is necessary to radically overhaul the drug approval process. Several commentators have proposed injecting a degree of competition into the drug approval process, for instance, by creating a market for private drug certification bodies that compete on speed and efficiency (Tollison, 1996; Sauer and Sauer, 2007). Others have suggested the more politically realistic idea of creating a "dual track" approval process by which informed patients would be free to purchase drugs that have passed only initial testing by the FDA (Madden, 2004). Bringing competition into the approval process could liberate innovation, speeding up the development of new generations of medicines that could extend life, remove the need for expensive surgery, and limit the need for costly in-patient care. This would be good for patients and health care funders alike.

The drug approval process is largely responsible for the high price of new medicines. With greater competition in this area, there could be a greater number of cheaper drugs, available more quickly. Politicians try to justify drug rationing by claiming that health care systems cannot afford expensive new treatments. But if every health care system in the world ceased purchasing new treatments, innovation would rapidly grind to a halt. If medical progress is to continue, then the government needs to loosen its grip on both health care provision and the drug approval process.

Note

1 QALY is a pharmo-economic evaluation of the extent of the benefits gained from a health intervention in terms of health-related quality of life and survival for the patient. It takes into account both the quantity and quality of life generated by a health intervention or technology.

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