Nevada's Traffic Research and Education Newsletter

TREND

Center for Traffic Safety Research
June 21, 2016
Volume 5, No. 4

University of Nevada School of Medicine

Center for Traffic Safety Research
Univ. of Nevada School of Medicine
1701 W. Charleston, Suite 490
Las Vegas, NV 89102
Telephone: 702-671-2270

All TREND newsletters may be found at:
www.CTSR.org

Deborah Kuhls, MD
Principal Investigator
Email: dkuhls@medicine.nevada.edu

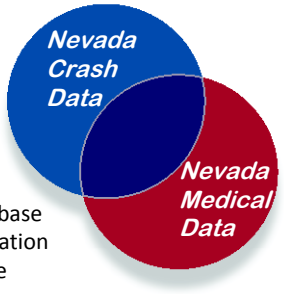
John Fildes, MD
Co-Investigator
Email: jfildes@medicine.nevada.edu

Laura K. Gryder, MA
Project Director
Telephone: 702-671-2270
Email: lgryder@medicine.nevada.edu

Dignity Health. St. Rose Dominican
Nevada DOT
UMC Trauma
Sunrise Hospital & Medical Center
Renown Health
Nevada Department of Public Safety, Office of Traffic Safety

Office of Traffic Safety
Department of Public Safety
555 Wright Way
Carson City, NV 89711
Telephone: 775-684-7470
Fax: 775-684-7482
Email: tsafety@dps.state.nv.us

The University of Nevada School of Medicine (UNSOM) and the Nevada Department of Public Safety, Office of Traffic Safety have formed a partnership to establish a state repository for crash medical outcomes data.



Nevada Motor Vehicle Crash records from 2005-2013 were linked to Nevada trauma records from the four Nevada trauma centers: University Medical Center, Renown Regional Medical Center, St. Rose Dominican Hospital and Sunrise Medical Center. These records were linked to create a unique database that includes crash scene data and hospital information. This integrated information allows us to better understand the impact of crashes on human life, cost of care to our medical facilities, and our state economy.

The Relationship Between Speed And Injuries

- During the 2015 Nevada Legislative Session: One senate bill (SB), SB 2, was introduced to allow the Department of Transportation (DOT) to raise the maximum speed limit on Nevada highways from 75 to 85 miles per hour (MPH). We utilized our 2005-2012 statewide linked crash-trauma data to approximate the clinical injury implications that vehicular speed has on injury and death in Nevada.
- Only those travelling higher than 55 miles per hour (MPH) were included in the study (N=4,223). Based on the current maximum speed limit (75 MPH) when the study was conducted, the estimation of the driver's speed by law enforcement was categorized into 56 to 75 MPH and 76+ MPH.
- Higher speed (76+ MPH) is significantly related to more severe injury (Mann-Whitney= 843982; p<.001) compared with those who travel 56-75 MPH (Figure 1). Speed was also significantly associated with hospital disposition (p<.001):

	56 to 75 MPH	>75 MPH
In-hospital Death	2.6% (N=94)	4.7% (N=31)
Nursing Home or Rehab	8.4% (N=299)	11.3% (N=75)

- Additionally, compared with patients who were traveling 56-75 MPH, those who were travelling above the current maximum speed limit (76+ MPH) had:
  1. longer hospital length of stay (8.1 vs. 5.8 days, p=.004),
  2. longer intensive care unit length of stay (4.0 vs. 3.0 days, p<.001),
  3. longer ventilator days (1.5 days vs. 0.8 days, p<.001),
  4. higher accrued hospital charges (Figure 2)

Figure 1. Patient New Injury Severity Score (NISS) Mean by Speed in MVCs year 2005-2012

Figure 2. Average Hospital Charges of Patients involved in MVCs by Speed (p<.001)