



ADOLESCENT SLEEP, HEALTH,  
AND SCHOOL START TIMES  
THE NATIONAL CONFERENCE

# Sleep and Teen Driver Safety

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# Overview

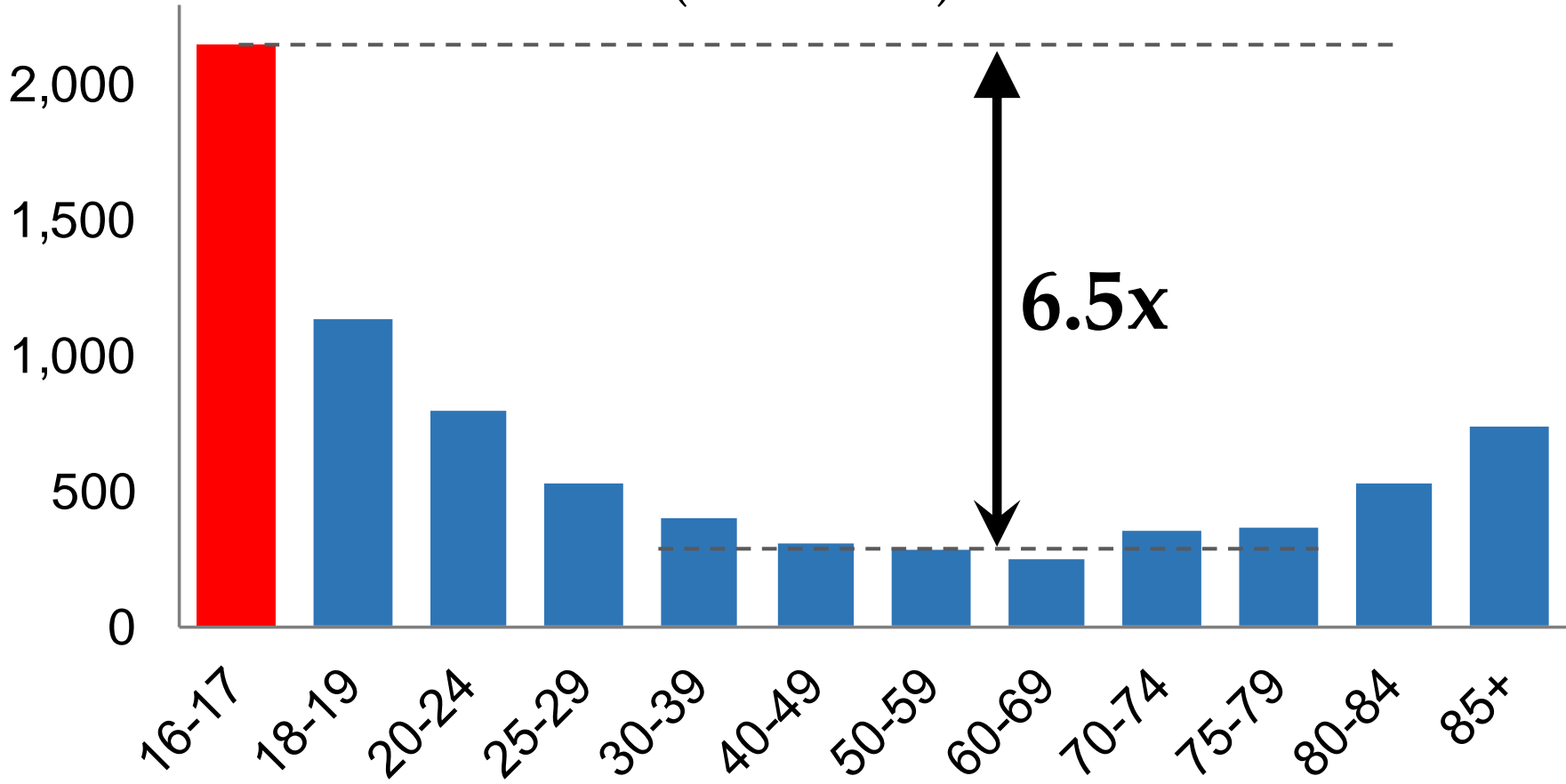
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- Overview of crash statistics
- Teens & sleep deprivation
- Teens & drowsy driving
- Impact on crashes, injuries, deaths
- Summary



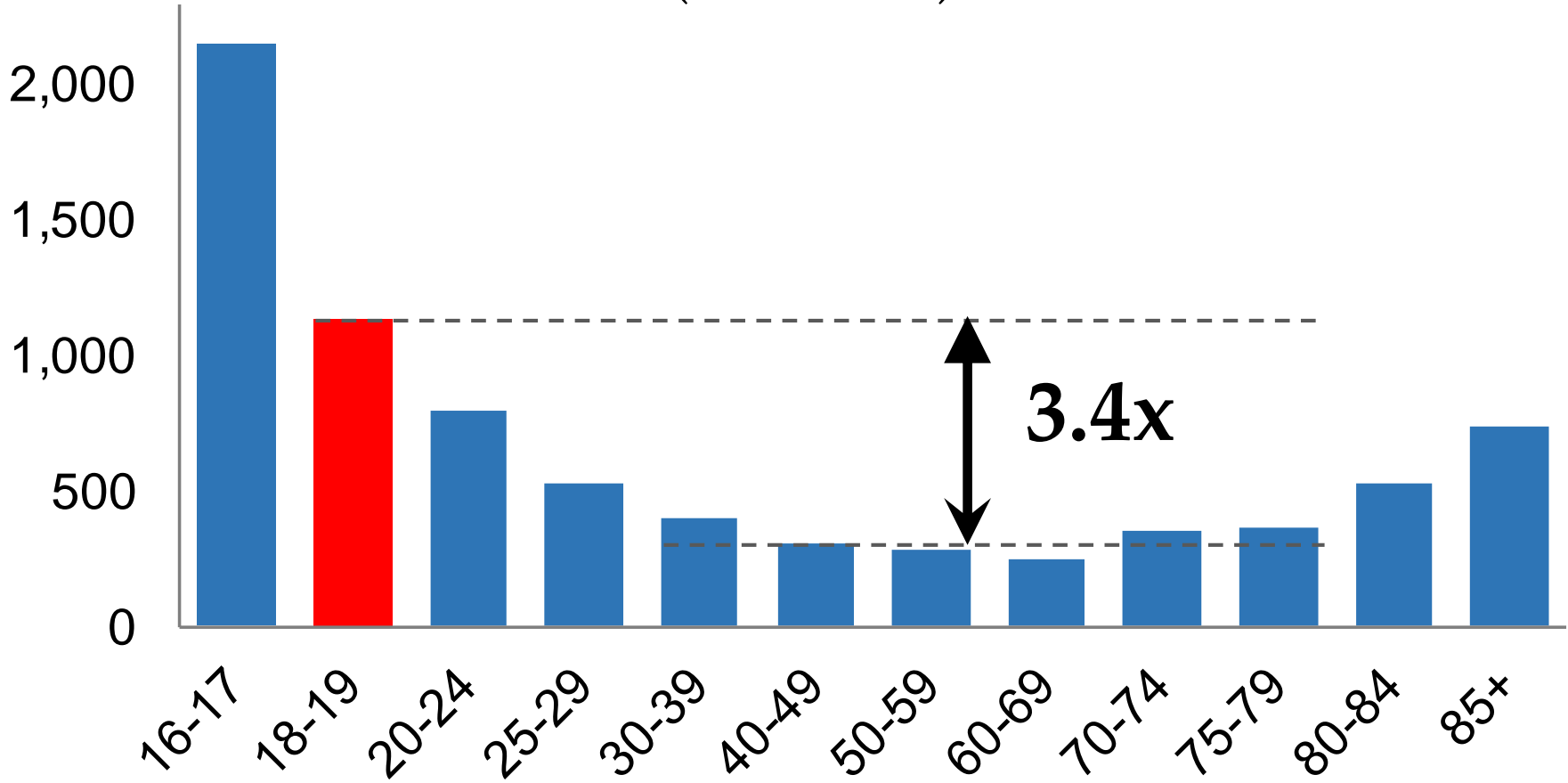
# Teen Driver Crash Rates

## Crashes per 100 Million Miles Driven (2008-2009)



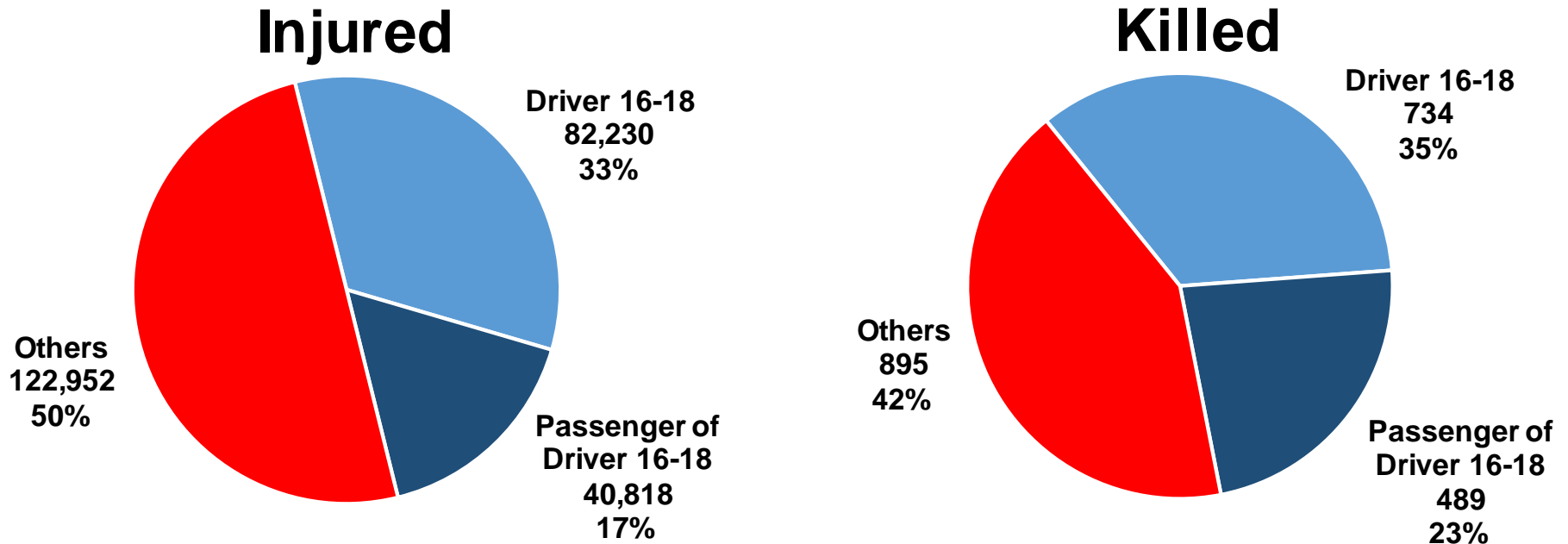
# Teen Driver Crash Rates

## Crashes per 100 Million Miles Driven (2008-2009)



# Impact of Teen Driver Crashes

## People Injured and Killed in Teen Driver Crashes (2015)



# Impact of Teen Driver Crashes



## Top 10 Leading Causes of Death in the United States in 2012, by Age

National Highway Traffic Safety Administration's National Center for Statistics and Analysis

R A N K	Cause and Number of Deaths										
	Infants Under 1	Toddlers 1-3	Young Children 4-7	Children 8-15	Youth 16-20	Young Adults 21-24	Other Adults			Elderly 65+	All Ages
							25-34	35-44	45-64		
1	Perinatal Period 11,805	Congenital Anomalies 433	Malignant Neoplasms 360	Malignant Neoplasms 764	<b>MV Traffic Crashes 3,266</b>	<b>MV Traffic Crashes 3,442</b>	Accidental Poisoning 7,737	Malignant Neoplasms 11,337	Malignant Neoplasms 161,158	Heart Disease 477,840	Heart Disease 599,711
2	Congenital Anomalies 4,939	Accidental Drowning 358	<b>MV Traffic Crashes 288</b>	<b>MV Traffic Crashes 743</b>	Suicide 2,110	Suicide 2,518	Suicide 6,216	Heart Disease 10,489	Heart Disease 106,493	Malignant Neoplasms 403,497	Malignant Neoplasms 582,623
3	Heart Disease 335	Homicide 288	Congenital Anomalies 180	Suicide 554	Homicide 2,082	Homicide 2,416	<b>MV Traffic Crashes 5,949</b>	Accidental Poisoning 7,899	Chronic Liver Disease 20,107	CLRD <sup>5</sup> 122,375	CLRD <sup>5</sup> 143,489
4	Homicide 289	Malignant Neoplasms 285	Accidental Drowning 159	Homicide 319	Accidental Poisoning 938	Accidental Poisoning 2,206	Homicide 4,342	Suicide 6,758	CLRD <sup>5</sup> 19,745	Stroke 109,127	Stroke 128,546
5	Septicemia 179	<b>MV Traffic Crashes 274</b>	Homicide 159	Congenital Anomalies 248	Malignant Neoplasms 687	Malignant Neoplasms 782	Malignant Neoplasms 3,674	<b>MV Traffic Crashes 4,620</b>	Diabetes 18,300	Alzheimer's 82,690	Alzheimer's 83,637
6	Influenza/ Pneumonia 159	Heart Disease 135	Exposure to Smoke/Fire 78	Accidental Drowning 187	Heart Disease 359	Heart Disease 554	Heart Disease 3,231	Homicide 2,705	Stroke 16,724	Diabetes 52,881	Diabetes 73,932
7	Stroke 102	MV Nontraffic Crashes <sup>4</sup> 90	Heart Disease 59	Heart Disease 178	Accidental Drowning 280	Accidental Drowning 221	HIV 652	Chronic Liver Disease 2,469	Suicide 15,791	Influenza/ Pneumonia 43,355	Influenza/ Pneumonia 50,636

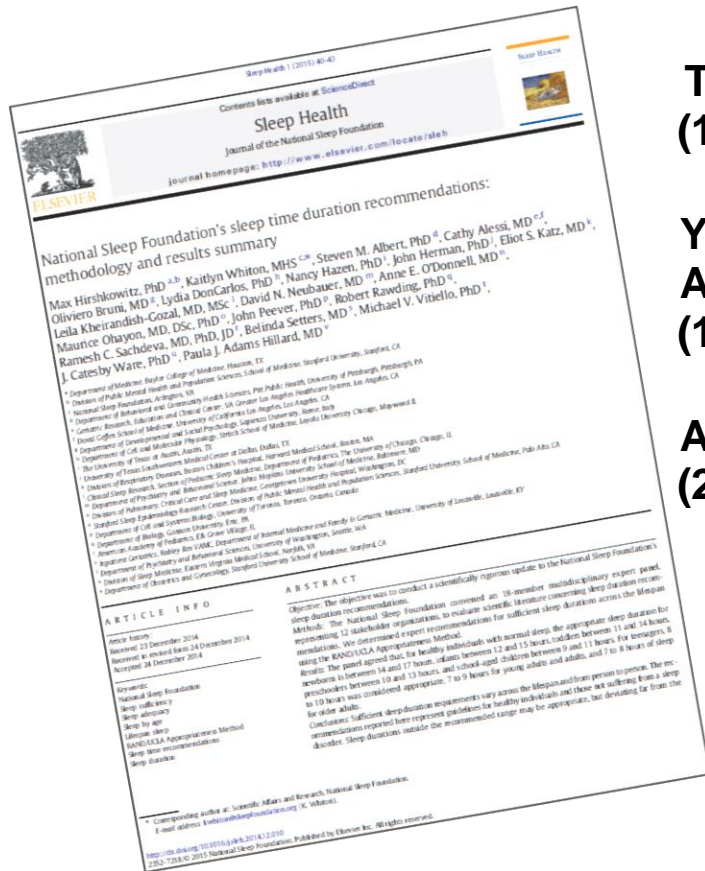


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Source: National Highway Traffic Safety Administration. *Motor Vehicle Traffic Crashes as a Leading Cause of Death in the United States, 2012 – 2014*. Report No. DOT HS 812297.

# Teens & Sleep: Expert Recommendations

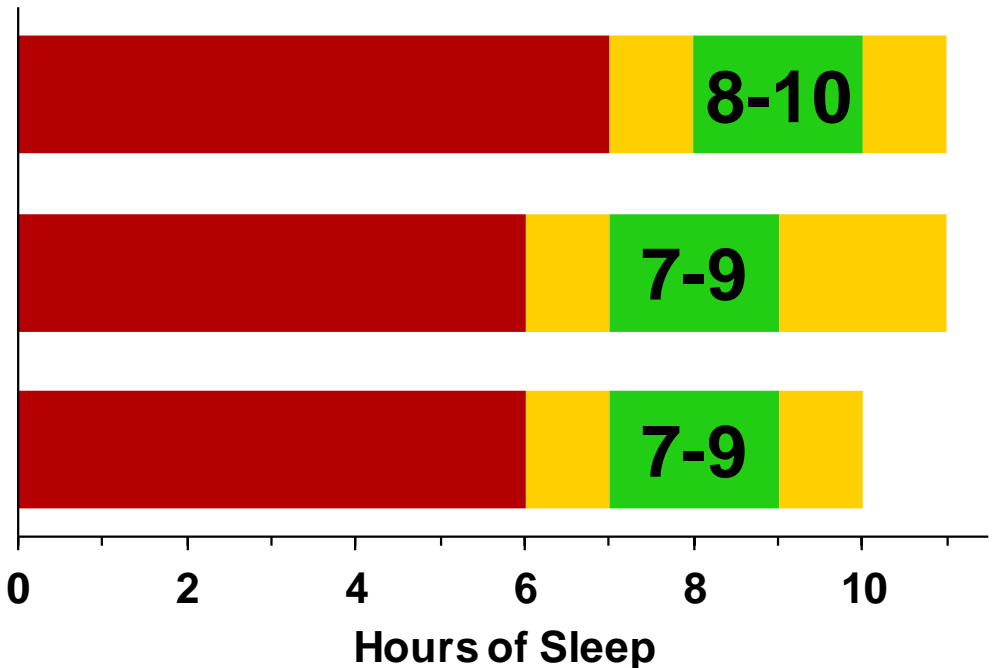
■ Not Recommended ■ May be appropriate ■ Recommended



Teens  
(14-17)

Young Adults  
(18-25)

Adults  
(26-64)

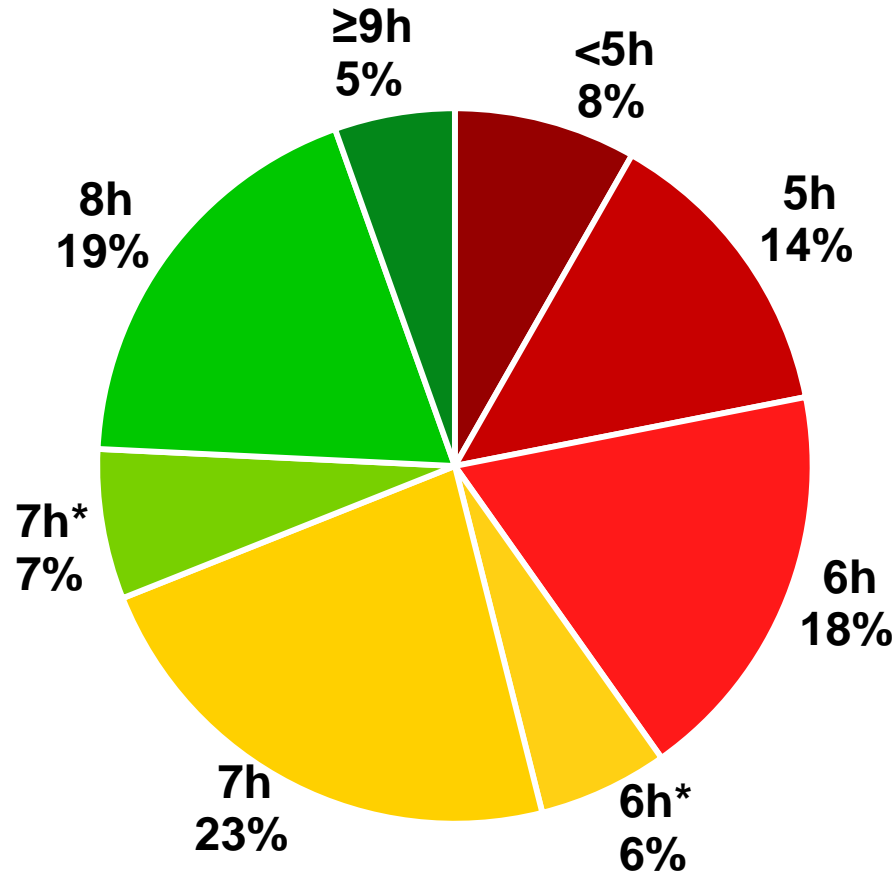


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Source: Hirshkowitz M et al. (2015). National Sleep Foundation's sleep time duration Recommendations: methodology and results summary. *Sleep Health*, 1: 40-43.

# How Much Teens Say They Sleep

## Sleep on "Average School Night" Students 16-18, YRBS (CDC), 2015



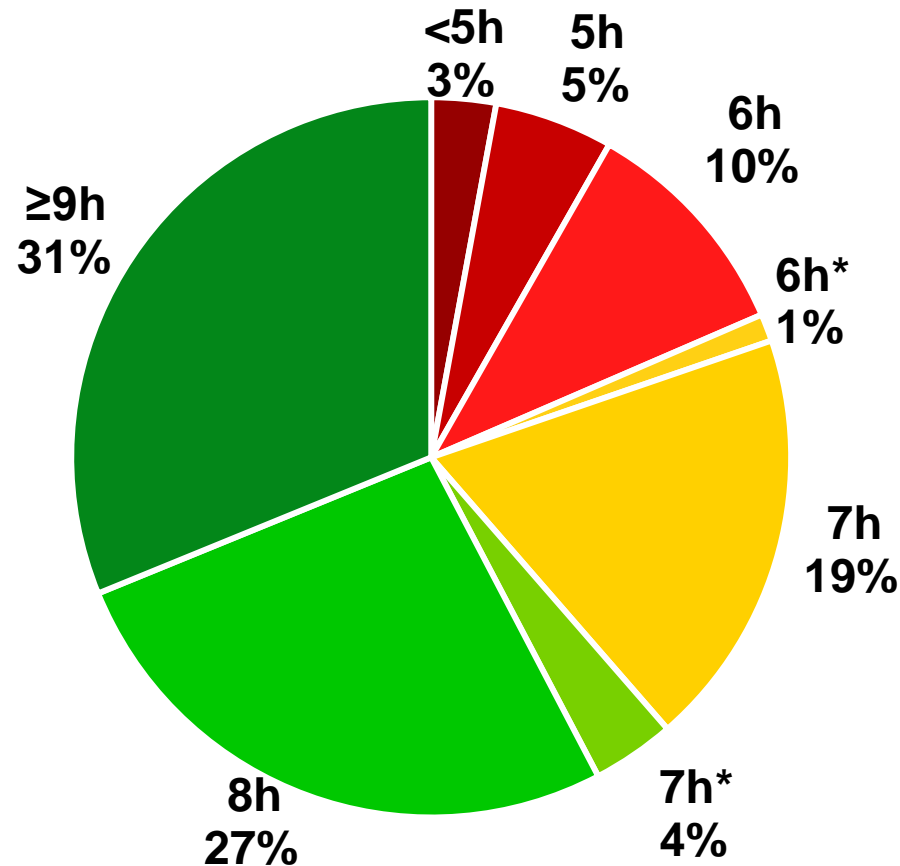
\* Age 18 (shaded based on NSF age-specific recommendation)





# How Much Teens Say They Sleep

## Sleep in Past 24 Hours (School Days), Students 16-18, ATUS (BLS), 2003-2015



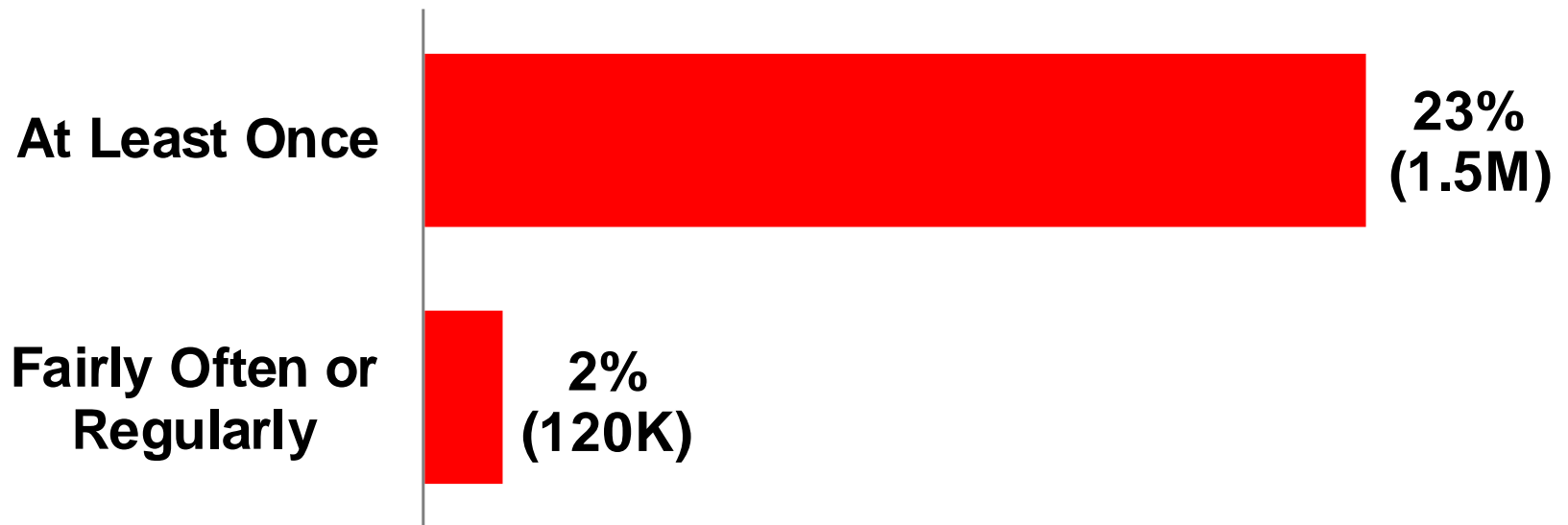
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# Teens and Drowsy Driving

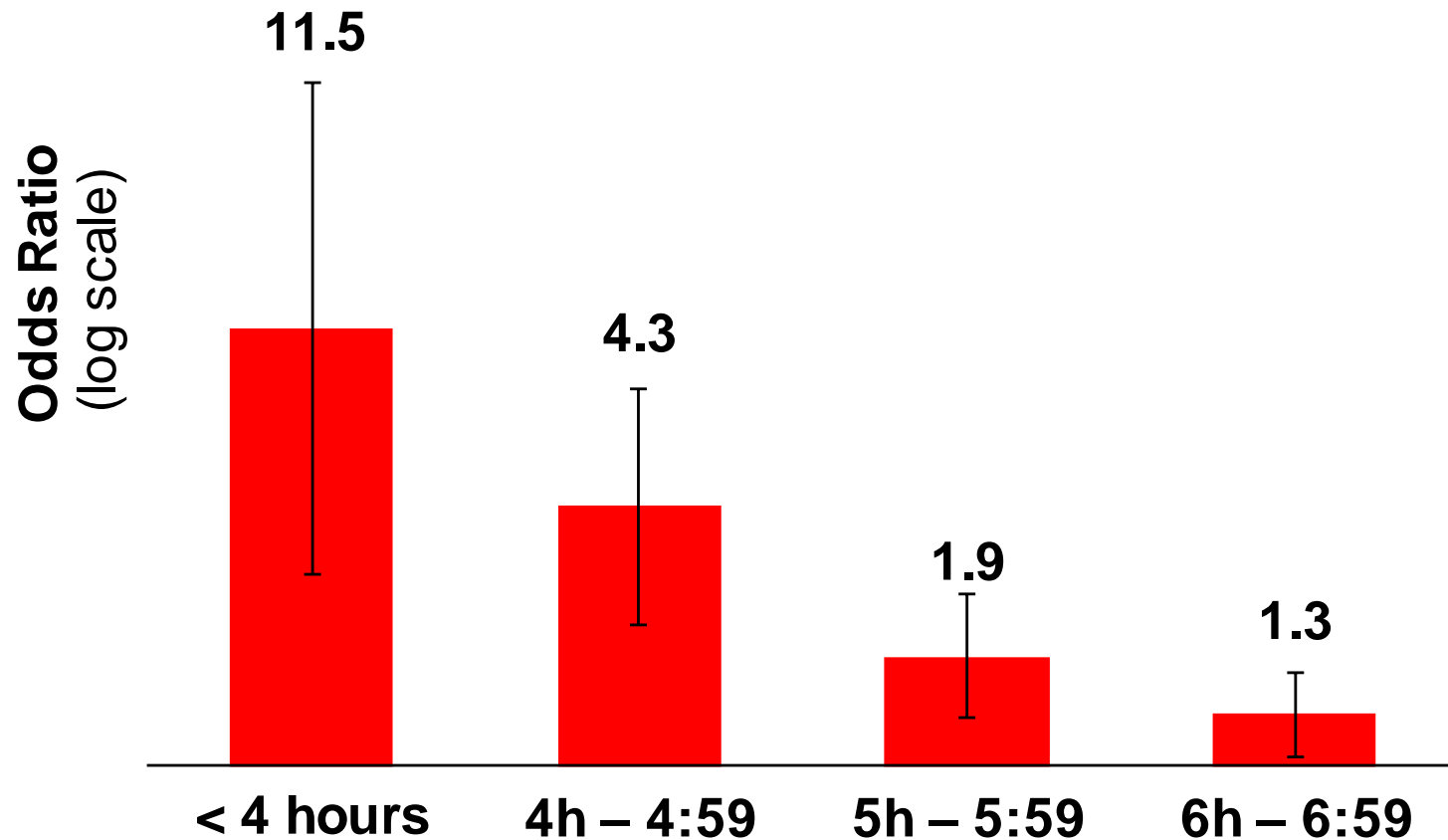
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**Drove while  
“so sleepy you had a hard time keeping your eyes open”  
in past 30 days**  
(Licensed drivers ages 16-18, 2012-2016)



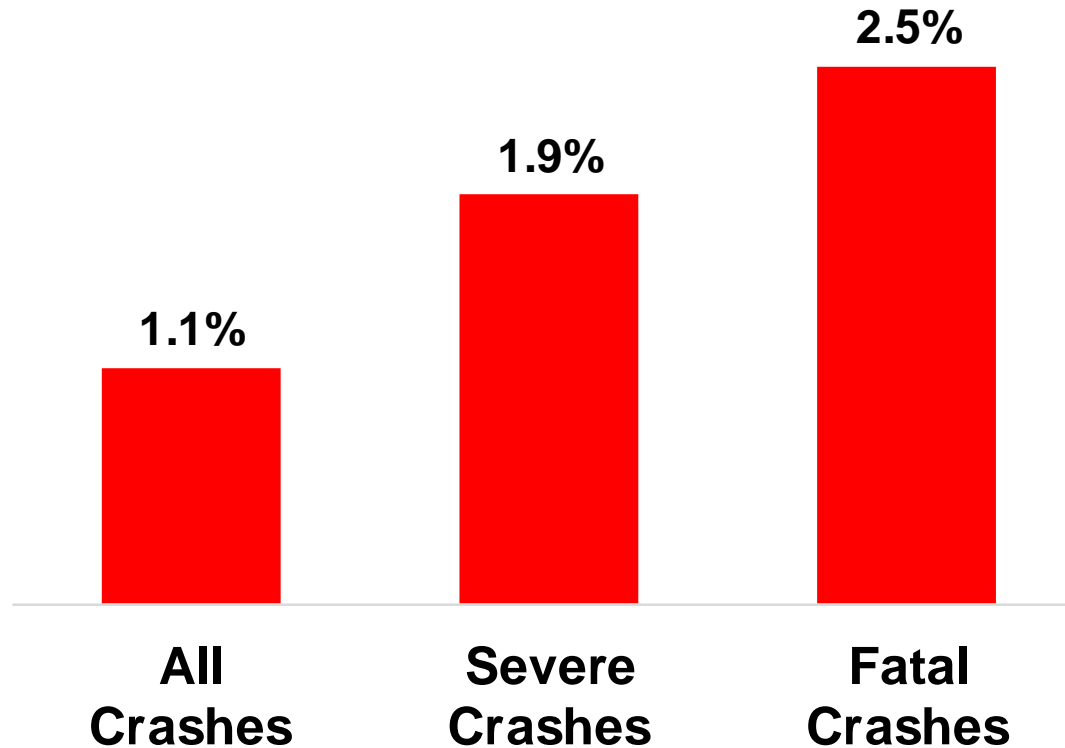
# Impact on Crash Risk

## Hours of Sleep in Past 24 Hours & Crash Rate Relative to Drivers with 7+ Hours of Sleep



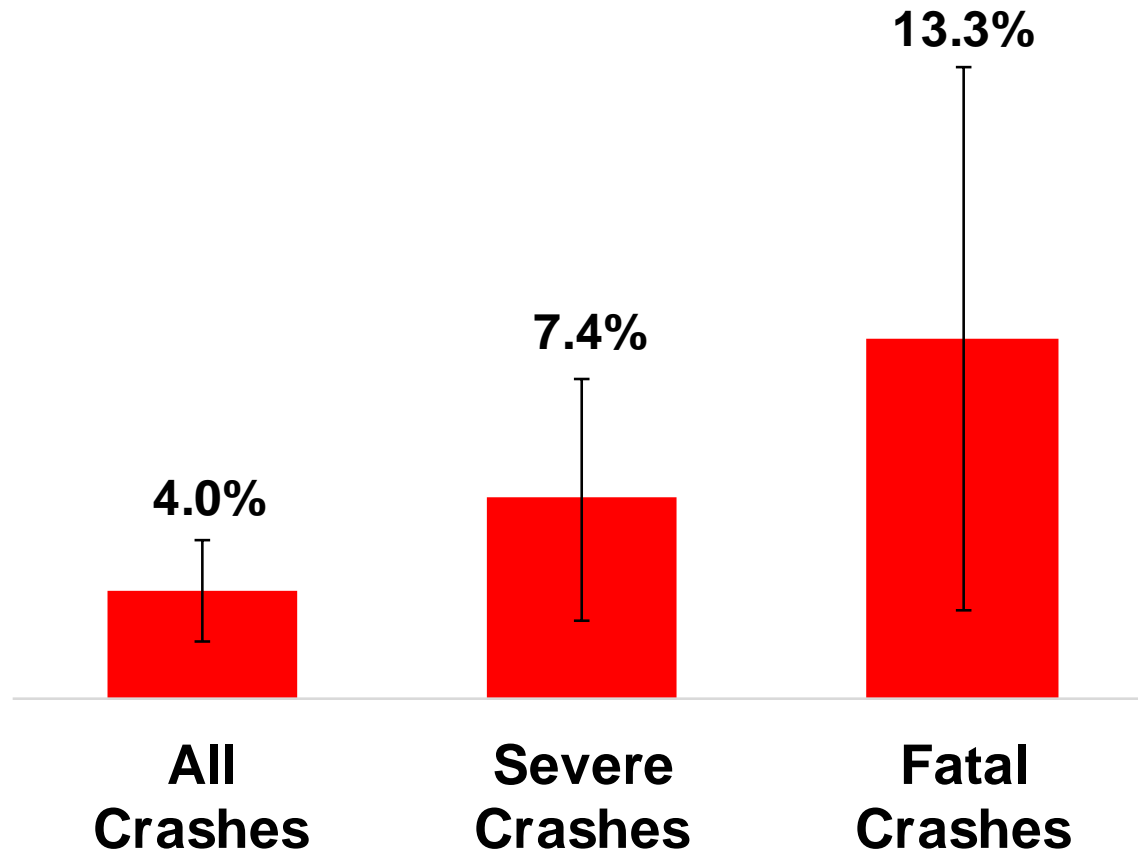
# Drowsy Driving Crashes: Official Stats

**% of Crash-Involved Teen Drivers who were Drowsy**  
(Drivers ages 16-18; from police reports; 2015)



# Drowsy Driving Crashes: AAA Foundation Estimates

**% of Crash-Involved Teen Drivers who were Drowsy**  
(Ages 16-18; extrapolated from sample of in-depth investigations; 1999-2008)



# Summary

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- Experts recommend teens sleep 8-10 hours/night
  - Most students don't "usually;" many don't on any given school night
- Sleep deprivation significantly increases crash risk
  - Crashes = leading cause of death for teens
  - Teens already have 3-6x crash rate of adults (regardless of sleep deprivation)
  - Teen driver crashes affect everyone (not just the teen driver & passengers)
  - Official stats underestimate prevalence of drowsy driving crashes
  - Best estimates suggest drowsiness is a factor in
    - **4%** of all teen driver crash involvements
    - **7%** of teen injury crashes
    - **13%** of teen fatal crashes involve drowsy teen driver

