SPECIAL ARTICLE

Costs of Health Care Administration in the United States and Canada

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ABSTRACT

BACKGROUND

A decade ago, the administrative costs of health care in the United States greatly exceeded those in Canada. We investigated whether the ascendancy of computerization, managed care, and the adoption of more businesslike approaches to health care have decreased administrative costs.

METHODS

For the United States and Canada, we calculated the administrative costs of health insurers, employers' health benefit programs, hospitals, practitioners' offices, nursing homes, and home care agencies in 1999. We analyzed published data, surveys of physicians, employment data, and detailed cost reports filed by hospitals, nursing homes, and home care agencies. In calculating the administrative share of health care spending, we excluded retail pharmacy sales and a few other categories for which data on administrative costs were unavailable. We used census surveys to explore trends over time in administrative employment in health care settings. Costs are reported in U.S. dollars.

RESULTS

In 1999, health administration costs totaled at least $294.3 billion in the United States, or $1,059 per capita, as compared with $307 per capita in Canada. After exclusions, administration accounted for 31.0 percent of health care expenditures in the United States and 16.7 percent of health care expenditures in Canada. Canada's national health insurance program had overhead of 1.3 percent; the overhead among Canada's private insurers was higher than that in the United States (13.2 percent vs. 11.7 percent). Providers' administrative costs were far lower in Canada.

Between 1969 and 1999, the share of the U.S. health care labor force accounted for by administrative workers grew from 18.2 percent to 27.3 percent. In Canada, it grew from 16.0 percent in 1971 to 19.1 percent in 1996. (Both nations' figures exclude insurance-industry personnel.)

CONCLUSIONS

The gap between U.S. and Canadian spending on health care administration has grown to $752 per capita. A large sum might be saved in the United States if administrative costs could be trimmed by implementing a Canadian-style health care system.

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In 1991, we reported that people in the United States spent about $450 per capita on health care administration in 1987, whereas Canadians spent one third as much.[1] Subsequent studies reached similar conclusions, but all relied on data from 1991 or before.[2,3] In the interim, organizational and technological changes have revolutionized health care administration. The ascendancy of managed care and competition has forced providers to adopt more businesslike approaches. Mergers between hospitals and between health maintenance organizations (HMOs) have centralized "back office" tasks. E-mail has displaced regular mail, and the Internet allows insurers to offer on-line verification of applicants' eligibility, utilization review, and payment approval.[4] By 1999, nearly two thirds of U.S. health insurance claims were filed electronically, including 84 percent of Medicare claims.[5]

Canada's national health insurance system has also been subject to technological change and turmoil — strident debate over cost controls, the availability of medical technology, hospital closures, and the appropriate role of investor-owned providers. But its organizational structure has changed little. We evaluated whether the adoption of a more businesslike attitude, the proliferation of HMOs, and the automation of billing and clerical tasks have trimmed administrative costs in the United States and whether Canada's administrative parsimony has persisted in the years since our earlier study.

METHODS

To estimate administrative costs, we sought data on insurance overhead, employers' costs to manage benefits, and the administrative costs of hospitals, practitioners' offices, nursing homes, and home care. Our estimates use 1999 figures, the most recent comprehensive data. We used gross-domestic-product purchasing-power parities[6] to convert Canadian dollars to U.S. dollars, and we used SAS software for data analyses.[7]

INSURANCE OVERHEAD

We obtained figures for insurance overhead and the administration of government programs from the Centers for Medicare and Medicaid Services[8] and the Canadian Institute for Health Information.[9]

EMPLOYERS' COSTS TO MANAGE HEALTH CARE BENEFITS

For the United States, we used a published estimate of employers' spending for health care benefits consultants and internal administration related to health care benefits in 1996.[10,11] We used this figure to estimate 1999 costs on the basis of the growth in health care spending among employers in the private sector.[12] No comparable figures are available for Canada. We assumed that employers' internal administrative costs plus the costs of consultants (as a share of employers' health care spending[13]) are the same in Canada as in the United States.

HOSPITAL ADMINISTRATION

For the United States, we calculated the administrative share of hospital costs by analyzing data from fiscal year 1999 cost reports that 5220 hospitals had submitted to Medicare by September 30, 2001, using previously described methods.[14,15] For Canada, we and colleagues at the Canadian Institute for Health Information analyzed cost data for fiscal year 1999 (April 1, 1999, through March 31, 2000) for all Canadian hospitals except those in Quebec (which use a separate cost-reporting system), using methods similar to the ones we used to calculate costs in the United States. When questions arose about the comparability of expense categories, we obtained detailed descriptions of the Canadian categories from Canadian officials and consulted U.S. Medicare auditors to ascertain where such costs would be entered on Medicare cost reports. For both countries, we multiplied the percentage spent on administrative costs by total hospital spending.[8,9]

ADMINISTRATIVE COSTS OF PRACTITIONERS

We calculated the administrative costs of U.S. physicians by adding the value of the physicians' own time devoted to administration to estimates of the share of several categories of office expenses that are attributable to administrative work. We determined the proportion of physicians' work hours devoted to billing and administration from a national survey[16] and multiplied this proportion by physicians' net income before taxes.[8,17] We calculated the costs of administrative work by nurses and other clinical employees in doctors' offices by assuming that they spent the same proportion of their time on administration as did physicians. We calculated the value of this time on the basis of total physicians' revenues[8] and survey data on doctors' payroll costs from the American Medical Association.[17] We attributed all of physicians' expenses for clerical staff to administration.[17] Although administrative and clerical workers accounted for 43.8 percent of the work force in physicians' offices (unpublished data), we attributed only one third of office rent and

other expenses (excluding medical machinery and supplies)[17] to administration and billing. Accounting, legal fees (excluding the cost of malpractice insurance), the costs of outside billing services, and other such costs are subsumed in "other professional expenses,"[17] half of which we attributed to administration.

To estimate the administrative expenses of dentists (and other nonphysician practitioners), we analyzed data on administrative and clerical employment in practitioners' offices from the March 2000 Current Population Survey using previously described methods.[18] Administrative and clerical employees' share of office wages was 43 percent lower in the case of dentists' offices and 14 percent lower in the case of other nonphysician practitioners' offices than those of physicians' offices. We assumed that the administrative share of the income of dentists and other nonphysician practitioners mirrored these differences.

To calculate administrative costs in Canada, we obtained figures from a Canadian Medical Association survey on the proportion of physicians' time devoted to administration and practice management[19] and multiplied this proportion by physicians' net income before taxes.[9,20] To calculate the cost of nonphysician staff time, we used figures from Canadian Medical Association surveys of physicians' expenditures for office staff,[20,21] which did not distinguish between clinical and administrative staff. We analyzed special 1996 Canadian Census tabulations to determine administrative and clinical workers' shares of total wages in doctors' offices.[18] We attributed all of the administrative workers' share to administration and assumed that nonphysician clinical personnel spend the same proportion of their time on administration as did physicians.

To calculate the costs of office rent and similar expenses, we attributed one third of physicians' office rent, lease, mortgage, and equipment costs[20,21] to administration and billing. We attributed half of other professional expenses[20,21] to administration. To calculate the administrative expenses of nonphysician office-based practitioners in Canada, we used the same procedure that we used for the U.S. data and based the analysis on 1996 Canadian Census data.

NURSING HOME ADMINISTRATION

No published nationwide data on the administrative costs of U.S. nursing homes are available for 1999, and only Medicare-certified facilities (which are not representative of all nursing homes) file Medicare cost reports. However, California collects cost data from all licensed homes. Therefore, we analyzed 1999 data on 1241 California nursing homes,[22] grouping expenditures into three broad categories: administrative, clinical, and mixed administrative and clinical. We used methods similar to those employed in our hospital analysis[14,15] to allocate expenses from the "mixed" category to the clinical and administrative categories. To generate a national estimate, we multiplied the administrative share of expenditures by total nursing home spending.[8]

For Canada, we and colleagues at the Canadian Institute for Health Information analyzed data for fiscal year 1998 (April 1, 1998, through March 31, 1999) on administrative costs for homes for the aged (excluding Quebec) from Statistics Canada's Residential Care Facilities Survey, using methods similar to those we used for the U.S. data. We multiplied the share spent for administration by total nursing home expenditures in Canada.[9]

ADMINISTRATIVE COSTS OF HOME CARE AGENCIES

We analyzed data from fiscal year 1999 cost reports that 6633 home health care agencies submitted to Medicare. We excluded agencies reporting implausible administrative costs that were below 0 percent or above 100 percent and then calculated the proportion of expenses classified as "administrative and general."

For Canada, we obtained data on administrative costs in Ontario; the categories used appeared similar to those used in the U.S. data.[23] We totaled the administrative costs of Community Care Access Centres,[24] which contract with home care providers; home care providers (White G, Ontario Association of Community Care Access Centres: personal communication); and provincial government oversight of home care. We multiplied the proportion spent for administration by total home care spending throughout Canada.[25]

TOTAL COSTS OF HEALTH CARE ADMINISTRATION

To calculate total spending on health care administration, we totaled the administrative costs of all the categories detailed above. In analyzing the administrative share of health care spending, we excluded from both the numerator and the denominator expenditure categories for which data on administrative costs were unavailable: retail pharmacy sales,

medical equipment and supplies, public health, construction, research, and "other," a heterogeneous category that includes ambulances and in-plant services. These excluded categories accounted for $261.2 billion, 21.6 percent of U.S. health care expenditures, and $21.0 billion, 27.6 percent of Canadian health care expenditures.

TRENDS SINCE 1969

The analysis for 1999 relied on several sources of data that were not available for earlier years. To assess trends over time, using previously described methods,[18] we analyzed U.S. Census data on employment in health care settings from the March Current Population Survey for every fifth year since 1969 and the Canadian Census for 1971, 1986, and 1996.

RESULTS

INSURANCE OVERHEAD

In 1999 U.S. private insurers retained $46.9 billion of the $401.2 billion they collected in premiums. Their average overhead (11.7 percent) exceeded that of Medicare (3.6 percent) and Medicaid (6.8 percent). Overall, public and private insurance overhead totaled $72.0 billion — 5.9 percent of the total health care expenditures in the United States, or $259 per capita (Table 1).

The overhead costs of Canada's provincial insurance plans totaled $311 million (1.3 percent) of the $23.5 billion they spent for physicians and hospital services. An additional $17 million was spent to administer federal government health plans. The overhead of Canadian private insurers averaged 13.2 percent of the $8.4 billion spent for private coverage. Overall, insurance overhead accounted for 1.9 percent of Canadian health care spending, or $47 per capita (Table 1).

EMPLOYERS' COSTS TO MANAGE HEALTH BENEFITS

U.S. employers spent $12.2 billion on internal administrative costs related to health care benefits and $3.7 billion on health care benefits consultants — a total of $15.9 billion, or $57 per capita (Table 1). Canadian employers spent $3.6 billion for private health insurance and $252 million to manage health benefits, or $8 per capita.

HOSPITAL ADMINISTRATION

The average U.S. hospital devoted 24.3 percent of spending to administration. Hospital administration consumed $87.6 billion, or $315 per capita (Table 1). In Canada, hospital administration cost $3.1 billion — 12.9 percent of hospital spending, or $103 per capita.

NURSING HOME ADMINISTRATION

California nursing homes devoted 19.2 percent of revenues to administration in 1999. Nationwide, U.S. nursing homes spent $17.3 billion on administration, or $62 per capita (Table 1). Administration accounted for 12.2 percent ($882 million) of Canadian nursing home expenditures, or $29 per capita.

ADMINISTRATIVE COSTS OF PRACTITIONERS

In the United States, administrative tasks consumed 13.5 percent of physicians' time, valued at $15.5 billion. Physicians spent 8.3 percent of their gross income on clinical employees; the administrative portion (13.5 percent) of compensation of these employees was $3.0 billion. Physicians' costs for clerical staff averaged 12.3 percent of physicians' gross income, or $33.1 billion. The one third of physicians' office rent and expenses attributable to administration represented 4.6 percent of physicians' gross income, or $12.4 billion. Finally, the half of "other professional expenses" (a category that includes accounting and legal fees) attributable to administration accounted for 3.2 percent of physicians' income, or $8.6 billion. In total, physicians' administrative work and costs amounted to $72.6 billion — $261 per capita, or 26.9 percent of physicians' gross income.

The administrative costs of dentists and of other nonphysician practitioners totaled $8.6 billion and $8.8 billion, respectively. Overall, U.S. practitioners'

Table 1. Costs of Health Care Administration in the United States and Canada, 1999.

Cost Category	Spending per Capita (U.S. $)	
	United States	Canada
Insurance overhead	259	47
Employers' costs to manage health benefits	57	8
Hospital administration	315	103
Nursing home administration	62	29
Administrative costs of practitioners	324	107
Home care administration	42	13
Total	1,059	307

administrative costs amounted to $89.9 billion, or $324 per capita (Table 1).

Canadian physicians devoted 8.4 percent of their professional time to practice management and administration, valued at $592 million. They spent 6.1 percent of their gross income on clinical office staff. The administrative portion (8.4 percent) of compensation of these employees amounted to $53 million. Physicians' costs for clerical staff averaged 6.9 percent of their gross income, or $716 million. The one third of physicians' office rent and expenses attributable to administration totaled $193 million. Finally, the 50 percent of "other professional expenses" attributable to administration cost $116 million. In total, physicians' administrative work and costs amounted to $1.7 billion — $55 per capita, or 16.1 percent of their gross income.

The administrative and billing costs of Canadian dentists and of other nonphysician practitioners totaled $928 million and $660 million, respectively. Overall, the administrative expenses of Canadian practitioners totaled $3.3 billion, or $107 per capita (Table 1).

ADMINISTRATIVE COSTS OF HOME CARE AGENCIES

U.S. home care agencies devoted 35.0 percent of total expenditures to administration — $11.6 billion, or $42 per capita (Table 1). Administration accounted for 15.8 percent of Ontario's home care expenditures. Throughout Canada, home care administration expenses totaled $408 million, or $13 per capita.

TOTAL COSTS OF HEALTH CARE ADMINISTRATION

In the United States, health care administration cost $294.3 billion, or $1,059 per capita (Table 1). In Canada, health care administration cost $9.4 billion, or $307 per capita. If the difference of $752 per capita were applied to the 1999 U.S. population, the total excess administrative cost would be $209 billion. After exclusions, administration accounted for 31.0 percent of health care expenditures in the United States, as compared with 16.7 percent of health care expenditures in Canada.

TRENDS IN ADMINISTRATIVE EMPLOYMENT IN HEALTH CARE

In the United States, 27.3 percent of the 11.77 million people employed in health care settings in 1999 worked in administrative and clerical occupations (Table 2). This figure excludes 926,000 employees in life or health insurance firms, 724,000 in insurance brokerages, and employees of consulting firms.[26] In 1969, administrative and clerical workers represented 18.2 percent of the health care labor force (Table 2). In Canada, administrative and clerical occupations accounted for 19.1 percent of the health care labor force in 1996, 18.7 percent in 1986, and 16.0 percent in 1971. (These figures exclude insurance personnel). Although the United States employed 12 percent more health personnel per capita than Canada, administrative personnel accounted for three quarters of the difference.

Table 2. Administrative and Clerical Personnel as a Percentage of the Health Care Labor Force in the United States, 1969 through 1999.*

Year	Percentage of Health Care Labor Force
1969	18.2
1974	21.2
1979	21.9
1984	23.9
1989	25.5
1994	25.7
1999	27.3

* Calculations exclude insurance-industry personnel.

DISCUSSION

Administrators are indispensable to modern health care; their tasks include ensuring that supplies are on hand, that records are filed, and that nurses are paid. Many view intensive, sophisticated management as an attractive solution to cost and quality problems[27-29]; that utilization review, clinical-information systems, and quality-improvement programs should upgrade care seems obvious. However, some regard much of administration as superfluous, born of the quirks of the payment system rather than of clinical needs.

How much administration is optimal? Does the high administrative spending in the United States relative to that in Canada (or to that in the United States 30 years ago) improve care? No studies have directly addressed these questions. Although indirect evidence is sparse, analyses of investor-owned HMOs and hospitals — subgroups of providers

with relatively high administrative costs — have found that for-profit facilities have neither higher-quality care nor lower costs than not-for-profit facilities.[15,30-38] Internationally, administrative expenditures show little relation to overall growth in costs or to life expectancy or other health indicators.[39]

Several factors augment U.S. administrative costs. Private insurers, which have high overhead in most nations — 15.8 percent in Australia, 13.2 percent in Canada, 20.4 percent in Germany, and 10.4 percent in the Netherlands[40] — have a larger role in the United States than in Canada. Functions essential to private insurance but absent in public programs, such as underwriting and marketing, account for about two thirds of private insurers' overhead.[40]

A system with multiple insurers is also intrinsically costlier than a single-payer system. For insurers it means multiple duplicative claims-processing facilities and smaller insured groups, both of which increase overhead.[41,42] Fragmentation also raises costs for providers who must deal with multiple insurance products — at least 755 in Seattle alone[43] — forcing them to determine applicants' eligibility and to keep track of the various copayments, referral networks, and approval requirements. Canadian physicians send virtually all bills to a single insurer. A multiplicity of insurers also precludes paying hospitals a lump-sum, global budget. Under a global-budget system, hospitals and government authorities negotiate an annual budget based on past budgets, clinical performance, and projected changes in services and input costs. Hospitals receive periodic lump-sum payments (e.g., 1/12 of the annual amount each month).

The existence of global budgets in Canada has eliminated most billing and minimized internal cost accounting, since charges do not need to be attributed to individual patients and insurers. Yet fragmentation itself cannot explain the upswing in administrative costs in the United States since 1969, when costs resembled those in Canada. This growth coincided with the expansion of managed care and market-based competition, which fostered the adoption of complex accounting and auditing practices long standard in the business world.

Several caveats apply to our estimates. U.S. and Canadian hospitals, nursing homes, and home care agencies use different accounting categories, though we took pains to ensure that they were comparable. The U.S. hospital figure is consistent with findings from detailed studies of individual hospitals.[44-47] The California data we used to estimate the administrative costs of U.S. nursing homes resulted in a lower figure (19.2 percent of revenues) than a published national estimate for 1998 (25.2 percent).[48]

Our figures for physicians' administrative costs relied on self-reports of time and money spent. We had to estimate the time spent by other clinical personnel on administrative work and the share of office rent and expenses attributable to administration (together, these estimated categories account for 5 percent of total administrative costs in the United States). Physicians' reports and our estimates appear congruent with information from a time–motion study[45] and Census data on clerical and administrative personnel employed in practitioners' offices. Our estimates of employers' costs to administer health care benefits rely on a consultant's survey of

Table 3. Number of Enrollees and Employees of Selected Major U.S. Private Health Insurers and Canadian Provincial Health Plans, 2001.*

Plan Name	No. of Enrollees†	No. of Employees	No. of Employees/ 10,000 Enrollees
U.S. plans			
Aetna	17,170,000	35,700	20.8
Anthem	7,883,000	14,800	18.8
Cigna	14,300,000	44,600	31.2
Humana	6,435,800	14,500	22.5
Mid Atlantic Medical Services	1,832,400	2,571	14.0
Oxford	1,490,600	3,400	22.8
Pacificare	3,388,100	8,200	24.2
United Healthcare	8,540,000	30,000	35.1
WellPoint	10,146,945	13,900	13.7
Canadian plans			
Saskatchewan Health	1,021,288	145	1.4
Ontario Health Insurance Plan	11,742,672	1,433‡	1.2

* Data are from the Annual Reports filed with the Securities and Exchange Commission,[49] the Government of Saskatchewan,[50] and the Government of Ontario.[51]

† Numbers include administrative-services-only contracts as well as Medicare, Medicaid, and commercial enrollees; numbers exclude recipients of pharmacy-benefit management, life, dental, other specialty, and nonhealth insurance products.

‡ The estimate is based on wage and salary expenses and on the assumption that the average annual wage is $38,250.

a limited number of U.S. firms. Though subject to error, this category accounts for only 5 percent of administrative costs in the United States.

Cross-national comparisons are complicated by differences in the range of services offered in hospitals and outpatient settings. For instance, many U.S. hospitals operate skilled-nursing facilities, whose costs are lumped with hospital costs in the national health accounts. Similarly, the costs of free-standing surgical centers, more common in the United States than in Canada, are lumped with practitioner costs. Although these differences shift administrative costs among categories (e.g., from nursing homes to hospitals), their effects on national totals should be small.

Price differences also affect international comparisons, a problem only partially addressed by our use of purchasing-power parities to convert Canadian dollars to U.S. dollars. (Using exchange rates instead would increase the difference between the United States and Canada by 27 percent.) Canadian wages are slightly lower than those in the United States, distorting some comparisons (e.g., per capita spending), but not others (e.g., the administrative share of health care spending or personnel).

Our dollar estimates understate overhead costs in both nations. They exclude the marketing costs of pharmaceutical firms, the value of patients' time spent on paperwork, and most of the costs of advertising by providers, health care industry profits, and lobbying and political contributions. Our analysis also omits the costs of collecting taxes to fund health care and the administrative overhead of such businesses as retail pharmacies and ambulance companies. Finally, we priced practitioners' administrative time using their net, rather than gross, hourly income, conservatively assuming that when physicians substitute clinical for administrative time, their overhead costs rise proportionally; using gross hourly income would boost our estimate of total administrative costs in the United States to $320.1 billion.

The employment figures used for our time-trend analysis exclude administrative employees in consulting firms, drug companies, and retail pharmacies, as well as insurance workers, who are far more numerous in the United States than in Canada[49-51] (Table 3).

Despite these imprecisions, the difference in the costs of health care administration between the United States and Canada is clearly large and growing. Is $294.3 billion annually for U.S. health care administration money well spent?

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