Comparing the Cost of Care in Manitoba's Hospitals

MANITOBA CENTRE FOR HEALTH POLICY AND EVALUATION

JANUARY
2001

Manitobans spend over $850 million each year on quality hospital care. But they could be spending a lot less, depending on which hospitals patients are treated in. That's right. It can cost over $1000 more to treat the average patient at some Manitoba hospitals than it does at others.

This surprising finding is just one of many interesting observations in this report by MCHPE. It offers Manitobans—in particular RHA policy-makers and managers—information about spending in each of Manitoba's hospitals. Prior to this report, answering questions with any degree of certainty about how hospitals were spending was difficult, if not impossible. It's the first time this type of financial data has been presented in a format that allows for fair comparisons between all Manitoba's inpatient facilities.

A key component of these comparisons is what we call the *standardized inpatient*. A standardized inpatient is not an actual patient, but a calculation. Every illness requires a certain amount of hospital resources—meaning it should cost X number of dollars—to treat. These costs have been standardized into *Resource Intensity Weights* or RIWs. The more resources required to treat a patient, the higher the patient's RIW. An "average patient" has an RIW of 1.0. A standardized inpatient is the equivalent of an RIW of 1.0. That is, if a hospital treated 30 standardized patients, it doesn't necessarily mean it treated 30 average patients. It might mean it treated 20 patients with RIWs of 1.5, or 60 patients with RIWs of 0.5. Most likely, it treated a combination of patients whose RIWs averaged out to 30 standardized inpatients.

The cost associated with providing services to a standardized inpatient is referred to as the *average cost per weighted* case or ACPWC. If two hospitals treat the same number of standardized inpatients (outpatients are not included in ACPWC calculations), but the cost of providing care is 25% more at one hospital than the other, the ACPWC of the first hospital is 25% higher. The standardized inpatient makes it possible to fairly compare how much more or less expensive it is to treat a patient at one hospital (or type of hospital) versus another.

Information taken from hospital discharge summaries was used to adjust for the severity and complexity of illness in patients served by different facilities. In addition to calculating an ACPWC, our report provides several financial indicators—salary and benefits as a percentage of total expenses being one example (see table). A Working Group helped select which indicators were important.

The Management Information System

The Management Information System (MIS) used in this report was introduced in 1995/96. But we took it a step further (two steps really) incorporating a feedback process from finance officers in hospitals and Regional Health Authorities. These individuals were provided with summarized data and asked to review and provide comments and/or corrections. After the

changes were made, we sent back the revised comparative reports for a second round of feedback.

This interactive "cleaning" process helped adjust for differences in accounting practices. For example, one hospital might pay employee benefits from the Administrative Services account, while another pays them out of the Undistributed-Operating account. So the feedback helped explain some of the discrepancies that were seen initially.

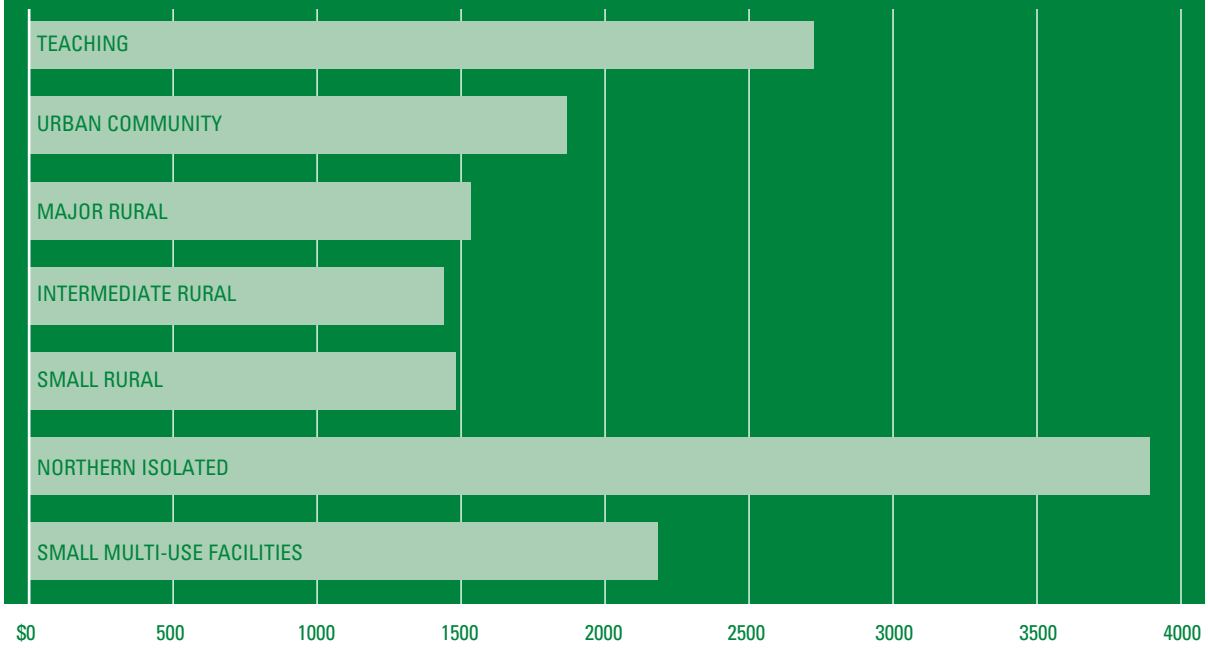
Due to differences in accounting practices, some costs had to be left out of the ACPWC calculations. For example, facilities vary in how they report capital costs. And physicians are sometimes paid by hospitals, and sometimes by Manitoba Health. So capital building costs and physician salaries are excluded. Other expenses, such as research, ambulatory, community service and teaching costs, are also excluded. In addition, some expenses—like the purchase of blood products and outside therapy services—are not reported in hospital financial systems. In short, only costs that were uniformly recorded for all facilities could be fairly included in ACPWC calculations.

So it must be emphasized that the information in this report should only be used for comparative purposes. Questions about the total cost of caring for a single patient or the cost of serving a population cannot be completely answered using these data.

Findings

- Even after adjusting for severity of illnesses and complexity of cases, care in some hospitals is more costly than in others (Fig. 1).
- The highest ACPWC was among northern isolated hospitals and teaching hospitals.
- Intermediate and small rural hospitals had the lowest ACPWC.
- The health authorities with the highest ACPWC in order were Churchill, Burntwood, Winnipeg, Brandon and Nor-Man.
- South Eastman had the lowest ACPWC, followed by Marquette, North Eastman and Interlake.
- The ACPWC for individual hospitals within each RHA varied considerably.
- By far, hospitals spent the most on Nursing Inpatient Services (Fig. 2).

1. Average Cost per Weighted Case ($) by Hospital Type, Manitoba, 1997/98



Cost differences exist between hospitals of different types, hospitals of the same type and between regional authorities. Consider, for example, the proportion of nursing expenses. Small multi-use facilities reported that these costs accounted for 55.6% of their spending, a considerably larger portion than the 39.2% reported by major rural facilities. Similarly, North Eastman RHA reported a larger share spent on these costs (50.6%) than did Nor-Man (35.4%).

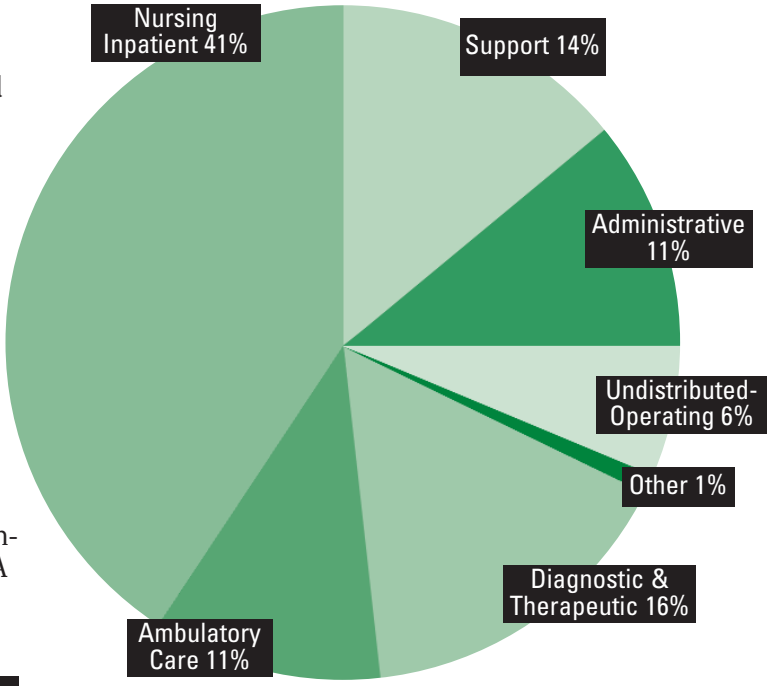
Similar differences were found in the proportion of money spent on support services (like housekeeping, laundry and linen, patient food services): small multi-use facilities spent 21.6%, much more than urban community hospitals' 13.9%; North Eastman RHA spent 22.8%, much more than Winnipeg region's 13.0%.

Table: Province-Wide Financial Ratios

	Average	Lowest	Highest
Worked salaries and wages as a % of total salaries and wages	84.2%	83.4%	85.9%
Salaries and benefits as a % of total expenses	80.2%	59.0%	95.7%
Benefit cost as a % of total expenses	11.1%	8.4%	16.3%
Ambulatory care expenses as a % of direct patient care expenses	13.7%	0.0%%	33.5%
Emergency department worked hours per emergency visit	3.3	1.9	5.2
Patient food services cost per patient day	$16.65	$8.35	$59.51

Summing it up

One of the objectives of this study was to involve RHA and hospital administrators in the process of improving the quality of the financial data available to them. By incorporating an interactive process into reviewing MIS data, we now have spending comparisons between hospitals and RHAs that are more reliable than previously possible.



2. Distribution of Expenses for Services: Manitoba Acute Care Hospitals 1997/98

This report makes no attempt to explain why the ACPWC is higher in one RHA than in another, or to explain why, say, inpatient care accounts for 29% of the spending at one hospital, but 50% at another hospital. Nor do we make cost-saving recommendations. The intent is to provide hospitals and RHAs with reliable financial information they can use to make comparisons. Where they take it from here is best left up to them.

The hope is that interaction and discussion will be stimulated. Perhaps a hospital or RHA that appears to be the most cost efficient in one or several areas can be a model for others. Perhaps the other hospitals can ask "what is that RHA or that hospital doing that we might also do?"

That being said, the greatest potential for cost savings appears to be at teaching hospitals. This is not just because they have one of the highest ACPWCs, but because these facilities treat such a large number of patients. So even minor improvements in the cost of treating their patients would have a major impact on how much Manitoba spends on hospital care.

For example, suppose northern isolated hospitals, with the highest average ACPWC ($3,900), were able to decrease this cost by $100 per standardized inpatient. Because they treat so few patients, the impact would be small; the total reduction in provincial inpatient expenditures would be about $70,000. But if teaching hospitals (ACPWC $2,700) spent $100 less per standardized inpatient, the province would save a whopping $8,680,000.

Considerable savings could also be realized even if officials, after looking at these numbers, simply decide to treat fewer patients in teaching facilities and more in the less costly community facilities. That alone should significantly reduce their costs for inpatient care.

It should also be pointed out that we have removed the direct "teaching cost" of hospitals. Otherwise the ACPWC for hospitals with teaching programs would be even higher. There are arguably a number of potential reasons why care at teaching institutions is so costly. There may be expenditures indirectly related to teaching that have not been completely excluded from MIS data. The adjustment for the severity and complexity of cases may be incomplete—despite our use of the most valid inpatient case-mix tool available in Canada. And it may be that because therapeutic services are more readily available in Winnipeg, teaching hospitals use them more.

The causes of these higher costs would require further study, best overseen by the Winnipeg Regional Health Authority. The financial ratios provided in this report simply highlight areas worth closer study.

If there is one recommendation we would like to make, it's to improve the way MIS data is collected and reported. Particularly beneficial would be clearer, uniform accounting standards combined with stricter adherence to them by all users. Our study found that the "rules" specified in the Manitoba Facility Reporting User Guide are not being followed consistently (although anecdotal information suggests that this is improving). One of the many reasons for this is that computer systems vary from one hospital to the next. Another is that the MIS system is not yet fully implemented in all hospitals.

Nor are systems in place to accurately report costs for facilities that share resources or hospitals that are also in part personal care homes—circumstances that occur in rural Manitoba. The general uncertainty around allocating funds is illustrated by the fact that the catch-all *Undistributed-Operating* account is used so often by smaller hospitals.

Which is why every effort was made to work with hospital administrators and financial officers. Their cooperation helped a great deal to identify and correct inconsistencies and to improve the quality of the data. The interactive process helped ensure reliability and validity. The only drawback is that it was also time-consuming, taking two years in this study. This may not be "timely" enough for some purposes. A follow-up study currently underway will tell us whether the benefits are significant enough to warrant the extra time it takes.

We can say that by including hospital administrators and financial officers in finalizing the data, all parties involved should have added confidence in the report's findings. And since some discrepancies were corrected through the two stages of feedback, it seems fair to say we have hospital spending comparisons more reliable than ever before.

So this report offers the clearest picture yet of how Manitoba's hospitals are performing in relation to each other financially. For RHA planners, it means areas with the best potential for cost improvement are brought into clearer focus. For Manitobans, it means a step toward getting the best value for their health care dollar.

Summary by RJ Currie, based on the report: Using the Manitoba Hospital Management Information System: Comparing Average Cost Per Weighted Case and Financial Ratios of Manitoba Hospitals (1997/98), *by Greg Finlayson, Noralou Roos, Philip Jacobs and Diane Watson*

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