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Hospital Beds in 2020: Will We Have Enough?

MANITOBA CENTRE FOR HEALTH POLICY

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based on the report
*Projecting Hospital Bed
Needs for 2020* by
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Concerns are being voiced throughout North America about the burden a growing seniors population will have on the health system. Dire predictions of escalating pressure on resources and the resulting costs are fuelled by papers such as the one released last year by the C.D. Howe Institute, entitled “Will the Baby Boomers Bust the Health Care Budget?” The issue has captured the attention of policy-makers and—thanks to coverage in the mainstream media—the general public.

The number of people over age 65 is indeed increasing. Population projections developed by the Manitoba Bureau of Statistics (MBS) suggest this province will have 15% more people over age 75 in 2020 than it did in 1998, and that seniors will make up a greater proportion of the overall population (Fig. 1).

Does this growth mean Manitoba will need more hospital beds in the future? Which Regional Health Authorities (RHAs) will have sufficient bed numbers to meet increasing demand, and which may be caught short?

We know that the need for hospital care is different for different age groups, and for males and females. Because hospital care is one of the largest expenses in health budgets, changes to the age and gender mix of people living in RHAs could have major implications for decision-makers at both the local and provincial level.

What we did

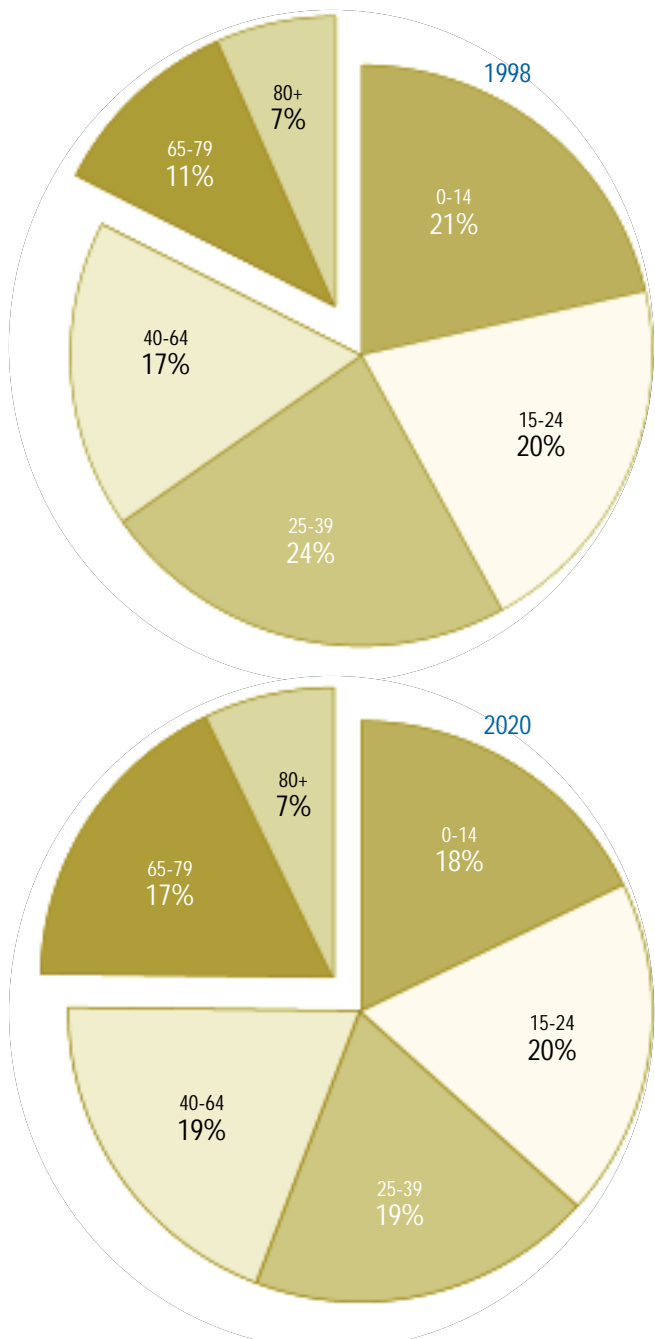
Based on population projections developed by MBS, we estimated the number of surgical and non-surgical hospital bed

days that will be needed in each RHA in Manitoba in 2020. We made our calculations using two different approaches: a *Current Use Projection* model and a *Trend Analysis* model.

With our Current Use Projection model, we estimated future hospital use by looking at current patterns. Using three years of data (1996/97 to 1998/99), we projected how many hospital bed days would be required in 2020 if people continue to use hospitals then as they did in the late 1990s. We based these calculations on projected changes in the numbers and the mix of people (by age/gender) expected to live in Manitoba in 2020.

The second approach we used, the Trend Analysis model, takes into account the fact that hospital use patterns have been changing, and that advances in medical practice, technology and policies over the past 10 years (1989/90 to 1998/99)—particularly decreasing lengths of stay and a shift to outpatient surgery—will likely continue into the future.

The population projection figures provided by MBS were broken down by age and gender, and by individual RHA. Both models estimate the number of surgical and non-surgical days that will be needed by males and by females, and by different age groups. After we calculated estimates of how many inpatient days the residents of each region would need, we then looked at where residents received their care in the recent past. This enabled us to make projections about how many bed days will be needed in each of the RHAs in 2020.



**1. Population Distribution by Age Group
1998 vs. 2020**

What we found

Our two models paint strikingly different pictures of the demand that will be felt by Manitoba hospitals in 2020 (Fig. 2). The Current Use Projection model suggests that, if people are using hospitals the same in 2020 as they did between 1996 and 1999, Manitoba will see a considerable increase in hospital use by 2020—both in non-surgical days (+25%) and in surgical days (+35%).

Our Trend Analysis model, by contrast, projects a significant decrease in the number of bed days Manitobans will require in 2020. This approach estimates that hospitals in Winnipeg and most other RHAs in the province will use 17% fewer non-surgical days than they did in 1998/99, and 30% fewer surgical days.

While the Current Use model projects increased numbers of surgical and non-surgical bed days in all but one RHA, the Trend Analysis model projects use of non-surgical bed days will increase in just two regions and demand for surgical beds will decline across the province.

What do the different projections mean?

On the face of it, the projections based on current hospital use seem plausible. We know that seniors will account for a larger share of our population in 2020, and that they use hospitals more than younger people. These estimates, however, must be viewed within the broader context of what we already know about hospital use in Manitoba and elsewhere. Even if hospital use remains the same in 2020 as it was in 1999, there are other factors that would likely relieve pressure on the health system.

For example, because hospitals in most rural RHAs currently have relatively low occupancy, the projected increase in bed days could be handled within existing resources. As well, many residents of rural RHAs receive their hospital care in Winnipeg, so increased demand would not likely affect their local facilities. Finally, recent research suggests there is considerable room for improvement in the use of Winnipeg hospital beds. An MCHP study found that a significant proportion of hospital

days were used by patients who could have had their care needs met in a lower-intensity, alternative setting.

Because our current use of hospitals does not necessarily reflect “best practice,” it is not a sound basis on which to make projections about future needs. Taking steps to manage beds more appropriately—by discharging patients to alternative services and settings after they no longer require acute care—could reduce current use and, by extension, projected demand for beds—even in Winnipeg. Before we can improve the use of acute care beds, however, the system must have the capacity to deal with the resulting increase in clients requiring care in an alternative setting—whether that’s in the community, a nursing home, or a rehabilitation facility.

Our Trend Analysis projections also seem reasonable. Given the changes in hospital use we saw over the past 10 years, we are likely to see a drop in numbers of bed days over the next 18 (Fig. 2). This decline is based in part on the premise that the sharp drop in average lengths of stay that took place over the past decade will likely continue on to 2020, as will

the increased shift to providing more procedures as outpatient (day) surgery. That assumption appears sound: many of the projected decreases in lengths of stay for rural hospitals, for example, have already been achieved in Winnipeg hospitals.

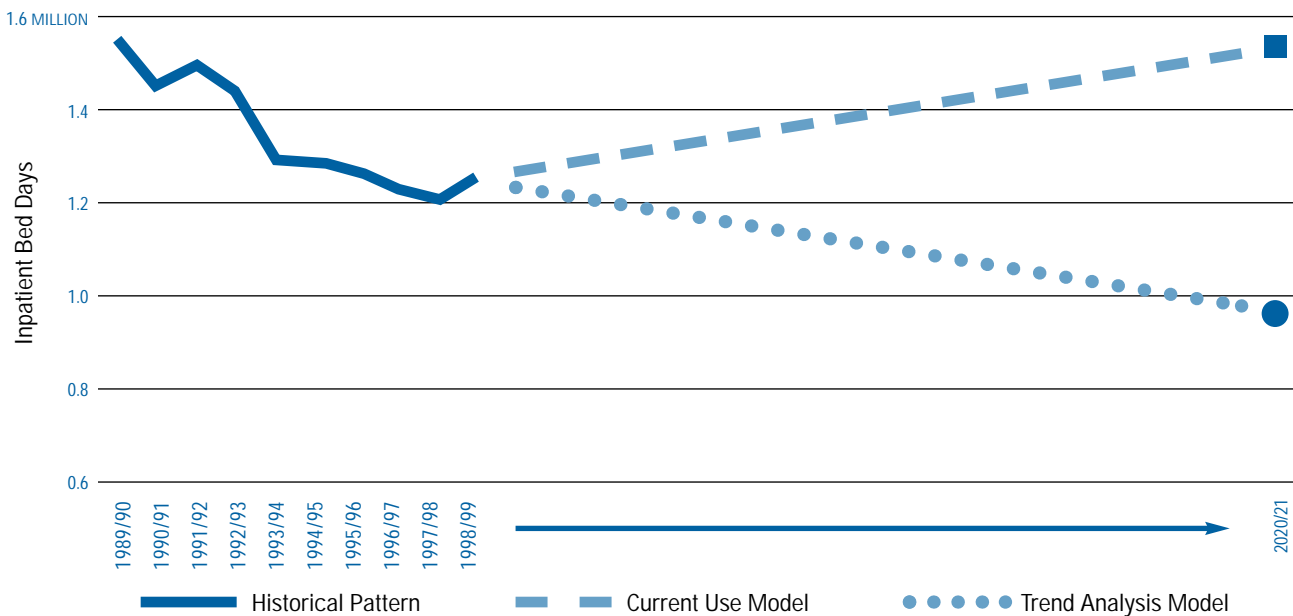
While the Trend Analysis model projects decreased need for hospital days, this does not mean Manitoba will see a decline in rates of admission or surgery. The projections, in fact, assume that rates for both will continue to increase.

On the other hand

A couple of other factors, however, need further consideration. First, the end-point for these projections marks the start, not end, of increased pressure on hospital beds by the baby boomer generation. If the trends toward shorter stays and increased day surgery do indeed continue, Manitoba will likely have more than enough beds to meet this group’s care needs.

If these trends falter or end, however, the system will face increased demand by 2020, and beyond—though this high-demand period

2. Manitoba Inpatient Bed Days: Actual Days 1989/90 - 1998/99 and Projected Days 2020/21



will start to decrease by about 2050. It will be important to continue monitoring changes in population and hospital bed use, to ensure we do not under- or over-estimate the province's longer-term needs.

Also, our projections do not address any issues related to cost. While we have concluded Manitoba will likely not need to add more hospital beds, we have not considered what it will cost to have sufficient staff to provide care for patients, or to pay for new technology (including drugs) that may be part of hospital care in the future.

Finally, our Trend Analysis model projects a large increase in day surgery. It will be important to ensure facilities are available for making this shift in service setting.

Preparing for projected changes

In light of our projections, we suggest health system stakeholders take the following steps to prepare for 2020 and beyond:

- Manitoba should recalculate these projections every five years, using actual figures on population and hospital use, and updated population projections. If the patterns of use or population figures differ from those used in developing these projections, estimated demand on hospitals will be off-target as well.
- The province should adopt a “watchful waiting” approach to projected changes. Because demand for hospital beds does not increase overnight, there should be sufficient time to respond appropriately. A 38% increase in the population of seniors between 1985 and 1998 has been accommodated by the system, despite a substantial reduction in the number of hospital beds during this period. Current projections call for a 15% increase in the seniors population over the next 18 years.
- Major resources should not be shifted from Winnipeg to those regions projected to undergo large population increases.

Although the provincial capital is the only RHA whose population is not expected to grow, it still serves the hospital needs of residents from other regions. There are no indications that this pattern is likely to change.

- Manitoba should develop programs to ensure that hospital beds are being used to care for patients with acute needs, and that alternative services are in place when they no longer require hospital care.
- Administrators should monitor long-stay patients and arrange for their discharge to alternative settings such as home care as soon as it is appropriate to do so.
- The province must work closely with RHAs to ensure that the province's health system is equipped to deal with the continued shift toward doing more procedures on a day surgery basis.
- Finally, the system must take steps to determine why rates of surgery in Manitoba are projected to increase so much (72%). Although some of this growth is the result of increased numbers of seniors, most is driven by increasing rates of surgery. Practice guidelines should be developed and adopted to ensure that decisions around surgery are consistent with the best available evidence.

The final word

Despite Manitoba's graying population, we are cautiously optimistic the province will not experience the seniors-driven bed crunch predicted by many observers. If previous trends continue, RHAs may now have more hospital beds than they will actually need in 2020. But even if hospital use does not continue to fall, Manitoba should be able to handle increased demand for acute beds by ensuring resources are available in other settings to meet the needs of patients who don't require acute levels of care.