Price controls boost innovation in Japan . . .

Tokyo. Under a government policy aimed at curbing rapidly expanding medical expenditures, Japan's pharmaceutical companies have been required to accept significant cuts in the reimbursement prices for drugs under the national health system.

Ironically, however, the government's efforts to drive down prices are also intended to encourage greater innovation in drug development; and to some extent the policy is beginning to work.

Every two years, the Ministry of Health and Welfare revises the reimbursement prices for drugs paid by national health insurance, in order to bring them into line with the prices paid by medical institutions to pharmaceutical companies.

Japan is notorious for its failure to separate the prescription and dispensing of drugs. Medical institutions have long depended on the profits they can make by overprescribing drugs that they have bought at a significantly cheaper price than the official reimbursement price they receive from insurance (see *Nature* **342**, 850; 1989).

In turn, pharmaceutical companies have tended to discount the prices of their drugs heavily to encourage hospitals to buy more. As a result, Japan has one of the highest per capita consumptions of prescription drugs in the world.

For the past several years, however, the ministry has been curbing this practice by monitoring the average actual prices paid and revising the official prices to close the gap between official and actual prices. In the latest round of price cuts, which took effect on 1 April, drug prices have been cut on average by 6.6 per cent.

The main aim of the cuts is to hold down Japan's rapidly rising medical expenditure. This has soared to about ¥25,000 billion (US$240 billion) a year, and is expected to rise even faster with the rapid ageing of Japanese society.

But a secondary aim is to encourage companies to develop innovative drugs, on the basis that novel drugs with no competition will be able to sustain higher prices in the market. And the ministry does deliberately set higher prices for new drugs.

At first, the policy produced the opposite effect from that intended. In the 1980s, manufacturers produced many 'new' drugs that were merely modifications of existing compounds, with little if any additional benefit. But leaders in the industry now realize that the only way to beat the price-cutting system is to produce innovative drugs that will not be subject to discounts.

One of the first to make a move was Yamanouchi Pharmaceutical. Under the leadership of its new vice-president for research and development, Teruhisa Noguchi, the company established a new institute of molecular medicine at its research centre in Tsukuba science city in 1991. It has also set up a research institute in the United Kingdom near the University of Oxford to carry out research in molecular and cell biology related to drug development (see *Nature* **361**, 764; 1993).

But Japan's pharmaceutical research still remains weak compared with that of other advanced nations. Takeda spends only a little over ¥60 billion ($600 million) a year on research and development, about half the research budget of companies such as Roche of Switzerland or Glaxo of the United Kingdom. Furthermore, only a handful of Japan's drug companies have established research operations overseas.

The squeeze on drug prices is holding down profits, and although the drug industry has weathered the recession better than most of Japanese industry, the industry's annual increases in outlay for research and development are beginning to decline from about 10 per cent a few years ago to around 5 per cent in 1993. **David Swinbanks**

Interferon, one of Japan's leading biotechnology products with sales approaching US$2 billion a year, has been hard hit in the latest round of drug price cuts by the Ministry of Health and Welfare (see below).

Sales of interferon began to boom in 1992, when the drug was approved for treatment of chronic hepatitis C, which is prevalent in Japan. Annual sales leapt from ¥30 billion in 1991 to ¥186 billion (US$1.8 billion) last year (see *Nature* **362**, 6; 1993).

The cuts in price range from 13.5 per cent for Takeda's Canferon-A, an interferon alpha product made using recombinant DNA technology, to 42.3 per cent for Mochida's interferon beta. They are expected to generate savings of more than ¥50 billion.

The cuts are unusually large and did not follow the ministry's standard price readjustment mechanism, which is based on the average selling price over a period of time. Rather, the ministry came under pressure from the Ministry of Finance to cut prices drastically because of booming sales.

There are, however, growing reports of side-effects for interferon alpha. Last year, there were several reports of pneumonia when the drug was used in combination with a Chinese herbal medicine also used for treating hepatitis C. Earlier this month, the Ministry of Health and Welfare reported 32 cases of attempted suicide, including 12 fatalities, thought to be a result of depression induced by the drug. **D. S.**

...but are opposed in US Congress

Washington. To the relief of the US biotechnology industry, the new-found opposition of a key lawmaker appears to have killed efforts by the Clinton administration to set up a mechanism for the federal review of the initial prices of 'breakthrough' drugs as part of its health-care reform plan.

Last week, Representative John Dingell (Democrat, Michigan), chairman of the powerful House of Representatives Energy and Commerce Committee and a central player in the health-care reform debate, agreed to delete a clause from any health-care reform legislation establishing the reforms that would have set up an advisory council on breakthrough drugs.

Industry representatives have long argued that the mere spectre of heavy-handed regulation, seen as a mechanism for some form of indirect price controls on new products, is frightening away investors in an industry that relies heavily on investor capital. They also claim that the prospect of such regulation is already depressing stock prices and causing companies to cut back on research and development (see *Nature* **368**, 180; 1994).

In agreeing to drop the provision, Dingell was responding to pleas from two freshman members of Congress, Representatives Lynn Schenk (Democrat, California) and Marjorie Margolies-Mezvinsky (Democrat, Pennsylvania). Both Schenk and Margolies-Mezvinsky hold crucial votes on his committee, and Dingell agreed to make the concession in the hope of winning their support for some of the broader reforms being sought by the Clinton administration as part of its health-care reform plan.

In a letter to Schenk, whose congressional district of San Diego contains about a hundred biotechnology companies, Dingell acknowledged that to single out new or 'breakthrough' drugs for draconian price regulation "is not a good idea" and "should not be included as part of any comprehensive health-care reform".

Margolies-Mezvinsky has obtained a similar commitment from Dingell to modify a provision in the administration's health-care reform plan giving the secretary of Health and Human Services the authority to negotiate special rebates or discounts on new drugs paid for under Medicare.

In cases where agreement could not be reached with the drug manufacturer, the secretary would have been able to 'blacklist' the drug, excluding it from reimbursement under the government's Medicare programme. **Diane Gershon**