

Surgery Utilization in NL

Objective

To determine the number of inpatient and same-day surgeries in the 12 adult surgery units in NL.

Practice Points

1. St. Clare’s Hospital and the Health Science Centre (HSC) provide both general surgery for the St. John’s region (population 230,000) and tertiary care for the province (population 520,000).
2. There are three rural hospitals in Eastern Health (EH) (catchment population 85,000) at Carbonear, Clarenville, and Burin.
3. Central Health (CH) has two hospitals serving a catchment population of 92,500, one in Gander and the other in Grand Falls-Windsor (GFW).
4. Western Health (WH) has a large hospital in Corner Brook and a small one in Stephenville serving a catchment population of 76,500.
5. There is a surgical unit in St. Anthony (catchment population 10,000) and two in Labrador (population 26,000).

Data

Surgery stays, inpatient and same-day procedures were provided by NL Centre for Health Information (NLCHI) for 2019/20. Procedures were classified as low risk using predetermined codes that signify pre-operative testing is unnecessary, and not-low-risk for the remainder.

Because general and subspecialty surgery is undertaken in both St. Clare’s Hospital and the Health Sciences Centre, the data were combined.

Two metrics to measure surgical workload were calculated: surgical stays/surgeon and in-patient not-low-risk surgical procedures/surgeon. Surgeons included gynecologists, but excluded ophthalmologists.

Results

Table 1. Surgery Stays, Inpatient and Same-Day Procedures, Classified by Risk, for the Hospitals in NL

Hospital	Stays	Inpatient Low Risk	Inpatient Not Low Risk	Total Same-Day
St. John’s	10,120	1,356	14,671	23,374
Rural Eastern Health				
Carbonear	310	59	307	2,925
Clarenville	247	66	288	1,693
Burin	170	40	188	1,296
Total	727	165	783	5,914
Central Health				
Gander	1,001	126	958	4,626
GFW	794	315	965	5,488
Total	1,755	441	1,923	10,114
Western Health				
Corner Brook	1,349	354	1628	6,538
Stephenville	109	9	136	1,532
Total	1,458	263	1,764	8,070
Labrador-Grenfell Health				
St. Anthony	249	23	303	915
HVGB	141	25	154	328
Labrador City	93	26	105	422
Total	483	74	562	1,665

- The annual number of stays ranged from 170–310 and the number of inpatient not-low-risk surgical procedures in the three rural hospitals of EH ranged from 188 in Burin to 307 in Carbonear.
- The number of stays was 1001 in Gander and 794 in GFW and the number of inpatient not-low-risk procedures is almost identical in Gander and GFW.
- Despite a much higher complement of surgeons, the number of stays was 249 and of inpatient not-low-risk surgical procedures was 303 in St. Anthony, compared to 141 and 154 in Happy Valley-Goose Bay (HVGB) and 93 and 105 in Labrador City.

Table 2. The Number of Surgeons and Anesthetists at the Hospitals in NL, With Annual Rates of Surgical Stays and Inpatient Not-Low-Risk Surgical Procedures/Surgeon, 2019/20

Hospital	Surgeons (N)	Gynecologists (N)	Anesthetists (N)	Stays/Surgeon*	Procedures/Surgeon*
St. John's	78	20	33	103	150
Rural Eastern Health					
Carbonear	6	2	4	39	38
Clarenville	2	3	3	49	58
Burin	3	2	2	34	38
Central Health					
Gander	9	3	4	83	80
GFW	8	4	4	66	80
Western Health					
Corner Brook	16	4	7	67	61
Stephenville	1	2	-	109	136
Labrador-Grenfell Health					
St. Anthony	5	2	4	36	43
HVGB	1	1	1	71	77
Labrador City	1	1	1	47	53

*includes gynecologists but not ophthalmologists

- Low rates of surgical stays/surgeon were observed in the 3 rural hospitals of EH and 2 in LGH.
- The lowest rate of surgical stays/surgeon was in Carbonear, Burin and St. Anthony, amounting to 0.7 stays/week/surgeon.

Table 3. Number of Procedures Undertaken While in Hospital by Surgical Speciality in the Seven Rural Hospitals, 2019/20

Hospital	Surgery Stays	In Hospital Procedures	General Surgery	Gynecology	Catchment Population (1,000s)
Carbonear	310	371	303	68	40.1
Clarenville	247	354	292	62	26.1
Burin	170	228	164	64	18.8
Stephenville	109	145	145	0	20
St. Anthony	249	322#	129	22	9.3-12
Labrador City	93	131	81	50	9.8
HVGB	141	178	130	48	13.8

includes 124 orthopaedics procedures and 46 ENT procedures.

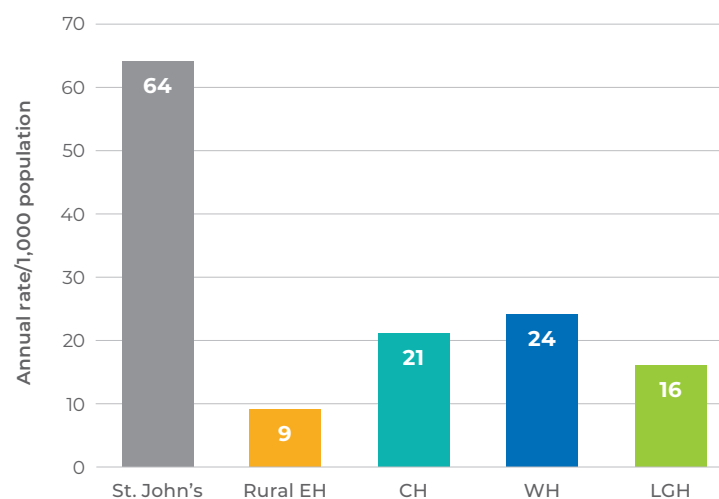


Figure 1. Annual Rate/1,000 Population of In-Patient Not-Low-Risk Surgical Procedures by Region

- The rate of inpatient not-low-risk surgical procedures is high, as anticipated, in St. John's. The rate in the rural hospitals of EH is low compared to CH and WH, implying that many procedures on the people from this region are undertaken in St. John's.
- The rates are similar in CH and WH.
- The rate in St. Anthony is 30, and in the two Labrador hospitals, 10.

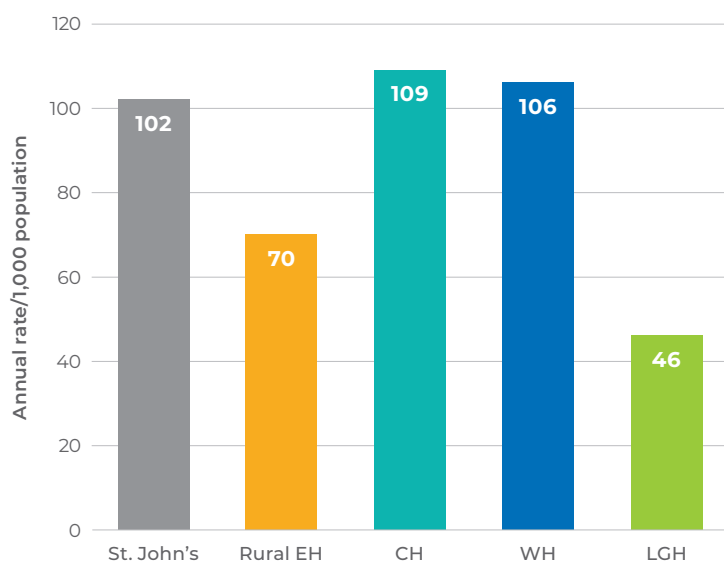


Figure 2. Annual Rate/1,000 Population of Total Same-day Procedures by Region

- The rates of same-day procedures is similar in St. John's, CH and WH.
- The rate in St. Anthony is 92, and in the hospitals in Labrador 29.

Conclusions

1. Because of the small volume of surgery stays, consideration should be given to restructuring surgery services in Clarenville and Burin.
2. Because of concerns about sustainability of services, consideration should be given in CH to planning services in the two hospitals so that there is not unnecessary duplication.
3. The small volume of inpatient surgery procedures undertaken in Stephenville suggests that these could be undertaken in Corner Brook.
4. The disproportion between the number of surgeons and anesthetists, and the number of surgical stays in St. Anthony compared to other rural hospitals is likely unsustainable.