Assessing the Stays of Long-Stay Patients

MANITOBA CENTRE FOR HEALTH POLICY AND EVALUATION

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Long-stay patients—those who stay in hospital for more than 30 days—represent one in twenty of the roughly 70,000 hospitalizations in Winnipeg each year. Yet they consume nearly four out of ten days spent in Winnipeg hospitals. That's right! Almost 40% of hospital days are consumed by less than 5% of patients.

Given the enormous impact this relatively small group of patients has on hospital resources, Manitoba Health asked MCHPE to take a closer look at long-stay patients. If even minor improvements could be made in their treatment and discharge, it might be of major benefit in efforts to optimize Manitoba's use of hospitals.

Why are these patients in hospital as long as they are? Can anything be done to shorten their stays without compromising care? These are but two key questions asked in this report. Among those interested in the answers is the Winnipeg Regional Health Authority, which is responsible for providing services for patients with long term care needs, and is already undertaking initiatives to improve those services.

MCHPE was assisted in this work by a working group made up of various health care professionals. They provided useful background on what has changed in the system, assisted with interpreting results, reviewed the report, and provided much useful feedback on "how things work."

We looked at all adult long-stay patients with a medical or surgical diagnosis in Winnipeg's seven acute care hospitals (*adult* meaning 18 or older on the date of discharge, transfer or death; *medical* or *surgical* based on what accounted for the largest portion of the patient's stay). Psychiatric and obstetric patients were excluded, as were patients in designated long term care beds, such as personal care home beds at Concordia hospital.

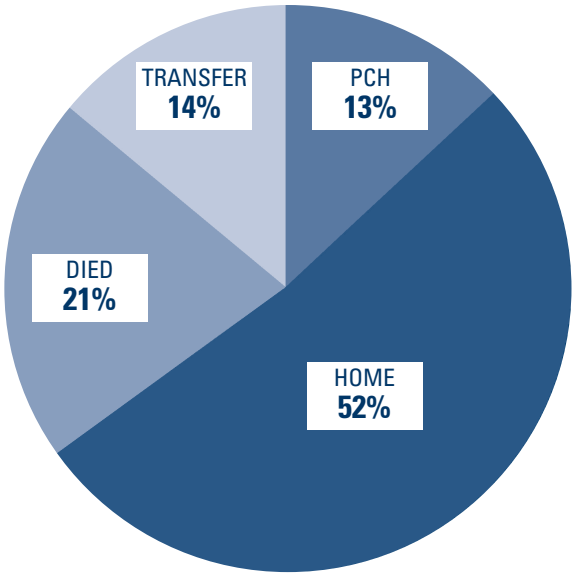
Changes in Bed Supply

We first wanted to see if long-stay patients had been affected by big changes in hospital and personal care (nursing) home bed supply. We analyzed data from 1991/92 to 1997/98 to look at hospitalizations before, during and after these changes. Most of the hospital bed closures—515 in total—occurred in 1992/93 and 1993/94. Big increases in personal care home (PCH) bed supply occurred in 1993/94 and 1997/98—236 and 193 beds respectively.

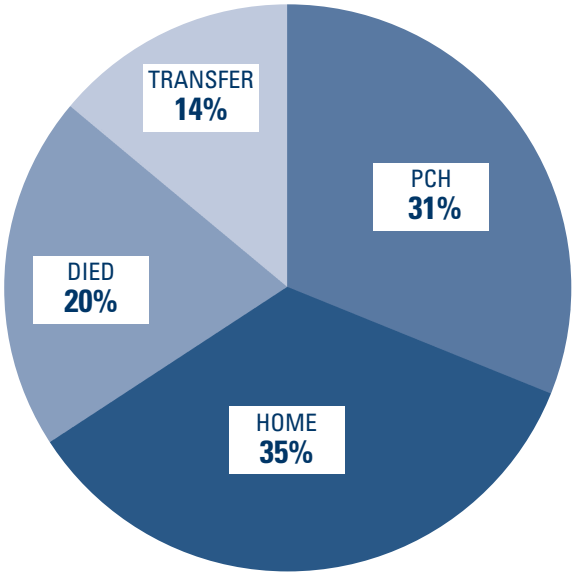
Bed closures appeared to have little impact. Throughout these changes, the proportion of hospital patients that were long-stay remained at around 5%. Their proportion of hospital days was also fairly constant, at or near 39%. The only dip was a slight one—down to 35.2% in 1993/94, right after major bed closures.

This dip may be due to the addition of 236 PCH beds that same year. However, since the proportion of hospital days climbed back to 39% shortly thereafter, the effect was temporary. It's conceivable that adding more PCH beds might have the same short-lived impact.

The average length of stay dropped by about one sixth between 1991/92 and



1A. Long-stay patients grouped by discharge destination (93/94-97/98)



1B. Hospital days used by long-stay patients based on discharge destination (93/94-97/98)

1995/96—from roughly 97 days to 84. The addition of 236 PCH beds during this time may have contributed to that drop. However, stays remained at about 80 days for the last three years of the study.

Impact of Patient Characteristics

We also wondered what characteristics of long-stay patients affected length of stay: being from outside of Winnipeg? having specific illnesses? receiving certain treatments? having cognitive impairment? Which of these or other factors had the greatest impact?

To try to find out, we looked at five years of patient data. Between April 1, 1993 and March 31, 1998, there were 10,037 long-stay hospitalizations for medical care and 5,934 for surgical. These patients consumed over 1.3 million days: 837,264 medical and 500,789 surgical. Determining which characteristics were associated with the longest stays was far from straightforward.

For instance, it's true to say patients with cognitive impairment had stays three times as long as those who were not cognitively impaired. But that statistic alone is misleading: cognitively impaired patients usually have additional medical problems. They might have had a stroke or needed dialysis. When we include all other factors, cognitive impairment added only about 16% to length of stay.

So all of our findings have been adjusted to compensate for all related factors.

We also looked at characteristics that increased stays for patients discharged to personal care homes or chronic care facilities. Our focus here was on length of stay after *panelling* (panelling refers to all applications for PCH needing approval by a review panel). We considered in this measure some PCH characteristics: specific religion? ethnic type? for-profit or not?

- Contrary to common perception, not all long-stay patients are waiting to go to a nursing home. Far from it. PCH transfers made up only 13% of long-stay patients in our study; most—52%—were sent home (Fig. 1A). They also used a smaller percentage of days—31% vs. 35% (Fig. 1B). 19% died in hospital; 14% were sent to another hospital, usually Deer Lodge or Riverview.
- Fewer than 10% of long-stay stays in Winnipeg hospitals were used by non-Winnipeggers and being a non-Winnipeg resident did not influence length of stay.
- The largest single determinant of length of stay is discharge destination. Medical and surgical patients together averaged stays of 170 days (the longest by far) when discharged to PCH, 82 days when they died in

hospital, 81 days when transferred to another hospital, and only 58 days when they went home.

- Stroke is a major contributor to longer stays. These stays were lengthened by other characteristics, such as whether the patients had rehabilitation therapy, stayed on a geriatric unit, or were panelled for chronic care.
- Falling while in hospital lengthened stays 26% for medical patients and 45% for surgical patients.
- The working group identified certain treatments as leading to longer stays: rehabilitation therapy, dialysis, PEG tubes (a type of feeding tube) or ventilatory support. Patients who needed these services had much longer stays than those who did not.
- There were 1600 patients transferred to a nursing home or chronic care facility. These patients spent over half their stay prior to being panelled, about 45% after panelling. Longer post-panel stays were associated with a stay on a geriatric unit and going to an ethnic or religious PCH.
- Which hospital one stayed in made a big difference to the length of stay for patients discharged to PCH—up to 35% longer for medical patients and 43% for surgical. For patients discharged home, the hospital of stay had less impact—up to 11% longer stays for medical patients, 15% for surgical.

Conclusions

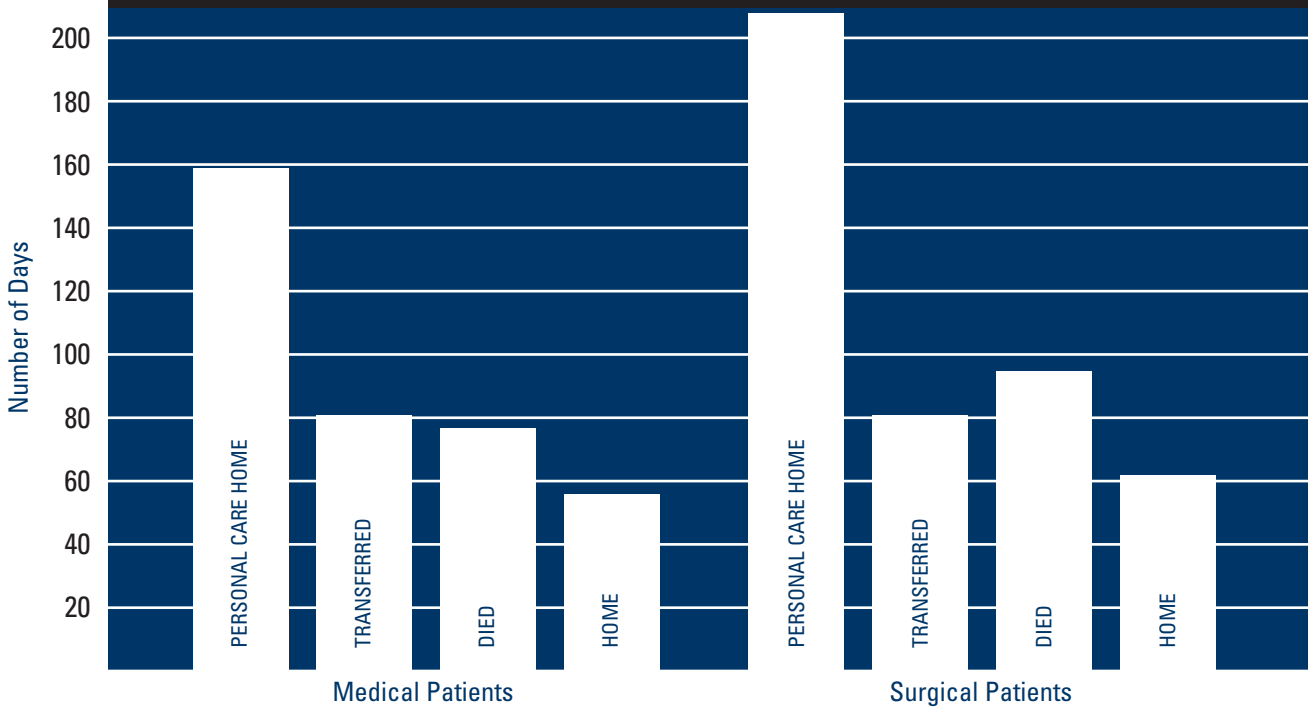
For long-stay patients, it seems clear that the biggest influence on how long one stays in hospital is where one is discharged to. The real bottleneck is awaiting transfer to a PCH.

The total time patients transferred to PCH spent in hospital averaged 159 days for medical patients and 208 for surgical patients (Fig. 2). But according to available data, only about 15% of that stay was spent receiving acute care. A surprising 45% of their stay was spent after panelling waiting for transfer, and an even more surprising 40% of their stay was spent waiting to be panelled. This means that some patients waited up to three months or more just to get approved for transfer.

It should be noted that these data only go to 1997/98. WRHA has since adopted a variety of approaches to speed up the panelling and placement process in efforts to free up hospital resources. This study should be repeated at the end of 2001/02 to assess their effectiveness.

Related to this, our data suggests more chronic care beds are needed. In the fall of 1999, 35 patients were waiting for one of 120

2. Average length of stay for long-stay patients based on discharge destination: 93/94-97/98



chronic care beds—a ratio of 3.4 to 1. At the same time, there were 240 patients waiting for one of 5,000 PCH beds—a ratio of just under 21 to 1. So the odds of getting a chronic care bed are far lower than they are for getting a PCH bed. To offset this imbalance, possibly some resources for acute or PCH beds should be redirected to chronic care.

While PCH transfers are a bottleneck in the system, they are in no way the whole story behind long-stays. In fact, they only represent 13% of long-stay patients. A far larger majority—52%—of long-stay patients are sent home. So if their stays could be shortened, it might have an even larger impact on the system. And as documented in other MCHPE reports—most recently *Seasonal Patterns of Winnipeg Hospital Use* (1999)—there is potential to shorten such stays.

For example, timely discharge is hampered by the fact that many services—such as home care, physiotherapy, or diagnostic tests—take days or even weeks to arrange or get. Making these services more accessible could go a long way toward shortening long stays.

Related to that, more rehab services, offered sooner, in an environment tailored to rehabilitation may help patients to be discharged not only sooner, but in better condition. The WRHA appears to be taking a step in this direction with a planned stroke unit specializing in the prevention, early treatment and rehabilitation of stroke victims. Given the impact of stroke on length of stay, it's a plan that should be supported.

Older patients with cognitive disorders represent a bit of a "catch 22." That is, they need to be hospitalized longer, but research shows that seniors are more likely to have cognitive and functional declines when hospitalized. It's also easy to see how falling down while in hospital—which also adds days to stays—is likely connected to these difficulties.

To offset these negative effects, hospitals might consider new approaches. These might include wards with more "homey" touches common to geriatric units—such as quieter flooring, wall clocks, and softer lighting—to help facilitate patient orientation. And rather than the burden of care resting on a doctor and medications, care might be provided by a team—physicians, nurses, pharmacists, physiotherapists—with emphasis placed on non-pharmacologic remedies.

Therapies like dialysis or inserting PEG feeding tubes greatly extend a hospital stay. Some on our working committee questioned the fundamental or philosophical "appropriateness" of these procedures in certain situations. Yes, it might buy terminal patients a bit more time. But patients, families and health care providers need to consider the "quantity of life" vs "quality of life" implications in deciding whether to undergo these invasive therapies.

Perhaps the biggest surprise we found in this study was the wide variation in length of stay between hospitals when discharging patients. There appears to be room here for improved efficiency. Why does it take hospital B 43% longer to transfer surgical patients to a PCH than hospital C? Or hospital D 35% longer than the fastest hospital to transfer medical patients to a PCH? Why does one hospital take an average of 15% longer than another to send surgical patients home? In any efforts to shorten long stays, these are questions WRHA might want answered first.

Our study has raised many such questions. But if it has told us anything, it's that many long-stay patients spend extra weeks in hospital, not because they need acute care, but because they are waiting—for home care to be arranged, or physiotherapy, for transfer to alternative facilities, or for the transfer to be approved. Shortening these stays by 5-10% seems a reasonable goal. At a time when debate goes on about adding more beds to Manitoba hospitals, it's a measure that could put 40-80 more beds in the system each year. Not by adding beds, but by making better use of them.

Summary by RJ Currie, based on the report: Long-Stay Patients in Winnipeg Acute Care Hospitals, *by Carolyn De Coster and Anita Kozyrskyj*

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