Rurality and Emergency Department Vulnerability in Ontario: Evidence from Public Health-System Indicators and the Minden Closure

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Canadian Undergraduate Medical Review

Emergency department closures are often treated as isolated administrative events. A hospital announces a staffing shortage, the nearest alternative site is named, and the public is told where to go instead. For urban communities, this may mean redirection within a dense network of hospitals, clinics, urgent care centres, and ambulance routes. For rural communities, the same language can conceal a much larger access problem. When a rural emergency department closes, even temporarily, the issue is not only that one service is unavailable. It is that the margin of safety in the local health system has narrowed.

For the purposes of this analysis, “rural” refers to rural or rural/remote communities as classified in public Canadian health-system data, rather than to a general cultural idea of small-town life. Statistics Canada defines population centres as areas with at least 1,000 residents and a population density of at least 400 people per square kilometre; all areas outside population centres are classified as rural. CIHI applies the same broad population-centre framework in its rural-area indicators. This distinction matters because rurality is not a single condition. A cottage-country community in Ontario, an agricultural municipality, a northern road-access town, and a remote territorial settlement may all be called rural, but they do not experience distance, staffing, transport, or hospital access in identical ways.

This article therefore uses rurality as a health-system category, not as a complete description of community life. Its purpose is to examine whether publicly available aggregate indicators suggest a relationship between rural physician supply, hospital capacity, hospitalization rates, and emergency department vulnerability. It does not attempt to measure individual patient outcomes, ambulance response times, mortality, or the full clinical consequences of emergency department closure. The analysis is ecological and exploratory. It compares jurisdictions and public indicators, but it cannot determine whether rurality itself causes poorer access or whether any one closure was caused by a single factor.

The question is especially relevant in Ontario after the permanent closure of the Minden emergency department on June 1, 2023. Haliburton Highlands Health Services closed the Minden site and consolidated emergency services at the Haliburton hospital site, citing persistent difficulty recruiting and retaining physicians and nurses (Office of the Auditor General of Ontario, 2023). Minden is used here as a case study because its closure illustrates how staffing pressure and service consolidation can alter access in a rural community. It is not presented as a perfect representative of all rural Canadian health systems.

Methods and exploratory findings

This analysis used publicly available aggregate data from CIHI’s Health System Context Series and related health workforce indicators. Variables included rural family medicine physicians per

100,000 rural residents in 2024, rural age- and sex-standardized hospitalization rates per 100 residents in 2024-2025, rural acute hospital beds staffed and in operation per 1,000 rural residents in 2023-2024, and selected emergency department closure data from the Ontario Auditor General and public reporting (Canadian Institute for Health Information [CIHI], 2025a; Office of the Auditor General of Ontario, 2023). Pearson correlation coefficients were calculated across provinces and territories where data were available. Because the data are aggregated at provincial and territorial levels, the findings should be interpreted as jurisdiction-level associations rather than patient-level evidence. Correlation coefficients describe relationships between public indicators, not causal pathways.

Across 13 provinces and territories, rural family physician supply was negatively associated with rural hospitalization rates. Jurisdictions with higher rural family physician rates tended to report lower rural hospitalization rates, with Pearson $r = -0.65$, $p = 0.015$, $n = 13$. When the analysis was restricted to the 10 provinces, the association weakened to $r = -0.55$, $p = 0.101$, suggesting that the territories may partly intensify the national pattern because of their distinct geography, population size, and service models. The direction is still clinically plausible. Rural areas with fewer family physicians may rely more heavily on hospitals when preventive care, follow-up, chronic disease management, and community-based assessment are harder to access.

The second analysis compared rural acute hospital bed rate with rural hospitalization rate. This relationship was weaker across jurisdictions with available data, $r = -0.27$, $p = 0.449$, $n = 10$. In other words, the number of rural beds per capita did not clearly predict the rate at which rural residents were hospitalized. That finding is important because it suggests that rural hospital vulnerability cannot be understood by bed supply alone. A staffed bed is not equivalent to emergency department resilience. Emergency care also requires physicians, nurses, diagnostic capacity, ambulance coordination, transfer agreements, and the ability to maintain coverage across nights, weekends, illnesses, vacancies, and locum gaps.

Ontario’s own rural indicators show the pressure clearly. In 2024, Ontario had 81.8 rural family medicine physicians per 100,000 rural residents, below the Canadian rural average of 94.3. Ontario also had 0.96 acute rural hospital beds per 1,000 rural residents in 2023-2024, compared with a Canadian rural rate of 1.29. At the same time, Ontario’s rural hospitalization rate was 8.13 per 100 residents, higher than its urban rate of 6.60 (CIHI, 2025a). These values do not show collapse. They show compression: fewer rural family physicians than the national rural average, fewer rural acute beds than the national rural average, and higher hospitalization rates among rural residents than among urban residents.

That compression matters because emergency departments are often where weaknesses elsewhere in the system become visible. CIHI has reported that a meaningful share of emergency department visits in Canada are for conditions that could potentially be managed in primary care settings, a finding that reflects gaps in access rather than inappropriate patient behaviour (CIHI, 2024). If a person cannot access timely primary care, especially outside working hours, the emergency department becomes the default site of reassurance, assessment, and triage. In rural communities, it may be the only practical point of care.

The Ontario Auditor General's findings support this interpretation. Between July 2022 and June 2023, there were 203 temporary emergency department closures in Ontario involving 23 hospitals, most in rural or remote areas. The report found that closures were largely connected to nursing shortages and other staffing challenges, and that many affected communities faced substantial travel times to the next nearest emergency department (Office of the Auditor General of Ontario, 2023). A later public summary of Ministry of Health data reported 146 closures in 2022, 184 in 2023, and 53 in 2024, with total closure hours falling from 4,233 in 2022 to 774 in 2024 (Callan & D'Mello, 2025). The decline is encouraging, but the persistence of closures shows that emergency department vulnerability remains a live access issue.

Minden should therefore be understood as a case study in rural service consolidation, not simply as a local controversy. The closure did not remove emergency care from Ontario. It moved emergency care farther away for a specific community. That distinction is central to rural health. Access is not only whether a service exists somewhere. It is whether a patient can realistically reach it in time, especially when the concern is urgent, transportation is limited, weather is poor, or ambulance capacity is strained.

Peer-reviewed literature supports this concern. Larsen et al. (2023) used geospatial analysis to examine Ontario emergency department closures and found that closures can substantially affect potential access to emergency care, particularly when travel-time thresholds are used to define access. Rural staffing literature also shows that physician coverage in rural emergency departments often depends on small numbers of clinicians, locums, and flexible arrangements that are vulnerable to disruption. Randle et al. (2023), in a study of rural emergency department staffing in Ontario, described the practice patterns of rural physicians providing emergency medicine and highlighted the importance of workforce planning in rural coverage models. More broadly, Fleet et al. (2013) found that Canadian rural emergency departments varied widely in their access to services and consultants, showing that rural emergency care has long been unevenly resourced.

This does not mean that the solution is simply to keep every small emergency department open under any conditions. Unsafe staffing is itself a risk. A rural emergency department that cannot reliably staff physicians and nurses may not be able to provide safe emergency care. The point is that closure should not be treated as a neutral operational adjustment. In a rural system, closure changes travel time, ambulance routing, patient confidence, and the role of neighbouring hospitals. It may also increase pressure on already strained emergency departments elsewhere.

The data also caution against a single-factor explanation. The exploratory correlations suggest that rural family physician supply is more closely associated with rural hospitalization rates than rural bed supply is, but neither variable captures the whole system. Funding, staffing, geography, population aging, primary care attachment, after-hours access, transport, and hospital network design all interact. Canadian primary care research has similarly warned against treating physician headcount as the whole solution. Kiran (2022) describes primary care as the front door of the health system, while Li et al. (2023) argue that Canada's family

physician shortage reflects not only supply, but workload, compensation, support, and the changing structure of comprehensive family practice.

The most defensible interpretation is therefore modest but important. Rural emergency department vulnerability appears to arise when several pressures converge: lower local primary care capacity, limited hospital infrastructure, difficulty maintaining emergency staffing, and long distances to alternative services. In Ontario, Minden made that convergence visible. In national data, the pattern appears in the uneven distribution of rural family physicians, rural hospital beds, and rural hospitalization rates.

For medical journalism, this matters because rural hospital closures should not be reduced to political slogans or isolated news events. They are measurable signals of health-system resilience. When the local emergency department disappears, the question is not only where patients are redirected. The deeper question is what level of rural access a health system is willing and able to sustain. A serious answer has to begin with data, but it cannot end there. It must recognize that in rural medicine, distance is not background geography. Distance is part of the clinical reality.

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