

The Impact of COVID-19 on Surgery by Regional Health Authority

Objective

To determine the reduction in number of surgeries during COVID-19 in each Regional Health Authority (RHA), for how long and to what degree the reduction persisted.

Practice Points

1. The lockdown that occurred as a result of COVID-19 included deferral of surgeries to ensure adequate hospital and ICU beds during the epidemic.
2. The consequence of this decision was that the number of people waiting for surgery likely increased.
3. The only region with substantial number of community acquired cases of COVID-19 was Eastern Health (EH). Virus was likely eradicated within 6 weeks of lockdown.

Methods

1. For the first 10 weeks of COVID-19 each RHA reported the number of surgeries undertaken in the OR combined with the number of minor procedures undertaken outside the OR/week compared to the corresponding week in 2019. The definition of minor procedures differed for each RHA.
2. For the weeks 11–26 of the epidemic, surgeries were differentiated from minor procedures. Consequently, comparison for surgeries only across RHAs is possible after 10 weeks.

Results

Table 1. The Number of Surgeries and Minor Procedures Undertaken Outside the OR During First 10 Weeks of COVID-19 Compared to the Corresponding Period in 2019 by RHA

	EH	CH	WH	LGH
Weeks 1–4 COVID-19	488	151	93	35
Comparable 4 weeks in 2019	2,282	516	498	209
Weeks 5–8 COVID-19	409	121	76	46
Comparable 4 weeks in 2019	1,981	446	407	131
Weeks 9–10 COVID-19	272	47	56	30
Comparable 2 weeks in 2019	1,001	181	188	87

- The difference in the number of surgeries undertaken in EH during the first 10 weeks of COVID-19 compared to the corresponding period in 2019 is estimated at around 2,600 in EH, around 920 in Central Health (CH), around 820 in Western Health (WH), and 150 in Labrador-Grenfell Health (LGH). This is derived from the average number of surgeries done per week in weeks 11–26 of 2019 and the average percent reduction of procedures done during the first 10 weeks of COVID-19.

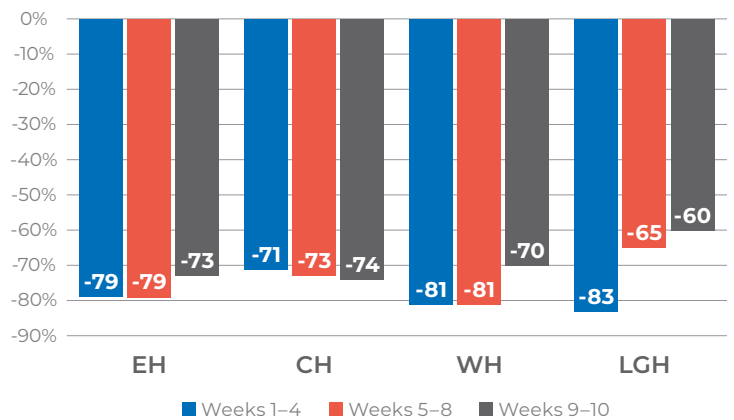


Figure 1. Percent Reduction in Surgeries and Minor Procedures During the First 10 Weeks of COVID-19 Compared to the Corresponding Period in 2019, Analyzed by RHA

- Very substantial reductions in surgeries/minor procedures occurred in all four RHAs for the initial 10 weeks of the COVID-19 epidemic.

Table 2. The Number of Surgeries Undertaken During Weeks 11–26 of COVID-19 Compared to the Corresponding Period in 2019 by RHA

	EH	CH	WH	LGH
Weeks 11–14 COVID-19	734	168	180	51
Comparable 4 weeks in 2019	1,459	616	385	110
Weeks 15–18 COVID-19	924	348	292	93
Comparable 4 weeks in 2019	1,257	414	409	74
Weeks 19–22 COVID-19	1,157	360	350	81
Comparable 4 weeks in 2019	1,274	478	390	81
Weeks 23–26 COVID-19	1,218	362	325	102
Comparable period in 2019	1,287	448	444	90

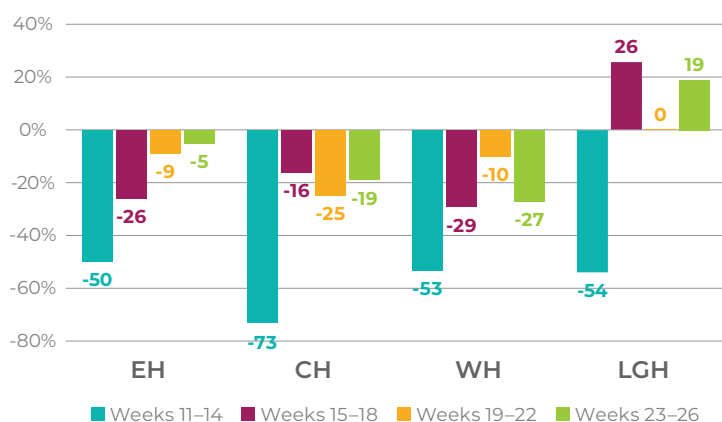


Figure 2. Percent Reduction in Surgeries in Weeks 11–26 of COVID-19 Compared to the Comparable Period in 2019

- 50% reduction in surgeries lasted for 12 weeks in EH. For the 26 weeks of the epidemic, the number of surgeries was always less than the number performed in the corresponding week of 2019, except for week 24 when the difference was +9 cases.

In EH, the difference in the actual number of surgeries for the weeks 11–26 compared to the comparable period in 2019 was 1,318.

- In CH greater than 50% reduction in surgeries lasted for 14 weeks. At no stage of the 26 weeks of the COVID-19 era did the volume of surgeries performed exceed those undertaken in the comparable period of 2019.

For weeks 11–26, the difference in the actual number of surgeries was 718.

- In WH, less than 50% reduction in surgeries lasted for 14 weeks. For 25 of 26 weeks of the COVID-19 era the number of surgeries was less than the number performed in the comparable period of 2019, with the exception being a week with +25 surgeries.

For weeks 11–26, the difference in the actual number of surgeries was 524.

- In LGH, greater than 50% reduction in surgeries lasted for 14 weeks. For 19 of 26 weeks of the COVID-19 era the number of surgeries was less than the number performed in the comparable period of 2019. For the other 7 weeks, the number was +47.

For weeks 11–26, the difference in the actual number of surgeries was only 21.

Conclusions

1. Substantial (>50%) reduction of surgeries continued for the first 12 weeks of COVID-19 in EH despite the absence of community transmitted cases after 6 weeks.
2. Similar reductions for longer periods (14 weeks) were observed in the other RHAs despite the diagnosis of few community acquired cases.
3. The 6 months of the COVID-19 era was associated with around 6,000 fewer surgeries than in the comparable period in 2019. Dealing with this deficit will depend on the need for surgery and the capacity of the health system to increase the volume of surgeries beyond its capacity revealed in 2019.
4. In 16 weeks from 27 May 2019 – 15 Sept 2019, 9,216 surgeries were performed in the province, 576/week. Increasing this rate by 100/week would clear the deficit in about a year but this is unlikely to be feasible and may even be unnecessary, as the need for surgery in these missed cases may not be revealed.
5. The impact of lost surgeries on provincial mortality will require evaluation over the next years.