



# **Motorcycle Safety Program Initiatives: Achievement and Challenges**

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**Illinois Department of Transportation**

**Division of Transportation Safety**

Presented at the ITES Conference in Champaign, Illinois

# Objectives

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1. General Statistics on Motorcycles (What We Know and What We Don't Know)
2. Existing Motorcycle Training Program and Licensing
3. Relationship between Motorcycle Training and Motor Motorcycle Related Crashes
4. Highway Safety Program (Media and Enforcement Activities) Focusing on Motorcyclists: Alcohol, Speed, Helmet, and Distracted Devices
5. Engineering Issues and Solution (Roadway Conditions Hazardous to Motorcycles)
6. Legislations (e.g., Helmet Law, Traffic signals, mainly Red Light, Motorcycle Road Guard, and others)

# What We Know about Motorcycles

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- Motorcyclists have high death rates
- Motorcycle deaths are increasing
- Motorcycles are becoming popular
- About 50% of motorcycle driver deaths involved in Single vehicle crashes
- Demographics--average age of riders is going up (37)
- Engine size is increasing—The higher the engine size, the higher the probability of being fatally injured

# What We Know about Motorcycles

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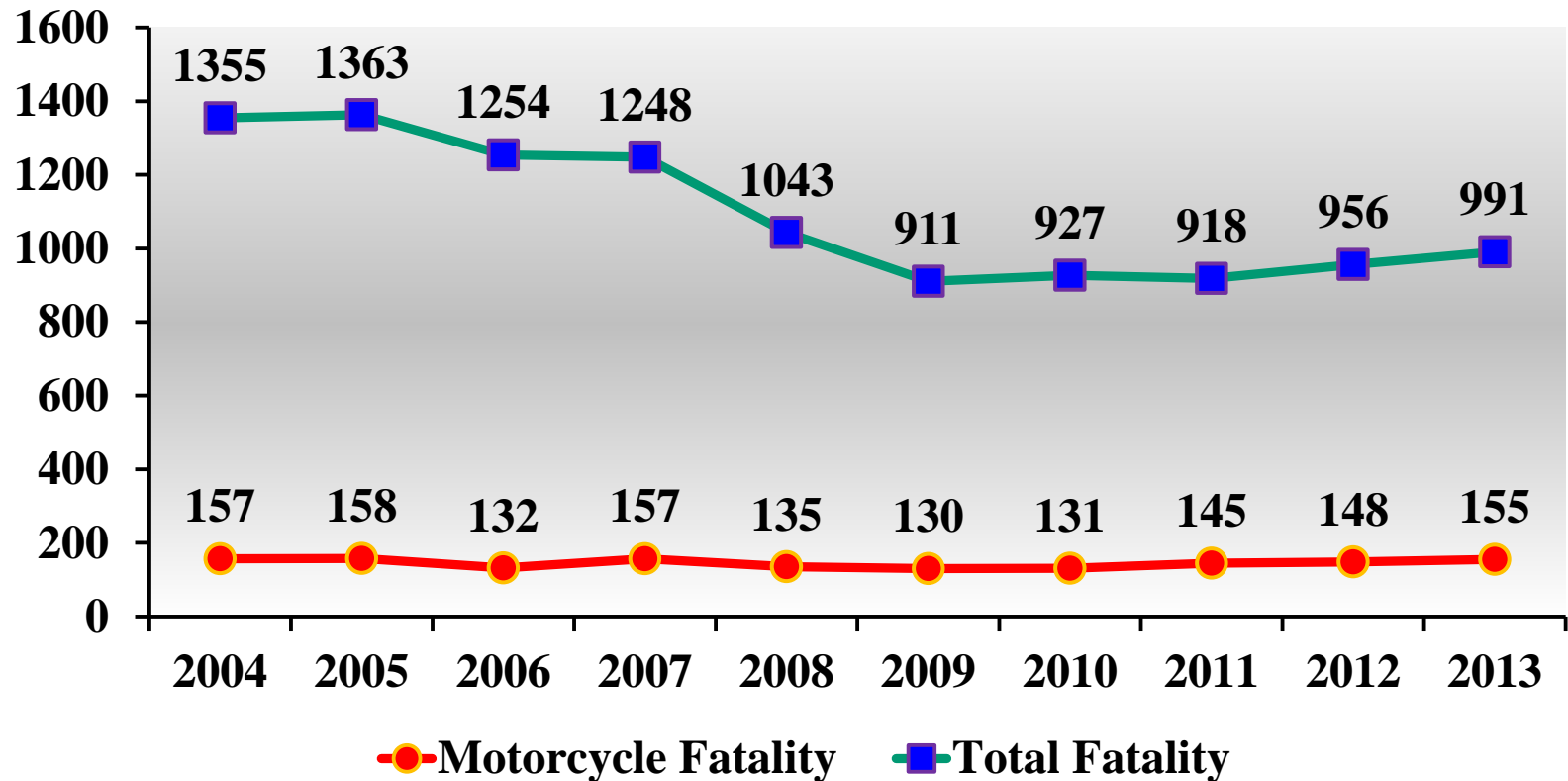
- Rider Characteristics differ by types of motorcycles
- Alcohol use is a problem among motorcyclists
- Supersport motorcycles have the highest overall collisions
- Motorcycles don't have safety gear that is comparable to what we found in passenger cars
- Rider safety training and education tend to reduce motorcycle related crashes (based on anecdotal information).

# Helmet Laws

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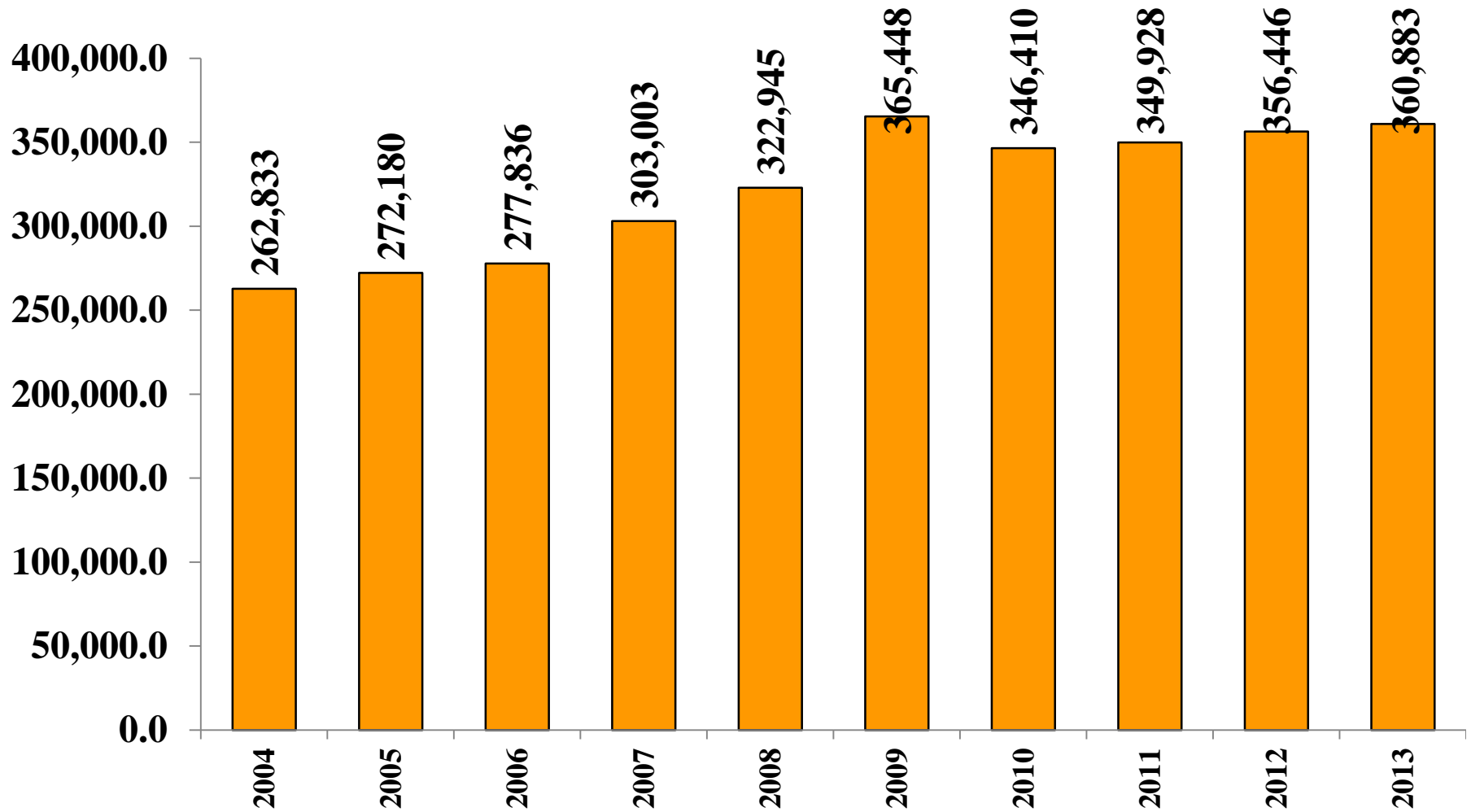
- Laws requiring all motorcyclists to wear a helmet are in place in 19 states (Universal Helmet Law).
- Laws requiring only some motorcyclists (most often age 17 and under) to wear a helmet are in place in 28 states.
- Two states (Florida and Michigan) allow motorcyclists over the age of 21 to ride without helmet if they have a certain level of medical insurance (over \$10,000 or \$20,000).
- There is no motorcycle helmet use law in 3 states (Illinois, Iowa, and New Hampshire).

# Motorcyclist Fatalities



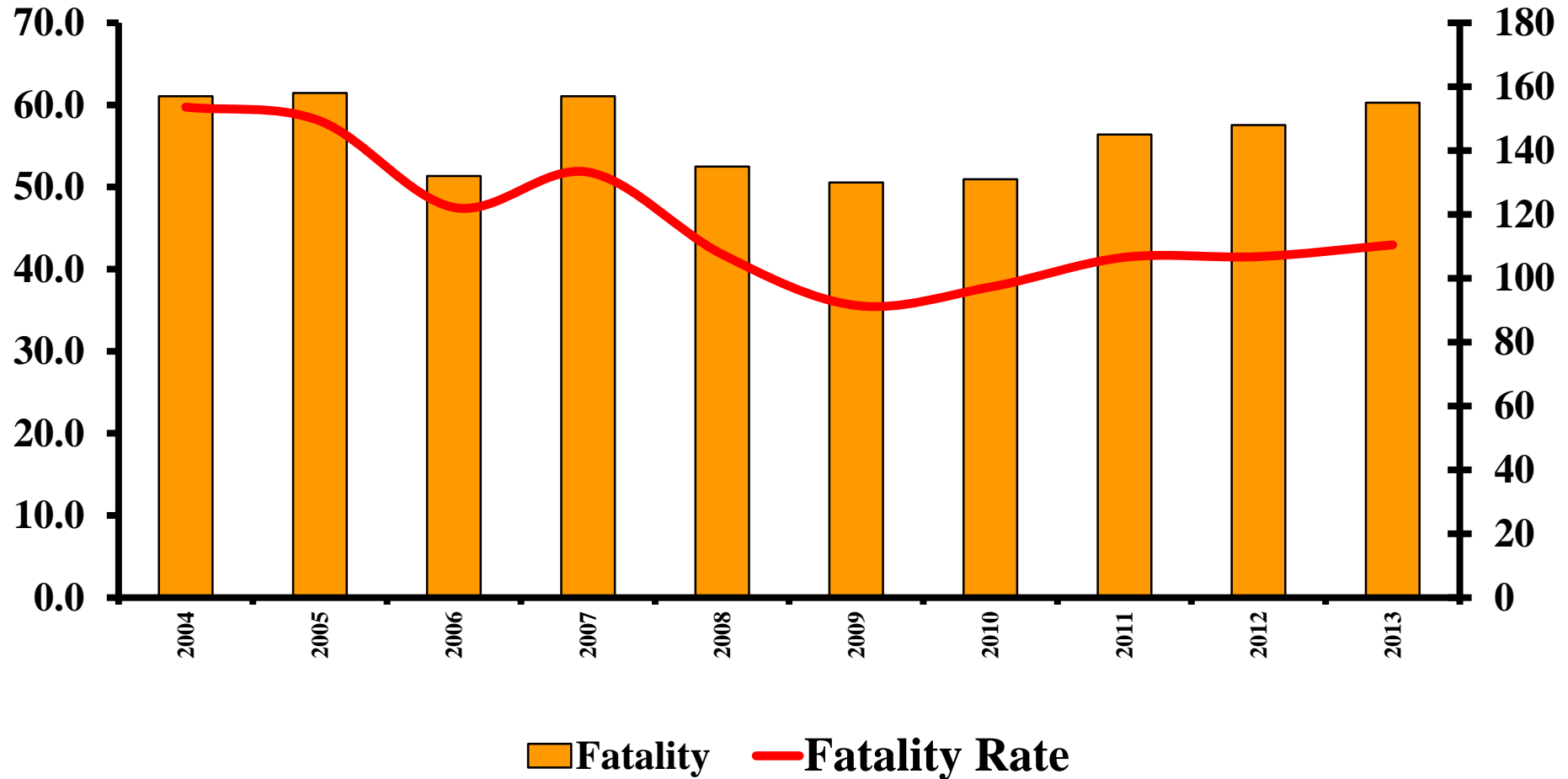
\* Based on 11 months of provisional Data)

# Registered Motorcycles in Illinois by Year



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# Motorcycle Fatalities and Fatality Rate Per 100,000 Registered Motorcycles, by Year (Illinois)



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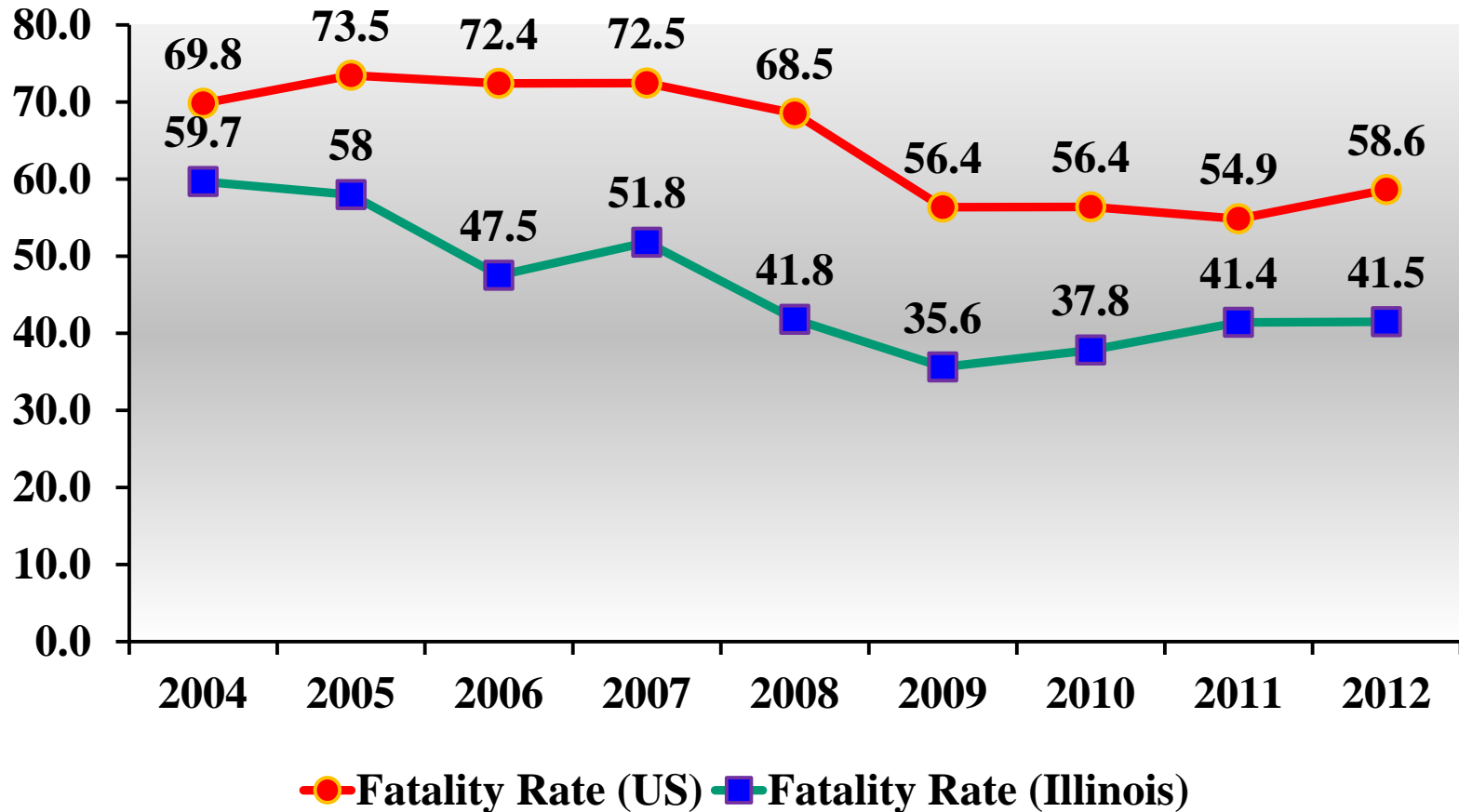


# Motorcycle Fatalities and Fatality Rate Per 100,000 Registered Motorcycles, by Year (US)



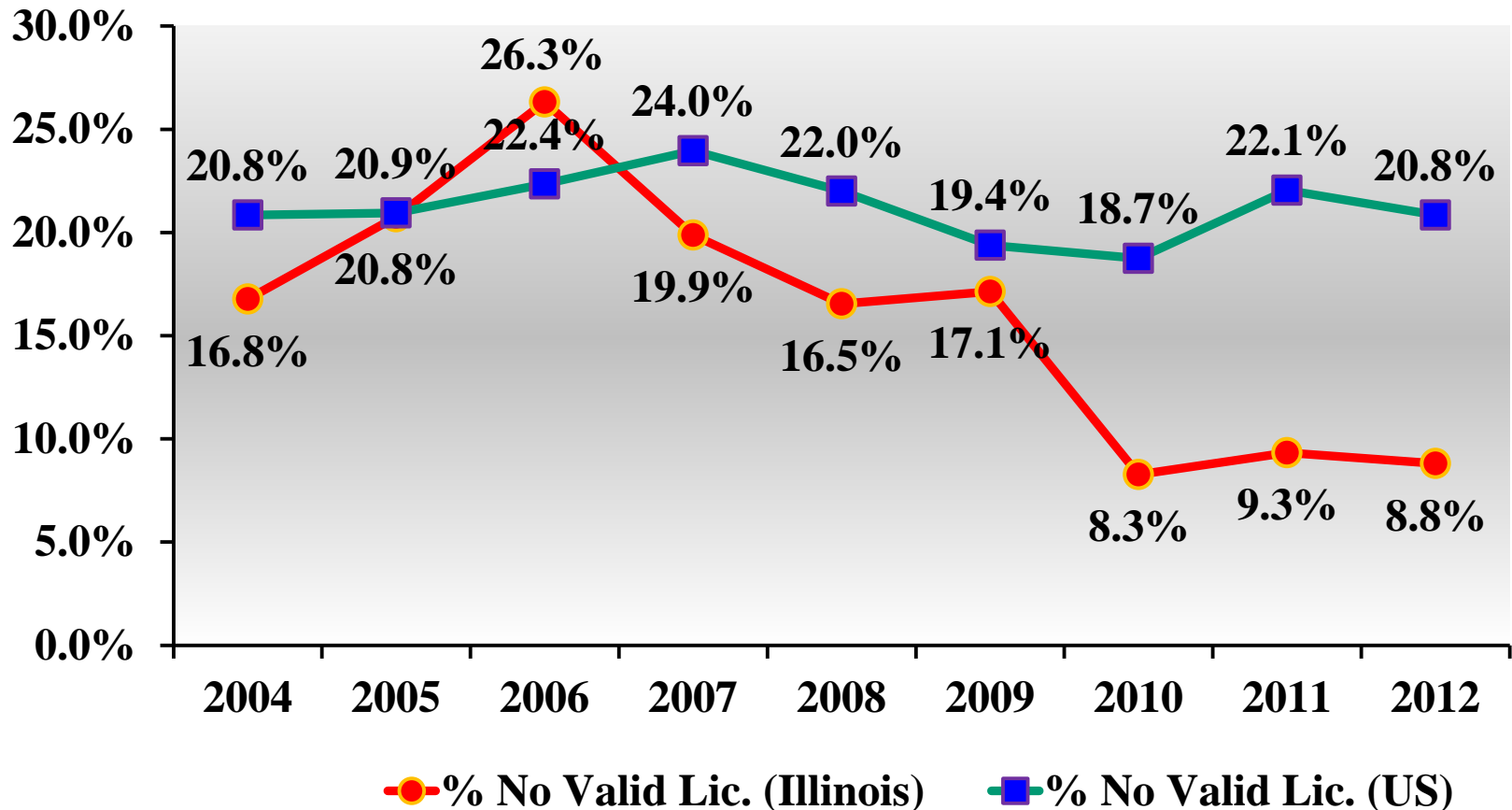
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# Motorcycle Fatality Rate Per 100,000 Registered Motorcycles, by Year (Illinois Versus US)



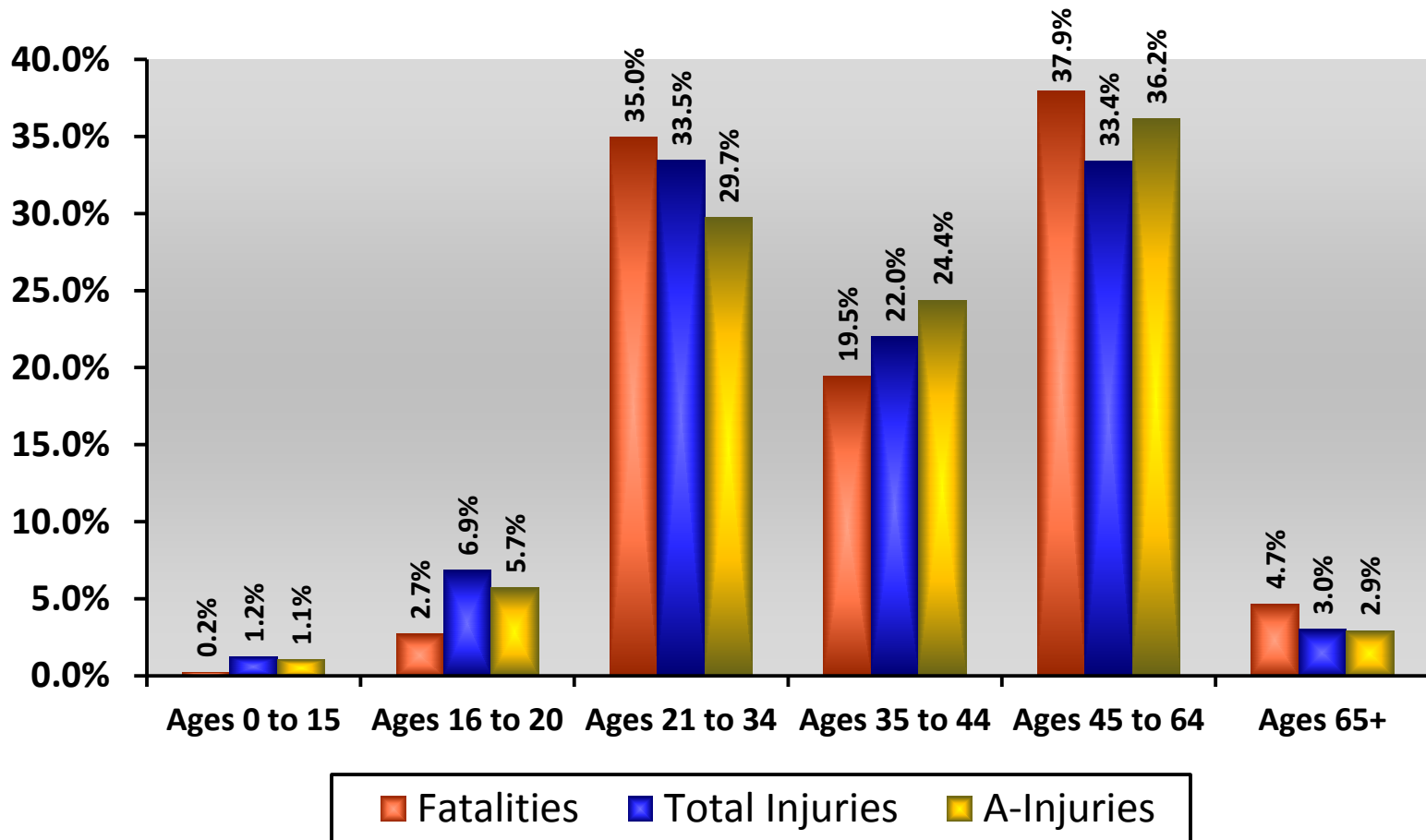
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# Percent No Valid Motorcycle License Among Motorcycle Riders Involved in Fatal Crashes by Year (Illinois Versus US)



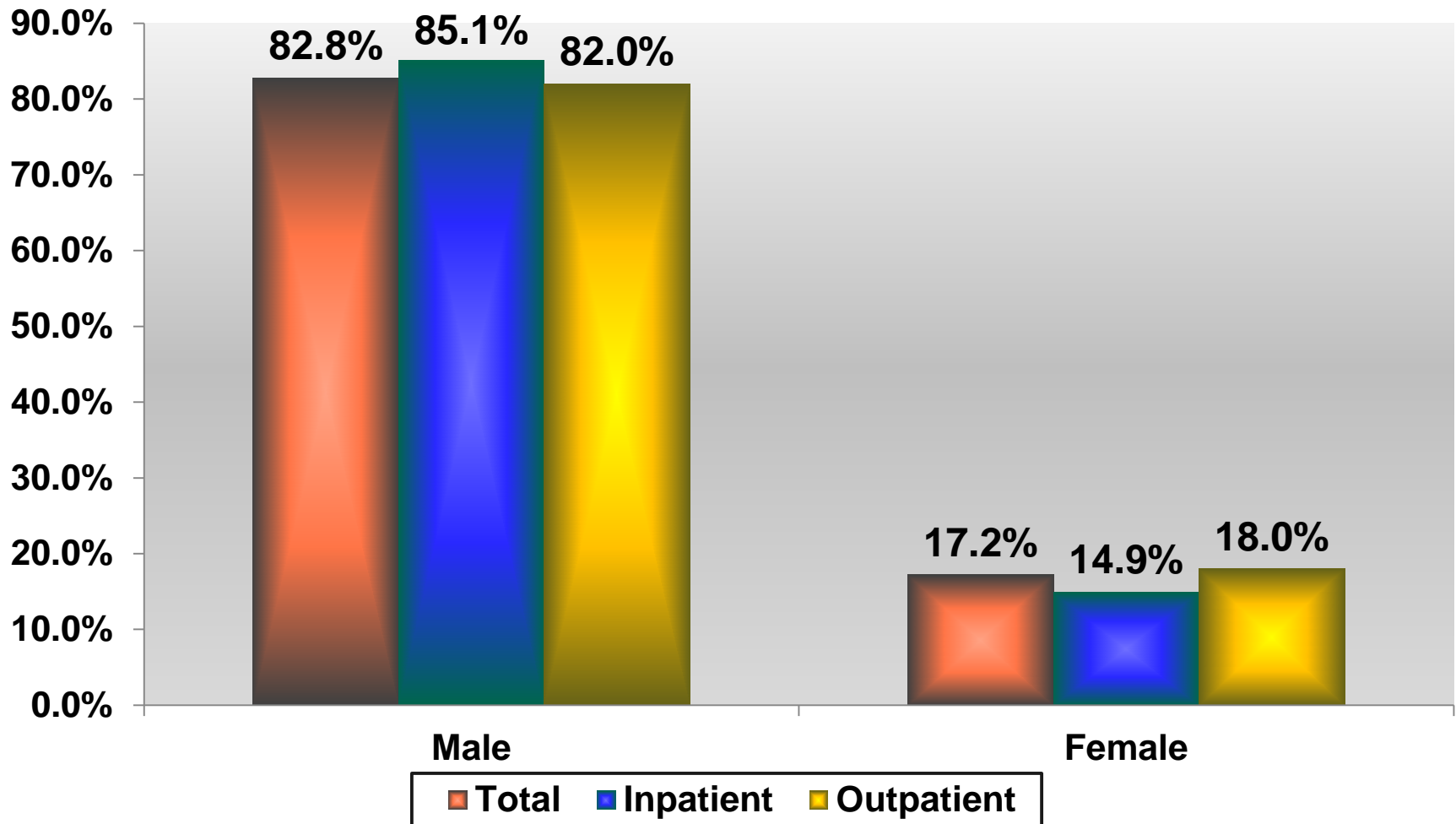
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# Motorcycle Fatalities, Total Injuries, and A-Injuries by Age Group (2010-2012)



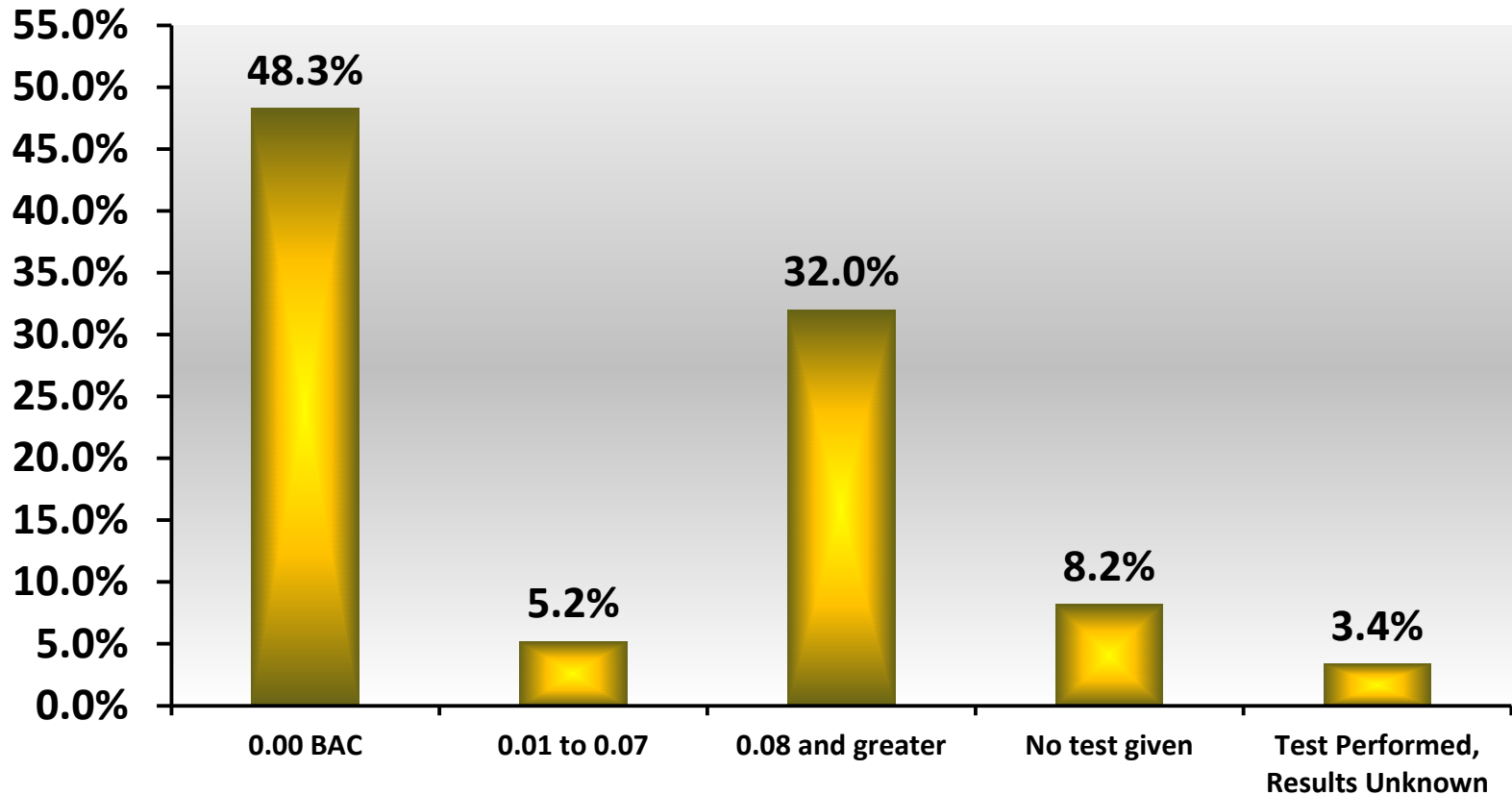
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# Figure 4: Percent Total Inpatient and Outpatient Motorcycle Occupants by Gender



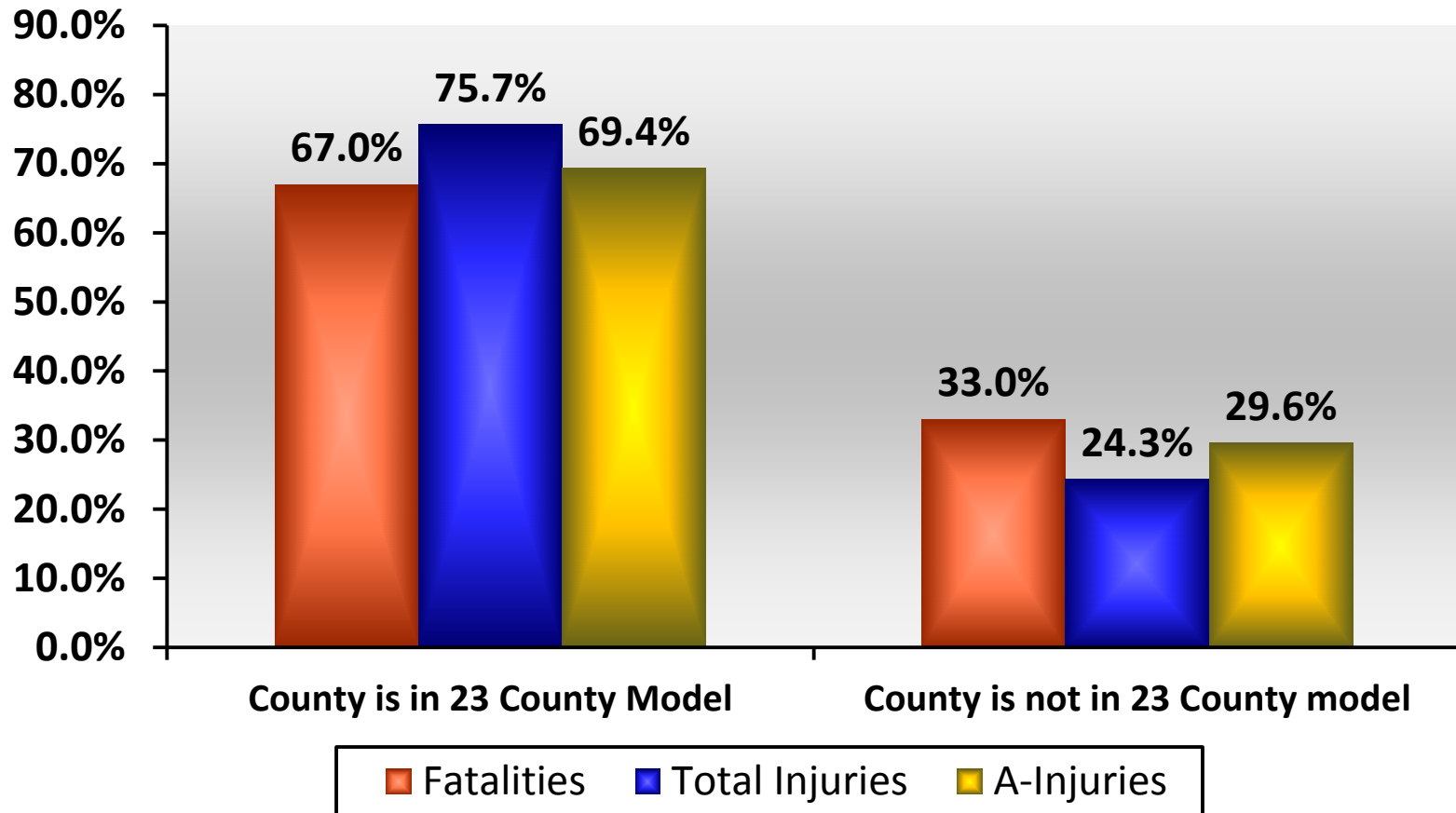
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# Percent Fatalities by BAC Test in 2012



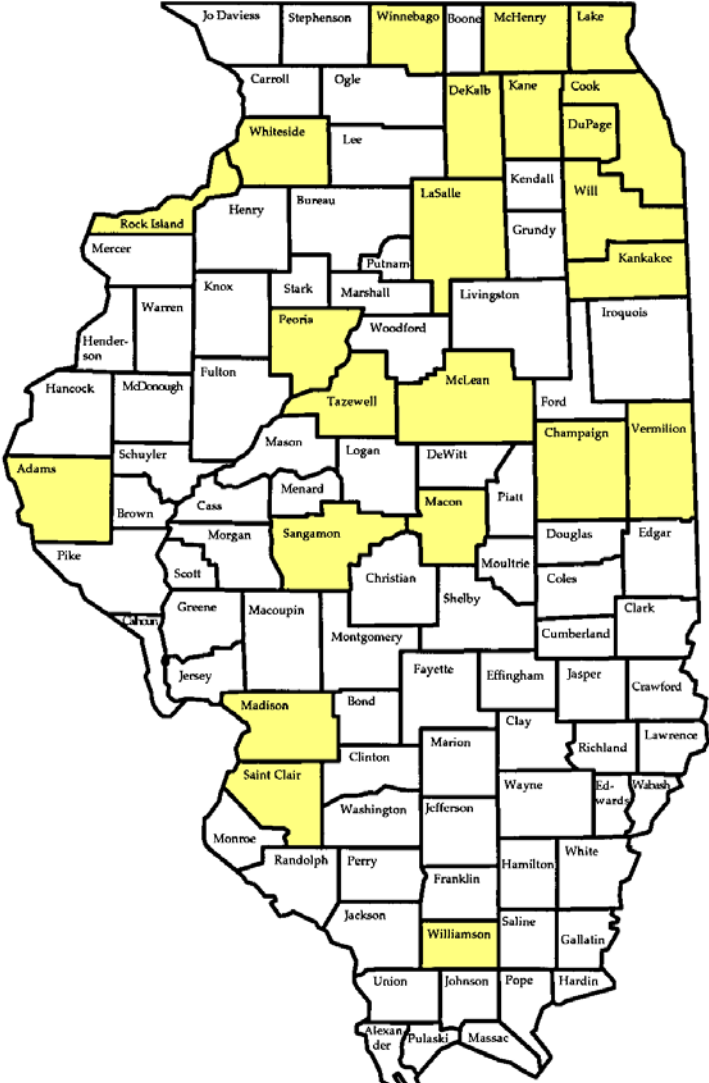
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# Motorcycle Fatalities, Total Injuries, and A-Injuries by 23 County Model Location (2009-2011)



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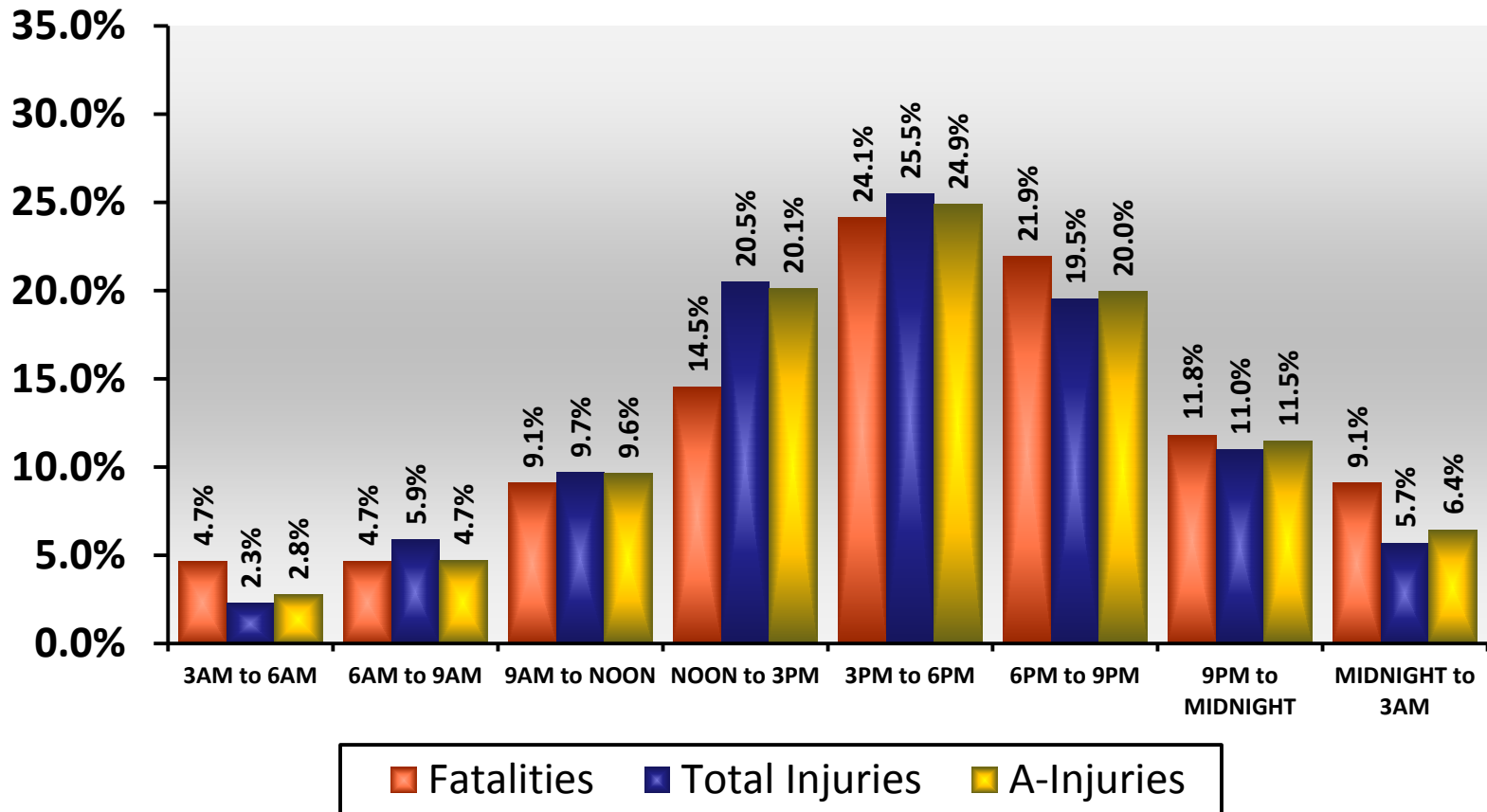
# State of Illinois 23 County



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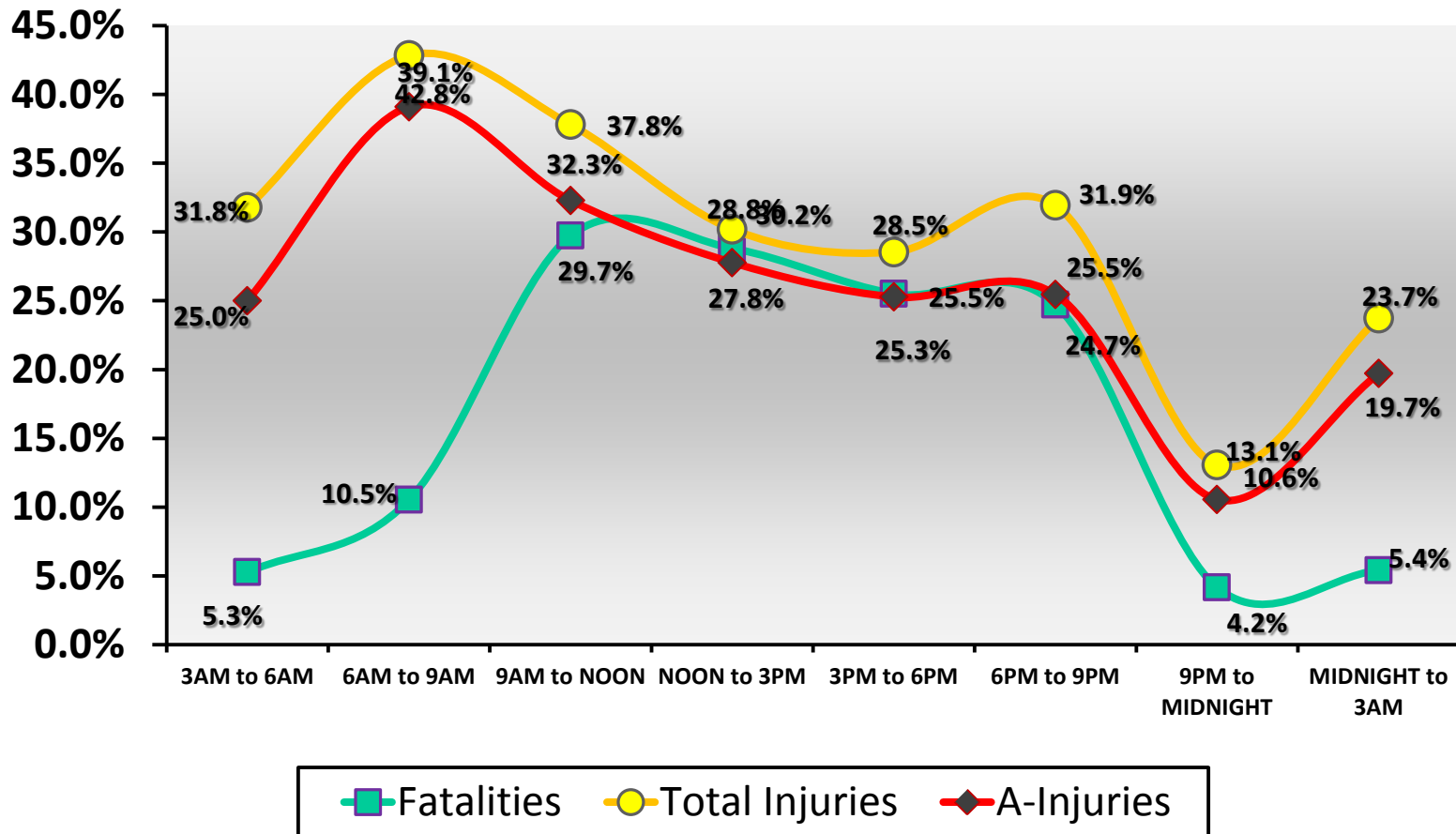


# Motorcycle Fatalities, Total Injuries, and A-Injuries by Time of Day (2010-2012)



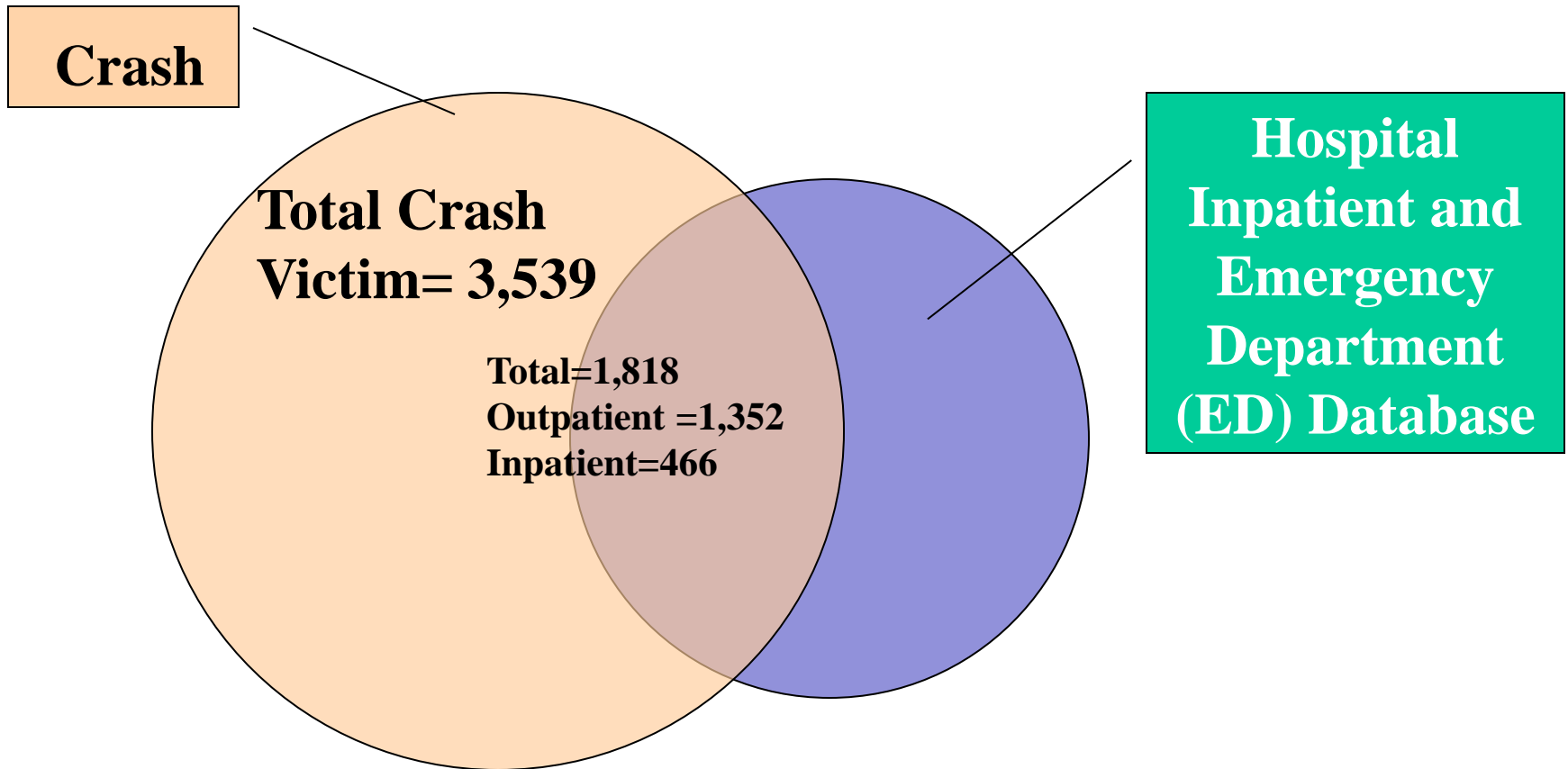
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# Motorcycle Helmet Use for Fatalities, Total Injuries, and A-Injuries by Time of Day (2010-2012)



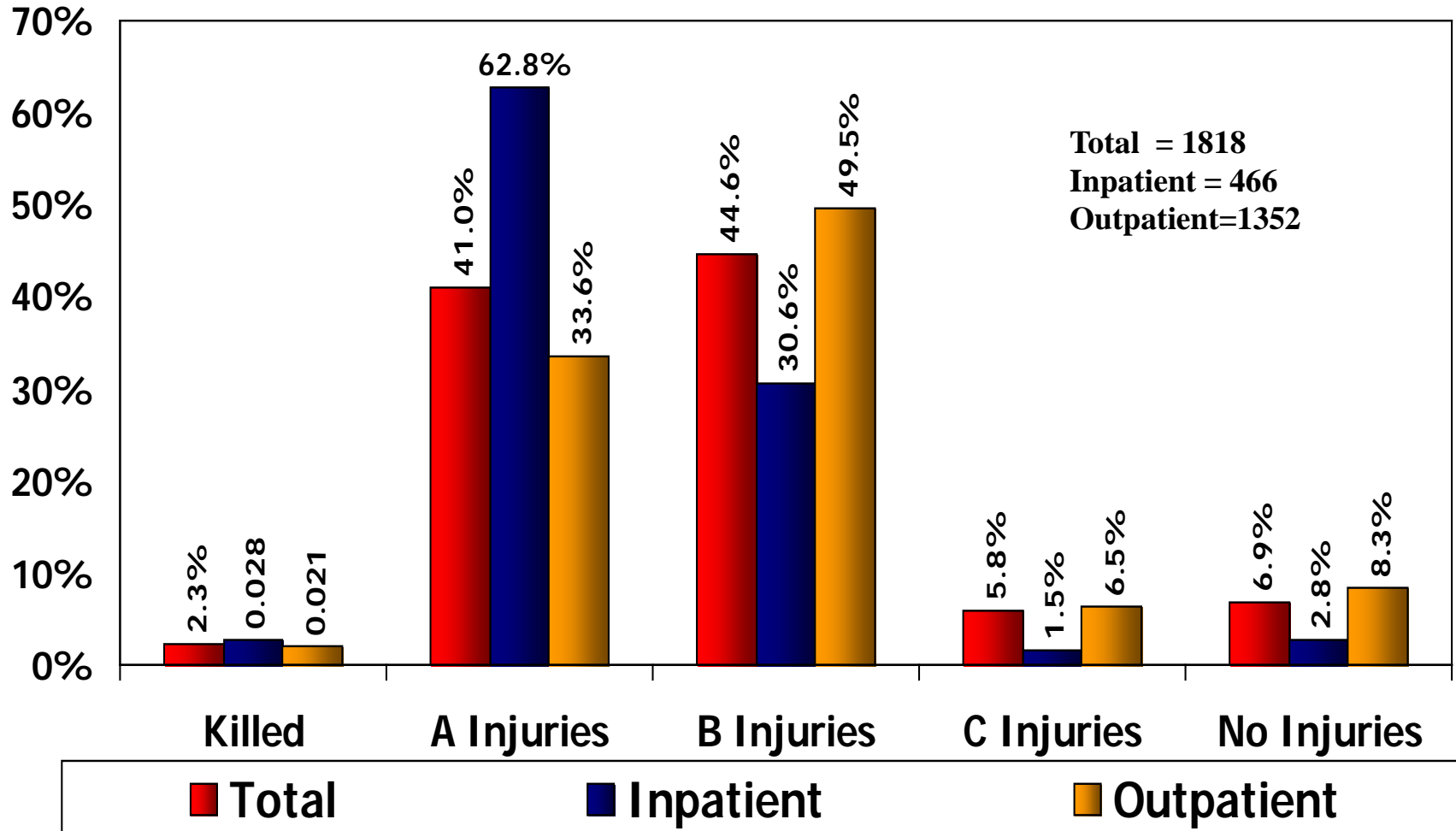
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# Linked Data Process



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# Percent Distributions of Hospitalization by KABCO



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**Table 1: Motorcycle Helmet Usage Rates in  
(JUNE 2014)**

<b>Selected Characteristics</b>	<b>Total Observed (1)</b>	<b>Actual Usage Rate (2)</b>
<b>Statewide (288)</b>	<b>1,488</b>	<b>44.0%</b>
<b>Regions</b>		
City of (3)	156	37.8%
Cook County Excluding Chicago(63)	463	43.2%
Collar Counties (120)	507	49.9%
Downstate (70)	362	39.2%
<b>Road Type</b>		
Residential (144)	316	31.6%
U.S. Illinois Highways (84)	513	43.7%
Interstate Highways (60)	659	50.1%
<b>Day of Week</b>		
Weekends (112)	954	40.7%
Weekdays (176)	534	49.8%

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# Average Hospital Charge Per Discharge

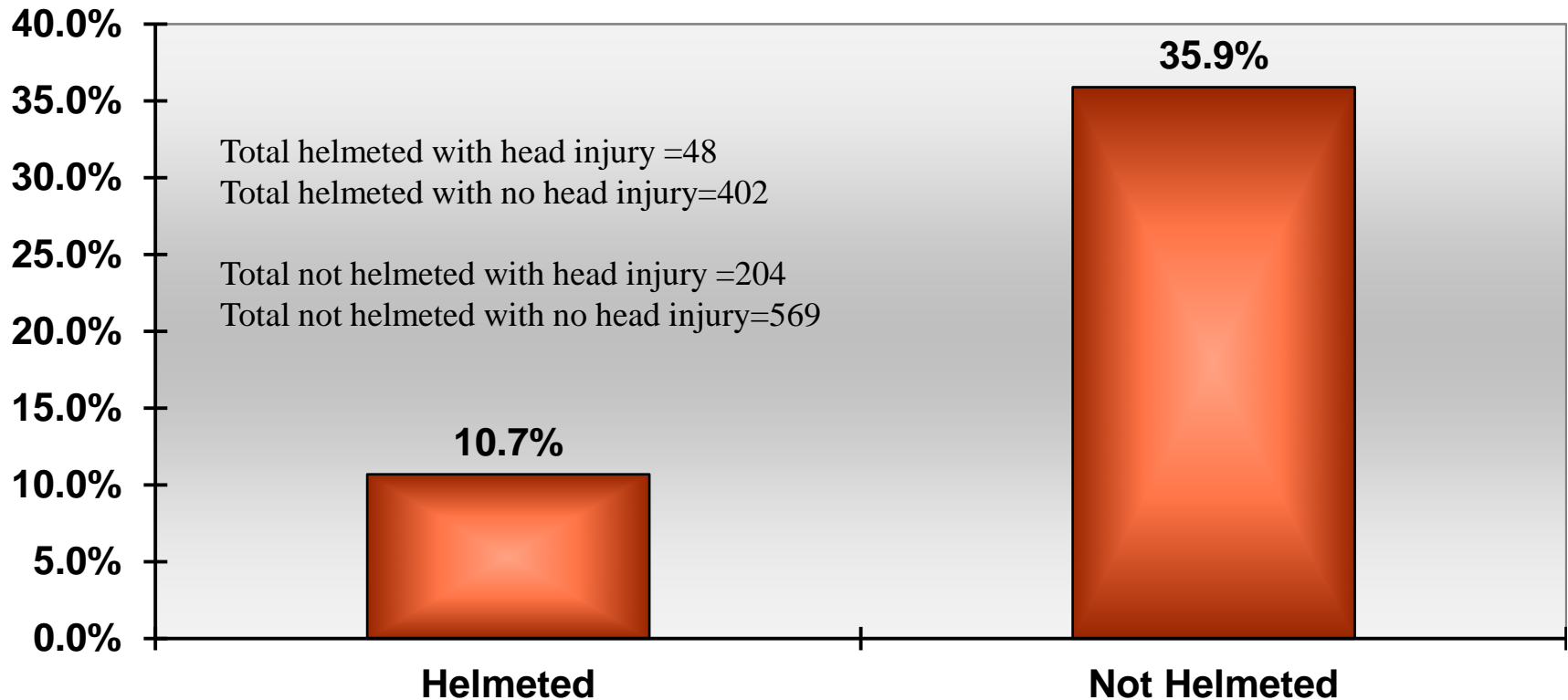
	All Crash Victims	Motorcycle Occupants
Inpatient Discharge	\$52,544	\$69,333
Outpatient Discharge (ED)	\$3,572	\$6,433
Total Hospital Discharge	\$6,725	\$22,555

# Frequency and Percentage Distributions of Linked Motorcycle Occupants By Helmet Status

	Helmeted	Not Helmeted	Miscoded/N ot Available
Inpatient Discharge	111 (23.8%)	217 (46.5%)	139 (29.7%)
Outpatient Discharge (ED)	339 (25.1%)	555 (41.0%)	458 (33.9%)
Total Hospital Discharge	450 (24.8%)	772 (42.4%)	596 (32.8%)

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# Percent Head Injuries by Helmet Status



**Note: the relationship between Helmet use and head injury is significant. Odd Ratio (OR) value is over 0.34 indicates that wearing helmet a protective against head injury.**

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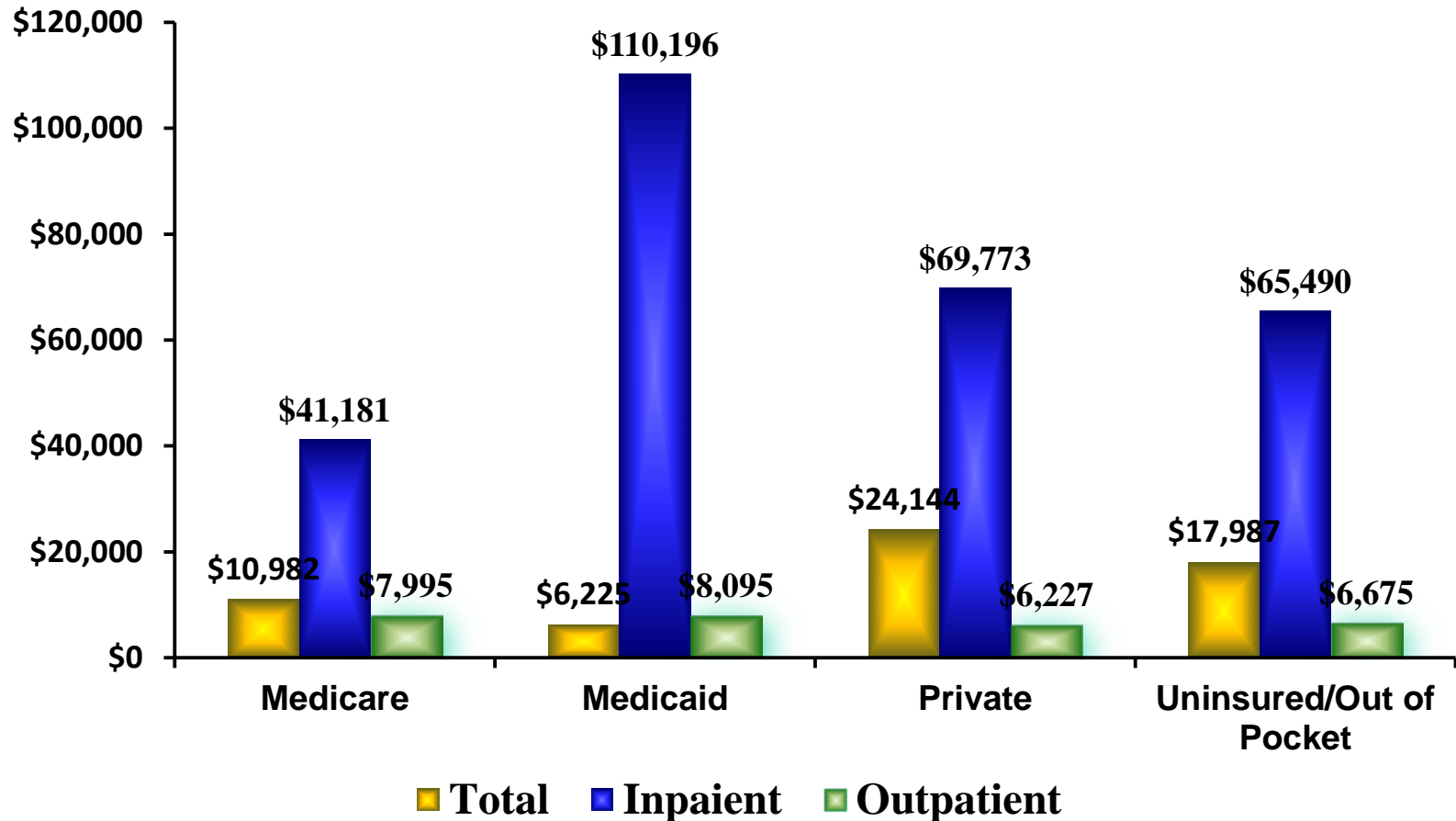
# Average Hospital Charge Per Discharge

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	Helmeted	Not Helmeted	Percent Difference
Inpatient Discharge	\$60,317	\$70,840	17.5%
Outpatient Discharge (ED)	\$5,550	\$7,177	29.3%
Total Hospital Discharge	\$19,004	\$25,061	31.9%

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# Total Average Hospitalization Charges by Payer Type for Motorcyclists



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## Contact Information

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DTS' Evaluation Website:

<http://www.dot.il.gov/trafficsafety/tsevaluation.html>