

Summary of e-scooter relevant emergency department visits at Ottawa hospitals

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Background

The E-Scooters (By-Law No. 2020 - 174) was enacted on June 24, 2020 and regulates the operation and use of electric kick-scooters (e-scooters) in the City of Ottawa.¹

As of April 1st, 2021, e-scooter related injuries were to be coded in hospital data systems using the International Statistical Classification of Diseases and Related Health Problem (ICD) code of *W02.08* "fall involving other specified sports equipment"². This code includes all falls from a scooter, including electric, motorized and non-motorized vehicles used for sports, leisure or locomotion. Previously, these types of falls were classified as *W05.00* "Fall involving wheelchair". Despite this previous coding, it's possible e-scooter-related falls were coded as *W02.08* prior to April 1st, 2021.

This descriptive summary examines the changes in the number of emergency department (ED) visits that may be related to e-scooter injuries seen in Ottawa hospitals in a timer period including the bylaw enactment.

Methods

The National Ambulatory Care Reporting System (NACRS)³ was searched for injury related emergency department visits at Ottawa hospitals with an ICD code of *W02.08* from 2016 to fiscal quarter 1 of 2021 (June 2021), the most recent data available. Visits include injuries seen at Ottawa hospitals regardless of the patient's place of residence. Visits included only those seen between April to November among those aged 16 to 59. Sixteen is the minimum age to operate an e-scooter in Ottawa according to the bylaw and those over 59 might be more likely to have a fall involving a mobility scooter rather than an e-scooter. Falls that occurred at a home or residential institution were excluded. The Canadian Triage and Acuity Scale (CTAS)⁴ which is based on the presenting complaint and type and severity of the injury was also included. A lower CTAS score represents a more severe injury

¹ City of Ottawa. E-Scooters (By-Law No. 2020 - 174). Available from: <https://ottawa.ca/en/living-ottawa/laws-licences-and-permits/laws/law-z/e-scooters-law-no-2020-174>

² Canadian Institute for Health Information. Updated ICD-10-CA coding direction: Homelessness, and falls from an electric scooter (escooter), mobility scooter, Segway® or hoverboard. Available from: <https://www.cihi.ca/en/bulletin/updated-icd-10-ca-coding-direction-homelessness-and-falls-from-an-electric-scooter>

³ Canadian Institute for Health Information. National Ambulatory Care Reporting System metadata (NACRS). Available from <https://www.cihi.ca/en/national-ambulatory-care-reporting-system-metadata-nacrs>

⁴ Bullard MJ, Chan T, Brayman C, Warren D, Musgrave E, Unger B; Members of the CTAS National Working Group. Revisions to the Canadian Emergency Department Triage and Acuity Scale (CTAS) Guidelines. CJEM. 2014 Nov;16(6):485-9.

Results

A total of 199 emergency department visits with injuries coded with W02.08 were seen from 2016 to June of 2021. Such injuries by age group and by severity using the CTAS are shown in Table 1 and Table 2, respectively.

Table 1: Emergency department visits at Ottawa hospitals for falls with specified sports equipment (W02.08) by age group. 2016-2021*

Age	2016	2017	2018	2019	2020	2021*	Total
16-19	5	4	6	12	8	6	41
20-24	3	5	6	7	9	9	39
25-29	2	6	2	2	5	11	28
30-34	0	2	2	3	7	1	15
35-39	2	3	2	2	5	5	19
40-44	2	1	1	4	5	3	16
45-49	4	2	0	2	2	3	13
50-54	2	3	3	1	5	1	15
55-59	3	0	0	3	2	5	13
Total	23	26	22	36	48	44	199

* includes April-June of 2021

Data includes ED visits at Ottawa hospitals from April to November inclusive.

Source: National Ambulatory Care Reporting System 2016-2021, IntelliHEALTH ONTARIO, Ontario Ministry of Health and Long-Term Care. Date Extracted: Dec 7, 2021.

Table 2: Emergency department visits at Ottawa hospitals for falls with specified sports equipment (W02.08) by triage level. 2016-2021*

CTAS code	2016	2017	2018	2019	2020	2021*	Total
(1) RESUSCITATION	1	0	0	0	0	1	1
(2) EMERGENT	1	2	2	3	3	4	15
(3) URGENT	10	10	7	14	24	29	94
(4) LESS-URGENT	10	13	12	14	17	9	75
(5) NON-URGENT	1	1	1	5	4	2	14
Total	23	26	22	36	48	44	199

* includes April-June of 2021

Data includes ED visits at Ottawa hospitals from April to November inclusive.

Source: National Ambulatory Care Reporting System 2016-2021, IntelliHEALTH ONTARIO, Ontario Ministry of Health and Long-Term Care. Date Extracted: Dec 7, 2021.

Falls from wheelchairs (W05.00) did not show an important difference from year to year with approximately 15-23 visits per year in the 16 to 59 age group (data not shown).

Summary

ED visits with the W02.08 increased to 48 in 2020, approximately twice that seen prior to 2019. In 2021, 44 visits were seen despite only 3 months (April to June) contributing to this count. This change should be interpreted with caution due to the relatively small number of counts per year and that the ICD code of W02.08 is not exclusive to e-scooters.

The most common severity of injury is the “Urgent” category which consists of those people with a serious condition that require emergency intervention. The lack of less urgent and non-urgent classifications may mean that people who experience a minor injury while using an e-scooter are unlikely to seek care at an emergency department.

Limitations

The ICD code is not specific to e-scooters. Changes in physical or outdoor activities during COVID-19 might influence participation rates in 2020 and 2021 and so the number of injuries. Unlike explicit transportation injury coding that is available for cyclists or pedestrian injuries, the context for these injuries can't be determined except by excluding home and residential institution locations of injuries. Location coding is also poorly completed and most visits had no specific location coded.