Older Driver-Related Crash Injuries and Deaths, Oklahoma, 2006

Motor vehicle crashes are a major cause of morbidity and mortality in the United States (U.S.) among all age groups. Older drivers have become a large driving population in the U.S. According to the National Highway Traffic Safety Administration, in 2006, there were 37 million individuals age 65 years and older; of these, 30 million (81%) were licensed drivers. The Insurance Institute for Highway Safety reported approximately one-fourth of states and the District of Columbia require a vision test for an older driver's license renewal. In addition, Illinois, New Hampshire, and District of Columbia require a road test for persons 75 years and older. In Oklahoma, there is no legislation regarding driving restrictions for persons 70 years and older.

In 2006, there were approximately 288,000 licensed drivers age 70 years and older in Oklahoma. Motor vehicle crashes were the second leading cause of injury deaths in 2006 in this age group.

Inclusion of cases

Cases were identified from the 2006 linked Traffic Data Linkage Project database as drivers aged 70 years and older who were hospitalized or died as a result of injuries sustained in a motor vehicle crash. Approximately 12% of licensed Oklahoma drivers were 70 years or older, and they were involved in 10% of crashes.

Older Driver-Related Crashes

- Of a total of 75,408 crashes in 2006, 7,562 involved older drivers; 303 of these drivers were hospitalized and survived (N=241) and 62 died.
- There was a total of 303 crashes involving the 303 older drivers; 77% were multiple vehicle crashes and 23% single vehicle crashes.
- The rate of crash injuries for males was nearly twice that of females (12.6 and 6.5 per 10,000 population, respectively). The highest rate (14.9 per 10,000) occurred among males 80-84 years old (Figure 1).
- Leading contributing factors to crashes included failing to stop/yield (34%), improper turning (17%) improper backing and/or changing lanes unsafely (16%), inattention/sleepiness (12%), following too closely (7%), unsafe or excessive speed for traffic/road conditions (6%), improper overtaking, driving wrong way, or stopping in traffic lanes (4%), driving while impaired (1%), and others (3%; e.g., unsafe vehicle, avoiding animals).
- Approximately half (52%) of persons were driving on roads with posted speed limits between 30-45 miles per hour (MPH); of the 303 persons, 29% were driving between 10 and 30 MPH just before the crash occurred.
- Overall, the total hospital charges were $9,877,667 for 257 hospitalized persons. Of these, 16 persons died during their hospital stay.
- There was a total of 2,005 injuries (nearly 8 injuries per person) sustained by the 257 hospitalized older drivers, including fractures (36%), contusions (26%), internal organ injuries (20%), open wounds (12%), and others (6%), which included dislocations and sprains/strains.

Figure 1. Rate of Crash Injuries Among Older Drivers by Age and Gender, Oklahoma, 2006

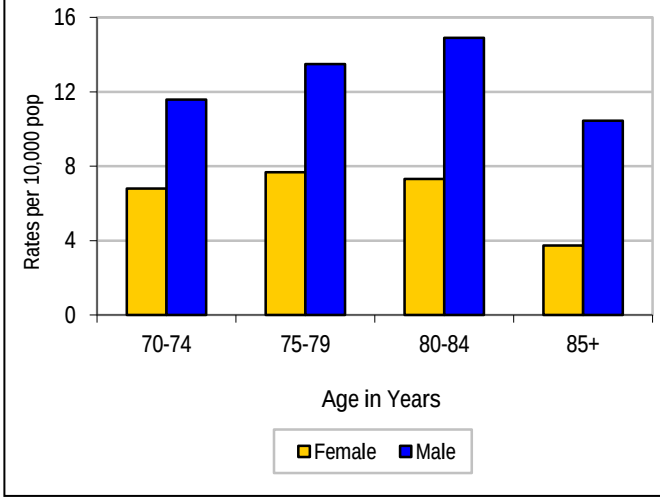

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Table 1. Characteristics of Injured Drivers by Age Group, Oklahoma, 2006

Characteristics	Drivers >=70 years (N=303)	Drivers 25-69 years (N=1,785)	Drivers 16-24 years (N=573)
Median age	77 years	44 years	20 years
Gender	(rate/10,000 pop)	(rate/10,000 pop)	(rate/10,000 pop)
Male	172 (12.6)	1,136 (11.6)	361 (14.7)
Female	131 (6.5)	649 (6.5)	212 (9.4)
Race*	(rate/10,000 pop)	(rate/10,000 pop)	(rate/10,000 pop)
White	277 (9.1)	1,483 (9.1)	461 (12.9)
Am. Indian	13 (7.2)	124 (7.8)	48 (8.9)
Black	9 (6.2)	108 (7.3)	31 (6.3)
Injury severity	(rate/10,000 pop)	(rate/10,000 pop)	(rate/10,000 pop)
Died	62 (1.8)	379 (1.9)	111 (2.4)
Hospitalized (survived)	241 (7.1)	1,406 (7.1)	462 (9.8)
Median hospital charge (survivors)	$16,831 (N=241) ($748 - $483,054)	$19,248 (N=1,406) ($222 - $613,216)	$18,844 (N=462) ($523 - $725,224)
Median hospital stay (survivors)	4 days (N=241) (1-87 days)	3 days (N=1,406) (1-122 days)	3 days (N=462) (1-65 days)
Total crashes	303 crashes	1,749 crashes	570 crashes
Single vehicle	71 (23%)	804 (46%)	327 (57%)
Multiple vehicle	232 (77%)	945 (54%)	243 (43%)
Type of vehicle			
Passenger car	215 (71%)	1,001 (56%)	375 (65%)
Pickup truck	75 (25%)	397 (22%)	147 (26%)
Motorcycle	4 (1%)	273 (15%)	39 (7%)
Others**	9 (3%)	114 (7%)	12 (2%)
Median speed of vehicles before the crash	34 miles/hour (N=240)	55 miles/hour (N=1,471)	60 miles/hour (N=485)
Economic loss due to vehicle damage	Sum: $1,691,732 Median: $3,500 ($0 - $300,000)	Sum: $11,982,365 Median: $4,000 ($0 - $200,000)	Sum: $3,543,577 Median: $5,000 ($0 - $100,000)
Seat belt use	(N=284)	(N=1,443)	(N=505)
Belted	231 (81%)	1,015 (70%)	231 (46%)
Non-belted	53 (19%)	428 (30%)	274 (54%)
Alcohol involved			
Yes	3 (1%)	254 (14%)	110 (19%)
No/Unknown	300 (99%)	1,531 (86%)	463 (81%)
Day of week			
Monday - Thursday	207 (68%)	980 (55%)	275 (48%)
Friday - Sunday	96 (32%)	805 (45%)	298 (52%)
Time of crash			
6:00–11:59AM	83 (27%)	443 (25%)	101 (18%)
Noon-5:59PM	170 (56%)	682 (38%)	166 (29%)
6:00-11:59PM	41 (14%)	438 (25%)	167 (29%)
Midnight-5:59AM	9 (3%)	222 (12%)	139 (24%)
Number of passengers			
0	229 (76%)	1,370 (77%)	367 (64%)
1	66 (22%)	287 (16%)	137 (24%)
2	6 (2%)	78 (4%)	41 (7%)
3	2 (<1%)	31 (2%)	20 (3%)
4+	0 (0%)	19 (1%)	8 (1%)

*Asian/Pacific Islander and others: Not calculated due to small frequency
**Includes truck-tractors, ATVs/mopeds, and publicly owned vehicles

Characteristics of Drivers by Age Category

Crash and personal factors for older drivers were examined and compared to younger drivers aged 16-24 years and 25-69 years (Table 1).

- The crash fatality rate among older drivers was lower than younger drivers. Similarly, the morbidity rate was lower among older drivers than among 16-24 year olds.
- Median hospital charges were lowest for older drivers; however, median stays were slightly longer.
- There was a higher proportion of multiple vehicle crashes among older drivers (77%) than drivers 25-69 years old (54%) and drivers 16-24 years (43%).
- Almost three-fourths of older drivers were in a passenger car; only 1% was injured on a motorcycle.
- The median travel speed was lowest for older drivers.
- Older drivers were more likely to be restrained (81%) when compared to younger drivers age 25-69 years (70%) and drivers age 16-24 years (46%).
- The proportion of alcohol impaired drivers decreased as age group increased (19% for the youngest drivers versus 1% for older drivers).
- More than two-thirds of crash injuries among older drivers occurred Monday and Thursday while over half of the crashes among 16-24 year-old drivers occurred on the weekend.
- Over half of crash injuries among older drivers (56%) occurred between noon and 6:00 pm; whereas, nighttime crashes were more frequent among younger drivers.
- Regardless of age, the majority of drivers had no passengers in the car; younger drivers had a greater tendency to have three or more passengers than did older drivers.