Pharmaceutical Prices, Quantities and Innovation
Comparing Japan with the US

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Summary

Per capita expenditure on pharmaceuticals is higher in Japan than in the US, despite a series of drug price reductions instigated by the Japanese Ministry of Health and Welfare that began in 1981. For some individual products, these price reductions cumulatively totalled more than 50%. This article argues that although the price of individual drugs is lower in Japan than in the US, aggregate expenditure is higher because of the greater use of newly-introduced original drugs and lower use of generics. Providers and consumers also tend to use drugs in larger quantities in Japan, because of polypharmacy and greater use of vitamins and nutrients, antihypertensives, cerebral metabolic activators (e.g. idebenone) and milder-acting drugs (i.e. drugs with low toxicity but unproven clinical efficacy). The level of expenditure is unlikely to decline, despite changes to pricing policy and ongoing efforts to improve the pharmaceutical distribution system and to discourage physician dispensing activities.
1. Background

Although overall healthcare expenditure is much lower in Japan than in the US, pharmaceuticals are a striking exception. According to the Organisation of Economic Cooperation and Development (OECD),[1] Japanese per capita pharmaceutical goods expenditure in 1989 amounted to $US189 ($US1 = ¥199) and constituted 17.3% of total health expenditure. In contrast, the corresponding amounts for the US were $US203 and 8.4%.[1] Using a different exchange rate, Tanaka[2] estimated per capita drug spending in Japan to be $US166, compared with $US109 in the US. Overall, Japan accounts for a larger per capita share of the world pharmaceutical market than the US. According to the Scrip yearbook,[3] the Japanese market represented 18.7% of the world market in 1990, while the US represented 27.4%. Other estimates place the Japanese share even higher, at 20%.[2] Thus, Japan, which has only half the population of the US, reaches two-thirds the pharmaceutical market size of the US. The purpose of this article is to discuss some of the reasons why drug expenditure remains high in Japan, despite the ongoing series of price reductions implemented during the past decade.

2. Pharmaceutical Payment Mechanisms in Japan

2.1 Payment Mechanisms for Providers

Under Japan’s fee-for-service system, the price paid by insurance is set uniformly by the government for every itemised service or material. In turn, the price paid by the individual provider for each service or material is decided by the market. In general, the price paid by insurance does not usually cover the costs of wages and other services. However, insurance often overpays for materials such as equipment, supplies and pharmaceuticals. This overpayment for materials occurs at least partly because of the competitiveness of the supply markets and consequent price discounting by manufacturers and wholesalers.

The high levels of insurance repayment for materials has crucial implications for drug expenditure in Japan. In 1990, 85.4% of hospitals and 80.4% of physician’s offices dispensed pharmaceuticals.[4] Providers derive a profit from drugs which is estimated to be 25.7% of the total sum paid by insurance for drugs.[5] This profit amounts to 6.7% of the total revenue for hospitals and 11.6% for physician’s offices.[5] Physician’s offices realise higher revenue shares because drugs constitute a higher proportion of revenue in ambulatory care compared with inpatient care, and because the drugs used in physician’s offices tend to have more alternatives available and thus can be purchased at greater discounts. Providers argue that these profits are justified because hospitals and physician’s offices need to pay for the administrative costs associated with the purchase and stock control of drugs. In addition, providers must make up the deficit arising from the low reimbursement allowed for services.

In the US, the cost of drugs is often part of inclusive payment mechanisms for inpatient care, such as the Diagnosis Related Groups of Medicare’s Prospective Payment System. For ambulatory care, drug payment is sometimes not covered by a patient’s insurance policy or, if covered under managed care, drug usage tends to be more closely monitored, and generics may be substituted for proprietary products.

2.2 Payment Mechanisms for Consumers

In Japan, payments made by patients out of their own pockets are low because drugs are fully covered by insurance, and the same copayment rates apply for both services and drugs. Moreover, patients would have to ask their physicians for lower priced drugs because dispensing is usually performed by the physician. Such a request would be very difficult because of the deference usually
given to physicians. Nonetheless, physicians may sometimes prescribe lower priced drugs for patients who have higher copayment rates.²

In the US, there is greater incentive for consumers to seek the lowest priced drugs and for pharmacists to supply them. As noted in section 2.1, many insurance policies do not cover drug prices fully. Many pharmacies advertise their willingness to provide the lowest priced appropriate drug. In addition, groups such as the American Association of Retired Persons (AARP) offer mail order pharmaceutical services for long term care drug products. Furthermore, managed care organisations encourage physicians and pharmacists to use generic products whenever possible. Consumers have little brand loyalty for prescription drugs and tend to be willing to accept generics or other lower priced substitutes.

2.3 Historical Background

Different medical traditions in Japan and the US underlie the roles of physician and pharmacist. Until 1883, when licences were introduced for physicians, the roles of the physician and the pharmacist in Japan were traditionally inseparable. It was regarded as unethical for physicians to receive payment for medical services, which they were expected to provide as a humane duty. However, physicians could receive payment for the drugs they dispensed which, after all, they had to purchase from the wholesalers. When the Japanese point fee system³ was introduced in 1927, the original point was the per diem price of a drug in the private practitioner's ambulatory setting.⁶ Under this system, medical procedures were assigned a relative value in points that was converted to a monetary value using a conversion factor.

In the US, there was an early separation of prescribing and dispensing. Because the latter became equated with selling drugs, it was considered an inappropriate activity for the physician. Because physicians do not dispense in the US, restrictions on dispensing tend to be considered less of an encroachment on clinical autonomy. Moreover, there is less need for physicians to profit by dispensing drugs in the US, even before the introduction of the Prospective Payment System and managed care. The reason for this is that fees for services have been generous.

3. Are Prices Higher in Japan?

3.1 Comparison of Actual Prices

As table I shows, US prices are invariably higher for the defined daily dose when the 1989 prices of top selling drugs common to both the Japanese and US markets are compared. Overall, US prices are between 1.2 and 6 times higher than Japanese prices, depending on the drug. The prices in table I are rarely those paid by the provider, with discounts applicable in both countries. Whether discounts are greater in either of the countries has yet to be determined, but it is unlikely that discounts in the US would fully offset the much lower Japanese list prices.

3.2 Factors That Increase Expenditure in Japan

Although prices are lower for the same proprietary drug product in Japan, at least 2 factors lead to greater expenditure on drugs. The first factor is the greater use of generics in the US, which reduces the average price of a given drug. In 1989, generics were estimated to account for only 11% of total pharmaceutical sales in Japan⁸ compared with 30% in the US.⁹

Reasons for the lower usage of generics in Japan include:
• Prices are set by brand name, so that using a lower priced drug will not necessarily result in a greater profit to the provider. However, it is estimated that despite the low usage of generics, the profits derived from their use amount to about a third of the total.

² Patient copayment rates range from a nominal flat rate for the elderly to 10% for the employed and 20 to 30% for dependents and the self-employed.
³ Under this system, medical procedures were assigned a relative value in points. This number was converted to a monetary amount using a conversion factor.
Drug Prices, Quantities and Innovation: Japan vs US

Table I. Comparison of drug prices between Japan and the US. The prices given are those of defined daily doses for each drug[7] and are based on prices listed in the Insurance Tariff (Japan) and Red Book (USA).

<table>
<thead>
<tr>
<th>Generic name</th>
<th>Proprietary brand</th>
<th>Unit (mg)</th>
<th>Defined daily dose (mg)</th>
<th>Price (^a) (1989 ¥)</th>
<th>Price (^b) (1989 ¥)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nifedipine</td>
<td>Japan: ‘Adalat’</td>
<td>10</td>
<td>30</td>
<td>138</td>
<td>138</td>
</tr>
<tr>
<td></td>
<td>US: ‘Procardia’</td>
<td>10</td>
<td>30-60</td>
<td>317-635</td>
<td>223-447</td>
</tr>
<tr>
<td>Captopril</td>
<td>Japan: ‘Capryl’</td>
<td>25</td>
<td>37.5-75</td>
<td>136-272</td>
<td>136-272</td>
</tr>
<tr>
<td></td>
<td>US: ‘Capoten’</td>
<td>25</td>
<td>50-75</td>
<td>235-352</td>
<td>185-248</td>
</tr>
<tr>
<td>Diltiazem</td>
<td>Japan: ‘Herbesar’</td>
<td>60</td>
<td>90</td>
<td>62</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td>US: ‘Cardizem’</td>
<td>60</td>
<td>180-360</td>
<td>441-882</td>
<td>311-621</td>
</tr>
<tr>
<td>Cimetidine</td>
<td>Japan: ‘Tagamet’</td>
<td>200</td>
<td>800</td>
<td>264</td>
<td>254</td>
</tr>
<tr>
<td></td>
<td>US: ‘Tagamet’</td>
<td>200</td>
<td>800-1200</td>
<td>627-941</td>
<td>441-662</td>
</tr>
<tr>
<td>Ranitidine</td>
<td>Japan: ‘Zantac’</td>
<td>150</td>
<td>300</td>
<td>286</td>
<td>286</td>
</tr>
<tr>
<td></td>
<td>US: ‘Zantac’</td>
<td>150</td>
<td>300</td>
<td>725</td>
<td>510</td>
</tr>
<tr>
<td>Cefaclor</td>
<td>Japan: ‘Keflat’</td>
<td>250</td>
<td>750</td>
<td>419</td>
<td>419</td>
</tr>
<tr>
<td></td>
<td>US: ‘Ceflor’</td>
<td>250</td>
<td>750</td>
<td>1,182</td>
<td>832</td>
</tr>
<tr>
<td>Cefadroxil</td>
<td>Japan: ‘Camcef’</td>
<td>250</td>
<td>750</td>
<td>278</td>
<td>278</td>
</tr>
<tr>
<td></td>
<td>US: ‘Ultracef’</td>
<td>250</td>
<td>1000-2000</td>
<td>1,172-2,344</td>
<td>825-1,650</td>
</tr>
<tr>
<td>Piroxicam</td>
<td>Japan: ‘Feldene’</td>
<td>20</td>
<td>20</td>
<td>112</td>
<td>112</td>
</tr>
<tr>
<td></td>
<td>US: ‘Feldene’</td>
<td>20</td>
<td>20</td>
<td>456</td>
<td>321</td>
</tr>
<tr>
<td>Sulindac</td>
<td>Japan: ‘Clinoril’</td>
<td>100</td>
<td>300</td>
<td>103</td>
<td>103</td>
</tr>
<tr>
<td></td>
<td>US: ‘Clinoril’</td>
<td>150</td>
<td>300-400</td>
<td>447-596</td>
<td>315-412</td>
</tr>
<tr>
<td>Mitomycin</td>
<td>Japan: ‘Mitomycin’</td>
<td>2</td>
<td></td>
<td>591(^c)</td>
<td>591(^c)</td>
</tr>
<tr>
<td></td>
<td>US: ‘Mutamycin’</td>
<td>5</td>
<td></td>
<td>18,195(^d)</td>
<td>12,811(^d)</td>
</tr>
</tbody>
</table>

\(^a\) Purchasing Power Parities rate ($US1 = ¥196).
\(^b\) Exchange rate ($US1 = ¥138).
\(^c\) Based on a daily dose of mitomycin 2mg.
\(^d\) Based on a daily dose of mitomycin 5mg.

- Generics are produced by small scale manufacturers and are referred to disparagingly by physicians as zoro (from the Japanese zoro zoro, meaning ‘coming in droves’).
- Much of the dispensing is done by physicians, who have strong brand loyalty.
- Patients have little interest in obtaining lower priced drugs, because of low copayment rates and a general reluctance to question a physician’s decision.

The second factor that leads to greater expenditure in Japan is the more rapid acceptance of newly introduced drugs into clinical practice. The average number of years since introduction for the 20 top selling drugs in Japan was 8.2 years in 1982 and 5.7 years in 1989.[10] By comparison, corresponding figures for the US were 12.6 years in 1982 and 8.3 years in 1989.[10] Thus, acceptance of new drugs into clinical practice appears to occur more quickly in Japan than in the US. Similarly, Tanaka[2] reported data from the Association of British Pharmaceutical Industries showing that drugs launched within 5 years of the study comprised 25.8% of the total market in Japan, compared to 22.1% in the US. Newer drugs tend to be more expensive than older drugs for any given clinical condition.4

The more rapid diffusion of new drugs in Japan can be observed in the specific case of anti-infectives. As shown in table II, the share of the anti-infectives market held by third generation cephalosporins is higher in Japan than in the US (51.4 vs 45.9% in 1990). In contrast, the market share held by combinations of antibacterials with β-lactamase

4 Note also that rapid product turnover limits the ability to monitor new drugs for effectiveness and tolerability, because a drug may no longer be on the market by the time phase IV evaluation of its socioeconomic impact has been completed.
inhibitors (e.g. amoxicillin/clavulanic acid), which were introduced earlier, is lower in Japan compared with the US (0.3 vs 11.2% in 1990).

Table III shows that newer H₂-antagonists have followed a similar pattern of rapid diffusion in Japan, compared with the US. Famotidine, introduced in 1986 in both countries, achieved a market share of 41.5% in Japan in 1990, quickly exceeding sales of cimetidine and ranitidine which were introduced in 1982 and 1984, respectively. In the US, famotidine achieved a market share of only 12.9% in 1990. In addition to the general tendency for newer drugs to diffuse rapidly in Japan, part of the success of famotidine stems from the fact that, unlike cimetidine and ranitidine, it was developed by a Japanese company.

The economic incentive to prescribe new drugs lies in the periodic cuts in the reimbursement price of drugs in Japan, which are based on surveys of the actual price paid by the provider. Between 1981 and 1992, the Japanese reimbursement regulations were revised 8 times, resulting in price reductions of between 4.9 and 18.6% at each revision.¹¹ Many drugs that have been on the market for over 10 years have faced cumulative price reductions of over 50%. However, because the price cuts apply only to drugs on the market at the time of the revisions, reductions can be mitigated if firms introduce new drugs. Each new drug to enter the market starts at a new price which is then reduced with each subsequent price revision.

How strongly this pricing policy has influenced drug diffusion rates is not clear. As we noted earlier in this section, the average time from launch among the 20 top selling drugs dropped substantially in both Japan and the US between 1982 and 1989, and the difference between the 2 countries was of similar magnitude in both years (3.6 years in 1982, 2.4 years in 1989). Therefore, more fundamental reasons may underlie rapid drug introduction and diffusion, including a general trend towards increasing rates of new product development and adoption in many industries throughout the world. Companies in many industries tend to market marginally improved products after a major innovation occurs. Although patent protection is strong in the pharmaceutical industry, information concerning the development of new drugs travels very rapidly, long before marketing approval is granted. When faced with the knowledge that a rival company is developing a new drug, a company may be able to accelerate its research efforts to produce a similar drug with a slightly different chemical structure.

Differences in the marketing approval process between Japan and the US must also be considered. The average time between application and approval is about the same in both countries. However, most applications are processed sequentially by date of submission in Japan, while the approval process in the US gives priority to more innovative products. In Japan, the efficacy of the drug under scrutiny is compared with the standard drug (i.e.

Table II. Share of the Japanese and US anti-infectives market held by various classes of anti-infective drugs, based on the estimated amount paid by providers (physicians, hospitals, pharmacies) in 1988 and 1990. Values given are actual monetary values followed by percentage market share in parentheses (unpublished data, Tanabe Selyaku Co. Ltd.)

<table>
<thead>
<tr>
<th>Class of anti-infective</th>
<th>Japan (100 million ¥)</th>
<th>US (millions of SUS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Third generation cephalosporins</td>
<td>5 621 (53.2)</td>
<td>5 224 (51.4)</td>
</tr>
<tr>
<td>Products containing β-lactamase inhibitors</td>
<td>64 (0.6)</td>
<td>33 (0.3)</td>
</tr>
<tr>
<td>'Broad spectrum' penicillins (e.g. ampicillin)</td>
<td>816 (7.7)</td>
<td>664 (6.5)</td>
</tr>
<tr>
<td>Other penicillins*</td>
<td>24 (0.2)</td>
<td>13 (0.1)</td>
</tr>
<tr>
<td>Other anti-infectives</td>
<td>4 042 (38.3)</td>
<td>4 237 (41.7)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>10 567 (100.0)</strong></td>
<td><strong>10 171 (100.0)</strong></td>
</tr>
</tbody>
</table>

* Penicillins predominantly active against Gram-positive bacteria, including benzylpenicillin (penicillin G) and phenoxymethylpenicillin (penicillin V).
the most commonly-used drug) in current use for that indication, and approval is given if the new drug produces the same or better results. In contrast, marketing approval is based on comparisons of the new drug with placebo. These factors tend to favor the introduction of marginally improved drugs in Japan.

4. Are Quantities Greater in Japan?

It would seem paradoxical for the quantity of drug use to be greater in Japan than in the US, because the recommended dosage for a given drug tends to be smaller in Japan (see Table I) and, in general, there is a general perception that Japanese physicians tend to prescribe lower dosages. Nevertheless, because per capita expenditure on drugs is at least as high in Japan as in the US, and because prices appear to be somewhat lower, quantities appear to be greater. This can be explained as follows:

- Polypharmacy (the use of multiple drug therapy). For example, derivatives of digestive enzymes are routinely prescribed in combination with antibiotics.

- Preference for milder-acting drugs. In Japan, there seems to be a tendency to prescribe drugs with fewer adverse effects, particularly in the area of anticancer immunomodulators. For example, krestin (polysaccharide K) and other anticancer products enjoy large sales in Japan, but are not sold in the US. In this case, the trend is strengthened by the fact that a diagnosis of cancer is seldom disclosed to the patient in Japan, making it difficult to prescribe cytotoxic anticancer drugs.

- High usage of vitamins and nutrients, which accounted for 5.5% of total Japanese pharmaceutical sales in 1991, compared with 2.9% in the US during 1989.[12]

- High usage of anti-infectives, which constituted about 18% of total pharmaceutical expenditure in Japan and 12% in the US in 1991.[13]

- High usage of antihypertensive drugs. In Japan, screening for hypertension is well established.[12] Once diagnosed, the patient will continue to be prescribed drugs for the entire course of their lives. In 1989, nifedipine and nicardipine were the second and fourth best selling drugs, respectively, in Japan. Recently, widespread implementation of screening for hypercholesterolaemia has led to an increase in the use of lovastatin and other cholesterol-lowering drugs.

- High usage of cerebral metabolic activators, such as the antidementia agent idebenone. In Japan, most institutional long term care is provided in hospitals, which are paid on a fee-for-service basis. Thus, physicians' input into long term care tends to be more extensive in Japan than in the US, where almost all long term care is provided in nursing homes. In Japan, idebenone was the third best selling drug in 1989.[10]

- Japanese people consult physicians more regularly than their US counterparts, leading to higher consumption of prescription drugs. On average, patient-physician consultations and visits number 12.8 per capita annually in Japan, compared with 5.3 in the US.[13]

<table>
<thead>
<tr>
<th>Drug</th>
<th>Japan date of launch</th>
<th>sales 1988 (100 million ¥)</th>
<th>sales 1990 (100 million ¥)</th>
<th>US date of launch</th>
<th>sales 1988 (millions of US$)</th>
<th>sales 1990 (millions of US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cimetidine</td>
<td>January 1982</td>
<td>380 (35.5)</td>
<td>378 (30.0)</td>
<td>June 1983</td>
<td>553 (33.3)</td>
<td>527 (24.2)</td>
</tr>
<tr>
<td>Ranitidine</td>
<td>November 1984</td>
<td>274 (25.6)</td>
<td>346 (27.4)</td>
<td>December 1984</td>
<td>957 (57.7)</td>
<td>1271 (58.4)</td>
</tr>
<tr>
<td>Famotidine</td>
<td>July 1986</td>
<td>416 (38.9)</td>
<td>524 (41.5)</td>
<td>November 1986</td>
<td>127 (7.7)</td>
<td>280 (12.9)</td>
</tr>
<tr>
<td>Nizatidine</td>
<td>September 1990</td>
<td>14 (1.1)</td>
<td></td>
<td>June 1988</td>
<td>21 (1.3)</td>
<td>97 (4.5)</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>1070 (100.0)</td>
<td>1262 (100.0)</td>
<td></td>
<td>1658 (100.0)</td>
<td>2175 (100.0)</td>
</tr>
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</table>
5. Has Drug Innovation Increased Since the Japanese Price Reductions Began?

In parallel with the high drug consumption, new products tend to be introduced more frequently in Japan than in the US. According to Drug Business Research,[3] 1097 original new drugs [drugs based on a new chemical entity (NCE)] were launched in Japan between 1975 and 1991, while 447 original new drugs were introduced in the US. Because the Japanese price reductions apply more stringently to 'me too' drugs than to original drugs, the incentive for pharmaceutical manufacturers to introduce innovative drugs has increased since 1981.

Table IV reports several product introduction trends in Japan between 1970 and 1990. There was little or no upward trend in the number of new drug applications approved, or in the number of NCEs approved, during this period. Thus, the number of new products introduced in Japan has not increased since the first price reduction in 1981. However, the degree of pharmaceutical innovation appears to have risen substantially. While there is no single appropriate measure of product innovation, several useful indicators point to increased innovative output during the 1980s. During this decade, there were increases in the number of drug patents granted, the number of technology export contracts, and the number of drugs licensed to non-Japanese companies. The increasing numbers of contracts and licenses indicates an upward trend of innovation, if it is assumed that non-Japanese companies are unlikely to be interested in licensing noninnovative goods. Table IV also indicates that between 1970 and 1990 there was an upward trend in the introduction of original drugs and a downward trend in that of drugs similar to others already on the market.

<table>
<thead>
<tr>
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<td>1970</td>
<td>53</td>
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<td>1981</td>
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<td>1982</td>
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<td>4</td>
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</tr>
<tr>
<td>1988</td>
<td>67</td>
<td>20</td>
<td></td>
<td></td>
<td>3</td>
<td>NA</td>
</tr>
<tr>
<td>1989</td>
<td>87</td>
<td>23</td>
<td></td>
<td></td>
<td>5</td>
<td>NA</td>
</tr>
<tr>
<td>1990</td>
<td>64</td>
<td>23</td>
<td></td>
<td></td>
<td>1</td>
<td>NA</td>
</tr>
</tbody>
</table>

[^a]: These data are based on products still on the market in 1990.
[^b]: Drugs are described as 'original' if no similar products were available in Japan at the time of approval.

Abbreviations: NA = data not available; NCE = new chemical entity; NDA = new drug application.
Although the price reductions may have increased the incentives for companies to develop and introduce innovative products, it is not clear whether the reimbursement reductions are fully responsible for the increased innovation. Several of the upward trends reported in table IV began well before the price reductions began in 1981, which suggests that the innovative effort had already begun during the 1970s. Indeed, the aggregate industry research and development (R&D)/sales ratio has been rising since the mid 1970s, from 5.3% of sales in 1976 to 6.6% in 1981 and 8.6% in 1990.[15]

It appears, therefore, that the pricing trends served to accelerate increasing innovation, for which corporate R&D investment had already laid the groundwork. Reasons for this investment include patent law changes in the early 1970s that provided greater protection to product patents, increasing sophistication of the pharmaceutical industry, and increasing foreign competition.[16]

It may be useful to compare the R&D/sales ratios of the largest (by sales) public pharmaceutical firms in both Japan and the US. For the purposes of this comparison we chose the 12 largest firms in each country, with combined pharmaceutical sales of over 66% of total corporate sales. We then summed the corporate sales, and R&D spending, of each set of 12 firms. The results show that, overall, the Japanese firms had R&D/sales ratios of 7% in 1980, 9.5% in 1986 and 12% in 1992. By comparison, the US firms had ratios of 7% in 1980, 10% in 1986 and 13% in 1992.[16] Thus, there is a slightly lower rate of increase in the Japanese R&D/sales ratio than that found in the US, although the difference might be attributable to variation in data collation procedures. To the extent that the difference in the R&D/sales trends represents lower R&D growth by Japanese companies, the Ministry of Health and Welfare price cuts may have had a dampening impact. An alternative explanation is that the US firms are larger and can afford greater investments in R&D. In 1992, the average sizes of the 12 Japanese and US firms (in terms of sales) were $US1664 million and $US4118 million, respectively (1992 exchange rate $US1 = ¥138).

6. Recent Policy Initiatives in Japan

6.1 Setting of the ‘Reasonable Zone’

In 1992, the Ministry of Health and Welfare began to make radical changes to drug pricing and distribution mechanisms. With effect from the most recent revision of provider payment mechanisms in 1994, drug prices will be calculated using the volume adjusted mean of current prices. This is in sharp contrast to the former system, which based the adjusted price on the lowest value in a national survey of prices paid by providers (usually using a factor of 0.9 or 0.81).[17] The difference that will be allowed between the reimbursement price and the market price paid by the provider is referred to as the ‘reasonable zone’. This difference is considered to be equivalent to the administrative costs of dispensing and stock control. The reasonable zone will initially be set at 15% of the reimbursement price, and will gradually be decreased to 10% by 1998. If the next survey shows that the volume adjusted mean price has exceeded the reasonable zone, then the price set by insurance will be reduced accordingly. This mechanism is expected to decrease the practice of price cutting by the manufacturers.

The pricing changes will also affect distribution practices, because manufacturers will not be allowed to negotiate directly with providers and may set the price for wholesalers only. This change is aimed at prohibiting rebates based upon the volume purchased, and was implemented as a result of the US demands in the Market Oriented Sector Selective negotiations for the reform of the drug distribution system.[2]

Whether these measures will reduce aggregate healthcare expenditure is not clear. Providers may attempt to maintain their profits by increasing their purchases of heavily discounted generic drugs, which would tend to reduce aggregate pharmaceutical expenditure. On the other hand, providers may shift towards new higher priced products,
thereby counteracting any downward pressure on their absolute profits by increasing their absolute expenditure. At present, evidence from several private wholesalers suggests that both practices are occurring. There is also unconfirmed evidence that some hospitals that were making profits in excess of 35% from drugs have had their margins cut to 25% and, as a result, are facing a major financial crisis. If such problems become endemic, the Ministry of Health and Welfare may face political pressure to increase other healthcare cost reimbursements for which, however, no funds are available.

6.2 Separation of Prescribing and Dispensing

Convincing physicians to write prescriptions to outside pharmacies instead of dispensing by themselves has long been an objective of the Japanese government as a measure to contain excessive prescribing. By gradually shrinking physicians’ dispensing profits and introducing generous fees for writing prescriptions to outside pharmacies, the government has obtained the support of the Japan Medical Association to pursue this policy.

To appease physicians, the separation of prescribing and dispensing activities was not promoted as a cost-saving initiative. Instead, the government stressed the need to establish a ‘home pharmacy’ for every Japanese citizen; that is, one pharmacy that dispenses all prescriptions for each patient so that records can be kept and checked for prescribing errors, contraindications and drug interactions. The likelihood of such hazards is high because many patients, particularly the elderly, receive their medications from several physicians who will be unaware of what other physicians have prescribed and dispensed.

The ultimate outcome of this policy is uncertain. The separation of prescribing and dispensing in Japan has been slow to take effect, with the proportion of physician’s offices that do not dispense increasing from 18.6% in 1987 to 19.6% in 1990.[4] Even if the policy is implemented widely, it is not clear whether it will achieve either the intended reduction in pharmaceutical expenditure or the home pharmacy goal. Indeed, costs will actually increase, at least in the short term, because physicians and pharmacists will collectively be paid more for providing essentially the same service that were provided before the implementation of the policy. Most pharmacy dispensing is now done by pharmacies adjacent to hospitals and physician’s offices, and seldom by the one home pharmacy that was envisioned. Part of the reason for this outcome is that small pharmacies face practical difficulties in maintaining a full inventory of prescription drugs. Moreover, although a pharmacy must have a different ownership from the hospital or clinic, it is very difficult to monitor fee splitting and adjacent pharmacies may even offer rent-free office space to physicians.

7. Policy Implications for the US

The US now faces incentives to control pharmaceutical prices. Although mechanisms such as inclusive fees and patient copayment provide some limits on pharmaceutical expenditure in the US, drug prices have increased steadily.[7] Whether prices will continue to rise in the US is uncertain. Manufacturers may maintain or even reduce prices to defluct the public criticism that they are facing during the current national healthcare policy debate. On the other hand, manufacturers may increase prices to offset the loss that will be incurred from the progressive enactment of rebate provisions for Medicaid.[18] The increased adoption of practices such as screening for hypercholesterolemia may also lead to greater pharmaceutical use and increased pressure to control pharmaceutical costs.

Thus far, Japan’s experience has shown that price controls do not necessarily lead to lowering of aggregate expenditure. In Japan, manufacturers have responded by introducing higher priced new drugs; firms operating in the US market also might respond to price controls by increasing the rate of product introduction. Although providers face different prescription incentives in the US and Japan, issues such as concerns for patients’ health, innovation, and fear of litigation will frequently lead doctors to prescribe the latest products. The com-
bination of manufacturers' incentives to introduce new products and healthcare providers' incentives to prescribe them may counteract cost control efforts. Japan, the US, and other countries face major hurdles in maintaining a balance between controlling healthcare costs and providing recent innovations in healthcare for their populations.

References

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