

## Introduction

- Every 2 hours in NYC, 1 pedestrian or cyclist is either killed or seriously injured.
- In Queens, 22,760 pedestrians/cyclists were struck by motor vehicles in 2013. 384 pedestrians/cyclists sustained fatal injuries.
- Distracted driving accounts for some pedestrian casualties, however there is no established mechanism that explains traffic injuries and fatalities that occur while drivers are not distracted.
- Pedestrians/cyclists are always perceived as having the “right-of-way”. This perception often encourages unsafe practices which include:
  - Cell phone and headphones use
  - Inebriation due to alcohol consumption
  - Pedestrians walking along roadsides
  - Pedestrians crossing midblock
  - Pedestrians crossing against the signal
  - Cyclists riding against the flow of traffic
  - Cyclists riding in between lanes of traffic
  - Cyclists riding too closely to parked vehicles
  - Cyclists riding without protective gear (helmets, elbow pads, knee pads, and wrist guards)
  - Cyclists failing to abide by traffic laws and signals

## Objective

The objective of this study is to determine risk factors that contribute to accidents involving pedestrians and cyclists. By collecting prospective data on each patient who present to JHMC after being hit by a motor vehicle we hope to match the circumstances and location with medical outcome for each incident. By using the data we collect we will be able to design better targeted interventions to reduce the number of pedestrians and cyclists struck by motor vehicles in Queens.

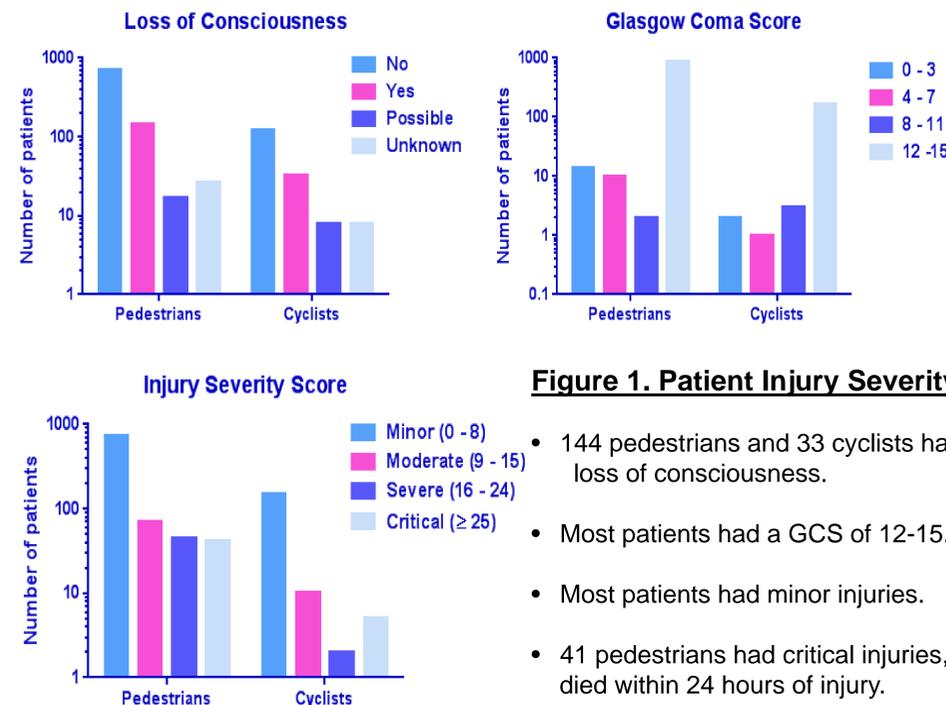
## Methods

Data was prospectively obtained from all pedestrians and cyclists 18 years and older who were struck by motor vehicles and presented to JHMC for treatment during the period of September 16<sup>th</sup>, 2013 – April 30<sup>th</sup>, 2015. Medical records were reviewed to collect demographic data, injuries, outcomes, and incident locations. Pedestrian and cyclist practices were obtained via interviews with patients, emergency medical services personnel, and from police reports.

## Results

**Table 1. Patient Characteristics**

	Pedestrians Total= 898	Cyclists Total = 171
Male	443(49.3%)	161 (94.2%)
Female	455 (50.7%)	10 (5.8%)
Age (years)	Mean: 44 Range: 18 - 92	Mean: 35 Range: 18 - 88



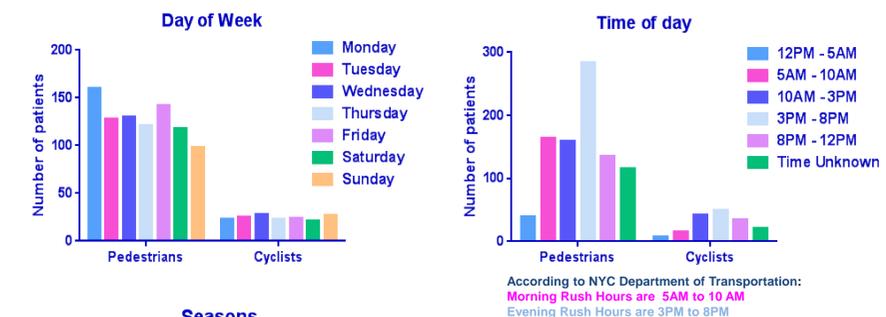
**Figure 1. Patient Injury Severity**

- 144 pedestrians and 33 cyclists had a loss of consciousness.
- Most patients had a GCS of 12-15.
- Most patients had minor injuries.
- 41 pedestrians had critical injuries, 13 died within 24 hours of injury.
- 5 cyclists had critical injuries, 2 died within 24 hours of injury.

**Table 2. Patient Outcomes**

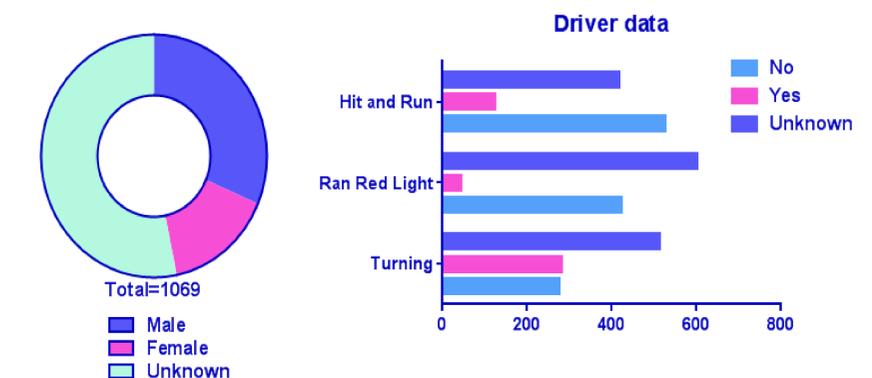
Outcomes	Pedestrians	Cyclists
Number of admitted patients	192 (21.4%)	30 (17.5%)
- Admitted to SICU	60 (31.3%)	8 (26.7%)
- Admitted to Surgical Floor	132 (68.7%)	22 (73.3%)
Number of patients requiring surgery	107 (11.9%)	9 (5.3%)
- Number of surgeries performed	210	12
Length of hospital stay (days)	Average: 2 Range: 1 - 100	Average: 1 Range: 1- 44
Number of patients requiring Rehabilitation	45 (5.0%)	2 (1.2%)
Mortality	19 (2.1%)	3 (1.7%)

**Figure 2. Dangerous times on the roadways**



- A higher number of pedestrians were struck by motor vehicles on Mondays.
- The highest number of both pedestrians and cyclists were struck during evening rush hours (3 – 8PM).
- More pedestrians were struck during the fall and winter seasons.
- Most cyclists were struck during the summer and fall seasons.

**Figure 3. Motor Vehicle Driver Data**



- 336 of the drivers were male, 164 were female and 569 were unknown.
- 124 (12%) of the accidents were ‘hit and run’ accidents.
- 44 drivers ran the red light.
- 280 drivers were making a turn at the time of the accident.

## Acknowledgements

- We would like to thank the ED Registration for their contribution to the project.
- This project is funded by the New York State Governor’s Traffic Safety Committee.
- This project is ongoing and data collection will continue until September, 2015.