Title: The epidemiology of pediatric injury patients treated by paramedics in Toronto, Ontario, Canada

Background:
There is a paucity of research on the profile of injured pediatric patients who are attended to by paramedic services. Previous research has focused on pediatric patients as a subset of all ambulance calls rather than the primary focus. Non-transported patients are rarely captured in datasets and described in the literature. This research project aims to describe the profile of pediatric patients who were attended to by an ambulance in the City of Toronto over a one-year period.

Methods:
The research team used an anonymized database from Toronto Paramedic Services (TPS) that identified all patients under the age of 19 who sustained a traumatic injury between January 1st to December 31st, 2018 and were attended to by an ambulance. Patients were excluded if they had a non-traumatic medical complaint, were over the age of 19, or had a duplicate call for the same visit. Location of injury was collapsed into 7 categories. Mechanism of injury was collapsed into 7 categories. The data were presented using summary statistics.

Results:
4155 patients were flagged as trauma by TPS. Upon further review, 27 records were excluded. Overall 4128 patients were included for final review. 3185 (77.1%) were transported to hospital, 936 (22.7%) were not transported to hospital, and 7 (0.2%) died on scene. Those who died on scene were excluded from further analyses. 2407 (58.4%) patients were male and 1714 (41.6%) were female. The majority of patients were between the ages of 15 to 19 (34.8%). The most common locations where a patient was attended to were residences (40.8%), highways/streets/sidewalks (22.8%), schools (13.1%), sports/recreation centres (8.6%), and retail establishments (3.3%). The most frequent mechanism of injuries included falls (31.8%), transport-related injuries (19.9%), assaults/gunshot wounds (12.3%), choking/foreign body (5.5%), and burns/scalds (2.4%).

Significance:
This study is the first to examine both transported and non-transported pediatric patients in a Canadian setting. This comprehensive profile using paramedic data can inform prevention and care providers. Further longitudinal research is needed to identify if there are trends among the patient population.