

The Impact of COVID-19 on Acute Hospital Bed Utilization

Objective

To determine the extent and duration of reduction in acute care hospital bed use during COVID-19 by Regional Health Authority (RHA).

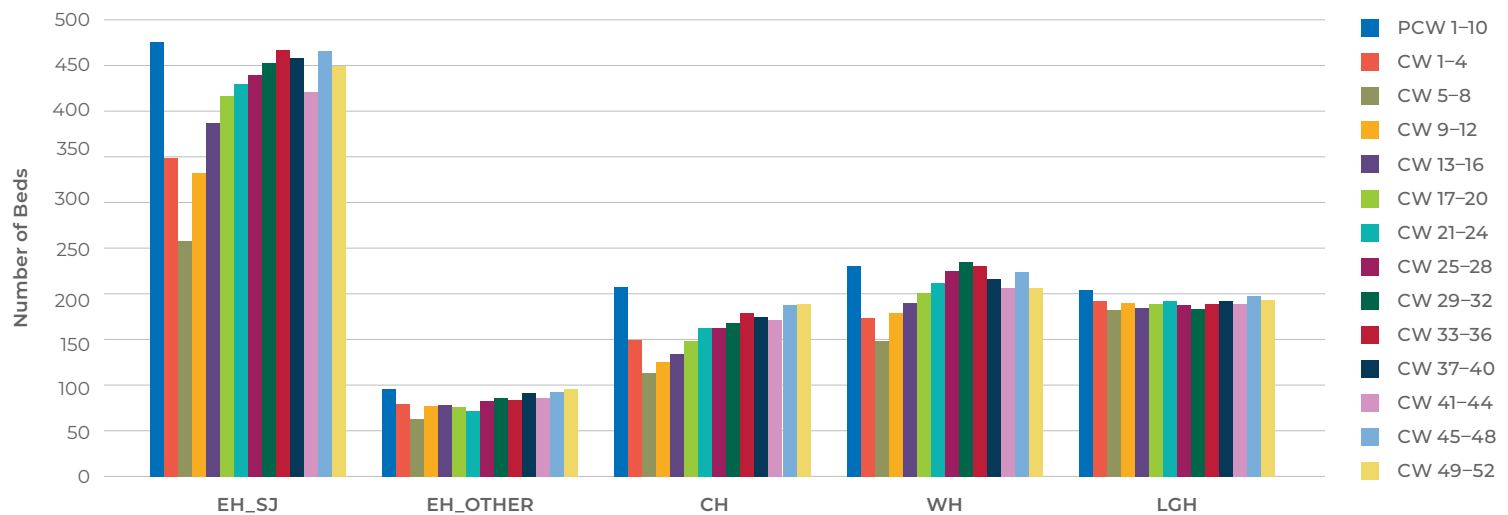
Practice Points

1. During the first wave of COVID-19, which started around 16 Mar 2020, elective use of hospitals was limited and efforts were made to place alternate level of care (ALC) patients elsewhere. In particular, ALC had been a problem in Gander, Grand Falls-Windsor and Corner Brook, and predisposed to over-capacity pressures.
2. The province was free of community spread of the virus from early May 2020 until late Feb 2021, and had experienced only four local clusters after the first wave.

Methods

1. Data on daily hospital bed use by RHA were obtained from the Newfoundland and Labrador Centre for Health Information (NLCHI). Baseline daily average bed use before COVID-19 from 6 Jan – 15 Mar 2020 was calculated, as was the average daily use over four-week blocks from the start of COVID-19 for the following 52 weeks. Using pre-COVID winter bed use in 2020 as a baseline is a limitation in interpreting the data.
2. Fifty-one patients considered long-term care (LTC), palliative or rehabilitation, who occupied acute hospital beds pre-COVID-19 in Corner Brook are retained in the data during COVID-19.

Results



#Eastern Health was separated into hospitals within St. Johns (EH_SJ) and outside St John's (EH_OTHER); PCW = pre-COVID week; CW = COVID week

Figure 1. The Number of Hospital Beds in Use Pre-COVID-19 and in Four- Week Blocks During COVID-19# by RHA

- Following the early reductions in bed use during COVID-19, gradual return towards prior bed use was evident in all four regions: Eastern Health (EH), Central Health (CH), Western Health (WH), and Labrador-Grenfell Health (LGH).

Table 1. Rates of Hospital Beds/1,000 Population Pre-COVID-19 and in Weeks 45-52 During COVID-19

RHA	Pre-COVID-19 Weeks	COVID-19 Weeks 45-52
EH	1.8	1.4
CH	2.3	2.1
WH [#]	2.3	2.2
LGH	5.7	5.4

[#]51 patients designated LTC, palliative or rehabilitation removed from this calculation

- In all four regions, use of acute care hospital beds during COVID-19 was lower than pre-COVID-19.

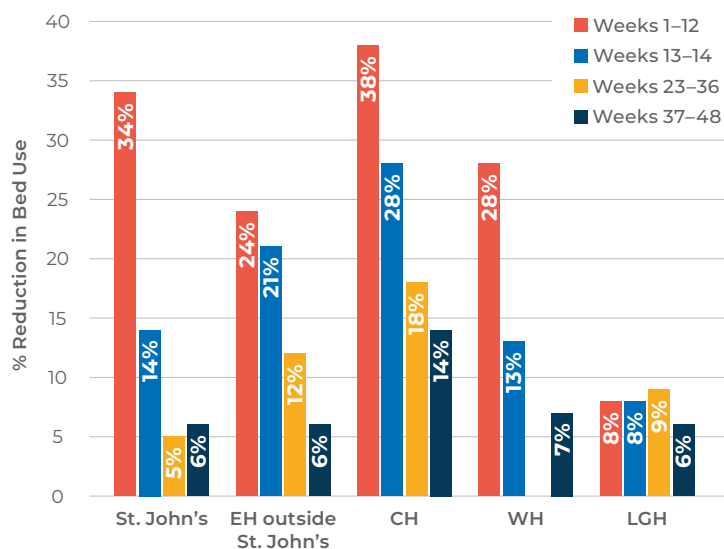


Figure 2. Average Percent Reduction in Bed Use by RHA in Four 12-Week Blocks From the Start of COVID-19

- CH had the biggest and most prolonged reduction in hospital bed use during COVID-19.
- LGH had the smallest reduction in beds during the first 24 weeks of the pandemic.

Conclusions

1. The reduction in hospital bed use in the short term reflected no elective admissions and disposition of ALC patients out of hospital.
2. The use of hospital beds was less 45-52 weeks after COVID-19, compared to pre-COVID-19, noteworthy in those hospitals exposed to over-capacity pressures pre-COVID-19.