The pricing conundrum

Approaches to constrain expenditures on new drugs, which are well established in many countries, are becoming increasingly prominent in the world's largest pharmaceutical market, the United States. Strategies that take account of the possibility of further drug price controls and the implications for innovative research and development therefore merit urgent consideration.

Since the Democratic party won control of both chambers of the US Congress in late 2006, there has been a growing momentum behind efforts to constrain drug prices in the United States. For example, one bill that is the subject of considerable debate at present plans to give the federal government the authority to negotiate directly with drug manufacturers for lower prices for drugs provided through the Medicare drug programme, which covers patients who are 65 years of age and older.

In the short term, if such legislation is passed, it might slow the growth in the levels of expenditure on new drugs in the United States. However, although high drug prices and increases in spending on new drugs have been portrayed in some quarters as the key cause of spiralling US health-care costs, at present, prescription drugs represent only ~10% of total US health-care spending. So, the extent to which such cost-containment efforts will help address the broader issue of what proportion of national income countries such as the United States are prepared to spend on health care — an issue that will become more pressing bearing in mind the ageing population — is debatable.

What seems clearer, however, is the adverse effect that price controls can have on innovative drug research and development (R&D). As discussed in a news story this month (see page 257), recent reports have noted the lead that the United States has over the rest of the world in both the introduction of new drugs and the proportion of drug R&D conducted there. The relative lack of drug price controls in the United States compared with other major markets such as the European Union has been highlighted as the key reason. Simply put, it seems that the consequent improved chance of seeing a return on investment made in innovative drug R&D in the United States compared with elsewhere is supporting its lead in this field.

The issue of return on investment is an especially challenging one for drug R&D compared with other industries, and one that often seems not to be fully appreciated by those not directly involved. In particular, the fact that drug discovery and development is inherently a long and risky process — with typical time frames of 10–15 years and reported overall failure rates in clinical testing approaching 90% — places a high pressure on companies to maximize returns on those products that ultimately make it to market[1]. Such pressures are intensified by shareholders who are seeking returns on their investment in a much shorter time frame.

The recent success of molecularly targeted anticancer drugs from a therapeutic and a market perspective provides a timely illustration of both the pressures for premium pricing and the impact of such pricing. In the past 4 years, several such drugs have reached the market, which offer major advances in disease treatment, but at prices that translate into typical treatment courses costing several tens of thousands of dollars. Although so far this has fuelled dramatic growth of the companies marketing these drugs, the fact that these drugs are contributing significantly to a rapid growth in US drug spending, and the questions about their affordability, are key factors motivating the current efforts to control drug prices. Indeed, even members of the investment community are now cautionary about the risk of high drug prices triggering government controls that would be detrimental to the long-term future of the industry[2].

Recognizing this risk, companies have begun to introduce their own price caps, but in the long term there is a growing need for companies to implement strategies to remain successful in an increasingly cost-constrained environment. As highlighted in a Perspective this month on page 287, one possible strategy is to pursue the development of more 'stratified medicines': by better matching therapies to patient populations using clinical biomarkers, it might be possible to develop drugs more cheaply (largely by reducing failure rates), with clearer and more certain benefits to patients. This could allow prices that are affordable for health-care systems, while still providing returns on investment capable of sustaining an innovation-based industry. Such a strategy would require significant adaptation on the part of industry, regulators and payers, but could provide a much needed solution to the drug pricing conundrum.

1. Gregson, N. *et al.* Pricing medicines: theory and practice, challenges and opportunities. *Nature Rev. Drug Discov.* **4**, 121–130 (2005).
2. Anand, G. High price of cancer drugs elicits warning from Wall Street doctor. *Wall Street Journal* 12–13 (16–18 Mar 2007).