Nursing Home Beds in 2020: More? Fewer? Just Enough?

MANITOBA CENTRE FOR HEALTH POLICY

Summary by RJ Currie
based on the report:
*Estimating Personal Care
Home Bed Requirments,*
by Norman Frohlich,
Carolyn De Coster
and Natalia Dik

Suppose we told you that Manitoba has 126 nursing home beds for every 1000 persons aged 75 or over. Is that good? The first thing you'd probably ask is, "How does that compare to the other provinces?" Now suppose we told you that's the highest ratio in Canada. Does that mean we have too many? just enough? or still too few? And if we add the fact that in the year 2020, the proportion of Manitobans aged 75 or older is expected to increase by 12%, does Manitoba still have too many? just enough? too few?

For most Manitobans, it's something we haven't thought about. But wherever you live in Manitoba, for your local RHA (Regional Health Authority) these are important questions (and answers). Particularly given the fact that by the year 2020, a lot of the baby boom generation will be reaching the age where some will be needing nursing home care, and more and more will be needing it in the years that follow.

This report by MCHP attempts to provide some of the answers. For a number of years, Manitoba Health has used a ratio of 120 beds per 1000 population aged 75 or older as a means of planning the number of nursing home (Personal Care Home or PCH) beds for an area. We were asked to review available data and propose a new approach to estimating future demand for PCH beds.

Our first task was to try to identify characteristics within the population that had a relationship to PCH use in the preceding ten years. Some examples are age, sex, mortality rates and/or rates of specific illnesses. There are, of course, other factors—such as cognitive impairment or difficulties with daily activities—but data for these aren't available to us. So given available data, we wondered which population-based characteristics helped explain usage rates for PCH beds.

Next, we used these characteristics to try to predict how many PCH beds Manitoba will need in the future. We divided our estimates into Winnipeg and Non-Winnipeg. We also looked at projections for each RHA individually. Our main question: How many beds will each RHA need by the year 2020?

Of course, we also needed to know the most recent count of nursing home beds in Manitoba, which in 2001 was 9791 beds. Recently, Saskatchewan Health conducted a cross-Canada survey to assess the number of nursing home beds in each province per 1000 people aged 75 or older. The Canadian ratio was 101. Ontario had the lowest ratio at 88; Manitoba had the highest ratio at 126. At a glance some might take this to mean Manitoba already has too many PCH beds. But do we really? And does that mean that more beds won't be needed by the year 2020?

Three Approaches

We developed three methods to project demand for Personal Care Home beds. To help in this task, we made use of population projections from the Manitoba Bureau of Statistics.

The first of these methods we call the *Ten Year Trend* model. It looks at trends over the last decade and assumes they will

continue in the same fashion for the next twenty years. We found that compared to ten years ago, it takes less time to get into a PCH, stays are shorter, there are more beds available, and rates of PCH use have dropped while use of home care is up. And as noted in an earlier report, more and more seniors are living independently. Looking ahead to 2020, the Ten-Year Trend model suggests Winnipeg will have a surplus of 1523 PCH beds and Non-Winnipeg a surplus of 671.

The problem with this method is that it assumes that trends over the last ten years are going to continue forward for the next twenty. But what if PCH use doesn't continue to drop? What if this downward trend slows (which it in fact appears to be doing), levels off or increases? A predicted surplus could quickly become an actual deficit.

So perhaps our second method—the *Recent Use* model—is the way to go. It looks at the three most recent years and assumes that people will use nursing homes at the same rate over the next 20 years. Projections from this method indicate Winnipeg will need 446 more beds, while elsewhere in Manitoba, 733 more

will be needed. The problem with this method is it assumes nothing is going to change over the next 20 years. Unlike the Ten Year Trend model, the Recent Use model is not pattern-sensitive; with its "freeze-frame perspective," it cannot make allowances for something like downward trends in its projections.

So given the strengths and weaknesses of each model, which one is the right one? One model predicts a surplus of PCH beds in the year 2020, the other a deficit. And the difference between the two—almost 3400 beds—is huge.

Common sense suggested the answer probably lay somewhere in the middle—we decided to combine the two. So our third method, the *Combined Projection* model, is the arithmetic average of the first two models. It is arguably the most reliable because it captures the effects of the ten-year trend, but offsets them by incorporating current usage rates. The Combined Projection model tells us that a ratio of 110 PCH beds per 1000 Manitobans aged 75 or older will be sufficient to meet the needs of the population. Using this model, we estimate that Winnipeg (if it opens no more

1. Estimated PCH Beds for Winnipeg: 1985 to 2020
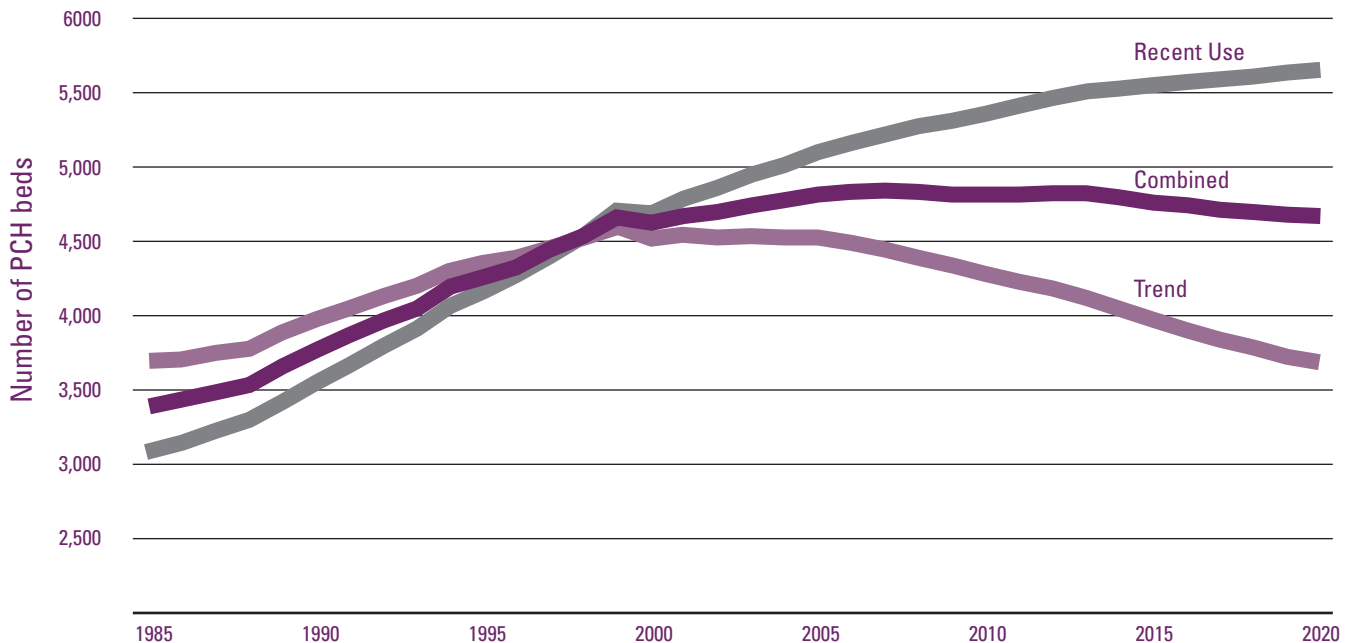
Number of PCH beds

beds) will have a surplus of 538 PCH beds by the year 2020, while RHAs outside of Winnipeg will have a combined deficit of 31 beds.

Other influences

In order to make projections, a number of simplifying assumptions had to be made. Our projections do not take into account the potential for changes in other health care services that affect the demand for PCH beds—like home care or hospitals. They also assume that "migration" into and out of RHAs for PCH care will not change.

Migration refers to the fact that people sometimes go to a nursing home that is outside of the RHA they've been living in. The reasons for this we don't know, and there could be several. For example, do people move to be nearer to family? Do they move because there are no PCH beds in their area? Our data can't tell us that.

We did look at migration patterns for the year 1999/00. Across Manitoba, 89% of PCH residents stayed in their own RHA. In our report, we have a section for each RHA where we give their population projections for age

75+ and PCH projections for the year 2020. But we also include the extent of migration in 1999/00. This combination of information for each RHA is important because they are responsible for planning and operating PCHs.

Home care services can help to reduce the need for nursing homes. No where is this more evident than in Denmark. Since the 1980s Denmark has reduced its reliance on nursing homes. Instead it has experimented with 24-hour home care services, supportive housing for elders, and integrating care between home care and nursing home staff. Since 1988, there has been a ban on the construction of new nursing homes in Denmark, and existing nursing homes are being converted into single occupancy rooms. Between 1985 and 1997, nursing home beds decreased from 301 per 1000 population aged 80+ down to 166 (to put that in perspective, in Manitoba in 1997 the ratio was 220/1000). At the same time Danish spending dropped 12% (after adjusting for inflation) per person. Health outcomes have been generally positive with lower death rates, lower incidence of circulatory disorders and fewer days in hospital.

2. Estimated PCH Beds in Manitoba, Excluding Winnipeg: 1985 to 2020
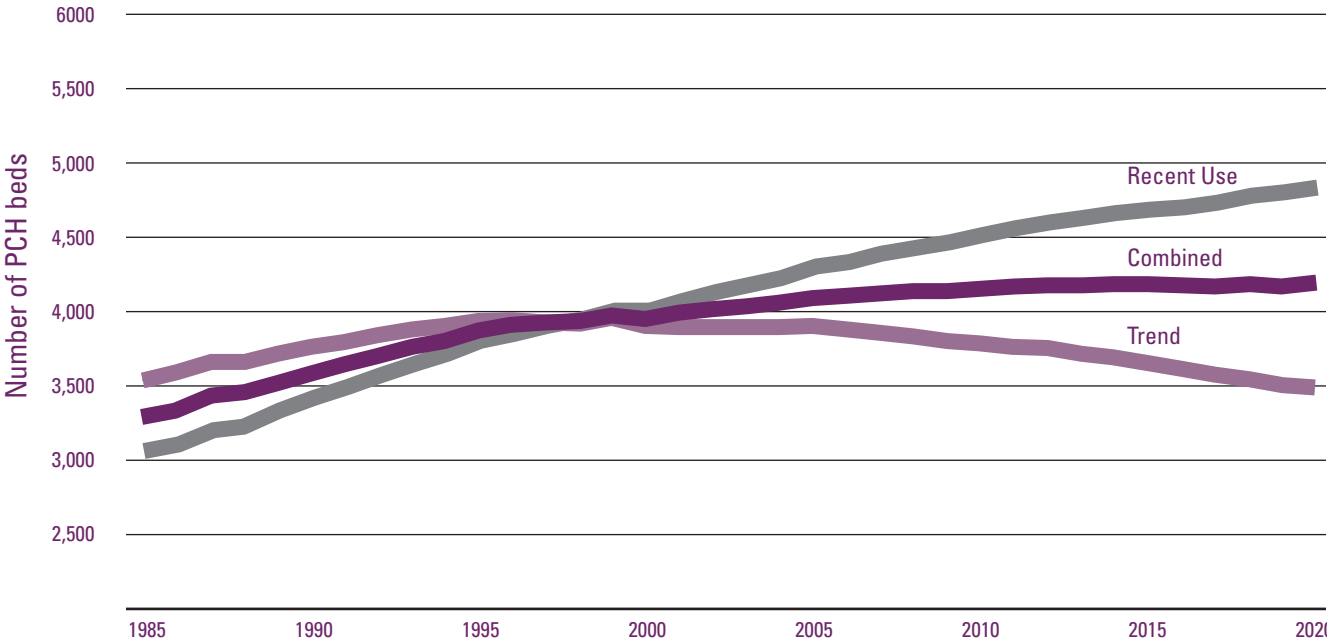
In Manitoba, hospital care sometimes substitutes for PCH care, depending on how full hospitals and PCHs are. We added up the number of days patients spent in a hospital bed after they have been panelled (panelling is the name for the approval process for admission to a PCH) in 1997/98. Taking an average over 365 days, 314 acute hospital beds were occupied each day that year just by patients waiting to get into a nursing home—175 beds in Winnipeg and 139 outside of Winnipeg. Although this number has decreased for Winnipeg (it was 317 beds in 1990/91), it has stayed relatively stable elsewhere in the province.

Given the low occupancy in many Non-Winnipeg hospitals, the presence of acute care patients waiting for transfer to a PCH may not be a problem. However, should that change and occupancy rates start to get high—as has been the case in Winnipeg for some time—then there will be more pressure to transfer panelled patients sooner.

Conclusions

Long-range looks into the future, like the one taken in this report, by their very nature are fraught with a measure of uncertainty. One can't be sure of anything. So, while we can say today with a reasonable amount of confidence that a ratio of 110 PCH beds per 1000 persons aged 75 or over seems realistic, and that overall, Manitoba has enough PCH beds to see it through to the year 2020, it's not set in stone.

At the time of this report, our findings suggest Winnipeg will have a surplus of 538 PCH beds by the year 2020. Across the rest of Manitoba, we project a small overall deficit of 31 beds. The problem there appears to be one of distribution: some RHAs are going to have a surplus of beds (as high as 151), while others will have a deficit (as low as 125 beds). So we're not sure whether the question for RHAs is, Will we have enough nursing home beds in 2020? The question for some of them may well be, Will we have too many?

That's not to suggest that there's nothing to worry about. Yes, up to the year 2020 it

appears there will be enough PCH beds in Manitoba. But that's not true for all RHAs. And after 2020, the number of seniors will continue to climb until around the year 2040. So in 2020, many RHAs will feel pressure to start adding PCH beds to handle the impending crunch. Then after 2040, when the number of seniors starts to fall, these RHAs are going to have a lot of expensive nursing home beds on their hands. So, as important as it is not to underestimate the coming need for PCH beds, it is equally important to each RHA not to overestimate it.

With these concerns in mind, we point out some of the strengths of the method we have used to estimate future PCH bed needs. It relies on usage data for the entire population, not just a sampling. And the variables used in the predictions—like age, sex, region—are readily available. So monitoring usage and modifying the model as needed will be relatively easy. It will allow the RHAs to keep in close step with demand.

And our projections appear quite realistic when compared to current bed supplies in other provinces. A planning ratio of 110 beds per 1000 persons aged 75 or older is very close to current ratios in other provinces: British Columbia (105), Alberta (112), Quebec (109), and P.E.I. (108).

That being said, a lot can change between now and the year 2020. Trends can reverse themselves; changes in health care services can have a positive or negative influence. And as the earlier Denmark example indicates, changes in home care can drastically reduce the need for PCH care.

For now, to answer the question posed in the first paragraph: today Manitoba appears to have more than enough PCH beds. By 2020, that number will probably be about right. Between 2020 and 2040, it most likely will be too few. But again, a lot can change between now and then. The RHAs will need to monitor the situation closely. With our Combined Projection method, they have a tool to do so.