

Emergency Department Utilization by Older Adults After Closures in Newfoundland and Labrador

Objective

Analyze emergency department (ED) usage in Newfoundland and Labrador (NL) before and after closures by comparing affected and unaffected facilities (i.e. those that experienced closures and those that did not) and patient characteristics.

Practice Points

1. The vast majority of ED visits to smaller health centres in the province in 2019/20 were for non-urgent or minor conditions.
2. Due to staffing shortages in recent years, intermittent ED closures have occurred in a number of health centres across the province, disproportionately affecting rural areas and diverting patients to emergency services in nearby or adjacent communities.
3. Overcrowding in the ED can increase the risk of adverse events and the waiting time for definitive care, with consequent increase in the rate of serious events and delays in diagnosis and initiation of treatment. It can also lead to a greater percentage of patients leaving the ED before being seen.
4. Beginning in 2021, hybrid in-person/virtual emergency services were implemented at multiple sites in both the former Eastern Health (EH) and Central Health (CH) to alleviate the situation. Further, urgent care and virtual care services have been put in place in Whitbourne, Gander, and Grand Falls-Windsor.

Data

1. Data on ED visits were obtained from MediTech and made available by Newfoundland and Labrador Health Services (NLHS) for the period from 1 January 2019–30 June 2023. The resultant ED cohort was linked to the Provincial Discharge Abstract Database (PDAD) and the Client Registry (CR) to provide information about hospitalizations and patient demographics, respectively.
2. Patients aged ≥ 65 years were selected with patients aged 18–64 years as controls, focusing on patients assigned a “low” Canadian Triage and Acuity Score (CTAS) of 4 or 5.

Results

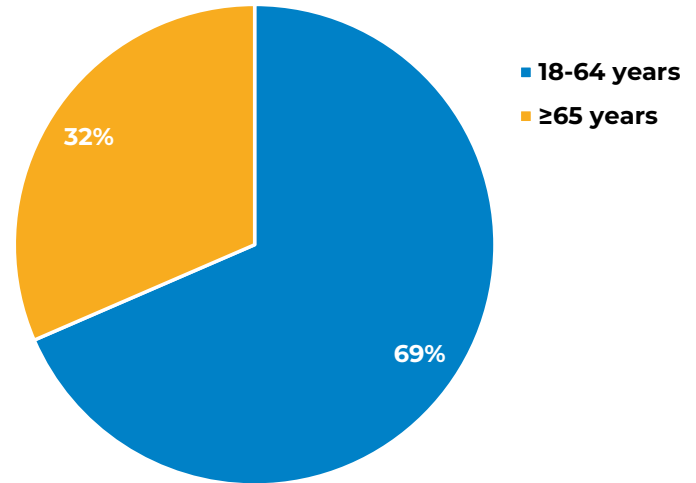


Figure 1. Percentage of ED Visits by Age Group in NL, Jan 2019–Jun 2023

- Older adults (≥ 65 years old) accounted for 31.5% of ED visits from 1 Jan 2019–30 Jun 2023.

Table 1. Patient Characteristics of Older and Younger Adults, Jan 2019–Jun 2023

	Older Adults (n=75,902)	Younger Adults (n=186,454)
Median Age (Years)	73 (69–79)	44 (30–55)
Sex – Female (%)	40,545 (53.4)	98,683 (52.9)

- Older adults had a slightly greater proportion of females compared to younger adults.

Table 2. Number of ED Visits Before and After Closures, Jan 2019-Jun 2023

	Older Adults (N=271,968)	Younger Adults (N=590,175)
Before Closures, Jan 2019-Apr 2021		
Affected facilities	35,048	59,308
Unaffected facilities	93,332	239,783
After Closures, May 2021-Jun 2023		
Affected facilities	42,661	62,364
Unaffected facilities	100,927	228,720
CTAS on Presentation (Before Closures, Jan 2019-Apr 2021)		
CTAS 4	103,084	240,942
CTAS 5	25,296	58,149
CTAS on Presentation (After Closures, May 2021-Jun 2023)		
CTAS 4	116,392	238,639
CTAS 5	27,196	52,445

- While the number of visits by older adults increased after closures at both affected and unaffected facilities, the number of visits by younger adults increased slightly at affected facilities and decreased at unaffected facilities.

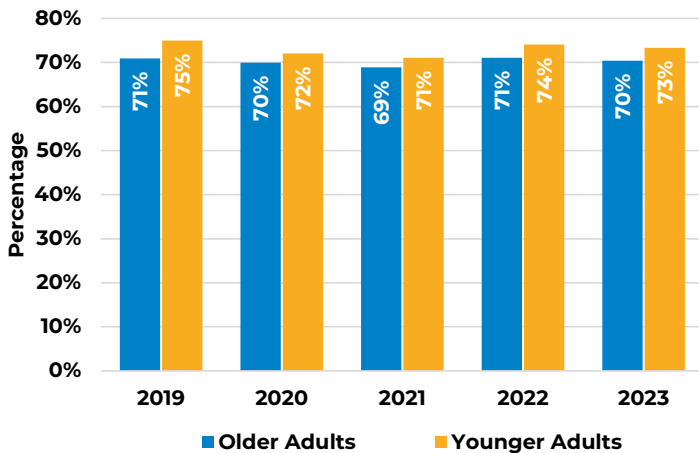


Figure 2. Percentage of Low CTAS Score ED Visits by Older and Younger Adults in CH (Jan 2019-Jul 2023)

- Older adults had a higher percentage of low CTAS score ED visits in CH, unlike other regions.

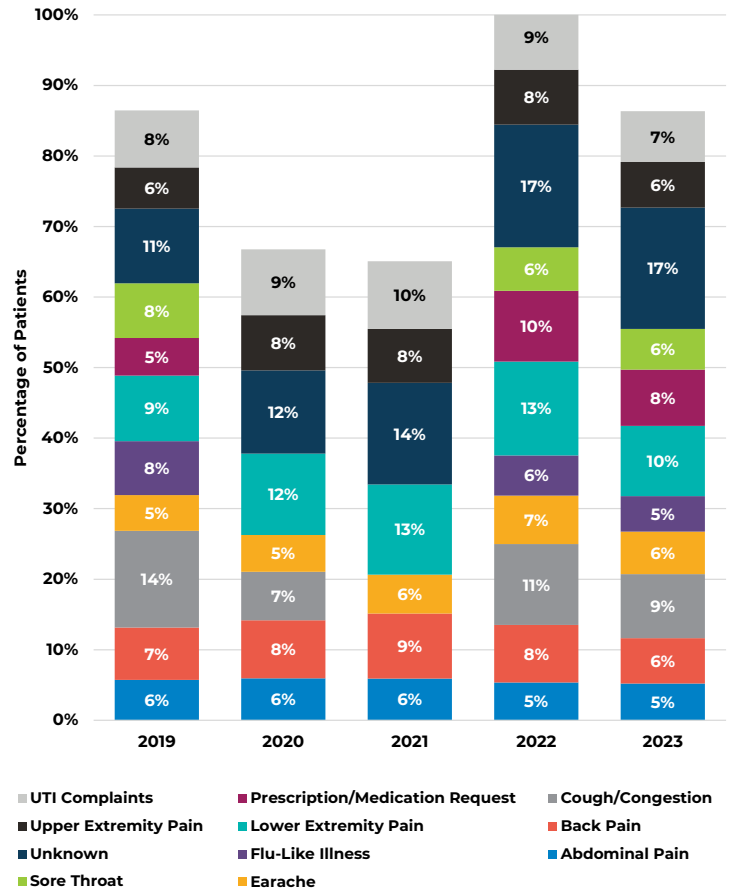


Figure 3. Chief Complaint of Patients Aged 18 Years and Older with Low CTAS Score Visits in Facilities Affected by Closures in EH (Jan 2019-Jul 2023)

- After closures, affected facilities saw greater proportions of patients presenting with “unknown” complaints and medication-related complaints. Unaffected facilities saw slightly more “unknown” complaints at the onset of closures.
- Affected facilities saw more patients presenting with different complaints across multiple visits, which decreased in 2020 and 2021 during the COVID-19 pandemic.

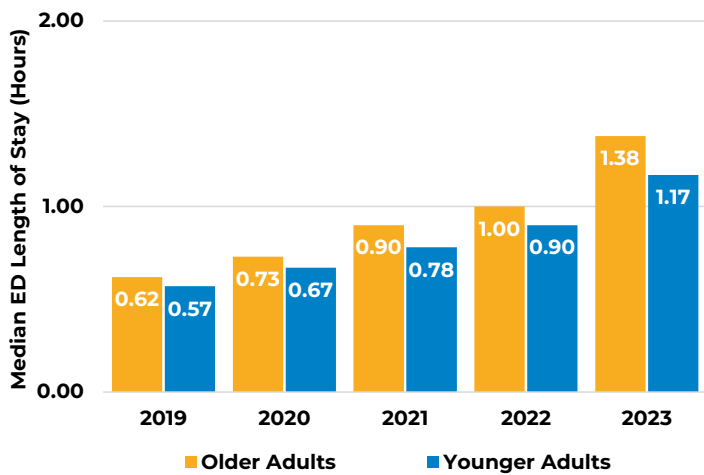


Figure 4A. Median ED Length of Stay of Older and Younger Adults in Facilities Affected by Closures in NL (Jan 2019–Jul 2023)

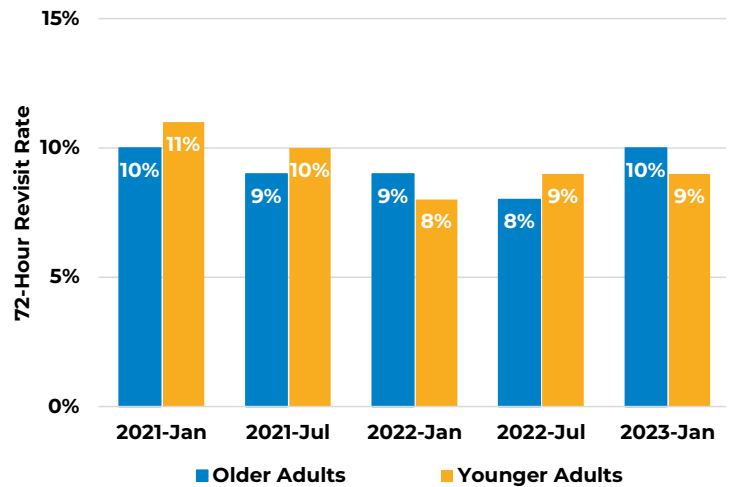


Figure 5A. 72-Hour Revisit Rate of Older and Younger Adults Visiting the ED in Facilities Affected by Closures in NL by 6-Month Periods (Jan 2021–Jul 2023)

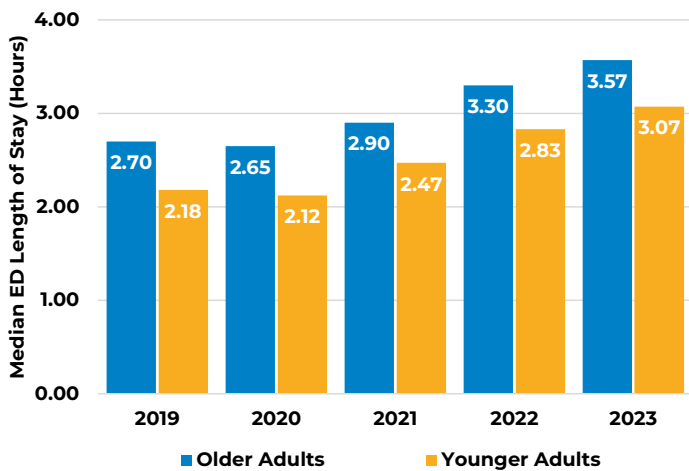


Figure 4B. Median ED Length of Stay of Older and Younger Adults in Facilities Unaffected by Closures in NL (Jan 2019–Jul 2023)

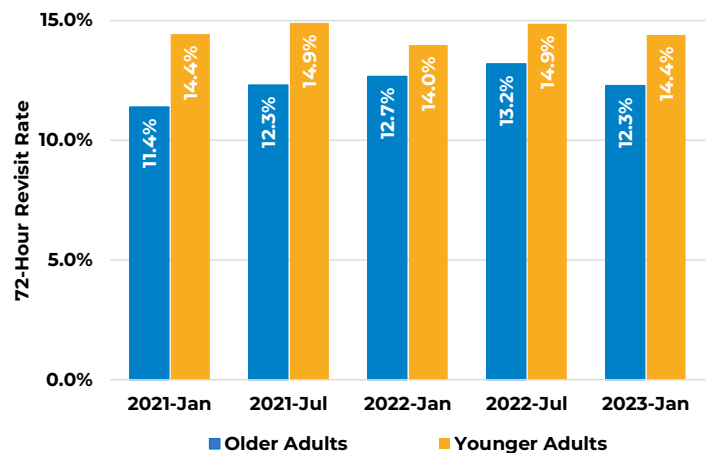


Figure 5B. 72-Hour Revisit Rate of Older and Younger Adults Visiting the ED in Facilities Unaffected by Closures in NL by 6-Month Periods (Jan 2021–Jul 2023)

- Older adults had slightly longer length of stay (LOS) than younger adults at affected facilities after closures and at unaffected facilities in general.
- ED wait times increased considerably over time across all sites.

- From 2021–2023, the percentage of older and younger adults revisiting EDs within 72 hours increased by 0.9% and decreased by 0.03%, respectively, at unaffected facilities and decreased by 0.7% and 2.0%, respectively, at affected facilities.

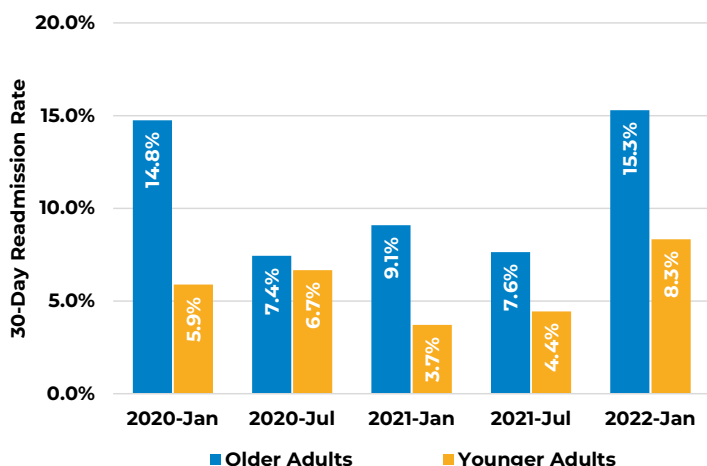


Figure 6A. 30-Day Readmission Rate of Older and Younger Adults Visiting the ED in Facilities Affected by Closures in NL by 6-Month Periods (Jan 2020–Mar 2022)

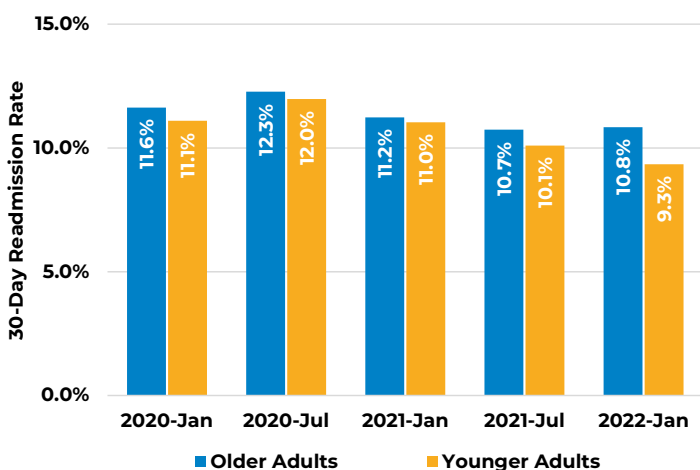


Figure 6B. 30-Day Readmission Rate of Older and Younger Adults Visiting the ED in Facilities Unaffected by Closures in NL by 6-Month Periods (Jan 2020–Mar 2022)

- From 2020–2022, the percentage of readmissions within 30 days via EDs in affected facilities increased by 0.5% and 2.4% for older adults and younger adults, respectively. In unaffected facilities, readmissions decreased by 0.8% and 1.8% for older and younger adults, respectively. Readmissions were more common among older adults than younger adults at both affected and unaffected facilities.

Conclusions

- Older adult patients present with a broad range of low CTAS score conditions that could be addressed by better integration of community and hospital services in smaller, underserved communities. Special care should be taken to ensure that EDs are sensitive to complex health issues by expanding the range of triage tools to accommodate patients' needs.
- Affected facilities have experienced increased health care demands amidst resource shortages, with an unprecedented utilization of ED services. While increased wait times as a result of ED utilization are not ideal, increased utilization by older adults after the implementation of urgent care and virtual care services may reflect better access for certain individuals.
- Given that affected facilities serve relatively small populations, the number of patients who may have been redirected to emergency services in unaffected facilities would comprise a small proportion of the visits there, making it difficult to determine the true impact of closures at a population level.
- There was an increase in ED visits by older adults following closures which was accompanied by increased wait times and a slight increase in 72-hour revisits at unaffected facilities. Further, there was a decrease in 30-day readmissions for older adults in the same setting, while readmissions increased for younger adults at affected facilities. Whether the impact of closures has had lasting effects on communities and health outcomes is unclear at this time.