

**Background** Traffic-related injuries are the largest cause of premature morbidity and leading cause of death among the youth in the UAE. Those injuries are relatively neglected. Our aim was to study epidemiology, risk factors and outcome of hospitalised injured patients 15–24 years in order to give recommendations for prevention.

**Methods** We prospectively studied all youth patients with traffic-related injuries admitted to Al Ain or Tawam Hospitals, Al-Ain City, or who died after arrival to the hospital, during an 18 months period. Demography, location and time of injury, other body region, severity, hospital and intensive care unit (ICU) stay were analysed.

**Results** 333 patients having a mean age of 20 years (SD 2.5) were studied. 87.1% were males and 71.5% were UAE nationals. The most common location for injury was highway and street (82.8%) followed by off-road (7.2%). Majority of injured patients (69.6%) were drivers or front-seat passengers, followed by back seat passengers (15.6%), motorcyclists (8.7%) and pedestrians (4.5%). Rollover was most often crash mechanism (29.7%), followed by front crash (29.4%) and side-angle (16.2%). 15% of patients were ejected from the car during rollover crash. Evening (18–24) was the most common time of the day (33.5%) and Sunday the most common day of the week (20.1%) when crash occurred. 19.8% of the patients were admitted to the ICU. Median Glasgow Coma Scale was 15 (Range 3–15), Injury Severity Score 5 (1–41), Revised Trauma Score 12 (7–12) and median total hospital stay was 3 (Range 1–73). 9 (2.7%) patients died.

**Conclusions** Young UAE-national males are at a higher risk of being injured at traffic. Rollover crash was frequent with high risk of ejection. Promotion of traffic safety and enforcement of safety legislation is necessary.

#### 524 PREVENTING MOTOR VEHICLE-RELATED FATALITIES: A COLLABORATIVE PROJECT TO ENHANCE CORONIAL DATA CAPTURE AND USE

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**Background** Child fatalities due to motor vehicle collisions (MVCs) are a significant burden in Canada. Data specific to these deaths are often referenced, yet few Canadian jurisdictions systematically collect *comprehensive details* of all child occupant and pedestrian MV fatalities reducing the effectiveness of informing and setting targets for injury prevention initiatives.

**Methods** This project had two objectives; 1): To document the details of injuries and specific crash circumstances of all fatally injured child and youth (0–18 years) occupants and pedestrians through review of two provincial coroner case files (2004–2012). 2): To introduce recommendations toward standardised data collection procedures for use by coroners, specific to child and youth occupants and pedestrians involved in fatal MVC to: a) support revision of procedures, processes, and practices to facilitate detailed data capture by coroners; and b) to improve information transfer to inform prevention initiatives.

**Results** Phase 1: Review of death investigation files (n = 317) did not allow ascertainment of suitable detail about injuries (56.5%, n = 160), restraint status (38.1%, n = 121) and crash type (7.3%, n = 23). Data obtained in the retrospective review revealed 43% (95% CI: 36.3, 50.0) of cases were side impact collisions, and 40.0% (95% CI: 33.0, 48.0) of the fatalities were reported improperly or unrestrained. Phase 2: A standardised form was developed and provided to each provincial coroner service to facilitate consistent and detailed data collection. Prospective data collection reduced missing data to 0%.

**Conclusions** Review of data obtained from review of child and youth fatalities demonstrated a significant proportion of deaths followed side impact collisions without use of restraint systems; however, detailed information about MVC circumstances and injury details were not present in the investigation files. Stakeholder involvement plays a pivotal role in attaining data that are imperative to the development of effective injury prevention products, policies and practices.

#### 525 YOUNG DRIVER CRASHES – THE INFLUENCE OF ROAD SINUOSITY

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**Background** Young drivers (YD) are at high risk of crashing because of their age and inexperience, leading some to ‘test’ themselves on roads that they perceive to be more challenging. While this may have applied more to male YD in the past, crash data indicate that whilst male YD crashes have decreased rapidly in recent years, female YD crashes have decreased much more slowly. Research suggests that female YD are beginning to show behaviours previously seen as ‘male’ and linked to crash risk. This paper aimed to examine the links between road crashes amongst male and female YD and older drivers (OD) and road sinuosity.

**Methods** Police road crash data on single vehicle crashes were analysed for Wales for 2000–2013. Young drivers were aged 17–19 years and older drivers aged 30–59 years. Each crash was linked to the road network segment (length of road between two consecutive junctions) on which it occurred. Sinuosity of the segment was the ratio of the actual segment length to the straight line distance between start and end of the segment. Analysis was by year, for males and females and for night-time v day time.

**Results** For 17–19 year male YD, 95<sup>th</sup> percentile sinuosity values ranged from 1.14 to 1.24, with no trends. For females aged 17–19, 95<sup>th</sup> percentile values ranged from 1.12 to 1.36 and showed a trend to increasing sinuosity of road crash segments. Amongst OD 95<sup>th</sup> percentile sinuosity values were lower (1.11–1.28 for males, 1.12–1.31 for females) and decreased over time.

**Conclusions** YD crashes occur on more sinuous roads than OD crashes. This confirms previous findings around road type and relates specifically to the section of road on which the crash occurred. Realistically though, making the road network less sinuous is not a viable intervention; therefore addressing factors that place YD at higher risk on these roads is important. For YD, this means restricting alcohol consumption, passenger carriage and night-time driving, in short Graduated Driver Licensing.