

Information to Plan Services in Community Hospitals

Objective

To provide information on demography, utilization, and level of complexity of hospital services provided by the seven rural hospitals in NL.

Practice Points

1. There are hospitals in NL with relatively small catchment areas in Clarenville, Burin, Stephenville, St. Anthony, Happy Valley-Goose Bay (HVGB), and Labrador West. Carbonear has a potential catchment population of about 60,000 people, but residents frequently attend St. John's hospitals for services. For this summary we will use a catchment population of 40,000.
2. These hospitals are appropriately geographically located based on population, but pressures exist to provide full service specialty services in these areas.
3. Small volumes of patients in specialized services predispose to problems with recruitment and retention of specialists (sustainability), concern about quality outcomes particularly in high-risk patients having high-risk procedures, having the health care resources to provide care with high level of complexity, limiting resources to regional hospitals who should provide specialized care with a high level of complexity.

Data

1. These were obtained from Canadian Institute for Health Information, NL Centre for Health Information, and Department of Health and Community Services for 2019/20.
2. Level of complexity reported by the service and work force level is ranked from 1–6, with 1 the lowest level on the Tasmania Role Delineation Model Framework were obtained from the RHA.
3. Turnover is defined as new doctors in 2018–2021 (3 years) plus current vacancies as percentage of current positions funded.
4. Catchment population was obtained from the Department of Finance projections.
5. For the ease of presentation, Stephenville is included with the 3 LGH hospitals.

Results

Eastern Health (EH) Rural Hospitals

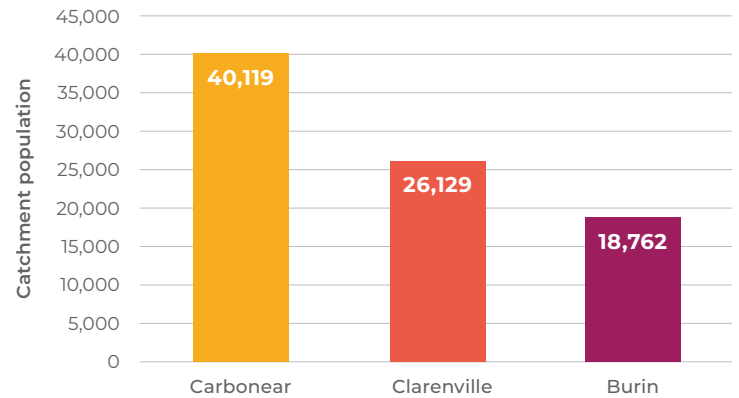


Figure 1A. Catchment Population

- There are 85,010 people in this region, similar to that of Central Health (CH) and Western Health (WH).

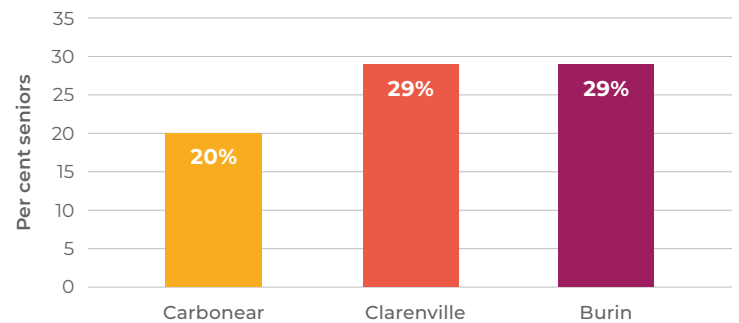


Figure 1B. Per Cent Seniors

- The per cent seniors on the Bonavista Peninsula and Burin Peninsula is 29.
- For ICU, the work force level ranges from 2 to 6. This work was undertaken in 2021.

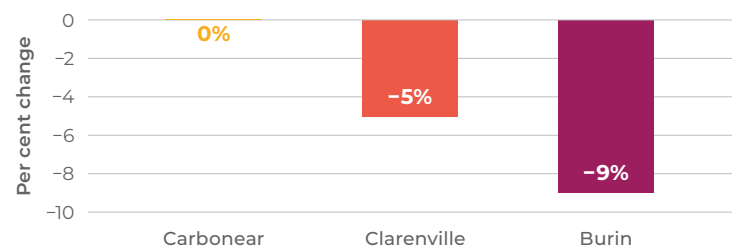


Figure 1C. Predicted Population Change From 2020 to 2030

- The catchment populations of Burin and Clarenville are predicted to decrease.

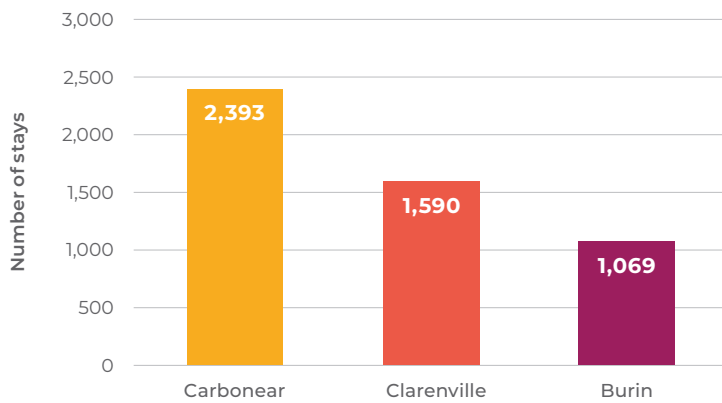


Figure 2A. Annual Number of Stays, 2019–2020

- The number of hospital stays/1,000 population is similar in the three catchment populations (57–60).

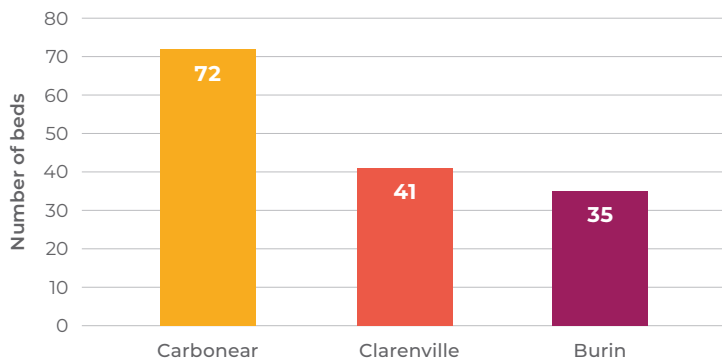


Figure 2B. Number of Beds, 2019/20

- The number of beds/1,000 population is 1.8 in Carbonear, 1.6 in Clareville and 1.9 in Burin.

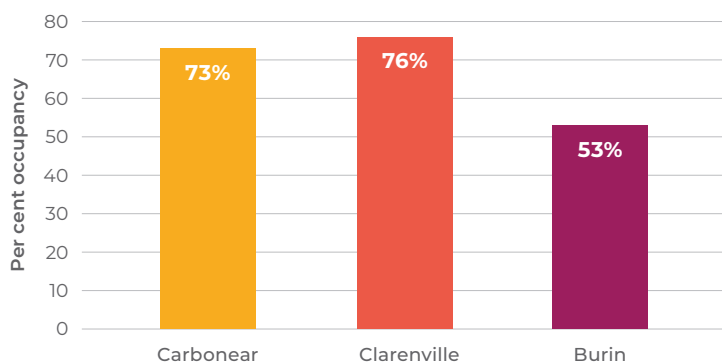


Figure 2C. Per Cent Occupancy, 2019/2020

- The occupancy rate for all three hospitals is low.

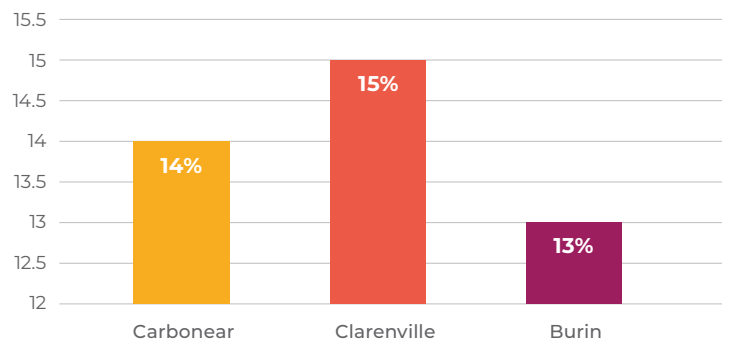


Figure 2D. Per Cent Alternate Level of Care, 2019/2020

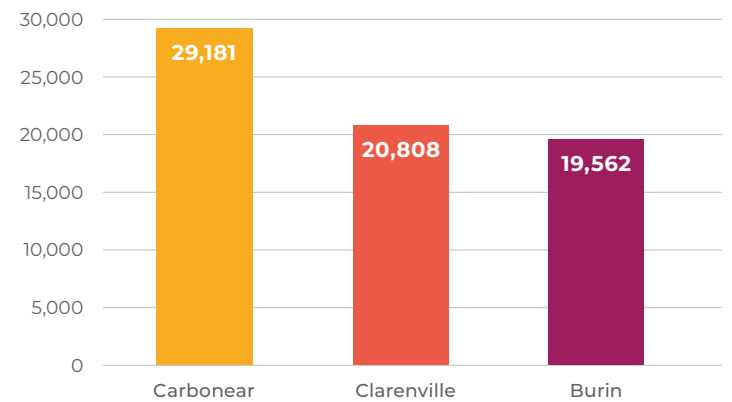


Figure 3A. Annual Utilization of Emergency Department (N), 2019/2020

- The number of ER visits/1,000 population ranged from 727 in Carbonear, 796 in Clareville, and 1,043 in Burin.

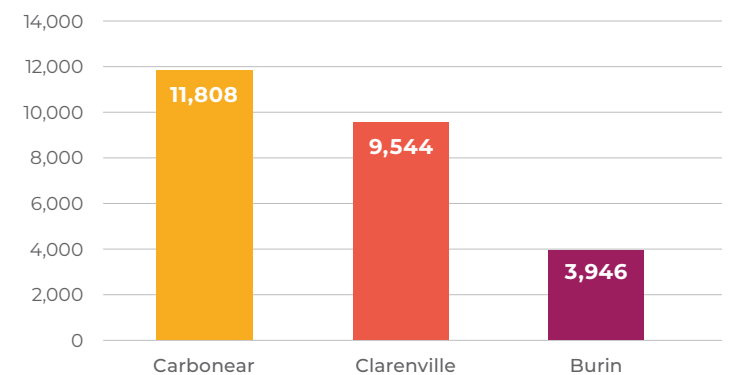


Figure 3B. Number of CTAS 1–3 seen in the Emergency Department 2019/2020

- The number of CTAS 1-3 (resuscitation/emergent/urgent) visits/1,000 population was 294 in Carbonear, 365 in Clareville and 210 in Burin.

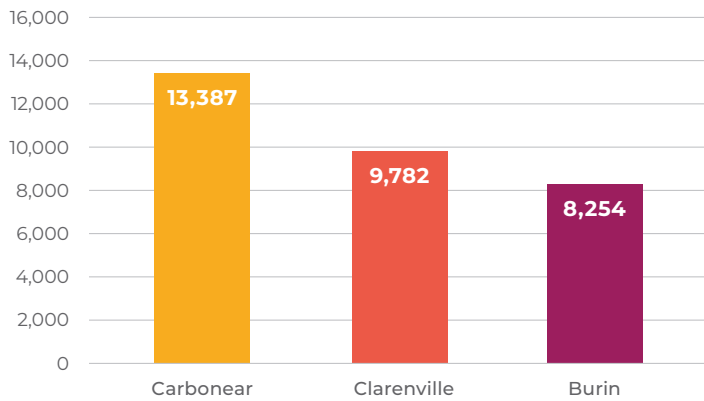


Figure 3C. Number Seen in Emergency Department From 8 PM to 8 AM, 2019/2020

- The percentage of ER visits seen at night was 46% in Carbonear and Clarenville, and 42% in Burin.

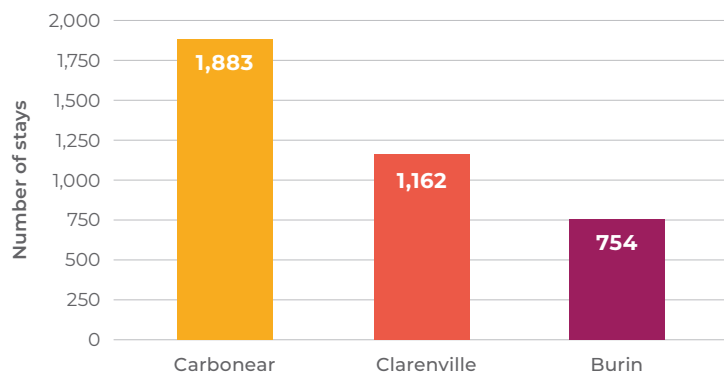


Figure 4A. Annual Number of Stays for Medical Reason, 2019/2020

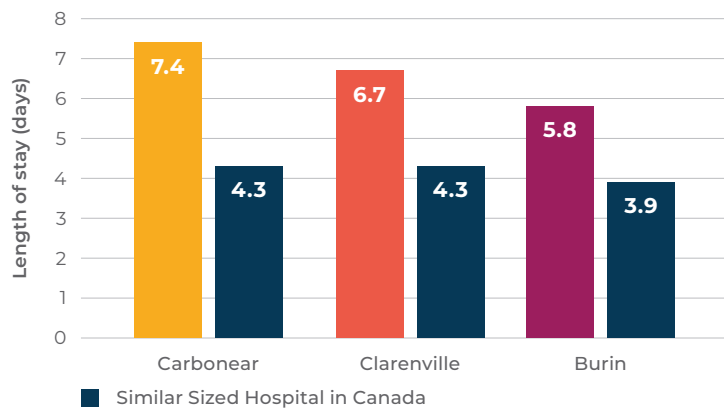


Figure 4B. Length of Stay in Days vs. Canadian Average for Similar Sized Hospital

- Length of stay for medicine was higher than in comparable Canadian hospitals, especially at Carbonear.

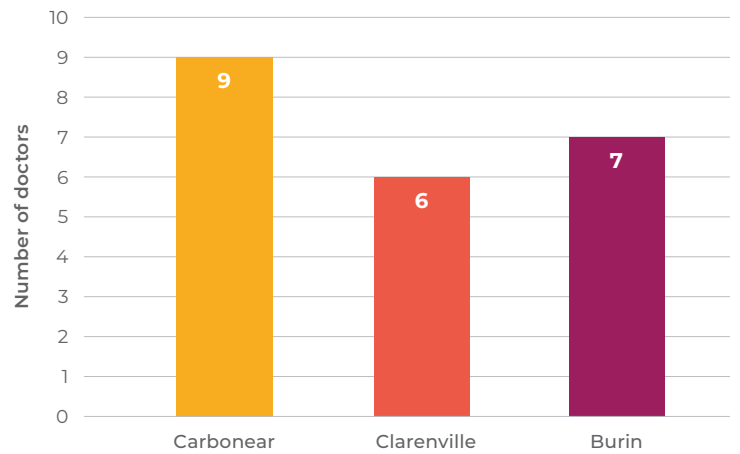


Figure 4C. Number of Doctors for Medicine Service

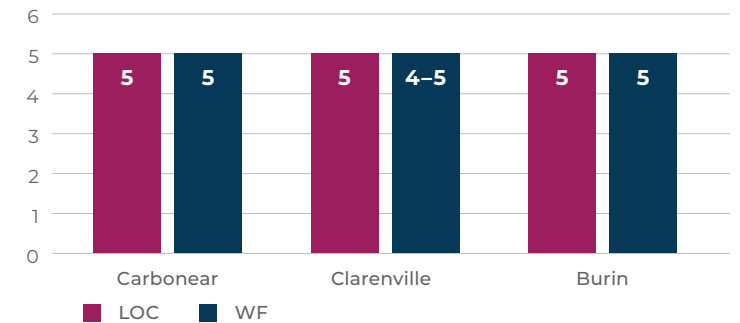


Figure 4D. Level of Complexity (LOC) and Work Force (WF) Level for Medicine

- Level of complexity of medical services provided at the three rural hospitals was high with commensurate work force provided to meet that level.

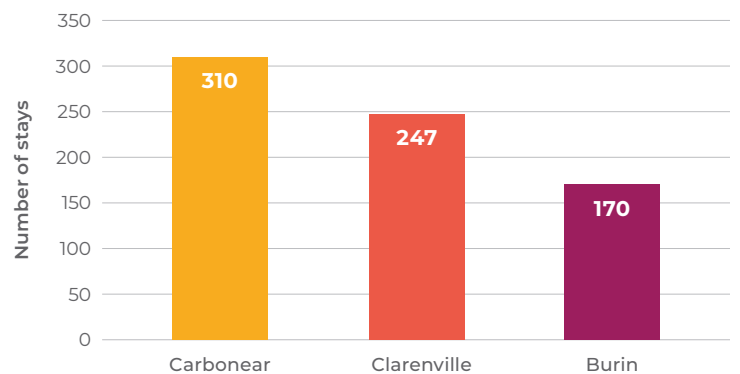


Figure 5A. Annual Number of Stays for Surgery Reason, 2019/2020

- Number of stays for surgery was <1/day for each of the three hospitals.

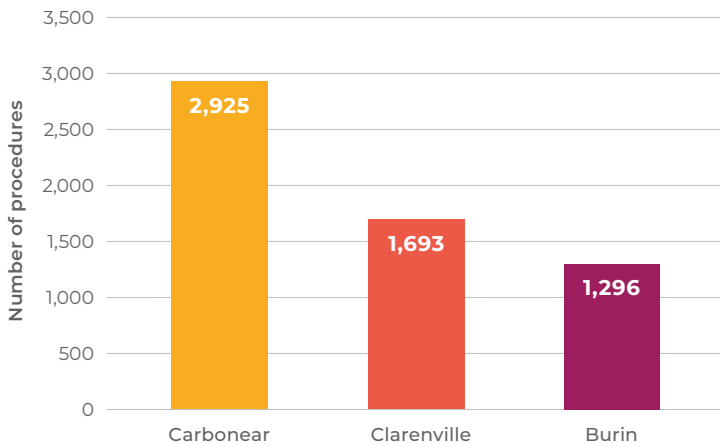


Figure 5B. Number of Same Day Procedures, 2019/2020

- The number of same day procedures/1,000 population was 73 in Carbonear, 65 in Clarenville and 69 in Burin.

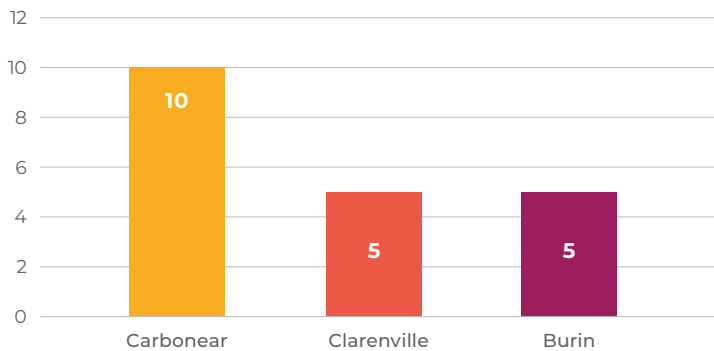


Figure 5C. Number of Surgeons and Anesthetists Funded, 2019/2020

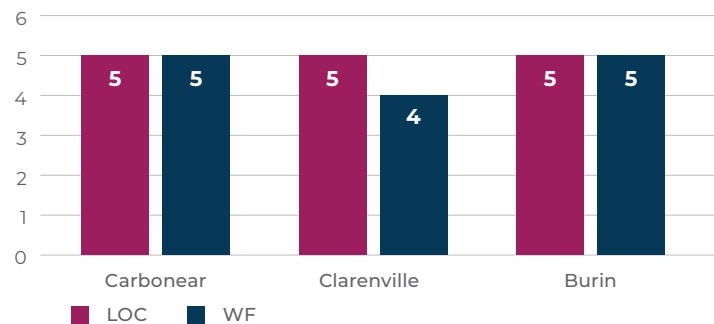


Figure 5D. Level of Complexity (LOC) and Work Force (WF) Level for Surgery

- Level of complexity of surgery reported by the three hospitals was high with commensurate work force provided to meet that level.

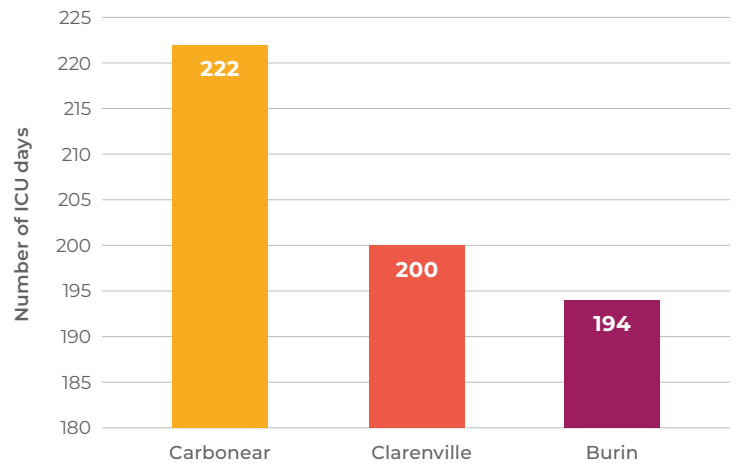


Figure 6A. Annual Number of ICU Days, 2019/2020

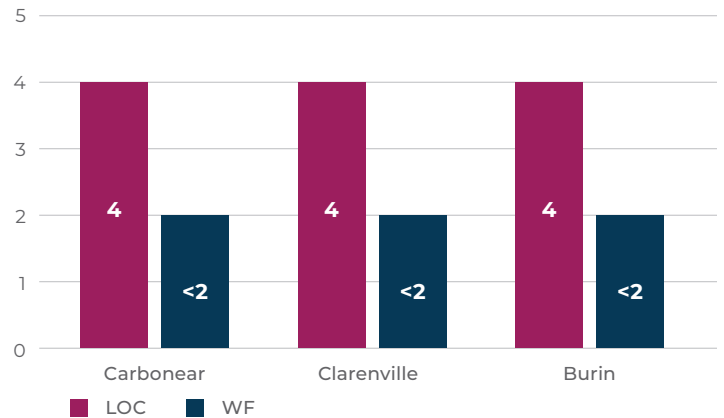


Figure 6B. Level of Complexity (LOC) and Work Force (WF) Level for ICU

- Work force level did not meet the level of complexity of ICU services reported by the three hospitals.

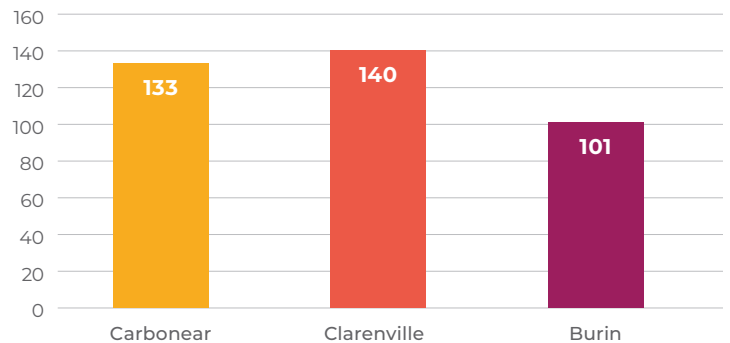


Figure 7A. Annual Number of Deliveries, 2019/2020

- The annual number of deliveries was low, ranging from 101–140.

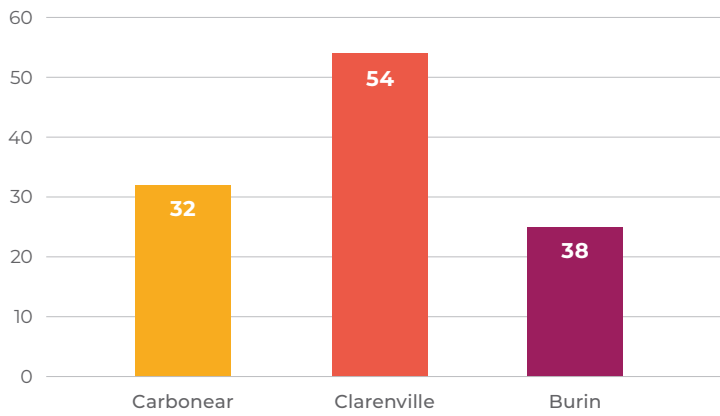


Figure 7B. Annual Number of C-Sections, 2019/2020

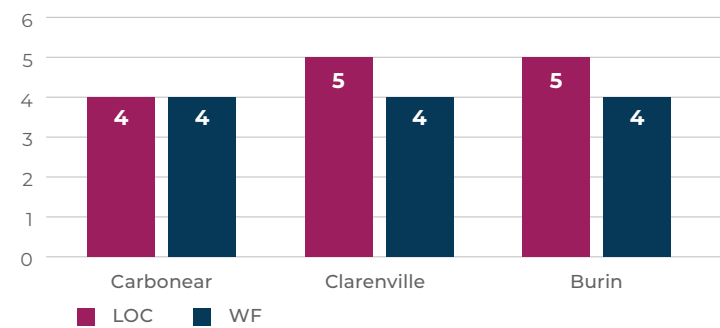


Figure 7C. Level of Complexity (LOC) and Work Force (WF) Level for Obstetrics

- Despite the low number of deliveries, the level of complexity of obstetrics was high.

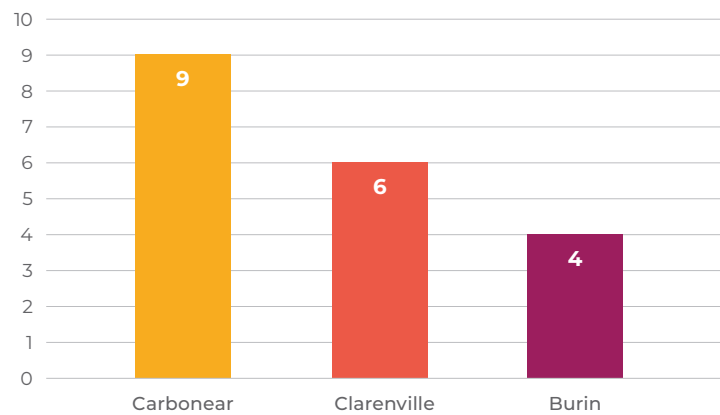


Figure 8A. Number of Other Specialists in Pediatrics, Psychiatry, Imaging and Pathology

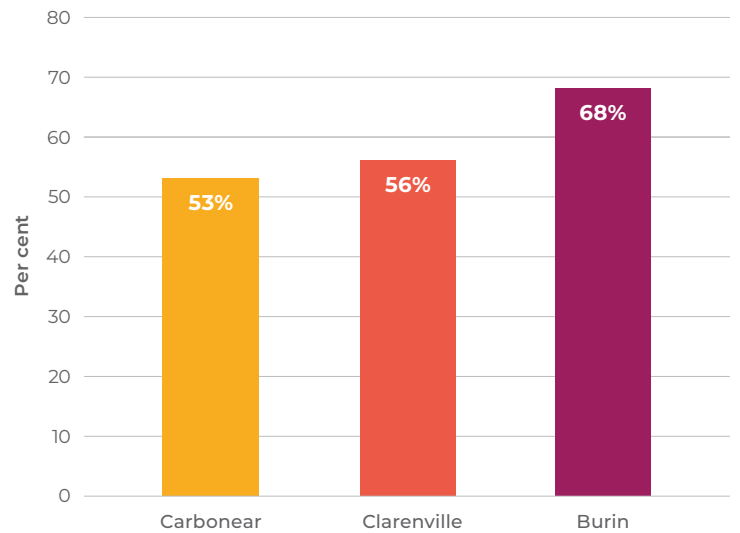


Figure 8B. Per Cent Turnover of Physicians in the Past Three Years, 2018-2021

- The turnover rate was high (number of times positions were filled in the three years plus number of vacancies/total positions funded).

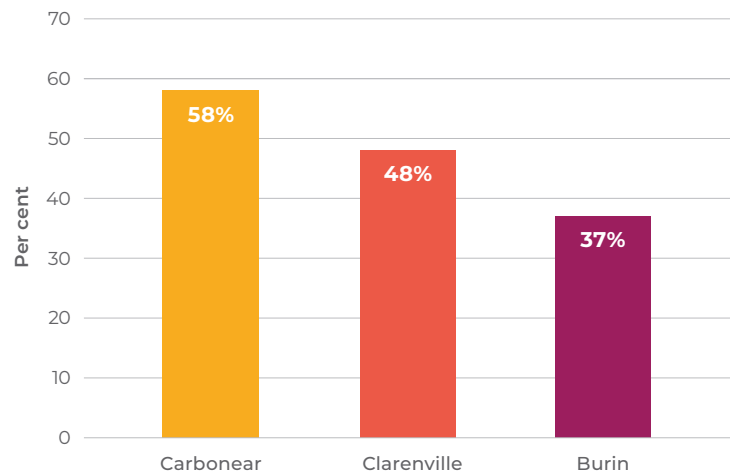


Figure 8C. Per Cent Retention of Physicians for Longer Than Three Years

- The retention of physicians for greater than three years as a percentage of the total positions funded ranged from 37% in Burin to 58% in Carbonear.

Labrador-Grenfell Health (LGH) Hospitals and Stephenville

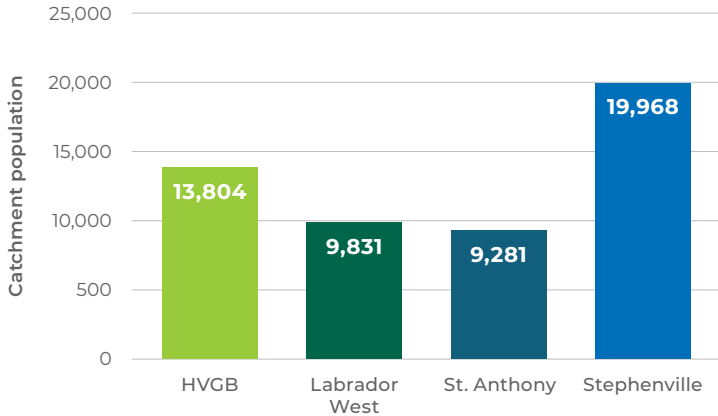


Figure 9A. Catchment Populations

- The three hospitals in LGH are geographically isolated with small catchment populations.

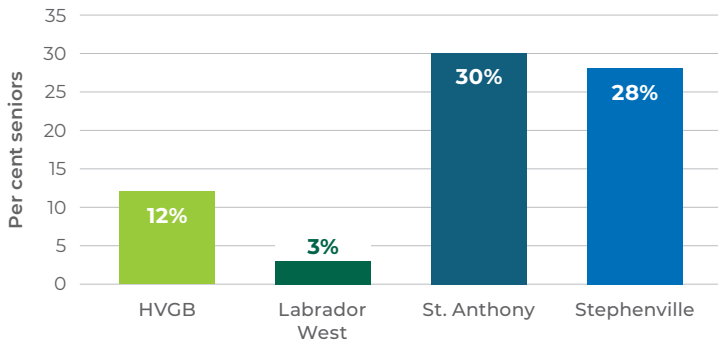


Figure 9B. Per Cent Seniors in Catchment Population

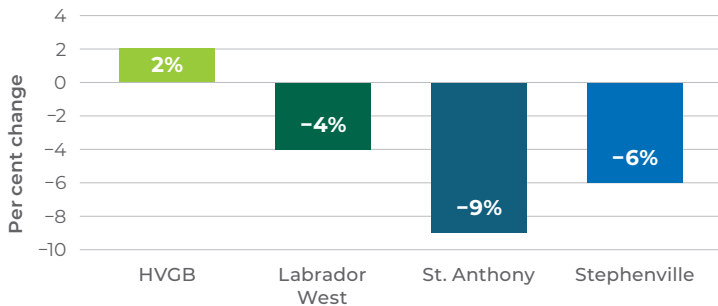


Figure 9C. Predicted Population Change From 2020-2030

- Population reduction in the next decade is projected for Labrador West, St. Anthony, and Stephenville.

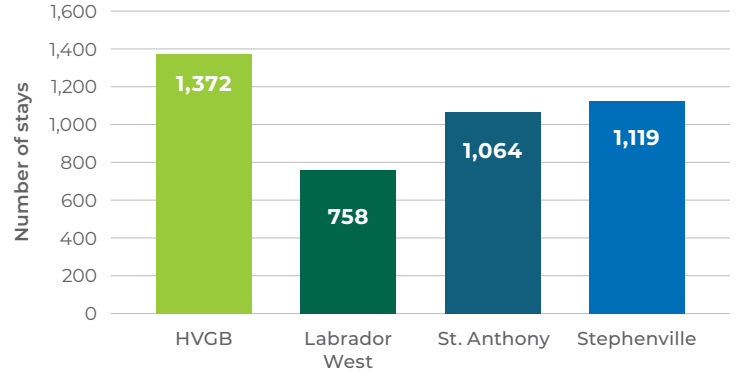


Figure 10A. Annual Number of Hospital Stays, 2019/2020

- The number of hospital stays/1,000 population was 99 in HVGB, 77 in Labrador West, 115 in St. Anthony, and 56 in Stephenville.

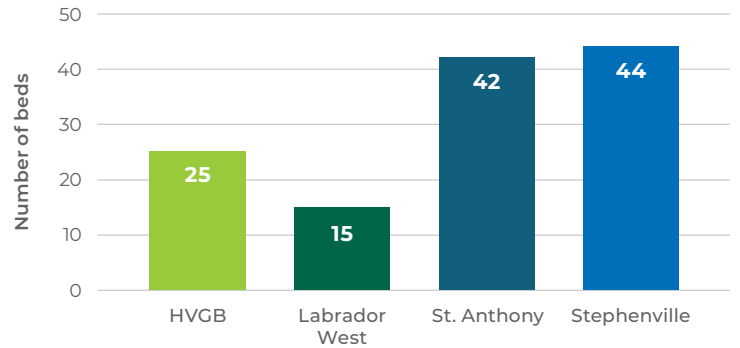


Figure 10B. Number of Hospital Beds

- The number of beds/1,000 population is 1.8 in HVGB, 1.5 in Labrador West, 4.5 in St. Anthony and 2.2 in Stephenville.

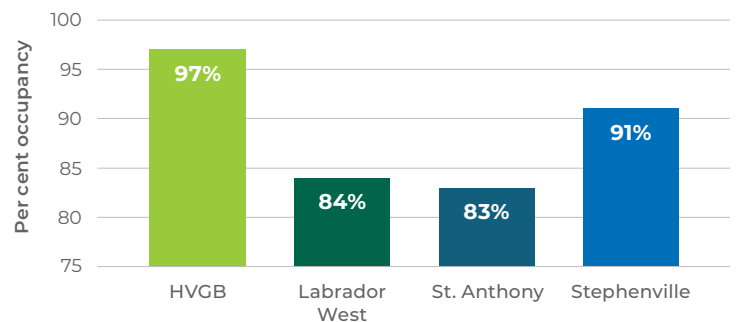


Figure 10C. Per Cent Occupancy

- Occupancy rate is <85% in Labrador West and St. Anthony, and is very high in HVGB.

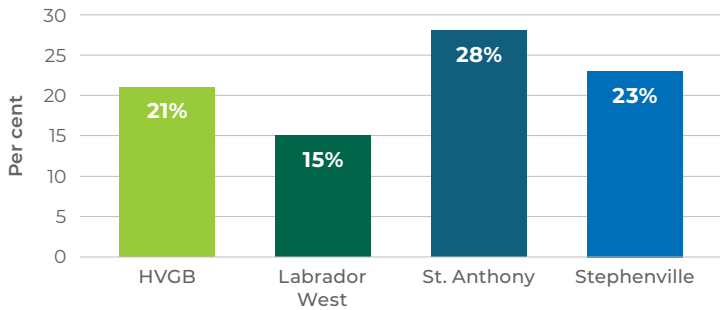


Figure 10D. Per Cent Alternate Level of Care

- Alternate level of care rate is high in HVGB, St. Anthony and Stephenville.

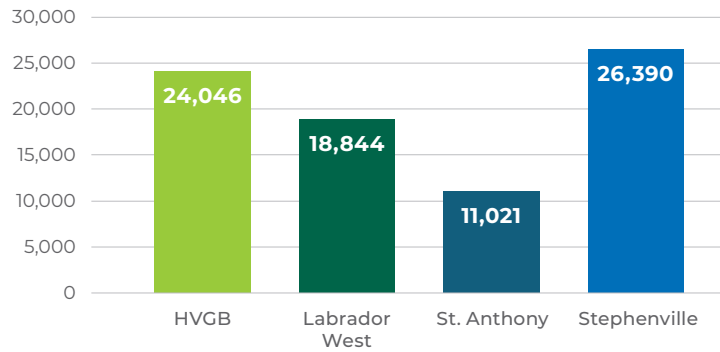


Figure 11A. Annual Utilization of Emergency Department

- The number of ER visits/1,000 population was 1,742 in HVGB, 1,917 in Labrador West, 1,187 in St. Anthony, and 1,322 in Stephenville.

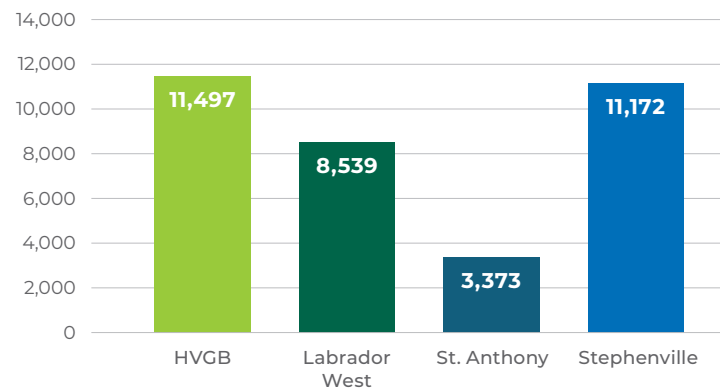


Figure 11B. Number Seen in ER Between 8PM and 8 AM

- Percentage of ER visits seen at night was 48% in HVGB, 45% in Labrador West, 31% in St. Anthony, and 42% in Stephenville.

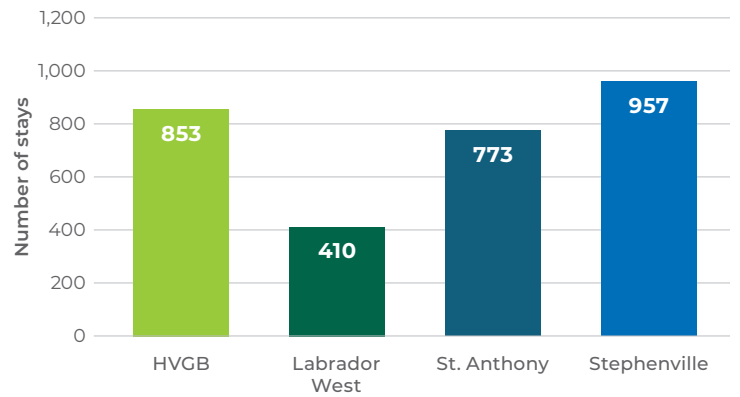


Figure 12A. Annual Number of Stays for Medicine, 2019/2020

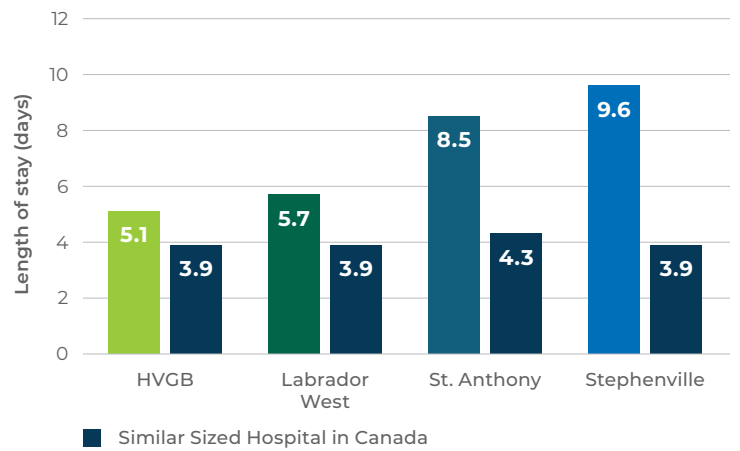


Figure 12B. Average Length of Stay in Days vs. Canada for Similar Sized Hospitals

- Length of stay for medicine was particularly prolonged in St. Anthony and Stephenville.

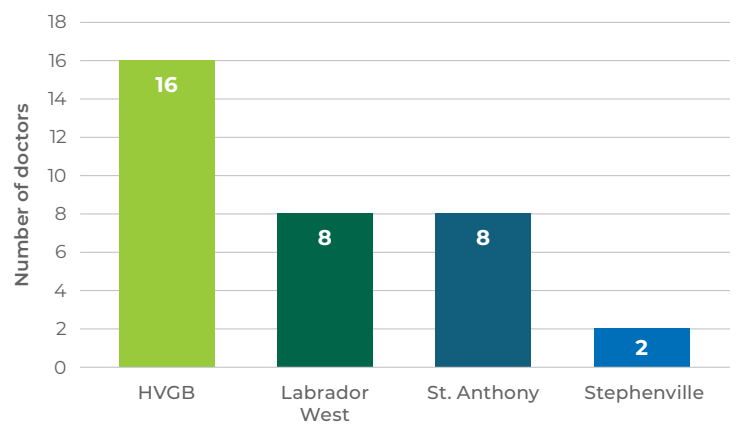


Figure 12C. Number of Doctors for Medicine

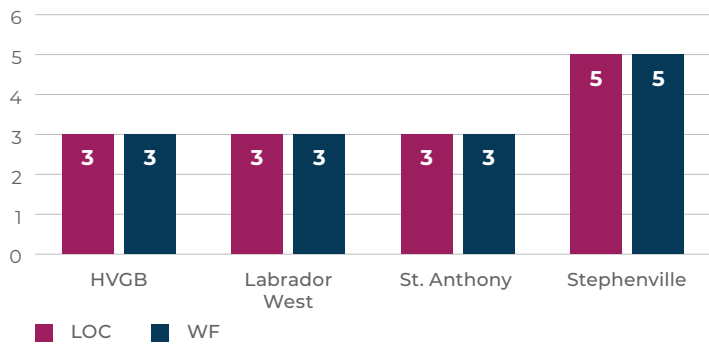


Figure 12D. Level of Complexity (LOC) and Work Force (WF) Level for Medicine

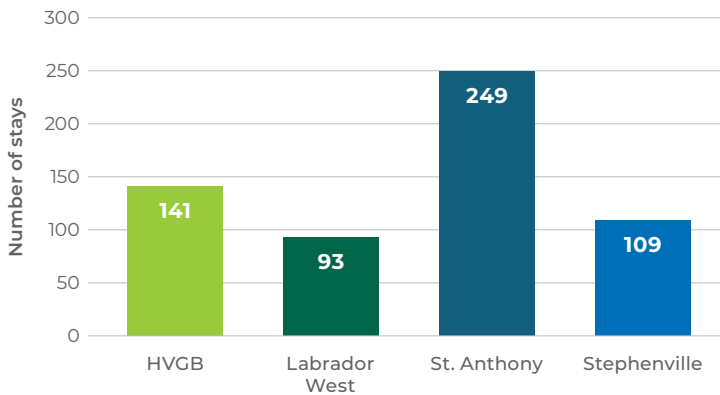


Figure 13A. Annual Number of Stays for Surgery

- In HVGB, one surgeon was responsible for 141 stays, whereas in St. Anthony six surgeons were responsible for 249 stays.

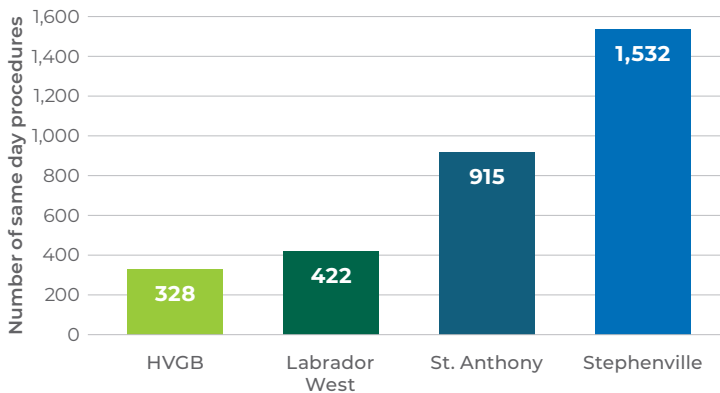
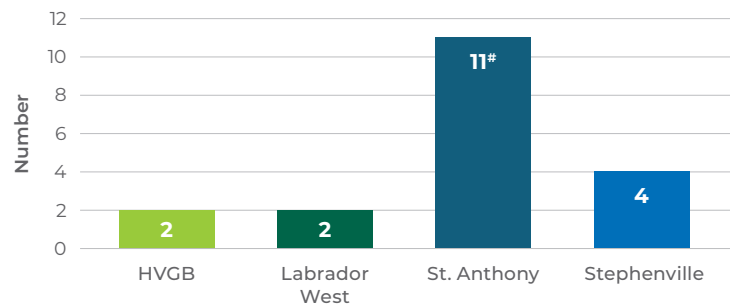


Figure 13B. Number of Same Day Procedures 2019/2020

- The number of same day procedures/1,000 population was 24 in HVGB, 43 in Labrador West, 99 in St. Anthony, and 77 in Stephenville.



Includes three sub specialists

Figure 13C. Number of Surgeons and Anesthetists Funded

- The number of surgeons and anesthetists in St. Anthony was the highest of the 7 community hospitals.

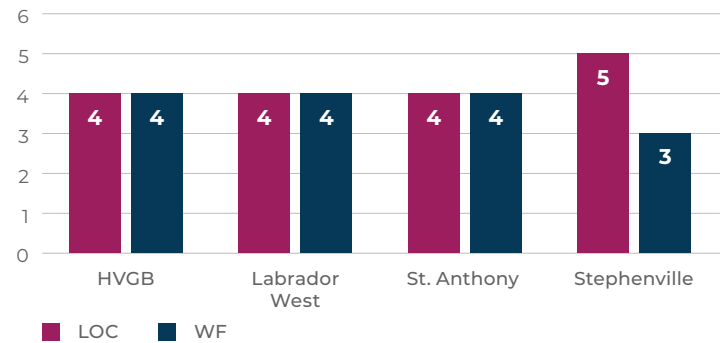


Figure 13D. Level of Complexity (LOC) and Work Force (WF) Level for Surgery

- In the LGH hospitals, level of complexity and work force was consistent with that expected from a community hospital.

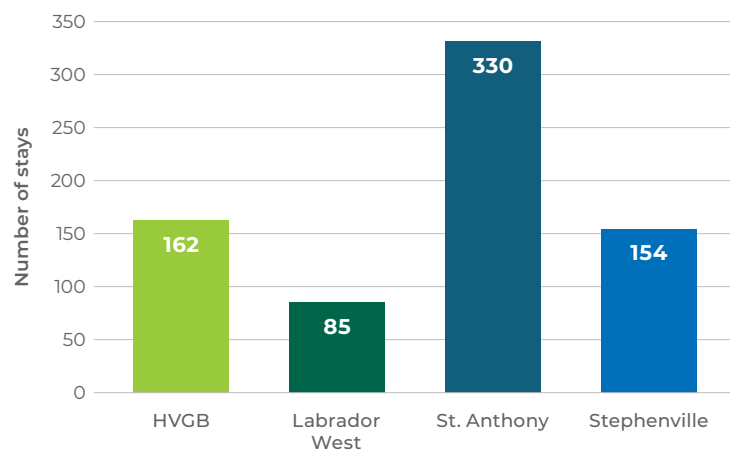


Figure 14A. Annual Number of ICU Stays

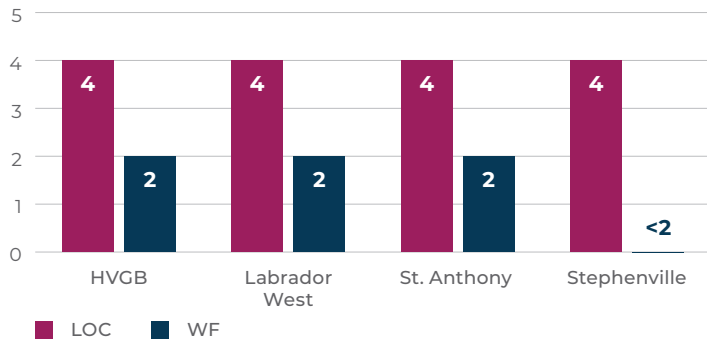


Figure 14B. Level of Complexity (LOC) and Work Force (WF) Level for ICU

- Level of complexity of ICU services was reported as level 4 but the work force was inconsistent with this level.

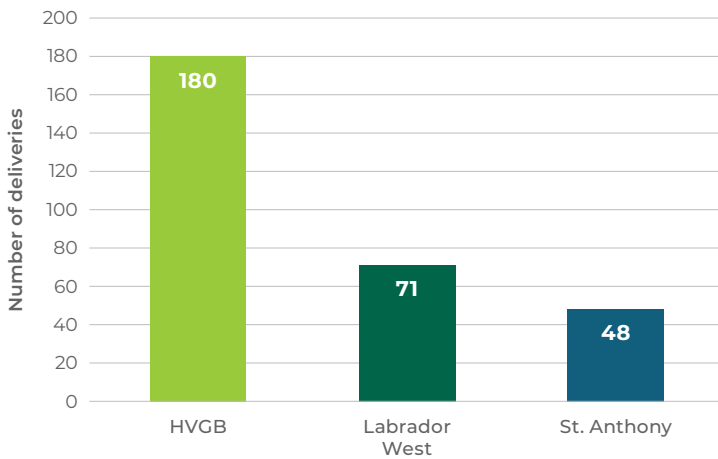


Figure 15A. Annual Number of Deliveries, 2019/20

- The number of deliveries in Labrador West and St. Anthony is low.

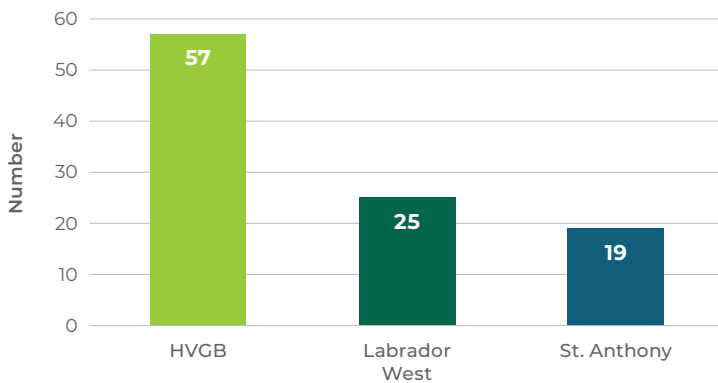


Figure 15B. Annual number of C-Sections

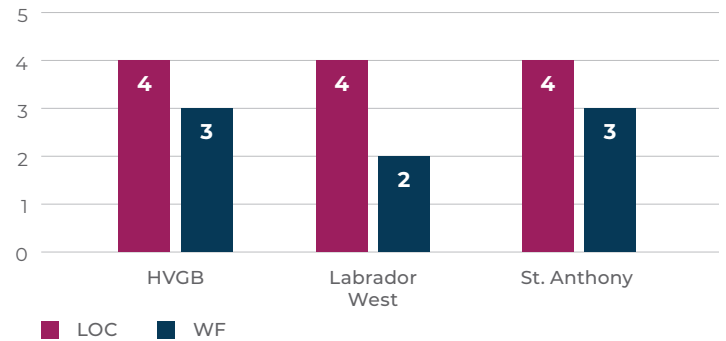


Figure 15C. Level of Complexity (LOC) and Work Force (WF) Level for Obstetrics

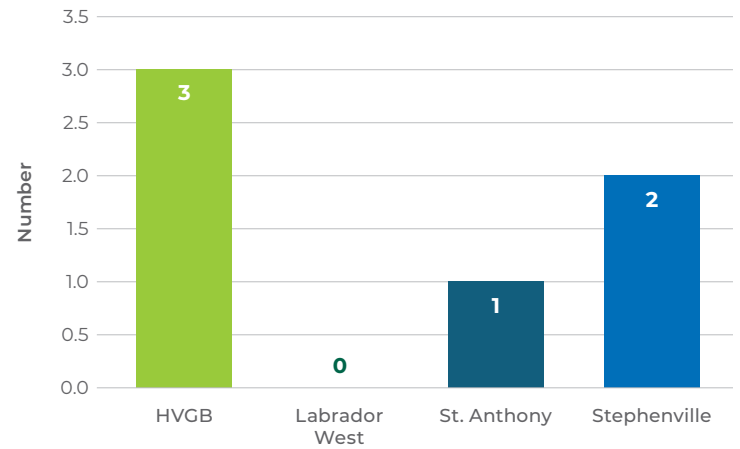


Figure 16A. Number of Other Specialists in Pediatrics, Psychiatry, Imaging and Pathology

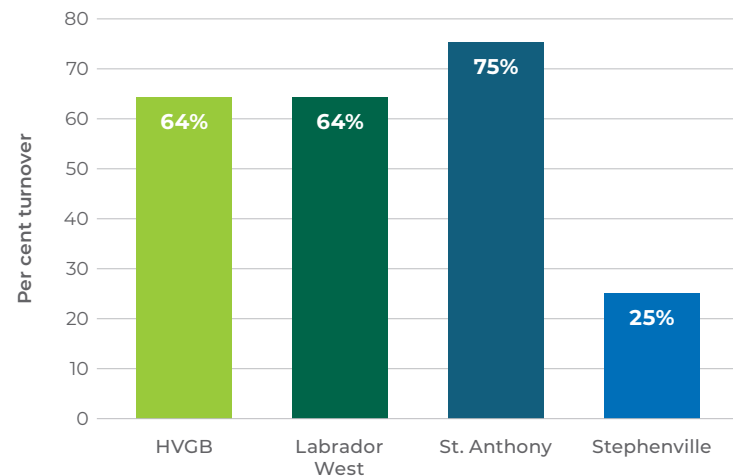


Figure 16B. Per Cent Turnover of Physicians in the Past Three Years

- The turnover rate is high in the three LGH hospitals.

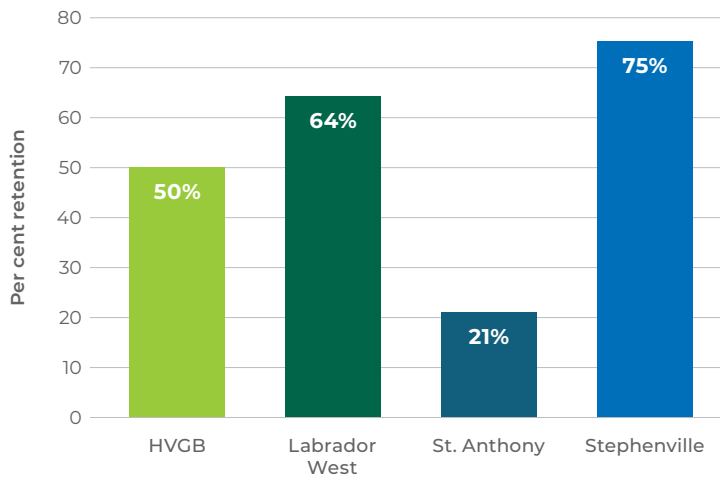


Figure 16C. Per Cent Retention of Physicians for Longer than Three Years

- The retention rate is very low in St. Anthony, a specialist-based hospital, and is better (but still a concern) in the other three hospitals.

Conclusions

1. In the seven community hospitals there is a need for emergency care, acute medical care whether provided by an internist or a family doctor, and imaging that includes a CT scanner.
2. Based on volume and sustainability, there is a need for a plan on how to restructure surgery services, anesthesia, and obstetrics services in Burin and Clarenville.
3. Based on the isolated geography, there is a need for access to surgery services in the three hospitals of LGH and a model of obstetrics care in the two hospitals in Labrador.
4. Occupancy rates of the three rural hospitals of EH is low, length of stay for medicine patients is higher than for comparable Canadian hospitals, level of complexity reported for ICU is 4 of 6 levels, but work force is insufficient for this level of complexity, and turnover rate for physicians is high.
5. In the three LGH hospitals, alternate level of care is high (except in Labrador West); utilization of the ER is high; length of stay for medicine is high in St. Anthony; number of surgeons/anesthetists funded in St. Anthony is high; level of complexity of ICU

services is 4 but work force level is low; number of deliveries in Labrador West is 71 and in St. Anthony 48; retention in St. Anthony is the lowest in the province.

6. Consider extension of rural family practice training program, like in HVGB, to other rural hospitals in NL, strengthen linkages between community teams and community hospitals, and create a strong virtual care program together with visiting specialists from Regional and Tertiary Care.