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Cycling and Pedestrian Injuries in the Region of Peel, Ontario; An application of linked administrative health data to enhance local road safety and health service delivery, through an Applied Health Research Question (AHRQ)

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Objectives

An Applied Health Research Question request from Peel Public Health was investigated, to provide a comprehensive overview of injury patterns and healthcare utilization, among cyclists and pedestrians in the Peel Region of Ontario.

Implications

Findings will be utilized by the Region of Peel and partner organizations, to enhance local road safety initiatives and service delivery for vulnerable road users.

Approach

Emergency department visits and hospitalizations across the Peel region were analyzed from 2018 to 2022, and categorized by collision type (pedestrian, cyclist motor vehicle collision (MVC), and cyclist non-MVC). Data was segmented quarterly and annually, and further stratified by residence status, sex, and age, by linking individuals to other administrative health databases. Additionally, 30-day mortality outcomes were evaluated. To contextualize incidence rates with population demographics, Public Health Data Zone and Census Subdivision data were also utilized.

Results

For ambulatory visits, a substantial majority of Peel residents received treatment within the region, evidenced by 4,483 cyclist visits (55%) and 1,338 pedestrian visits (50%). However, a noteworthy portion of Peel residents — 188 cyclists (45%) and 182 pedestrians (46%) — received treatment outside the region. Hospitalization patterns echoed these visits. Overall, non-MVCs accounted for a large proportion of cycling incidents, particularly among females, stressing the need for targeted safety measures. Still, survival rates post-incident were notable, with a 100% survival rate for cyclists after ambulatory visits. Pedestrian survival rates were similarly high.

Conclusion

This study provided valuable insights into patterns of pedestrian and cyclist injuries among Peel residents, revealing considerable cross-regional healthcare utilization.



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