Shopping Around for Hospital Services
A Comparison of the United States and Canada

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Context.—Historical comparisons indicate that US hospitals are more expensive than Canadian hospitals, but health care system reform might have changed the relative costs and timeliness of health care in the 2 countries.

Objective.—To estimate the price and convenience of selected hospital services in the United States and Canada for patients who paid out-of-pocket.


Participants.—The 2 largest acute care general hospitals from every city in the United States and Canada with a population greater than 500,000.

Measures.—Each hospital was telephoned and asked their price and waiting time for 7 services: magnetic resonance imaging of the head without gadolinium; a screening mammogram; a 12-lead electrocardiogram; a prothrombin time measurement; a session of hemodialysis; a screening colonoscopy; and a total knee replacement. Waiting times were measured in days until earliest appointment and charges were converted to American currency.

Results.—Overall, 48 US and 18 Canadian hospitals were surveyed. Median waiting times were significantly shorter in American hospitals for 4 services, particularly a magnetic resonance imaging of the head (3 days vs 150 days; P<.001). Median charges were significantly higher in American hospitals for 6 services, particularly for a total knee replacement ($26,805 vs $10,651; P<.001). Individual services showed no association between shorter waiting times and higher prices within each country, with the exception of a total knee replacement in the United States.

Conclusion.—US hospitals still provide higher prices and faster care than Canadian hospitals for patients who pay out-of-pocket.

CANADA SERVES as a taunting reminder that a health care system can be much less expensive than that of the United States. Data on aggregate expenditures suggest a one-third higher cost per person in the United States than in Canada, equivalent to spending about $300 billion more each year. Moreover, life expectancy at birth and at age 60 years are both lower in the United States than in Canada. Some specific diseases are better managed in the United States whereas others are better managed in Canada. Regardless of clinical outcomes, aggregate projections of health care costs are less favorable for the United States than for Canada.

The American health care system has changed substantially in recent years, thereby calling into question historical comparisons. In the United States, widespread adoption of managed care has partially stabilized health care costs. By contrast, Canadian governmental deficit reduction strategies have been less intense. Perhaps the differences between the 2 countries are disappearing. In this article, we provide an updated analysis on the price and convenience of selected hospital services in both countries. We take the perspective of an individual consumer who is seeking medical care in the late 1990s and willing to pay out-of-pocket.

METHODS

We identified cities in the United States and Canada in 1997 with a population of at least 500,000. In each city, we selected the 2 largest acute care general hospitals. For the United States, we excluded facilities that were classified as governmental or specialty service hospitals. For Canada, we excluded facilities that were long-term care or specialty care hospitals. Of note, Canadian hospitals tend to be owned by private nonprofit corporations that are dependent on public funds and approvals for their mandate.

See also p 1030.

We selected services satisfying the following criteria. First, the service could be plausibly sought on an elective basis. Second, the service was available in most hospitals. Third, the service was reasonably standardized so that different hospitals could be compared fairly. The final list included the following 7 diagnostic and therapeutic services: magnetic resonance imaging (MRI) of the head without gadolinium, a screening mammogram, a 12-lead electrocardiogram, a prothrombin time measurement, a session of hemodialysis, a screening colonoscopy, and a total knee replacement.

From May 1996 to April 1997, we surveyed each hospital by telephone and asked for the waiting time and total price for a patient willing to pay out-of-pocket for the designated service. If a particular hospital did not offer the designated...
service, an alternate local provider as specified by the index hospital was sought and subsequently contacted. To avoid inadvertently cueing individual respondents, each hospital was contacted about only 1 service at any 1 call with sufficient time between contacts to avoid carryover effects. Additionally, data were obtained directly from individuals in the responsible department whenever possible.

We constructed scenarios to justify our request. For example, data for hemodialysis were elicited by stating, "I'm planning a business meeting in your city and need to schedule a hemodialysis session. I will arrange the meeting around the earliest open spot. I need a 4-hour treatment with an F-80 filter and no erythropoietin. What is the total price and waiting time at your hospital?" Hospitals were informed that amounts would be paid by credit card and should include all taxes, technical charges, and professional fees. When asked, we commented that other hospitals were also being contacted. Prices were converted to American currency using a standard exchange (US $1 = Can $1.35).

RESULTS

The study included 48 American and 18 Canadian hospitals in cities accounting for about 30.6 million Americans and 12.6 million Canadians. The hospitals had a similar median size (709 beds vs 799 beds; \( P > 0.20 \)) and proportion with teaching status (74% vs 94%; \( P > 0.20 \))

Respondents varied in the precision of their schedule but none failed to state an expected waiting time. Overall, median waiting times were longer and sometimes much shorter in American than in Canadian hospitals (Table). The largest difference was for a MRI of the head. The difference between American and Canadian hospitals for a total knee replacement might have been larger had it not been for the 3-week wait following autologous blood donation, which was more common in the United States. The smallest difference in median waiting times was for a 12-lead electrocardiogram and a single prothrombin time blood test.

Some hospitals reduced their prices when reminded that the patient would pay by credit card, and we used these smaller prices for analysis. The median price for every service was significantly different between hospitals in the 2 countries (Table). Only 1 service, a single session of hemodialysis, had a lower median price in the United States. The largest absolute difference in median price was for a total knee replacement and the largest relative difference in median price was for a 12-lead electrocardiogram.

In neither country did hospitals negotiate by bargain about waiting times or charges. The strongest association between higher charges and shorter waiting times for American hospitals was found with a total knee replacement \((r=0.44; P < 0.001)\).

COMMENT

We identified 7 well-defined services and surveyed the waiting times and prices at the 2 largest hospitals in every large city in North America for patients paying out-of-pocket. We found much longer waiting times for some services in Canada and much higher prices for some services in the United States. Overall, the relative differences in median prices were similar to the relative differences in median waiting times. We found no direct relationship between speed and price for any service in either country, with the exception of a total knee replacement surgery. We found no evidence that those who can pay always go to the front of the line.

Our data illustrate dramatic differences in prices for identical hospital services in the 2 countries. The most striking example was for total knee replacement surgery, which amounted to about a $15 000 higher price. We found no simple explanation why some charges were so much higher in the United States, or why the differences in charges were much greater than would be expected from aggregate differences in hospital expenditures.\textsuperscript{13} Note, however, that hemodialysis is exceptional in the United States as a national health service where the government determines the charge and 1 patient can receive thousands of treatments.\textsuperscript{31}

Most previous reports comparing waiting times in the 2 countries have been limited in scope. The best data are for knee replacement surgery, which suggest that waiting times are much shorter in the United States than in Canada (3 weeks vs 8 weeks; \( P < 0.05 \)) but still acceptable.\textsuperscript{34} Data for other services are generally not available, anecdotal, or incomplete.\textsuperscript{36–41} One theory explaining the uniformly shorter waiting times in the United States is the greater availability of facilities, personnel, and flexible service hours.\textsuperscript{42} Reduced amounts of waiting in the United States can be an economic benefit if associated with gains in societal productivity.\textsuperscript{7,43}

Our study has several limitations but a few merit special emphasis. First, we tried to identify comparable services but there may be unmeasured differences in quality. However, we doubt that these differences are sufficient to account for the magnitude observed. Second, the sample size was small, may not apply to rural hospitals, was collected during a brief time interval, and relied on self-reported disclosure. Third, the analysis examined prices for individual purchasers but only about 1 in 7 patients in the United States is uninsured (from whom about 1 in 3 dollars of charges are eventually collected).\textsuperscript{44–50} Bulk purchasers may obtain lower prices, yet generally they do not disclose their data.

Are charges irrelevant? Health economists have claimed that charges are a poor measure of true societal costs.\textsuperscript{51} Typically, charges include excess profits due to market imperfections and monopoly conditions. One approach for reconciling costs with charges is to apply a standard "cost-to-charge" ratio that removes excess profits. We argue that such ratios are imprecise and often not necessary. First, the oversupply of many resources in the United States may increase competition and curtail excess profits. Second, charges are the ideal measure of opportunity cost for those who pay. Third, detailed accounting approaches almost always appeal to market prices to assess unit costs and thereby rely on the same assumptions about charges.\textsuperscript{52}
In accord with historical comparisons, we found that American hospitals are still more expensive than Canadian hospitals. We have shown this difference for well-specified services delivered to patients with the same severity of disease, comorbidity, and socioeconomic status. American hospitals also tend to provide faster service. In addition, the data indicate that aggregate analyses do not necessarily reflect the variation experienced by individual patients. We did not explore how the shorter waiting times might improve productivity in the American economy. Likewise, we did not explore whether high prices are associated with higher profits.

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References


