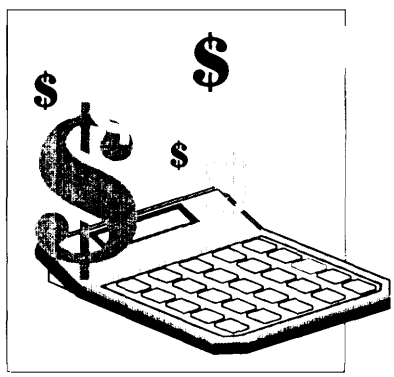
# Measuring Administration 3

Once one has defined the scope of administrative activities, one must also find data with which to measure the magnitude of each activity identified. The data most often used come from accounting and present significant difficulties for measuring the true economic costs of administrate ion. The economic costs of administration refer to the incremental value of resources used to produce an administrative function as measured according to the next most valuable alternative use of those resources (38). The most common problem with accounting data is that they do not always fully allocate fixed costs to appropriate administrative activities, leading to an underestimate of administrative costs. Thorpe offers several examples from the United States:

- Medicare, a federal government program that provides health insurance to elderly and disabled individuals, has very low administrative costs relative to private insurance. However. Medicare contracts with private insurance firms to administer the program. Because these private insurers already have the infrastructure in place to process claims and perform other services, the additional cost of administering Medicare is minimal, and official estimates of Medicare administrative costs do not include a prorated portion of the cost of acquiring the insurer's administrative infrastructure.
- A firm that sells insurance policies for health and other types of insurance such as life and property may not include an appropriately prorated portion of its chief executive officer's (CEO's) salary as an administrative expense of its health insurance business.
- Hospitals may not necessarily prorate their data-processing costs appropriately among billing and strategic planning/con-



trol (administrative functions), and clinical research recordkeeping.

Another issue of particular importance in international comparisons is the accuracy and reliability of data collected for comparison. Differences in accounting standards, data collection methods, and language can create differences both within and across countries or over time. These differences, which must be understood to interpret the data appropriately, may not be adequately documented.

These limitations in using data gathered without close attention to the intended purpose of comparing administrative costs across countries leads Glaser to advocate bottom-up, primary data collection (15). Doing so would entail enormous expense, time, and logistical difficulties. (An obvious question is whether it is worth doing). Almost all work measuring and comparing administrative expenses of health care within and across nations has used data already available for some other purpose.

## ESTIMATES OF ADMINISTRATIVE COSTS AND INTERNATIONAL COMPARISONS

### | Qualitative Estimates of Administrative Costs in Four Countries

Glaser describes the administrative structures of four countries: Canada, England. Germany, and the United States (15). Although Glaser's purpose was not to gather any data with which to measure the magnitude of each administrative activity outlined, these brief qualitative analyses:

- help to illustrate the relationship between the overall structure of a country's health care system and the expected types and magnitude of its administrative costs,
- suggest reasonable hypotheses about how countries compare in the relative magnitude of different administrative activities, and
- help to serve as a roadmap for future data collection efforts.

#### *United States*

The U.S. health care system has multiple public and private payers for health care, each with its own rules, procedures, and administrative apparatus. Public programs pay for health care for specific segments of the population: elderly, disabled, and indigent citizens; some veterans; and active military personnel and their families. A large portion of private insurance is administered through the workplace under contracts with private insurance firms or self-insured employers. Most providers are autonomous and must interact with multiple payers. However, a growing number of practitioners are employed by capitated health insurance plans or are part of one or more networks of providers associated with a third-party payer that establishes various cost containment measures.

Glaser proposes that the United States significantly exceeds the other three countries examined in administrative expenses. In general, his critique of the American system rests on its relative complexity (15). The existence of multiple, decentralized payers whose coverage guidelines and reimbursement procedures must be understood by physicians' offices, hospitals, and other provider organizations results in a substantial admnistrative burden. In addition, he emphasizes the resources required to study the health care system, the specialized training of individuals charged with administering it, and consultants employed by providers and other health care organizations to maximize their revenue.

#### *Canada*

The Canadian health care system is characterized by full government funding of basic health care decentralized to the provincial level. Hospitals, physicians, and other providers are autonomous, but they follow provincial standards for financial accounting. Hospitals and physicians are represented by provider associations. Hospitals operate under prospective budgets, while physicians bill provincial public corporations for fee-for-service reimbursement. Private health insurance is

*Hospitals in Canada, such as Montreal General Hospital pictured above operate under prospective budgeting which helps minimize their admlnistrative expenses*

minimal and limited to services and amenities not covered by the provincial health plans.

Glaser suggests that administrative expenses fall mainly to the provincial agencies in charge of implementing the health system, the providers, and their associations. Some administrative activities found in the United States do not occur or are found in relatively small amounts in the Canadian system. For example, the costs associated with marketing and underwriting insurance are limited to the small market for private insurance. Employer costs associated with finding an insurance firm to provide primary coverage for employees do not exist. Glaser also proposes that management consulting is largely limited to the use of computer methodology because of the relative simplicity of the health care system (compared with the United States) and the availability of hospital management manuals developed directly by the hospital associations.

Hospital billing of patients is limited to amenities not covered by the provincial system. Physicians' offices bill provincial public corporations for reimbursement, but standardized reimbursement rules and electronic claims-filing may help to minimize these administrative expenses. Government incurs the administrative costs of setting standards, budgeting, revenue collection, disbursement of funds, capital planning, negotiations with provider organizations, and oversight. Provider associations have the administrative expenses associated with representing the interests of their members at the provincial and national levels and in the courts. including the preparation of data and analyses to support their efforts.

### *England*[1]

The National Health Service (NHS) owns and manages most hospitals, employs specialist physicians, and contracts with general practitioners. The NHS allocates its budget to 200 District Health Authorities (DHA). Family Practice Committees (FPCs) contract with physicians and dentists; they reimburse physicians mainly on a capitated basis and dentists by fee-for-service.

Glaser suggests that of the four countries he describes, England has traditionally been administratively simplest. Under this system, the bulk of administrative expenses fall to the NHS and its local components. These activities include budgeting, provider payment, preparation of expenditure reports, tracking patients. labor relations. and reimbursement. The traditional reliance on capitated payments to reimburse for a large portion also contributes to relative administrative simplicity. Unions and other associations of providers have a significant role in negotiating on behalf of their members, thus requiring their own administrative staffs.

Recent innovations, however, may increase somewhat the resources needed to administer some parts of the English health system. Some hospitals have become autonomous. leading to growing local variation in administrative procedures. These hospitals also face the cost of marketing to patients, developing clinical emphases, setting prices, and balancing a budget. Because a small number of hospitals and all nursing homes are private, they face these same administrative expenses. Some general practitioners have be-

[1] Among the other countries of the United Kingdom. Wales has a system almost identical to that of England. Scotland and Northern Ireland also have similar health care systems although with greater autonomy.

come "fund-holders" for their patients; they receive increased cavitation payments to cover patients' tests, pharmaceuticals, and specialist and hospital care and must track patients' utilization and pay other providers. General practitioners are also now receiving some reimbursements on a fee-for-service basis, thus requiring them to bill their FPCs. Dentists require the office staff to seek approval from the FPC for extensive procedures and to seek fee-for-service reimbursement for all services.

Glaser notes that although England performs a substantial amount of health services and health economics research in government, universities, and other organizations (particularly concerning potential or enacted reforms), the country has traditionally relied only minimally on independent management consultants or specially trained health care administrators. However, he suggests that the use of such specialists is on the increase with the increase in autonomy afforded providers and local jurisdictions.

### *Germany*

Largely administered on a provincial level, the German health care system is characterized by multiple payers called sickness funds, financed through payroll deductions. Hospitals can be for-profit, nonprofit, or public. The main role of government (at both the national and provincial levels) is to enact overall guidelines for the system, monitor its operation, provide some financing. and settle disputes. All providers belong to regional associations that negotiate payment levels with associations of sickness funds. The provider associations also reimburse their members with the money given by the funds for the care they provide.

According to Glaser's analysis, most administrative costs in Germany are found within the sickness funds, provider associations, and physicians' offices. Hospitals are autonomous but operate on a prospective budget and, according to Glaser, maintain relatively few administrative staff. The government's role is also limited. It makes, oversees, and reforms the rules of the system, operates teaching and municipal hospitals and local public health services, licenses hospitals, and provides grants for capital improvements to hospitals.

Sickness funds, like insurance companies in the United States, must have the administrative apparatus to calculate and collect premiums. They also collect employee contributions for the national social security pension system. Employees pay both contributions by payroll deduction. In addition, the funds bear the administrative costs associated with provider negotiations and compliance with provincial and national oversight. Recent innovations to allow patients greater freedom in the sickness fund they join will likely create marketing costs for the funds. In addition, the funds have had to undertake the provision of coverage in the former German Democratic Republic.

The physician associations (known as the *Kassenartzliche Vereinigung* or KV) also must support reimbursement negotiations, as well as track, process, and pay claims made by their members and reduce physicians' fees if necessary to balance their budgets. Physicians and dentists must maintain office staffs to track services provided to patients and submit claims to the KV for reimbursement. Because German physicians perform many procedures in their offices that in other countries take place in hospitals or clinics, some require additional administrative effort to acquire necessary equipment and supplies.

In summary, Glaser's analysis suggests a few generalizations:

- Any organization with health care responsibilities will incur some administrative costs for its personnel functions, internal financing, budgeting and accounting, and facility overhead.
- Some health functions occur in similar fashion in all countries and are unlikely to change or disappear through reform of health care financing or organization. Prime among these functions is the collection, analysis, and dissemination of vital statistics and, to a lesser extent, morbidity data. The comparability of these data across countries may vary significantly (46), but one would expect the relative magnitude of

the administrative activities associated with their collection to be roughly similar. However, true comparisons of this form of administrative expense would require actual measurement.

- The relative magnitude of administrative expense associated with any organization with health care responsibilities appears to approximate the organization's role in the health care system. Larger responsibilities usually require larger organizations, which usually require more administration.
- A number of countries have adopted various promarket reforms during recent years in their health care systems in which providers, payers, and consumers have greater autonomy in carrying out their obligations. These tend to lead to greater decentralization of the health care system and for the most part would be expected to increase administrative burdens at the margin.

## Quantitative Estimates from the Organisation for Economic Co-operation and Development

The Organisation for Economic Co-operation and Development (OECD) has undertaken the only attempt to collect data on health administration from many countries over time. However, the usefulness of these data for comparing the administrative burden associated with different health care systems is limited.

The OECD, comprising the most industrialized countries of the world, publishes data on health expenditures and outcomes gathered from its member nations (27,28). Health expenditure data requested from each country are based on the system of national health accounts (NHA) maintained for the United States by the Health Care Financing Administration (HCFA).

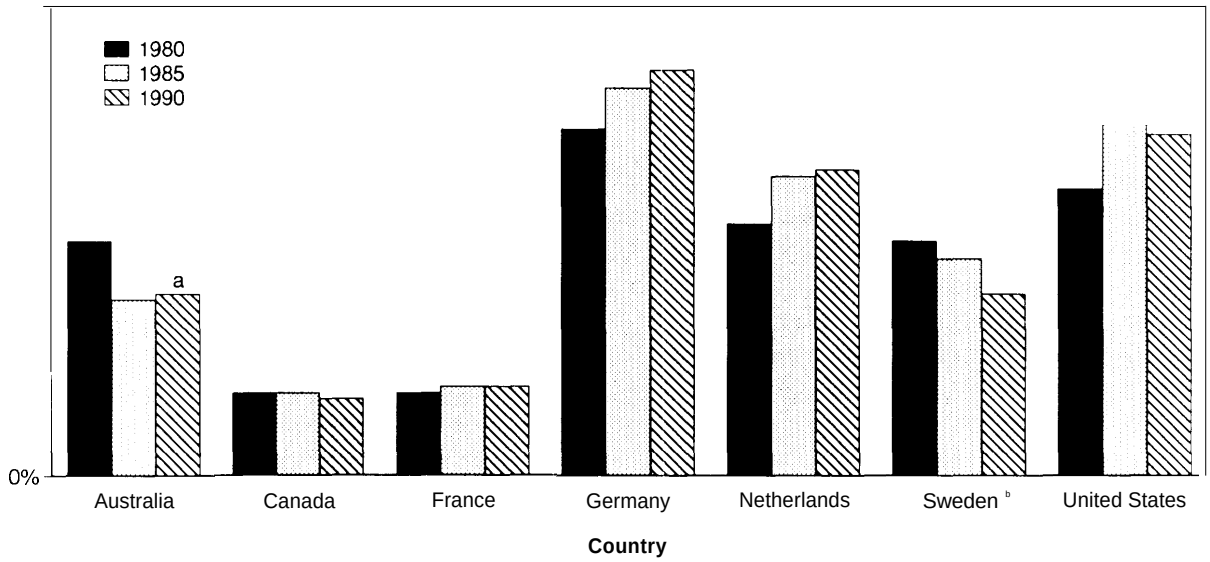
The U.S. NHA definition of health administration employed by the OECD is significantly narrower than any of those definitions of administration presented above. It refers only to the administration of public and private insurance, leaving out the administrative costs of hospitals and other health care providers and the costs in time or other resources borne by consumers in obtaining insurance, health care services. or reimbursement. It also does not include the cost of public and private health services research or the share of administrative costs for general governmental operations or tax collection devoted to health.

This limited definition may be more important in some countries than in others. For example, countries like the United States, with a large private health insurance system and multiple payers. would be expected to realize higher administrative expenses for consumers and providers than would countries with single payers, relatively comprehensive benefits, and little out-of-pocket expenses for consumers. Health service providers in the United States would 1ikely require more time and resources to understand the system and its benefits and to receive reimbursement than their counterparts in countries with a single payer. Hence, the OECD's underestimation of costs in the United States may be greater than in countries with a small private insurance market and a smaller number of payers.

In addition to starting with a narrow definition of administration, not every OECD country has provided data on health administration, and the comparability y of data from those countries that do report varies. Although the OECD and its member countries have attempted to refine the comparability of international health accounting data. to date they have worked with categories of health expenditures larger than administration. Administrate ion has received less attention, in large part. because it represents a relatively small portion of most countries' reported expenditures (31). Figures 3-1 and 3-2 present estimates of health administration outlays for recent years standardized as a percentage of total recorded health expenditures in each country.

Poullier's 1992 analysis of the OECD data on administrative costs does not provide a comprehensive explanation of each data point in the

FIGURE 3-1: Percent of Recorded Public and Private Health Outlays Spent on Administration, 1980-1990

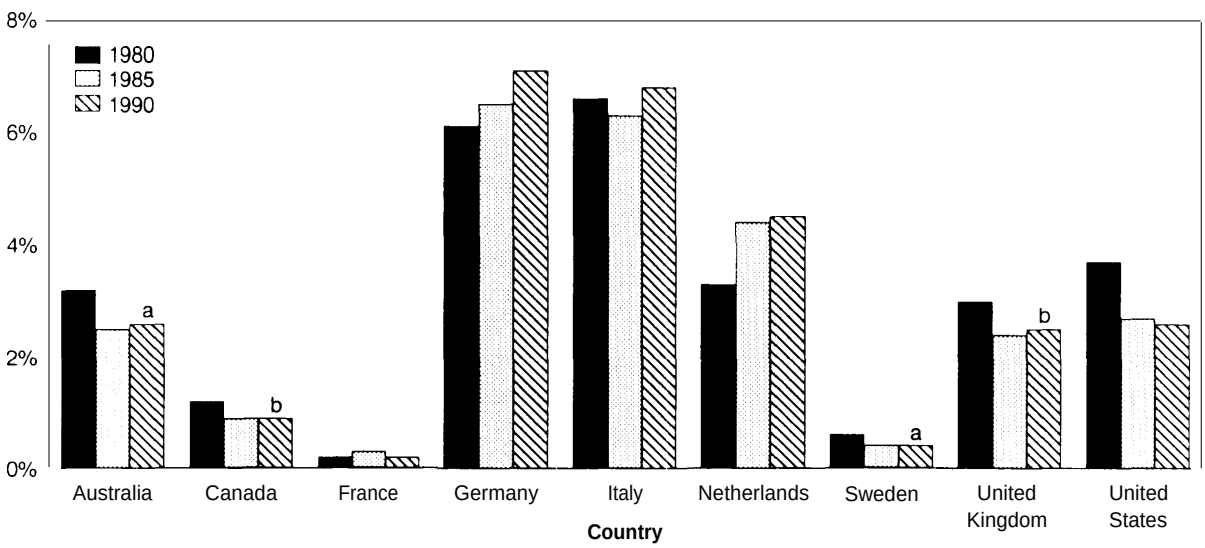



[a] Based on 1989 data

[b] Estimates by J P Poullier, OECD

SOURCE Off Ice of Technology Assessment, 1994 Based on data from J. P. Poullier, "Admistrative Costs on Selected Industrialized Countries, ' Health *Care Financing Review* 13 (summer 1992) 4167-172

FIGURE 3-2: Percent of Recorded Public Health Outlays Spent on Administration, 1980-1990




[a] Based on 1989 data

[b] Based on 1987 data

SOURCE Off Ice of Technology Assessment, 1994 Based on data from J P Poullier, "Administrative Costs on Selected Industrialized Countries *Healfh* Care *Financing Review* 13summer 1992)4 167-172

OECD series on administrative costs.[2] However, Poullier is able to point out some of the important limitations in interpreting the data. The major issues concern public sector expenditures.

- France, New Zealand, and Portugal include administrative costs for the central government only, leaving out the costs of administering local or provincial health boards or social insurance programs. In the case of France, data from the social security system, which provides health insurance to the bulk of the population, is excluded because the government cannot separate its administrative expenses for health from that of its pension and other forms of income support. According to Poullier, France, New Zealand, and Portugal may therefore underestimate administrative expenses by 80 percent.
- Many health-related functions take place in ministries and agencies whose activities are not primarily in health care and that are often excluded from the data reported to the OECD. Examples of such functions include education, consumer protection, agricultural inspection, environmental protection, public safety, and housing. The documentation for the OECD data and Poullier's analysis do not provide a comprehensive discussion of how each country treats the administration of these public sector activities.

Even with the limited definition of administration employed by the OECD and countries' varying (and in some cases, unknown) ability to provide data according to the OECD'S guidelines, Poullier does make some generalizations:

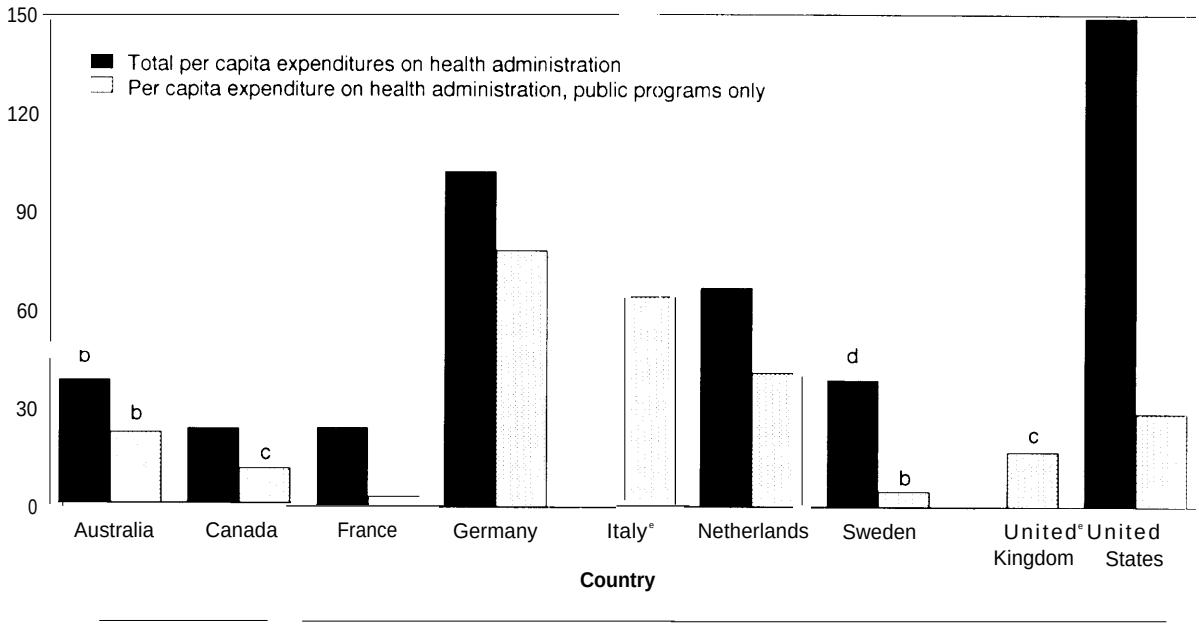
- OECD countries appear to devote between 1 and 7 percent of their health expenditures to administration. Poullier concludes that this range is too large to be attributable only to the vagaries of data described above (although the rationale for this conclusion is not made explicit).
- Those countries that have multiple, segmented sources of health insurance tend to spend a higher percentage of their health monies on administration. These countries include the United States, Germany, and the Netherlands (see figures **3-1** and 3-2).
- Time trends in administrative costs tend to reflect changes in a nation's health care system. Poullier contends that, all else being equal, the relative share of health expenditures devoted to administration will tend to decrease over time; as the number and value of health services go up, the per-unit transaction costs decrease due to economies of scale. Technological changes including standardization of claim forms and procedures and computerization of existing administrative activities can further reduce per-unit administrative costs. Sweden and Australia appear to have followed this decreasing trend during the 1980s for both public and private expenditures, as have Canada, Sweden, the United Kingdom, and the United States for their public sector programs. Poullier indicates that France would have also demonstrated this trend if its data were more representative of its entire health care system. The increase in relative resources devoted to administration in France is the result of added insurance benefits, increases in patient coinsurance payments, and the imposition of cost containment measures, all of which work against the general tendency for administrative burdens to lessen overt time.[3]

Because expressing administrative costs as a percentage of total health expenditures can mask significant differences between countries in their spending on health, Poullier also presents per capita estimates of administrative health cxpendi-

[2] OECD has not yet had the resources to investigate in detail the extent to which each country's administrative data matches or diverges from the definition OECD has asked them to employ (30).

[3] In tact, Poullier suggests that, all else being equal, added new benefits, increased patient cost-sharing, and adoption of other cost containment measures wi II result in increased paperwork and mon itoring—i .e., new administrative costs.

FIGURE 3-3a: Expenditures for All Health Care and Health Care Administration in Selected Countries, 1990[a]




[a] All figures in GDP purchasing power parity U S dollars
[b] Based on 1989 data
[c] Based on 1987 data
[d] Estimates by J P Poullier OECD
[e] Estimates of health expenditures per capita for Itality and the United Kingdom mlsslng from the OECD database for 1990

SOURCE Off Ice of Technology Assessment, 1994 Based on data from J P Pouliler, Administrative Costs on Selected Industrlailzed Countries ' *Health Care Financing Review* 13(summer 1992)4 167-172

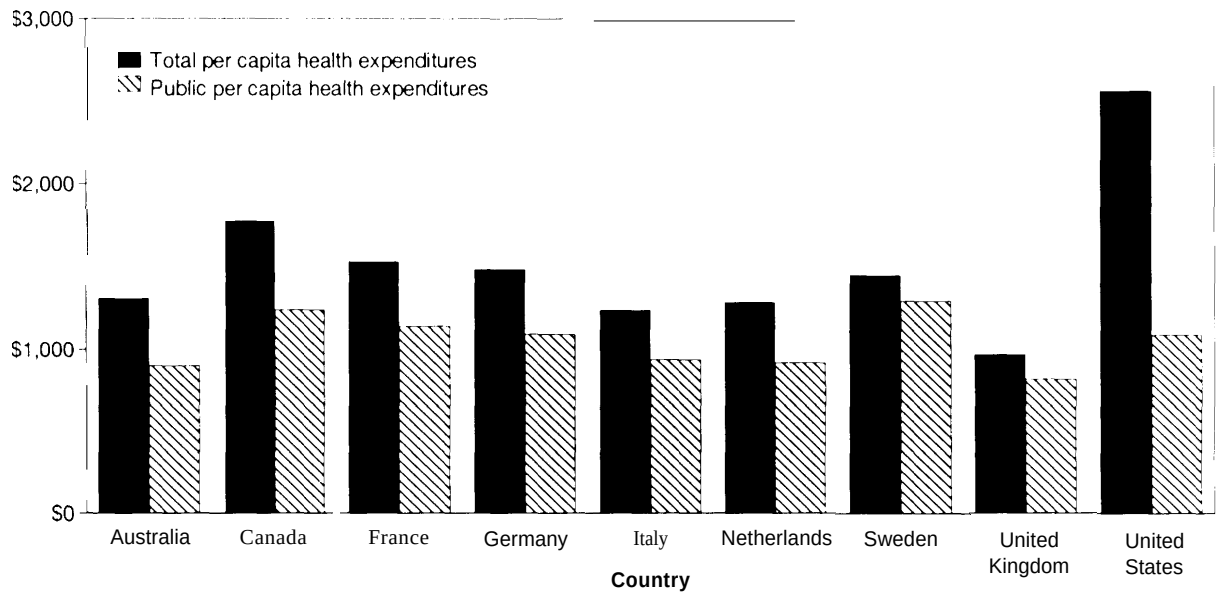
turcs in Gross Domestic Product (GDP) purchasing power parity (PPP) U.S. dollars (figure 3-3a and 3-3b, above).[4] This comparison reinforces the finding that the United States, Germany, and the Netherlands spend more on administration than most of the other countries. In addition, the United States shows a major discrepancy between public and private expenditures for administration. There are at least two potential, nonmutually exclusive reasons for this discrepancy:

- The cost of administering public sector programs is actually less than the cost of administering private insurance programs.
- The data do not capture all costs of public sector programs. In particular, the federal government contracts with private insurance companies to administer Medicare. Because these firms already have much of the infrastructure in place to carry out their Medicare functions, they only report the *added* cost of administering Medicare claims, not the fully allocated cost of that infrastructure.

The OECD data thus provide some very general insights into resources devoted to administering some countries' health care systems and some changes in administrative costs over time. However, use of these data are limited and reflect a "narrow definition of administrative costs when compared with fuller enumerations of administrative costs such as that of Glaser, summarized

[4] GDP purchasing power parities compare the cost of purchasing a precise set of goods across countries; strict currency conversion rates can obscure d] fferences in the relative prices of different items between two countries.

FIGURE 3-3b: Expenditures for All Health Care and Health Care Administration in Selected Countries, 1990[a]




[a]All figures in GDP purchasing power parity U S dollars

SOURCE Office of Technology Assessment 1994 Based on data from J P Poullier Admmistrative Costs on Selected Industriailzed Countries *Health Care Financing Review* 13(summer 1992)4 167-172

above. Furthermore, interpretation of the OECD's data also requires understanding of the structure of each country's health care system and the vagaries in data collection and reporting by each country.

## Comparisons Between the United States and Canada

In recent years a literature has emerged comparing the magnitude of administrative costs in the health care systems of the United States and Canada. Underlying most of this work is a debate about the costs and benefits of adopting a Canadian-style single-payer health care system in the United States. Proponents argue that such a system would require fewer resources for administration, thus allowing universal coverage without spending more money in aggregate (16,19,20,54). Researchers have attempted to measure the extent of administration in Canada, extrapolate the results to the United States, and estimate the cost of increased coverage and utilization that a Canadian-style system would bring about. Such research is driven largely by the availability of data gathered for other purposes, rather than beginning with a detailed typology like that of Glaser and then attempting to gather new data to fit the ideal categories.

This section focuses on the major attempts to compare administrative costs in the current U.S. health care system with the Canadian system or with a hypothetical Canadian system implemented in the United States. Some of the studies reviewed attempt to predict health care costs under a reformed, Canadian-style health plan for the United States, including estimates of the costs associated with extending coverage to the uninsured, expanding insurance benfits, and increased utilization of services due to the elimina-

(ion of patient deductibles and copayments.[5] Assumptions about the effects of a change in the U.S. system are not critiqued in this paper, which focuses only on the assumptions and methods used to derive administrative costs.

### *Methods and Results*

The most thorough comparisons of U.S. and Canadian health care administration are contained in work by Himmelstein and Woolhandler, by the U.S. General Accounting Office (GAO), and by Sheils and his colleagues at Lewin/VHI, a health policy consulting firm. Several other authors have either critiqued these approaches or commented on the role of administration in explaining differences in health care spending between the two countries. Table 3-1 summarizes the methods and estimates of each of the major cormparisons.

#### Estimates by Himmelstein, Wool handler, and Colleagues

Himmelstein and Woolhandler entered this area of inquiry with a 1986 comparison of administrative costs in the current U.S. system and under a Canadian-style system (20). Their approach, which has served as the basis for subsequent comparisons by these and other authors, proceeds according this logic:

- Divide the health care system among component sectors: health insurance organizations, physicians, hospitals, and nursing homes.
- For each, estimate the percentage of total expenditures attributable to administration in the United States and in Canada using various available data.
- Estimate potential gross administrative savings of adopting a Canadian-style system in the United States by assuming that the reformed American system would devote the same percentages of spending to administration as does the Canadian system.

Himmelstein and Woolhandler chose 1983 as the year for their comparison and then estimated administrative costs in each of the four major sectors of health care. For private health insurance in the United States, they measured administrative costs as the difference between premiums collected and benefits paid, using the national health expenditure accounting data collected by HCFA. Hence, their implicit definition of administration includes items such as taxes paid by insurance firms and profits. However, this definition excludes insurers' return on the investment of the premiums they collect. They used the same HCFA data for estimates of the administrative costs of running Medicare, Medicaid, and other public programs.

For physicians, Himmelstein and Woolhandler relied on data collected annually by the American Medical Association (AMA) on the socioeconomic characteristics of a random sample of all nonfederal, patient care physicians practicing in the United States (excluding trainees). They defined administration for physicians as all of their professional expenses—a broad category that includes items such as malpractice insurance premiums.

For hospitals and nursing homes, no national database routinely estimates administrative costs. Because some individual states do make such estimates, Himmelstein and Wool handler drew on reports from the California Health Facilities Commission (CHFC), which stated that in 1983 for hospitals and nursing homes, 18.3 and 14.4 percent of total costs, respectively, went for administration. As evidence of the national representativeness of the California data, the authors note that Florida and Texas report similar percentages and assume that the same proportions applied to the rest of the country.

In the case of Canada, the authors drew on data collected by Health and Welfare Canada and Statistics Canada for estimates of the percentage of

[5] Another recent OTA report examines the cost implications of major approaches to health care reform considered by the 103d Congress. This analysis includes an examination of the estimated costs of expanded coverage and utilization under single-payer and other types of systems (47).

## TABLE 3-1: Comparisons of Administrative Costs in the United States and Cana

| Study | Year of estimates | Category of costs | Year of estimates | Category of costs | Methods/ Data source | Estimates: United States: Percent administrative | Estimates: United States: $ per capita for administration | Estimates: United States: Total administration ($ billions) | Canada/Canadian System Imp in the United States: Percent administrative | Canada/Canadian System Imp in the United States: $ per capita for administration | a |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Himmelstein and Woolhandler 1986a | 1983 | Insurance | 1983 | Insurance | National health expenditure data United and | —[b] | — | 15.6 | 2.5% of program costs. | — | |
| | | Physicians | | Physicians | Total empl phys profe expe U.S. AMA Can. from and Can | 31 1 | 36% of gross income | | 24 9 | 62 | |
| | | Hospitals | | Hospitals | Can from cost colle Hea Wel da, data late Cal pita rep | 269 | 8% Of hospital expenditures | | 11 7 | 152 | |
| | | Nursing homes | | Nursing homes | Car fror sur der cilit tist Am ext fro ho: rep | [illegible] 41 ing home expenditures. | 10 % Of nursing home spending | | 30 nursing home spending. | 1.1 | |

## TABLE 3-1 continued: Comparisons of Administrative Costs in the United States and Canada

| | | | | Estimates | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | United States | | | Canada/Canadian System Implemented in the United States | | | |
| Study | Year of estimates | Category of costs | Methods/ Data source | Percent administrative | $ per capita for administration | Total administration ($ billions) | Percent administrative | $ per capita for administration | Total administration ($ billions) | Difference ($ billions) |
| Himmelstein and Woolhandler, 1986[a] | 983 | Insurance | National health expenditure data for both United States and Canada. | —[b] | — | 15.6 | 2.5% of program costs. | — | 11.1 | 6.7 |
| | | Physicians | Total self-employed physician professional expenses. U.S. data from AMA survey: Canadian data from Health and Welfare Canada. | 45% of gross income. | — | 31.1 | 36% of gross income. | — | 24.9 | 6.2 |
| | | Hospitals | Canadian data from hospital cost reports collected by Health and Welfare Canada; American data extrapolated from California hospital cost reports. | 18.3% of hospital expenditures. | — | 26.9 | 8% of hospital expenditures. | | .7 | 5.2 |
| | | Nursing homes | Canadian data from annual survey of residential care facilities by Statistics Canada; American data extrapolated from California hospital cost reports. | 14.4% of nursing home expenditures. | | 4.1 | 10.5% of nursing home spending. | | 3.0 | |

## TABLE 3-1 continued: Comparisons of Administrative Costs in the United States

| | | | | | | Estimates | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | United States | | Canada/Canadian System Implemented in the United States | | | |
| **Study** | Year of estimates | Category of costs | Methods/ Data source | Percent administrative | $ per capita for administration | **Total administration ($ billions)** | **Percent administrative** | **$ per capita for administration** | **Total administration ($ billions)** | **Difference ($ billions)** |
| Woolhandler and Himmelstein, 1991[c] | 1987 | Insurance | National health expenditure data for both United States and Canada, all Canadian dollars converted to U S dollars at exchange of $133 (Canadian) = $100 (us ) | 51 % of total health care expenditures | 106 | | 1. 2% of total health care spending | 17 | | --- |
| | | Physicians | Method 1 Physician office expenses plus physicians' own time on admministration U S data from AMA survey, Canadian data based on adjusted tax returns | | *106-203* | | | 41-80 | | |
| | | | Method 2 Cost of physiclan office personnel devoted to administration PIUS physicians own time U S data from CPS, Canadian extrapolated from Ontario Medical Association survey. | | | | | | | |

*(continued)*

## TABLE 3-1 continued: Comparisons of Administrative Costs in the United States and Canada

| | | | | Estimates | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | United States | | | Canada/Canadian System Implemented in the United States | | | |
| Study | Year of estimates | Category of costs | Methods/ Data source | Percent administrative | $ per capita for administration | Total administration ($ billions) | Percent administrative | $ per capita for administration | Total administration ($ billions) | Difference ($ billions) |
| | | Hospitals | Canadian data from hospital cost reports collected by Health and Welfare Canada; American data extrapolated from California hospital cost reports. | 20.2% of hospital expenditures. | 62 | | 9% of hospital expenditures. | 50 | | — |
| | | Nursing homes | Canadian data from annual survey of residential care facilities by Statistics Canada; American data extrapolated from California hospital reports. | 15.8% of total nursing home revenues. | 26 | — | 13.7% of total nursing home expenditures. | 9 | | |
| Woolhandler and Himmelstein, 1993[d] | | Hospitals | Cost reports from the 6,400 hospitals participating in Medicare in the United States. | 24.8% of national hospital spending; range among States = 20.5% to 30.6%. | — | | | — | | |
| GAO, 1991-2[e,f] | 1991 | | National health expenditure data for United States; Ontario provincial health expenditures for Canada. | 5.8% of national health expenditures. | — | — | 1.2% of provincial health expenditures. | — | — | 33.9 |

*(continued)*

## TABLE 3-1 continued: Comparisons of Administrative Costs in the United States and Canada

| | | | | | Estimates | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | United States | Canada/Canadian System Implemented in the United States | | | | |
| Study | Year of estimates | Category of costs | Methods/ Data source | Percent administrative | $ per capita for administration | Total administration ($ billions) | Percent administrative | $ per capita for administration | Total administration ($ billions) | Difference ($ billions) |
| | | Physicians | U.S.: Nonphysician personnel costs plus contract billing services plus physicians' own time on administration; data from AMA survey. Canada: Nonphysician personnel costs plus physicians' own time on administration. | | | Nonphysician personnel = $42,500/M.D., 4.4% of physicians' time; Contract billing = $3,224/M.D. | — | — | Nonphysician personnel = $28,033/M.D.; assumed 1% of physicians' time. | 14.8 |
| | | Hospitals | U.S.: Sum of administrative cost accounting categories from 1987 AHA Monitrend data analysis prepared for ProPAC, Canada Unpublished 1988 data from Health and Welfare Canada for all of Canada | 15.4% of total hospital spending. | | — | 9% of total hospital spending. | — | — | 18.2 |

*(continued)*

| | | | | Estimates | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | United States | | | Canada/Canadian System Implemented in the United States | | | |
| Study | Year of estimates | Category of costs | Methods/ Data source | Percent administrative | $ per capita for administration | Total administration ($ billions) | Percent administrative | $ per capita for administration | Total administration ($ billions) | Difference ($ billions) |
| Sheils and Young, 1992[9] | 99 | Insurance | U.S.: National health expenditure data; average administrative overhead for public and private insurance, 1983-1989. Canadian system in U.S.: U.S. Medicare administration adjusted for lower utilization by nonelderly and elimination of patient cost-sharing. | 13.7% of claims for private insurance, 3.6% of claims for public insurance. | | 38.2 | — | $80 per over-65 beneficiary; $48 per under-65 beneficiary. | 15.7 | |
| | | Physicians | U.S.: All nonpatient care costs reported in survey of multispecialty physician offices by Medical Group Management Assoc. Canadian system in U.S.: Interviews with industry experts about how current administrative cost categories would change. | — | | 43.3 | — | | 32.2 | 11 |

(continued)

## TABLE 3-1 continued: Comparisons of Administrative Costs in the United States and Canada

| | | | | Estimates | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | United States | | | Canada/Canadian Sys in the Unite | | |
| Study | Year of estimates | Category of costs | Methods/ Data source | Percent administrative | $ per capita for administration | Total administration ($ billions) | Percent administrative | $ per cap for administra | Difference ($ billions) |
| | | Hospitals | U.S.: Administrative data from California State hospital cost reports. Canadian system in U.S.: Interviews with industry experts about how current administrative cost categories would change. | — | — | 90.9 | — | — | 134 |

[a] D.U. Himmelstein and S. Woolhandler, "The Deteriorating Administrative Efficiency of the U.S. Health Care System," *NEJM* 324(18), 1253-1258, May 2,
[b] Results not reported for this category. Same holds for all blank cells in table 3-1.
[c] D.U. Himmelstein and S. Woolhandler, "Cost Without Benefit: Administrative Waste in U.S. Health Care," *NEJM* 311(7), 441-445, Feb. 13, 1986.
[d] S. Woolhandler, D.U. Himmelstein, J.P. Lewontin, "Administrative Costs in U.S. Hospitals," *NEJM* 329 (Aug. 5, 1993) 400-403.
[e] U.S. GAO, *Canadian Health Insurance: Lessons for the United States*, U.S. GAO, #HRD-91-90, June 1991.
[f] U.S. GAO, *Canadian Health Insurance: Estimating Costs and Savings for the United States*, U.S. GAO, #HRD-92-83, April 1992.
[g] J.F. Sheils and G.J. Young, "National Health Spending Under A Single Payer System: The Canadian Approach," staff working paper for Lewin/ICF, Ja

KEY: AHA = American Hospital Association, AMA = American Medical Association, ProPAC = U.S. Prospective Payment Assessment Com

SOURCE: Office of Technology Assessment, 1994.

hospital, nursing home, and overall insurance program spending devoted to administration (8, 10.5, and 2.5 percent respectively). For self-employed physicians, they use an estimate that professional expenses in the province of Ontario average 36 percent of gross income. Applying these percentages to 1983 spending in the United States, they conclude that a Canadian-style system could have saved $29.2 billion in administrative costs, an amount equal to 8.2 percent of actual spending.

Himmelstein and Woolhandler also prepared similar estimates for Great Britain using data from published sources. According to the NHS, central administration of the system costs 2.6 percent of total expenditures, while hospital administration was 5.7 percent of total hospital spending. Because long-term care is more integrated into the NHS system, the authors assumed that the administrative rate for hospitals also applied to nursing homes. For physicians, they used a published estimate of an average of 29 percent of gross income for professional expenses. Applying these percentages to 1983 U.S. health expenditures, the authors conclude that a British-style system would have saved $39.3 billion.

Himmelstein and Woolhandler concede that they may have underestimated the administrative savings possible had the United States implemented the Canadian or British system prior to 1983. In particular, they cite the lower wages paid to physicians in those two countries as leading to a $25 billion to $30 billion underestimate in potential savings.[6]

### A Second Comparison

In 1991 Woolhandler and Himmelstein revisited the topic of U.S. and Canadian administrative expenditures, this time for 1987 (54). In addition to using more recent data, the authors also refined their methods, especially for estimating the administrative costs associated with physicians in private practice. The units used to compare the United States and Canada also differ from those in the first study. Instead of estimating the savings that could be realized if the United States faced the same percentages of expenditures devoted to administrative costs that Canada faces, they estimated administrative costs in both countries in 1987 U.S. dollars *per capita (see* table 3-1 ).

The authors estimate the cost of providing insurance in the same manner as before, drawing on HCFA's national accounting expenditure data for private and public insurance and unpublished data from Health and Welfare Canada and Statistics Canada. For hospitals and nursing homes in the United States, they again extrapolate from data collected by the CHFC. However, this time they provide details of the specific cost categories counted as administrative.[7] For Canadian hospitals and nursing homes, the administrative esti-

[6] Himmelstein and Woolhandler do not provide the methods underlying this estimate. They also suggest that some nonadministrative savings would result, as the imposition of a national health system would decrease financial incentives to provide "excessive medical intervention. superfluous medical services and products, and the duplication of health institutions. . ." (20), although they provide no quantitative estimates of these behavioral changes.

[7] Included in their estimate of administration are general accounting, patient accounting, credit and collection, admitting, other fiscal services, hospital administration, public relations, personnel department, auxiliary groups, data processing, communications, purchasing, medical library, medical records, medical staff administration, nursing administration, in-service education, and other administrative services. Excluded are research administration, administration of educational programs, printing and duplicating, depreciation, amortization, leases and rentals, insurance, licenses, taxes, central services and supply, other ancillary services, and unassigned costs.

mates came from unpublished federal data drawn from provincial reports, which were verified by examining data directly from the provinces.[8]

Rather than relying solely on physicians' reports of their entire practice expenses as a proxy for their administrative costs, Himmelstein and Woolhandler also attempted to estimate costs based on the number of personnel devoted to administration in physician's offices. They suggest that the expense method overestimates the difference between Canadian and U.S. administrative costs, while the personnel method underestimates, thus providing a reasonable range around the likely truth.

Professional expense data for the United States came from the AMA's socioeconomic survey of physicians practicing in the United States, while Canadian data came from a sample of physicians' tax returns corrected for distortions in groups practice reporting. Data on physician office personnel in the United States came from the Current Population Survey, a representative survey done annually by the Census Bureau.

Canadian estimates of physicians' administrative expenses were based on a study of physician office staffing patterns in Ontario done in 1977.9 They valued each full-time employee at $35,000 (U. S.) in both countries and then added the value of outside billing services in the United States according to an AMA survey. For both methods and countries, the authors added in estimates of the value of physicians' own time spent on billing.

When the authors recalculated 1987 administrative costs in a manner exactly comparable to their 1983 estimates, the numbers show that during this four-year period administrative costs in the United States rose from 21.9 to 23.9 percent of total health expenditures. while in Canada they declined from 13.7 to 11.0 percent.

### National Estimates of U.S. Hospital Costs

One of the criticisms leveled against both studies by Woolhandler and Himmelstein is that they generalize from the experience of California to make national estimates of hospital administration (2,25). Although they found the California estimates to be comparable to seven other states, the authors did re-estimate hospital administrative costs for 1990 using national Medicare cost reports drawn from 6,400 hospitals that participated in Medicare that year, close to the universe of all hospitals in the United States (55). [10] They allocated each reported hospital expense category as either administrative, clinical, both, or neither. The "both" category comprises the cost of the physical plant and employee benetits. [11]

This analysis showed that administration was 24.8 percent of national hospital expenditures in 1990, with a range of 20.5 to 30.6 percent among the states. This estimate is higher than those used

[8] They estimate total hospital administrative costs bv adding together the categories of "other" hospital administration, advertising, association-membership fees, business machines, collection fees, postage, auditing and accounting, other nonmedical professional fees, service-bureau fees, telephone and telegraph. board members' indemnity, travel and convention expenses, medical records, hospital library, and nursing administration. Excluded are educational and research administration, insurance, interest, printing, stationery and office supplies, material management, and central supply. For nursing homes, administration constituted only a single category.

In August 1994 Woolhandler and Himmelstein issued a correction to their 1991 study indicating that an error in their raw data had caused them to underestimate the cost of hospital nursing administration in Canada. The correct data would have raised hospital Canadian *per capita* administration from $50-S58 (Canadian) and the range of total per capita administration from $ I I7- S 156 (Canadian), to $ 125-S 164 (Canadian) (56). Because of the late date of this correction, this background paper's discussion of their work and the associated tables do not incorporate this change.

[9] Woolhandler and Himmelstein report that staffing in the 1977 surv ey appeared to be somewhat higher than informal 199 l estimates provided by the Ontario Medical Association.

[10] According t. the American Hospital Association, there were *6,720* hospitals in the United States in 1989 (1).

[11] The proportion of physical plant attributable t. administration was assumed to be the same as the proportion Of all other costs attributable to administration in the hospital. For employee benefits, all salaries of employees who administer the benefits were assumed to be administrative. All remaining costs were allocated between administrative and c1 inical in the same manner as physical plant costs.

in the 1983 and 1987 U.S.-Canadian comparisons based on data from California hospitals alone (18.3 and 20.2 percent, respectively). The 1990 estimate for California only was even higher: 27.7 percent.

The authors do not attempt to explain the difference between this and their earlier estimates, stating only that their method of allocating expenses for physical plant and related capital and interest may somewhat overestimate administrative costs. If one assumes that no part of these expenses is attributable to administration, the overall estimate is reduced to 20.8 percent. Schwartz and Mendelson (34) have suggested other ways in which Woolhandler and colleagues' Medicare estimates may overstate the cost of hospital administration in the United States:

- In their Medicare cost reports, hospitals tend to shift expenses from clinical to administrative categories to increase reimbursement.
- The authors do not exclude the portion of general administration attributable to research and education in the hospital; they exclude only the directly itemized costs for these programs.[12]

### U.S. General Accounting Office (GAO) Estimates

In 1991 GAO issued its own analysis of the economic costs and benefits of implementing a Canadian-style system in the United States, including a comparison of administrative costs in the two countries (43).[13] Using data from various sources from the late 1980s, GAO projected administrative cost estimates to 1991 for both countries (see table 3-1 ). Although GAO followed the same general procedure of breaking administrative costs down among its component parts and even used some of the same data sources as Woolhandler and Himmelstein, there are significant differences in methods and results. GAO did not include estimates of nursing home administrative costs for either country. For the United States, GAO:

- broke physician administrative expenses into three components using data from the AMA's 1988 socioeconomic survey: proportion of physicians' time spent on insurance (4.4 percent), nonphysician payroll ($42,500 per physician), *[4] and the cost of contract billing services (14 percent at a cost of $8 per claim, or $3,224 per physician); 15
- estimated hospital administrative costs using data from the American Hospital Association 1988 Monitrend, prepared under contract to the U.S. Prospective Payment Assessment Commission (15.4 percent of total hospital expenses) (23,48); [16] and
- used the 1988 HCFA national accounting data for health expenditures to calculate the proportion of insurance expenditures devoted to overhead defined as "administration and the net cost of private health insurance" or the difference between premiums and benefits paid (5.8 per-

12 Schwartz and Mendelson also point out that the category of general administration contains expenses such as utilization review, which might not be able to be eliminated under a Canadian-style system without some decrease in quality or increase in overall costs and, as discussed later in this background paper, that Himmelstein and Woolhandler's approach to comparing costs in the United States and Canada may underestimate administrative costs inherent in the Canadian system (34). Furthermore, utilization review may be difficult to categorize as either an administrative or clinical expense since it affects both.

13 GAO detailed the methods used in this analysis in a separate publication published in 1992 (44).

14 Implicit in GAO's methods is the assumption that the whole difference in the nonphysician wage bill between Canada and the United States is attributable to administration and not other factors such as differentials in wages and intensity of clinical services, This latter factor could be especially important since nonphysician personnel include nurses and technicians.

15 Data on total number of physicians and physician expenditures include physicians employed by HMOs. However, GAO suggests that this could not distort their estimates in any significant way since physicians employed by HMOs represented only 2 percent of all practicing physicians (44).

16 Using data provided t. ProPAC, GAO calculated administrative expenses as a proportion of the cost per hospital discharge. In this database, administration comprises the categories of general accounting, patient accounts and admitting, medical records, purchasing and stores, and data processing (23,44).

cent), which is the same definition used by Woolhandler and Himmelstein. [17]

For Canada, GAO:

- used unpublished data from the Ontario Medical Association to estimate the nonphysician wage bill for that province (an average of $28,033 per physician). Because the same data indicated that physicians spend little time on billing and insurance, GAO assumed that they spent 1 percent of their time on these matters. It was also assumed that there are no contract billing services in Canada and that the experience of Ontario is representative of the entire country;
- used unpublished data from Health and Welfare Canada that administrative costs were 9 percent of total hospital expenditures in 1987; 18 and
- used a 1987 Canadian national health accounting data category called "prepayment administration" as the measure of the administrative cost of providing public and private insurance (1.2 percent of total health expenditures).

GAO concludes from its estimates that a Canadian-style system implemented in the United States in 1991 would lead to $67 billion less in administrative costs than were spent under the current system. This difference breaks down to $34 billion in insurance overhead, $15 billion in physicians' administrative costs, and $18 billion in hospital administration.

### Comparison by Sheils and Young

In January 1992 Sheils and Young, analysts at the private consulting firm Lewin/ICF,[19] released their own comparison of U.S. and Canadian administrative costs (36,37). In proposing their analysis, they offered several critiques of the work by Himmelstein and Woolhandler (36). mostly concerning the suggestion that implementation of a Canadian-style system in the United States would lower administrative costs. A specific criticism concerned the accuracy of Himmelstein and Woolhandler's measurement of administrative costs in either of the two countries. In particular, Sheils and Young suggest that many indirect costs of running the Canadian provincial health programs, including those associated with facilities and equipment, were left out.[20]

Their other critiques focus on the nature of or potential explanation for the differences they find. They observe that a significant portion of providers' administrative costs in the United States would not necessarily change with a new reimbursement system. These include costs associated with malpractice, supplies, security, grounds, and wage differentials. These authors also suggest that higher administrative costs in the United States reflect, in part, higher capitalization (i.e., more medical equipment and facilities ) and higher Constitutional standards for legal due process. which raises the costs of claims adjudication. Higher capitalization can change only in the longer run, while there is no reason to believe that standards for due process would necessarily change at all (37).

Like GAO, Sheils and Young summed the administrative costs for insurance, physicians, and hospitals to arrive at an overall figure. However, their methods and some of their data (see table 3-1 ) vary from those used by either GAO or Woolhandler and Himmelstein. Most significantly. their analysis is not actually a comparison of U.S. and Canadian administrative costs. To correct for

17 This category comprises the accounting categories of administrative costs, net additions to reserves, rate credits and dividends, premium taxes, and profits or losses. Both GAO and Himmelstein et al. calculated the administrative costs of insurance using HCFA data estimates of the net cost of private health insurance as a percentage of total expenditures on health services and supplies (44,51 ).

18 GAO attempted to include expense categories Comparable to those measured for the United States: genera) administration (minus liability insurance, interest payments. and utilities), material management, central supply, medical records, and hospital library (44).

19 This firm is now known as Lewin-VHI.

20 However, they provide no reference or detail for this, only alternative methods of measuring administrative costs.

the problems they find in the work by Woolhandler and Himmelstein, they base their estimates for a hypothetical Canadian-style system implemented in the United States on assumptions about how current U.S. costs would change under a reformed system. They do not use any data from actual Canadian experience to make their estimates.

For the United States, Sheils and Young calculated insurance overhead using HCFA's national accounting health expenditure data. They based their extrapolation on the average administrative overhead rate for the period 1983 to 1989 to avoid year-to-year fluctuations, and calculated administrative overhead as a percentage of claims paid separately for private health insurance (13.7 percent) and public programs (3.6 percent).

To estimate administrative costs under a Canadian-style system in the United States, Sheils and Young extrapolated from Medicare administrative costs (with some adjustments). They argue that this approach compensates for characteristics of the U.S. health care system not found in Canada that influence administrative costs and are not necessarily subject to change under a single-payer system. This approach also corrects for the fact that data on Canadian insurance administration does not include overhead for buildings, equipment, fringe benefits, and personnel services (37).[21] The authors estimate that total insurance administration would be $10.5 billion for the nonelderly population and $2.5 billion for the elderly. To this, they add an estimated $1.6 billion in the administration of private health insurance and $1.1 billion for public programs that cover services not included under the national program, for an estimated total of $15.7 billion in insurance administration under a Canadian-style system.

To estimate physician costs not directly related to patient care, Sheils and Young used data from a 1990 survey of multispeciality medical groups by the Medical Group Management Association that included data on expenditures for different types of nonclinical activities. To this, they added an estimate of the value of physicians' own time spent on insurance issues based on the AMA's 1988 socioeconomic survey data. These methods yield estimates of $17.4 billion in nonphysician salaries, $6.64 billion in physician time spent on administration, and $19.54 billion in other administrative costs for a total of $43.58 billion in 1991.

To estimate hospital administrative costs under the current U.S. system, which they define as everything except direct patient care, Sheils and Young drew on the same detailed cost accounting data collected for California used by Woolhandler and Himmelstein.[22] Summing all nonclinical cost categories and extrapolating to the country as a whole, they estimate hospital administrative costs in 1991 to be $93.9 billion (or 33.3 percent of total hospital spending), which includes $9.4 billion in net hospital revenues extrapolated from the national net revenue rate reported in 1989 Medicare cost reports.

For hospital and physician administrative costs of a Canadian-style system implemented in the United States, Sheils and Young examined each category of administrative costs under the current system, On the basis of interviews with unidentified industry experts, they made assumptions about how each category of costs would change

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21 They estimate that while Medicare has administrative costs of $85 per enrollee per year, a Canadian-style system would have costs of $80 per elderly enrollee and S48 per nonelderly enrollee. These projected differences between the current Medicare program and a Canadian program would be the net result of the elimination of individual hospital claims, increased utilization due to the lack of copayments, and the fact that nonelderly beneficiaries would have lower utilization than do the elderly and disabled beneficiaries of Medicare. They assume utilization review programs would remain.

22 Sheils and Young note that extrapolation from California to the rest of the country maybe problematic because California has a 14-percent lower average length-of-stay, a 50-percent higher average cost per day, a 5.5-percent higher staff-to-bed ratio than the nation as a whole and recent legislation that may have increased administrative costs associated with contracting for negotiated discounts. However, they do not comment on or attempt to replicate Wool handler and Himmelstein's analysis that shows hospital administrative costs in California to be comparable to those in other states.

under a Canadian-style system. Summing these components, they estimate that hospital administration would cost $80.65 billion and physician administration $32.23 bill ion.

### Summary of Estimated Administrative Savings

For the four major analyses summarized above, table 3-2 presents the estimated impact on administrative costs of implementing a Canadian-style system in the United States. All estimates are in 1991 U.S. dollars. OTA has converted the per capita results from the 1991 Himmelstein and Woolhandler study (54) to total expenditures.

Leaving out the earlier of the two Himmelstein and Woolhandler studies, the range of potential savings is $47 billion to $98 billion. Although this range is large, the findings do suggest that. all else being equal, imposition of a Canadian system could lead to a reduction in administrative costs.

### Other Approaches

Other authors have discussed differences in administrative costs in the course of comparing the U.S. and Canadian health care systems, but none has attempted any quantitative estimates independent of those discussed above. In their proposal for health care reform in the United States, the Physicians for a National Health Program rely on estimates by Himmelstein and Woolhandler (20) as evidence of administrative savings that could be realized under a single-payer system (16). Another reform proposal by the Economic and Social Research Institute with support from the Robert Wood Johnson Foundation uses Himmelstein and Woolhandler's 1991 study as the basis for estimating administrative savings from adopting a Canadian-style system.

Fuchs and his colleagues discuss differences in administration as part of two studies comparing health care costs in the United States and Canada ( 10,11). However, they do not attempt to measure

**TABLE 3-2: Estimated Administrative Savings of a Canadian Style Health Care System in the United States in Billions of 1991 U.S. Dollars[a]**

| | Himmelstein and Woolhandler, 1986[b] | Woolhandler and Himmelstein, 1991[c] | GAO, 1991-92[d] | Sheik and Young, 1992e |
|---|---|---|---|---|
| Year of estimates | 1983 | 1987 | 1991 | 1991 |
| Administrative savings in | | | | |
| Insurance | 9 | 26 | 34 | 23 |
| Physicians | 8 | 19-35f | 15 | 11 |
| Hospitals | 20 | 32 | 18 | 13 |
| Nursing homes | 1 | 5 | —9 | —9 |
| Total estimated administrative savings | 39 | 81-98 | 67 | 47 |

[a] Data from Himmelsteln and Wool han dl er 1986 and Woolhandler and H ımmelstein 1991 inflated to 1991 U S dollars using the Gross Domestic Product (GDP) Implicit Price Deflator
[b] D U Himmelstein and S Woolhandler 'Cost Without Benefit Administrative Waste in U S Health Care "*NEJM 311* (7), 441-445 Feb 13, 1986
[c] S Wool handler and D U Himmelstein The Deter orating Administrative Efficiency of the U S Health Care System, " *NEJM 324(* 18) 1253-1258 May 2 1991
[d] U S GAO Canadian *Health Insurance Estimating Costs and Savings for the United States*. U S GAO, #HRD-92-83 April 1992; U S GAO *Canadian Health Insurance Lessons for the United States* U S GAO, #HRD-91-90 June 1991
[e] J F Sheı Is, and G J Young Nat ıona Hea t h Spending U rider A Single Payer System The Can adian Approach, " staff working paper for Lewin/ ICF Jan 8 1992
[f] The range represents Wool handler and Himmelstein's two methods of estimating physicians administrative expenses The text summarizes these methods in greater detail
[g] These studies d d not estimate nursing home administrative costs

SOURCE Off Ice of Technology Assessment 1994

administrative activities directly, In an analysis of physician services, Fuchs and Hahn speculate that higher administrative costs are a prime source of the higher physician fees that they observe in the United States. As evidence of higher administrative costs, they cite Himmelstein and Woolhandler's 1986 study as well as some of these authors' data sources (10,1 1). Similarly, they suggest higher administrative costs and intensity of service in the United States as "the most likely explanations" for the higher overall hospital costs but they offer no independent evidence to support this explanation (32).

Evans and his colleagues also have examined and commented on differences in health care expenditures in the United States and Canada, suggesting administration as one of the sources of the higher expenditures observed in the United States (3,8,9). However, they too do not try to measure administration directly.

## *A Debate Over U.S.-Canadian Comparisons*

### Danzon's Critique of U.S.-Canadian Comparisons

Danzon (6) has offered an economic critique of the entire approach of using existing data to compare administrative expenditures in different health care systems. Her analysis, which has proved controversial, goes to the heart of the definitional issues considered in the first section of this paper. She first suggests that the national accounting data measuring insurance overhead in the United States is not comparable to the estimated overhead of Canada's provincial insurance program. She suggests that premium taxes, investors' return on capital, and investment income should be removed from the American estimates.[23] By her calculations, this adjustment would reduce Woolhandler and Himmelstein's estimate of insurance overhead for 1987 (54) from 11.7 percent of benefits to 7.6 percent.[24]

The more significant part of Danzon's critique is that analyses using accounting data (like those of Himmelstein and Woolhandler, GAO, and Sheils and Young) ignore important hidden or indirect costs of administering publicly based health care systems like that of Canada. She includes among the hidden costs of the Canadian system:

- excessive patient time resulting from physicians' tendencies to compensate for fixed fees by scheduling multiple, short office visits:
- diminished productivity, lost income, and lower quality of life due to waits caused by rationing of hospital services; and
- "dead-weight loss" in productivity and consumption as employers and consumers change their behavior to avoid activities that are taxed by the state to finance the health care system in lieu of private insurance premiums.

In addition to unmeasured overhead costs in the Canadian system, Danzon argues, there are unmeasured benefits in the administrative apparatus of the U.S. system. She views claims processing, a large component of administrative expenditures in the United States, as a check against "moral hazard," or the tendency of consumers to overuse health care services because they are insured against all or much of their costs. In addition, she sees the diversity of insurance plans as a means of accommodating the variety of consumer preferences, although she concedes that employer tax subsidies for health insurance and the structure of insurance regulation in the United States may lead to more options in the current system than is efficient.

Although they are not directly related to overhead or administration, Danzon also cites the substantial amount of health-related research and the

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23 Danzon argues that these components should be removed because premium taxes are a transfer from employers and consumers to state governments, not an actual cost; because investment income is a return to insured individuals and groups for the use of the premiums that they pay in advance; and because it is not clear what cost in a public insurance program would be comparable to the return on capital found in private insurance.

24 This figure is compared with 0.9 percent for Canada.

diversity of nonphysician medical personnel as additional benefits of the U.S. system of financing health care.

### Critiques of Danzon's Analysis

Other analysts have taken issue with several of Danzon major points. Schlesinger (35) believes that Danzon subjects Canada to a double standard by counting patient time from multiple or lengthy medical visits as a cost in Canada, but ignoring patient time lost attempting to understand the details of insurance benefits, copayment requirements, and claims forms in the United States, Her argument that Canadian rationing through patient waiting leads to a lower quality of life is not weighed against the fear many Americans may have that they might lose their health insurance. And the "dead-weight loss" associated with tax-based financing in Canada is not balanced against the "dead-weight loss" of workers who cannot not move to optimal jobs for fear of losing health insurance on a temporary or permanent basis.

Schlesinger also criticizes Danzon for ignoriin certain costs in the United States:

1. the cost of evaluating and deciding among insurance plans and provider systems,
2. the costs to firms of trying to avoid hiring employees believed likely to use substantial health care services,
3. the cost of employee benefits personnel in firms, and
4. the cost of capital for private insurance over and above the comparable cost for public programs since private firms must compensate investors for risk of bankruptcy.

On the subject of Canadian queues for services, Barer and Evans (3) argue that both the U.S. and Canadian systems ration, and that the Canadian means of rationing through queues is preferable since it is based on information (physicians' judgments of medical necessity) rather than on ability to pay. Woolhandler questions whether there are medically significant waiting times in Canada at all, noting that there has been little empirical research on the subject(53 ). One recent study of randomly chosen breast cancer patients in British Columbia (Canada) and Washington State (United States) actually found 13.4 percent of women in Washington experienced a delay of three months or more[25] from time of first symptom to diagnosis, while only 4.6 percent experienced such a delay in British Columbia (a statistically significant difference).[2b]

## PERSONNEL AS A MEASURE OF ADMINISTRATION

A significant component of a country's health care expenditures are personnel costs, including individuals charged with carrying out administrative duties. Through censuses and other population-based surveys, countries gather information on their labor forces on a regular basis. Analysis of the health care labor force may serve as a useful proxy for expenditures devoted to administration and patient care, especially when trying to assess the relative investment in administration across countries or to assess trends over time.

To investigate the usefulness of this approach and to understand better the health care labor forces of the United States and Canada, OTA commissioned an analysis of national occupational data for these two countries by David Himmelstein, Steffie Woolhandler, James Lewontin, and Donna Pound at the Center for National Health Program Studies, Harvard Medical School *(2* 1 *).*[27]

[25] Observational studies have found an association between delay of three to six months in diagnosis and mortality (24).

[26] Median times from symptom to diagnosis for the overall sample were relativ ely short and similar between the two regions (*4).

[27] Himmelstein and colleagues also investigated occupational trends in the German health cares) stem. How ever, because of serious discrepancies between Germany and the other two countries in defining various occupational categories ( 22), OTA omits the results of their preliminary> analyses of Germany in this document.

### *Summary of Methods*[28]

For each country, Himmelstein and colleagues grouped into one of 17 occupational categories all individuals whose principal place of employment, whether part time or full time, was the office of a physician or other health practitioner, a hospital, a nursing or personal care facility, or other health service facility.[29] Using data on numbers of employed individuals and hours worked, the authors calculated "full-time equivalents" (FTEs) for each job category in total and per capita for the whole U.S. population.[30] With these data they analyzed trends in the size and composition of the health care workforces in each country and compared the workforces of 1971 and 1986.[31] In addition to focusing on relative numbers of administrative personnel in each country, the analysis also examines each country's reliance on technicians and technologists as a possible proxy for the intensity of services and use of technology in Canada and the United States.

Employment information for the United States came from the U.S. Census Bureau Current Population Survey (CPS) from 1968 to 1992, an annual survey of 60,000 households representative of the civilian noninstitutionalized population. The survey records information on occupation and place of employment and includes about 6,000 individuals working in the health care sector. Data on health care workers in Canada comes from the 1971 and 1986 Canadian censuses; the first of these censuses just preceded the full implementation of single-payer health insurance in Canada.

Although Himmelstein and colleagues were able to identify clearly individuals with health-related occupations (e.g., physicians, nurses, therapists) in nonhealth care workplaces, a major limitation of their analysis is that the CPS data do not allow identification of administrative and clerical personnel who perform health care-related functions in such workplaces. Hence, their data do not include personnel in private firms who administer health insurance benefits for their employees, leading to underestimates of administrative personnel in the United States, or health care management consultants who do not work in health care workplaces.

### *Results*

#### Health Care Personnel in the United States

Between 1968 and 1991, the number of FTEs for all U.S. health care occupations grew from 3.98 million to 9.79 million (146 percent), as shown in figure 3-4. However, the number of administrative personnel grew much more than the average: managers and related personnel from 128,000 to 907,000 (608 percent); administrative support personnel except financial from 520,000 to 1.42 million ( 183 percent); administrative support, financial from 70,000 to 269,000 (285 percent); social service from 32,000 to 293,000(818 percent); therapists from 33,000 to 239,000 (606 percent); and technologists and technicians from 230,000 to 802,000 (249 percent). The number of FTE clinical personnel (physicians and nurses) grew slightly less than the average increase, while there was little change in food service, laundry, cleaning, and maintenance personnel.

The change over time is also striking when comparing the composition of the health care workforce in 1968 and 1991 (figure 3-5). Man-

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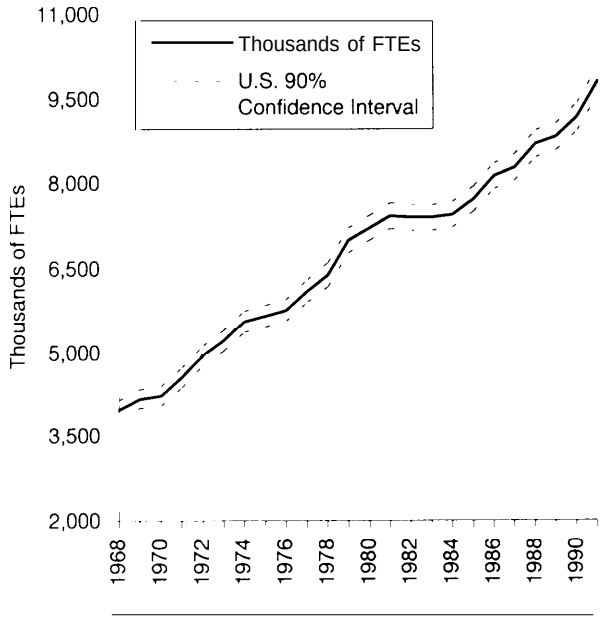
28 Appendix C gives a complete, detailed description of the methods used by Himmelstein and colleagues.

29 For years 1968-71, the Current Population Survey (U.S. Census Bureau) only allows classification into two health care workplaces: hospitals and "other."

30 Himmelstein and colleagues also adjusted for the possible lack of comparability in certain job categories between the two countries and tested the sensitivities of their results to changes in the Census Bureau's job classification schemes over time in the United States.

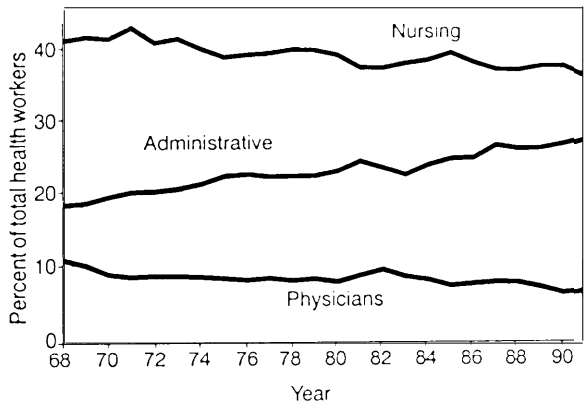
31 Because the Current population Survey is a sample survey, estimates made for the entire U.S. population using CPS data carry potential sampling error. These standard errors are taken into account in the 90 percent confidence intervals presented for the U.S. estimates in figure 3-4, and figures 3-6 through 3-11. Because the Canadian census is a 20-percent sample, the random standard errors of estimates from its data are negligible (5 I ).

FIGURE 3-4: Total U.S. Health Employment, 1968-1991 Full Time Equivalents (FTE)




SOURCE Office of Technology Assessment, 1994. Based on D.U. Himmelsteln, S Woolhandler, J P Lewontin, D J Pound "Health Care Labor Force U S , Canada and West Germany, " contractor paper prepared for the Office of Technology Assessment Cambridge, MA Center for National Health Program Studies, Harvard Medical School/The Cambridge Hospital Mar 19 1993

FIGURE 3-5: Physicians, Nursing, and Administrative Personnel as Percent of Total U.S. Health Workforce, 1968-1991




SOURCE D U Himmelstein, S Woolhandler, J P Lewontin D J Pound "Health Care Labor Force U S Canada and West Germany contract paper prepared for the Off Ice of Technology Assessment Cambridge MA Center for National Health Program Studies, Harvard Medical School/The Cambridge Hospital Mar 19, 1993

agement and administrative support personnel grew from 18.1 percent of all FTEs in 1968 to 27.1 percent in 1991. Nursing personnel[32] declined from 40.6 percent of FTEs in 1968 to 35.6 percent in 1991. Other declines occurred among physicians (10.8 to 7.5 percent of FTEs) and food service, cleaning, laundry, and maintenance personnel (14.9 to 8.2 percent). All other clinical personnel combined increased from 10.7 to 14.8 percent of all FE health workers.

### Comparisons With Canada

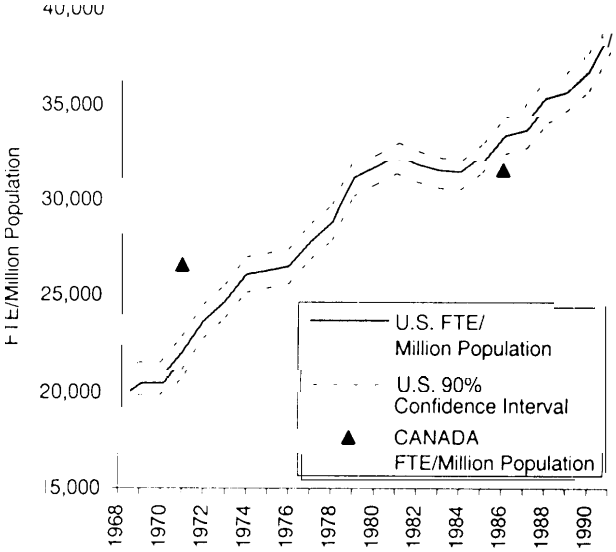
In 1971 the United States employed 22,000 personnel per million population; Canada employed 26,565 (see figure 3-6). In terms of the number of administrative personnel per capita, the two countries were almost identical (see figure 3-7). However, between 1971 and 1986 the health workforce of the two countries diverged. U.S. health FTEs per million rose 53 percent, while Canada's rose 19 percent. resulting in 7 percent more FTEs per million in the United States than in Canada (33,666 vs. 31,529) (figure 3-6).

All the U.S. excess in health personnel as compared to Canada in 1986 is attributable to the greater numbers of managers and support personnel in the United States (figure 3-7). In 1986 the United States employed 85 percent more health managers per million population than did Canada (2,634 vs. 1,425), 22 percent more nonfinancial administrative support (4.593 vs. 3,778), and 65 percent more financial administrative support (999 vs. 604).

Excluding administrative personnel, the two countries employed roughly the same number of FTEs per million in 1986 (25,440 in the United

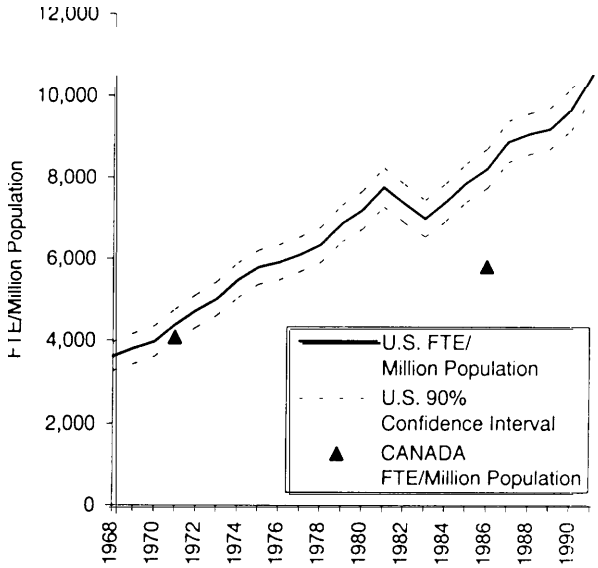
[32] Nursing personnel include registered nurses (RNs), licensed practical nurses (LPNs), and nursing /health care aides.

FIGURE 3-6: Total Health Employment Per Million Population, U.S. vs. Canada, 1968-1991




SOURCE Officeof Technology Assessment, 1994 Based on Himmelstein, D U Woolhandler, S Lewontin, J P, Pound, D J , "Health Care Labor Force U S , Canada, and West Germany" contract paper prepared for the Off Ice of Technology Assessment Cambridge, MA Center for National Health Program Studies Harvard Medical School/The Cambridge Hospital Mar 19, 1993

FIGURE 3-7: Managers and Administrative Support Personnel, U.S. vs. Canada, 1968-1991




SOURCE Office of Technology Assessment, 1994 Based on D U Hirnmelstein, S Woolhandler, J.P. Lewontin, D J Pound, "Health Care Labor Force U S , Canada, and West Germany," contract paper prepared for the Office of Technology Assessment Cambridge, MA Center for National Health Program Studies, Harvard Medical School/The Carnridge Hospital Mar 19, 1993

States vs. 25,722 in Canada). The United States had fewer registered nurses (5,419 vs. 6,948), more licensed practical nurses (1,333 vs. 1,002), and more technologists and technicians (2,423 vs. 1,988) (see figures 3-8 and 3-9).[33]

The divergence in the number of FTE technicians and technologists is particularly interesting. While this group grew 37 percent in Canada between 1971 and 1986, the comparable increase in the United States was 80 percent.

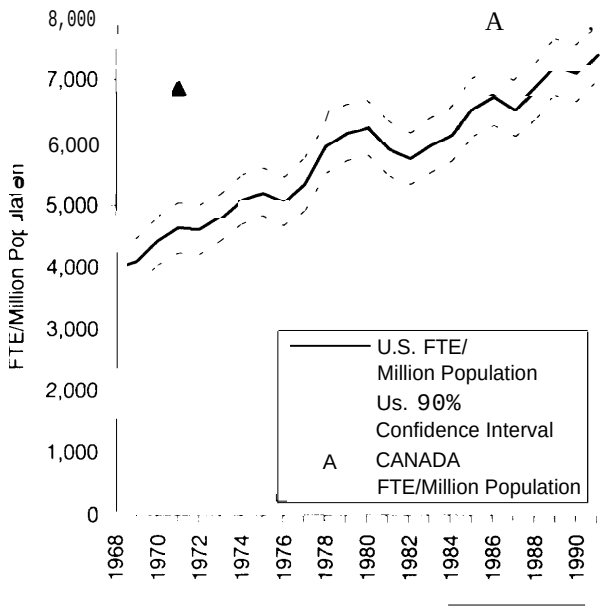
In 1986 Canada employed 18 percent fewer FTE technicians and technologists than did the United States. This finding supports other observations that Canada uses less technology in medical care than does the United States (33). Alternatively, this finding could bean indication that Canada regionalizes its technology to a greater extent than the United States—that is, it offers expensive, high-technology services in a limited number of regional centers that specialize in the service or procedure rather than diffusing them broadly throughout the country (52).

### Comparisons of the Labor Force in Practitioners' Offices

Himmelstein and colleagues also examined the composition of the labor force specifically employed in practitioners' offices. Practitioners'

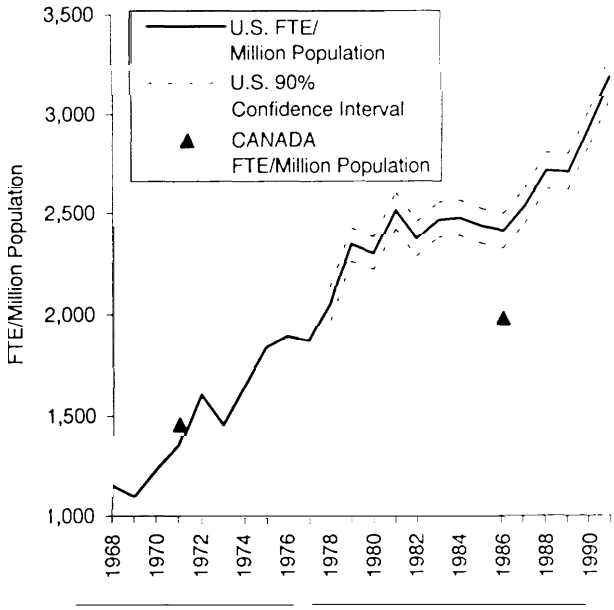
[33] While the United States had more workers per million classified as "aides or other health service personnel," it had fewer in the category "not elsewhere classified" (n.e.c. ), probably reflecting a difference in occupational coding procedures in the two nations. Classifications such as "aides" and "orderlies" appear to be more narrowly defined in Canada than in the United States. In addition, a single Canadian occupational code comprises therapists and nursing aides n.e.c. and was assigned to the "therapists" group for the purposes of this analysis (21).

## FIGURE 3-8: Registered Nurses and Licensed Practical Nurses, U.S. vs. Canada, 1968-1991




SOURCE Off Ice of Technology Assessment, 1994 Based on D U Himmelstein, S Woolhandler, J. P. Lewontin, D J Pound, "Health Care Labor Force U S , Canada, and West Germany, " contract paper prepared for the Office of Technology Assessment Cambridge, MA Center for National Health Program Studies, Harvard Medical School/The Cambridge Hospital Mar 19, 1993

## FIGURE 3-9: Health Technologists and Technicians, U.S. vs. Canada, 1968-1991



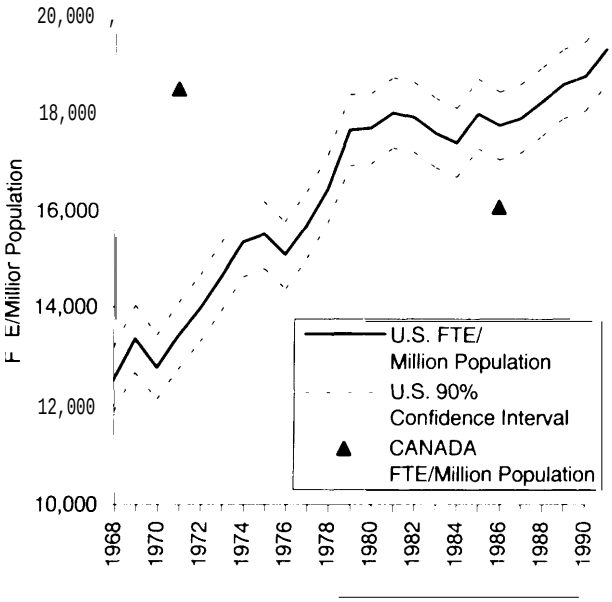

[a]Confidence Intervals are not calculated before 1978 because the Census Bureau, which gathers CPS, does not consider the CPS estimates of less than a certain magnitude to be precise enough to warrant calculation of standard errors

SOURCE Office of Technology Assessment, 1994 Based on D U Himmelstein, S Woolhandler, J P Lewontin D J Pound, ' Health Care Labor Force U S , Canada, and West Germany, ' contract paper for the Off Ice of Technology Assessment Cambridge, MA Center for National Health Program Studies, Harvard Medical School/The Cambridge Hospital Mar 19, 1993

*Over the* past 20 years the number *of technicians required to operate high technology diagnostic equipment like the CT scanner pictured above have increased much more in the United States than in Canada*

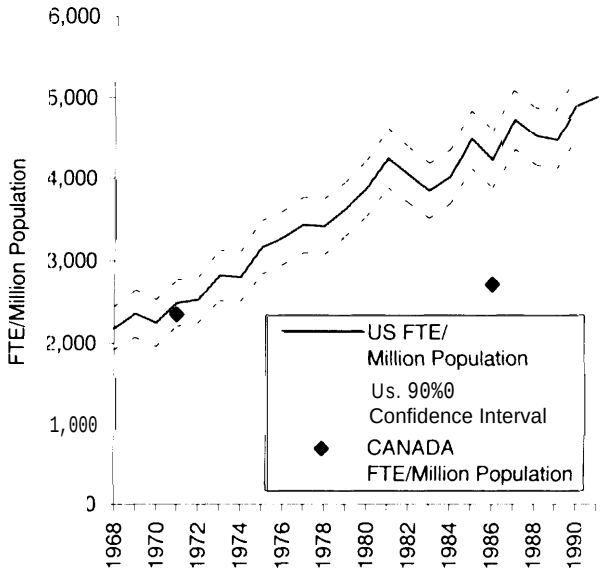
offices in the United States employed about twice as many FTEs per million population as did those in Canada in both 1971 (4,325 vs. 2,219) and 1986 (6,716 vs. 2,718). However, the value of such comparisons is not clear as some employees of dentists' offices in Canada are classified under "health services, n.e.c.," but as working in practitioners' offices in the United States. Disaggregating the 1986 data as reported, striking differences appear in the composition of office staffs between Canada and the United States. In particular, the United States has more managers (646 vs. 29), nonfinancial administrativc support workers (1148 **vs. 816),** financial administrative support workers **(282 vs. 89).** social service personnel (138 vs. 4), other diagnosing professions (954 vs. 32), technicians (506 vs. 51 ), and aides (963 vs. 5).

FIGURE 3-10: Total Hospital Employment, U.S. vs. Canada, 1968-1991




SOURCE Officeof Technology Assessment, 1994 Based on D U Himmelsteln, S Woolhandler, J P Lewontin, D J Pound, "Health Care Latin Force U S , Canada, and West Germany, ' contract paper prepared for the Off Ice of Technology Assessment Cambridge, MA Center for Natlonal Health Program Studies, Harvard Medical School/The Cambridge Hospital Mar 19, 1993

FIGURE 3-11: Hospital Managers and Administrative Support Personnel, U.S. vs. Canada, 1968-1991




SOURCE Officeof Technology Assessment, 1994 Based on D U Himmelstein, S Woolhandler, J P Lewontin, D J Pound, "Health Care Labo' Force U S Canada, and West Germany, " contract paper prepared for the Office of Technology Assessment Cambridge, MA Center for Na - tlonal Health Program Studies, Harvard Medical School/The Cam bridge Hospital March 19, 1993

### Comparisons of the Hospital Labor Force

The U.S. hospital labor force went from smaller per capita than Canada's in 1971 (13,405 vs. 18,446) to slightly larger in 1986 (17,690 vs. 16,034) (figure 3-10). While the two countries had comparable numbers of managers and administrative personnel in hospitals in 1971, by 1986 the United States had substantially more of all three categories of administrative workers (managers: 1,191 vs. 607; administrative support personnel: 3,035 vs. 2,108) (figure 3-11 ). In 1986 U.S. hospitals also employed more social service personnel, technologists and technicians, and aides, while engaging fewer registered nurses, food service workers, and "other" personnel.

### Comparisons of the Nursing Home Labor Force

In contrast to other health care workplaces, the United States had many fewer workers per capita in nursing homes than did Canada in 1971 (2,720 vs. 4,113), a difference that widened even further by 1986 (5,236 vs. 8,850). The difference in 1986 is explained by fewer managers and administrators (506 vs. 1,1 81), nonhealth professional andl technical workers (16 vs. 1,477), social service personnel (168 vs. 953), registered nurses (408 vs. 904), therapists (47 vs. 387), food service workers (313 vs. 617), and other workers (101 vs. 1,398), Although the United States had more aides (2,609 vs. 1, 121) and cleaning personnel (566 vs. 467) per capita, this discrepancy may in part reflect differences in classifying workers; many people classified as aides in the United States probably appear as "other" in the Canadian data (21).

### *Implications of Labor Force Analyses*

What do these results say about the relative amount of health care administration in Canada and the United States? What do they tell policy-

makers about the two countries' overall health care systems and the usefulness and limitations of health care labor force analyses more generally?

The results of Himmelstein and colleagues' analysis is consistent with studies finding that the United States spends more on measurable health care administration than does Canada. In addition, their analysis shows that the growth in administrative personnel is the largest contribution to the increasing divergence in the per capita sizes of the American and Canadian health care labor forces during the 1970s and 1980s.

As a proxy for total spending on administration, labor data are limited as they provide no insights into the relative wages in Canada and the United States that could explain at least part of any difference in spending, although recent analyses indicate that the two countries have similar wages in the health care sector (7,17,49). Another limitation is that personnel data do not offer a solution to the problem of potentially unmeasured costs in a publicly financed system.

Although Himmelstein and colleagues' work demonstrates that analysis of census data and population-based surveys are particularly useful in understanding trends in the use of labor resources within given countries, there are limitations in using the data to make international comparisons. As suggested earlier, one major limitation in this analysis is the inability to identify nonmedical personnel in the United States who perform health care duties in nonhealth care settings, particularly, administrative personnel in private firms who administer their employees' health insurance benefits. Insurance companies in the United States write policies for more than just health care expenses, and it is not possible to determine from the CPS data what proportion of all these administrative personnel is devoted to health insurance. Even though it was not possible to count these workers, the United States had more administrative personnel than Canada in 1986. The effect on this U.S./Canadian comparison of including all personnel who administer insurance outside of hospitals or providers' offices is unclear, since data from neither country separately identify government workers at the national or state/provincial levels who administer insurance programs. Inclusion of insurance company administrators would only broaden the gap between the two countries.

In examining the United States and Canada, Himmelstein and colleagues appear to have chosen two countries that employ largely comparable occupational classifications. Where discrepancies exist, they occur either in relatively small occupational categories (e.g., the n.e.c. categories) or are known and taken into account by the authors in their analysis and interpretation (e.g., exclusion of dentists from the practitioners' offices categories in Canada). However, extension of this analysis to other countries can prove problematic. Himmelstein and colleagues' attempts to explore the health care workforce of the former federal Republic of Germany using census data foundered on difficulties in interpreting some German occupational categories and differences in classification conventions. Their experience suggests that while international labor force comparisons may offer important insights into structural differences in the health care systems of different countries and some of the implications of potential changes in our own country, the analysis becomes more difficult to interpret and requires greater resources as the culture and language become more foreign.