

Utilization in Large Hospitals of the Province

Objective

To examine utilization of the major services provided by the six large hospitals in the province.

Practice Points

1. Primary and secondary hospital services for the St. John's region (catchment population around 230,000) are provided in both the Health Sciences Centre (HSC) and St. Clare's Hospital.

These two hospitals also provide tertiary services for the adults of the province, and the Janeway Hospital provides provincial pediatrics services (catchment population 520,000).

In Eastern Health, outside St. John's there are 3 rural hospitals and 4 health centres (29 beds) providing acute care.

2. The catchment population for Central Health (CH) is 92,500. Primary and secondary services are provided on two independent sites (Gander and Grand Falls-Windsor (GFW)), one hour apart, each serving about half the catchment population. In addition, there are 55 acute care beds in eight health centres.
3. The largest hospital in Western Health (WH) (catchment population 77,500) is in Corner Brook which provides primary and secondary services to the region. However, Stephenville hospital also provides primary hospital services to about 20,000 people (44 beds), and there are 32 acute care beds in four health centres.

Data

Data were obtained from Department of Finance (population), the Department of Health and Community Services, Canadian Institute for Health Information (CIHI), NL Centre for Health Information (NLCHI), and the Regional Health Authorities (RHAs) for 2019/20. Level of complexity provided by a service ranged from 1-6, as did work force provided to achieve this level of complexity. This was reported by the RHAs using the Tasmanian Role Delineation framework.

Results

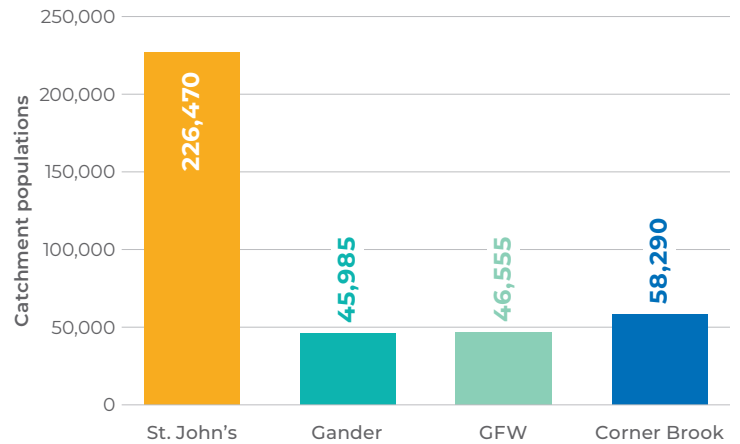


Figure 1A. Catchment Populations for Large Hospitals, 2019/20

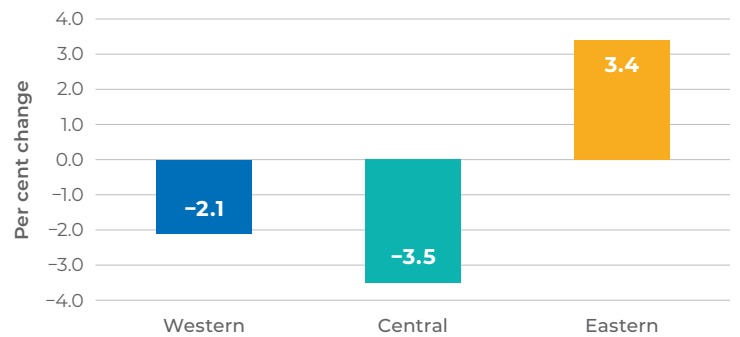


Figure 1B. Predicted Per Cent Change in Population, 2021-2030

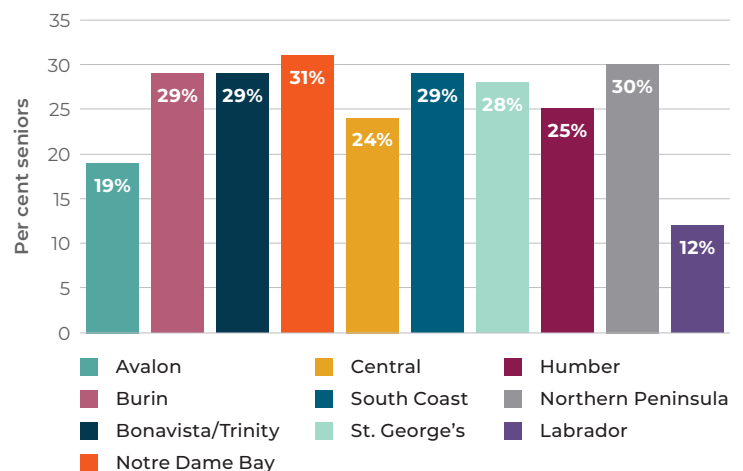


Figure 1C. Per Cent Seniors in the Population by Region, 2020

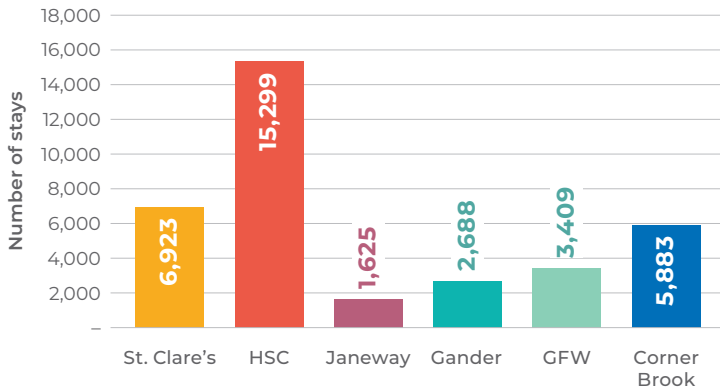


Figure 2A. Number of Stays in the Six Hospitals, 2019/20

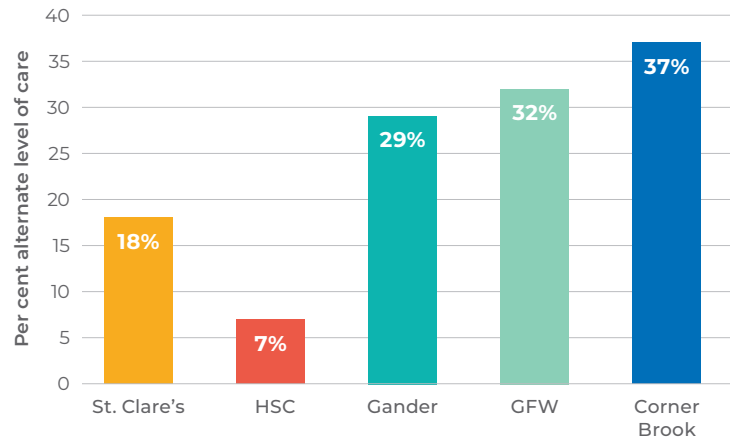


Figure 2D. Per Cent Alternative Level of Care in the Five Large Hospitals, 2019/20, Excluding the Janeway Hospital

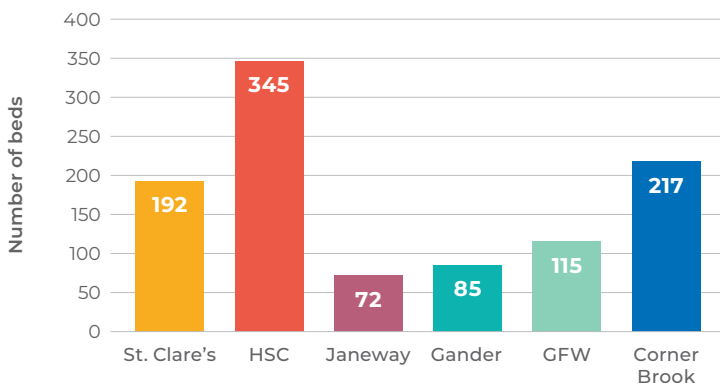


Figure 2B. Number of Beds in the Six Hospitals, 2019/20

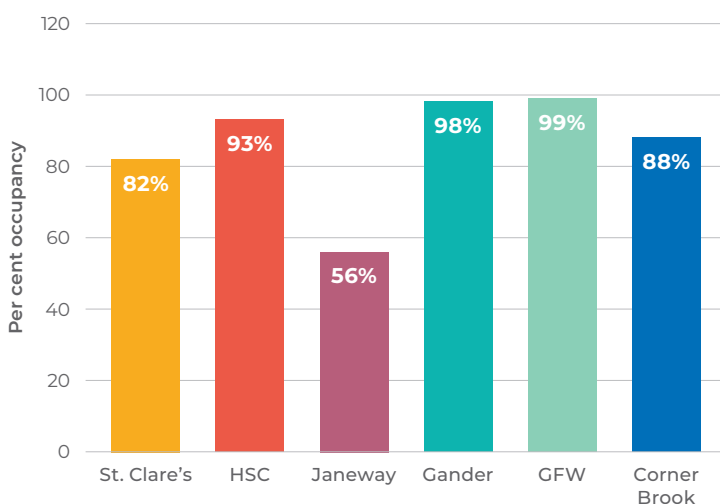


Figure 2C. Per Cent Occupancy in the Six Large Hospitals, 2019/20

- Grand Falls-Windsor had 28% more stays than Gander despite similar catchment population size. However, GFW has more beds.
- Including beds in health centres, beds/1,000 population in the Gander region were 2.6 and in the GFW region, 2.9.
- Adding the additional acute beds in health centres and Stephenville hospital, the rate for WH was 3.8.
- Per cent occupancy was high at HSC, Gander, and GFW. It was low at the Janeway Hospital.
- Per cent alternative level of care (ALC) was high in Gander, GFW and Corner Brook.

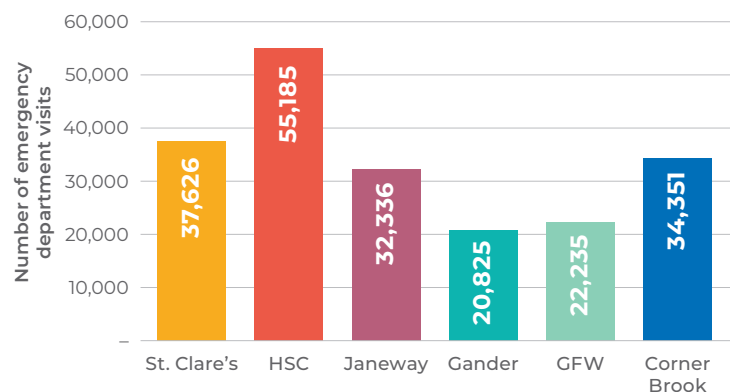


Figure 3A. The Number of Emergency Department (ED) Visits in the Six Large Hospitals, 2019/20

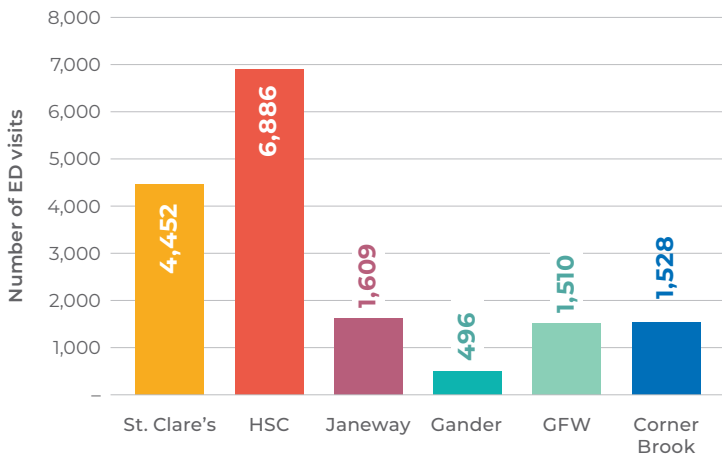


Figure 3B. The Number of ED Visits that were Recorded as CTAS Level 1/2 (Resuscitation Emergency), 2019/20

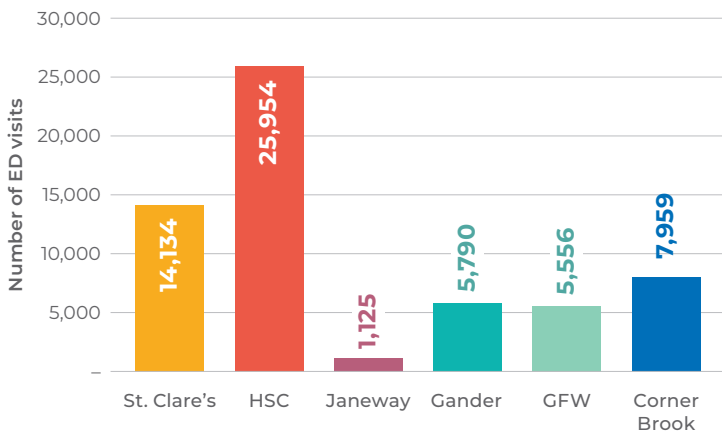


Figure 3C. The number of ED Visits that were Recorded as CTAS Level 3 (Urgent), 2019/20

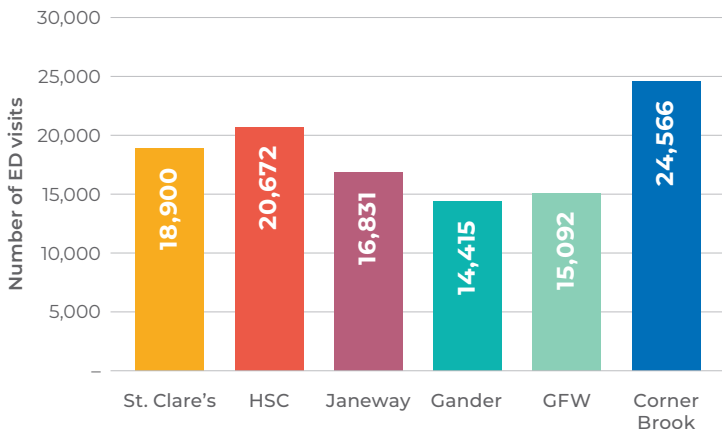


Figure 3D. The Number of ED Visits Recorded as CTAS Level 4/5 (Less Urgent/Non-Urgent), 2019/20

- The rate of ED visits/1,000 population in St. John's was 553, Gander 454, GFW 478, and Corner Brook 818 (assuming catchment population was 42,000).
- CTAS 1/2 visits were three times higher in GFW than Gander.
- The number of ED visits that were CTAS level 3 (urgent) were similar in Gander and GFW.
- ED CTAS 4/5 visits (less urgent or non-urgent complaints) were similar in number in Gander and GFW, comprising 69% of total visits in Gander and 68% in GFW.

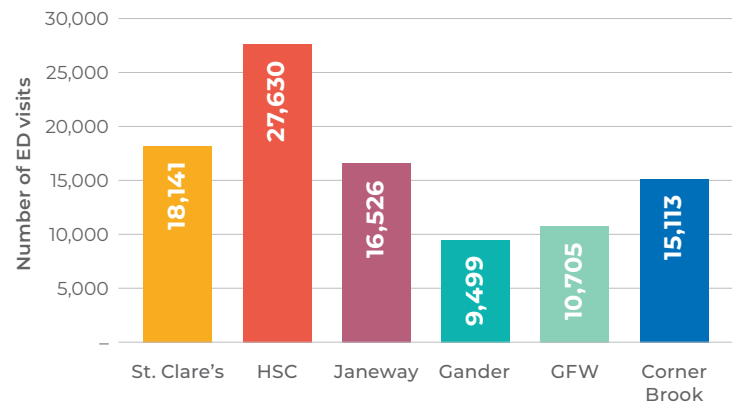


Figure 3E. The Number of Night-Time ED Visits From 8PM-8AM in the Six Large Hospitals, 2019/20

- The percentage of visits that were at night were 48% at St. Clare's, 50% at HSC, 51% at the Janeway, 46% in Gander, 48% in GFW, and 44% in Corner Brook.

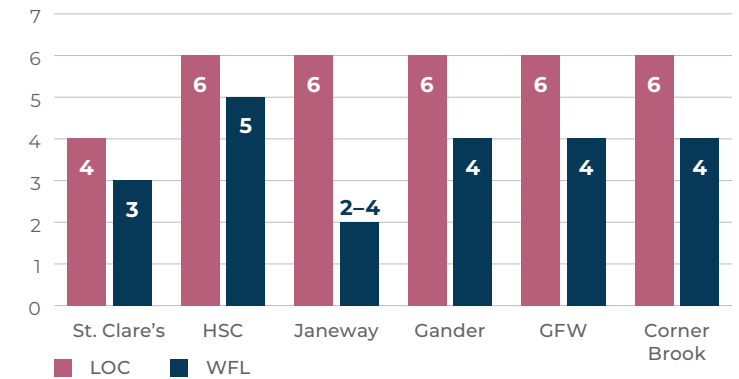


Figure 3F. Level of Complexity (LOC) and Work Force Level (WFL) for ED in the Six Large Hospitals

- Hospitals in Gander, GFW, and Corner Brook reported level of complexity of ED service provision at the highest level, but work force level was not commensurate with that complexity level.

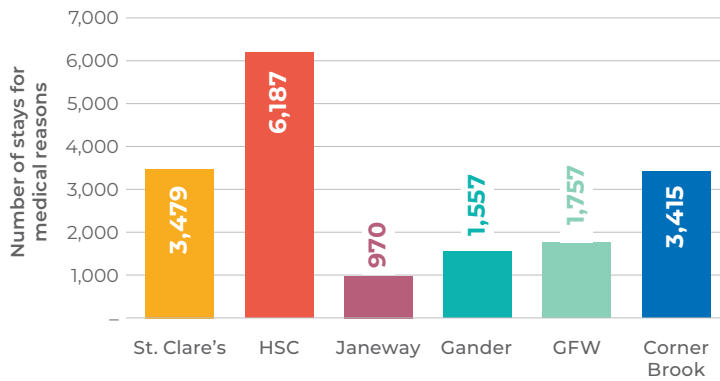


Figure 4A The Number of Stays for Medical Reasons at the Six Large Hospitals, 2019/20

- The number of medicine stays/day was 4.3 in Gander, 4.8 in GFW, and 9.4 in Corner Brook.

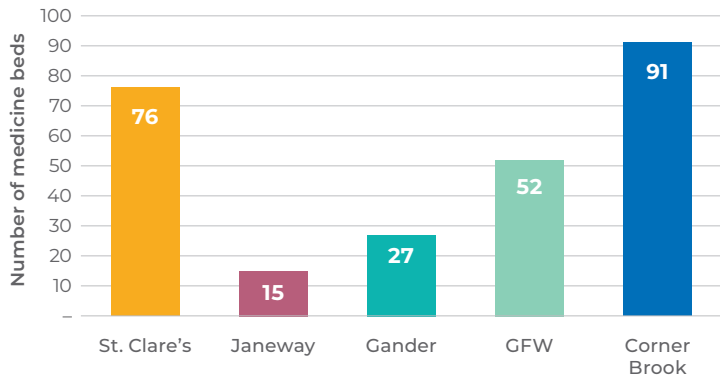


Figure 4B. The Number of Medicine Beds at Five of the Six Large Hospitals, 2019/20

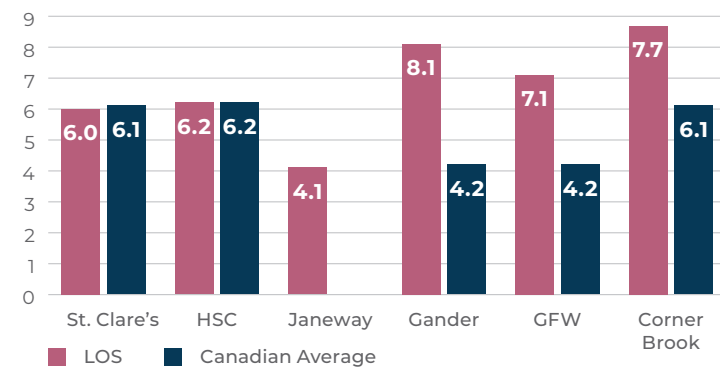


Figure 4C. Average Length of Stay (LOS) for Medical Reasons in the Six Large Hospitals Compared to Comparable Sized Hospitals in Canada, 2019/20

- Length of stay for medical reasons was high in Gander, GFW, and Corner Brook.
- There was not comparable national data for the Janeway Hospital.

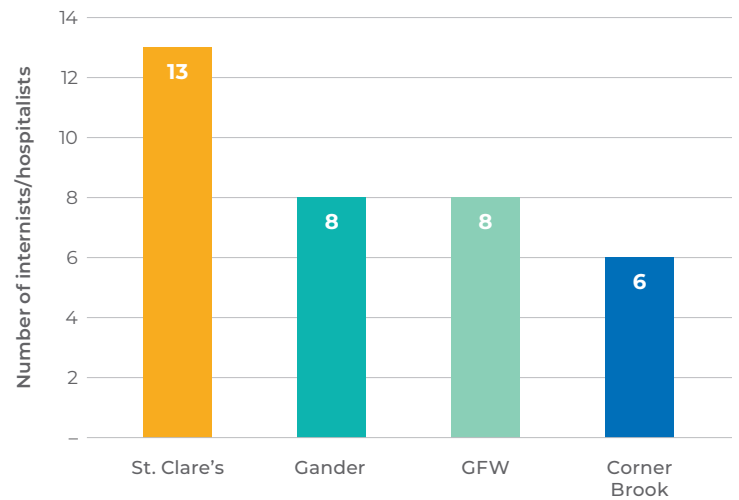


Figure 4D. Number of Internists/Hospitalists in the Large Hospitals

- Relative to the number of medical stays, the number of internists/hospitalists was higher in Gander and GFW compared to Corner Brook.
- Level of complexity for medicine reported by the six large hospitals was high and work force was commensurate with the complexity level.

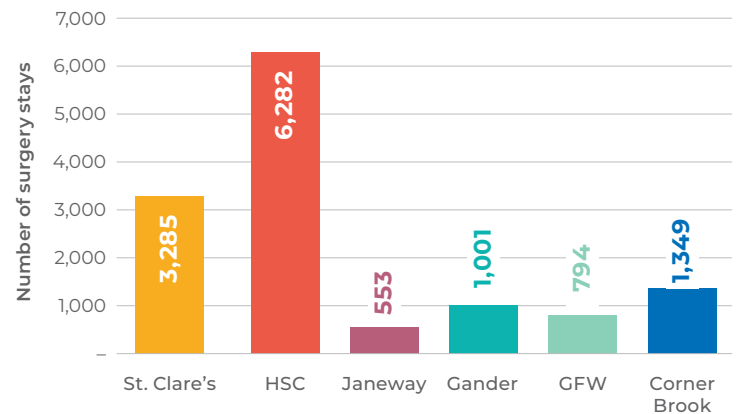


Figure 5A. Number of Surgery Stays in the Six Large Hospitals, 2019/20

- The number of surgeries/day was 2.7 in Gander, 2.2 in GFW, and 3.7 in Corner Brook, using 365 days as the denominator.

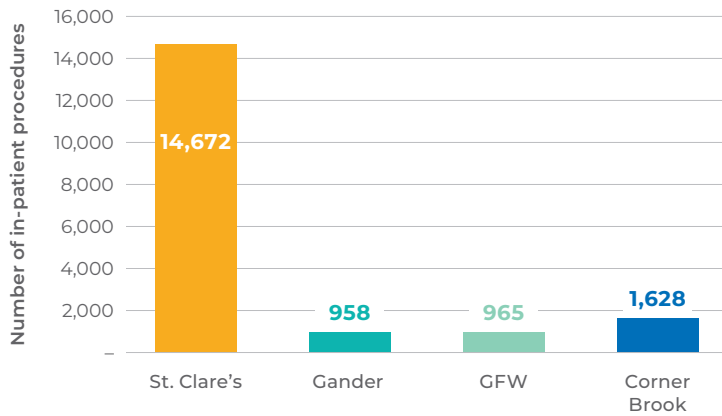


Figure 5B. Number of Inpatient Procedures Defined as Not Low Risk, 2019/20

- The number of not-low-risk inpatient procedures was similar in Gander and GFW; 2.6/day in each hospital.

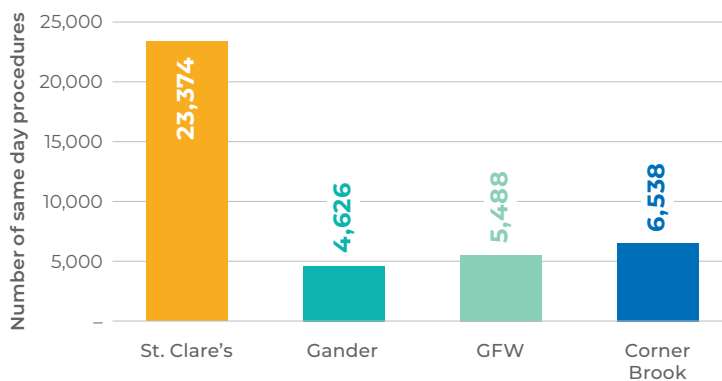


Figure 5C. Number of Same Day Procedures

- The number of same day procedures/day was 12.7 in Gander, 15.0 in GFW, and 17.9 in Corner Brook.

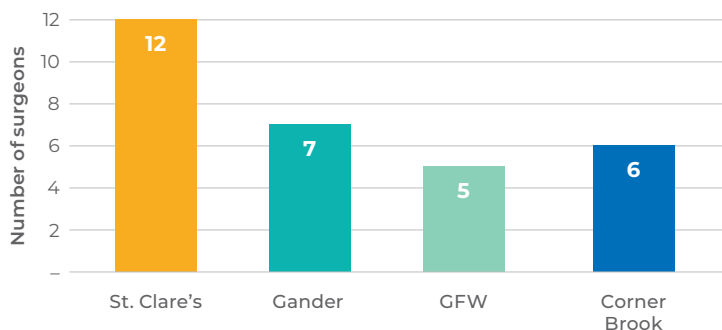


Figure 5D. Number of Surgeons in the Large Hospitals, 2019/20

- Gander, GFW, and Corner Brook reported that level of complexity of surgery services was high (level 5) with work force level commensurate with the level of complexity.

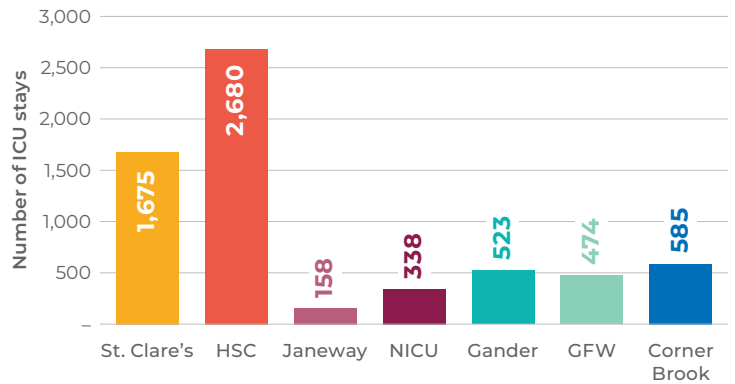


Figure 6A. The Number of ICU Stays in the Large Hospitals, 2019/20

- The number of ICU stays/day in Gander was 1.4, GFW 1.3 and Corner Brook 1.6.

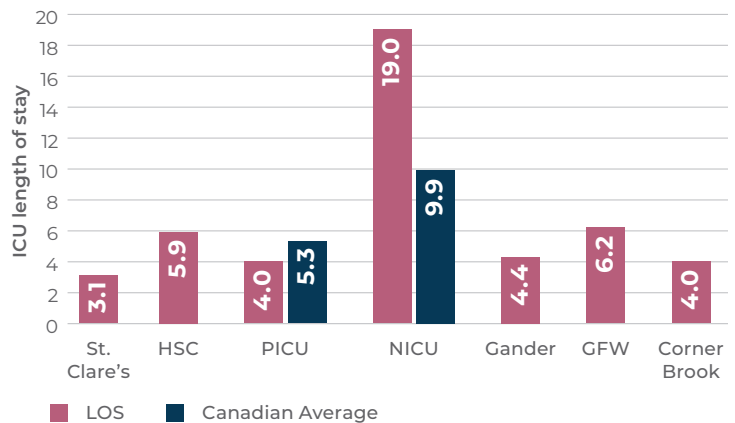


Figure 6B. ICU Length of Stay in the Six Large Hospitals

- Length of stay in the neonatal ICU at the Janeway was high.

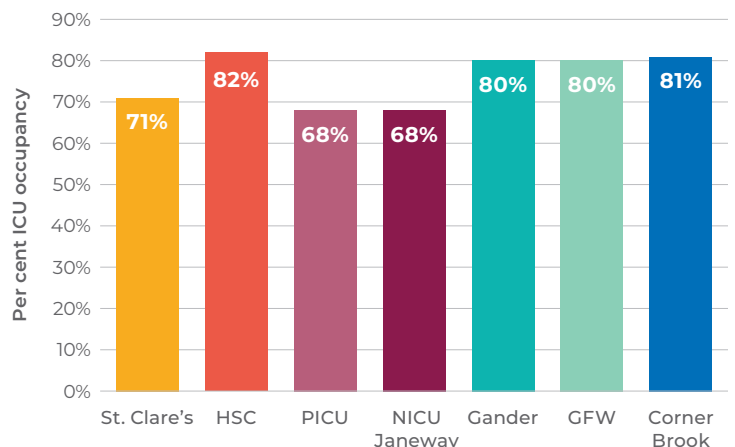


Figure 6C. ICU Occupancy in the Large Hospitals, 2019/20

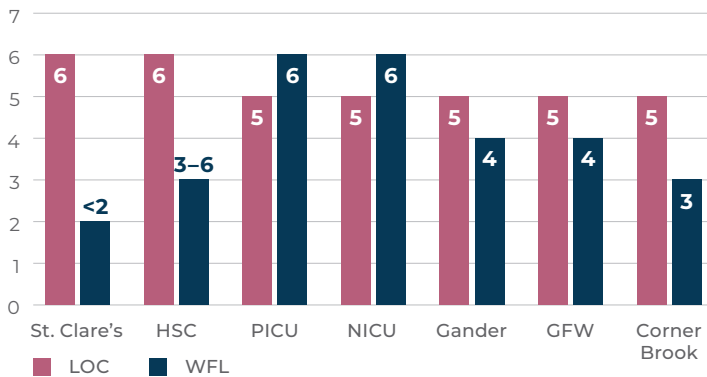
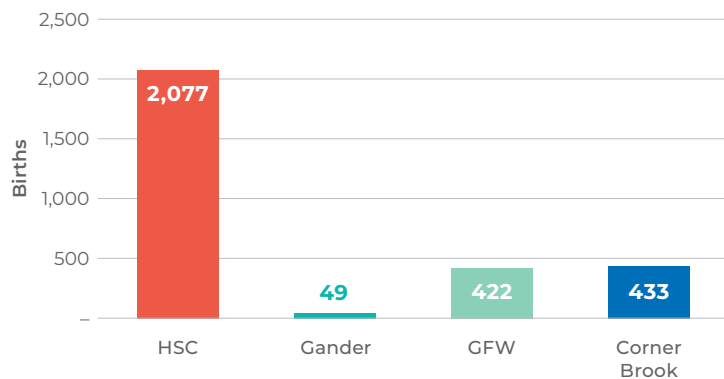


Figure 6D. ICU Level of Complexity (LOC) and Work Force Level (WFL), 2019/20

- St. Clare's Hospital and HSC reported the highest level of complexity of ICU service, but did not have the work force level commensurate with this degree of complexity.



Note: For some of this year, deliveries were diverted from Gander to GFW. The number of deliveries in CH was 471.

Figure 7A. Obstetrics Deliveries at the Four Large Hospitals, 2019/20

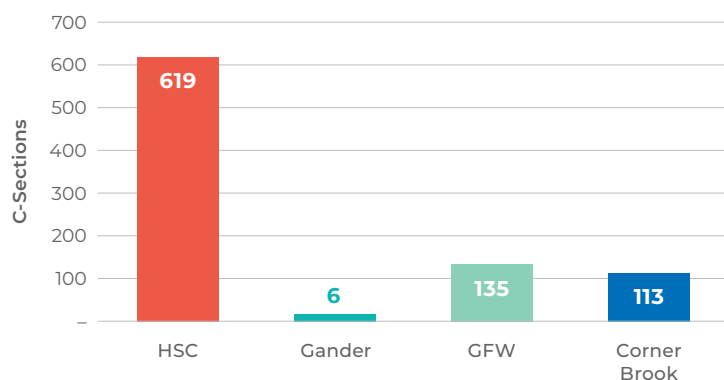


Figure 7B. C-Sections Undertaken in the Obstetrics Units of the Four Large Hospitals

- The per cent of deliveries who had a C-section was 30% in St. John's, 29% in CH, and 26% in Corner Brook.
- The Canadian rate is 28%.

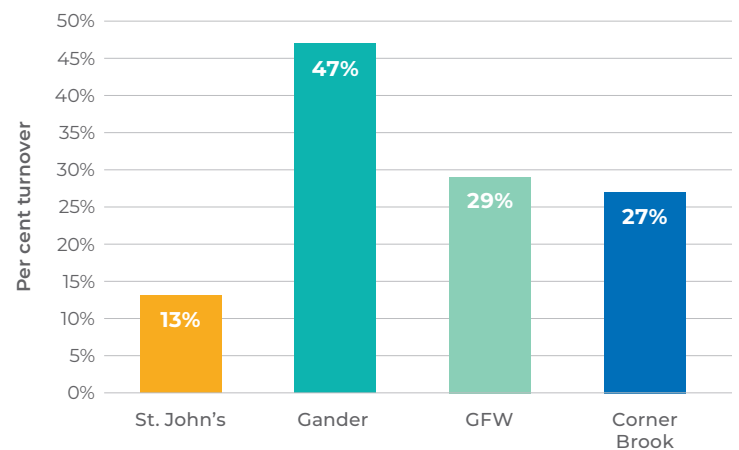


Figure 8A. Turnover Rate of Physicians in the Large Hospitals, 2018–2021

- Turnover rate was defined as the number of new physicians in the three years from 2018–2021 plus current vacancies/number of positions funded.
- The turnover rate was high in Gander. At GFW and Corner Brook it was double that for St. John's.

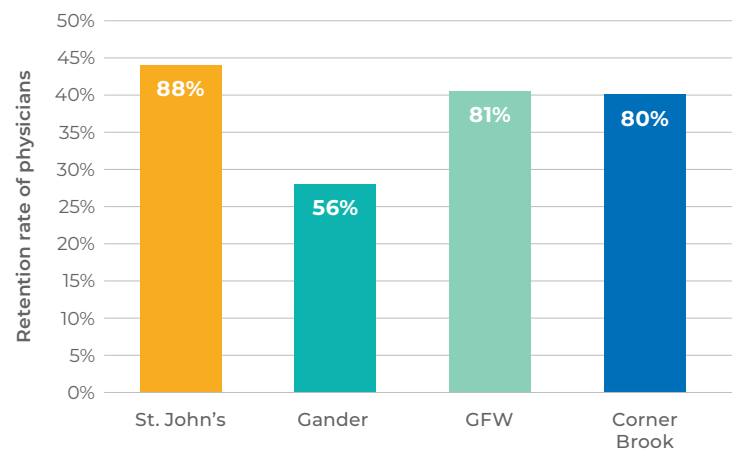


Figure 8B. Retention Rate of Physicians for Longer Than Three Years (2018–2021) in the Large Hospitals

- The retention rate was low in Gander.

Conclusions

1. St. John's hospitals have the largest catchment population and provide primary and secondary services to more than 230,000 people. In addition, they provide tertiary services to the provincial population.

Per cent occupancy was high at HSC and low at the Janeway.

Per cent ED visits that were CTAS level 4/5 ranged from 38–52% in the three hospitals.

LOS in medicine beds was comparable to similar sized hospitals in Canada.

Per cent turnover in hospital physicians was 13%.

2. Gander and GFW serve similar sized catchment populations, but GFW had more stays and more beds.

Per cent occupancy and per cent ALC were high in both hospitals.

Per cent ED visits that were CTAS 4/5 was 69%.

Average LOS for medicine was high in comparison to comparable sized hospitals in Canada.

The number of inpatient not-low-risk procedures was 2.6/day in both hospitals, but same day procedures were much higher.

The number of ICU admissions was 1.3/day in each hospital.

The number of deliveries was 1.3/day, combining both hospitals.

Hospital physician turnover rate was higher in Gander than GFW (47% versus 29%).

Consideration of a regional hospital in Central Health, across two sites, without unnecessary duplication of services, could provide space for provision of more regional services and improve sustainability of services.

Consideration should be given to having one service in CH for ICU (with a special care unit in the other hospital), obstetrics and gynecology, pediatrics, specialized pathology and laboratory services. A decrease in ALC could create space for a specialized geriatrics service, restorative care, a stroke unit, rehabilitation.

3. The number of beds in WH has decreased since the current analysis with the opening of the new hospital in Corner Brook.

Per cent ALC is high.

Percentage of ED visits that achieve CTAS level 4/5 is 72%.

LOS for medicine is high.

More efficient use of the hospital could facilitate provision of more regional services, including a Centre of Excellence in Aging.