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2000

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### Recommended Citation

Freund, Deborah A.; Wilson, Don; Reeher, Grant D.; and O'Brien, Bernie, "Pharmaceuticals and the Elderly: A Comparative Analysis" (2000). *Center for Policy Research*. 135.

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**Center for Policy Research  
Working Paper No. 17**

**PHARMACEUTICALS AND THE ELDERLY: A COMPARATIVE ANALYSIS**

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**March 2000**

**\$5.00**

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## **Abstract**

This paper compares and contrasts outpatient pharmaceutical policies for the elderly in seven OECD nations: Australia, Canada, Germany, Japan, New Zealand, the United Kingdom, and the United States. Each country is facing an increasing financial burden due to rapidly growing numbers of elderly citizens, in number and as a percentage of population, and rising drug costs. As a result, they are struggling to balance varying levels of commitment to providing drugs for the elderly with the need to contain costs. Although each country's healthcare systems are unique, the methods that each country is using to control rising pharmaceutical costs are similar. Many countries are gravitating towards the use of last-dollar rather than first-dollar coverage. All provide inpatient pharmaceutical coverage.

## Introduction

Policies concerning prescription drug coverage for the elderly, here consistently defined as over age 65, have recently become a pressing political issue around the developed world, as the elderly population has grown, both in absolute number and as a percentage of the entire population, and as the overall costs of prescription drugs have risen, due to increased prescribing and the introduction of newer, higher priced drugs. In this article we compare and contrast the present policies regarding prescription drugs for the elderly in seven OECD nations: Australia, Canada, Germany, Japan, New Zealand, the United Kingdom, and the United States. Our focus is access to prescription insurance, extent of benefits coverage of insurance, and costs, both to individuals and the entire nation.<sup>1</sup>

With the exception of the United States, the governments of the nations in this study are struggling mightily with the challenge of maintaining their commitments to providing drug coverage to the elderly while attempting to manage and control their costs. What can the United States learn from the ways the nations are coping with this challenge? What lessons emerge for the United States as it entertains the possibility of enhancing public elderly access to pharmaceuticals by adding outpatient prescription drug coverage to its Medicare program? We conclude our comparison by speculating about these lessons, based on the international evidence.

We chose the seven countries that we did because they exhibit both interesting similarities and differences in the ways Western nations are addressing access to and use of pharmaceuticals among the elderly. Indeed, one of the principal themes of our comparative analysis is *convergence*. This convergence is particularly apparent in the nations' approaches to cost containment applied to their prescription drug benefit; their shared strategies in this regard—

which are employed in both the public and private sectors—include restricting drug coverage through positive and negative lists, generic substitution, reference-based pricing, individual cost-sharing, and more recently, the use of practice guidelines. Japan is an outlier in that it has not attempted to significantly restrict the consumption of pharmaceuticals and has maintained its primary reliance on a strict pricing regulation scheme in order to control costs. Though there is more international variation in terms of elderly insurance access and coverage in the seven nations, there is nonetheless a rough convergence of providing universal or near-universal access to complete coverage for inpatient prescription drugs and last-dollar but not first-dollar coverage for outpatient prescription drugs. Here the United States is an outlier in that it provides significantly less overall coverage for outpatient drugs through public sources, and does not guarantee access to insurance for outpatient drugs.

Another principal theme is *complexity of policy effect*. When the reader assesses the elderly's access, coverage, and costs from an international perspective, it is essential to recognize that the final result for any citizen is the product of several *different policies* that are *simultaneously in force*. The ultimate effects of the policies are thus interdependent. Policies about out-of-pocket maximums, first-dollar versus last-dollar coverage, co-payments, co-insurance, the use of positive and negative formulary lists, and so on, form a complicated web; as each policy varies, it can have profound effects on the impact of another. Individual policies can further vary with different segments of the elderly populations, based on income or geographic area for example. The possibilities for variations in the web are endless in theory and multiple in fact. We have done our best to provide the reader with an accurate sense of the overall outcomes of these webs of policies, but we are inevitably forced to be strand-specific in our attention. We

therefore caution the reader to recognize the complicated nature of the systems dealing with elderly pharmaceutical coverage.<sup>2</sup>

## **Context and Background**

Except for the United States, all seven nations have made a national commitment to universal access to medically necessary hospital and medical services. In all these nations except Canada and the United States, this commitment includes access to prescription medications.<sup>3</sup> And though the pressures of an aging population have caused deep reassessments of many social insurance institutions, such as the pension system in Japan, the commitment to preserve meaningful access to medically necessary prescription drugs for elderly citizens seems to be firmly held. The nations have largely protected their elderly drug support policies from significant cuts in coverage, though there have been some increases in the share of costs borne by the elderly.

Despite this commitment, there are dramatic variations among the nations in terms of access, coverage, and costs. These variations can extend to *within* the nations as well. And though there is a shared political stance in all of the nations, including the United States, of a greater relative commitment to prescription drug access for the elderly than for the population as a whole (evidenced in the United States by Medicare's coverage of inpatient drugs), wide international and domestic variations remain for this group as well.

The variations within nations are particularly pronounced in Canada and the United States, two of the more federal governmental systems in the study. In Canada, province of residence and income drive the domestic variation in coverage for elderly citizens. In the United States, much more so than the other nations, income, wealth, past employment status, and type of health insurance plan are the driving factors behind elderly access to and insurance coverage of

prescription drugs. The basic characteristics of each nation's health care system and its policies concerning elderly pharmaceutical coverage are summarized in Table 1.

As indicated in Table 2, spending on pharmaceuticals constitutes a large portion of the nations' total health care expenditures, and varies from a high of 20.8 percent in Japan to a low of 8.8 percent in the United States. The increase in spending on pharmaceuticals, which is not shown in the tables, both in absolute and relative terms, has prompted a shared concern over the future trends in pharmaceutical expenditures. In Britain, for instance, pharmaceutical expenditures increased by 80 percent between 1990 and 1996, and the proportion of total health care expenditures constituted by pharmaceuticals—16.5 percent—is among the highest in the European Union (Rosian, Habl, and Volger 1998). While Japan has lowered the percentage of its total health care costs spent on pharmaceuticals from a staggering 39 percent in the early 1980s, pharmaceuticals still constitute over 20 percent of total health care costs, making it the most drug-intensive nation in our study.<sup>4</sup> The Japanese perform relatively fewer invasive health care procedures in favor of more drug therapies. Therefore the high proportion spent on drugs is greatly offset by lower costs elsewhere. In the United States, spending on prescription drugs only constitutes about 9 percent of all health care spending. But spending has been increasing at about 11 percent per year since the early 1990s, a more rapid rate of growth than for most other health care sectors (Levit et al. 1998; GAO 1999) and, costs for other sectors such as hospital and physician care are rising at even greater rates due to the use of more invasive procedures and greater intensity of care than in other countries.

The different measures and relative rankings of expenditures on health care and pharmaceuticals found in Table 2 emphasize different aspects of each nation's economy and health care and pharmaceutical policies, and tend to tell different stories. Depending upon the measure of expenditure the ranking of our seven countries in terms of health care and

pharmaceutical expenditure will vary. Simply comparing countries in terms of total or per capita monetary expenditures in a single currency such as United States dollars will rank the wealthiest country (United States) the highest, because United States citizens spend more per capita on most commodities, not just health care (Deber and Swan 1999).

The measure of health expenditure most commonly used when making international comparisons is the percentage of GDP (Gross Domestic Product), which is “defined as the sum of total domestic expenditure plus exports of goods and services, minus imports of goods and services. GDP closely resembles gross national product (GNP), differing primarily in its treatment of investment income of nonresidents. Health spending as a proportion of GDP measures how much of the total economy is devoted to health care.” Although widely used in debate, there are limitations of presenting health care expenditure as a percentage of GDP. “Spending as a proportion of GDP reflects not only how much is being spent for health services but also the health of the economy” (Deber and Swan 1999).

Purchasing Power Parities (PPPs) are the rates of currency conversion that allow the purchasing power of different currencies to be expressed in a common unit. A PPP is computed as “the sum required to buy the same basket of goods and services in each country if everyone had to pay the same prices” as a reference country (the United States in Table 2). An advantage of PPPs over nominal expenditures per capita is that they eliminate “differences in price levels among countries so that international variations reflect only differences in the volume of goods and services purchased” (Deber and Swan 1999).

In terms of elderly individuals’ spending on pharmaceuticals, because most of the nations employ last dollar coverage rather than first dollar coverage, the out-of-pocket costs for prescription drugs can be considerable, even with the presence of universal programs. It should be noted that Japan is the exception here, with essentially both first and last dollar coverage—



extremely small drug co-pays, and no premiums—for those over 70 years of age. Among Medicare beneficiaries in the United States, where there is no universal program and where the elderly consume a third of all prescription drugs, the estimates for individual yearly out-of-pocket expenditures for prescription drugs range from \$300 to almost \$600 (see Soumerai and Ross-Degnan 1999; Davis et al. 1999; Rother 1999; Gibson et al. 1999).

The demographic picture adds to the problem of elderly pharmaceutical expenditures. As Table 3 demonstrates, although the seven nations vary significantly in the percentages of their populations over 65, they are all rapidly aging. By 2020, for example, over a quarter of the Japanese population will be over 65; also note in this regard that Japan already spends one third of its total health care budget on the elderly (Graig 1999). The decline in the nations' ratios of workforce population to the population over 65 exacerbates the problem; once again, Japan provides a dramatic example. It is interesting to note that in comparison with the other six nations, the United States is relatively young; indeed, in 20 years it will be only slightly older than Japan is now. Nonetheless, for all seven nations, the combination of present drug expenditure levels and future demographic profiles suggest a potent combination for increased drug expenditures in the coming years.

Demographics are not the whole story behind the rise in health care and drug expenditures, however. For example, in Japan between 1980 and 1990, the number of those over 65 increased by 32 percent, but there was only a 1.6 percent increase in the proportion of GDP accounted for by health care costs. In addition the percentage of total health care costs accounted for by pharmaceuticals dropped from 39 percent in 1981 to 26 percent presently, largely due to strengthened price controls (Ikegami and Campbell 1999; Graig 1999). In contrast, in the United States, the increase in those over 65 was only 10 percent, but the proportion of GDP accounted for by health care costs rose by 32 percent (Oliver et al. 1997). Also note that over the past 20

years in the United States, health care expenditures for the elderly have outpaced the growth in GDP by 3 to 4 percent, while the number of elderly has been growing only about 1 percent per year faster than the entire population. In the United States new technologies, including new drug therapies, are responsible for most of the increase in elderly health care costs (Fuchs 1998).

## **Access to Insurance for Pharmaceuticals Among the Elderly**

Table 4 provides an overview of the publicly provided access to and coverage of pharmaceuticals for the entire nation and for the elderly population. All the nations in the study provide essentially universal access to inpatient prescription drugs for the elderly. Four of the nations—Australia, Britain, Japan, and New Zealand—provide publicly funded prescription drug coverage, both inpatient and outpatient, to the entire population. In Germany, Canada, and the United States, the situation regarding elderly access to insurance is more complicated, and requires further elaboration.

Elderly outpatient prescription drug coverage in Germany is similar to that for the entire population; most pharmaceuticals are covered by the public plan. Elderly citizens do not receive exemptions from or reductions in co-payments. Up until the past decade, the German health care system offered health care through a uniform sickness fund system. Over 1,354 funds existed until about 1992. Every fund offered the same benefit package, and membership was compulsory for the public. The sweeping reforms of 1993 (Health Sector Act-GSG) proposed changes to the sickness funds in 1996, which included allowing patients to choose between sickness funds, and encouraged competition among sickness funds. One of the more immediate results of these reforms was the reduction of the number of sickness funds to 482 by 1998. As well, sickness funds must adjust fund revenues to account for the risks of those who subscribe to their fund. Sickness funds operate under strict national regulations, as self-governing health

insurance funds, who contract selectively with physicians and hospitals to provide care. (Brown and Volker 1999; Schulenburg 1997; Rosian et al. 1998).

In Canada, all elderly citizens with financial need have at least some insurance coverage for outpatient prescription drugs through provincial drug programs. Two of Canada's ten provinces restrict public drug coverage to low income elderly. One of these, though, provides a subsidy for the elderly toward purchasing private insurance. Three provinces provide the same levels of coverage to all elderly residents; the remainder have coverage for all elderly but means-based variation in cost sharing. Twenty-two percent of elderly Canadians have some form of private drug insurance as well, usually as retiree benefits from their former employers. The overall landscape in Canada is thus one of patchwork coverage, driven in some cases by financial need (Willison, Grootendorst, and Hurley 2000).

In the United States, the terrain is considerably more uneven, with excellent coverage in some instances and the absence of coverage, regardless of financial need, in others. Essentially all elderly citizens have inpatient drug coverage through Medicare. The system of insurance for outpatient drugs, however, is quite fragmented, and includes both public and private sources, Medigap plans and managed care, and means-tested and non means-tested programs. The publicly funded sources of access are further fragmented by level of government—there are separate assistance programs at the national, state, and (some) municipal levels. Most of the public drug assistance programs are means-tested. These different insurance mechanisms also vary widely in their coverage.

In the United States, a little over one-third of all elderly persons have no coverage whatsoever for outpatient drugs; the others have varying levels of coverage through employer-sponsored retiree plans, privately purchased “Medigap” plans, the means-tested national Medicaid and Veterans benefit programs, connection with the Defense Department, participation

in a Medicare managed care program (in recent years, the elderly have had the option of receiving their Medicare-based health care through managed care organizations, and most of these offer outpatient drug benefits not included in the traditional fee-for-service Medicare plan), and state and even municipal drug access programs (Gross and Bee 1999; NPC 1998).

Elderly persons can, and do, participate in more than one of these options, and thus obtaining relative numbers on enrollments is problematic. One study using 1995 Medicare survey data (the most recent available) attempted to place beneficiaries in single categories based on “their primary source of [supplemental health insurance] coverage” for that year, and generated the following percentages of coverage: 35 percent with no drug coverage; 6 percent HMO; 11 percent Medicaid; 27 percent employer-sponsored; 8 percent individually purchased; 2 percent other (Davis et al. 1999). In addition, 6 percent switched their primary source of coverage during the year. The remainder, 3 percent, received their drug coverage through an insurance source other than their primary supplemental health insurance (the total is less than 100 percent due to rounding). That study did not take into account state and city drug assistance plans. Less than half the low-income elderly, however, live in states with these assistance programs (Soumerai and Ross-Degnan 1999).

Since 1995, additional Medicare beneficiaries have joined Medicare managed care HMOs. Fifteen percent of all Medicare beneficiaries (6.3 million) are currently enrolled in these plans. Somewhere between 80 and 95 percent of the plans offer outpatient prescription drug coverage, though there are recent reports of HMOs dropping this coverage, and the extent and nature of the coverage varies widely (Davis et al. 1999; Barents Group 1999). Medicare HMOs are most prevalent in the West. Since HMO penetration is far shallower in rural areas than elsewhere, elderly persons located in rural areas are less likely to have coverage through a Medicare HMO. In addition, those plans that do exist in rural areas are approximately four times

less likely to offer drug coverage than plans in urban areas; indeed only 4 percent of Medicare beneficiaries in rural areas have access to a Medicare HMO with drug coverage (HCFA 1999).

Eighty-eight percent of the elderly in Medicaid receive outpatient prescription drug benefits (Davis et al. 1999). Only 3 of the 10 existing standardized Medigap plans offer any drug benefits at all (plans “H,” “I,” and “J”), covering 29 percent of all plan holders.

Fourteen states currently offer their own pharmacy assistance programs, primarily for those who are low-income but who do not qualify for Medicaid, or for those who spend a disproportionate percentage of their income on prescription drugs.<sup>5</sup> The plans vary widely in coverage. In addition to the state programs, there are several city and municipality programs—for example in Boston, Massachusetts, Seattle, Washington, and Austin, Texas, and the county surrounding it—adding further to the fragmented nature of the United States system. But apparently, no comprehensive listing of such programs exists.<sup>6</sup>

There is also the possibility that unions and religious organizations offer outpatient prescription drug assistance. There have been reports of such coverage, but we have yet to find reliable systematic data on it. There are other programs of various kinds. Some pharmaceutical corporations, for example, have programs to provide free drugs to eligible persons, and the political interest and research group American Association of Retired Persons (AARP) has a Pharmacy Service Program that arranges for discounts on drugs.<sup>7</sup>

## **Coverage of Pharmaceuticals Among the Elderly**

### **Public/Private Mix**

In all countries studied, inpatient pharmaceutical expenses are fully covered under national Medicare programs. Outside the institutional environment, countries vary somewhat. The United Kingdom, Australia, and New Zealand have publicly financed national pharmacare

programs for all citizens. In Germany, all citizens have access to public coverage through a collection of sickness funds, with similar coverage for pharmaceuticals. About 10 percent of the German population—predominantly non-senior high income earners—has opted for private coverage. Canada and the United States are notable in the extent of private sector coverage for pharmaceuticals.

In Canada, approximately 87 percent of all residents regardless of age have some form of coverage for pharmaceuticals. Approximately 25 percent are publicly funded (primarily the elderly and those on social assistance), and another 62 percent have some form of private coverage. However, public system in Canada offers some form of coverage for almost all (98 percent) of its elderly population, albeit with widely varying cost-sharing provisions. In addition, private coverage may extend to the elderly to the extent that former employers may cover their retirees for medications not covered on the positive lists of public plans. In this regard, the private sector is the payer of last resort.

As detailed in the previous section on access, given the patchwork and overlapping nature of coverage in the United States, it is difficult to provide a detailed breakdown of public versus private coverage. Roughly 35 percent of elderly persons have no coverage for outpatient prescription drugs. Roughly 25 percent have public insurance coverage through Medicare managed care and Medicaid and roughly 40 percent have private insurance coverage (Medigap). The extensiveness of the coverage varies dramatically from state to state, particularly with private insurance. In Japan, all residents have the same extensive government-mandated pharmaceutical benefits, and receive them through employer-based or government based insurance plans.

In those countries with national pharmaceutical programs, reciprocity agreements are in place that allow for portability across jurisdictions (i.e., equivalent coverage, if the jurisdiction in

which a prescription is filled differs from the place of residence). In Canada, a senior filling a prescription in a different province would follow the rules of the province in which the prescription was dispensed. Portability in the United States varies widely and depends on the plan of coverage.

## **Funding, Costs and Cost Containment**

The seven nations vary widely in their matrices of funding for elderly pharmaceuticals, but all employ some combination of public sources and individual out-of-pocket sources; in Canada and the United States there is a heavy reliance on private third-party insurance as well (see Tables 2 and 4). The complicated nature of the funding mechanisms across different countries makes it difficult to know precisely what the overall distributions of individual expenditures in each nation are, but it is likely the case that the more uniform, national, and public the funding effort is, the more consistent and more progressive the overall funding burden will be. This suggests that nations like Britain, Japan, and New Zealand have the most progressively funded systems.

Once again, the United States is the outlier, with an overall funding scheme that is quite fragmented and on the whole relatively regressive and reliant on out-of-pocket expenditures. Because of its fragmented nature, it is difficult to capture this completely, but the following figures offer some glimpse of the relative burdens placed on the elderly in their consumption of outpatient pharmaceuticals. According to one AARP study, prescription drugs account for almost one-fifth of the out-of-pocket spending for all health care by Medicare fee-for-service beneficiaries (Gross et al. 1998). According to another study, all Medicare beneficiaries spend \$303 per year on drugs; those without drug coverage spend \$432. Those with HMO drug coverage spend \$162; those with employer-sponsored drug coverage spend \$224; and those with

Medigap drug coverage spend \$361 (Davis et al. 1999; see also Lillard et al. 1999). A second study placed the out-of-pocket drug costs for Medigap beneficiaries much higher, at \$570 per year, and estimated the costs for those with no coverage whatsoever at \$590 (Rother 1999). A third estimated the current out-of-pocket prescription drug cost for all noninstitutionalized Medicare beneficiaries at \$410, and 4 percent of income. For those without drug coverage, these respective figures were \$590 and 6 percent; for those with some type of coverage, \$320 and 3 percent (Gibson et al. 1999). Note that none of these sets of figures takes into account insurance premiums, which are high for Medigap plans and low for Medicare HMOs (in 1997 70 percent of Medicare HMOs charged no premium at all [Graig 1999]), nor the fact that those with better coverage take more drugs, except for those in HMOs (Davis et al. 1999; GAO 1999).

Regarding the spending on drugs by income level and as a percentage of income, the patterns are similar. One recent AARP study estimated that Medicare beneficiaries with incomes between 135 and 200 percent of the poverty level (about \$10,900-\$16,150) spend the greatest amount out-of-pocket on drugs—\$445 on average. As a percentage of income, those in the poorest category, with incomes under the federal poverty level, spend the most—9 percent of income (or \$310). And those below poverty levels who do not receive Medicaid benefits spend 13 percent of their incomes (\$400). In contrast, those with incomes between 200 and 400 percent of the poverty level spend only 3 percent of their income (\$425), and those above 400 percent of the poverty level spend just 2 percent (\$405) (Gibson et al. 1999). Another AARP study of fee-for-service Medicare beneficiaries found that those with annual household incomes below \$10,000 spent 8 percent of their income on prescription drugs; those with incomes above \$25,000 spent 2 percent (Gross et al. 1998). Again, these studies do not take into account the fact that those with lower incomes buy fewer drugs.



There is considerable convergence across countries in approaches to cost-containment. Strategies include: restricting drug coverage (through positive and negative lists), use of practice guidelines, generic substitution, reference-based pricing, and user cost-sharing.

## **Formularies**

A hallmark of publicly funded pharmacare programs has been the use of positive and negative lists for drug coverage. All countries but the United Kingdom and Germany make use of positive lists, also known as formularies. Positive lists describe pharmaceuticals that will be paid for by the insurer. The United Kingdom and Germany make use of negative lists (i.e., drugs that will not be paid for by the insurer). The default assumption is that, should a drug receive approval for marketing in the country then, unless an exception is made, the public insurer will cover that product. Functionally, the end result is equivalent from the perspective of the consumer. In Germany, recent attempts to introduce a positive list of reimbursable drugs have been blocked by the lobbying of the pharmaceutical industry, as have attempts to substantially expand the negative list of drugs (Tuffs 1999).

## **Practice Guidelines**

Formularies generally provide a wide scope of prescribing freedom within the bounds of pharmaceuticals covered and generally cover the watershed of treatment options. New pharmaceuticals, however, provide a substantial challenge to pharmaceutical budgets and to the formulary system. The entry prices of new pharmaceuticals are substantially greater than those of the older generation of drugs with which they compete. However, there is often a clinical advantage that would justify their use in limited circumstances.

An increasingly popular mechanism for dealing with such discretionary use circumstances is the use of clinical practice guidelines. Clinical practice guidelines are, in essence, authoritative statements of best practice in the management of specific medical

conditions. They have been in existence in one form or another for decades. Developed to reduce practice variation and control costs, guidelines find their origins in institutional settings. In the past decade, they have been used increasingly in public pharmacare plans to complement the formulary system. Whereas formularies manage budgets through inclusion or exclusion of specific products, practice guidelines allow for greater discretion on the part of the prescriber while still restricting use through supply side measures. They have been applied chiefly to limit use of second and third line therapies for clinical or economic reasons.

Guidelines are used in Australia, New Zealand, and the United Kingdom in setting pharmaceutical reimbursement policies for expensive new medications. They are being employed increasingly in Canada by provincial governments, and are in common use in the United States by managed care organizations.

In the past, it was common to develop guidelines through consensus conferences of leading physician specialists. In recent years, there have been substantial changes in the development of guidelines. It is increasingly common that guidelines are developed with explicit reference to the “best evidence” on effectiveness and efficiency, incorporating input from epidemiologists, statisticians, and economists. The incorporation of formal economic analysis techniques was pioneered in Australia and Canada (Guidelines for Economic Evaluation for Pharmaceuticals, Canada 1994; Guidelines for the Pharmaceutical Industry on Preparation of Submissions to the Pharmaceutical Benefits Advisory Committee, Australia 1992), and now play a major role in the approval of new drugs in the United Kingdom, through the newly created National Institute for Clinical Excellence (NICE). The success of practice guidelines in limiting the use of targeted drugs is dependent upon the effective dissemination of practice guidelines and the mechanisms employed to ensure compliance with recommendations, and has been the subject

of numerous reviews (e.g., Grimshaw et al. 1995; Woolf et al. 1997; Haycox, Bagust and Walley 1999; Hurwitz 1999; Feder et al. 1999; Davis and Taylor-Vaisey 1997.)

### **Generic Prescribing and Reference-Based Pricing**

Generic drugs are chemically identical “copies” of pharmaceuticals with expired patents. In most countries, physicians must prescribe by generic name in order to allow the dispensing of a generic product to be dispensed. Generic prescribing is promoted by all public insurers studied. In Canada, provinces are legally authorized to automatically substitute a generic equivalent, if available, even if the prescription is written for a name-brand product.

Reference-based pricing carries substitution one step further by declaring drugs in particular therapeutic classes as equivalent, and setting reimbursement at either the lowest price or the average among therapeutically equivalent products. Some form of reference-based prescribing is employed in Australia, New Zealand, and Germany. One province in Canada has introduced reference-based pricing, and it is used in the United States by some pharmaceutical benefits managers and some managed care organizations. However, policies vary substantially across countries in terms of therapeutic categories of drugs selected, inclusion of patented medicines, and the selection of the reference price.

### **Cost Sharing**

While the above methods of cost-containment have focused on supply-side measures, considerable attention has gone into demand-side management and cost-control through consumer cost-sharing. Cost-sharing can take two basic forms: (1) deductibles, which require that the beneficiary pay the full cost of drug expenses up to some pre-specified amount; and (2) co-payments. Copayments come in two forms: a flat indemnity payment, which requires that the beneficiary pay a fixed charge per prescription; and co-insurance, which requires that the

beneficiary pay a specified proportion of the cost of the prescription (applied to the drug ingredient cost alone, the dispensing fee alone, or both).

While all countries studied employ cost sharing in some fashion, there is considerable variation across countries in which of these methods is employed, and the criteria used (see Table 4). In addition, there is large within-country variation in cost sharing provisions in Canada and the United States (Willison, Grootendorst, and Hurley 2000; Barents Group 1999). In all countries, cost sharing has increased in the past decade. With the exception of the United States, countries generally limit consumer cost sharing, consistent with the principles of true insurance. Australia, Japan, and several provinces in Canada provide substantial reductions in cost-sharing for the elderly while, in the United Kingdom, the elderly are exempt from cost sharing. In New Zealand, reductions in cost sharing are based on high use of chronic medications, many of which are used largely by the elderly.

### **Other Strategies**

Physicians in the United Kingdom, Germany, and New Zealand have prescribing budgets. Until recently, in the United Kingdom, these budgets have been virtual budgets with no tangible consequence if surpassed. With the conversion to primary care groups (and eventually primary care trusts) physicians now hold “hard” budgets for pharmaceuticals that are unified with budgets for other primary and secondary care services (Majeed and Malcolm 1998). A similar attempt in Germany to hold physicians financially accountable for prescribing budgets in the early 1990’s was reversed within two years of introduction and recent attempts to re-introduce strict budgets is being met with resistance from physicians (Tuffs 1999; Busse and Howorth 1996). While there is some evidence that pharmaceutical budgets in the United Kingdom increase the prescribing of generic drugs and slows the increase in drug costs, the long-term cost-effectiveness of this strategy has not yet been evaluated (Wilton and Smith 1998).

## **Conclusion—Lessons for the United States?**

The Western nations that have most reliably provided access to pharmaceuticals for their elderly populations have combined a universal access approach with catastrophic or “last-dollar” coverage for outpatient prescription drugs, and some strong mechanisms of cost control in addition to individual cost-sharing. The convergence in their policies illustrates their collective struggle to control costs.

If the governing process in the United States arrives at the decision to publicly guarantee for the elderly meaningful access to outpatient prescription drugs—an idea that the public apparently supports—then it will presumably be pushed toward adopting cost containment policies similar to those described earlier. Adding public outpatient prescription drug coverage for the elderly is expensive—there is no getting around this fact. The other six nations in this study offer a set of choices for attempting to control the considerable expense involved. These are hard choices indeed for governments to make, but something significant must be done to address the problem of costs.

President Clinton’s current proposal to add outpatient prescription drug coverage to the Medicare program only taps access and does not include last-dollar coverage. Furthermore, his proposed plan has voluntary rather than mandatory participation. Individuals opting for the plan would have half of the cost of their prescription drugs reimbursed, up to a maximum of \$1,000 in the first year, and rising to \$2,500 by 2008. Premiums would be \$24 per month in 2002, and would rise to \$44 in 2008; however, the premiums and copayments are waived for those Medicare beneficiaries with incomes under 135 percent of the poverty level, while those between 135 percent and 150 percent would get a partial subsidy.

President Clinton’s plan is obviously tailored to fit into the presently existing fragmented system of elderly drug coverage. It has no significant cost containment strategy, other than the sizable portion of individual cost-sharing (which of course diminishes the extensiveness of the coverage). Thus, this reform, like all other United States health care reforms, seems to be stuck in the following dilemma: Anything significant and drawing on the best available lessons from the international experience appears to require a fundamental restructuring of the overall system, and in particular the adoption of last-dollar coverage and strong cost control policies—a course that is apparently not politically viable. But any politically viable reform can do little to fundamentally change the problems of access, coverage, and cost that are deeply lodged in the present American system. This plan will likely help, in that it will bring some drug coverage to some additional elderly persons, but that is about all that can be said for it. Congressman Wilbur Mills once described most policy activism in the United States as “leaning forward in the foxhole.” This reform appears to qualify for his definition.

## Endnotes

1. Among the important topics we are largely setting aside in our inquiry are the effects of public policies on industrial development, corporate incentives, and pharmaceutical research and development, price, and the effects on access, cost, and coverage of changes in the corporate sector. In particular, how prices are set is a very complex subject and beyond the scope of this paper.
2. The reader is further cautioned that terms like “out-of-pocket,” “cost-sharing,” “co-payment,” “co-insurance,” and “maximum payment” are not used consistently among publications concerning pharmaceuticals, and therefore our descriptions that are based on others’ research contain some inherent uncertainty. For example, it is usually the case that “out-of-pocket” costs do not include spending on over-the-counter medications, particularly in European publications. They also do not typically include the cost of premiums. This is not always the case, however. We have attempted to be as clear as possible in this regard. We have also included a glossary of terms appearing at the end of this article.
3. In Canada, pharmaceuticals are not covered under the national program. Instead, each province has introduced its own eligibility criteria for publicly funded Pharmacare, resulting in a mix of public and private insurance under which approximately 25 percent of its citizens and 48 percent of filled prescriptions are covered publicly. Approximately 62 percent of the citizens have some form of private drug insurance coverage and about 11 percent have no coverage, either public or private. (Dingwall 1997)
4. Japan’s high percentage is driven both by its high consumption of pharmaceuticals and its lower expenditures in other health care areas.
5. The states are: Connecticut, Delaware, Illinois, Maine, Maryland, Massachusetts, Michigan, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Wisconsin, and Wyoming.
6. Information on the municipal programs was collected through phone conversations with individuals in those locations. Additionally, information on the existence of assistance through unions and religious organizations was gathered anecdotally and no corroborating written material was available.
7. Information on AARP’s pharmacy program is available at <http://www.rpspharmacy.com>.

**Table 1. Healthcare and Pharmaceutical Background for the Seven Selected Countries**

Healthcare Systems	Pharmaceuticals and Prescribing
<p><b>Australia</b> Australia guarantees universal access to health care, called Medicare, regardless of ability to pay. It is financed by general taxes, and an income related Medicare levy (averaging 1.5% of taxable income, depending on income, marital status etc.). The national government (Commonwealth) funds most non-hospital medical services, pharmaceuticals and health research. Grants from the Commonwealth to the States and Territories fund public hospitals, home, and community care for the aged. There are 44 registered health insurers offering private health insurance. A community rating system is used. Private insurers cannot insure non-hospital services covered by Medicare. Private insurance is used to provide benefits additional to Medicare, such as choice of doctor, private room in hospital etc. The public sector provided 61% of hospital facilities in 1996/97. Patients may choose to be private patients in public hospitals, or private patients in private hospitals. From 1990 to 1998, the percentage of the population covered by private insurance for hospitals has declined from 45% to 31%. Public hospitals have pharmacies, which provide medications to in-patients for free, and do not fall under the Pharmaceutical Benefits Scheme. Over 90% of people aged 65 years or more had some private insurance. Privately owned nursing homes provide the majority of long-term care for the elderly.</p>	<p><b>General:</b> Australia’s national reimbursement scheme for pharmaceuticals is called the Pharmaceutical Benefits Scheme, with the objective of providing access to essential drugs for all Australian residents. The PBS was introduced in 1953. Australia uses a ‘positive’ list, or formulary, which describes the drugs that a resident can expect to have covered publicly.</p> <p><b>Cost sharing:</b> Under the PBS, Medicare eligible patients who do not hold a Health Care Card, Pensioner Concession Card or Commonwealth Seniors Health Card, pay up to the first \$20.00 for each prescription item, and co-payments are capped at \$612.60 within a calendar year. Patients who hold a concession card pay \$3.20 per prescription item. For concessional and pensioner patients (cardholders), once their total eligible expenditure exceeds \$166.40 within a calendar year, any further prescriptions are free for the remainder of that year. All pensioners have their pensions supplemented by a pharmaceutical allowance of \$140.40. A combination of generic based substitution and reference based pricing is used.</p>
<p><b>Canada</b> Since 1965, Canada has had a universal access single-payer health insurance system, called Medicare. Approximately 92% of citizens are covered by universal health services. Funding for Medicare varies by province, with mixed tax, employer tax, and premium. Provinces are the sole payers for all services deemed “medically necessary,” the definition of which varies within each province. While private insurers exist, they can only provide coverage for services not paid for by the government. Each province has its own plan. Patients have choice of providers.</p>	<p><b>General:</b> Canada does not have a national pharmaceutical program, for citizens in general, nor for the elderly. Such programs are the responsibility of each of the 10 provinces.</p> <p><b>Cost-sharing:</b> Each province has discretion for cost-sharing policy, and thus co-payments are highly variable across provinces. Four provinces have universal coverage, and over 60% of all Canadians have some sort of private insurance plan. One province has adopted reference based pricing.</p>



Table 1. Continued

Healthcare Systems	Pharmaceuticals and Prescribing
<p><b>Germany</b>            The national Medicare system in Germany is operated by the Statutory Health Insurance Organization (GKV). 88% of the population is enrolled in the GKV.1 Individuals receive this medical coverage by belonging to one of the 482 ‘sickness funds’. The Federal Government regulates this system, which is implemented by the 16 regions (Landers). 80% of health care is funded by social security or taxes, through contributions from both employers and employees and delivered by both public and private providers. . The sickness funds negotiate with providers and collect payments from individuals. Over the past decade, policy has generally been focused on attempting to encourage competition. Approximately 9% of Germans have private insurance coverage, mostly held by high-income earners who opt out of the statutory public system to receive some additional benefits through the private system. Almost all family physicians are contracted with the GKV. 57% of beds are provided by public hospitals, 37% of beds are owned by the German Red Cross (nonprofit) or churches. The hospital levy was eliminated in 1999.</p>	<p><b>General:</b> Sickness funds contracted with the GKV pay for all physician-prescribed drugs, except those on the negative list, which was implemented in 1983, and then added to in 1991. This list includes cold remedies, somatotherapies, laxatives, and motion sickness. A positive list had been proposed in the early 1990s by the government, but was not implemented. A positive list has recently been proposed again, and is receiving serious consideration.</p> <p><b>Cost-sharing:</b> Patient co-payments doubled in 1997, but are still comparable to other European countries, and have recently been reduced.</p>
<p><b>United Kingdom</b>            The National Health Service (NHS), introduced in 1948, provides universal access to health services for all citizens. Public and private providers ‘compete’ for contracts with the 100 District Health Authorities. Almost all health care services come from public services and are financed by 83.5% from taxes, 4% patient copay, and 12.5% social security. Reforms in the early 1990s attempted to bring about more competition between providers. More recently, the emphasis has been on coordination and quality services. Only about 10% of the population has private insurance, which is used mostly for supplementary coverage. Since 1991, public hospitals are self-governed and privately administered ‘Trusts’. The UK moved rapidly from a public to private system for long term care in the latter 1990s, with over 70% of long-term care now occurring in independent homes.</p>	<p><b>General:</b> All prescribed pharmaceuticals are reimbursed by the NHS, except for those on the Selected List Scheme (negative list). The negative list of approximately 2,000 products includes antacids, analgesics, medicine for coughs and colds, laxatives etc.</p> <p><b>Cost-sharing:</b> There is a 5.8 pound co-payment per prescription item, with extensive exemptions in place for various populations. All elderly are exempt from co-pays. As the fund-holding budgets for prescribing became fixed in 1999 , universal or near-universal coverage of prescriptions offered by the District Health Authorities is likely to decline.</p>

**Table 1. Continued**

Healthcare Systems	Pharmaceuticals and Prescribing
<p><b>Japan</b></p> <p>Japan's universal access health insurance system is a mixture of employer mandate insurance and government programs for the employees of small firms, the self-employed, pensioners, the unemployed, and the poor. Individuals cannot opt out of the mandated system. It is an all-payer system in terms of price regulation, and is funded through employer and individual premiums, which are based on income, and tax revenues. Funding sources for the health care system: 12% out of pocket; 57 % insurance contributions (employer and individual premiums; employer must pay at least 50%, but in practice is as much as 80%); 37 % from government subsidies. When the government mandated transfers of funds from employer insurance contributions to other insurance programs are counted as government sources, about half of total costs from government Pensioners (retirees), self-employed, poor, unemployed, in Japan are covered through municipality-based Citizens' Health Insurance [CHI]. All those over 70, and over 65 if bedridden, are covered by Health Services for the Elderly (Roken). Premiums in the employer-sponsored insurance schemes vary widely by employer, as do the premiums for one of the government-sponsored schemes (the municipality-based Citizens' Health Insurance [CHI]), depending on the demographics and income of the city.</p>	<p><b>Public Plans:</b></p> <p>100% coverage by either government mandate employer-based insurance or government programs.</p> <p>No additional premiums for drugs.</p> <p>For those in CHI, premiums vary depending on income, assets, and household size, and with income and demographics of the city—a community rating system based on municipality. Maximum is about \$430 per month per household (in 1996 average annual household premium was \$1,140. An approximately \$450/month maximum on out of pocket payments. Pay 30 percent of costs out of pocket; 20 percent if retired. All costs over about \$530 per month are fully covered by plan. But these maximums are lower for lower income and chronically ill.</p> <p>These co-payments are for the doctor visit that produces the prescription; There is no separate co-payment for the drug.</p> <p>For those over 70, the health care, including drug benefit is completely free to the patient. There is a small co-payment for the doctor visit that produces the prescription; 500 yen per outpatient visit (about \$4).</p>
<p><b>New Zealand</b></p> <p>Medicare: In New Zealand, a single Health Funding Authority funds health services. The HFA contracts with both public and private providers. The system is financed through taxes (77.1%), out of pocket (16.%)and private insurance 6.2%. Over 40% of the population has private, non-tax deductible health insurance (mostly upper income), and is used to cover co-payments and supplementary services. Private insurance only accounts for 7.1% of total health expenditures. Publicly owned hospitals provide most of the secondary care. Private hospitals provide long-term geriatric care and elective surgery. Primary care is provided by publicly-funded but privately owned general practices. Over 50% of GPs in New Zealand are in some form of budget holding arrangements, which are mostly restricted to pharmaceuticals and lab tests. New Zealand introduced contracts and competition in 1993, but has recently merged the 4 regional health authorities back into one large national funding authority.</p>	<p><b>General:</b> The Pharmaceutical Management Agency Limited (PHARMAC), is a non-profit company owned by the HFA, which was created in 1993. It manages the national Pharmaceutical Schedule (positive list). The positive list describes the price of each drug listed, and how it will be reimbursed from public funds.</p> <p><b>Cost sharing:</b> Various combinations of high use and community services card holders allow reduced or no co-payment. Children under 6 are free. Adults who are not card-holders pay \$15, or the price of the prescription.</p>

Table 1. Continued

Healthcare Systems	Pharmaceuticals and Prescribing
<p><b>United States</b></p> <p><b>General:</b> Healthcare in the United States is funded through a combination of public and private sources, and has often been described as a “patchwork” of different systems in terms of both delivery and financing. On average, 85% of Americans have private and/or public health insurance. 60% of the population has private insurance. Around 10% of the population, generally low-income individuals are covered by Medicaid. 15% of the population has no health insurance.</p> <p><b>Private:</b> Most services are privately delivered. While traditionally this system was based on a fee-for-service model, there has been a marked transition to managed care, particularly in the last decade. The majority of Americans obtain health insurance through employer-based systems. Very low-income individuals, low-income children, and the disabled are eligible for Medicaid, a publicly funded insurance program.</p> <p><b>Elderly:</b> All Americans over the age of 65 are eligible for Medicare, the federal health care program for senior citizens, which covers inpatient and outpatient acute care and inpatient pharmaceuticals.</p>	<p><b>General:</b> Approximately 65% of Americans have prescription drug coverage through private plans, Medicaid, purchased Medigap policies for the elderly, and state and municipal programs. Medicare does not cover prescription drugs, though some elderly receive prescription drug benefits through Medicare HMOs.</p> <p><b>Cost Sharing:</b> The level of cost-sharing between insurance plans and individuals is highly variable. Individuals with no prescription drug coverage tend to pay for all outpatient pharmaceuticals out-of-pocket. The variability is highly dependent on geographic location and income level.</p>
<p><b>Sources:</b> <u>Australia:</u> Australian Bureau of Statistics. 1999. “Australia Now: A Statistical Profile of Health.” <u>Germany:</u> Brown, L. &amp; Volker, A. 1999. “Manacled competition: Market Reforms in German Health Care.” <i>Health Affairs</i>. 18, 3, 76-91. Evers, A. 1998. “The New Long-Term Care Insurance Program in Germany.” <i>Journal of Aging Social Policy</i>. 10(1), 77-98. Mahkorn, Deirdre T. 1999. June 12, p536. <i>Electronic British Medical Journal</i>. Rosian, Ingrid, Habl, Claudia, and Volger, Sabine. 1998. <i>Pharmaceuticals: Market Control in Nine European Countries</i>. Austrian Health Institute (OBIG). Commissioned by the Federal Ministry of Labour, Health, and Social Affairs. <u>Japan:</u> Graig, Laurene A. 1999. <i>Health of Nations, 3<sup>rd</sup> ed.</i> Washington, D.C.: Congressional Quarterly Press. Ikegami, Naoki, and John Creighton Campbell. 1999. “Health Care Reform in Japan: The Virtues of Muddling Through.” <i>Health Affairs</i>. 18 (3): 56-75. Oliver, Adam James, Naoki Ikegami, and Shunya Ikeda. 1997. “Japan’s Aging Population: Implications for Healthcare.” <i>Pharmacoeconomics</i>. 11: 306-318. <u>New Zealand:</u> Health Funding Authority’s Funding Agreement with Minister of Health -Service Coverage Document. April 14, 1999. Health Expenditure Trends in New Zealand: 1980-1998. 1999. Ministry of Health, Wellington, New Zealand. August. Pharmaceutical Management Agency Ltd. 1999. Annual Review for the Year Ended June 30, 1998. PHARMAC: Wellington, New Zealand. <u>United Kingdom:</u> Rosian, Ingrid, Habl, Claudia, and Volger, Sabine. 1998. <i>Pharmaceuticals: Market Control in Nine European Countries</i>. Austrian Health Institute (OBIG). Commissioned by the Federal Ministry of Labour, Health, and Social Affairs. <u>United States:</u> Medicare Chart Book. 1998. Washington, D.C.: Healthcare Financing Administration and Office of Strategic Planning, Department of Health and Human Services. Pharmaceutical Research and Manufacturers of America (PhRMA). 1999. <i>1999 Pharmaceutical Industry Profile</i>. Washington D.C.: PhRMA.</p>	

**Table 2. Various Measures of Health Care and Drug Spending  
in Seven Comparison Countries**

<b>Country</b>	<b>Percent GDP on Health Care (1997)</b>	<b>Rank</b>	<b>Per Capita Health Expenditure (US\$ PPP, 1997)</b>	<b>Rank</b>	<b>United States Dollars Per Capita (1997)</b>	<b>Rank</b>
Australia	8.3	4	1, 805	4	N/A	
Canada	9.3	3	2, 095	3	1,837	5
Germany	10.4	2	2, 339	2	2,677	2
Japan	7.3	6	1, 741	5	2,453	3
New Zealand	7.6	5	1, 352	6	2,114	4
United Kingdom	6.7	7	1, 347	7	1,457	6
United States	14.0	1	4, 090	1	4,090	1

  

<b>Country</b>	<b>Public Sector Health Expenditures as Percent of GDP (1997)</b>	<b>Rank</b>	<b>Percent of Total Health Expenditure on Drugs (1996)</b>	<b>Rank</b>	<b>Drug Spending Per Capita (PPP, 1996)</b>	<b>Rank</b>
Australia	5.7	5	11.4	6	202	6
Canada	6.4	3	12.5	5	258	4
Germany	8.1	1	12.7	4	289	3
Japan	5.7	5	20.8	1	349	1
New Zealand	5.8	4	15.2	3	194	7
United Kingdom	5.7	5	16.5	2	218	5
United States	6.5	2	8.8	7	344	2

Sources: OECD Health Data 98, A Comparative Analysis of 29 Countries. Graig, Laurene A. 1999. *Health of Nations*, 3<sup>rd</sup> ed. Washington, D.C.: Congressional Quarterly Press.

**Table 3. Aging and Population Data for the Seven Countries**

<b>Country</b>	<b>Total Population (1998)</b>	<b>Percent of Population Over Age 65 (1960)</b>	<b>Percent of Population Over Age 65 (1997)</b>	<b>Projected Population Over Age 65 in Year (2020)</b>	<b>Percent of Population in Workforce (1996)</b>
Australia	18,520	8.5	12.1	20.6 <sup>a</sup>	49.8
Canada	30,563	7.6	12.3	18.2	50.5
Germany	82,133	10.8	16.2	22.5	N/A
Japan	126,281	5.7	15.7	25.6	53.3
New Zealand	3,796	8.7	11.6	N/A	49.4
United Kingdom	58,649	11.7	15.7	19.7	48.2
United States	274,028	9.2	12.0	17.5	50.4

<sup>a</sup>For year 2016—Australian Bureau of Statistics (1990) *Projections of the Populations of Australian States and Territories, 1989-2031*. Catalogue #3222.0.

N/A indicates not available.

Source: OECD Health Data 98, A Comparative Analysis of 29 Countries. Graig, Laurene A. 1999. *Health of Nations, 3<sup>rd</sup> ed.* Washington, D.C.: Congressional Quarterly Press.

**Table 4. Publicly Provided Access to and Coverage of Pharmaceuticals for the Elderly**

<b>Country</b>	<b>Proportion of Elderly Covered for Drugs</b>	<b>Annual Premiums for Drugs</b>	<b>Deductible for Drugs</b>	<b>Cost Sharing for Drugs</b>	<b>Out-of-Pocket Annual Maximum for Drugs</b>	<b>Reductions for: Low Income, Chronic Disease</b>
<b>Australia</b>	100% of elderly are covered	None.	None.	Fixed amount. Pensioners pay \$3.20 per prescription. (Receive pharmaceutical allowance in pension to defray some of cost).	Once total expenditures exceed \$166.40 for seniors in a year, all prescriptions are free.	Concession cards, health care cards, children.
<b>Canada</b>	98% of elderly are covered	Varies by province from \$0 to \$215.	Varies by province and circumstance \$0-\$1700.	Combination of fixed indemnity payment and co-insurance.	Half of provinces have maximum. Some fixed, some income based.	Low income.
<b>Germany</b>	100% of elderly are covered	Yes. Based on ability to pay.	None.	Based on pack size. Small (5 DM), medium (9DM), large (13 DM) fixed amounts.	Co-pays must not be more than 2% of patient income.	Those with chronic disease must not pay more than 1% of their total income, welfare recipients and those with income below 1, 736 DEM are exempt.
<b>Japan</b>	100% (employer mandated system)	Employer and individual premiums and tax revenue.	No additional premiums for drugs.	Co-payments are for the visit to the doctor, not for the drug. Approximately 500 yen (\$4 US)	Drug benefits are free if over 70. If over 65, depends on income, assets, household size, demographics of city etc. Approximately \$530 US per month is maximum – no distinct between drugs and visits.	Low income, chronically ill, and seniors over age 70.
<b>New Zealand</b>	100% of elderly are covered	Yes. Part of expenditure on premiums is reimbursed.	N/A	Fixed amount -15\$ for general population. High use and community services card-holders all have reduced co-pays.	High use of 20 or more listed pharmaceuticals in one year.	High use health card, community services card holders.

Table 4. Continued

Country	Proportion of Elderly Covered for Drugs	Annual Premiums for Drugs	Deductible for Drugs	Cost Sharing for Drugs	Out-of-Pocket Annual Maximum for Drugs	Reductions for: Low Income, Chronic Disease
<b>United Kingdom</b>	100% of elderly are covered	None.	None (65 \$ US 'seasons ticket', which can be purchased annually. Then you do not have to pay any co-pay -is that a deductible?)	Fixed amount – 5.8 pounds for general population. Seniors are exempt from co-pays.	None.	Children, low-income are exempt from co-pays.
<b>United States</b>	25% have coverage through managed care, and Medicaid, (40% have coverage through other sources including Medigap)	Varies by plan.	Varies by plan and drug	Varies by plan and drug.	Varies by plan – most have a maximum benefit and individual cover cost over this amount	Varies by state residence and income status and type of plan.

Sources: Australia: Australian Bureau of Statistics. 1999. "Australia Now: A Statistical Profile of Health." Germany: Brown, L. & Volker, A. 1999. "Manacled competition: Market Reforms in German Health Care." *Health Affairs*. 18, 3, 76-91. Evers, A. 1998. "The New Long-Term Care Insurance Program in Germany." *Journal of Aging Social Policy*. 10(1), 77-98. Mahkorn, Deirdre T. 1999. June 12, p536. *Electronic British Medical Journal*. Rosian, Ingrid, Habl, Claudia, and Volger, Sabine. 1998. *Pharmaceuticals: Market Control in Nine European Countries*. Austrian Health Institute (OBIG). Commissioned by the Federal Ministry of Labour, Health, and Social Affairs. Japan: Graig, Laurene A. 1999. *Health of Nations, 3<sup>rd</sup> ed*. Washington, D.C.: Congressional Quarterly Press. Ikegami, Naoki, and John Creighton Campbell. 1999. "Health Care Reform in Japan: The Virtues of Muddling Through." *Health Affairs*. 18 (3): 56-75. Oliver, Adam James, Naoki Ikegami, and Shunya Ikeda. 1997. "Japan's Aging Population: Implications for Healthcare." *Pharmacoeconomics*. 11: 306-318. New Zealand: Health Funding Authority's Funding Agreement with Minister of Health -Service Coverage Document. April 14, 1999. Health Expenditure Trends in New Zealand: 1980-1998. 1999. Ministry of Health, Wellington, New Zealand. August. Pharmaceutical Management Agency Ltd. 1999. Annual Review for the Year Ended June 30, 1998. PHARMAC: Wellington, New Zealand. United Kingdom: Rosian, Ingrid, Habl, Claudia, and Volger, Sabine. 1998. *Pharmaceuticals: Market Control in Nine European Countries*. Austrian Health Institute (OBIG). Commissioned by the Federal Ministry of Labour, Health, and Social Affairs. United States: Medicare Chart Book. 1998. Washington, D.C.: Healthcare Financing Administration and Office of Strategic Planning, Department of Health and Human Services. Pharmaceutical Research and Manufacturers of America (PhRMA). 1999. *1999 Pharmaceutical Industry Profile*. Washington D.C.: PhRMA.

## Glossary

Term	Definition
Access	An individual's ability to obtain prescription insurance.
Brand Name Drug	A drug manufactured by a specific drug company that is trademarked by that company. Drugs in the U.S. are generally patented for a certain amount of time meaning no other firm can create a "generic" version of the drug until the patent has expired.
Coverage	The services, procedures, and/or medications available under a particular health plan or insurance agreement.
Covered Services	Specific medically related services that will be paid for (in part or in full) by a health plan or insurance agreement.
Generic Drugs	An identical drug to a brand-name drug that is produced once the patent is expired.
Coinsurance	A specific proportion or percentage of a prescription cost that an individual is required to pay out-of-pocket for a specific drug.
Copayment	A fixed indemnity fee per prescription that an individual is required to pay out-of-pocket for a specific drug.
Cost Containment	A variety of policies and techniques that governments and insurance companies use to limit healthcare costs.
Cost Sharing	The combinations of deductibles, copayments, coinsurance, and/or premiums that an individual must contribute towards their healthcare and/or prescription drug plan. [Do we want to include premiums in this definition? I think most do not.]
Deductible	The dollar amount up to an agreed upon limit that an individual must pay for covered services before a health plan or insurance agreement pays for any healthcare costs, usually in an annual period.
Drug Utilization Review (DUR)	A practice whereby an evaluation of drug prescribing practices and drug utilization is conducted to determine the appropriateness of a particular drug. [Need to get a formal definition, as this is too loose.]
First Dollar Coverage	Coverage for all expenses without a deductible.
Formulary	Also known as a positive list or schedule of benefits. A list of prescription drugs that the insurer is prepared to cover.
Generic Substitution	A cost containment practice where generic drugs, where available, are automatically substituted in place of brand name drugs.
Health Insurance	A program that provides an individual with financial assistance to pay for medical services.



## Glossary (continued)

<b>Term</b>	<b>Definition</b>
Health Plan	A specific set of benefits that are available to an individual that accesses a particular type of health insurance.
Last Dollar Coverage	The amount of coverage for medical expenses paid by the insurer above a (pre-determined) level of expenditure.
Managed Care Organization	A term used to describe a variety of healthcare plans that are delivered by an organization that monitors utilization, cost, and performance.
Maximum Benefit	A cap on the dollar amount of benefits one can receive.
Means-testing	A review of an individual's income and/or assets the outcome of which determines that individual's eligibility for a particular health plan.
Negative List	A list of prescription drugs which the insurer will not cover.
Out-of-pocket cost	The amount that an individual must spend of their personal disposable income on healthcare expenditures.
Over the Counter Drugs (OTC)	A drug that does not require a prescription according to a particular country's laws. In many countries, this refers to a drug which can be freely sold without supervision of a pharmacist.
Pharmaceutical Benefit Management (PBM) Organization	A organization that administers and reviews the usage of prescription drugs.
Positive List	A list of prescription drugs that are included on a formulary that providers can prescribe to patients.
Premium	A fee that is paid by an individual for healthcare services regardless of actual utilization.
Prescription Drug	A drug that has been approved by a particular country's government and can only be given to an individual pursuant to the issuing of a prescription by a licensed professional.
Reference Based Pricing	A pricing system that assigns the average or minimum price for a given drug class to a new drug in that class.
Therapeutic Alternative	A drug that is similar to another chemically and should have a similar effect to the drug to which it is being compared.
Therapeutic Substitution	The dispensing of a therapeutic alternative drug that is different from the original drug prescribed.
Universal Access	The availability of health insurance for every citizen and/or resident of a country regardless of income.

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