Equality, Efficiency, and Market Fundamentals: The Dynamics of International Medical Care Reform.

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Equality, Efficiency, and Market Fundamentals: The Dynamics of International Medical-Care Reform

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1. *Introduction*

IN NO COUNTRY are people particularly happy with their health-care system. In a survey of people in several countries, Karen Donelan and colleagues asked respondents to react to the statement: "On the whole, the health system works pretty well, and only minor changes are necessary to make it work better" (Donelan et al. 1999). In the United States, only 17 percent of people agree with the statement; 83 percent perceive the need for "fundamental change" or "complete rebuilding."[2] In Canada, with universal insurance coverage and medical spending as a share of GDP at 70 percent of the U.S. level, only 20 percent of people agree with the statement. In the United Kingdom, with spending as a share of GDP at half the U.S. level and overall health measures just as good, only 25 percent agree with the statement. In Australia and New Zealand, support is 19 percent and 9 percent respectively. Granted, health care is a difficult issue for societies. But why such great discontent?

Medical care is such a problem, I argue, because it is fundamentally a setting of conflicting goals. Medical systems developed with clear equity considerations. In most developed countries, universal insurance coverage was designed to guarantee equal access to medical care for all. Solidarity in health care dictated no rationing by price.

The classic tradeoff in economics is between equity and efficiency, and this shows up in medical care. Efficiency was not a great concern when health systems were established; countries were content to have inefficient medical-care systems provided they treated all equally.

But the equality-efficiency balance has been thrown into conflict by the fundamentals of the medical-care market. Medical costs have increased rapidly over time, as technological change has expanded the capability of medicine. Since 1960, medical care has more than doubled as a share of GDP. The result of this technological change is that governments face increasingly severe financing crises. Many countries can no

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[2] The other responses are: "There are some good things in our health-care system, but fundamental changes are needed to make it work better," and "Our health-care system has so much wrong with it that we need to completely rebuild it."

longer afford the commitment to complete equality that they once could.

The first response of most countries to the problem of rising costs was the enactment of regulatory limits on costs. These limits were increasingly prevalent in the 1970s and 1980s. Governments reduced provider fees and rationed access to medical technology. Cost growth slowed quite a bit. Compared to the United States, which never had wide-scale limitations, medical costs in other developed countries fell from about 90 percent of the U.S. level as a share of GDP to about 65 percent of that level. Further, health outcomes did not seem to suffer. A decade into these rationing systems, overall satisfaction with medical care was high.

But recent years have made the regulatory solution increasingly less attractive. The march of technology has continued, even in regulated systems. Medical-care cost growth resumed when expenditure controls were not actively being tightened. Further, cost controls have made the lack of efficiency more noticeable. Waiting lines and access restrictions have become increasingly important issues as the constraints increase in intensity.

As a result, the regulatory solution to medical care is coming under disfavor. In many countries, there is an incipient movement away from regulation and towards market-based solutions to medical-care problems. Countries are introducing competition into medical care and in some cases providing incentives for people to use less medical care and to choose less-expensive health insurance plans. Providers are being asked to consider costs in their care decisions as well.

Incentive reforms bring the potential for cost savings without painful public cuts. That is why countries are attracted to them. But incentive reforms bring conflict as well. Price-governed systems are not as equitable as the older systems they replace. The poor do not have the same access to medical care as the rich when prices are used to ration care. Further, less-healthy people may suffer compared to the healthy. And incentive systems may restrict access to some providers. One way that money is saved in medical care is to limit the providers one contracts with, and use the exclusion power to negotiate lower prices. But abandoning the commitment to equality of access is not easy. As a result, there has been great reluctance to use competitive measures to their fullest extent. Many countries are now exploring the proper scope and application of incentives in medical care. How countries resolve this debate will have major implications for the world's medical-care systems for decades to come.

In this paper, I trace the history of international medical-care reform and lay out the issues today. I begin in section 2 with a discussion of the birth of universal systems. Section 3 then examines the move to controls and rationing. Section 4 considers the effects of expenditure constraints on the provision of medical care. Section 5 discusses the problems with rationed systems, and section 6 examines the new wave of reform.

2. *The First Wave of Health-Care Reform: Universal Coverage and Equal Access*

The late nineteenth century saw the beginnings of health insurance in most developed countries.[3] Mutual aid societies, or sickness funds, were formed for some workers. In some countries, such as Germany,[4] the development was spurred by the central government. More frequently it took place in the private sector.

But even as late as World War 2, access to medical care was not a particularly high priority for the public sector. In part, the desire for

[3] Medical care is different in developed and developing countries. My story is largely one of rich, developed countries, where generous insurance systems are affordable and desirable. Thus, I analyze the OECD countries, particularly the G7.

[4] In his quest for nation-building in the late 19th century, Bismarck feared that middle-class Germans would support socialists over the monarchy. He thus introduced a series of social insurance programs—most prominently old-age insurance and health insurance—to give the middle-class a stake in the survival of the government. David Culter and Richard Johnson (2001) discuss the birth of social insurance programs in more detail.

medical insurance was limited because there was little that medical care could do for sick people. Paul Starr (1982) traces the transformation of the American medical system. Starr notes that medical knowledge was poor in this period, and it was not until the mid twentieth century that the medical profession was seen as a significant factor in helping to cure disease. In addition, medical insurance was rarely high in families' economic priorities because medical costs were not particularly variable. With little to do for sick people, the financial risk associated with being sick was low. The insurance that was available for sickness frequently covered lost wages, not medical costs.

World War 2 changed the situation substantially (Starr 1982). Advances in penicillin and other antibiotics convinced people that medical care was valuable. Countries wanted to reward themselves for years of struggle. Quasi-socialist governments elected after the war wanted to expand the role of the state in the provision of basic needs. The result was a major emphasis on expanding health insurance coverage. Table 1 shows the creation of national medical-care systems in G7 countries.[5] The first post-war reform was in the United Kingdom. The Beveridge Report of 1942 delineated the inadequacies of the prior system and recommended a goal of national health insurance coverage.[6] This goal was met in 1946, with the passage of the National Health Service (NHS) Act; the NHS began formal operation in 1948.

The British system was followed, some years later, by the Japanese system (1958–61), the Canadian system (1966–71), and the French system (1967). In all of these countries, universal coverage was the culmination of many years of partial coverage and government subsidies for insurance. More recent universal systems were finally achieved in Italy (1978) and Germany, although in both cases coverage rates were very high just prior to the universal legislation (Milton Roemer 1991). The only G7 country without a universal health insurance program is the United States, although it does have a program for the elderly (Medicare) and a program for the poor (Medicaid). Indeed, within the OECD (prior to its recent expansion), only Turkey and the United States were without universal insurance coverage.

Beyond just desiring universal coverage, countries wanted to ensure that the poor had the same access to medical care as the rich. Medical care was perceived as a right, not a good, and markets were not looked upon with favor. For example, the Beveridge Commission stated, "From the standpoint of Social Security, a health service providing full preventive and curative treatment of every kind to every citizen without exceptions, without remuneration limits and without an economic barrier at any point to delay recourse to it, is the ideal plan" (Part VI, sec. 437). Similarly, the Canada Health Act of 1984 stated, "It is hereby declared that the primary objective of Canadian health care policy is to protect, promote, and restore the physical and mental well-being of residents of Canada and to facilitate reasonable access to health services without financial or other barriers" (ch. 6, sec. 3).

These sentiments had fundamental implications for the design of medical-care systems. They led medical systems to be extremely generous in covered services and low in required cost-sharing. At least this was true for acute medical care, which typically accounts for about 70 percent of total spending. Table 2 shows the characteristics of universal health insurance systems

[5] Numerous data sources were used in creating the tables of country features. The OECD (1985) and Roemer (1991) have much information, along with cites to other articles with more details.

[6] In 1941, an interdepartmental committee on Social Insurance and Allied Services was appointed to survey the existing schemes of social insurance. The commission made a "diagnosis of want" by surveying conditions of life in a number of towns in Britain. The Beveridge Report concluded that abolition of want required a redistribution of income through social insurance and by family needs. The report recommended a comprehensive national health service to provide full access to all beneficial treatments without economic barriers (Beveridge 1942).

TABLE 1
THE CREATION OF UNIVERSAL COVERAGE SYSTEMS

Country	History of Insurance Coverage
Canada	1947: First provincial health insurance program 1966: Medicare established 1971: Last province enacts Medicare.
France	Late 19th century: Local sickness funds for certain workers 1928: Compulsory health insurance for low-wage workers in certain industries 1967: National insurance fund for salaried workers; agricultural and self-employed covered by other funds 1978: Universal coverage achieved.
Germany	1883: Industrial workers with low wages covered by sickness funds 1981: 90% coverage achieved. Coverage remains at approximately 90% today.
Italy	Post-WWII: Mutual aid societies converted to local branches of national insurance program (by 1970s, 90% coverage) 1978: National health service created.
Japan	1922: Health Insurance Law covered some workers (extended in 1938) 1958: National Health insurance mandated 1961: All local governments implement.
United Kingdom	1911: Manual workers and low-wage workers covered Coverage increased over time: 1946: National health insurance passed 1948: NHS implemented.
United States	1965: Medicare and Medicaid created.

around the 1980s and early 1990s.[7] In almost all countries, covered benefits were very generous. It is easier to report the services *excluded* from coverage than the services included. Excluded services included dental care in some countries, vision and hearing aids, and occasionally outpatient prescription drugs. In countries where these services were excluded as a general rule, such as Canada and the United States, the public sector sometimes covered the costs for the poor. Indeed, some countries had such generous services that they covered spa benefits (Germany).

Further, there were few restrictions on using covered services. In all countries, patients had free choice of primary care providers, and cost-sharing for covered services was minimal. In many countries (Canada, Germany, Italy, and the United Kingdom), access to some or all physicians and hospitals is nearly free. Among these countries, only Italy has any cost-sharing for specialist physicians, but the cost-sharing is quite modest. Prescription drugs are somewhat less well insured but often still covered.

Three of the countries (France, Japan, and the United States) have more extensive cost-sharing. In France, coinsurance rates for physician services are 25 percent, although 80 percent of the population has supplemental insurance to cover the physician

[7] The United States row in table 2 reports the provisions of the Medicare program. Medicaid programs were more generous at this time.

TABLE 2
THE PROVISIONS OF HEALTH INSURANCE SYSTEMS AROUND 1980

	Demand-side					Supply-side		
		Cost Sharing For:**						
Country	Exclusions from Coverage*	Primary Care Physician	Specialist	Hospital	Outpatient Pharmaceuticals	Hospital Ownership	Hospital Payment	Physician Payment
Canada	Outpatient dental and pharmaceutical; some prostheses; glasses and hearing aids	None	None	None	Varies by province	Over 95% private	Global budget	Fee-for-service
France	Eyeglasses, some dental care	25%	25%	$5–$6 per day and 20% up to 30 days	30% to 60%	Public (35%) and private (65%)	Public hospitals have a global budget; private fee-for-service	Predominantly fee-for-service (salary in public sector)
Germany	None	None	None	$3 for 14 days (many exemptions)	$1.25/drug (with exceptions)	Most public (>50%)	Per diem	Fee-for-service in ambulatory sector; salary in hospital sector
Italy	None	None	$7–$8 (max of $41)	None	0 to 50%	Mostly public; some religious or university	Per diem	Capitation for GPs; salary or other for specialists
Japan	Inoculations; eyeglasses	10–30%	10–30%	10–30%	10–30%	Mostly private (80%); some large public teaching hospitals	Fee-for-service	Fee-for-service in ambulatory sector, salary in hospital sector
U.K.	Dental and vision	None	None	$4–$5	None	Public	Global budget	Salary
U.S.	Outpatient pharmaceuticals; routine dental and vision; long-term care	Deductible ($100); coinsurance (20%)			Deductible (about $800)	100% private; some public	Mostly Fee-for-service	Fee-for-service

Note: * Some exceptions are made for the elderly and poor. **Cost sharing is around 1993.

cost-sharing (OECD 1995). Hospital cost-sharing is much lower. In Japan, coinsurance rates are 10 to 30 percent for all services. In Medicare in the United States, cost-sharing for physician services is relatively small, but cost-sharing for hospitals is much larger (there is a deductible of one day of hospital care—about $800 currently), and outpatient prescription drugs are not covered at all. Still, many elderly have supplemental insurance to pay for these costs.

The result was that in most countries, there were very few demand-side constraints on utilization. As one indicator of this, the government paid for 72 percent of medical care in the average G7 country, and 76 percent outside the United States. Social and not individual financing was the goal. Economists might worry about moral hazard, but governments were more worried about equity.

On the supply side, the systems were encouraging as well. In five of the countries—Canada, France (outside the public sector), Germany (ambulatory care), Japan (ambulatory care), and the United States—physicians were predominantly paid on a fee-for-service (piece-rate) basis. In such a system, doctors that do more collect additional income; provided price is above marginal cost, the incentives to limit care to situations where it is truly appropriate are weak.[8]

A second alternative is to salary physicians. This was the route chosen in the United Kingdom and for selected specialties in France (public sector), Germany (hospital-based physicians), Italy (hospital-based physicians), and Japan (specialists). Even salaried physicians had weak incentives to limit spending; doctors did not suffer financially if unnecessary care was provided.

[8] George Bernard Shaw (1911) lamented this almost a century ago: "That any sane nation, having observed that you could provide for the supply of bread by giving bakers a pecuniary interest in baking for you, should go on to give a surgeon a pecuniary interest in cutting off your leg, is enough to make one despair of political humanity."

A third alternative chosen in some countries is to pay physicians on a capitation basis—doctors receive a fixed amount of money per patient in return for providing medical services as needed, at no additional charge for each service. Included in the capitation amount is the physicians' own time and sometimes other services such as hospital care or prescription drug costs. Italy and the United Kingdom used this payment system for some doctors. Capitated systems can provide strong incentives to limit medical costs. But the capitated systems countries put in place were generally not very stringent. Many nonphysician services were not included in the capitation amount; surplus funds could not be retained by the doctor; and the ability to negotiate with downstream providers was limited. No country had a system like what is evolving in the United States today, where doctors are at risk for most of the care their patients receive and have large income fluctuations on that basis. As a result, access to physician services was largely unconstrained.

Hospital payment was also relatively generous, although more diverse. In many countries, the public sector ran at least some of the hospitals. The extent of public ownership ranged from very little (Canada, the United States, and Japan—20 percent or less) to more moderate levels (France—35 percent; Germany—over 50 percent) to nearly all of the hospital system (Italy, the United Kingdom). In countries where the public sector ran the hospitals, hospitals were typically financed as line items in the budget. When hospitals were private, they were often paid through global budgets—hospitals were given a fixed amount of funds for the year to cover the costs they incurred in caring for their patients. Global budgets were often coupled with public review of hospital investment decisions, for example for bed expansion or purchase of capital equipment.

Global payment systems can be constraining—and later were—but frequently were

not at the time the systems were set up. Often, the public sector paid for hospital deficits at the end of the year, as in Italy. In other cases, the global budgets were adjusted for costs in previous years or were set at deliberately high levels. Still other countries had fee-for-service payment for hospitals (Japan, the United States), creating the same incentives on the inpatient side as they did on the outpatient side.

Arthur Okun (1975) highlighted one of the classic tradeoffs in economics, between efficiency and distribution. Achieving a more equal distribution of resources than markets naturally provide generally requires making markets less efficient. In the medical-care context, distribution was a clear priority over efficiency. Even the rhetoric of universal insurance coverage stressed distributional equity over economic efficiency. By 1980, countries in the G7, and in the developed world as a whole, had set up medical-care systems designed to encourage access to medical care but not to promote the efficient delivery of care.

3. *The Second Wave: Controls, Rationing, and Expenditure Caps*

With few constraints on medical-care demand or supply, medical spending was bound to be inefficient. Countries were willing to accept spending *above* efficient levels to meet distributional goals. But spending was also *growing* more rapidly than countries could easily afford. While tax revenues were increasing at the rate of payroll or consumption growth, roughly the rate of GDP growth, medical-care spending was increasing twice as rapidly. In the average OECD country, medical care rose from 3.8 percent of GDP in 1960 to 7.2 percent in 1980.

Medical-care costs were increasing so rapidly in large part because of the growing technical sophistication of medical practice. The development of new technologies and the diffusion of those technologies to more patients led to large increases in spending. Empirical estimates by Joseph Newhouse (1992) suggest that technological change accounts for at least half of overall cost growth, with the remainder resulting from increased prices of services and increased use of existing technologies because of the spread of insurance. Since the expansion in technology was worldwide, or perhaps U.S. driven, no other country could control its rate.

Figure 1 shows the increase in the percentage of GDP claimed by health care over various decades; table 3 shows summary data. I examine spending relative to GDP to account for the income effect of medical care. As countries get richer, they naturally spend more on medical care. International comparisons of medical spending generally suggest an income elasticity at or above 1 (Getzen 2001), so it is natural to look at spending as a share of GDP.

The first bars in figure 1 are for the 1960s. In the G7 countries, with the exception of the United Kingdom (discussed below), medical spending as a share of GDP increased substantially in this decade. Even including the United Kingdom, the increase averaged 1.6 percentage points. The increase was not limited to the G7 countries, as table 3 shows. Spending in the rest of the OECD increased by 1.3 percentage points. The pattern was repeated in the 1970s. Essentially all countries, with the exception of Canada, experienced rapid increases in medical costs. The average growth was again 1.6 percent of GDP.

As medical spending increased, the burden on the public sector grew. Tax increases to pay for rising medical costs were increasingly painful. Further, the mid-1970s saw a reduction of income growth and the beginning of structural public deficits. This convinced countries that they needed to manage their medical spending more actively.

The result was a gradual shift away from concentrating on the generosity of coverage and toward containing the cost of care.

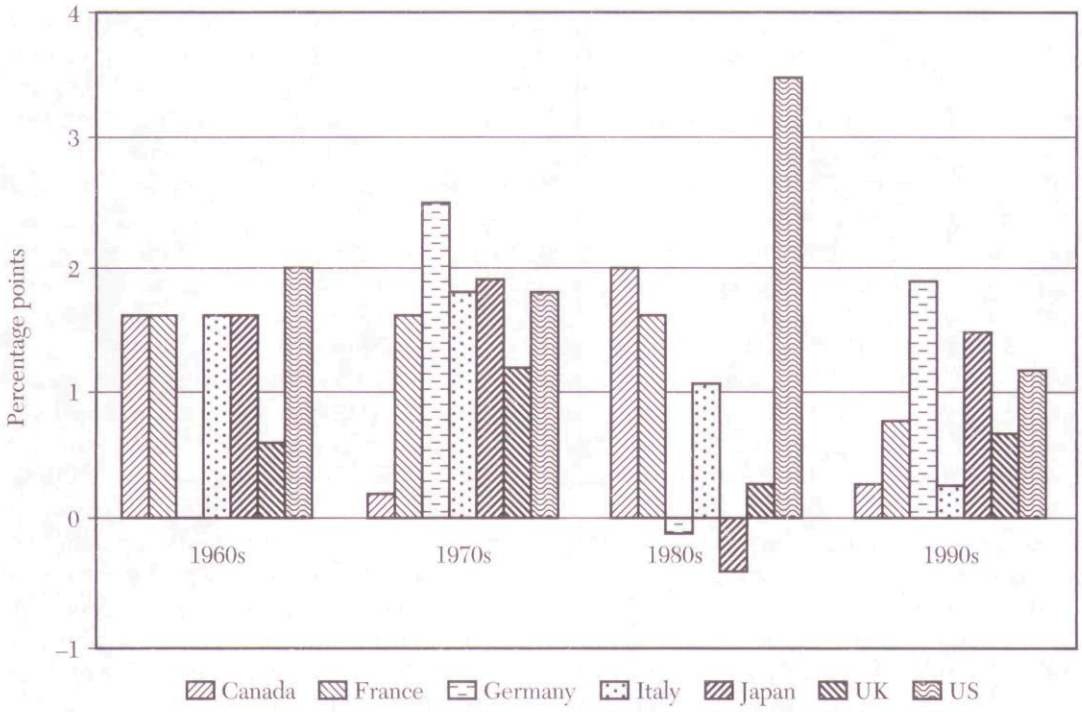

Figure 1. Increase in Medical Care as a Share of GDP

Source: Data are from OECD (2000). Data for Germany are missing for 1960s. Last year of data is 1998.

Where "access to medical care" had once been the primary focus of public policy, "cost containment" became equally important.

There are two potential strategies for cost containment. First, incentives can be used to induce people to spend less. Some services might no longer be covered by the public program, or cost-sharing might be increased. At the level of insurance purchases, people can be given financial incentives to choose less-generous insurance plans, with lower overall costs. Doctors can also be given stronger financial incentives to provide less care. Alternatively, spending can be constrained through regulation. Access to technologies can be restricted, or expenditure caps imposed. Spending will thus be lowered by fiat.

Regulation was the solution chosen in essentially all countries. The details of the implementation varied somewhat across countries and types of services, but the principles were similar. Table 4 shows the nature of these control measures. In the hospital sector, countries with global budgets tightened the budget limits. Hospitals had to live with less-rapidly increasing funds. This was often coupled with tighter constraints on hospital investment and capacity expansion, to ensure that aggregate utilization would not exceed what was affordable.

Budgeting physicians is more difficult than budgeting hospitals, since it is not feasible to make individual physicians bear all of the costs for services used by their patients during the year. But alternative mechanisms are available. Many governments, for example Germany, imposed an overall spending limit for physician services as a whole or by specialty. Different activities were then assigned relative weights, reflecting the resources involved in providing the services. The equilibrium price per unit weight is set ex post to meet the overall budget. In other

TABLE 3
MEDICAL SPENDING AS A SHARE OF GDP

Country	1960	1970	1980	1990	1996
G7	4.2	5.8	7.4	8.5	9.4
Rest of OECD°	3.6	4.9	7.1	7.6	8.1

° Excludes Turkey and countries that joined the OECD in the 1990s.
Source: OECD (2000).

cases, fee schedules were tightened, but without an explicit spending target in mind.

These types of expenditure controls require substantial government involvement in the medical system, and countries could not implement them fully until the public sector had enough authority over the system to carry out the task. Thus, the evolution of regulation necessarily followed universal insurance coverage. The earliest country with universal coverage, and the first to implement tight constraints, was the United Kingdom. British doctors were paid on a salary or capitation basis, and the public sector ran the hospitals, since the establishment of the NHS. Thus, the British government was in a natural position to implement controls. During the 1960s, government constraints led cost growth in the United Kingdom to be substantially below the rate in other countries (figure 1).

Canada adopted spending limits in the 1970s, following the establishment of universal coverage in the late 1960s. Global budgets on hospitals were put in place when universal coverage was enacted, and provincial governments used this payment authority to limit cost increases. As figure 1 shows, spending growth in Canada was very low in the 1970s, when controls were enacted.

Other countries followed in later years: France in 1984–85 (global budgets for public hospitals) and again in 1993 (global budgets for private hospitals); Germany in 1977 (expenditure caps on ambulatory physicians) and again in 1984–86 (global budgets for hospitals); and Japan in the 1980s (lower fees for physicians and hospitals, and caps on hospital beds). Figure 1 shows these countries generally having less-rapid cost growth in the 1980s.

Governments in the United States never controlled enough of the medical system to adopt wide-scale regulatory controls, but they did use less-systemic versions of these techniques in public programs. In 1983, the federal government adopted the Prospective Payment System (PPS) for hospital admissions paid for by Medicare. Hospitals are paid a fixed amount per admission conditional on the diagnosis, regardless of the services provided.[9] A relative weight is established for each diagnosis, and reimbursement is determined on the basis of the relative weight and the price per unit weight. Once the system was established, it was straightforward for the government to lower the price paid per unit weight, which it did in the 1980s and 1990s. Prospective payment systems spread to Medicaid programs and many private insurers after it proved workable in Medicare.[10] Physician payments were similarly controlled. In 1992, the federal government introduced the Resource Based Relative Value Scale (RBRVS) in Medicare, which assigned relative weights to

[9] The system is not quite as "hard" as this. Hospitals receive outlier payments for patients in the hospital a particularly long time, and surgical admissions are weighted more highly than medical admissions.

[10] The Prospective Payment System shares some similarities with incentive-based reforms, in that it gives hospitals incentives to economize on use of marginal services. Physician payment reforms did not bundle services as highly, and were thus not as high powered.

TABLE 4
CONTROLS ADOPTED IN THE 1980S AND 1990S

Country	Component of Spending		
	Hospitals	Physicians	Prescription Drugs
Canada	Global budgets established with universal coverage; tightened in 1970s; Certificate of Need required for expansion.	1984: Physicians must accept government payment as payment in full.	
France	1984–85: Global budgets introduced for public hospitals; 1993: Global budgets introduced for private hospitals.	1979: Fee schedules tightened.	1994: National targets for pharmaceutical expenditures.
Germany	1984–86: Global budgets introduced for hospitals.	1977: Expenditure cap on ambulatory care; global budgets for physician associations; 1993: Prescription drug budgets for physicians.	1982: Out-of-pocket payments for drugs increased. 1989: Reference pricing system.
Italy	1990s: Move from per diem to DRG payment.		
Japan	Early 1980s: Tighter fee schedules; 1985–87: Hospital beds and expansion capped.	Early 1980s: Tighter fee schedules.	
U.K.	Global budgets established with NHS.	Salaries established with NHS.	
U.S.	1983: Prospective payment for hospital admissions.	1992: Fee schedule for physicians.	

each physician activity. Payment is made on the basis of the relative weight for the services provided, multiplied by a price per unit weight. Again, the fee schedule has been tightened over time.

Still, the limitation of expenditure controls to the public sector made such controls less effective in the United States than in other countries. In 1960, the average G7 country spent 12 percent less on medical care as a share of GDP than did the United States. By the early 1990s, spending was about 35 percent less as a share of GDP. Figure 2 shows medical spending as a share of GDP in 1990. The United States spent far more than all other G7 countries on medical care.

4. *Evaluating the Regulated System*

To understand the consequences of regulated systems, one must look at more than

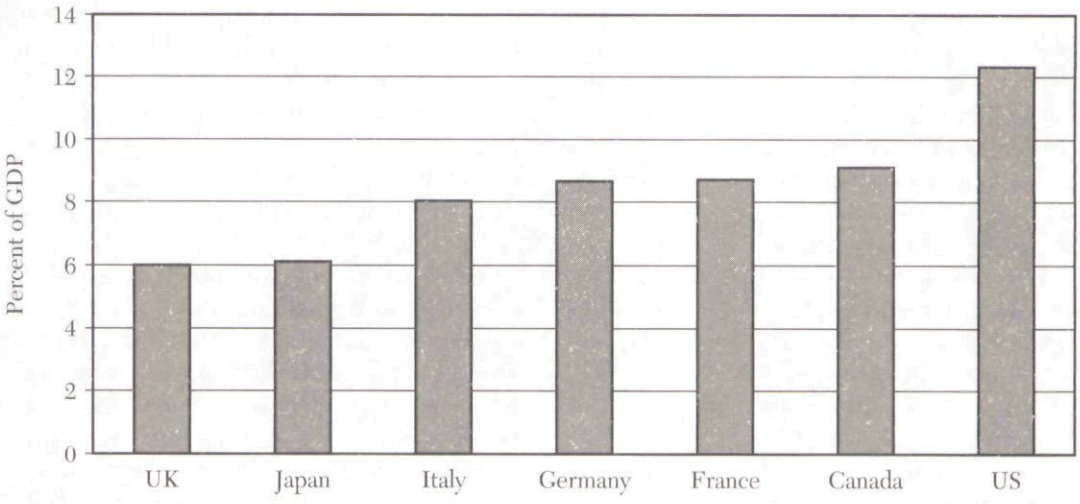

Figure 2. Medical Spending as a Share of GDP, 1990

Source: Data are from OECD (2000).

just their immediate spending impact. Spending less money might affect the delivery of medical care, and this needs to be taken into account. Further, the long-run impact of these systems must be judged. To a first approximation, most countries outside the United States have highly regulated medical systems, while the United States does not. I thus evaluate regulated systems by comparing the United States to other advanced countries.

Regulated systems can save money in two ways: by lowering prices paid for services or reducing the quantity of services provided. The two are obviously related—price changes may lead to quantity changes—but are conceptually important to differentiate. When there are quasi-rents in medical-care provision, as there are in the return to past investments by physicians, price reductions need not be accompanied by reduced supply.

Empirical evidence shows that regulation affected both prices and quantities of care provided. Providers earn less in regulated systems than they do in unconstrained systems. Real earnings of physicians in the United States increased by 35 percent between 1970 and 1990. In countries with expenditure limits, by contrast, real earnings were flat. As a result, doctors in the United States now earn twice what their counterparts earn in other countries.[11] Physician income is about 20 percent of total medical spending. Thus, the 50-percent-lower physician earnings in other G7 countries can explain spending differences of about 10 percent. This is close to one-third of the 35-percent overall difference in spending between the United States and the average G7 country.

There may be savings in other factor payments from cost controls, but these will be smaller. The opportunities for nurses, orderlies, and other personnel to move to other industries prevents a large income reduction for these groups. Physicians, in contrast, have much more profession-specific human capital. Pharmaceutical prices are lower in regulated systems, although the evidence is not clear on exactly how much. Retail prices in drug stores are higher in the United States, but prices to managed-care insurers and other large purchasers may be lower (Danzon and Chao 2000). Still, pharmaceuticals

[11] Some of this is because overall wages are higher in the United States, but not much. Per capita GDP is about 10 to 20 percent higher in the United States than in other G7 countries.

are only about 10 percent of overall medical spending, so price differentials in pharmaceuticals cannot account for much of the overall spending difference. All told, the difference in prices paid to factors probably explains a bit under half of total differences in medical spending between the United States and other countries.

Price reductions are, in the short term, a transfer from medical-care providers to consumers. There may be long-term effects on the quantity or quality of medical-care personnel, but these effects will not occur for some time.

Of more immediate importance for short-term outcomes is the impact of regulation on service provision. Abundant evidence shows that service availability is highly correlated with the stringency of regulatory constraints. The United States, with the least-constrained medical system, has the most technologically sophisticated treatment patterns of any country, in most dimensions. As other countries have imposed tighter constraints on spending, the relative availability of services has declined.

A rigorous comparison of how regulation affects the provision of medical services requires comparing medical care received by patients with similar conditions in different countries. This is difficult to do on a wide scale but is possible in some settings. The most convincing evidence comes from comparisons of the United States and Canada, where detailed data on patient diagnoses and treatments are available. The comparison between the United States and Canada has obvious appeal: the demographic characteristics of the two countries are similar, and physicians are frequently trained at the same institutions.

Table 5 summarizes evidence on treatment differences in the United States and Canada. Treatment of cardiovascular disease, and heart attacks in particular, has received the most attention. A heart attack is an acute event, resulting from a blockage of arteries supplying blood to the heart. If not diagnosed early and treated effectively, death is common. Among elderly people with a heart attack, one-year mortality is about 30 percent. Because of this high mortality, essentially everyone with a heart attack will receive medical treatment. Thus, differential selection into treatment is not believed to be important.

There are several potential treatments for a heart attack. Cardiac catheterization is a diagnostic procedure to detect the extent of arterial blockage. If the blockage is particularly extensive, physicians may decide to perform either of two revascularization procedures: bypass surgery (creating a blood flow around occluded arteries) or angioplasty (inserting a balloon catheter into the arteries to remove the blockage and restore blood flow). Most of the studies of heart-attack treatments across countries analyze the use of these surgical procedures.

The first four rows of table 5 present results of studies comparing heart-attack treatments in the United States and Canada. All of the studies show that the United States uses the sophisticated technology much more commonly than does Canada. Cardiac catheterization is used two to five times as often in the United States, and revascularization is two to eight times more common. In addition to these studies, two other studies, reported in the next rows of the table, examine the share of the overall elderly population receiving bypass surgery. Rates of procedure use are 40 to 80 percent higher in the United States than in Canada.

The next row shows differences in screening for breast and cervical cancer. The results here are more mixed. While mammography rates are twice as high in the United States as in Canada, rates of Pap smears and clinical breast examinations are similar. Other evidence on cancer treatments across countries suggests that the United States is only about average in rates of intensive procedure use. George Silberman et al. (1994) show that the rate of allogenic bone marrow transplantation (transplantation with a

TABLE 5
COMPARISONS OF MEDICAL TREATMENTS AND OUTCOMES IN THE UNITED STATES AND CANADA

Study	Comparison	Rate (United States : Canada)	
		Treatment Differences	Outcome Differences
Cardiovascular Disease			
Rouleau et al. (1993)	AMI patients in U.S. and Canada	Catheterization: 1.9:1°° Revascularization: 2.6:1°°	1-year mortality: .98:1 Reinfarction: .93:1 Activity-limiting angina: .82:1°°
Mark et al. (1994)	AMI patients in U.S. and Canada	Catheterization: 2.9:1°° Bypass surgery: 4.7:1°° Angioplasty: 2.6:1°°	1-year mortality: .96:1°° 1-year chest pain: .62:1°° 1-year dyspnea: .64:1°°
Tu et al. (1997)	Elderly AMI patients in U.S. and Ontario	Catheterization: 5.2:1°° Bypass surgery: 7.6:1°° Angioplasty: 7.8:1°°	30-day mortality: .96:1° 1-year mortality: 1.0:1
Pilote et al. (1994)	AMI patients at Stanford and McGill hospitals	Catheterization: 1.6:1°° Bypass surgery: 2.5:1°° Angioplasty: 2.3:1°°	20-month reinfarction: 1.6:1 20-month mortality: 1.04:1 20-month angina: .83:1 20-month functional status: ^ 1.26:1°°
Anderson et al. (1993)	People in California, New York, Ontario, Manitoba, and British Columbia	Bypass surgery: CA vs. Canada: 1.8:1°° NY vs. Canada: 1.4:1°°	
Tu et al. (1997)	People in New York and Ontario	Bypass surgery: 1.8:1°°	
Cancer			
Katz and Hofer (1994)	Women 18+ in U.S. and Ontario	Pap smear: 1.0:1 Breast exam: 1.1:1 Mammography: 2.1:1°°	
Psychiatric Services			
Kessler et al. (1997)	People in U.S. and Ontario	Outpatient treatment in past year: 1.7:1°°	

Note: ° indicates statistical significance at 0.05; °° indicates significance at 0.01.
AMI refers to acute myocardial infarction, or heart attack.
^ Higher levels of functional status reflect better health.

donor separate from the recipient) for people with chronic myeloid leukemia is only about average in the United States compared to nine other developed countries, although it is unclear whether this results from differences in available donors or characteristics of medical practice. The United States did have a shorter time from diagnosis to transplantation, which improves transplantation success.

The final row of table 5 shows rates of outpatient psychiatric use. The share of people

receiving outpatient treatment for mental illness is 70 percent higher in the United States.[12] The evidence in table 5 is therefore generally clear: the United States has much higher rates of intensive procedure use than does Canada.[13]

The link between limits and less intensive care raises the specter of worse health outcomes in regulated systems. Four of the studies presented in table 5 examine health differences in the United States and Canada.[14] These results are detailed in the last column of the table. Mortality is the easiest measure of outcomes. Mortality rates are surprisingly similar in the United States and Canada. One- to two-year mortality ranges from equal in the two countries to a few percent lower in the United States, to a couple of percent higher. Some of the estimates finding lower mortality in the United States are statistically significant, but their magnitude is nowhere near the two- to eightfold difference in treatment rates across countries.

Some studies suggest that morbidity is lower in the United States. For example, rates of reinfarction, chest pain, activity-limiting angina, and other complications are 10 to 40 percent lower in the United States than in Canada. One study estimates functional outcomes to be better as well. But morbidity is very hard to measure. It is not known how sensitive these results are to different survey instruments or factors such as when in the year the survey took place. Overall, the surest outcome measure is mortality, which is very similar in the two countries. The Canadian system does much less, but does not seem to suffer that much.

There are several potential explanations for the finding of few mortality differences despite very large treatment differences. One explanation is that Canada provides low-tech care more generously than the United States, thus offsetting the reduced use of high-tech care. Rates of medication usage to prevent long-term heart damage are notoriously low in the United States. Further, patients see physicians for evaluative and management care more frequently in Canada than in the United States. Alternatively, what is rationed in Canada may be care that is not essential for survival. People who benefit the most from intensive medical procedures may be equally likely to receive these procedures in the United States and Canada, but more marginal patients might be disproportionately treated in the United States.

Whether the lack of adverse outcomes is a result of better provision of low-tech care or efficient rationing is not known. It is an important topic for research. But regardless of the explanation, regulated systems did not fail because of poor health outcomes.

5. *The New Dilemmas*

In the late 1980s, it seemed as if the solution to the world's health-care problems was at hand. Regulatory constraints lowered costs but still afforded high-quality care. The poor were not discriminated against, at least openly.[15] Indeed, people expressed satisfaction with these systems. Fifty-six percent of Canadians thought that their medical-care system was fundamentally sound, compared to just 10 percent of Americans. Advocates

[12] This was not offset by greater use of inpatient services in Canada.

[13] The limited data available outside the United States and Canada support this inference. An analysis of technology use in heart attack care for many European countries, presented by Dan Kessler, Mark McClellan, and colleagues (1999), found use rates in most countries at or below the Canadian level, and far below the U.S. level. Steven Schroeder (1984) shows that hospital staffing patterns are also related to spending. More anecdotally, Henry Aaron and William Schwartz (1984) surveyed physicians in the United States and the United Kingdom about the treatments they provide. British physicians were far less oriented to high-tech care than their American counterparts.

[14] For obvious reasons, comparisons of health outcomes as a whole are not particularly revealing. Indeed, in a cross-section medical spending and life expectancy are negatively, but not statistically significantly, related.

[15] Even in countries with universal insurance coverage, the poor got less medical care than the rich, but this was not because of price-based rationing.

of health-care reform in the United States followed this evidence and urged the creation of a European-style system. The Clinton Administration's national health reform proposal reflected this view. The Clinton plan imposed a limit on the growth of health insurance premiums, modeled on the global budgets enacted in other countries. As Cutler (1994) discusses, international evidence showing the possibility of lower costs without worse outcomes was a key factor in this proposal.

But enthusiasm for the rationed model has waned considerably in the decade since that time, to the point where even countries with an ingrained commitment to that type of system are considering major changes in medical care. There are three reasons why.

Limited Supply and Unlimited Demand. The first problem is standard from economic theory: when limited supply is matched with generous demand-side incentives, people are unhappy that they cannot get the services they want. Rationing is easier in medical care than in other industries because people are not fully informed about what services they might obtain. Thus, some rationing takes place without notice. But as rationing becomes more severe, patients learn about the limits. Waiting lines are observable, and the lack of care is more pronounced.

As systems became increasingly constrained, these problems surfaced. Survey data shows the extent of this. Robert Blendon et al. (1990) present results from common surveys in 1990, asking people in nine countries to rate their health system using the question presented in the introduction. Figure 3 shows the relation between the share of people who were satisfied with the health system and per-capita spending on medical care. People in the United States are the least satisfied with their medical-care system, despite the highest spending. In probing responses, the reason for this dissatisfaction is that people are concerned they will lose their coverage or have to pay more if they become sick. Outside of the United States, this is not a concern; insurance is universal and guaranteed. Indeed, omitting the United States, the dominant issue explaining satisfaction with the medical-care system is spending on medical care.[16] Countries that spend more on medical care have greater satisfaction with the medical-care system. In most countries, the chief complaint when people are unhappy is waiting lists and concern about too few resources.

Inefficiency. The second problem with regulatory constraints is that they do not provide incentives for service provision to be efficient. A variety of evidence suggests that productive efficiency in medical care is very low. For example, as countries have reduced the fees they pay physicians, one way that physicians have responded is to see patients more frequently—have two visits when one might do; prescribe drugs for a shorter length of time so that additional visits are needed, et cetera. This type of scheduling allows physicians to collect multiple payment for treatment courses that formerly brought in one. Stories about "unbundling" physician services abound in Canada,[17] Italy,[18] and Japan,[19] among other

[16] The regression line omits the United States because the reason for displeasure with the system is so different.

[17] This is often called "practice churning." It is discussed in more detail by C. David Naylor (1999).

[18] Witness this quote about the Italian health-care system from a member of Parliament, Carol Beebe Tarantelli: "There are absolutely no incentives for efficiency. Since hospitals get paid by having their beds filled, they are encouraged to keep people there for much longer than necessary. And if those beds are occupied by people who are not so sick, then the hospital management figures it is so much the better because they require less care and attention. But meanwhile, people who really need it are stranded without help. People often have to wait up to twenty days in the hospital for tests to be done, because the labs are only open four hours a day. So they stay there occupying a bed that could be used by somebody who is seriously ill—all because the hospital is happy to get money from the state for a patient who does not require them to lift a finger" (*The Washington Post*, April 3, 1994).

[19] A joke about the Japanese health-care system is telling: Several elderly people are waiting in the physician's office, as they do every day. One of them asks, "Where is Mrs. Morita? She is not here today." Another person answers, "She couldn't make it; she is sick."

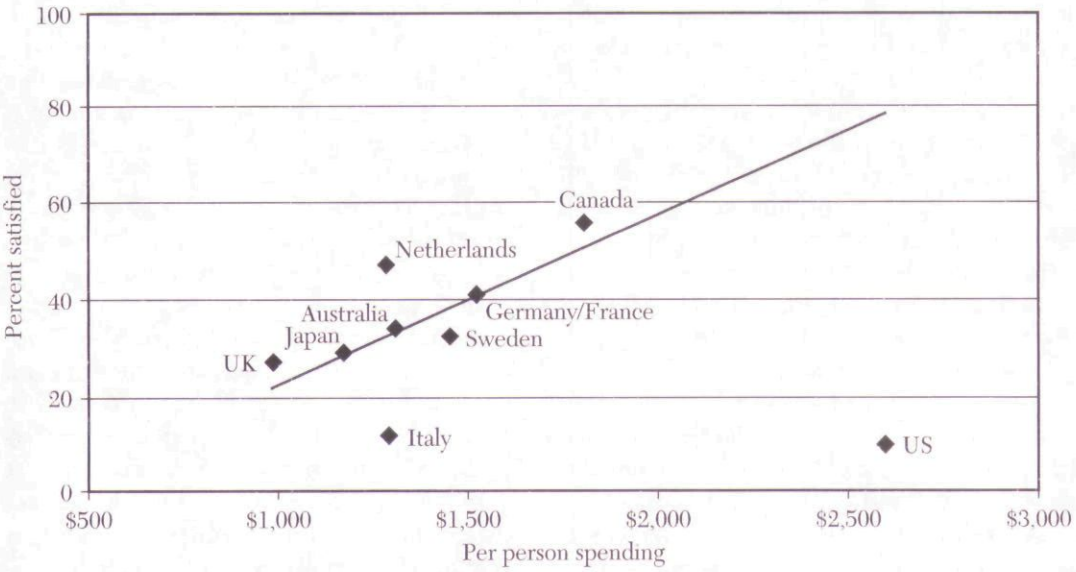

Figure 3. Medical Spending and Satisfaction with the Medical System

Source: Spending data are from the OECD (2000). Satisfaction data are from Blendon et al. (1990).
Note: The regression line omits the United States.

countries.[20] The consequence of unbundling is that patients wait longer for care, but this waiting is not counted in aggregate spending totals.

Other examples concern use of prescription drugs and acquisition of high-tech therapies. In Japan, the fee schedule for routine visits is so low that many physicians earn money by buying prescription drugs wholesale and selling them to patients retail.[21] They also earn money by investing in high-tech scanning equipment and referring patients to those scanners. The result is that Japan has extremely high rates of pharmaceutical consumption and substantially more scanning technology than other countries.

Although there are no data on the efficiency of different systems, efficiency concerns have become predominant in essentially all of the G7 countries (OECD 1998).

As rationing and system efficiency become problems, people look for ways around the limits. Table 6 shows manifestations of this. One way to evade limits is to purchase supplemental insurance.[22] In the United Kingdom, 10–20 percent of the population has some form of supplemental insurance. Timothy Besley, John Hall, and Ian Preston (1998) note that this insurance is frequently used to jump the NHS queues; doctors see patients with supplemental insurance outside of their normal clinic hours and with shorter waits. In Italy, supplemental insurance pays for doctors not in the national system.

[20] This phenomenon is not unheard of in the United States. It is common, for example, for government actuaries to assume that every $1 cut in physician payments made by Medicare will only translate into $.50 in public savings. The remaining $.50 will be recouped in increased physician volume (the "volume offset").

[21] Low fees in Japan actually date back hundreds of years, to a time when Japanese doctors earned all their income from the sale of drugs.

[22] In addition to the uses here, supplemental insurance in many countries covers services not included in the basic benefits package. This use is much less controversial.

TABLE 6
MEDICAL CARE OBTAINED OUTSIDE NATIONAL SYSTEMS

Country	Supplemental Insurance			Other Choices
	Availability	Use	Prevalence	
Canada	Yes	Uncovered services	---	Small number go to U.S.
France	Yes	Cost sharing	50%	Some physicians (25%) extra-bill patients above fee schedule
Germany	Yes	Uncovered services; Avoid mandatory sickness fund (if high income)	8%	
Italy	Yes	Pay for doctors not in national system	5%	Pay physician privately (physicians can maintain private practice); Move regions for medical care
Japan	Yes	Uncovered services	---	Reports of bribes to physicians for better care.
U.K.	Yes	Queue jumping	10–20%	
U.S.	Yes	Uncovered services; Cost sharing	65%	

Note: U.S. row refers to Medicare. Data for other countries are in OECD (1995) and sources cited there.

Direct private payments serve the same goal in Japan, France, Italy, and the United Kingdom. In Japan, there are frequent reports of people paying bribes to physicians to bypass waiting lines (Naoki Ikegami 1991).[23] In France, some physicians are allowed to "balance-bill" patients above the fee schedule. This has become a way for rich people to evade the spending limits. And in Italy, people often pay physicians privately for more rapid service; physicians are allowed to maintain a private practice separate from their public practice.[24]

The economics of supplemental insurance is complicated. For a fixed distribution of medical resources, queue-jumping by some reduces services for others. Thus, some countries, such as Canada, have banned any payment outside the national system. But allowing supplemental payments could also increase the overall amount of medical-care provision by supporting more providers or by encouraging existing providers to work additional hours. This might free up more resources for those without supplemental insurance. No empirical studies have analyzed these two effects.

Mobility is another way to evade limits. In Italy, some areas (particularly in the north) are well funded while other areas (southern Italy) have far fewer medical resources. Intra-country mobility of the sick is common. Some Canadians come to the United States for medical care, although

[23] Especially to get into the large public hospitals which have higher perceived quality.

[24] Scandals are common, involving doctors who purchase equipment on the public budget but then use the equipment in their private practice.

the extent to which this occurs is hotly contested.[25]

The common theme in all of these cases is that people and providers attempt to evade onerous regulatory limits. As systems became more constrained and less efficient, the attempts to evade the limits became more prominent.

One-Time Savings and Long-Run Cost Growth. The third problem with regulated systems is structural: even regulated systems grew more rapidly than governments could afford. Figure 1 shows this situation. Countries that imposed expenditure constraints generally experienced about a decade of lower cost growth. But after that time, spending growth increased. This happened in the United Kingdom in the 1970s (after slow growth in the 1960s), in Canada in the 1980s (after slow growth in the 1970s), and in Germany and Japan in the 1990s (after slow growth in the 1980s).

The reason for this rebound is the underlying dynamic of medical technology. Expenditure caps did not eliminate technological change; they just suppressed some of their manifestations. But ultimately, the technology was adopted and led to increased spending. This is clearest in the case of price reductions. As noted above, a large share of the savings from expenditure caps was in lower prices paid to doctors. But quantity growth is a far more important driver of long-run cost increase than is price growth. Thus, price cuts are an inherently limited way to reduce spending increases. When prices are falling, spending growth will slow, but growth will then resume when price cuts cease. That is what happened in many countries.

Even limits on the diffusion of technology were relaxed over time. Countries allowed more investment after periods of tightness, and thus technological change resurfaced. Invasive treatments for heart attacks, for example, are used more in Canada today than in the past, though still below their use in the United States.

Technological change is taken here as exogenous to each country, but that is not necessarily true in aggregate. At the world level, technological change results at least partly from the incentives in the medical-care system. The traditional medical-care system, with low cost-sharing and generous physician payment, created substantial incentives encouraging technological innovation (John Goddeeris 1984a,b; James Baumgardner 1991; Burton Weisbrod 1991; Peter Zweifel and Willard Manning 2000). But the distinction between one country and the world medical system is important. The largest market for medical innovation is the United States. Innovation is thus geared towards the U.S. market. At a practical level, therefore, countries outside of the United States could not control the rate of technical change they faced. Even as these countries imposed cost controls, incentives in the United States were still very generous, and the pressures to adopt technology mounted. Most of the world, therefore, views technical change in medicine, correctly, as independent of national government actions.

Overall, cost controls in other countries lowered the level, but not the long-run growth, of medical spending. A decade or so after implementation, the reduction in cost growth slowed, and costs again began to increase.

Given the importance of technology in long-run cost growth, the inability of regulations to reduce the long-run growth of costs is not surprising. Since technological change generally comes from the United States, other countries had very little ability to affect the rate of fundamental cost increase. Nor is the cost increase necessarily a cause of concern. The key issue in evaluating medical-care cost increases is whether the services bought by the increase in cost are worth the money that is spent on them. There is no definitive answer to this question, but much recent research suggests that cost increases

[25] The debate is taken up by David Azevedo (1993), Chuck Jones (1993), and Michael Walker and Greg Wilson (2001).

may be worth the expense (Cutler and McClellan 2001). If this is true generally, countries may be better off socially with cost increases and financing pressures than without them. Whether cost increases are good or bad is ultimately an empirical question.

In practice, the failure of constrained systems to limit cost growth led to tremendous unease about these systems. In the 1980s, Canada faced a resurgence of cost growth, after a period of slow growth in the 1970s. By the early 1990s, governments in Canada were imposing new limits on fees, closing hospitals, and tightening resource limits. The Canadian population, which thought the medical-care financing system was stable, was upset by the required actions. Confidence in the medical system dropped dramatically. Whereas 56 percent of Canadians were satisfied with the system in the late 1980s, only 29 percent were satisfied in 1994, and only 20 percent were satisfied in 1998. Cutbacks have provoked similar controversy in other countries as well.[26] As the 1990s progressed, unease about the medical system grew.

6. *The Third Wave: Incentives and Competition*

As long-run cost containment has grown elusive and inefficiency in the medical system has become more prominent, health-care reform has again come to dominate the agendas of OECD governments. The issues are remarkably similar in different countries–the rising costs of care and the perceived inefficiency of the system (Colleen Flood 2000). But in the face of these recent difficulties, governments have turned away from strict reliance on rationing and controls, to a more pluralistic view of ways to limit medical spending. The result is the beginning of a third wave of health-care reform, focusing on incentives, and in particular competition, as central elements in the medical system. Table 7 shows some characteristics of these reforms.

To date, incentive-based reforms have been only partial. Governments have a natural inclination to go slowly in any situation as important as medical care. Further, there are substantive reasons for caution. Incentives in medical care are not always aligned in socially optimal ways, and relying on incentives may lead to poor outcomes. The most important misalignment is the potential for sick people to suffer in a competitive medical-care system, since payments for them do not always cover their costs. Finally, the commitment to equity is a major stumbling block. A significant share of the population still sees medical care as a right, not a good. Social solidarity is a unifying factor in many countries, and the idea of using incentives to allocate medical care risks violating this solidarity (Uwe Reinhardt 1997). For all of these reasons, competitive reforms have been tentative. Whether to employ these mechanisms more is a major question facing many countries.

Incentive-based reforms are of three types. At the patient level, some reforms increase costs paid when using services. Increasing cost-sharing reduces government spending directly, by redirecting some costs to individuals and away from taxpayers. It also reduces demand for services, saving additional resources.

[26] In France, for example, the government in 1996 proposed substantial reductions in the budgets for hospitals and physicians. Under the proposed reforms, if physicians overspent the annual objective set by the government, the annually negotiated fee structure for medical acts would not be increased. Individual physicians responsible for overspending would have to return part of their income. Physicians who violated guidelines for prescription of services would have to explain their actions to local and regional commissions. The government would have paid lower reimbursement rates for patients who visited a hospital or specialist without first seeing a general practitioner. Hospitals would be more heavily regulated by regional hospitalization agencies, which would control all financing and capacity. Finally, the government arbitrarily decided to tax the pharmaceutical industry with a one-time levy of $500 million. The proposed reforms encountered huge opposition from doctors and resulted in numerous strikes. A new socialist government was elected.

Increased cost-sharing has been pursued in Canada, France, Germany, Italy, and Japan. In Canada and France, the increase in cost-sharing has been relatively minor. For example, in Canada cost-sharing has increased marginally and some marginal services have been "de-insured" (dental services for children; vision exams).[27] In other countries, the increase in cost-sharing has been greater. In Japan, 1997 reforms increased coinsurance rates from 10 to 20 percent of total medical bills for those insured through the national health program.[28] In Germany, there were large increases in copayments for prescription drugs in the 1990s.

Debate about further increases in cost-sharing continues. In Japan, proposals were recently made to increase cost-sharing an additional 10 percent, but these were dropped after provoking opposition. Even in Canada, there is discussion of a "two-tiered" medical-care system, where the government would insure basic services, and private insurance would cover the rest. In one recent survey, over 40 percent of Canadians supported such a system. Support drops, though, when potential inequities between rich and poor are highlighted (Gallup 1996).

Other countries have introduced competition at the level of insurance purchase rather than at the time services are used. Allowing insurers to compete with one another, it is hoped, will increase the efficiency of service provision while saving money.[29] Insurance market competition has been most prominent in the United States. While the United States never had a heavily regulated system, it did have a very generous system historically, with few constraints on either the demand or supply side. Prior to the 1980s, most employers in the United States contracted with just one insurance company, which ran the traditional plan.

In response to decades of rising health insurance premiums, companies began to shop around for less-expensive insurance options. Some companies switched their insurance entirely to lower-cost insurers, generally to managed-care insurers. Others created competition between plans for enrollment. The traditional indemnity plan was still offered, but so were lower-priced managed-care plans. Being lower cost, managed-care plans were at a substantial advantage. The cost advantage was compounded by adverse selection, which led to premium differences far larger than differences in benefits alone would suggest (Cutler and Sarah Reber 1998). The result was an enormous change in plan enrollment. Between 1980 and 2000, insurance for the privately insured population went from over 90 percent in unmanaged indemnity insurance to over 90 percent in managed care.

These incentives at the insurer level led to substantial emphasis on cost savings.[30] Insurers first reduced the prices they paid to providers. No systematic evidence on prices paid by managed-care insurers is available, but the studies that have been conducted suggest price reductions of up to 30 percent for some high-tech services (Cutler, McClellan, and Newhouse 2000). These price reductions are similar to what happened in other countries when medical spending was reduced. But the mechanism used in the United States was a bit different. Governments in other countries could simply lower prices for all providers

[27] There is currently a controversy in Canada as to which services are "medically necessary," and provinces are beginning to differentially de-insure various services as a method of cost containment. For example, Prime Minister Jean Chretien stated in 1995: "Nobody loses his home because somebody has a problem with his teeth or eyes, normally. But if you have major surgery, it's something else, so Medicare was intended for that."

[28] The increase in copayments was meant to be conditional on more fundamental reforms to the system, including elimination of price differentials between wholesale and retail drugs, but these reforms were postponed due to vigorous protests from physician associations and pharmaceutical companies.

[29] Proposals for insurance market reform often go under the rubric of "managed competition" (Alain Enthoven 1993). Managed competition was one basis for the Clinton Health Plan in the United States, along with health reform plans in other countries such as the Netherlands.

[30] Sherry Glied (2000) reviews the literature on managed care.

TABLE 7
MEDICAL CARE REFORM IN THE 1990s

Country	Reform	Issues
Canada	1991: Federal payments to provinces cut; 1991: Tighter supply-side limits by provinces —closing/merging of hospitals	Potential cutback in public coverage (dental care; vision exams)
France	1996 proposal: Global budget for the health system as a whole —review of physicians responsible for overspending —regional hospital agencies to manage funding —increase patient copayments	Vigorous protests from physicians, union
Germany	1989 Health Reform Act: —reference prices for pharmaceuticals —increased patient copayments —modestly reduce covered services 1993 Health Care Structure Reform Act: —limit growth of spending to growth of wages —more bundling of hospital payments —increase patient copayments —risk adjustment of sickness funds —in 1997, workers to have choice of sickness funds 1997 reform: —increased patient copayments	Vigorous opposition from providers
Italy	1992 reform: —create regional enterprises to limit spending —regional enterprises can contract out services —standardize government allocation to different regions —hospitals can become independent —patients can pay more for better hospital facilities —in 1995, patients can opt out of SSN	Northern areas upset by loss of funds; private sector has grown.

unilaterally. Managed-care insurers, in contrast, had to bargain for price reductions. The leverage managed-care insurers used was the ability to exclude providers from their network. As a result, lower prices came along with constrained access to providers in the United States, where it did not in other countries.

Managed-care insurers also cut back on the receipt of some care. Insurers intensively monitored what providers did, and enacted financial incentives for providers to do less. Many primary care physicians, for example, are paid on a capitation basis—they are reimbursed a fee covering their own costs and part or all of hospital and physician costs. Spending less on one's own practice or purchased services increases the physician's earnings, while spending more cuts income. When hospitals are paid by the plan, they are no longer paid on a fee-for-service basis; instead, they receive payments per day in the hospital or per admission. The result has been a large reduction in the number and length of hospitalizations, and less ordering of tests and procedures.

Managed care was successful in reducing cost growth. Between 1993 and 1999, medical spending in the United States was constant as a share of GDP, after rising continuously since World War 2. Figure 1 shows the much lower growth rate of costs in the

TABLE 7 *(Cont.)*

Country	Reform	Issues
Japan	1997 reform: —substantial increase in patient coinsurance; —eliminate mandated price for pharmaceuticals	Vigorous opposition from providers, which prevented passage
U.K.	1990 National Health Service and Community Care Act: —GPs become "fundholders"—receive capitated payment out of which they pay for services (drugs, inpatient hospitals, emergency care) —Hospitals become "trusts"—similar to not-for-profit businesses 1998 reform: —local Health Action Zones created to set health goals and coordinate groups —Primary Care Groups made up of all physicians in an area will replace fundholders	Questions about whether GP fundholders could bypass waiting lists; concern about competition instead of cooperation
U.S.	1993 proposal: —universal insurance coverage, financed by employer and individual mandate —limit on increase in insurance premiums 1996 Health Insurance Portability and Accountability Act: —guarantee portability of insurance for job to job transitions 1997 Balanced Budget Act: —expand choices in Medicare	National health proposal failed to pass; substantial debate about public and private roles in medical care

United States in the 1990s than in previous decades. Compared to historical growth rates, medical costs by 1999 were about 10 percent below expected levels.

As in other countries that have cut back, the evidence surveyed by Robert Miller and Harold Luft (1997) suggests that most managed-care savings have come without adverse health consequences. There seems to have been enough waste and excessive fees to allow significant squeezing without worsening patient outcomes.

Still, even with a far less egalitarian starting point in the United States than in other countries, incentive-based reforms like the managed-care revolution have encountered enormous hostility. Many of the issues are familiar from other countries. With generous demand-side incentives but constraints on the supply side, people are unhappy that they cannot get all the care they want. Managed-care rationing is a major concern. Further, adverse selection has been a major side effect of managed care (Cutler and Richard Zeckhauser 2000). And where the United States has a commitment to equity, as in the Medicare program, there is a fear about managed care eroding that. One of the arguments against creating more insurance market competition in Medicare is that it

would reduce the universality of the system. As a result, policy is now facing a "managed-care backlash" more than a desire to increase medical-care competition.

Steps to increase insurance market competition have not been confined to the United States. In Italy, legislation taking effect in 1995 allowed people to opt out of the social security system to obtain private health insurance. In Germany, legislation enacted in 1993 and expanded in 1997 allows all citizens the right to choose among competing "sickness" funds, as only higher-income workers were previously able to do.[31] At the time the law was enacted, there were about 1,000 sickness funds, so there was the potential for significant competition.

Plan choice in Germany has had some salutary effects on the medical system (Lawrence Brown and Volker Amelung 1999). Sickness funds are catering more to individual demands than they used to, including emphasis on health promotion and expansion of benefits to include complementary and alternative medicine. Consumers face tradeoffs between plan generosity and price where previously there were none.

But the degree of competition is limited. While people can choose insurance companies, the companies are required to pay doctors on the same negotiated pay scale. Further, plans cannot selectively contract with particular providers. Insurance is still seen as separate from medical-care provision. Thus, there is not much that plans can do to really change the nature of care provision.

To some extent, this was the desired outcome. At the time of the German reforms, there was concern that competition would lead to sick people being denied coverage or discouraged from enrolling in particular plans. While payments to plans are partly adjusted for the health risk of enrollees, the adjustment factors used are not particularly extensive (age, sex, family status, and income). Were competition more intense, plans could use more sophisticated selection mechanisms to limit their exposure to sick people.[32] In addition, there was concern that competition would come at the expense of social solidarity. Differential access to medical-care providers violates the long-shared goal that the medical system should treat everyone equally.

As a result, the overall impact of the German reforms has been modest. Germans periodically debate whether to extend the reforms or back off from them. Competition has a natural constituency because the alternatives are not very appealing. The traditional way that Germany controlled medical costs was to reduce fees to hospitals and physicians. Decades of acrimonious negotiations between insurers, governments, and providers led to immense frustration with that system. On the other hand, if competition has little effect on costs—and the partial nature of reform, combined with the fundamentals of technology diffusion, virtually guarantee this outcome—the competitive system may be seen as a failure as well. The decision between enacting even more competitive reforms or reverting to the old system would be a difficult one (Brown and Amelung 1999).

A third set of countries has attempted to introduce incentives within the provider community. The leading country taking this approach is the United Kingdom.[33] The major British reform was the National Health Service and Community Care Act of 1990, passed by the Thatcher Administration (Julian LeGrand 1999). The thrust of the Thatcher reforms was to separate the purchase of medical care from the provision of

[31] The German legislation followed reforms proposed in the Netherlands in 1987 (Frederik Schut 1995).

[32] One health insurer wrote a letter to its diabetic enrollees, pointing out that another plan was known to treat that condition particularly well.

[33] Internal markets have also been created in Italy. Under a 1992 reform, larger hospitals are allowed to become independent public agencies, and can charge patients extra for services.

services. Most importantly, the Act allowed primary care physicians to become "fundholders." Fundholders received a budget to purchase services such as elective surgery and outpatient pharmaceuticals.[34] Funderholders could negotiate payment rates with hospitals, and, to some extent, control outpatient pharmaceutical use. Fundholders could keep the surplus if spending was below the budget, provided that the money was reinvested in the practice. Most general practitioners became fundholders. In addition, most hospitals were moved out of the public sector and made into "trusts"—somewhat similar to the not-for-profit hospital in the United States. Hospital trusts have independent governing bodies, which make decisions about technological availability and pricing.

Separating the purchasing of care from the provision of care had some real effects. Studies by Howard Glennerster, Manos Matsaganis, and Pat Owens (1994) and Carol Propper and Neil Soderlund (1998) show that prices paid by fundholders for hospital services fell relative to prices paid by non-fundholders. Conrad Harris and Glen Scrivener (1996) show that fundholders had lower prescription drug spending than did non-fundholders. Bernard Dowling (1998) demonstrates that waiting times for patients of fundholders fell relative to waiting times for non-fundholder physicians.

But in other ways, the reform was tentative. Hospital trusts were still significantly regulated. Public approval was required for investment and capital decisions, and trusts could not keep any surpluses they generated. They also had an implicit claim on the public sector if they ran a deficit. As a result, the financial incentives trusts operated under did not encourage much change in care delivery. This was reinforced by the general desire of regional health authorities to avoid closing hospitals. Overall, while empirical evidence shows some salutary effects of the creation of primary care fundholders, the creation of hospital trusts did not seem to have major impacts on care (LeGrand 1999).

But even these tentative reforms have provoked considerable controversy. Concern about adverse selection limited the extent to which incentives were tried at the start. Further, the emphasis on competition rather than cooperation upset many. Indeed, Britain's Labor government elected in the late 1990s explicitly opposed the emphasis on competition. It reformed the system to a "cooperative" model, away from the "competitive" model. General practitioners have been grouped into primary care groups, to jointly manage capitation payments for the people they serve.

But the Labor government did not completely backtrack, and incentives have actually been strengthened in some dimensions. For example, hospital trusts are now allowed to keep surpluses they generate, providing more incentive to limit the care they provide. Similarly, primary care groups will be allowed to retain surpluses as well, provided they are reinvested in the practice. The United Kingdom is thus experimenting with a balance between incentives and regulation, as are many other countries.

7. *Summary*

The slowness and zigzagging of reform in virtually all countries reflects many factors. Fear of making too sudden a change is an important brake. So too is concern about unwanted outcomes such as adverse selection. And equity concerns have played a large role as well. Since World War 2, countries have taken pride in keeping the market out of medicine. Reversing this commitment is very difficult.

Arthur Okun formalized the tradeoff between equality and efficiency a quarter-century ago. Medical-care reform has that tradeoff and more. Not only are equality and efficiency in conflict, but both are hostage to

[34] Not all of the payments for these services come out of the same capitation amount. In addition, there was reinsurance for very high-cost cases.

the increasing cost of the system. As medical care becomes more expensive, the tradeoff between equality and efficiency becomes even more difficult. How countries balance these three factors—the desire for equality, the goal of efficiency, and the increasing cost of medical care—will have major implications for medical-care systems for decades to come.

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