

Miles to go

FOCUSING ON RISKS FOR TEEN DRIVER CRASHES



Motor vehicle crashes are the No. 1 cause of death for teens. To address this problem, an academic-industry alliance between CHOP and State Farm® was created. This alliance led to the creation of a series of reports, funded by State Farm, which monitor teen driver statistics and provide a yearly snapshot of teen driver safety for the nation. In 2011, this alliance produced *Miles to go: Establishing Benchmarks for Teen Driver Safety*. We established 11 key indicators as a framework to measure the impact of teen driver safety policies and programs in the United States. In 2012 the second report, *Miles to go: Monitoring Progress in Teen Driver Safety*, highlighted substantial progress toward reducing crashes involving teens behind the wheel (ages 15 to 19 driving passenger vehicles) based on an analysis of trends in several indicators between 2005 and 2010.

In this year's report, *Miles to go: Focusing on Risks for Teen Driver Crashes*, in addition to monitoring indicators of teen driver safety, we provide insights on making further progress, grounded in our peer-reviewed research, for the following key metrics:

- Number of fatal crashes with teens behind the wheel
- Number of people killed in crashes with teens behind the wheel
- Seat belt use among teens behind the wheel and their passengers
- Distraction among teens behind the wheel killed in crashes

In addition, we provide updated figures on the following indicators:

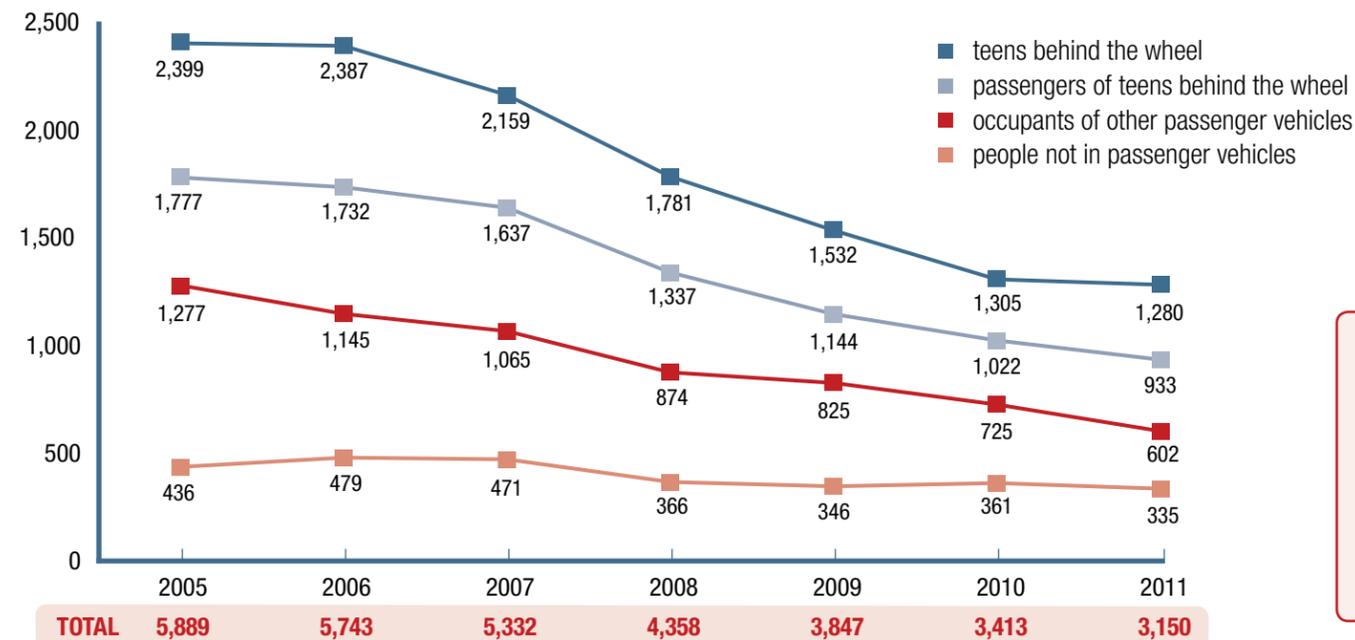
- Speeding among teens behind the wheel fatally injured in crashes
- Alcohol use among teens behind the wheel and their passengers

The results of our research provide direction for the development of strategies that hold promise to further reduce the number of teens killed or injured in crashes each year. This year, we focus specifically on a number of driving skills and behaviors that are known to influence the risk of crashes, as well as injuries and deaths in the event of a crash.



Crash Fatalities with Teens Behind the Wheel (2005 – 2011)

Total number of deaths in 2011: **3,150**
 Total number of fatal crashes in 2011: **2,400**



■ Since 2005, deaths in crashes with teens behind the wheel declined 47 percent.
 ■ 263 fewer people died in 2011 as compared to 2010, an 8 percent reduction in teen-driver related crashes.

FOCUS ON: CRITICAL DRIVING ERRORS

Teen driver error has long been recognized as a contributing factor in a majority of crashes with teens behind the wheel. That is why we analyzed a nationally representative federal database of more than 800 serious teen driver crashes and identified common “critical errors” that are often the last in a chain of events leading up to a crash:

- 75 percent of all teen driver crashes were the result of a teen driver's error, most commonly:
 - not properly scanning the driving environment, detecting or reacting to hazards (21 percent of all errors)
 - driving too fast for road conditions (21 percent of all errors)
 - being distracted by something in or outside the vehicle (19 percent of all errors)

- Half of all serious teen driver crashes were caused by these three specific errors.
- Relatively few crashes were caused by environmental or vehicle factors, aggressive driving, inattention (daydreaming), and drowsy driving.

CALL TO ACTION

These findings suggest that a balanced approach to crash prevention is needed — one that includes evidence-based training programs to encourage the development of specific driving skills, such as scanning and hazard detection, as well as the prevention of risky driving behaviors.

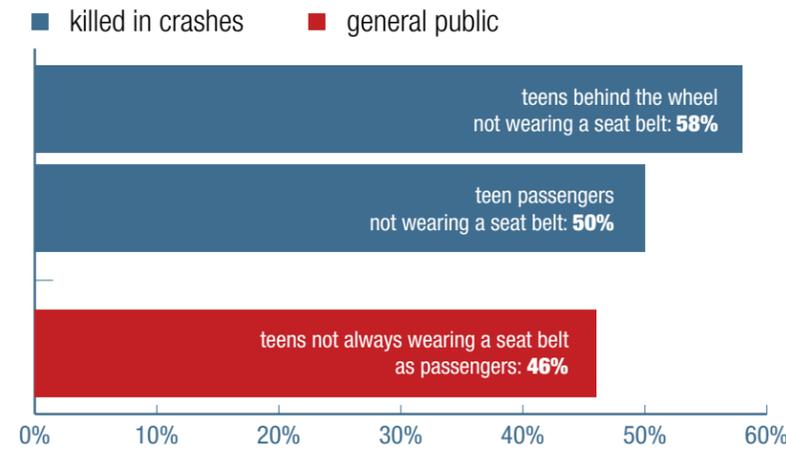
Data source for Crash Fatalities with Teens Behind the Wheel (2005-2011): Fatality Analysis Reporting System, National Center for Statistics and Analysis, National Highway Traffic Safety Administration.
 Source for Focus On: Critical Driving Errors: Curry AE, Hafetz J, Kallan MJ, Winston FK, Durbin DR. Prevalence of teen driver errors leading to serious motor vehicle crashes. *Accid Anal Prev.* 2011;43(4):1285-1290.

TEEN DRIVING BEHAVIOR INDICATORS

The majority of crashes involving teens behind the wheel are due to inexperience compounded by risky driving behaviors, such as speeding and alcohol use, and distractions, such as cell phone use and peer passengers. In addition, not wearing a seat belt increases the risk of death or injury in the event of a crash. The following summary provides current estimates of several key behavior indicators among teens behind the wheel and their passengers involved in fatal crashes, as well as among the general population of teens in the United States. We also focus on our peer-reviewed research on seat belt laws and distraction from cell phone use and peer passengers that provide insights for the development or refinement of interventions to further impact these key teen driver safety indicators.



Seat Belt Use by Teen Drivers and Their Teen Passengers

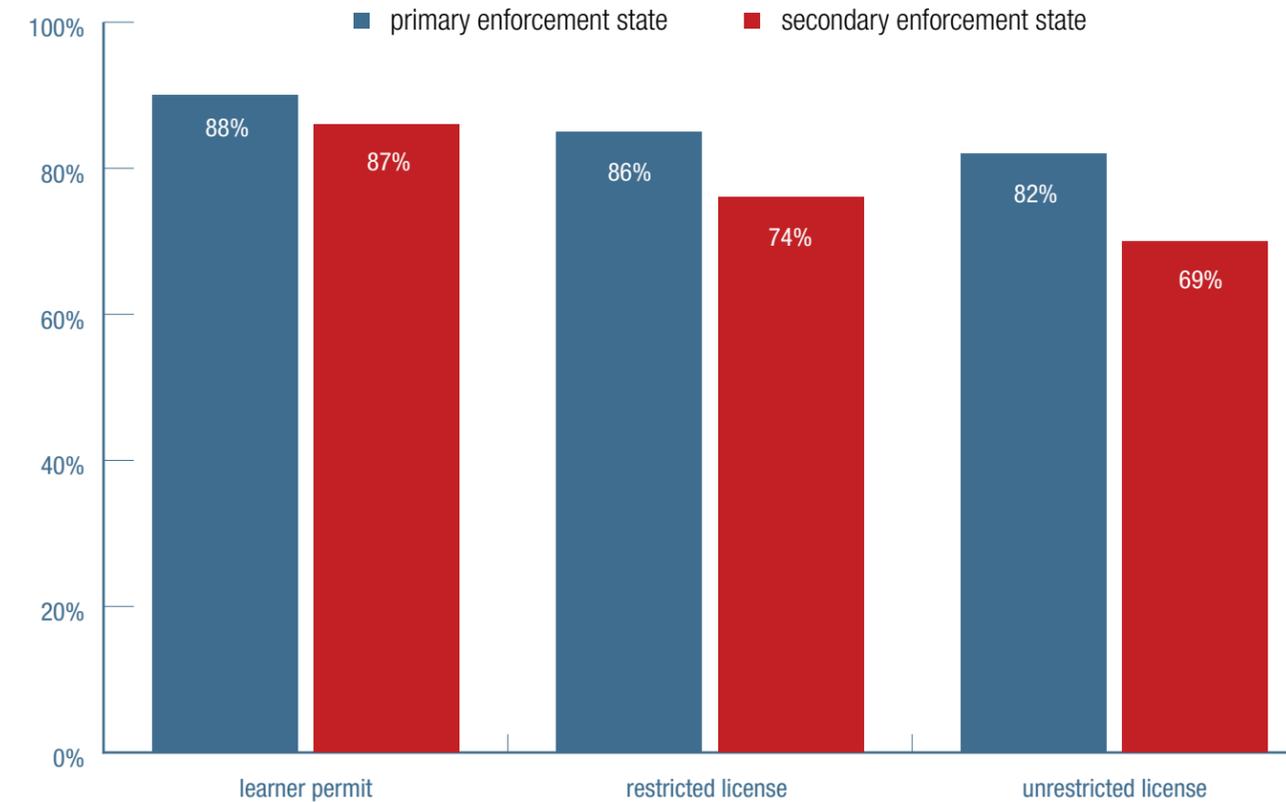


- 58 percent of teen drivers killed in crashes were **not wearing a seat belt** in 2011, an increase from 56 percent in 2008.
- 50 percent of passengers killed in crashes involving a teen driver were **not buckled up** in 2011, a decrease from 65 percent in 2008.
- Among the general population, the number of teen passengers who report **not always wearing a seat belt** decreased to 46 percent in 2011 from 51 percent in 2008.

FOCUS ON: SEAT BELT USE

Teens have the lowest rate of seat belt use of any age group, according to the Centers for Disease Control and Prevention (CDC). Many deaths and injuries to teens in crashes could have been prevented by buckling up. This report shows that, while a majority of teen passengers now report always wearing a seat belt, fewer fatally injured teens behind the wheel were buckled up in 2011 than in 2008. That is why we examined self-reported seat belt use by teen drivers and passengers to see if primary seat belt laws are a potential strategy for increasing seat belt use among teens.

Teen Driver Belt Use by License Type & State Law

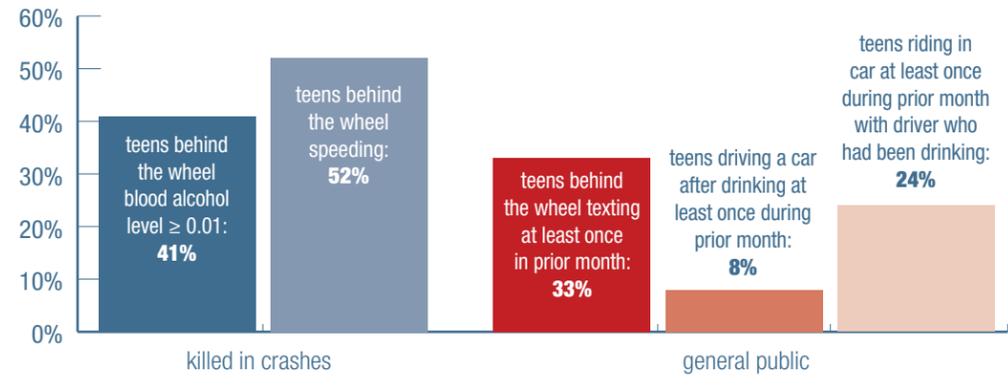


- U.S. high school students who reside in states with a primary enforcement seat belt law are 12 percent more likely to wear a seat belt as a driver and 15 percent more likely to buckle up as a passenger than those living in states with a secondary enforcement seat belt law.
- As teens move through the stages of Graduated Driver Licensing (GDL), they are more likely to stay buckled up in primary enforcement states than in secondary enforcement states.

CALL TO ACTION

Primary seat belt laws should be part of any state's strategy to reduce teen crash deaths. In states with significant resistance to enacting a primary enforcement seat belt law, include it as a provision in their GDL program.

Key Risky Behaviors of Teens



- Driving a car after drinking (during prior month) slightly decreased from 10 percent to 8 percent, and the percentage of teens behind the wheel dying in crashes with a blood alcohol level ≥ 0.01 increased slightly — from 38 percent to 41 percent.
- Speeding was a factor in more than half of fatal crashes with a teen behind the wheel, nearly the same percentage as in 2008.
- A third of teens self-report texting or emailing while driving (in the prior month), a proven deadly distraction for all drivers and especially teen drivers.

FOCUS ON: DISTRACTION FROM CELL PHONES WHILE DRIVING

The safe behavior of abstaining from cell phone use while driving is currently normative among teens. This needs to be promoted and further explored to achieve a larger percentage of teens not texting or emailing while driving in the future. To better understand why teens use cell phones while driving, we researched their safety beliefs. Only 26 percent of teens believe that the benefits of abstaining from cell phone use while driving outweigh the negatives. Teens with stronger beliefs about these benefits reported less frequent cell phone use while driving.

- The Benefits of Abstaining from Cell Phone Use While Driving**
- Teens who say they do not use a cell phone while driving cite the following benefits:
- I would be able to pay better attention to my driving.
 - I would be less likely to get into an accident.
 - I would be following the law.
 - I would make my parents happy.

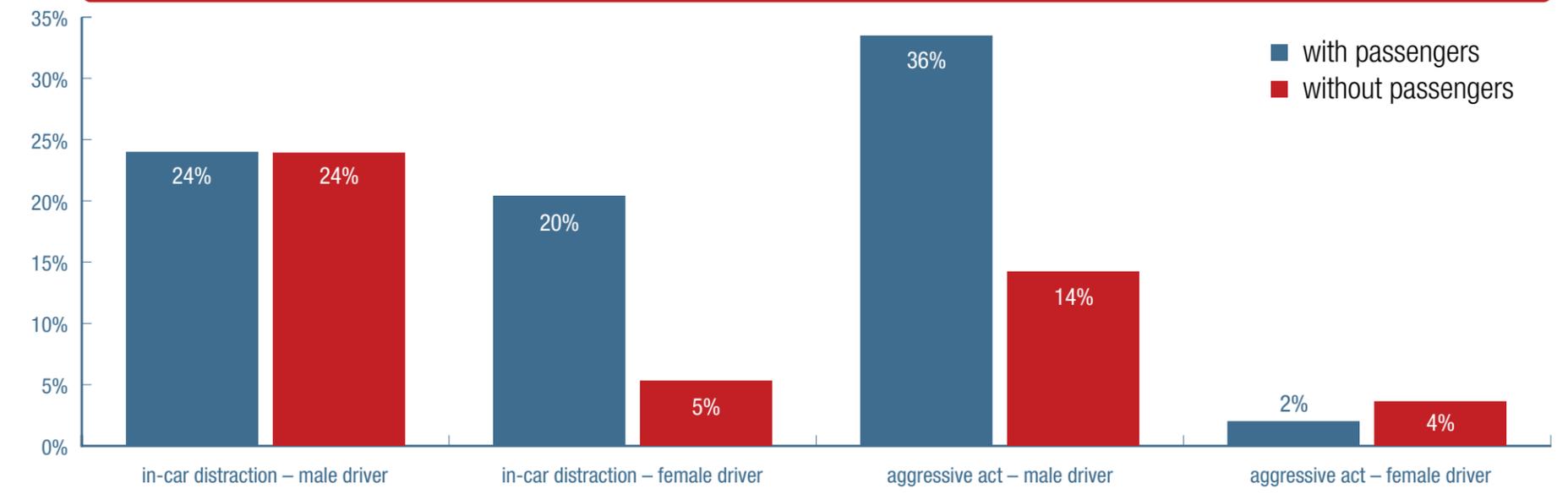


Note: Speeding was defined as traveling over the posted speed limit, presence of a speeding-related driver contributing factor or driver charged with a speeding-related offense.

FOCUS ON: DISTRACTION FROM PEER PASSENGERS

Overall, this report reveals a positive trend for teen passengers. Compared to 2008, a majority of teen passengers now report “always” using their seat belts, fewer report riding with a teen driver who had been drinking and fewer are dying in crashes with teens behind the wheel. However, experts have long known that peer passengers increase the fatal crash risk for teen drivers. That is why we analyzed data from the National Motor Vehicle Crash Causation Survey (2005 – 2007) to explore how driving with friends increases crash risk for teen drivers.

How Passengers Affect Drivers Right Before a Crash



- One in five females and one in four males driving with peers were distracted by something inside the vehicle just before crashing. As compared to females driving alone, those with passengers were four times as likely to be distracted prior to the crash.
- Compared to males driving alone, males with peer passengers were almost six times more likely to perform an illegal maneuver (data not shown in graph) and twice as likely to act aggressively. However, females rarely drove aggressively before crashing, whether with or without peer passengers.

CALL TO ACTION

To further reduce crash risk, promising strategies include programs that encourage parents to enforce GDL provisions limiting the number of friends their teens may drive for the first several months after licensure, as well as those that promote safe passenger behavior.

Data Sources: 2011 Youth Risk Behavior Surveillance System, Centers for Disease Control and Prevention; 2011 Fatality Analysis Reporting System, National Highway Traffic Safety Administration. Source for Focus On: Distraction from Cell Phones While Driving: Hafetz JS, Jacobsohn LS, Garcia-España JF, Curry AE, Winston FK. Adolescent drivers' perceptions of the advantages and disadvantages of abstention from in-vehicle cell phone use. *Accid Anal Prev.* 2010;42(6):1570-1576. Sources for Focus On: Distraction from Peer Passengers: Curry AE, Mirman JH, Kallan MJ, Winston FK, Durbin DR. Peer passengers: how do they affect teen crashes? *J Adolesc Health.* 2012;50(6):588-594; National Highway Traffic Safety Administration. National Motor Vehicle Crash Causation Survey: Report to Congress, 2008.

SOURCES

The Fatality Analysis Reporting System (FARS) is a nationwide census providing annual data regarding fatal injuries suffered in motor vehicle traffic crashes occurring within the 50 states, the District of Columbia, and Puerto Rico. To be included in FARS, a crash must involve a motor vehicle traveling on a trafficway customarily open to the public and result in the death of a person (occupant of a vehicle or a nonmotorist) within 30 days of the crash. FARS was conceived, designed and developed by the National Center for Statistics and Analysis (NCSA) of the National Highway Traffic Safety Administration (NHTSA). Available at www-fars.nhtsa.dot.gov/Main/index.aspx.

The National Motor Vehicle Crash Causation Survey (NMVCCS) is a study of 5,470 crashes conducted by NHTSA between July 2005 and December 2007, designed to identify vehicle, driver, and environmental factors that contribute to crashes. We identified 677 16- to 18-year-old drivers involved in 656 serious crashes included in the NMVCCS. Through on-scene crash investigation, researchers determined whether the teen made a critical error — i.e., the single most important reason for the event immediately preceding the crash — and documented the presence of other driver-related pre-crash factors. We compared the frequency and type of critical driver errors and relevant pre-crash factors for teen drivers that crashed while carrying peer passengers (i.e., all passengers were 14 to 20 years old) to teens that crashed while driving alone.

Available at www.jahonline.org/article/S1054-139X%2811%2900360-0/abstract.

Teen Drivers – Seat Belt Use. Available at <http://www.nhtsa.gov/Driving+Safety/Teen+Drivers/Teen+Drivers+-+Seat+Belt+Use>

The Youth Risk Behavior Surveillance System (YRBSS) monitors priority health-risk behaviors and the prevalence of obesity and asthma among youth and young adults. The YRBSS includes a national school-based survey representative of students in grades 9-12 in U.S. public schools conducted biannually by the CDC, as well as surveys conducted by state, territorial, and tribal governments, and local education and health agencies. Available at www.cdc.gov/healthyyouth/yrbs/index.htm.

The National Young Driver Survey (NYDS) was created to help better understand how teens perceive and experience driving. In 2006, the survey was distributed to 5,665 9th through 11th graders in 68 randomly selected high schools. The weighted data from the survey are representative of all 10.2 million public school students in 9th through 11th grades in the U.S. Available at www.teendriversource.org/more_pages/page/young_driver_survey/researcher.

About the Authors

This report was compiled by researchers at the Center for Injury Research and Prevention (CIRP) at The Children's Hospital of Philadelphia Research Institute in collaboration with and with generous support from State Farm.[®] CIRP's interdisciplinary team is comprised of experts in the fields of injury prevention, traffic safety, adolescent health, behavioral science, epidemiology, biostatistics, engineering, and public health.



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