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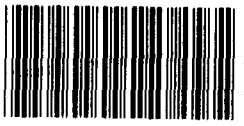
Report to the Chairman, Committee on Government Operations, House of Representatives

June 1991

CANADIAN HEALTH INSURANCE

Lessons for the United States



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Human Resources Division

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The Honorable John Conyers, Jr.
Chairman, Committee on Government Operations
House of Representatives

Dear Mr. Chairman:

This report, prepared at the Committee's request, reviews Canada's universal, publicly funded insurance system. The report describes the policies used in this system, consequences for both health care spending and access, and implications for the United States.

We are sending copies of this report to interested congressional committees and are making copies available to others on request.

This report was prepared under the direction of Mark V. Nadel, Associate Director, National and Public Health Issues, who may be reached on (202) 275-6195 if you or your staff have any questions. Other major contributors to this report are listed in appendix II.

Sincerely yours,

Lawrence H. Thompson

Lawrence H. Thompson
Assistant Comptroller General

Executive Summary

Purpose

Recent polls indicate widespread dissatisfaction with the way the United States finances and controls the cost of health care. Health spending consumes a steadily rising share of our national income—almost 12 percent of gross national product in 1989, headed to 15 percent by the end of the decade. Yet many Americans who lack health insurance face severe difficulty gaining access to health care. This situation has revived national debate over the way we finance health care.

Meanwhile, other industrialized nations assure that everyone has access to the health care system, have health status indicators that equal or exceed those of the United States, and accomplish these goals while spending less than the United States. This contrast between the U.S. and foreign experience suggests that the way other nations finance health services may contain useful ideas that might be adapted to the U.S. system. Some have looked to Canada, where the health program has broad popular support and all residents are covered by the program, but per capita spending is significantly less than in the United States. Yet the Canadian program has some features in common with the United States. Canadians choose their own private physicians, those physicians are compensated on a fee-for-service basis, and most hospitals are private, nonprofit institutions.

The Chairman, House Committee on Government Operations, asked GAO to assess whether the Canadian health care system had useful lessons for the United States. He asked GAO to review salient features of the Canadian system and analyze the likely effects on cost and access of adopting elements of a Canadian-style system.

Background

Canada's publicly funded health care system consists of 10 separate provincial plans sharing certain features. Health insurance is universal, covering all medically necessary hospital and physician services. Thus coverage does not change dramatically or disappear when a person changes jobs, as can happen in the United States.

The Canadian system is administered in each province by a public agency, which is responsible both for reimbursing providers and for health planning. The provincial governments are the single payers of physicians and hospitals and make the key decisions on health financing. Those governments are thus responsible, both politically and financially, for the health care system. In this role, provincial governments determine overall increases in hospital budgets and physician fees and regulate the acquisition of expensive equipment and services. This

contrasts with the U.S. system, in which hospitals and physicians are reimbursed by numerous payers (federal and state governments, private insurers, businesses, and individual consumers) using widely differing procedures and coverage, and no one has responsibility for the condition of the system as a whole.

An added feature of the Canadian system is that there are no deductibles or copayments for covered services, so Canadians spend out of pocket (or purchase private insurance) only for services that are not covered by their provincial plan—such as routine adult dental care, cosmetic surgery, and hospital room amenities.

Results in Brief

If the universal coverage and single-payer features of the Canadian system were applied in the United States, the savings in administrative costs alone would be more than enough to finance insurance coverage for the millions of Americans who are currently uninsured. There would be enough left over to permit a reduction, or possibly even the elimination, of copayments and deductibles, if that were deemed appropriate.

If the single payer also had the authority and responsibility to oversee the system as a whole, as in Canada, it could potentially constrain the growth in long-run health care costs. Measured either on a per capita basis or as a share of gross national product, health care costs have risen at a dramatically slower pace in Canada than in the United States. The difference reflects Canada's low administrative costs, controls on hospital budgets and on the acquisition of high-technology equipment, and fee controls for physician services.

Canadians have few problems with access to primary care services. There are more physicians per person in Canada than in the United States, and Canadians use more physician services per person than do U.S. citizens. Yet the cost of physician services per person in Canada was one-third less than in the United States.

The Canadian method of controlling hospital costs has limited the use of expensive, high-technology diagnostic and surgical procedures. As a result, waiting lists or queues have developed for some specialty care services, such as cardiac bypass surgery, lens implants, and magnetic resonance imaging. Emergency cases, however, are treated immediately, bypassing the waiting lists.

A reformed U.S. system is not likely to look exactly like the Canadian system, in part because the institutions that deliver and finance health care in the two countries have evolved quite differently. But particular elements of the Canadian system are worthy of consideration, including universal access, a uniform payment system, and expenditure controls.

Principal Findings

Universal Access, Single Payer, and No Cost Sharing Are Key Features of the Canadian System

Coverage, administration, and the use of copayments and deductibles are the principal areas in which the U.S. and Canadian systems differ. In other respects, such as the general use of fee-for-service physician reimbursement and the predominance of private, nonprofit hospitals, the two systems are quite similar.

- In Canada, the Canada Health Act covers all residents in all provinces for necessary physician and hospital care. Private health insurance that duplicates services covered by the provincial plans is prohibited. In the United States, coverage depends primarily on whether health insurance is provided by an employer or through public programs serving the poor and the elderly. Since some U.S. employers do not provide health insurance benefits, there is a potentially significant impediment to moving from one job to another in the United States that is not found in Canada.
- In Canada, health insurance is administered in each province by a single public agency. In the United States, insurance programs are administered by numerous private companies and public agencies. The Canadian arrangement of concentrating financial responsibility in a single payer permits much more efficient administration and allows for greater control over health expenditures. In 1989, Canadian spending on health was $670 per person less than in the United States; the differences primarily reflected savings on administrative costs and on physician and hospital reimbursement.
- In Canada, direct patient payments to providers for covered services are banned, and there are no copayments or deductibles. In the United States, copayments and deductibles are common, and it is not unusual for health care providers to bill the patient for charges in excess of the standard insurance reimbursement. The Canadian arrangement eliminates any financial barrier to access.

Canada More Effective at Cost Containment

Canada has been much more successful than the United States in containing health care expenditures. In 1971, when Canada fully implemented its system for financing medical services, the two countries spent about the same share of gross national product on health care. In 1989, the U.S. share was 11.6 percent, whereas Canada's was 8.9 percent. The differences reflect lower Canadian spending on insurance administration and on physician and hospital reimbursement.

Spending on Insurance

Canada's publicly financed single payer system eliminates the costs associated with marketing competitive health insurance policies, billing for and collecting premiums, and evaluating insurance risks. As a result, in 1987, the latest year for which comparable data are available, Canada's per capita spending on insurance administration was only one-fifth that of the United States.

Spending on Physicians

In 1987, Canada spent 34 percent less per capita on physician services than did the United States, reflecting the use of negotiated fee schedules and lower practice expenses.

- In Canada, physician professional associations in each province set reimbursement rates for each service. Increases in these rates are negotiated annually with the provincial government, which can use its power as the single payer to restrain growth in costs. Between 1971 and 1985, after adjusting for inflation, Canadian physician fees decreased 18 percent, while those of U.S. physicians were rising 22 percent.
- But lower physician fees do not necessarily mean substantially lower net incomes under the single payer system. Canadian physicians need not maintain an extensive office staff for insurance record keeping, direct billing of patients, or collecting bad debts, as is needed by a U.S. physician. In 1987, Canadian physicians spent an average of 36 percent of their gross income on professional expenses, compared to 48 percent for U.S. physicians. The Canadian system of negotiated fees permits these savings to be captured for the taxpayer. In addition, malpractice insurance premiums for U.S. physicians average 10 times those of their Canadian counterparts, though this probably reflects differences in the tort systems, rather than in the health insurance systems.

Spending on Hospitals

The combination of lower hospital administrative costs and the use of budget controls limiting equipment, facilities, and labor keeps Canadian

hospital expenses down. In 1987, Canada spent 18 percent less per person for hospital services than did the United States.

- As with physicians, the single payer, universal coverage system permits Canadian hospitals to have far lower administrative costs than do their U.S. counterparts. A Canadian hospital has virtually no billing department and a minimal accounting structure to assign costs and charges to patients and physicians. This probably means, however, that Canadian hospitals have substantially less detailed information on the cost of particular services than is available in a well-administered U.S. hospital.
- Canada's chief means of controlling hospital expenditures are its system of global (lump-sum) budgeting and its limits on the acquisition of high technology. In Ontario, the Ministry of Health negotiates with individual hospitals their annual operating budgets, which automatically capture for the taxpayer the savings in administrative costs. The government also decides which hospitals will acquire expensive high-technology equipment and which will provide expensive specialized services.

Canadians Have Good Access to Primary Care, but May Wait for Some High-Technology Services

In Canada, there are no financial barriers to health care, and there is an ample supply of physicians. Residents of Canada make more physician visits and have longer hospital stays than do their U.S. counterparts. However, tight hospital operating budgets and restraints on the diffusion of new medical technology mean that Canadians encounter limits on access to some high-technology services.

Patients with immediate or life-threatening needs rarely wait for services, but waiting lists for elective surgery and diagnostic procedures may be several months long. In October 1990, about 1,000 Ontario patients were on waiting lists for cardiovascular surgery. There was no wait for emergency patients, but "urgent" patients waited up to 1 month while elective patients might wait up to 6 months. To some degree, hospital capacity in the United States is a safety valve if Canadian waiting lists become a problem, but such "border jumping," at least in Ontario, is not extensive.

Potential Administrative Savings Would Offset Costs of Universal Coverage

If the United States were to shift to a system of universal coverage and a single payer, as in Canada, the savings in administrative costs would be more than enough to offset the expense of universal coverage. GAO estimates that, in the short run:

- Savings in insurance overhead would be $34 billion.
- Savings in hospital and physician administrative costs could be another $33 billion. However, the United States might deem it appropriate for management purposes to retain some of the more detailed statistical and financial data that are now collected in U.S. hospitals. This might reduce the savings somewhat.
- The cost of serving the newly insured would be about $18 billion.
- The cost of providing additional services to those currently insured—stemming from the elimination of copayments and deductibles—could be about $46 billion.

However, the United States may want to retain some level of cost sharing to control utilization and constrain total health expenditures.

In the long run, effective limitations on provider payments through global budgeting and negotiated physician fees, as well as controls on expensive technology, could significantly constrain the future growth of U.S. health spending, leading to substantial further cost savings.

Conclusions

The situation in the United States today differs in several important respects from that in Canada at the time its health insurance program was implemented. The expansion of the private health insurance industry, the diffusion of medical technology, and the development of alternative service delivery arrangements make circumstances in the United States today different from those in Canada when it adopted its system.

Some elements of the Canadian system are worthy of consideration in a reformed U.S. system, however, because they might solve recognized problems. These might include Canada's universal access, uniform payment system, and expenditure controls.

But a reformed U.S. system should also retain and build upon the unique strengths of the existing structure of U.S. health care. The strong U.S. research establishment, the continuing development of medical technology, and the capacity to evolve new and potentially more efficient service delivery mechanisms, such as health maintenance organizations, are characteristics of the U.S. system that should be preserved, even as we search for models elsewhere that would help us overcome our recognized problems.

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Abbreviations

CT	computed tomography
DRG	diagnosis related group
GAO	General Accounting Office
GNP	gross national product
HIAA	Health Insurance Association of America
HMO	health maintenance organization
HMSA	Health Manpower Shortage Area
MRI	magnetic resonance imaging
OHIP	Ontario Health Insurance Plan
PNHP	Physicians for a National Health Program

Introduction

Concern over inadequate access to health care for many Americans and continually rising costs for health care are generating renewed interest in restructuring the U.S. health care system. Most other industrialized countries provide universal health insurance while spending less per capita on health services than the United States. The Congress is interested in whether the health care systems in these countries offer any lessons that could help the United States expand access to care while stemming the rate of growth in health care costs. The Chairman, House Committee on Government Operations, requested that we compare the organization of the Canadian and U.S. health care systems and assess the implications for the United States of adopting a Canadian-style program.

Canada May Be an Instructive Model for U.S. Reform

The Canadian system, really a network of 10 provincial and 2 territorial systems, is frequently presented as a possible model in U.S. health care reform. Provincial governments operate plans that provide universal access, cover nearly all physician and hospital services, provide portable benefits, and are publicly administered on a nonprofit basis. The federal government funds about 40 percent of the provinces' costs. For the province to qualify for maximum federal support, providers must accept the provincial plan reimbursement as payment in full. There are no upper limits on the provision of care provided as long as it is deemed medically necessary. Canada prohibits private health insurance, except for items not covered by the provincial plans.

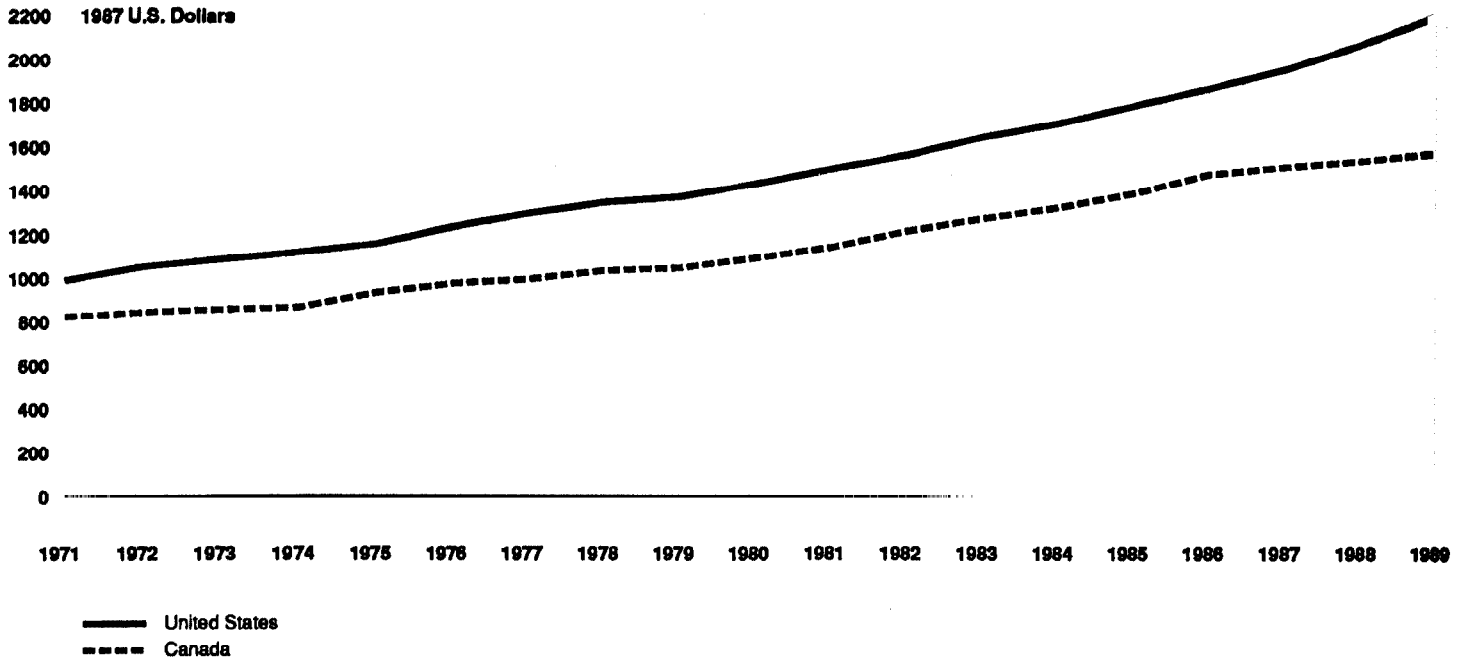
The two nations have certain common features that make Canada's experience relevant for the United States. Although it is not identical to the United States, Canada probably comes closer to sharing certain U.S. characteristics than any other industrialized country. First, it does not have a socialized system of delivering medical care. Rather, most health resources in Canada are in the private sector. It is a system whereby a third party pays private providers. Second, most physicians are independent and earn their incomes by fee-for-service. Ninety-five percent of Canadian doctors work for themselves, not for the government. Finally, 90 percent of hospitals are private, nonprofit corporations, exceptions being federally owned and operated veterans' hospitals and provincial psychiatric hospitals.

Canada Constrains Aggregate Health Expenditures Better Than the U.S.

A comparison of real health care expenditures in the two countries shows that Canada spends less per capita and a smaller share of its economic output on health care. Canada's relative success in containing costs is evidenced by its slower rate of growth in health care expenditures since 1971, the year publicly funded health insurance was implemented in all provinces. As a result, health care expenditures per capita and as a proportion of gross national product (GNP) remain significantly less than in the United States. This gap is due to differences in how the two countries finance and deliver health care as well as socio-demographic differences.

Canada spent roughly one-fourth less per capita on health care in 1989 (the latest year for which comparable data are available). The average per capita expenditure was $1,570 in Canada compared to $2,196 in the United States (in 1987 dollars). Between 1971 and 1989, Canada's average annual growth rate in real per capita health expenditures was lower than the comparable U.S. rate. Real per capita expenditures on health care grew by 3.7 percent per year in Canada compared to 4.5 percent in the United States. As shown in figure 1.1, the difference in spending, after adjusting for inflation, grew from $167 per person in 1971 to $626 in 1989.

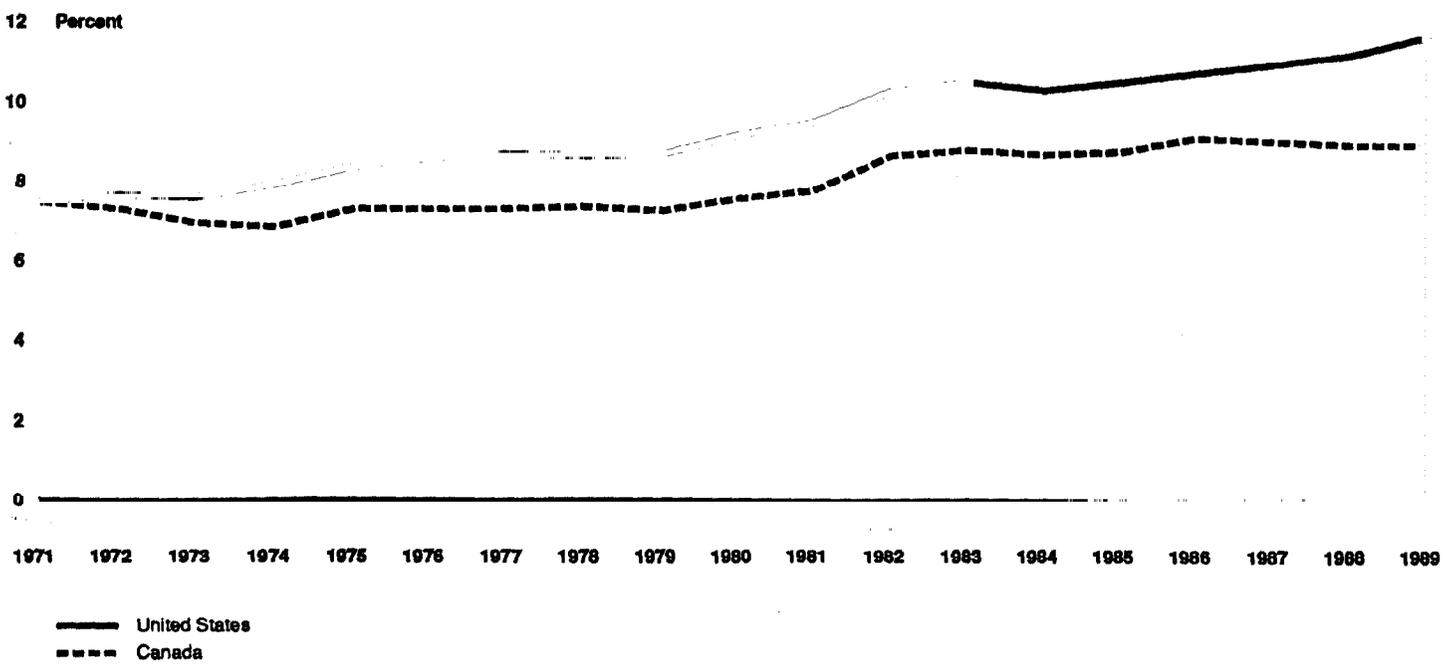
Figure 1.1: Total Health Care: Real Expenditures Per Capita (1971-89)



Notes: Expenditures were converted to 1987 constant dollars by dividing health care spending by the gross domestic product implicit price deflators for the United States and Canada. The Organization for Economic Cooperation and Development's purchasing power parity for 1987, $1.24 CAN = $1.00 U.S., was used to convert Canadian to U.S. dollars.

In 1989, Canada's health spending share of GNP was 2.7 percentage points below that of the United States. In 1971, health care consumed about the same share of economic output in both countries (7.4 percent in Canada and 7.5 percent in the United States). However, between 1971 and 1989 the two shares diverged; health expenditures as a share of GNP grew at a 1.1-percent annual average rate in Canada compared with a 2.5-percent rate in the United States. In 1989, Canada's health spending share of GNP was 8.9 percent compared to 11.6 percent in the United States. (See fig. 1.2.)

Figure 1.2: Total Health Expenditures as a Share of GNP (1971-89)



This analysis of the Canadian and U.S. record of cost control has been subject to criticism. A recent study by the Health Insurance Association of America (HIAA) suggests that comparisons of the two nations' health spending as a proportion of GNP exaggerates Canada's success in containing health expenditures.[1] HIAA argues that faster GNP growth, not slower health spending, explains why health's share of GNP has stayed lower in Canada. They contend that it is more appropriate to look at changes in per capita spending as an indicator of the effectiveness of health care cost controls.

Canada's faster real economic growth provides better support for the opposite conclusion to this argument. HIAA's comparative analysis does not consider the potential impact of faster GNP growth on health care

[1]E. Neuschler, "Canadian Health Care: The Implications of Public Health Insurance," Health Insurance Association of America Research Bulletin, June 1990.

spending.[2] If U.S. income had grown as fast as Canada's, health spending would have increased more and per capita spending would have been even higher than the current U.S. levels. Indeed, a recent international comparison of health expenditures indicates that for the United States, health expenditures tend to grow at a faster rate than income. This suggests that not only would per capita health spending increase, but the share of GNP spent on health care would also rise. Canada's ability to restrain health care spending despite rapid economic growth may be attributed to how it finances and allocates health care services.[3]

Health Status Indicators Are Comparable

Health indicators do not differ substantially between the United States and Canada even though the proportions of GNP allocated to health in both countries vary. The health of Canadians, as measured by standard (if crude) indicators, is as good as or better than that of U.S. residents.[4]

The average life expectancy of Canadian men and women is longer than in the United States. In 1986, life expectancy at birth was 73.1 years for a Canadian man compared to 71.3 years for an American man, and 79.9 years for a Canadian woman compared to 78.3 years for an American woman. In both countries the leading causes of death were heart disease, malignant tumors, respiratory disorders, cerebrovascular diseases, and accidents.

The infant mortality rate in Canada also is lower than that of the United States. In 1987, the infant mortality rate in Canada was 7.3 deaths per 1,000 live births, compared to the U.S. rate of 10.1. Another children's health status indicator is the proportion of infants born with low birth weights; these infants are at greater risk of dying or developing long-term disabilities. In the mid-1980s, in the United States, 6.8 percent of all births were low birth weight, compared to 5.7 percent in Canada.

[2]Health expenditures tend to increase faster than income growth in the United States. Income growth generates increased spending on health care in Canada, but health expenditures tend to grow at a slower rate than income. See G.J. Schieber and J.P. Poullier, "Overview of International Comparisons of Health Care Expenditures," Health Care Financing Review, Annual Supplement 1989, pp. 1-7.

[3]A.J. Culyer, Health Care Expenditures in Canada: Myth and Reality; Past and Future (Canadian Tax Foundation Paper No. 82), 1988.

[4]Although aggregate data are comparable, there is a significant difference when comparing these indicators for U.S. whites and blacks. Relative to all Canadians, U.S. whites have similar or low mortality rates for several leading causes of death. However, U.S. whites have a shorter life e tancy and higher infant mortality rate than all Canadians. At the same time, U.S. blacks ha higher mortality rates for almost all leading causes of death, higher infant mortality rates, shorter life expectancy than either U.S. whites or the average Canadian. Data from Cana status indicators are not readily available by race.

Life expectancy, cause-specific mortality, and infant mortality data may be poor indicators of the relative quality of the two health delivery systems. A more discriminating measure of quality would be a comparison of incidence rates for sentinel health events.[5] Such data, however, were not readily available on a comparable basis.

Health status is influenced by many other factors. A 1979 study by the Department of Health, Education, and Welfare estimated that only 10 percent of premature deaths in developed countries are attributable to inadequate health services. The rest are due to unhealthy lifestyles (50 percent), environmental factors (20 percent), and human biological factors (20 percent). Thus, broadening access to health care may not be enough to raise the health status of all Americans. It is likely, however, to improve the health of those who currently lack access to health care services.

Critics of Canada Cite Rationing Problem

Health experts have identified a number of weaknesses in the way the Canadian health care system is managed.[6] U.S. critics of the Canadian system widely cite rationing of medical technology as an unacceptable weakness. For services that are in tight supply, such as cardiac bypass surgery, lens implants, and magnetic resonance imaging (MRI), patients are placed on waiting lists to receive care according to the urgency of treatment. Such rationing of services results from government constraints on hospital budgets and the number of facilities used for specified high-technology services. Some health experts argue that constraints on the availability of innovative technologies conflict with quality-of-care concerns. (See ch. 4.)

Some Canadian patients who experience delays in obtaining specialized medical services cross the border to seek care in the United States. In this way, the United States acts as a "safety valve" for Canada. If the United States implemented the Canadian-style system of stringent controls on technology acquisition, there would be no similar backup system for U.S. citizens.

[5]Sentinel health events are medical conditions or stages of conditions that indicate a lack of access to quality primary care. These events include, for example, cases of measles, mumps, or polio in children, and advanced breast cancer, uncontrolled diabetes, or uncontrolled hypertension in adults.

[6]M. Rachlis and C. Kushner, Second Opinion: What's Wrong With Canada's Health Care System and How To Fix It (Toronto: Harper and Collins), 1989.

Objectives, Scope, and Methodology

At the request of the Chairman, House Committee on Government Operations, we examined Canada's two decades of experience under universal, publicly funded health insurance and sought implications of that experience for U.S. health care reform. Specifically, we sought to answer the following questions:

- What are the major similarities and differences between the health care systems of the United States and Canada?
- What policies has Canada used to control costs in the physician and hospital sectors?
- As a consequence of the structure and policies implemented in the Canadian health care system, are there serious limitations on access to high-technology and specialized services?
- If the United States adopted certain features of a Canadian-style system, how would national health spending change?
- What are the access and health implications for the United States of adopting a system with universal, first-dollar coverage?

Scope

Our review includes data from Canada as a whole and from the province of Ontario.[7] Since each of the 10 provincial programs has some unique features, we often found data available only at the provincial level. For our analysis of access issues, we confined our data collection efforts to Ontario, recognizing that there may be significant differences across provinces. Our cost estimates assume the United States would implement a publicly funded system modeled after that in Ontario. We did not review the financing and delivery of long-term care services provided at institutions other than hospitals.

Methodology

To carry out our objectives, we:

- Analyzed expenditure patterns in Canada, Ontario, and the United States using data from Health and Welfare Canada, the Ontario Ministry of Health, and the U.S. Health Care Financing Administration.
- Reviewed literature over the last 10 years describing Canadian approaches to regulating hospital and physician payments.

[7]We agreed with the Committee that Ontario would serve as a "benchmark" province for such comparisons. Ontario accounts for 37 percent of the Canadian population, 38 percent of national health expenditures, and 38 percent of Canadian physicians.

- Interviewed Canadian hospital administrators and physicians, provincial officials, and professional health care groups and U.S. health policy experts.
- Surveyed selected Ontario hospitals providing high-technology and specialized services.
- Consulted an advisory panel composed of U.S. and Canadian government and academic health care experts.

We conducted our review from January through December 1990 in accordance with generally accepted government auditing standards.

Structure of the Canadian System Creates Differences in Access and Cost Control

The Canadian system provides health insurance coverage to all residents regardless of financial or health status. Unlike in the United States, where access is often limited by an individual's insurance coverage, access in Canada is limited province-wide by annual health care budgets. By maintaining a single payer for all medical services, the Canadian system has the leverage and institutional incentives to reduce administrative costs and control overall expenditure growth. But as a consequence of these controls, some health care services may not be available or accessible due to limits on expensive technologies and services. (See ch. 4.)

The Canadian approach to health insurance proceeds from a base of national standards that are implemented through a network of provincial plans. As a condition of federal funding, provincial plans must implement

- universal coverage for all legal residents,
- comprehensive coverage of all medically required services,
- reasonable access to insured services with no deductibles, copayments, or extra billing,[1]
- portability between jobs and residences, and
- public administration on a nonprofit basis.

Provinces set their own plan policies and finance the plans according to their budgets. For the most part, plan benefits are similar across provinces.

Under this arrangement, most features of the Canadian health financing system are different from those of the U.S. system. These include uniformity of benefits, streamlined administration of insurance plans, prohibition against cost sharing, lump-sum budget reimbursement of hospitals, and government's active role in constraining health costs across entire health sectors.

[1]No extra billing means providers may not charge a fee in addition to that which is reimbursed by the insurance plan. Canada further discourages private payment by requiring physicians who bill patients directly to leave the provincial health plans altogether. A doctor can choose not to participate. However, few doctors could survive in full-time private practice since free care is always available. Thus, nearly all participate. A patient can patronize any doctor privately, but few are willing to pay fees rather than go where care is free.

Canadian Insurance Coverage Does Not Depend on Income or Health Status

In both Canada and the United States, health care is limited by financial resources. However, each country approaches access to health care services in a different way. In Canada, financial constraints are applied to the entire system, but not directly to an individual's utilization. In the United States, financial constraints are placed directly on individuals' utilization—ability to pay is an important factor in obtaining access and amount of care—not on the system as a whole.

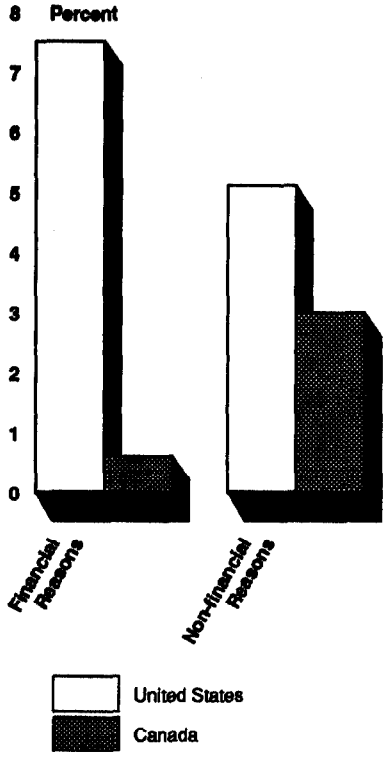
Canadian health policy reflects the ideal that all citizens have equal access to medical care regardless of their ability to pay. Under this ideal, people who can afford to pay do not purchase medical care that is better or more readily available than that obtained by people who are less well off. Instead, financial constraints on health care in Canada are applied through provincial budgets, for example, by limiting expenditures on technology. (See ch. 4.) The effects of these constraints apply, in principle, equally to all residents.

In the United States, access to health care is determined largely by individual insurance status or ability to pay, which is usually determined by whether and where people are employed. In addition, federal and state programs help reduce the effect of individual financial constraints through Medicaid, Medicare, and state assistance programs. Nevertheless, over 32 million Americans under age 65 lack either public or private health insurance coverage. These uninsured Americans must either pay out-of-pocket or rely on public hospitals, clinics offering free or subsidized care, and other forms of charity care. Financial constraints on health care in the United States are applied by the different payers for health care, thus creating an ad hoc collection of cost-control policies that vary by insurance carrier.

Barriers to health care are less evident in Canada than in the United States. For many Americans, such financial barriers as lack of insurance, inadequate coverage, and cost-sharing requirements limit their access to health services. In a 1988 survey[2] of U.S. and Canadian adults, 7.5 percent of Americans surveyed—representing about 18 million people—reported that they failed to receive needed medical care for financial reasons, compared to less than 1 percent of Canadians. The proportion that did not receive needed medical care for nonfinancial reasons (such as inability to get appointments or lack of transportation) was also higher in the United States than in Canada. (See fig. 2.1.)

[2]R.J. Blendon, "Three Systems: A Comparative Survey," Health Management Quarterly, First Quarter 1989, pp. 2-10.

Figure 2.1: Survey Respondents Who Did Not Receive Needed Medical Care (1988)



Source: Blendon, "Three Systems," pp. 2-10, Exhibit 9.

Coverage in Canada Is Universal

In Canada, universal health insurance covers the entire population. Each provincial health plan must offer health coverage to all legal provincial residents. Thus, Canadians are not excluded on the basis of income or health status.[3]

Coverage in Canada is "portable." It is not linked to employment, patient residence, or provider location. A resident's home province will pay for health expenses incurred in other provinces and, to some extent, outside the country. Portability enhances job mobility: since health insurance coverage is not linked to employment, people need not stay in a job simply because it offers a needed health benefits package.

[3]While all social classes use the same facilities and get similar care, wealthier patients are able to afford more amenities, such as private rooms instead of standard wards, and to seek care in the United States.

Provincial health plans provide unlimited insurance coverage for all medically necessary services. These include hospital inpatient care (at standard ward level), hospital outpatient care, and physician services. Hospital admissions are the prerogative of the physician and patient without interference by the insurer (the government). There are no restrictions placed on a patient's choice of physician.[4] Other covered benefits vary by province and may include outpatient prescription drugs for the elderly and poor, preventive services, and routine dental care for children.

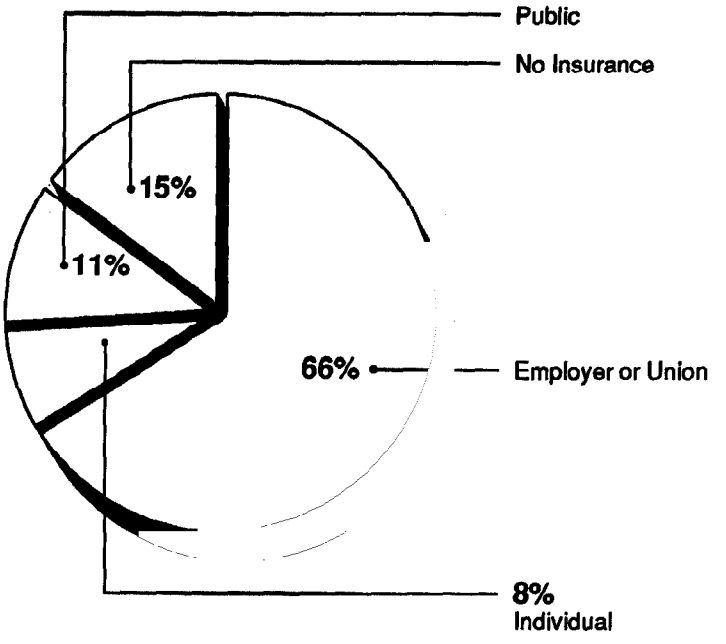
For both hospital and physician services, government reimbursement represents payment in full. Individuals do not pay deductibles or copayments for covered services. Provincial plans vary in the range of benefits provided and the extent to which they reimburse charges. People may still incur out-of-pocket expenses for services not included in the provincial plans, such as routine adult dental care and cosmetic surgery, and additional charges for a private or semiprivate hospital room. Individuals often obtain private health insurance coverage through their employer to defray the cost of such services.

Coverage in the United States Is Uneven

In the United States, residents have varying degrees of health insurance coverage—from comprehensive to none at all. In 1988, 85 percent of Americans under age 65 had some health insurance, either public or private. (See fig. 2.2.) Private health plans cover almost three-quarters of the under 65 population. A variety of public programs provide health insurance or direct health care to the elderly, the disabled, military personnel and their dependents, veterans, federal civilian employees, native Americans, and the poor.

[4]In some provinces, there are financial disincentives to discourage patients from using specialists without referrals. The disincentives are directed to physicians rather than patients.

Figure 2.2: Sources of Health Insurance for Individuals Under Age 65 (1988)



Private health insurance coverage is primarily a function of the individual's income and/or place of employment. However, employment does not guarantee coverage.[5] Of the over 32 million Americans under age 65 that were uninsured in 1988, most were from families with a working adult. Some firms do not offer health insurance to their employees. Small businesses, which are less likely than large firms to offer health insurance, cite costs and insufficient profits as major reasons for not offering health insurance. In addition, certain industries as diverse as hair styling and logging may be entirely excluded by various insurers. Contingent workers (temporary, part-time, self-employed, and contract workers) are less likely than other workers to have health insurance through their employers. Medical underwriting, a means insurers use to exclude high-risk individuals, can restrict coverage for workers with such conditions as diabetes or AIDS.[6]

[5]Provisions in the Consolidated Omnibus Budget Reconciliation Act of 1985 protect, temporarily, employees of firms with 20 or more employees against loss of employer-related health care coverage. However, employers may charge employees up to 102 percent of premium costs.

[6]See U.S. General Accounting Office, Health Insurance: Cost Increases Lead to Coverage Limitations and Cost Shifting (GAO/HRD-90-68, May 22, 1990).

The extent of benefits varies widely among insurers. Most insurance sold by private companies is regulated primarily by the states, and thus must provide state-mandated minimum benefits. Self-insured employer plans, which do not fall under the jurisdiction of state insurance laws, cover about half of insured workers.[7] Medicare provides reimbursement for a standard set of benefits for all beneficiaries. Medicaid, the joint federal and state health insurance program, also has a federally mandated core package of benefits, to which the states may add benefits.

Most insurance plans require copayments, including coinsurance, deductibles, or both. In addition, insurance companies may have limits on their total liability. Medicare requires copayments or deductibles and allows extra billing by providers.[8]

In addition to cost sharing, health insurers use other approaches designed to control costs, which result in limits on access to care. Under managed care, for example, insurers' strategies for deterring unnecessary care have controlled the use of services.[9] The Medicaid program also limits access by a variety of means. Some states, for example, limit the number of inpatient hospital days they will cover or establish low physician reimbursement rates, which can restrict recipients' ability to find participating providers.

The uninsured face financial barriers to health care and receive less health care than other individuals.[10] They generally use fewer services and rely more on providers' willingness to provide uncompensated care. Some receive services for free or at reduced rates in various settings, such as private hospital emergency rooms and government-run clinics and hospitals.

[7]Employers that self-insure assume the risk of paying for their employees' health care costs instead of purchasing insurance coverage.

[8]However, the United States is moving to limit these charges for Medicare services; in other programs, it limits which services or beneficiaries may be liable for copayments.

[9]Techniques include gatekeeping by a primary care physician, prior authorization, second surgical opinions, utilization review, and capitation payments to the provider with financial disincentives for hospitalization or referral to specialists. Inconveniences, such as delays for service or required preauthorizations before using an emergency department, are also barriers to access.

[10]See J. Hadley, E. Steinberg, and J. Feder, "Comparison of Uninsured and Privately Insured Hospital Patients: Condition on Admission, Resource Use, and Outcome," Journal of the American Medical Association, Vol. 265, No. 3. Jan. 16, 1991, pp. 374-379.

Canada's System Is Administered by a Single Payer in Each Province

In Canada, the same entity in each province is responsible for administration, regulation, and financing. Thus a single entity is responsible, in fiscal as well as political terms, for the performance of the system. In the United States, responsibility for administering, controlling, and funding the health care system is diffuse. The United States has a pluralistic system of financing that involves private insurers, employers, and federal, state, and local governments in reimbursing health care services.

The Canadian government—federal and provincial—is almost the exclusive source of payment for medical care covered under the provincial health plans. In 1987, public payments accounted for 74 percent of the nation's total expenditure for health care services. Private insurance and individuals made up the balance of the health expenditures for purchase of services not covered by the plans. In contrast, U.S. private payers—insurance companies and individuals—provided 57 percent of the funds used to purchase health care services in 1987.

Provincial Management With Shared Federal-Provincial Financing

Each provincial plan is financed jointly by the provincial and federal governments. To receive a federal subsidy, provinces "enroll" in the national health program by enacting provincial health insurance plans meeting the set of five conditions outlined on page 20. The provincial governments receive block grants to administer their plans (the federal share of public expenditures on health averages about 40 percent). The provincial governments use various combinations of general revenue, premiums, and taxes to finance the program.

Following federal guidelines, provincial health plans are administered by public agencies on a nonprofit basis. Provincial authorities decide (1) how much money will be spent on health, (2) whether to insure services beyond those of the national policy, and (3) how it will finance the provincial share of the plan's costs.

The leading constraint on spending derives from the single funding source structure of the Canadian system. The provincial government is the sole source of funds for the hospital and physician budget sectors. Providers have no other source of income if they are dissatisfied with government reimbursements unless they opt completely out of the system. This provincial monopoly over payments serves as the foundation for cost control over these sectors of the Canadian health budget.

With the government as payer, patients do not take part in the reimbursement of hospital and physician services. The government pays hospitals with lump-sum payments, which account for most of hospitals' operating revenues. It also approves expenditures for capital improvements, new equipment, and expansion. The government reimburses physicians according to a schedule of fixed rates that are set by the provincial medical association and are constrained by the total percentage increase in the fee base negotiated between the government and the association.

U.S. Health Care System Lacks Central Control

In the United States, multiple entities—some federal, some state, and some private—have a role in financing, administering, and reimbursing the health care system. The lack of a single entity managing the system results in piecemeal measures to control costs. On the other hand, the decentralized competitive system offers the possibility of greater consumer choice concerning the level and nature of health care benefits for some Americans. It has also led to the development of innovative approaches to health care delivery, like HMOs and managed care.

With a variety of reimbursement systems, U.S. providers are often paid different amounts for the same services, depending on the consumer's insurance carrier.[11] Hospitals are paid prospectively on a fixed amount per case by Medicare or on a fixed percentage of charges, on a per diem rate, or in full by other insurers. Others, such as Department of Veterans Affairs hospitals, are funded on a fixed budget. Reimbursement methods for U.S. physicians include salary, fee-for-service, and a fixed, per-patient amount (capitation).

Under the U.S. multiple payer system, reimbursement rates often vary among payers, with some payers being more "generous" than others (in some states, for example, Medicaid is regarded as having low reimbursement rates). As a result, providers may increase charges to other sources to compensate for low reimbursement. Individual insurers try to limit their own costs, usually without coordination with other payers.

[11] Medicare influences private sector payers because of its size. Some policies it adopts have been adopted by other payers, such as Blue Cross/Blue Shield.

Single Payer Structure With Province-Wide Policies Helps Control National Health Spending

With its single payer arrangement for financing and administering its health care system, Canada has been more successful than the United States in constraining costs in the insurance, physician, and hospital components of its health care budget. A single payer lowers the cost of administering both private and public health insurance and helps reduce the administrative costs borne by hospitals, physicians, and patients. It also has the political incentives and ability to restrain overall health expenditures.

Within the single payer framework, Canada has been partially successful in limiting spending growth for physician services by controlling physician fees. Canada has also contained hospital costs by allocating to individual hospitals lump-sum budgets, called "global budgets," and by setting constraints on the acquisition and use of high-technology equipment and services.

Most of the difference between U.S. and Canadian per capita health care spending comes from the insurance, physician, and hospital sectors. In 1987 (the latest year for which comparable sectoral data are available), Canada spent $448, or 23 percent, less per capita on health care. Insurance overhead (the cost of administering public and private insurance programs), payments for physician services, and payments to hospitals accounted for 78 percent of the total per capita spending difference between the two countries. Except for two sectors, public health and drugs and appliances, Canadian per capita expenditures were below the U.S. level. (See table 3.1.)

Table 3.1: Health Expenditures Per Capita, by Sector (1987)

In 1987 U.S. dollars

Sector	U.S.	Canada	Difference	Percent of total difference
Hospitals and construction[a]	$802	$659	$144	32
Physicians' services	369	241	128	29
Insurance overhead[b]	95	18	77	17
Other professionals[c]	84	20	64	14
Dentists' services	108	82	26	6
Research	36	13	23	5
Other health care	49	42	7	2
Other institutions[d]	158	156	2	1
Public health	58	67	−9	−2
Drugs and appliances	196	209	−13	−3
Total[e]	**$1,955**	**$1,507**	**$448**	**100**

[a]U.S. data include new construction at hospitals and nursing homes; Canadian data include capital expenditures on construction, repair, and machinery at hospitals, clinics, and homes for special care.

[b]Represents the difference between premiums collected and benefits paid by insurers but does not include provider billing and collection expenses.

[c]Represents all health care practitioners except physicians and dentists; includes private-duty nurses, chiropractors, podiatrists, optometrists, osteopaths, and physiotherapists.

[d]U.S data represent nursing home care; Canadian data include homes for the aged, institutions for the handicapped, and nursing homes.

[e]Sum of percentages may not equal 100 due to rounding.

Source: Canadian data from Health and Welfare Canada; U.S. data from Health Care Financing Administration, Office of the Actuary.

Single Payer Lowers Insurance Overhead

The Canadian single payer system is much less costly to administer as a result of the arrangements for paying benefits. Having a universal single payer system lowers the costs of insurance administration by streamlining reimbursement and eliminating expenses associated with selling multiple policies, billing and collecting premiums, and evaluating risk. Having a single payer also lowers costs for providers by eliminating the burden of completing numerous, complex claim forms and meeting other administrative requirements.

Insurance administration was the source of nearly one-fifth of the difference between Canadian and U.S. health care spending in 1987. In the United States, administrative costs for public insurance programs and

the net cost of private health insurance amounted to $95 per person. In contrast, Canada's insurance administration cost was $18 per person.[1]

Payment System Trims Insurance Administration

Canada's single payer system simplifies the process of paying claims. Each province issues a health plan "charge card" to each resident. Providers submit the card number with the claim to the provincial government, which pays the provider in full. Because of universal coverage, there are no costs to the system for determining eligibility. Nor are there personnel or operational expenses for marketing, estimating risk to set differential premiums or decide whom to cover, approving hospital admissions, or allocating shareholder profits.

In Ontario, for example, the Ontario Health Insurance Plan (OHIP) administers payments to all health care practitioners for provincially insured services. Physicians claim compensation for their services and get paid according to an official schedule of benefits, which lists payment amounts for all services considered medically necessary.

In the United States, the large and complex private insurance system accounts for the extra costs of administering the U.S. insurance programs. Multiple insurers marketing a range of plans differing in scope of coverage require high overhead to cover claims processing and marketing costs. The market mechanism creates greater consumer choice, less bureaucratic decisionmaking, and greater responsiveness to consumer needs. These advantages, however, are part of the reason for higher administrative costs.

Insurance company administrative expenses include claims and general administration, commissions, premium taxes, and other costs. As a percentage of claims, total administrative costs of private U.S. insurers vary from 40 percent for plans with four or fewer employees to 5.5 percent for groups with 10,000 or more employees.[2]

[1]In 1987, Canadian insurance administration totaled $466 million (U.S. dollars). This expenditure was made in three sectors: $246 million by provincial governments, $6 million by the federal government, and $214 million in the private sector. In the United States, public program administration and the net cost of private health insurance amounted to $23.9 billion in 1987. Of this amount, $6.5 billion was for federal and state programs, and almost all the rest for private insurance carriers.

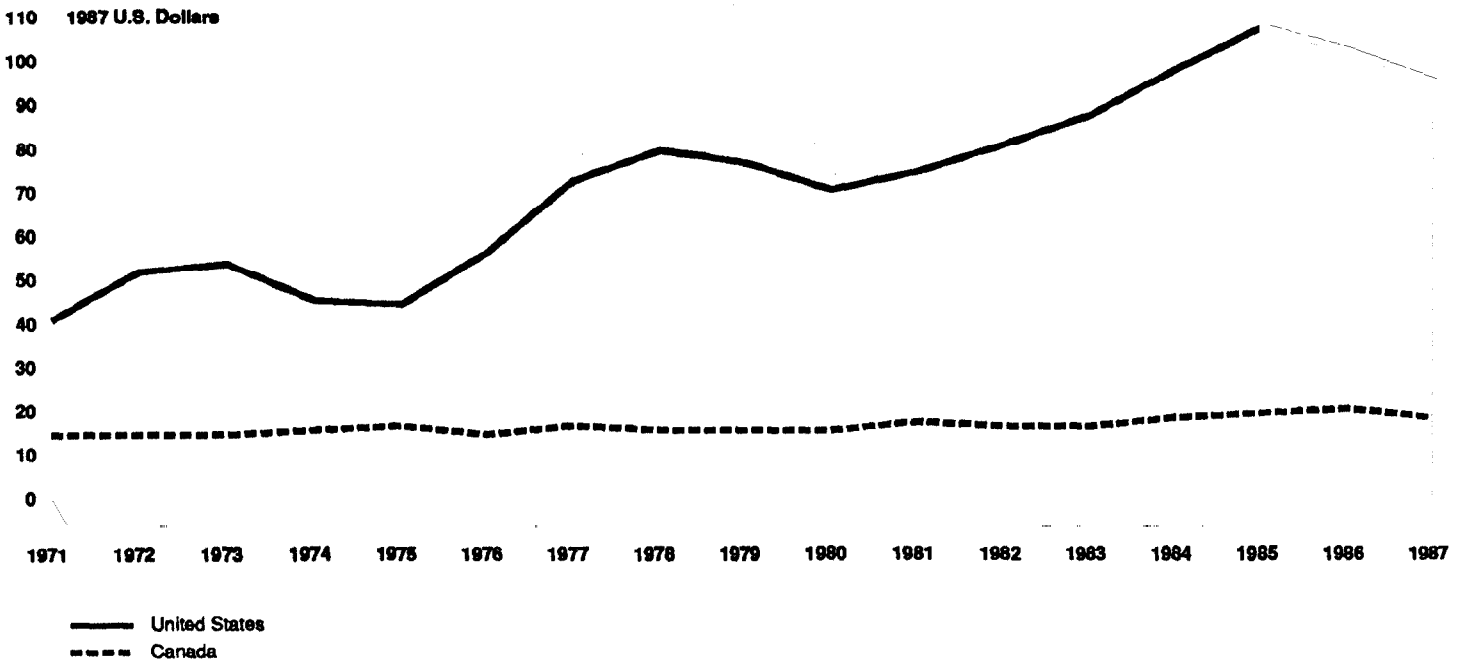
[2]Claims administration charges also vary by size of employer. For the smallest plans, charges average 9.3 percent of incurred claims; for the largest plans, they average 3.0 percent. This relatively low share, however, is considered fixed since each claim has to be examined and a separate rate payment made. See: Congressional Research Service, "Cost and Effects of Extending Health Insurance Coverage" (Education and Labor Serial No. 100-EE), Oct. 1988.

In both Canada and the United States, the overhead expense of health insurance is far less for government programs than for private health insurance. Public programs in both countries benefit from economies of scale (public programs are generally much larger) and the absence of marketing costs. For 1987, overhead expenses for Canada's public health insurance programs were about 1 percent of total program costs, and for U.S. public programs, about 3 percent.[3] These figures contrast with about 11 to 12 percent for overhead costs of private insurance plans in both countries.

Insurance administration in Canada is a smaller component than in the United States and has remained small since the introduction of government-funded hospital and medical care insurance. In 1987, the average administrative costs of public and private insurance programs in the United States represented 4.9 percent of total health expenditures. In Canada, the overhead share of public and private insurance plans is only 1.2 percent. As shown in figure 3.1, real per capita expenditures for insurance administration in Canada have remained nearly constant. Since 1971, this sector of the U.S. health economy has grown at an average rate of 6.2 percent per year. By 1987, U.S. spending on insurance overhead had increased to five times that of Canada.

[3]U.S. public programs incur more utilization review-type expenses and have higher eligibility determination costs that may help explain the higher U.S. percentage.

Figure 3.1: Insurance Overhead: Real Expenditures Per Capita (1971-87)



Note: Expenditures were converted to 1987 constant dollars by dividing health care spending by the gross domestic product implicit price deflators for the United States and Canada. The Organization for Economic Cooperation and Development's purchasing power parity for 1987, $1.24 CAN = $1.00 U.S., was used to convert Canadian to U.S. dollars.

Single Payer Reduces Provider Administrative Costs

With a system of universal coverage and a single payer, Canadian physicians and hospitals avoid the administrative complexities of determining which third parties cover each patient and what those third parties require to obtain payment. Such a system also avoids problems of shifting costs or devoting resources to cover bad debts.

For Canadian physicians, differences in insurance administration costs show up as lower overhead for practice. Unlike U.S. physicians, they are not burdened with determining insurance status, filling out different claim forms, managing collections, or compensating for uncollectible accounts. (See p. 40.)

Hospital administration and accounting costs are also lower in Canada because hospitals need fewer administrative personnel. A Canadian hospital has virtually no billing department and a minimal accounting structure to attribute costs and charges to individual patients and physicians. (See p. 47.)

In the United States, provider overhead includes the accounting costs of complying with the requirements for many insurers' documentation as well as dealing with eligibility determinations, direct billing of patients, and collections. One study estimated that, when provider overhead is included, administration costs may account for more than half the difference in cost between the Canadian and U.S. systems.[4]

While Canada's reduced administrative requirements may lower costs, they also reduces the potential to manage costs as effectively. For example, Canadian hospitals have been described by physicians as having underdeveloped information systems. Unlike the U.S. reimbursement system, the global budgeting approach provides hospitals fewer incentives for careful tracking of costs per patient day or costs per case.

Fee Controls and Other Policies Limit Physician Expenditures

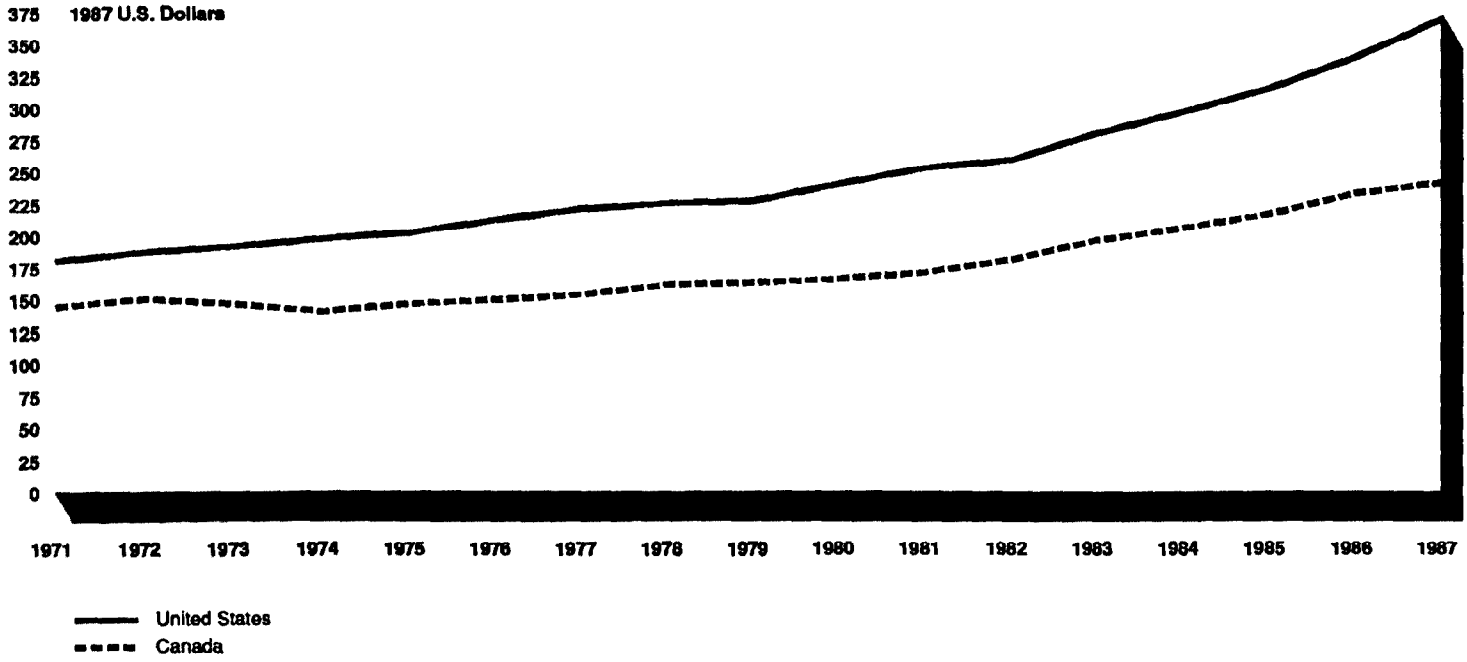
Canada has more active physicians per person and uses more physician services per capita than the United States, but it spends less for physician services per person. The difference in expenditure levels is attributed primarily to provincial governments' control over fees.[5] However, Canada's potential savings from constrained growth in fees are eroded somewhat by increased use of physicians' services. Physician supply policies that affect the professional specialty mix also maintain relatively lower spending for physician services. Finally, the universal coverage, single payer structure lowers physicians' expenses for administration.

[4]S. Woolhandler and D.U. Himmelstein, "The Deteriorating Administrative Efficiency of the U.S. Health Care System," New England Journal of Medicine, Vol. 324, No. 18, May 2, 1991, pp. 1253-1258.

[5]V.R. Fuchs and J.S. Hahn, "How Does Canada Do It: A Comparison of Expenditures for Physicians' Services in the United States and Canada," New England Journal of Medicine, Vol. 323, No. 13, Sept. 27, 1990, pp. 884-890.

A comparison of Canadian and U.S. growth in per capita expenditures for physician services is presented in figure 3.2. Since Canada implemented fee controls in 1971, it has developed a distinct cost advantage.[6] In 1987, the difference in expenditures represented 29 percent of the total difference in Canadian and U.S. health care spending. The amount spent on Canadian physicians was one-third ($128 per person) less than that spent in the United States.

Figure 3.2: Physicians' Services: Real Expenditures Per Capita (1971-87)



Note: Expenditures were converted to 1987 constant dollars by dividing health care spending by the gross domestic product implicit price deflators for the United States and Canada. The Organization for Economic Cooperation and Development's purchasing power parity for 1987, $1.24 CAN = $1.00 U.S., was used to convert Canadian to U.S. dollars.

[6]There are substantial differences among provinces in Canada. Canadian per capita expenditures for physician services reflect in large part the experience in the province of Quebec. Quebec has built utilization controls into its fee system by sharply limiting fees once physicians reach a target income.

Controlling Physician Fees Has Been Reasonably Effective in Restraining Overall Physician Expenditures

Canada's ability to limit growth in per capita spending on physician services is largely the result of constraints on physician fees. Through negotiations with provincial medical associations, provincial governments use their power as the single buyer of medical services, called monopsony power, to hold down prices paid to physicians. Since physicians' ability to bill patients directly was effectively eliminated in 1984, government payment represents payment in full.

Fees for most specific physician services are much lower in Canada than in the United States. A comparison[7] of 1986 Ontario fees for selected procedures with 1986 mean Medicare charges shows that Ontario fees were consistently well below the average Medicare fee.[8] For example, the Ontario fee for a coronary artery bypass was 25 percent of the Medicare charge. Similarly, the Ontario fee for cataract removal with insertion of intraocular lens was 24 percent of the Medicare charge.

Fee schedule negotiations in Canada have succeeded not only in controlling physician fees but also in reducing them in real dollar terms.[9] A comparative analysis of inflation-adjusted fees shows a decrease of 18 percent between 1971 and 1985 in Canada. (See fig. 3.3.) In contrast, U.S. fees increased by 22 percent over the same period.

Utilization Increases Reduce Some Gains From Fee Controls

Although fee controls are crucial to containing physician expenditures, they give physicians incentives to increase the volume of services they provide. Physicians have responded, in both Canada and the United States, to fixed and constrained fee schedules by increasing the volume of services they provide. Provincial governments now recognize that the method of reimbursing physicians must control both price and quantity increases.

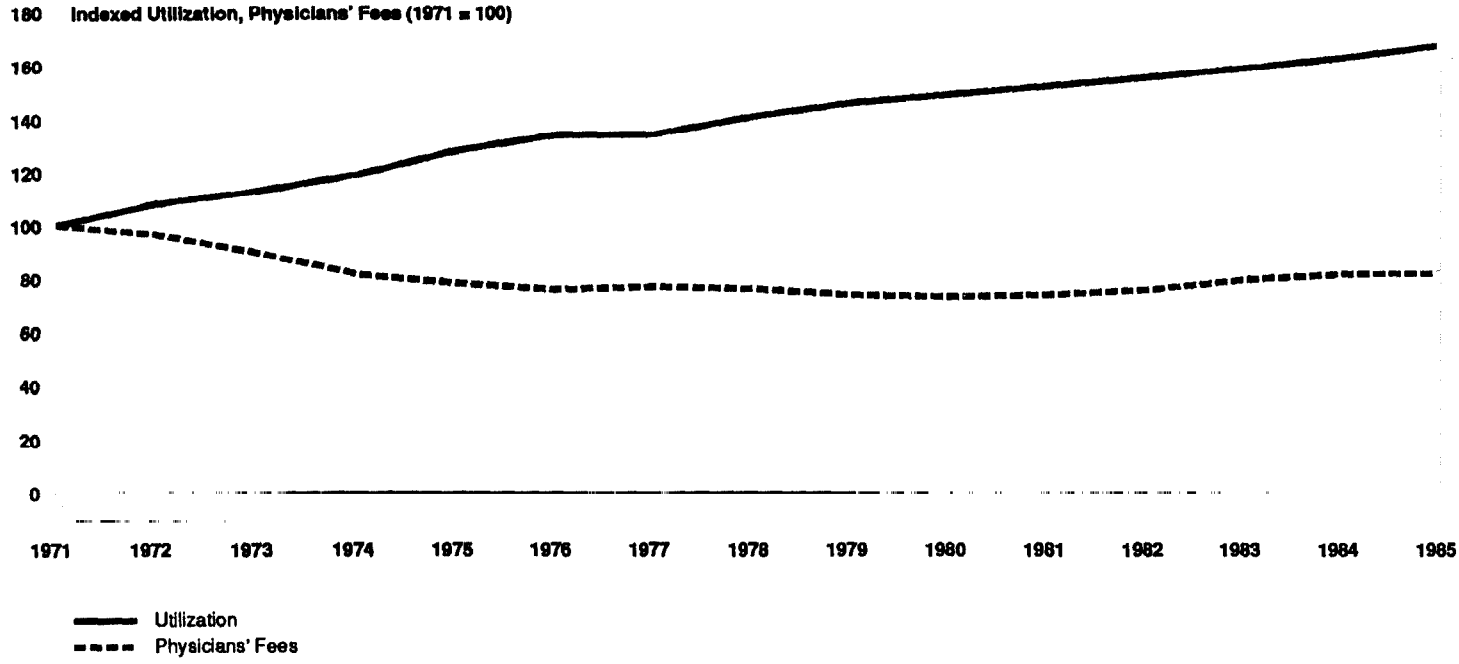
[7]W.C. Hsiao and others, "Results and Policy Implications of the Resource-Based Relative-Value Study," New England Journal of Medicine, Vol. 319, No. 13, Sept. 29, 1988, pp. 881-888.

[8]This does not reflect the fact that U.S. physicians can charge the patient fees above the Medicare fee schedule, which is not permitted in Canada.

[9]The fee schedule establishes a price for each medical service covered by public insurance. After the medical association and the provincial government negotiate the overall increase in the fee schedule, the association decides how to allocate the increase to different specialties and services.

The ban on extra billing, an increase in physician supply (which has lowered the number of patients per physician), and limitations on hospital resources have put greater financial pressures on physicians.[10] Increasing utilization is the primary option left for physicians to raise income levels beyond the rate of increase in fees. Figure 3.3 shows that while inflation-adjusted fee levels declined during the 1970s, utilization per capita steadily increased. These utilization increases were not enough, however, to eradicate the constraining effects of fee limitations.

Figure 3.3: Indexes of Per Capita Utilization and Inflation-Adjusted Physicians' Fees in Canada (1971-85)



Source: M.L. Barer, R.G. Evans, and R.J. Labelle, "Fee Controls as Cost Control: Tales From the Frozen North," Milbank Quarterly, Vol. 66, No. 1, pp. 1-64, Table A3.

Canadian data indicate that the number of physician services has risen more rapidly than the number of physicians. In the 2 years after Ontario's ban on extra billing, services per physician grew by nearly 2.5

[10]Controls on hospital expenditures impinge on individual physicians by limiting the complementary resources that are available to them. The number of hospital beds per physician has declined substantially. This has resulted in more restrictions being placed on hospital admitting privileges, leading to a commensurate reduction in physicians' earning potential.

percent each year; in the previous 7 years, the average annual increase had been a little over 1 percent.

The Canadian provinces recognize the need to place constraints on physician utilization in order to fully realize the benefits of fee control.[11] The Ontario Ministry of Health, for example, has attempted to constrain increases in the fee schedules when significant growth in physician utilization above target levels cannot be explained by demographic changes. To provide incentives for efficiency improvement as well as expenditure control, the Ministry is considering alternative remuneration systems to fee-for-service, such as managed care models.

In each province, utilization review committees have been established to control overbilling and fraud (and possibly control unnecessary services). They monitor practitioners to identify patterns of practice that deviate radically from their peers. The committee can request physicians with aberrant claims to provide an explanation of their billings. If necessary, they can impose on physicians a formal review and disciplinary action. However, because they lack the mandate and resources to do more than identify outliers, the committees are not considered very effective. In Ontario, for example, less than 10 percent of doctors with unusual billing practices were referred for further investigation during 1990.

Physician Supply Ample, Relatively Fewer Specialists

Canada's fee controls have apparently had little or no effect on the availability of physicians. The active physician-to-population ratio is slightly higher in Canada than in the United States. However, the disparity with respect to general and family practitioners is particularly large, with Canada having nearly four times the number of doctors per person.

Despite the constraints on fees and extra billing, medicine remains an attractive profession in Canada.[12] The number of physicians emigrating from Canada annually decreased from 663 in 1978 to 386 in 1985. (This may have been due, in part, to more stringent U.S. immigration policies.) In 1988-89 there were an average of 4 applicants for each first year

[11] J. Lomas and others, "Paying Physicians in Canada: Minding Our Ps and Qs," Health Affairs, Spring 1989, pp. 80-102.

[12] See J.K. Iglehart, "Canada's Health Care System Faces Its Problems," New England Journal of Medicine, Vol. 322, No. 8, Feb. 22, 1990, pp. 562-568.

opening in Canadian medical schools. This compares with a U.S average of 1.6 applicants per first year opening.

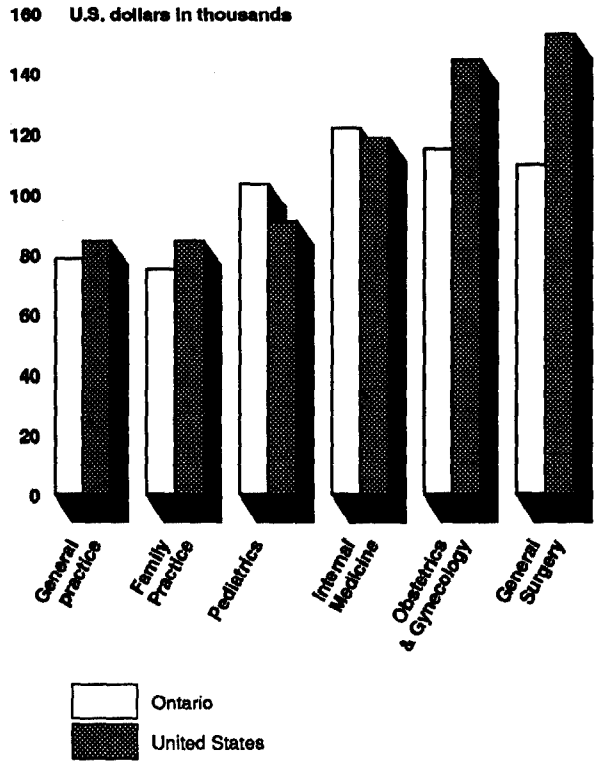
Like the United States, Canada's increase in physicians has been greater than its increase in the population. Between 1970 and 1988, the number of practicing physicians nearly doubled; the population per practicing physician declined from 837 to 525. The government's concern is with physician surpluses, rather than shortages.

However, a substantial and growing difference exists in the mix of physician specialties in the two countries. This is due, in part, to provincial policies to control postgraduate training. For example, Ontario has a "guideline" policy that the physician supply ratio should be 55 percent general practitioners to 45 percent specialists. One approach to maintain this mix is to control the availability of specialty residency positions in medical schools.

Unlike the United States, Canada has maintained roughly equal numbers of generalists and specialists. The proportion of Canadian physicians engaged in general or family practice increased from 50.8 percent in 1970 to 52.5 percent in 1988. In contrast, the proportion of U.S. physicians engaged in general or family practice decreased from 19 percent in 1970 to about 13.3 percent in 1988. If general internists and general pediatricians are included, the United States has 33.8 percent primary care providers.

The 1987 average net income of physicians in Canada was $82,740 (U.S.), compared with $132,300 earned by U.S. physicians in private practice. Some of the difference in average net incomes can be explained by the more specialty-rich mix of physicians in the United States. Ontario physicians are the highest paid in Canada. Their average net professional earnings were $96,450 (U.S.) in 1987. As shown in figure 3.4, the range of average net incomes of physicians in different specialties is broader in the United States than in Ontario. For surgical and procedural specialties, U.S. practitioners earn substantially more.

Figure 3.4: Average Net Incomes of Self-Employed Physicians by Specialty (1986)



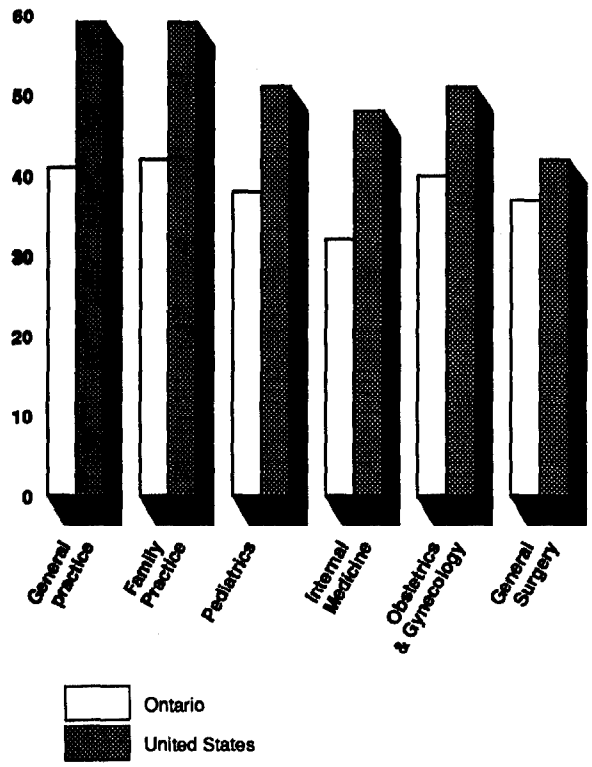
Note: General and family practice income data are combined for the United States.
Source: J.K. Iglehart, "Canada's Health Care System Faces Its Problems," table 1.

Canadian Professional Expenses Are Much Lower

Canadian physicians benefit from lower administrative and malpractice liability costs. The proportion of Canadian physicians' gross income that goes toward overhead expenses is much lower than that of their American counterparts. In 1987, average professional expenses of Canada's self-employed physicians were $46,000 (U.S.), or about 36 percent of gross income. By comparison, average professional expenses of U.S. self-employed physicians in 1987 were $123,700,[13] or 48 percent of gross income. Figure 3.5 shows the share of gross income accounted for by professional expenses for self-employed physicians in Ontario and the United States.

[13]The major components of U.S. professional expenses included nonphysician personnel payroll ($42,500), office expenses ($30,000), medical liability premiums ($15,000), medical materials and supplies ($13,500), medical equipment ($6,500), and other expenses.

Figure 3.5: Professional Expenses as a Percentage of Gross Income for Selected Specialties (1986)



Note: General and family practice data are combined for the United States.
Source: Calculated from data presented in J.K. Iglehart, "Canada's Health Care System Faces Its Problems," table 1.

As noted above, U.S. physicians face significant administrative demands from health insurers. They must bill various public and private third-party payers and often the patient as well. The need to file multiple forms, resolve disputed claims, and wait for delayed payment imposes additional costs. In Canada, physicians submit claims for all their patients to a single payer in each province and usually receive prompt and complete payment. Administration in Ontario is simplified by using a standard claim card and a limited number of service codes. As a result, the amount of staff and physician time spent on billing is negligible.

A large part of U.S. professional expenses is devoted to billing activities, including a share of the payroll cost of office staff, the cost of outside billing services, and the value of the physician's time spent on claims. A

recent study[14] estimates the cost of physician overhead and billing expenses in the United States at $106 to $203 per capita. By contrast, the universal coverage, single payer reimbursement system lowers the overhead cost of practicing medicine in Canada. Under that system, the study estimates the cost of physician billing and overhead expenses at $41 to $80 per capita in 1987.

Malpractice premiums are another factor contributing to the differential in expenditure on physician services. A comparison of average professional liability premiums in 1987 is shown in table 3.2. The data indicate that, on average, premiums paid by self-employed Canadian physicians were less than one-tenth those paid by U.S. physicians.

Table 3.2: Professional Liability Premiums for Self-Employed Physicians (1987)

In U.S. dollars

	Canadian premiums	Mean U.S. premiums
All physicians (average)	**$1,470**	**$15,000**
General/family practice	645	8,900
Internal medicine	1,090	8,400
Pediatrics	1,090	7,100
Surgery	4,235–6,655	24,500
Obstetrics	6,655	35,300

One reason for differences in malpractice liability may be attributable to Canada's universal insurance coverage and broad benefits, which obviate the need to sue to recover future medical expenses. Such costs in the United States may constitute one-quarter of the damages awarded in tort suits. Other reasons are attributable to different national attitudes toward litigation and differences in tort laws.

Although difficult to quantify, the United States by comparative standards is a more litigious society than Canada. One study shows that Canadian physicians are only one-fifth as likely to be sued for malpractice as American physicians.[15] This may be attributable in part to the fact that in Canada a large proportion of the winning side's court costs are the responsibility of the loser and that cases taken on contingency are limited (even prohibited in Ontario).

[14]S. Woolhandler and D.U. Himmelstein, "The Deteriorating Administrative Efficiency of the U.S. Health Care System."

[15]P.C. Coyte, D.N. Dewees, and M.J. Trebilcock, "Medical Malpractice—The Canadian Experience," New England Journal of Medicine, Vol. 324, No. 2, Jan. 10, 1991, pp. 89-93.

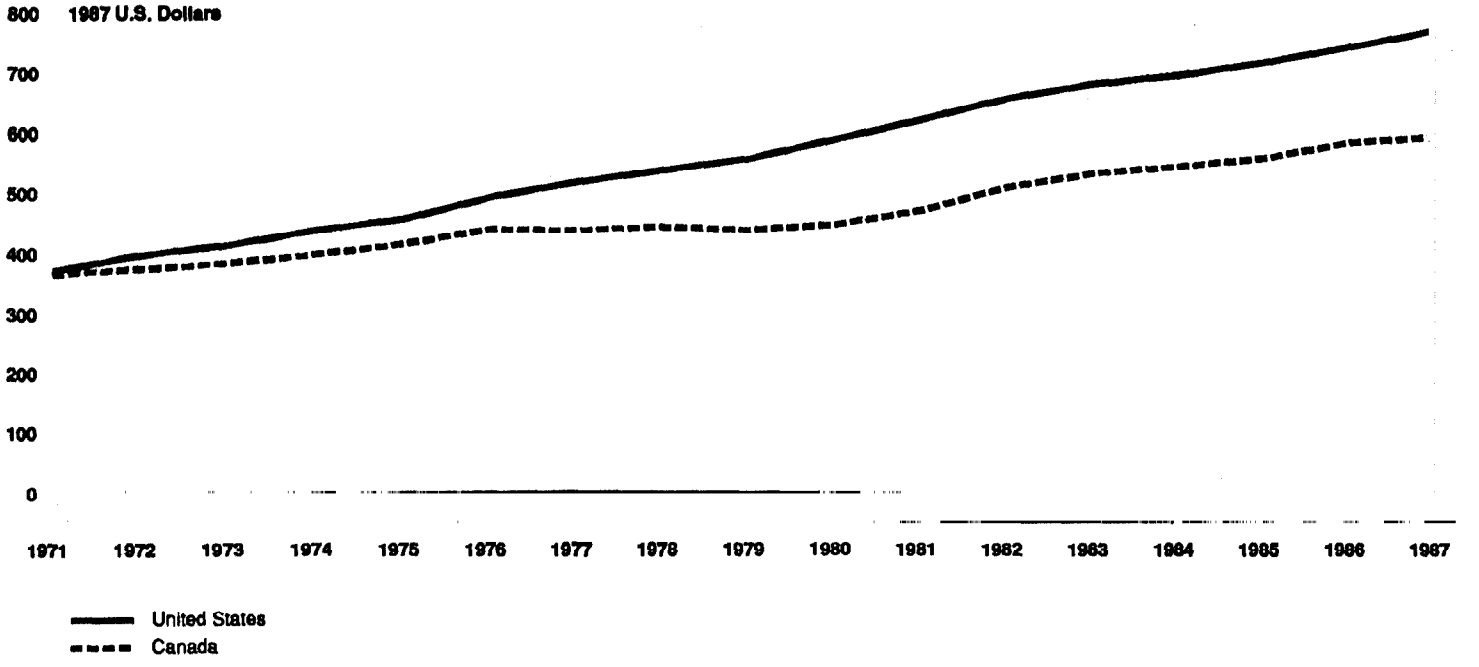
Other legal differences between the two countries include the use of juries, which tend to be more generous than judges toward plaintiffs, and compensation of plaintiff, lawyer, and court costs. In Canada, juries are used infrequently, punitive damages are rarely awarded, and there are judicial caps on awards for pain and suffering.

Global Budgeting and Technology Management Constrain Hospital Spending

In Canada, policies designed to limit the escalation of hospital spending succeeded by lowering the intensity of services provided. These policies entail the use of global budgets and management of medical technology. Together with the universal access, single payer structure that reduces administrative requirements, hospital budgetary and capital controls account for 32 percent of the difference in per capita health spending between Canada and the United States.

Figure 3.6 shows the widening gap between U.S. and Canadian hospital expenditures. Since 1971, Canada has been more successful in constraining real growth in hospital costs. From 1971 to 1980, real hospital spending per capita grew at 2.3 percent annually on average, less than half the U.S. rate. This reflected in large measure a constant level of resources for each hospital day. Canadian hospital expenditure growth more closely paralleled the U.S. experience in the 1980s, reflecting to some extent reduced growth rates achieved in the United States and some readjustment to greater service intensity in Canada.

Figure 3.6: Hospital Care: Real Expenditures Per Capita (1971-87)



Note: Expenditures were converted to 1987 constant dollars by dividing health care spending by the gross domestic product implicit price deflators for the United States and Canada. The Organization for Economic Cooperation and Development's purchasing power parity for 1987, $1.24 CAN = $1.00 U.S., was used to convert Canadian to U.S. dollars.

There is an important difference between the two countries in their approaches to hospital cost containment. Canadian provinces have a centralized, overtly political decision-making process, whereas the United States has a largely decentralized, institution-centered process. Because responsibility for controlling hospital resources in Canada rests with the provincial government, health care issues generate intense political debate. Negotiating issues of underfunding, shortages, and waiting lists are an important part of the process by which providers obtain their share of public resources. In the United States, hospitals are more apt to turn to market mechanisms to deal with resource problems.

Hospitals Are Financed Through Global Budgets

Among the cost-containment measures used to control hospital spending, the prospective global budgeting system may be the most important. In 1969, prospective global budgeting replaced line-by-line budgeting as Ontario's system for financing hospital operating

expenses.[16] Each hospital receives a fixed sum for the year, usually an increment over last year's budget adjusted for the current expenditure trend in the provincial budget. Although actual hospital expenditures are monitored periodically, no detailed accounting is required by the province.

Through control over capital and operating funds, the Ministry of Health controls hospital expansions and increases in number of hospital beds. Ontario has bed allocation guidelines in place that are used to assess the need for increased bed capacity and the equitable distribution of inpatient beds. For the allocation of acute care beds, Ontario has a current target of 3.5 beds per 1,000 population in southern Ontario and 4.0 beds per 1,000 in northern Ontario.

Caps on Operating Revenues

Operating budgets are funded almost entirely by the Ministry of Health in each province.[17] In Ontario, the Ministry annually increases the allocation to each hospital by a common base percentage to adjust for inflation. Additional allocations may be made to (1) small acute care hospitals to recognize smaller economies of scale, (2) hospitals that experience an increase in inpatient and/or outpatient workload, (3) hospitals that experience growth in patient volume for special services, and (4) hospitals approved for new or expanded programs. In addition, the Ministry has been phasing in case-mix adjusters to reflect the type of care patients receive.

Hospital administrators divide the Ministry's lump-sum allocations according to internal priorities. Over 70 percent of hospital operating budgets go to labor. Other operating expenses, such as medical supplies, drugs, food, and utilities, account for the remainder.

Impact on Hospital Management

Prospective global budgeting has advantages over other reimbursement systems. Its predictability and flexibility allow hospital administrators more autonomy in making allocation decisions. In principle, a benefit of global budgeting is that hospitals should become more cost-conscious

[16]Operating budgets include no allowance for capital expenditures. Hospitals must apply separately for the approval and funding of new capital acquisition.

[17]In Ontario, the Ministry's allocation accounted for about 81 percent of each hospital's funding in 1986-87. Although patient copayments and deductibles are prohibited, hospitals may tap other sources for additional operating funds. These range from philanthropic support to parking fees to differential charges for private versus semiprivate rooms.

and efficient since they must fund all expenditures from the given prospective budget.[18] At the same time, however, global budgeting induces some hospital practices that may be undesirable.

On the positive side, global budgeting encourages hospitals to cut costs and use funds efficiently. For example, to avoid unnecessary use of costly resources for individual patients, hospitals emphasize outpatient rather than inpatient care.[19] Shifting services to outpatient facilities also benefits the hospital in that certain services can be billed to the Ministry, generating additional reimbursement. Other cost-saving measures include bulk purchasing of drugs and other items, contracting out "hotel" services (such as laundry and meal services), and merging departments with similar or complementary functions (such as obstetric and pediatric departments) within hospitals.

On the negative side, global budgeting can prompt hospitals to pare expenditures to an unacceptable level. To stretch limited dollars, hospitals have incentives to admit, and retain as long as possible, low-cost patients. As a result, hospitals may fill acute care beds with low-cost, long-term patients. These patients have daily medical requirements that are well below average in cost. The patients are typically over 65 years of age, and their lengths of stay exceed 60 days. Such patients are often referred to as "bed-blockers," because they prevent physicians from using acute care beds to treat short-term patients.[20] The Ontario Ministry of Health and health care providers estimate that bed-blockers occupy about 15 percent of acute care beds.

Another negative effect under global budgeting is that hospital administrators' discretion over decision-making, while largely beneficial, limits the Ministry's authority to control the use of hospital resources. Since the Ministry does not monitor expenditures on a case-by-case basis, the government cannot directly prevent unnecessary admissions or excessive lengths of stay or other adverse patterns of use of beds in acute care hospitals. In addition, the government has minimal control over the

[18]Ontario modified its hospital budgeting process in 1982 to give hospitals incentives to be more efficient. Under what is called the Business-Oriented New Development plan, hospitals are responsible for deficits and are allowed to keep surpluses. Hospitals facing deficits may close beds and cut back on services to stay within their fiscal constraints.

[19]Between 1977 and 1986, the proportion of hospital activity accounted for by ambulatory care rose from 19 to 29 percent of patient-days in Ontario.

[20]Recently, the Ministry has developed several initiatives to reduce hospital stays by bed-blockers, including an emphasis on community-based care, long-term care reform, and changes in fiscal incentives.

diffusion of "low technology"—low start-up cost, high-volume procedures.[21] Furthermore, hospitals have little incentive to develop detailed information systems, since budgets are not based on individual patient costs.

Finally, the Ontario Ministry of Health finds it difficult, if not impossible, to close hospitals, despite estimates of a systemwide surplus of beds. The political ramifications are extensive, and thus, no public hospital has been closed in the last 5 years. Instead, as hospitals submit capital requests for hospital beds, the Ministry considers a range of alternatives to inpatient services, including ambulatory and community-based programs. Approximately one-third of Ontario hospitals are currently going through this "replanning" process.

A recent review of the hospital funding system identified some of these problems with global budgeting, but it recommended retaining and making adjustments to the system.[22] A health advisory committee reporting to the Premier of Ontario found that global budgeting (1) discouraged bottom-up responsibility for controlling costs and encouraged a growth mentality, (2) failed to address inequities in hospital budgets, and (3) focused on management efficiency rather than health outcomes. The committee recommended retaining global budgeting as the core funding method, but with modifications to account for case-mix differences in hospital workloads.

Impact on Service Intensity

Canada's hospital expenditures per capita were 18 percent below the U.S. level in 1987, primarily because of lower costs per patient-day. Compared to their U.S. counterparts, Canadian hospitals have more admissions and longer stays. A study of Ontario data for 1985 indicates that hospital costs per patient-day (for people over 65) were about one-third of the average U.S. cost.[23] This savings is attributable primarily to

[21] A.L. Linton and C. D. Naylor: "Organized Medicine and the Assessment of Technology: Lessons From Ontario," New England Journal of Medicine, Vol. 323, No. 21, Nov. 22, 1990, pp. 1463-1467.

[22] "From Vision to Action," Report of the Health Care System Committee, Premier's Council on Health Strategy, May 1989.

[23] These hospitals had similar admission rates and case mix, but far longer stays (14 days in Ontario compared to 8 days in the United States). See J. Newhouse, G. Anderson, and L. Roos, "Hospital Spending in the United States and Canada: A Comparison," Health Affairs, Winter 1988, pp. 6-16.

Ontario hospitals' lower service intensity—that is, the use of less labor, supplies, procedures, and equipment.[24]

Service intensity per hospital-day has escalated more slowly in Ontario than in the United States. For the period 1980-87, wages and other costs rose about as fast, but growth in the use of hospital resources per patient-day was minimal. The increased inflation-adjusted costs of hospital care attributable to growth in resources per patient-day was 19 percent in Ontario compared to 80 percent in the United States.[25]

Several factors may account for lower service intensity in Canada.[26] For example, hospitals use fewer nurses, drugs, operating rooms, MRI, and other resources per day of inpatient care. In the United States, the mix of hospital activities favors intensive, high-technology services, whereas in Canada it favors long-term chronic care. High-technology capacities available per capita have tended to increase less rapidly in Canada.

In addition, hospital administrative costs are lower. Some portion of the cost difference is accounted for by the greater administrative requirements of the American hospital system. The complex payment system in the United States requires hospitals to maintain a larger administrative staff to bill patients and insurers, determine eligibility, and deal with utilization review mechanisms. One study estimates that hospital administration costs $162 per person in the United States, compared to $50 per person in Canada.[27]

As noted earlier, the Canadian system may achieve lower administrative costs in part because it forgoes data collection needed for planning and efficiency improvements. Hospital managers benefit from the reduction in reporting and in detailed oversight by government. But the Ministry lacks a mechanism to learn whether people are being underserved or

[24]A.S. Detsky and others, "Containing Ontario's Hospital Costs Under Universal Insurance in the 1980s: What Was the Record?" Canadian Medical Association Journal, Vol. 142, No. 6, 1990, pp. 565-572.

[25]From 1972 to 1979-80, growth in hospital inputs generated only a 1.7-percent increase in Ontario's hospital expenditures compared to a 23.2-percent increase in the period 1979-80 to 1986-87. Most of the real growth in hospital cost was attributed to increases in wages in the 1980s.

[26]R.G. Evans and others, "Controlling Health Expenditures—The Canadian Reality," New England Journal of Medicine, Vol 320, No. 9, Mar. 2, 1989, pp. 571-577.

[27]S. Woolhandler and D.U. Himmelstein, "The Deteriorating Administrative Efficiency of the U.S. Health Care System."

overserved, because it does not receive detailed bills about individual patients.

High Technology Is Tightly Controlled

Another method used in Canada to contain hospital expenditures is to control the diffusion of medical technology. Control of high technology and the new treatments associated with them not only conserves program resources but also limits operating costs arising from added service capacity. Many of the new health care technologies require expensive capital equipment and the hiring of technical labor, both of which can increase costs greatly. (See ch. 4 for a discussion of consequences of these policies.)

In Ontario, the Ministry of Health controls hospital high technology by requiring approval for acquisition of certain equipment and specialty services. If government approval is given, the hospital may receive funds to cover some of the costs of the new service in addition to any increase in the base budget. Hospitals making purchases that are not approved by the Ministry do not (officially at least) receive operating funds for the equipment or services. Because most of the hospital's operating funds come from the Ministry, hospitals have a strong financial incentive to obtain approval before making major expansions or purchases of expensive technology, unless funds can be reallocated from internal sources.

As a result of this policy, Canada has fewer items of high-technology equipment and specialty services per person than does the United States. Moreover, there are concerns that the centralized planning and approval process is open to broad political controversy and that it limits the system's responsiveness and flexibility.

Regulation and Funding of Technology

Through control over capital and operating funds, the Ministry of Health limits the distribution of high-technology services among hospitals.[28] Certain types of equipment, such as computed tomography (CT) scanners, MRIs, and lithotripters, require Ministry approval in order to receive operating funds from the Ministry. Also, hospitals must obtain

[28]Through the 1989 Independent Health Facilities Act, the Ministry also regulates facilities that provide outpatient services. Examples of these services include cataract surgery, radiology and ultrasound, and laser treatments. Outpatient service facilities must be licensed by the Ministry and are subject to its quality assurance requirements and inspections.

Ministry approval of any significant volume change in specialty services, such as cardiac surgery, transplantation, and dialysis, in order to receive additional operating funds.[29]

For financial reasons, it is important for hospitals to receive approval from the Ministry of Health. Although the Ministry does not usually provide grants for the acquisition of high-technology equipment,[30] it does provide a portion of the operating funds for approved equipment. If an institution invests in a new program without prior government approval, all capital and operating costs must be financed out of its existing global budget.

Hospitals receive funding for specialized services, such as cardiovascular units, from the global operating budget and from additional Ministry of Health funds, called "life support funding." Life support funds cover marginal costs for special services not covered through growth funding. These funds are available for specified programs, including dialysis, pacemakers, open-heart surgery, chemotherapy, and neonatal care.

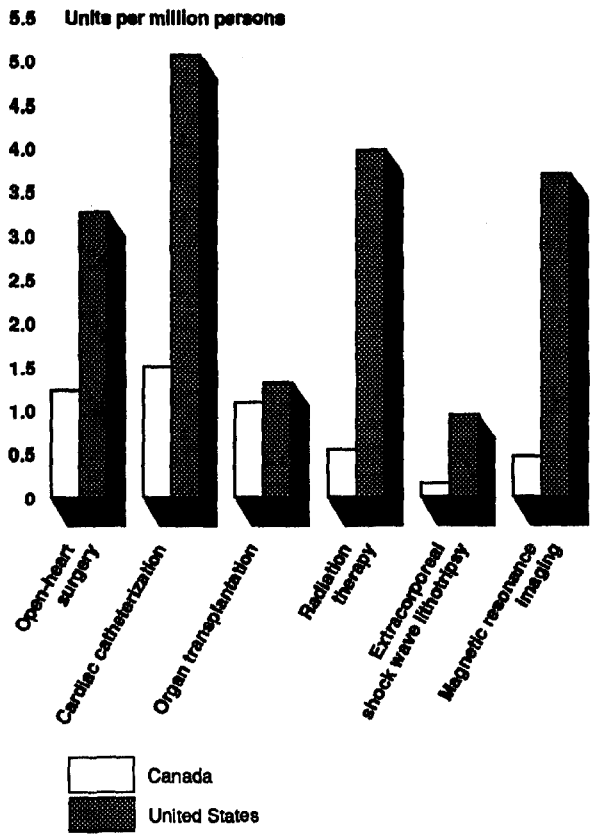
Less High-Technology Equipment and Services

A consequence of limiting physician specialties and restraining the diffusion of high technology is the reduced availability of certain treatments and procedures. (See fig. 3.7.) For each of the six technologies shown, Canada has substantially fewer units per person than the United States. It is not clear from these data, however, whether the United States has an overabundance of equipment, Canada a scarcity, or both.

[29]The Ministry obtains advice on capital expenditures from a variety of sources, including the local planning and advisory bodies, called District Health Councils. The Ministry may also consult experts, Ministry program coordinators, and health science centers (centers that provide specialty care, teaching, and research).

[30]Hospitals generate funds for equipment acquisition from a variety of sources. These include philanthropy, surpluses from the operating budget, and funds from ancillary services, such as parking fees. Hospitals may also use depreciation allowances included in the hospital's global operating budget. However the process of centralized approval prevents hospitals from obtaining capital from private markets.

Figure 3.7: Availability of Selected Medical Technologies



Source: D. A. Rublee, "Medical Technology in Canada, Germany, and the U.S.," Health Affairs, Fall 1989, pp. 178-181, Exhibit 1.

The relative effectiveness of the health care systems that have less high-technology and specialty services compared to those with high levels is uncertain. Studies suggest that there are significant benefits to concentrating certain high-technology, complicated procedures. Outcome data for certain specialized procedures, such as coronary artery bypass graft surgery, indicate that mortality rates are lower in centers that perform a high volume of these procedures than in low-volume centers.[31]

In fact, having more technology does not necessarily reflect how intensively or appropriately it is used. For example, for some cardiovascular

[31]See H.S. Luft, J. P. Bunker, and A.C. Enthoven, "Should Operations Be Regionalized: The Empirical Relation Between Surgical Volume and Mortality," New England Journal of Medicine, Vol. 301, No. 25, Dec. 20, 1979, pp. 1364-1369, and M. McGregor and G. Pelletier, "Planning of Specialized Health Facilities," New England Journal of Medicine, Vol. 299, No. 4, July 27, 1978, pp. 179-181.

procedures, population-based utilization rates in Manitoba and Ontario are comparable to those in the United States; for other procedures, rates are much lower.[32] In fact, in the United States utilization rates vary widely for different geographic areas. One study found a threefold variation between the lowest and highest rates of coronary artery bypass procedures among Medicare beneficiaries in different locations.[33] Nevertheless, Canada's lower rates for certain procedures do not conclusively represent underservicing, nor do U.S. rates conclusively reflect overprovision of services.

Effect of Political Influence in the Allocation of Technology

Political influence is an important part of the process of allocating resources. Ontario's Ministry of Health, for example, has been criticized for not applying consistent, rational criteria to technology management. In response to adverse publicity, the Ministry has injected funds into the system on an ad hoc basis. The growing conflict over the availability of technology is seen in the media accounts that report obstacles to the system's access to care.

The health care system's vulnerability to politics is due in part to the government's direct role in financing and managing the system and the public popularity of the health care program. As a result, Ontario's health plan is a highly visible program, and any perceived problems, especially with access to care, are immediately and extensively reported in the press. For example, negative publicity about waiting times for cardiovascular surgery resulted in the Ministry providing additional funds to expand and initiate a new cardiovascular facility.

Just as the government may use the popularity of the health care system to get votes, providers also use political leverage to acquire otherwise unauthorized equipment or services. Providers may, for example, purchase equipment and depend on publicity to force the Ministry of Health to retroactively reimburse them.[34]

[32]A comparison of discharge rates for U.S. patients 65 years old and over to those in Manitoba and Ontario showed that the U.S. rate was twice as high for coronary artery bypass surgery and 20 percent higher for valvular surgery. However, the U.S. discharge rates were approximately 10 percent lower than Manitoba and Ontario for major reconstructive surgery and permanent pacemakers. See G. M. Anderson, J.P. Newhouse, and L.L. Roos, "Hospital Care for Elderly Patients With Diseases of the Circulatory System: A Comparison of Hospital Use in the United States and Canada," New England Journal of Medicine, Vol. 321, No. 21, Nov. 23, 1989, pp. 1443-8.

[33]M.R. Chassin and others, "Variations in the Use of Medical and Surgical Services by the Medicare Population," New England Journal of Medicine, Vol. 314, No. 5, Jan. 30, 1986, pp. 285-90.

[34]See R. Deber, G. Thompson, and P. Leatt, "Technology Acquisition in Canada," International Journal of Technology Assessment in Health Care, Vol. 4, 1988, pp. 185-206.

Access Consequences of Universal Coverage With Spending Controls in Ontario

With universal coverage and an ample supply of general practitioners, access to primary care in Ontario is generally available on demand. However, as a consequence of global budgeting for hospitals and direct controls on the diffusion of certain high-technology services and equipment, access to some specialty care services is limited. This in turn has resulted in shortages and deferred care. For these services, Canadians attempt to ration care according to the severity of the case; that is, those identified to be in greatest need receive care first. This approach to rationing differs from that of the United States, which rations not only on the basis of insurer or provider decisions but also on the basis of ability to pay.

In Canada, provincial governments make implicit rationing decisions using global budgetary constraints and explicit rationing decisions using controls on high-technology services. A Toronto hospital division head characterizes the Canadian approach to rationing as enabling the government[1]

"...to contain costs while largely evading direct responsibility for any curtailment of services....[This] allows the government to argue that physicians and hospitals must be held accountable for the use—and abuse—of health care dollars."

Waiting lines, or "queues," have developed primarily for selected expensive surgical procedures and diagnostic equipment that emerged in the 1970s and 1980s, such as MRIs, cardiac bypass surgery, lithotripsy, lens implants, and hip replacements. For these services, physicians must ration care on the basis of medical need rather than providing it to all who may benefit. Ontario health care providers contend that queuing is the result of the provincial government's attempts to control health expenditures. The Ministry believes that queues are a natural result of the "rationalization" of health care—"getting the right patient to the right service at the right time."

Access to Primary Care Is Unconstrained

Primary care is easily accessible to Ontario residents. Patients visit their family physician or other general practitioner with no evidence of queues or lengthy waiting times for appointments. For example, nearly all expectant mothers in the province receive prenatal care. In the United States, 76 percent of women who had live births in 1988 received prenatal care starting in the first trimester, 18 percent began prenatal

[1] A.S. Detsky and others, "Containing Ontario's Hospital Costs Under Universal Insurance in the 1980s: What Was the Record?" Canadian Medical Association Journal, Vol. 142, No. 6, 1990, pp. 565-572.

services in the second trimester, and 6 percent started prenatal care during the third trimester or received none at all.

Ontario residents achieved unimpeded access to primary health care in part from the concentration of health care resources on the point at which patients enter the health care system. The mix of physicians in Ontario—half general practitioners and half specialists—suggests that the Ministry's concern for adequate primary care for the entire population outweighs the concern for specialty care for a small population.

Queues Have Developed for Specialized Services

The issue of waiting lines has been highly publicized in both the Ontario and the American press. Cases of Ontario residents seeking specialized care in the United States and cases of individuals dying on queue have generated considerable media attention. However, systematic information on the nature and extent of the queuing problem in Ontario and other Canadian provinces is limited.

To examine the extent of the queuing problem, we contacted sites where high-technology equipment and specialized services are available and queues may develop. Technology is concentrated at Ontario's 26 teaching hospitals located in the densely populated areas of the province.[2] At these institutions, we interviewed the directors of eight specialty care programs: CT scanners, MRIs, lithotripsy, cardiovascular, ophthalmologic, and orthopedic surgery, specialized physical rehabilitation, and autologous bone marrow transplants.[3]

How Queues Are Managed

In Ontario, queues for specialty services are not centrally managed. For the most part, individual physicians determine the priority for patients needing specialty surgical procedures.[4] Hospital based "gatekeepers" manage waiting lists for hospital-based high-technology equipment.

[2]Teaching hospitals conduct medical research, initiate the use of new techniques, and evaluate the benefits and risks of these technologies, which can then be applied to other centers.

[3]Organ transplant programs were excluded because it would be difficult to separate queues due to shortage of organ donors from other causes, such as a shortage of technology. Other programs where queues have been reported, such as radiation therapy, could not be investigated because information was not provided by program directors. However, media accounts report that in 1989, because of a shortage of technicians, the Princess Margaret Hospital in Toronto stopped accepting new patients referred for radiation therapy until it could reduce waiting times to a medically acceptable period.

[4]The Ministry of Health, in partnership with hospitals, has recently initiated a central registry to help manage queues for cardiovascular services in the metro-Toronto area.

While no formal criteria for ranking patients are in place, practitioners stratify patients, putting those at presumed higher risk at the head of the queue. Patients are categorized by their physicians as emergent, urgent, or elective. Because no standard definitions exist, these classifications vary by medical service and by physician. In general, emergent cases involve life-threatening conditions and require immediate diagnostic or surgical services. Urgent cases usually involve serious medical conditions for which the patient is monitored and treated while in the hospital. Elective cases refer to medical conditions for which the patient needs to be treated but is not in imminent danger. Patients classified as urgent or elective are monitored for changes in their condition while waiting for scheduled openings and may receive alternative therapies.

Extent of Queuing for Selected Services

The length of wait and the number of people waiting in queue varied across medical services. In general, the specialty services we examined did not have queues for emergent cases but had queues for urgent and elective patients. Patients with non-life-threatening conditions typically did not have priority status, and their numbers and waiting time in queue were relatively larger and longer.

Queues also varied widely by facility. Among the reasons cited by hospital directors for this variation include (1) geographic location of the service, (2) patient preference for a particular hospital or physician, and (3) capacity and sharing arrangements among hospitals. Table 4.1 shows the number of specialty care programs reporting queues and the range among hospitals in terms of the number of patients and length of time waiting. Because neither the Ministry, hospitals, nor physicians systematically collect data on patients waiting in queue, we were not able to independently verify the information providers reported to us.

Table 4.1: Queuing for Specialty Care Services in Ontario (Oct. 1990)

	Number of programs reporting queues[a]	Number of patients waiting[b]		Number of days waiting[c]	
		Minimum	Maximum	Minimum	Maximum
CT scan:					
Emergent	0 of 13	0	0	0	0
Urgent	4 of 13	6	15	1	21
Elective	13 of 13	40	1,200	2	180
MRI:[d]					
Emergent	1 of 7	1	1	2	2
Urgent	2 of 7	75	75	3	30
Elective	7 of 7	100	893	1	480
Cardiovascular surgery:[e]					
Emergent	0 of 10	0	0	0	0
Urgent	7 of 10	4	87	1	30
Elective	9 of 10	11	263	7	180
Eye surgery:[f]					
Emergent	0 of 9	0	0	0	0
Urgent	3 of 9	1	1	1	14
Elective	9 of 9	10	400	30	360
Orthopedic surgery:[g]					
Emergent	0 of 8	0	0	0	0
Urgent	6 of 8	6	12	14	30
Elective	8 of 8	17	380	60	360
Lithotripsy:[h]					
Emergent	1 of 1	168	168	1	90
Urgent	1 of 1	271	271	360	360
Elective	1 of 1	180	180	720	720
Specialized physical rehabilitation[i]	4 of 5	50	80	1	60
Autologous bone marrow transplants[j]	5 of 6	6	30	21	240

[a]All specialty care directors for MRI, cardiovascular surgery, lithotripsy, and autologous bone marrow transplants reported queuing data to us. Because we were unable to obtain information on all of the other programs, this table reflects the following: 13 of the 22 directors for CT scanners, 9 of the 17 directors for eye surgery, 8 of the 18 directors for orthopedic, and 5 of the 6 directors for specialized physical rehabilitation.

[b]Not all program directors reporting queues for their program were able to provide the number of patients in queue by category.

[c]Not all program directors reporting queues for their program were able to provide the waiting period in queue by category.

[d]Alternative procedures are available for patients in queue for MRI.

[e]Consists primarily of coronary bypass surgery and valve replacement.

[f]Consists primarily of lens implants, including those associated with the removal of cataracts.

[g]Consists primarily of hip and joint replacements.

[h]Lithotripsy is a medical technique that uses sound waves to break up kidney and gall bladder stones. A second lithotripsy unit was approved by the Ministry of Health and began operation in late August 1990. Our review does not include information from this site because at the time of our review this unit had been in operation for only 5 weeks. An alternative treatment, surgery, is available for patients in queue for lithotripsy.

[i]For specialized physical rehabilitation, patients are generally stabilized after injury and placed in one queue for ongoing treatment.

[j]Autologous bone marrow transplants involve removing, treating, and replacing the patient's own bone marrow. Patients with a better than 15-percent chance of survival are generally put in a single queue and ranked using specific criteria.

One specialty care program with long waiting lists was cardiovascular surgery.[5] Program directors reported 1,029 patients waiting in queue. While no queue existed for emergent cases, 124 patients were in the urgent queue and 905 patients were in the elective queue. Waiting times ranged from 1 to 30 days for the urgent queue and from 7 to 180 days for the elective queue.

The longest line for emergent care was for lithotripsy treatment: 168 patients waiting from 1 to 90 days. In part this was due to the availability of only one lithotripsy machine in the province that, because it was not very powerful, often required patients to be treated several times. As it became increasingly difficult to manage the queue and monitor the growing number of patients,[6] the Ministry of Health approved a second lithotripsy unit. This additional machine should result in a significant reduction in the queue that existed at the previously sole facility.

The diagnostic technologies with limited access are MRIs and CT scanners. All program directors for MRI units reported queues for elective cases. The number of patients waiting in queue ranged from 100 to 893. The length of wait in queue ranged from 1 to 480 days. Similarly, all CT scan program directors reported queues for elective cases.[7] The number of

[5]In metro-Toronto, the total number of open-heart procedures declined between 1985 and 1988; the number of people waiting for bypass surgery rose from 444 in 1985 to 723 in 1988; as of January 1989, 848 people were waiting. In 1984 the average waiting times were 2 to 3 weeks; during 1989 they ranged from 3 to 9 months.

[6]According to the gatekeeper for the lithotripsy machine, patients categorized as elective were often reclassified as urgent or emergent, operated on, or referred to the United States for treatment.

[7]There are 22 CT scans located in teaching hospitals throughout Ontario. Although CT scans are also located at community hospitals, we did not attempt to measure queuing for them.

patients waiting in queue for an elective CT scan ranged from 40 to 1,200. The length of wait ranged from 2 to 180 days.

We also found long waits for cataracts/lens implants and hip replacements. Patients with cataracts, which are primarily elective cases, waited from 30 to 360 days for eye surgery. For orthopedic surgery, such as hip replacements, urgent patients waited from 14 to 30 days, while elective patients waited from 60 to 360 days.

Although no queues exist for treatment of life-threatening conditions, such as kidney failure and neonatal care for high-risk deliveries, capacity is limited for treatment of these conditions. According to several kidney specialists, limited capacity for kidney dialysis means that patients often receive less frequent and sometimes less than optimal treatment. Similarly, specialty care directors for neonatal services reported that, because of limited resources in their departments, patients are often transferred to other hospitals.

Causes of Queuing at Teaching Hospitals

Queues are the result of hospitals' attempts to deal with the constraints imposed by global budgeting and technology controls. As discussed in chapter 3, hospitals receive most of their operating revenues from global budgets, and the acquisition of high technology is restricted by the provincial government. Because funding is limited, the amount of medical and nonmedical personnel, equipment and supplies, and other hospital resources is also limited. Hospital administrators must decide how their operating funds will be allocated and still provide a wide range of specialty services, while department heads compete for hospital resources.

Diagnostic services, such as CT scans and MRIs, are examples of how Ontario's constraints on both the acquisition and operating costs of equipment affect access. For CT scanners, the Ministry has developed a set of guidelines for assigning appropriate placements of CT scanners throughout the province. Further, the Ministry provides sufficient funds to cover operating costs for only part of the day (usually 8 hours). Hospitals are required to obtain a financial commitment from sources outside their global budget in order to use the equipment more intensively.[8]

[8]Toronto General Hospital typically runs its MRI two shifts per day. The operating deficit generated by the second shift is funded partly through excess revenues generated by occasional paying patients from the United States and other countries.

Cardiac surgeries are limited by the number of hospitals equipped for open heart surgery and operating room time. The Ministry of Health limits the number of heart surgery wards and gives those hospitals funding to perform a specified number of heart operations. Thus, a cardiac surgeon who has the capacity to do 4 to 5 heart operations weekly may be limited by the hospital to only 3 to 4 operations per week.

The availability of hospital beds also determines the volume of health care services provided. Some intensive care beds are set aside in anticipation of emergency cases. When emergent cases exceed the allocated number of intensive care beds, queues develop. Departments must account for limited access to intensive care beds when ranking and scheduling their patients for diagnosis and treatment. High occupancy rates and long stays at specialty hospitals may restrict hospital admissions.

Labor shortages in hospitals have also contributed to queuing. These include shortages of nurses, operating room technicians, and other skilled hospital personnel. For example, at some hospitals, a shortage of trained nurses has caused bed closures. The nursing shortage at hospitals in metropolitan areas, such as Toronto, has been attributed to low salaries and high stress-related duty.[9]

According to the Ontario Ministry of Health and several hospital officials, queues at teaching hospitals are due in part to an increasingly older patient population that places growing demands on hospitals for more costly, specialized services. Also, as the average age increases, patients require longer stays in intensive care and acute care beds, which contributes to queues.

Finally, the Ministry is hesitant to develop or increase capacity for special services with small treatment populations. Often the Ministry will not increase capacity until the volume of patients needing the medical service becomes sufficient to warrant development or expansion of the service. The Ministry studies the application of treatment alternatives before approving new or increased capacity for special services. A Ministry official stated that U.S. facilities are often used until new special services are developed in the province.

[9]Since the time of our review, the nursing shortage has been substantially reduced, according to hospital officials.

Patients' Health May Deteriorate While Waiting for Treatment

The health consequences of waiting for services is an issue of some debate among American and Canadian health policy experts. Critics claim that queuing is jeopardizing Canadians' health. Others hold that, despite publicity about waiting lists, there is little data to suggest that the overall quality of health care has been compromised.

Despite a high level of satisfaction with their overall system,[10] a recent poll shows that only 32 percent of Canadians are "very satisfied" with their access to elective surgery and 48 percent were "very satisfied" with the availability of high-technology tests, procedures and equipment. In both of these areas, Americans polled showed a higher proportion of "very satisfied" responses (50 percent "very satisfied" with access to elective surgery and 58 percent "very satisfied" with access to high-technology services).[11]

Specialty care directors we contacted reported some negative health effects resulting as patients wait in queue. Most patients experience pain and discomfort, and some may develop psychological problems. Cancellations of procedures for elective patients waiting in queue cause anxiety and frustration.

The condition of some patients may worsen, making surgery more risky. If patients seriously deteriorate while waiting in queue, they may undergo alternative therapies. A urologist told us that because of the long queue for lithotripsy treatment, many doctors perform surgery to remove kidney stones, putting the patient at higher risk than with a lithotripsy procedure.

In addition to effects on health, hospital specialty care directors reported negative economic consequences for patients waiting in queues. Often patients experience a financial setback, such as decreased income or loss of a job. For example, an orthopedic surgeon said that many of his patients are unable to work because they are physically immobile while they wait for a hip or other joint replacement. Also, according to several hospital administrators and physician directors, additional treatment costs are incurred while patients wait in queue. Patients are

[10]Opinion polls show that Canadians are more satisfied with their health care system than Americans. A 1988 survey of citizens of Canada and the United States found that 67 percent of Canadians were very satisfied with the health care services they used in the last year. In contrast, only 35 percent of Americans responded that they were very satisfied. More than half of the Canadians felt their system worked well and only minor changes were needed to make it work better, compared to 10 percent in the United States. See: R.J. Blendon, "Three Systems: A Comparative Survey."

[11]Louis Harris and Associates, "Comparing Health Systems," November 1990.

often given additional diagnostic tests, medication, or other modes of treatment until they receive the service they need. This increases the total cost of treatment. For example, the substitution of surgery for lithotripsy results in higher costs.

Few Ontario Residents Seek Treatment in the U.S.

The abundant U.S. capacity for the services rationed in Canada is used by provincial governments to help manage their queues and by some individuals to avoid Canadian queues.[12] Some Canadian physicians refer their patients in queues to U.S. hospitals that have the medical expertise and equipment. (According to Canadian health officials, some Americans cross the border to Canada to obtain specialized services that are not readily available in the United States or to receive lower cost health care.) Many facilities in the United States are aggressively marketing medical services, such as cardiac care and addiction treatment, to Canadians. Ontario residents seeking health services in the United States often go to hospitals along the U.S./Ontario border, including those in Buffalo, Cleveland, and Detroit.

Recent data show, however, that there is very little border-jumping. The Pepper Commission[13] and the American Medical Association[14] recently conducted informal surveys of American hospital administrators expecting high numbers of Canadian patients. Both groups concluded that few Canadians seek care at American medical centers. Canadians accounted for less than 1 percent of total admissions in each of the nine border hospitals surveyed by the Association. The Pepper Commission identified Buffalo General hospital, with about 3 percent Canadian admissions, as having the largest share of Canadian patients.

The Ontario Ministry of Health estimated that, in 1990, it spent roughly $100 million (U.S.) for medical services provided in the United States to provincial residents seeking to avoid queues. This represented about 1 percent of the total provincial health care budget. For many rationed services, the Ontario health plan approves payment for treatment in the United States. By arrangement with the Ministry, some U.S. hospitals have agreed to accept lower payment for services provided to patients from Ontario. The Ministry pays 75 percent of the U.S. hospital charges

[12]In addition, some Canadians seek treatment in U.S. institutions because they find themselves in need of treatment while vacationing in the United States or for confidentiality reasons.

[13]The Pepper Commission, A Call for Action, Supplement to the Final Report, Sept. 1990, pp. 225-6.

[14]D.A. Rublee, "A Survey of Western Canada's Use of the U.S. Health Care System," American Medical Association, Center for Health Policy Research, Sept. 1989.

and the same fees it would have paid to physicians had the service been provided in Ontario. U.S. hospitals absorb the remaining hospital charges and are responsible for making up the difference between the fees paid to the physician by the Ministry and the fees normally charged by the physician.

The Ontario policy to pay for treatment at U.S. facilities reflects the Ministry's position that purchasing U.S. health care services for Canadian citizens is more efficient than incremental investments in Canadian hospitals. However, some Ontario physicians believe that the amount of money paid to hospitals and physicians in the United States could be more efficiently spent on expanding capacity for cardiac surgery and other medical services in Ontario.

Potential Savings in Administrative Expenses Could Offset Costs of Providing Universal Access in the United States

If the United States adopted certain key financing features of the Canadian health care system—namely, universal insurance coverage with no deductibles or copayments and a single public payer—these features would generate both costs and savings. Universal insurance would generate additional costs associated with providing full coverage to the 32 million uninsured Americans. The elimination of all deductibles and copayments would yield larger but more uncertain cost increases associated with increased utilization of health care. However, the streamlining of insurance administration under a universal coverage, uniform payment system would generate sufficient savings to cover the costs of expanded access and could potentially offset the more uncertain costs associated with elimination of all cost-sharing requirements.

We derived "ballpark" cost estimates using data from Ontario's health insurance plan. There is uncertainty surrounding even these simple estimates. In general, we have attempted to synthesize existing data and make a relatively conservative estimate of potential costs and savings in the insurance, physician, and hospital sectors.

Moreover, we recognize that the United States would likely modify any reforms adopted from Canada to be consistent with U.S. political institutions and to accommodate the existing health care structure.[1] Such modifications could have significant effects on the system's costs and savings. (See ch. 6.)

Setting up a Canadian-style system in the United States would require legislation similar to the Canada Health Act to establish universal access to a broad range of insured health services and empower government to control budgets for the hospital and physician sectors of the health economy. In the United States, who (federal, state, other) would administer the system? What would be the role of private insurers? How would sector-wide spending controls be implemented for investor-owned health facilities? These and other unknowns will have important effects on U.S. health spending reform, but considering them in our calculations was beyond the scope of our review.

Instead we developed estimates reflecting changes that would occur in aspects of U.S. reimbursement, coverage, and benefits if elements of the Ontario health insurance program were fully replicated. Our estimates, therefore, are intended to be "working numbers" to serve as a starting

[1]See T.R. Marmor and J.L. Mashaw, "Canada's Health Insurance and Ours: The Real Lessons, the Big Choices," The American Prospect, Fall 1990, pp. 18-29.

point for expenditure reform discussions. In fact, no attempt was made to calculate the cost or length of a transition period for implementation.

Administrative Savings Would Offset Costs in the Short Run

To estimate the short-term effects of the United States' adopting features of a Canadian-style system, we calculated the sum of (1) the savings achieved from streamlining the administrative process, (2) the cost of providing universal health insurance, which would increase the utilization of health services by the formerly uninsured, and (3) the cost of eliminating deductibles and copayments, which would increase the utilization of services by the formerly insured.

We expect that both the savings and the added costs would be concentrated in the insurance, physician, and hospital sectors. Savings achieved from reductions in administrative expenses could more than offset the added costs of increased utilization. As shown in table 5.1, introducing universal coverage and eliminating cost-sharing payments could increase expenditures by about $64 billion. However, nearly $67 billion in estimated savings in administrative expenses could offset the added costs. The net impact, after transition and for the first year of full implementation, would be to reduce national health spending by about $3 billion, or roughly 0.4 percent of the 1991 health expenditures projected for the United States.[2]

Table 5.1: Estimated Savings and Costs of Adopting a Canadian-Style System in 1991

Dollars in billions

	Insurance	Physicians	Hospitals	Total
Total savings	$(33.9)	$(14.8)	$(18.2)	$(66.9)
Total added costs:	1.8	27.2	34.9	63.9
Newly insured	0.9	7.1	10.2	18.2
Currently insured	0.9	20.1	24.7	45.7
Net change	**$(32.1)**	**$12.4**	**$16.7**	**$(3.0)**

Assumptions Used in Cost Estimation

We used three key assumptions in deriving our estimate of effects on national health spending. First, the United States would fully adopt major elements of a Canadian-style system as currently implemented in Ontario. Second, some cost-saving factors and all cost-inducing factors

[2]U.S. health care expenditures for 1991 are expected to be $706.9 billion. Nearly two-thirds of this total is accounted for by insurance overhead, payments to hospitals, and payments to physicians—amounting to $34.6 billion, $277.2 billion, and $137.6 billion, respectively.

would have their full effect in the first year of complete implementation. Third, potential transition costs were not included. Without carefully specifying how a Canadian-style system would be implemented in the United States, it is not possible to estimate either the length of time or the costs of transition. Costs to be incurred during this transition would come from building the administrative machinery to implement global budgeting, physician fee controls, and other policies.

For this analysis, we did not account for a number of effects that are indirect and secondary to health financing. For example, we did not attempt to calculate indirect savings that could be achieved from covering preventive care (such as prenatal exams, mammograms, and comprehensive childhood immunizations) or changes in spending for drugs, long-term care, dental, or other services. Nor did we address the significant shifts in the distribution of payments among government, private employers, and consumers that a conversion to a single payer would generate.

Finally, we did not consider differences between the United States and Canada that are external to their health systems that would nevertheless affect health costs. For example, lower malpractice insurance expenses in Canada may reflect differences in tort laws and attitudes toward litigation as well as differences in health financing systems.

Savings in Administrative Costs

Savings would derive from reductions in administrative costs, which would involve no diminution in health services delivered. Savings would be realized only if the public payer succeeded in lowering payments to hospitals and physicians rather than letting them retain the savings in administrative expenses. As discussed in chapter 3, health insurers' overhead costs and providers' administrative costs are substantially lower in Canada than in the United States. A universal access system administered by a nonprofit agency would reduce costs by eliminating the need to determine coverage, eligibility, and risk status and by eliminating marketing costs. The simplified payment process would also lower the billing and clerical costs that U.S. hospitals and physicians now bear. As a result, expenditures for the insurance, physician, and

hospital sectors under a Canadian-style system would be lowered by about $67 billion.[3]

Insurance Overhead

If the United States lowered its insurance overhead to Ontario's level, the potential savings in health care expenditures would be $34 billion per year. As discussed in chapter 3, the share of health expenditures accounted for by insurance overhead—payments to insurance companies not used for payment of benefits, such as marketing cost and eligibility determination—represents a substantial portion of the difference in per capita spending in the two countries. The overhead component of health insurance premiums accounted for close to 6 percent of the total health expenditures in the United States (in 1989) as compared to just over 1 percent in Ontario. Canada's lower spending is attributable to its simplified reimbursement system using a single payer and to the limited role for private insurers to provide supplemental rather than basic coverage.

Physician Costs

If U.S. physicians could reduce their billing costs to the level of their Ontario counterparts, the potential savings would average about $26,000 per physician.[4] For the nation, the annual savings could be up to $15 billion provided that the savings are reflected in lowered physician fee schedules. These savings would stem from reductions in practice costs (excluding any changes in malpractice premiums that could occur) and would not lower the net incomes of physicians.

We estimated the administrative costs borne by U.S. physicians that are additional to those of Ontario's physicians as the sum of (1) the difference in spending on nonphysician salaries and benefits, (2) the amount

[3]Short-run estimates of administrative cost savings have also been made by Physicians for a National Health Program (PNHP) and Lewin/ICF. PNHP estimates insurance overhead savings at $27 billion compared to a Lewin/ICF estimate of $22 billion. Savings in physician administrative costs are estimated to be $9 billion by PNHP and about $1 billion by Lewin/ICF. In the PNHP analysis, savings in hospital administration costs are estimated at $31 billion, assuming that the full difference in administrative costs can be attributed to differences in the way Canadian and U.S. health care systems are organized. Lewin/ICF defines hospital administrative costs much more narrowly and estimates a $11 billion savings. Our estimate falls between the two. See K. Grumbach and others, "Liberal Benefits, Conservative Spending: The Physicians for a National Health Program Proposal," Journal of the American Medical Association, Vol. 265, No. 19, May 15, 1991, pp. 2549-2554, and Lewin/ICF, National Health Spending Under Alternative Universal Access Proposals (prepared for AFL-CIO by L.S. Lewin and J. Sheils), Oct. 26, 1990.

[4]In the physician services category, our data mainly reflect spending for services provided by self-employed physicians, since salaries paid by hospitals to physicians are accounted for in the hospital care category. Payments for services provided by salaried physicians in health maintenance organizations (HMOs) are included in the physician category, but only 2 percent of U.S. physicians are salaried by HMOs. We thus calculate the potential savings on billing expenses, which are relevant to self-employed physicians only, against the entire amount of payments to the physician category.

spent on specific billing services, and (3) the difference in the value of physicians' time spent by filing insurance forms and providing required second opinions.[5]

Hospital Costs

If the United States reduced its hospital administrative costs to the level in Ontario, it could save about $18 billion in the first full year. We estimate that in 1988 U.S. hospitals spent 15 percent of total revenues on administration, including general accounting, patient accounts, admitting, medical records, purchasing and stores, and data processing. By contrast, Ontario hospitals, which receive an annual global budget from the provincial government and bill only for amenities, spent 9 percent of revenues on similar administrative functions.

Much of the difference in hospital administrative costs has been attributed to the complex, cumbersome reimbursement system that confronts U.S. hospitals. The U.S. payment system requires hospitals to maintain a large administrative and financial apparatus to determine coverage, charge patients and insurers, and resolve billing disputes. Global budgeting is the mechanism that enables the single payer in Canada to capture these savings.

Added Cost of Increased Utilization

Adoption of universal insurance coverage without cost sharing in the United States would likely increase health care spending. The increase would result from greater access to health care for the uninsured and greater use of health care services for all Americans. With access to a broader range of services, utilization by the uninsured would likely increase substantially. With virtually no cost-sharing requirements, use of health care services by both the newly insured and the currently insured would also likely increase.[6] Taken together, we estimate that these two factors could raise U.S. health care expenditures under a Canadian-style system by about $64 billion.

[5]In 1988, the American Medical Association surveyed 3,000 physicians involved with Medicare and Blue Shield insurance programs to ascertain how much time they and their staff spend on administrative activities. It found that (1) a physician spends an average of six minutes per claim, (2) the physician's staff spends an average of 1 hour per claim, and (3) about 14 percent of physicians have used an outside billing service at a cost of about $8 per claim. See: American Medical Association, Center for Health Policy Research, "The Administrative Burden of Health Insurance on Physicians," SMS Report, Vol. 3, No. 2, 1989.

[6]The effects of this increased utilization on health are difficult to assess, but appear to be positive. App. I reviews several studies of changes in populations' utilization patterns after introduction of "free" care and provides a discussion of the potential effects of improved access on health status.

Providing expanded health care to the uninsured would account for about one-fifth of the total cost of increased utilization. Currently, the uninsured spend about 40 percent less than those insured for hospital and physician services. The additional cost of bringing the uninsured up to the level of health care provided to the insured under the current system would increase annual U.S. health expenditures by about $12 billion, or 2 percent of current national health expenditures. This estimate represents the additional cost of providing an average level of health care to the uninsured U.S. population if they were covered by a typical insurance plan.[7]

The largest and most uncertain factor contributing to costs is the potential effect of eliminating deductibles and copayments. We estimate the cost to be about $52 billion. Costs depend on the extent to which eliminating the individual's responsibility for copayments and deductibles would induce greater utilization of hospital and physician services. In developing our estimate, we assume that utilization of hospital care would increase by 10 percent, use of physician services would increase by 17 percent,[8] and administrative costs would increase proportionately.

Substantial Savings Could Accrue in the Long Run

In the long run, operating under a Canadian-style health care system could help control the growth in health care spending. Global budgeting, physician fee controls, and constraints on the diffusion of high-technology equipment within the context of a uniform payment system provide a basis for exerting some control on the growth of health expenditures in future years. In Canada, these policies were used to keep the share of GNP spent on health care stable at about 7.4 percent from 1971 to 1981. After an abrupt rise in 1982, the share has stabilized at about 8.8 percent.

The United States has experienced a continually rising share of its GNP going to health care. Aggregate mechanisms to control the rate of

[7]A typical health plan was assumed to cover physician care, hospital inpatient and outpatient care, and prescription drugs. It included a $200 deductible, 20-percent coinsurance, and a $3,000 cap on out-of-pocket expenses. The study also assumed that utilization by newly insured individuals would increase to the level of insured individuals of similar age, sex, income, and health status characteristics. See Lewin/ICF, The Health Care Financing System and the Uninsured (prepared for HCFA by J. Needleman and others), Apr. 4, 1990.

[8]The Rand Health Insurance Experiment estimated a 10-percent increase in utilization of hospital services. As noted in app. I, estimates of the utilization response to free care on physicians' services range from 3 (the average Canadian experience) to 31 percent (the Rand analysis). For our estimate, we took the midpoint of these two figures.

spending growth have not been tried here. Canada and several other countries have had more success in controlling aggregate expenditures.

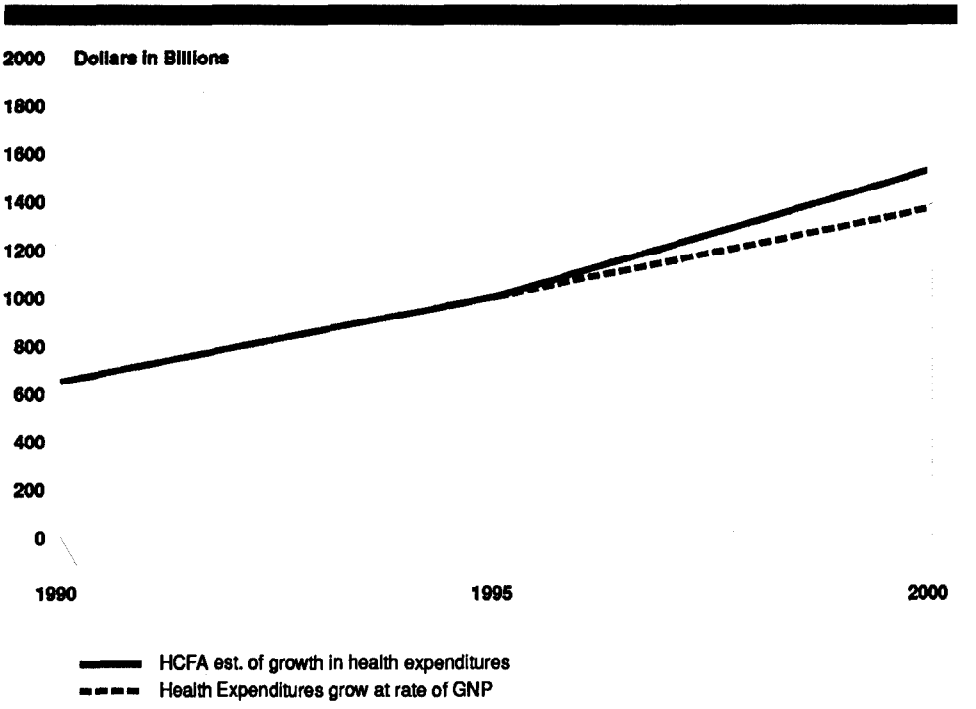
The Canadian system provides one approach that the United States could adopt to more effectively control the share of resources devoted to health care. Were the United States able to constrain the growth in health care costs so that the health care share of GNP stabilized, the future savings are potentially large.

The Health Care Financing Administration estimates that U.S. health spending will increase by 9 percent annually, 2.5 percentage points higher than GNP.[9] By 2000, under current policies, health care spending as a share of GNP is expected to rise from 11.6 percent (as of 1989) to 15.0 percent.

Figure 5.1 illustrates the potential cost savings that could result if the United States were successful in keeping the rate of health expenditure growth at the rate of GNP growth beginning in 1995. The extent to which full adoption of a Canadian-style system in the United States would yield such results depends not only on the feasibility of implementation, but also the willingness to maintain the controls necessary to restrain spending throughout the time period.

[9]Health Care Financing Administration, Division of National Cost Estimates, Office of the Actuary, "National Health Expenditures, 1986-2000," Health Care Financing Review, Summer 1987, Vol. 8, No. 4, pp. 1-36.

Figure 5.1: Potential Savings of Constraining Health Expenditure Growth to GNP Growth Rate (1995-2000)



Structural Differences and Implementation Issues Would Affect Costs

Several important structural differences could mitigate the cost-saving potential of adopting a uniform payment system in the United States. Conversion to a new health care system would require many regulatory decisions, making it difficult to implement. Although a full exploration of implementation issues is beyond the scope of this report, the following is a discussion of features of the U.S. system that would require accommodation.

For example, some 1,200 private companies in the United States sell more than $192 billion in health insurance. The role of these companies would need to be refined under a publicly funded, single payer system. In addition, the growing importance of HMOs as an insurance alternative presents challenges that Canada did not face when it defined its system. The U.S. Medicare program itself has problems defining payment rates for HMOs relative to other providers, suggesting the complexities that the more varied U.S. insurance structure poses for implementation.

U.S. outpatient medical care and use of investor-owned facilities outside hospital settings are examples of other structural differences that would

require special cost control measures. Canada has been able to control the diffusion of MRIs and other high-cost equipment by limiting approval to hospitals, which are governed by global budgets. The United States would have to develop additional measures to control high-technology equipment costs outside hospitals.

The preponderance of medical doctors in the United States who are classified as nonprimary care specialists has escalated the costs of physician services. As a result, to contain physician expenditures as is done in Ontario, the United States would establish reimbursement rules whereby physicians are paid uniform rates whether the service is performed by generalists or specialists.

In implementing health financing reforms, the United States would likely make many modifications to the Canadian system that could result in costs or savings. For example, to avoid queues, the United States could forgo some cost savings by permitting greater latitude in diffusion of new technologies. To accommodate individuals willing to pay for services outside the public system, it could allow for a privately funded health care delivery sector. To contain utilization, the United States could choose to retain deductibles and copayments for higher income residents. Whatever the change, as the system is modified to meet the expectations of the U.S. population, the cost estimates of adopting such a system would change significantly.

Conclusions

Canada's comprehensive health care reforms have resulted in universal access to health care while maintaining control over the growth of health care costs relative to the United States. Canada's 20-year experience with national health insurance can provide some insights for health care reform in the United States. Both the strengths and weaknesses of Canada's system can provide invaluable lessons for any attempt at comprehensive reform in the United States.

The Canadian experience clearly demonstrates that it is possible to move to universal access without any major effects on the net costs of health care. Indeed, the short-term administrative savings alone are more than adequate to cover any reasonable cost estimate of extending health care to everyone. The second area where Canada's relative performance has been clearly better is in the control of the nation's resources devoted to health care. The United States has been experimenting with a number of piecemeal cost-containment efforts that in the aggregate have not been as successful as the Canadian approach in constraining the share of GNP going toward health care. The relative success of Canada's comprehensive reforms suggests the need for the United States to consider a more integrated approach.

It is not, however, clear that the United States could or should replicate the Canadian system in every dimension. Canadian elimination of deductibles and copayments for all necessary medical care is an example of a policy that should be carefully evaluated within the American context. The potential costs of eliminating cost sharing are the largest, most volatile, and most uncertain factor affecting costs of movement toward a Canadian style system. If the United States adopted universal coverage, we should consider retaining some form of cost sharing, except for low-income persons, to hold down the costs of implementing comprehensive reform. These cost savings could than be used to provide some leeway for the United States to improve upon the Canadian system and make it more acceptable to U.S. citizens.

Retaining some degree of cost sharing may also make it easier to integrate HMOs and other forms of managed or coordinated care into a national system. In several states HMOs represent a large share of the total health insurance market, and it may be important to develop a mechanism to build on the existing health infrastructure in these states.

While Canada has substantially streamlined administrative costs and burdens for physicians and hospitals, it may, at the same time, not have invested sufficient resources in the management information systems

needed to improve service efficiency. The United States may want to retain and build upon information systems that have been incorporated into our health care system. For example, the DRG system for hospital prospective payment gives hospitals the incentive to develop cost-based management information systems to determine whether a hospital is operating efficiently. Canada's global hospital budgeting provides little incentive to monitor individual cases and may have led to some inefficient hospital use in terms of hospital stays that are unnecessary or too lengthy. The United States may want to retain elements of its DRG-based reimbursement system as a mechanism for constraining hospital cost growth.

The effects of constraints on the development and diffusion of new medical technologies is one weakness of the Canadian system that is probably most troubling to Americans. With our strong medical research establishment, the United States needs a more flexible approach to the acquisition of high-technology and other resources to avoid development of future queues for high-technology procedures and to provide incentives for further development of such technologies. The United States would likely want a more flexible approach than Canada's global hospital budget process to prevent queuing for high-technology medical procedures. Still, the United States would likely not want to abandon opportunities to capture savings in this area. One approach could be to integrate decisions to open and close hospitals as well as those to expand new technologies into a separate capital budget process. A unique U.S. approach would also have to account for the recent growth in expensive medical technologies outside the hospital setting.

Canada demonstrates that comprehensive health care reform can be an effective tool for controlling health care costs while providing universal access to high-quality care. But, even the Canadians have looked to the United States to find ways to improve their system. The potential for integrating HMOs or patient-based management information systems into the Canadian framework are two examples where they see some merit in the U.S. approach. The United States needs to develop a comprehensive approach to health care reform that builds on lessons learned from Canada and other countries while also integrating the unique strengths and needs of the American health care system.

The U.S. approach should borrow those concepts from Canada that work, like universal access, a uniform payment system, and some type of expenditure controls. But it should also build on the strengths of the current U.S. system by encouraging greater emphasis on managed care

and retaining its superior management information systems. Through this approach the United States may be able to develop new solutions compatible with unique American needs.

Health Implications of Expanding Access to Care

Adopting a Canadian-style health care system in the United States would likely result in improved access to health care for the uninsured and greater utilization of health care services by most Americans. For some lower income and uninsured individuals, a system of universal coverage with no financial barriers to care would provide access to some services for the first time. For the many insured individuals facing substantial copayments and deductibles for hospital and physician services, a Canadian-style system with virtually no cost-sharing requirements would increase utilization.

The effect of expanded use of services on health status is difficult to assess but appears to be positive. Studies suggest that the poor, who are less likely to have adequate health insurance coverage, may achieve some gains in health status, such as improved control of hypertension and healthier newborns. Similarly, it is not clear what effect, if any, increased utilization would have on the health status of those currently insured. Studies of utilization associated with free care suggest that demand for both necessary and unnecessary medical care would increase. For those already insured, services consumed may increase, but the resulting effect on health status may be negligible. It is important to note that health status is affected by many factors besides health care. The removal of financial barriers to care, by itself, would not necessarily improve health status. Thus, a Canadian-style health program may not be enough to equalize health status for all.

Although the U.S. supply of physicians, hospital beds, and high technology could meet an increased demand for care, the availability of physicians and hospital beds in some geographic areas could continue to be a problem. Nevertheless, a Canadian-style system would not likely create queues or rationing of existing medical services. Rather, the issue for Americans would be the potential effect on development and diffusion of future medical technologies under a more regulated system.

Expanded Access May Improve the Health of the Uninsured

The group most significantly and most favorably affected would be the millions of Americans currently uninsured or underinsured. Under a free care system, their access to health care and demand for health services would probably rise substantially.

The Newly Insured Will Increase Their Use of Health Services

In general, the uninsured use fewer health care services than the insured population. In 1986, the uninsured contacted a physician two-thirds as frequently as the insured and spent three-fourths as many days in the hospital. In addition, the location of physician contacts differs; the uninsured reported that a greater percentage of their contacts with physicians took place in emergency rooms and hospital outpatient departments.

Utilization rates of specific procedures and treatments also vary depending on insurance status. For example, one study found that insured patients were more likely to receive certain cardiac procedures than were patients on Medicaid or uninsured patients.[1] Patients on Medicaid, in turn, were equally likely to receive two of the three cardiac procedures studied, and less likely than uninsured patients to receive a third.

A study by Lewin/ICF projected increases in utilization if the uninsured were covered by a "typical" insurance plan with cost-sharing requirements.[2] A "typical" health plan would cover physician care, hospital inpatient and outpatient care, and prescription drugs with a $200 deductible and 20-percent coinsurance (out-of-pocket payment by the user). The authors assume that newly insured persons would increase their utilization to the levels of comparable persons already insured. The study estimated that utilization by the newly insured would increase 37 percent for physicians visits, 38 percent for hospital outpatient visits, and 46 percent for hospital inpatient admissions.

[1]M. Wenneker, J. Weissman, and A. Epstein, "The Association of Payer With Utilization of Cardiac Procedures in Massachusetts," Journal of the American Medical Association, Vol. 264, No. 10, Sept. 12, 1990, pp. 1255-1260.

[2]The Health Care Financing System and the Uninsured.

Health Improvement Expected for the Newly Insured

The formerly uninsured could be expected to have some improvement in health status as a result of free care. This is particularly the case with easily diagnosable and treatable conditions, such as hypertension. In the Rand Health Insurance Experiment, for example, low-income enrollees receiving free care evidenced improved control of blood pressure.[3]

Studies by Lurie and associates compared the health status of recipients terminated from California's Medicaid program (MediCal) to those not terminated.[4] Patients were asked to assess their general health at their final visit before being terminated from MediCal (to determine baseline values), and at 6 months and 1 year after termination. At both 6-month and 1-year intervals, the general health of the group terminated from MediCal had declined significantly, while there was no significant change in the comparison group. For example, blood pressure control was significantly worse in the terminated group compared with the comparison group.

Expanded access to health care may also result in increased use of prenatal care, thus improving the health status of both mother and infant. Early and continuing prenatal care plays an important role in preventing low birth weight and poor pregnancy outcomes. A GAO study[5] found that 63 percent of Medicaid recipients and uninsured women interviewed received insufficient prenatal care. A major reason that uninsured mothers in this study did not receive regular prenatal care (which would help alleviate some of these problems) was their lack of

[3]The Rand Health Insurance Experiment examined utilization of medical care services and health outcomes under different cost-sharing requirements. In the experiment, which ran between 1974 and 1982, U.S. families were enrolled in 1 of 14 health insurance plans for up to 5 years. However, family members over age 61 and the disabled who were eligible for Medicare were excluded. The plans varied in coinsurance rates (from 0 to 100 percent) and maximum annual financial liabilities (up to 15 percent of family income, or $1,000, whichever was less). Plans were grouped into four categories: (1) plans providing free care; (2) individual deductible plans where the enrollee paid 95 percent of expenses up to $150 per person ($450 for a family); (3) plans requiring coinsurance of 25 or 50 percent, with caps on enrollee out-of-pocket expenditures of the lower of either 5, 10, or 15 percent of income or $1,000 and (4) "catastrophic" plans where enrollees paid 95 percent of health costs up to caps of 5, 10, or 15 percent of income or $1,000, whichever was less.

[4]Study subjects were patients at the University of California at Los Angeles Medical Ambulatory Care Center during the year preceding withdrawal of their Medi-Cal benefits. Subjects in the comparison group were also patients at the center, but their benefits were not discontinued because they were blind, disabled, or in families with dependent children. The comparison group was sociodemographically similar, but slightly older and more ill than the study subjects. N. Lurie and others, "Termination from Medi-Cal—Does It Affect Health?" New England Journal of Medicine, Vol. 311, No. 7, Aug. 16, 1984, pp. 480-484. Also N. Lurie and others, "Termination of Medi-Cal Benefits—A Follow-up Study One Year Later," New England Journal of Medicine, Vol. 314, No. 19, May 8, 1986, pp. 1266-1268.

[5]U.S. General Accounting Office, Prenatal Care: Medicaid Recipients and Uninsured Women Obtain Insufficient Care (GAO/HRD-87-137, Sept. 30, 1987).

health insurance. With universal health insurance, access to care would be assured, and health needs more likely to be met before serious problems develop.

Utilization by Those Currently Insured Will Also Increase

For Americans who are currently insured, a Canadian-style system will also encourage greater use of health care services. The elimination of deductibles and copayments can be expected to increase demand for both physician and hospital services.

Free Care Expected to Result in Substantial Rise in Use of Physicians, Smaller Rise in Hospital Use

Both Canadian and U.S. studies have found that people who received free care made substantially more use of health services than those who paid all or part of the cost themselves. The magnitude of the increases in utilization under a Canadian-style system is likely to differ for hospital and physician services. In both cases, free care affected the number of medical contacts, rather than the charge per service.

Table I.1 presents data from the Rand Health Insurance Experiment. It compares several measures of utilization under free care to two insurance plans with features American plans often have: a plan with coinsurance and a plan with a deductible. Total per capita expenditures by families on the free plan were 18 and 23 percent higher than expenditures by those on plans with cost sharing. Although hospital admissions on the free plan are 22 and 11 percent higher than on the cost-sharing plans, inpatient expenses were only 10 percent higher.

Table I.1: Percent Increase in Annual Use of Medical Services Under Free Care Over Use Under Cost-Sharing Plans

Figures in percent

	25-percent coinsurance[a]	Individual deductible[b]
Health care costs		
Outpatient expenses	31	45
Inpatient expenses	10	10
Total expenses	18	23
Health care use		
Face-to-face visits[c]	37	51
Admissions	22	11

[a]In the 25-percent coinsurance plan, the enrollee paid 25 percent coinsurance with a cap on enrollee out-of-pocket expenditures set at the lower of either 5, 10, or 15 percent of income or at most $1,000 annually.

[b]In the individual deductible plans, the enrollee paid 95 percent of expenses up to $150 per person, or $450 per family, annually.

[c]Face-to-face visits are contacts with physicians or other health providers, excluding visits for any radiology, anesthesiology, or pathology services.

Source: W.G. Manning and others, "Health Insurance and the Demand for Medical Care: Evidence From a Randomized Experiment," The American Economic Review, Vol. 77, No. 3, June 1987, pp. 251-277 (calculated from table 2).

The Rand data also indicate that free care affected use of physician services more than use of hospital services. Significant differences between free care and cost-sharing plans showed up in the number of physician visits and outpatient expenses. For example, face-to-face visits by families on the free care plan were 37 and 51 percent greater.

By comparison, data from the first six Canadian provinces to implement universal, publicly funded insurance for physician services indicate that the percentage changes in utilization of physician services ranged from 0.9 to 5.2 percent and averaged 3 percent.[6] The relative unresponsiveness of the physician service utilization rate to price changes in Canada may be due to the fact that changes in the health care system came gradually. Between 1961 and 1971, all provinces had universal public insurance covering hospital services but had not yet implemented coverage of physician services. This may have created incentives for both physicians and patients to substitute hospital care for physician services whenever possible. Some care ordinarily deliverable at physicians' offices might have been provided at hospitals. Thus, by the time all medical care was publicly insured in 1971, the level of unmet needs for

[6]M. LeClair, "The Canadian Health Care System," in S. Andreopoulos, ed. National Health Insurance: Can We Learn From Canada? (New York: John Wiley and Sons, 1975), pp. 43-48.

Canadians might have been lower than that of the free care participants of the Rand experiment.

Increase in Utilization by the Insured May Vary by Income

Studies suggest that the removal of copayments would have a larger impact on utilization by low-income people than utilization by high-income people. The introduction of user fees in Saskatchewan in 1968 demonstrated that copayments have a greater impact on the utilization by the poor than by the rich.[7] After introduction of copayments for physician services, demand over the entire population decreased by 6 to 7 percent. However, there was a much larger decrease by the poor. Demand for care decreased about 18 percent for individuals in the bottom fifth of the income distribution.

A study in Montreal found that reducing patient costs had a differential impact on utilization of physician services by the rich and poor.[8] Public insurance resulted in an increase in the volume of physician services provided for the poor and in a decrease in volume for the rich. Individuals with the lowest family income increased their visits by 18 percent; those in the highest income group reduced theirs by 9 percent. The authors hypothesized that one reason utilization by the rich decreased was that after the introduction of public insurance, waiting time replaced money as the major cost incurred by the patient in acquiring care. Another explanation may be that doctors began queuing patients according to clinical need rather than ability to pay.

In contrast, the Rand study found that different income groups have relatively similar responses. In three of the four sites of the study, families in the lowest third of the income distribution responded the same as those in the highest third. However, in the Rand experiment the poor faced less cost sharing on average. Cost sharing was linked to income: as a result, the poor were more likely to meet the out-of-pocket caps and

[7]R.G. Beck, "The Effects of Co-payment on the Poor," Journal of Human Resources, Vol. 81, No. 2, March/April 1973, pp. 129-142.

[8]P. Enterline and others, "The Distribution of Medical Services Before and After 'Free' Medical Care—The Quebec Experience," New England Journal of Medicine, Vol. 289, No. 22, Nov. 29, 1973, pp. 1174-1178.

thus not face additional cost sharing. The authors[9] conclude that cost sharing unrelated to income would have a greater impact on the poor.[10]

Free Care May Not Change the Health Status of the Currently Insured

It is not clear whether the health status of the currently insured population would change under a Canadian-style system. Data from the Rand experiment suggest that except for a few conditions, free care does not change the health of average enrollees. Within the group receiving free care, vision improved for individuals with poor vision, and blood pressure improved for low-income people with high blood pressure.[11] However, no significant effects were observed on eight other measures of health status and health habits.

Results from the Rand experiment suggest that implementation of a Canadian-style system will likely increase the use of both effective and rarely effective medical care.[12] While free care increased the utilization of effective and rarely effective care for poor and nonpoor adults, there was a differential impact on utilization by poor and nonpoor children. Utilization of highly effective care increased as the level of cost sharing decreased among poor children but not among the nonpoor. Cost sharing significantly reduced utilization of rarely effective health care for both poor and nonpoor children, but had a greater effect on poor children.

Utilization of Preventive Services Will Depend on Reimbursement System

It is unclear whether universal health insurance will promote use of more preventive health services. Again, there is limited information available to project future utilization, with conflicting results from various studies. In the Rand experiment, free care had no effect on such health habits as smoking, weight, or cholesterol levels. However, in Montreal, after introduction of universal medical insurance, the proportion

[9] J. Newhouse and others, "Some Interim Results From a Controlled Trial of Cost Sharing in Health Insurance," New England Journal of Medicine, Vol. 305, No. 25, Dec. 17, 1981, pp. 1501-7.

[10] The Rand study participants included a smaller income range than typically present in the United States. (People with incomes over $54,000 (1982 value), 3 percent of those initially contacted, were excluded.) Also, income levels were grouped into only three levels, thus potentially obscuring the impact on the poor.

[11] The improvement in blood pressure in the free care group was due to additional contacts with physicians, leading to more opportunity to detect and treat hypertension that was not under care at the beginning of the study.

[12] The effectiveness of medical care refers to the degree to which medical contact for a specific condition may be useful. For example, contact for heart failure can be highly effective in improving a patient's condition. However, for some conditions, such as obesity, medical contact may be rarely effective and have little direct value. "Effect of Cost-Sharing on Use of Medically Effective and Less Effective Care," Medical Care, Vol. 24, No. 9, Sept. 1986, Supplement, pp. S31-S38.

of women receiving their first prenatal care visit before the third month increased from 41 to 55 percent overall, with the largest increases in lower income families. The proportion of women seen in postnatal visits increased also, again with the largest increase seen in lower income groups.

Some experts feel that the reimbursement system will determine whether utilization of preventive services will change under universal health insurance. Some physicians may provide more preventive care in order to get more reimbursement. However, simply making preventive care available (at no financial charge) does not necessarily ensure that people will use it.

Under New System, Resource Supply Appears Adequate to Meet Demand Growth

An important consideration in measuring access implications is whether enough health care resources are available to meet the new demand generated under a Canadian-style program. Under such a program, the health care delivery system will face increased demand for services. Data on the health care delivery system indicate that, in the short run, increased demand could be met by the existing supply. However, problems with the distribution of health resources may continue.

Supply of Physicians Appears Adequate, but Distribution May Still Be a Problem

In the aggregate, the present and projected supply of physicians in the United States appears to be adequate to meet a growth in demand for health care services. The ratio of active physicians per 100,000 persons grew from about 149 in 1970 to about 211 in 1988. Physician supply is expected to continue growing, resulting in estimates of a physician surplus ranging from 71,600 to 137,200 by the year 2000.[13]

By region and urban-rural area, however, the distribution of physicians varies greatly,[14] with shortages occurring in some rural and urban

[13]Estimates of physician supply are from the Bureau of Health Professions and the revised Graduate Medical Education National Advisory Committee, respectively. For other analyses, showing no surplus, see W.B. Schwartz and D.N. Mendelson, "No Evidence of an Emerging Physician Surplus, Journal of the American Medical Association, Vol. 263, No. 4, January 26, 1990, pp. 557-560.

[14]The number of physicians per 10,000 population was over two times higher in metropolitan areas than in nonmetropolitan areas—22.5 and 9.7, respectively (1988 data).

areas.[15] (It is unclear whether this difference in distribution results in inadequate access to care.)

In addition, the mix of physicians in the United States favors specialist care. The proportion of physicians in general and family practice has been decreasing over time. In 1988, 13 percent of professionally active physicians were employed in general and family practice compared to 19 percent in 1970. The American Medical Association projects that the supply of these physicians will not keep pace with the increased demand for their services. If general internists and general pediatricians are included, about 34 percent of American physicians are currently providing primary care.

Under universal access, non-primary-care practitioners may be called upon to provide primary-care services. Some physicians trained in non-primary-care specialties can, and do, provide primary care. This trend may continue under a national health insurance program.

Increased Use of Hospitals Could Be Met With Current Availability of Beds

Hospital occupancy rates suggest that the supply of hospital beds would be ample to meet a demand increase anticipated to result from adopting a Canadian-style system. In 1989, the average hospital occupancy rate in the United States was about 65 percent. As with physicians, however, shortages of beds could occur in a few urban areas and a few rural areas.

In addition, a Canadian-style health system could help stabilize some hospitals financially threatened by large uncompensated care burdens. Many rural hospitals as well as urban facilities must make up this revenue loss either by cost shifting (increasing charges to paying patients or subsidizing nonprofitable services with profitable ones) or through private or public subsidies. Under a Canadian-style health system, facilities that might otherwise close due to financial pressures could remain

[15]The federal government uses practitioner-to-population ratios as one measure in determining areas with inadequate access to care, termed Health Manpower Shortage Areas (HMSAs). At the end of 1988, almost 34 million people lived in designated primary care HMSAs—about 17 million in urban HMSAs and about 16.5 million in rural HMSAs. While more people live in urban HMSAs than rural ones, a greater proportion of rural residents than urban residents lived in HMSAs (29.0 and 9.2 percent, respectively, in 1988). (Health Manpower Shortage Areas are now referred to as Health Professional Shortage Areas.)

open.[16] (This assumes that government would commit to sufficient funding to keep them open.)

High-Technology Resources Would Be Sufficient to Meet New Demand

Under a Canadian-style system, the United States would have an adequate supply of high-technology equipment and services to meet an anticipated demand increase. Assuming that provider practice patterns remained the same, queues for existing technology would not develop in the short run. For example, the United States has about eight times as many MRIs and almost six times as many lithotripsy units per capita as does Canada, where there are queues for this equipment.

In fact, in the United States, overuse and inappropriate use of high-technology services is an oft-cited problem. A 1988 study showed that not all patients undergoing bypass surgery in the United States actually need it.[17] For the 386 cases from 1979, 1980, and 1982, it found that 14 percent of bypass surgeries were performed for inappropriate reasons.

Mammography machines are an example of high-technology equipment of which the United States may have an excess supply. The number of mammography machines installed in the United States is estimated to have grown to almost four times the number needed. At lower-than-optimal utilization rates, the cost per test is higher than that associated with low-cost screening programs and therefore may impede access to services. Quality also becomes a concern, because high-volume facilities are more likely to adhere to quality standards.[18]

Given the United States' current ample capacity, the conversion to a Canadian-style program is more likely to affect the introduction and diffusion of future health care technologies. If the United States replicated the Canadian experience, queues for equipment acquired under a system that regulated capital acquisitions would develop over time. When

[16]A Canadian-style health system could also help stabilize other facilities, such as trauma centers, that face financial problems due to uncompensated care. In urban areas, uncompensated care is especially a problem in treatment of trauma patients. Some trauma centers are closing, limiting access to emergency services. See U.S. General Accounting Office, Trauma Care: Lifesaving System Threatened by Unreimbursed Costs and Other Factors (GAO/HRD-91-57, May 17, 1991).

[17]C.M. Winslow and others, "The Appropriateness of Performing Coronary Artery Bypass Surgery," Journal of the American Medical Association, Vol. 260, No. 4, July 22/29, 1988, pp. 505-509.

[18]M.L. Brown, L.G. Kessler, and F.G. Rueter, "Is the Supply of Mammography Machines Outstripping Need and Demand," Annals of Internal Medicine, Vol. 113, No. 7, Oct. 1, 1990, pp. 547-552. See also U.S. General Accounting Office, Screening Mammography: Low-Cost Services Do Not Compromise Quality (GAO/HRD-90-32, Jan. 10, 1990).

Canada introduced its health care system in 1971, for example, the MRI and lithotripter were not established medical technologies.

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