G42   Pedestrian Fatalities in Maryland: How Many, Who, When, Where, Why, How, and Ways to Prevent Them

Ana Rubio, PhD*, Carol H. Allan, MD, and David R. Fowler, MD, Office of the Chief Medical Examiner, 111 Penn Street, Baltimore, MD 21201

After attending this presentation, attendees will have a clear picture of the characteristics of pedestrian fatalities in Maryland. The presentation includes social, geographic, medical, and traffic related data from the previous five years.

This presentation will impact the forensic science community by discussing how understanding the nature and causes of a problem in its totality (in this case pedestrian deaths in an entire state), is the first step in correcting it. This presentation will suggest implementations for reducing the rate of fatal pedestrian accidents in the State.

How Many: In the last five years, a total of 400 pedestrian fatalities were studied at the State of Maryland Office of the Chief Medical Examiner (OCME). The majority of the cases had a complete postmortem examination (97.5 %), with toxicologic analysis (for the presence of volatiles in 99% and drugs screening performed in 92%).

Who: The majority of the victims were male (69.5%), aged 1 to 89 years (mean and standard deviation: 43.9 and 19.9 respectively). 179 individuals (44.8%) were African-American, 168 (42%) Caucasian, 36 (9%) Hispanic, 10 (2.5) Asian, and 7 (1.7%) belonged to other racial/ethnic groups. More than half of the victims (54.3%) were transported to the hospital before they were pronounced dead (data is skewed due to a few cases with long survival; median survival of 59 minutes, mean of 34.6 days), and 181 individuals (45.2%) were pronounced at the scene (15.6 minutes after the accident on average; median of 7 minutes). Another individual died at home three and a half days following the accident, and another at a nursing home, three months after the accident.

How: Most (more than 90%) events were witnessed and had a single vehicle involved. The impacting vehicle was recorded in 339 cases (85%), 181 (53.4%) were passenger cars, 62 (18.3%) SUVs, 28 %) pick-up trucks, 25 (7.4%) vans, 22 (6.5%) other trucks, 9 (2.6%) buses, 8 (2.4%) trains, 3 (0.8%) motorcycles and 1 (0.2%) was a bicycle. The manner of death in the majority of the death certificates were listed as accident (98.3%); there were 2 homicides, 3 suicides, and 2 deaths were undetermined. The cause of death was listed as: multiple injuries in 349 cases (87.3%), head or head and neck injuries only in 27 cases (6.8%), and complications of multiple injuries in 14 cases (4 %), with a variety of other causes listed in the remaining 10 cases. Ethanol in blood was positive in 146 cases (36.7%) with a mean concentration of 0.16% (+/- 0.09; range: 0.01 to 0.39%). Toxicologic screening for drugs was positive in 107 cases; 28 individuals (7%) had narcotics in blood (12 morphine, 8 methadone, 5 tramadol, and 3 oxycodone), 21 (5.1%) cocaine or cocaine metabolites, and 6 (1.5%) had PCP.

When: In the five years studied, there was no clear change in the incidence rate. The highest incidence was found in December (12% of all cases), and November (11.75%), and the lowest in January (5.7%) and July (6.5%). Saturday (19.7%) and Friday (17%) had rates up to 1.8 times higher than Thursday (9.3%) or Tuesday. The majority of the accidents occurred at night (70.3%), 6.2% happened at dusk, 4.5% at dawn, and 19% during the day light.

Where: Graphical representation of the location of incidents throughout the State is provided. Location was also classified according to road type and presence or absence of traffic signals at intersections.

Why: Attempts to determine possible causes for the accident were made. Detailed examination of the incident description, police report, and in some cases complete accident reconstruction specified which was the party at fault (whether the pedestrian or the driver of the motor vehicle), weather conditions, light, etc.

Conclusion: Nearly 100 pedestrians die each year in Maryland. Possible ways to prevent or decrease the rate are provided based on the data collected in the prior five years.

Pedestrian Fatalities, Who, Prevention