Utilization of Emergency Departments in Various Settings Across Newfoundland and Labrador

Objectives

- To analyze indicators of emergency department (ED) utilization at hospitals, health centres, and health clinics in Newfoundland and Labrador (NL) to understand health care needs.
- To analyze quality indicators to evaluate system performance over time and at different levels of care.

Practice Points

1. EDs across the province are faced with changing health care needs due to increasing demands for urgent and non-emergent care in hospitals and health centres, and patient populations shifting towards older demographics in recent years.
2. Large hospital EDs in urban areas are experiencing increased wait times due to the volume of cases, staffing shortages, primary care provider density, and lack of available beds in acute and long-term care (source: ER Wait Times Over 8 Hours for Non-Urgent Cases in St. John's; https://vocm.com/2024/11/06/er-wait-times-hit-8-4-hours-for-non-urgent-cases-in-st-johns/).
3. Efficient use of resources can reduce the need for acute beds in small rural health centres while maintaining long-term care close to communities (source: Utilization of Health Centres in NL, Practice Points Volume 9, Quality of Care NL; https://qualityofcarenl.ca/wp-content/uploads/2023/09/Practice-Points-Vol9_small_web_final.pdf).
4. Urgent care services are being developed in urban areas to help alleviate the pressure on EDs and virtual emergency departments have been put in place to increase access to emergency services in rural regions.

Methods

1. Data on ED visits were obtained from Meditech and made available by Newfoundland and Labrador Health Services for the period from 1 January 2019 – 30 September 2024. The resultant ED cohort was linked to the Provincial Discharge Abstract Database and the Client Registry to provide information about hospitalizations and patient demographics, respectively.
2. The definition of ED category was based on access to physicians and lab services, and distance to the patient population, referred to as Category A or B. Category A refers to designated EDs capable of handling a wide range of urgent and critical medical situations. These departments are equipped to address serious illnesses and injuries, with trained staff available 24/7 to provide immediate care. Category B EDs are typically located in rural or remote areas of the province and offer 24-hour care with a physician on-call after hours. These facilities often have limited diagnostic capabilities compared to Category A EDs.
3. Patients were analyzed by Canadian Triage and Acuity Score (CTAS) where CTAS 1-3 (emergent/urgent) and CTAS 4-5 (non-emergent) are referred to as “high acuity” and “low acuity”, respectively. It should be noted that there are concerns regarding the quality of CTAS reporting in some sites, so the data may not reflect actual patient acuity.
4. High acuity patients who were not admitted are referred to as “high acuity discharged,” and low acuity patients who were not admitted are referred to as “low acuity discharged.” All patients at either acuity level who were admitted to the hospital are referred to as “admitted” patients

Results

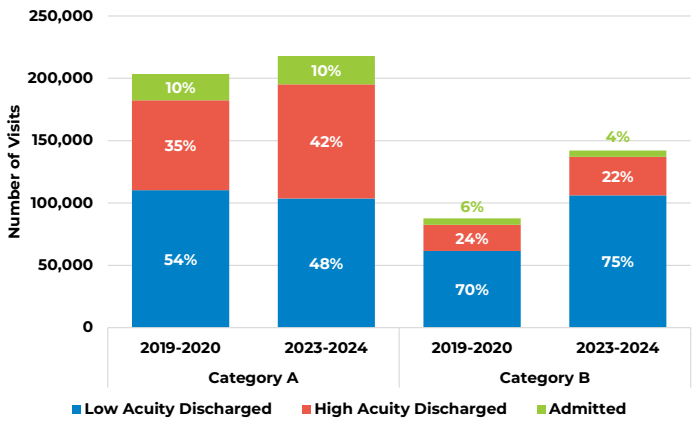

Figure 1. ED Visits Analyzed by Patient Group and ED Category, June 2019 and May 2024

- From 2019-2020 to 2023-2024, the number of ED visits increased by 62.1% at Category B sites, comprising mostly low acuity discharged patients. While the number of visits by high acuity

discharged patients increased more for Category B than Category A, there was a greater proportion of high acuity visits for Category A.

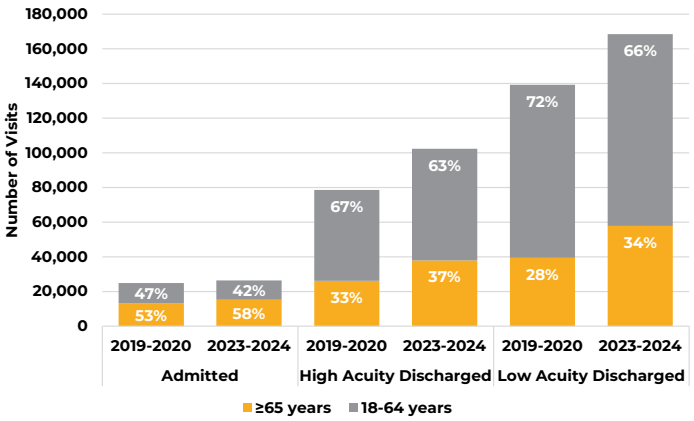

Figure 2. ED Visits Analyzed by Patient Group and Age, June 2019 and May 2024

- The number of visits by patients aged 65 years and older increased for all patient groups from 2019-2020 to 2023-2024. Visits by low acuity discharged older patients increased by 47% in 2023-2024, the most of any group. At Category A sites, visits by high acuity discharged older patients increased by 40.6%. At Category B sites, visits by low acuity discharged older adults increased by 110.8%.

- At Category A sites, the number of ED visits per 1,000 population increased slightly from 2020 to 2024 for older adults in Eastern and Western Zones, and older and younger adults in Central Zone. Further, admissions per 1,000 population increased from 2020 to 2024 for older and younger adults in Central Zone.

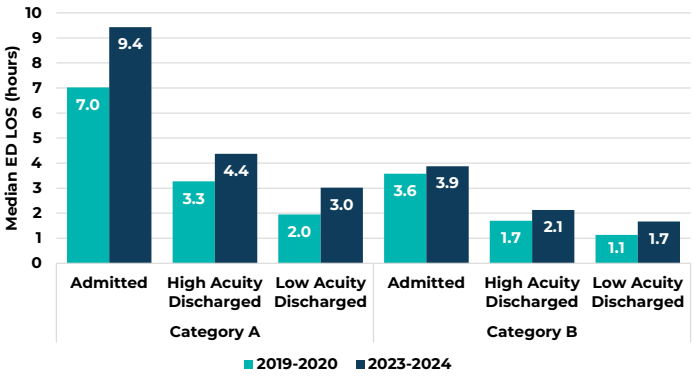

Figure 3. Median ED Length of Stay (LoS) Analyzed by Patient Group and ED Category, June 2019 and May 2024

- The median ED LoS increased by 34.3% for admitted patients at Category A sites in 2023-2024. Median ED LoS increased by 33.3% and 50% for high acuity and low acuity discharged patients, respectively, at Category A sites, and increased by 54.5% for low acuity discharged patients at Category B sites.

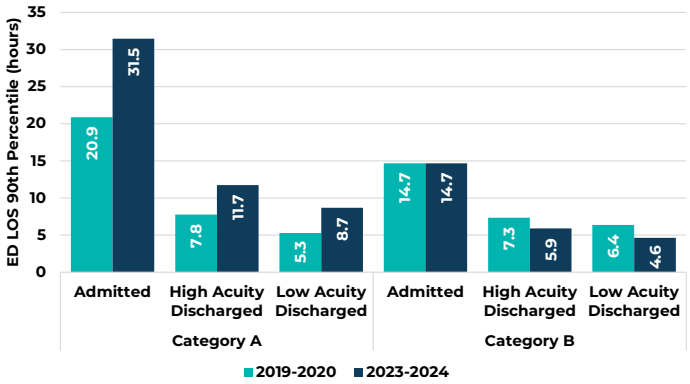

Figure 4. 90th Percentile ED Length of Stay (LoS) Analyzed by Patient Group and ED Category, June 2019 and May 2024

- The 90th percentile ED LoS, or the maximum wait time for 9 out of 10 patients, increased by 50.2% for admitted patients at Category A sites in 2023-2024, and increased by 50% and 64.2% for high acuity and low acuity discharged patients, respectively, at Category A sites.

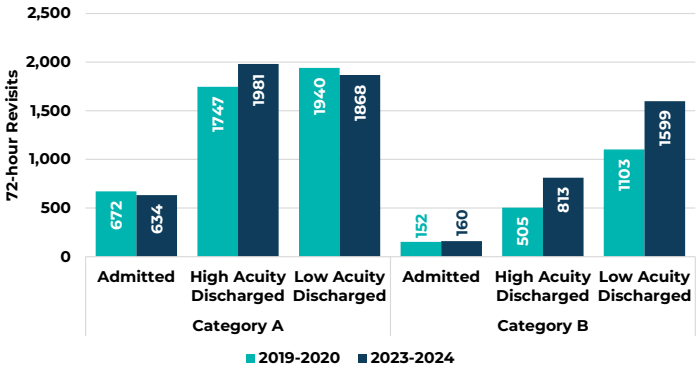

Figure 5. 72-hour Revisit Rate Analyzed by Patient Group and ED Category, June 2019 and May 2024

- The 72-hour revisit rate was slightly higher at Category A sites than Category B sites and admitted patients had the highest revisit rates. The number of revisits within 72 hours by high acuity discharged patients increased by 13.4% at Category A sites in 2023-2024. Revisits increased by 61% and 45% for high acuity and low acuity patients, respectively, at Category B sites.

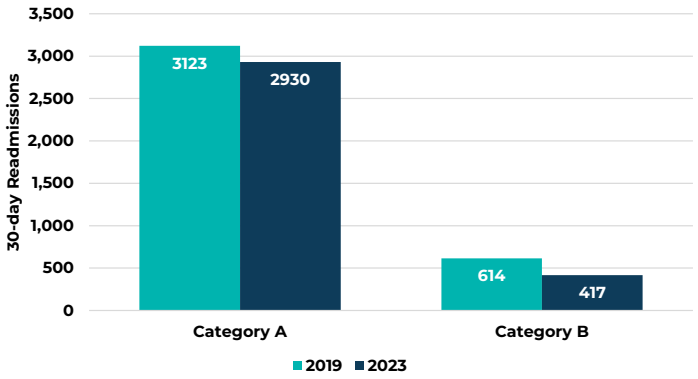

Figure 6. 30-day Readmission Rate Analyzed by ED Category, June 2019 and May 2024

- The 30-day readmission rate was slightly higher at Category A sites than Category B. The number of readmissions within 30 days decreased by 6.2% and 32.1% at Category A and B sites, respectively, in 2023.

Conclusions

1. At Category A sites, there were increasing demands for high acuity care and at Category B sites there were increasing demands for low acuity care.

2. ED LoS increased slightly at Category B sites despite considerable increases in patient volume, which could indicate that those EDs were efficient at managing patients' needs.

3. Increased wait times for admitted patients at Category A sites may explain overcrowding as hospital inpatient capacity has yet to catch up to an increased number of patients arriving at EDs.

4. Plans are underway to expand the ED in the Health Sciences Centre in St. John's and develop an ambulatory care centre in the city to reduce the pressure on emergency services. In addition, the ED Strategic Health Network is working collaboratively across all health zones and provincial programs to optimize ED flow.

5. Higher revisit rates among admitted and high acuity discharged patients compared to low acuity patients could indicate missed opportunities to intervene and provide treatment, or it could reflect new or recurring symptoms that are to be expected for certain conditions.

6. While the number of ED revisits increased in 2023-2024, the 72-hour revisit and 30-day readmission rates decreased or increased only slightly, suggesting that health outcomes may not be adversely affected by increased patient volume.