

## Motor Vehicle Safety Fact Sheet (2015)

### Fatalities

#### Motor vehicle crashes

- 2,862 children ages 19 and under died in motor vehicle crashes in 2013 as occupants or drivers. This is a 56% decrease in the annual number of fatalities since 2000, and 57% decrease in the death rate.<sup>1</sup>
- Teens ages 15-19 years old made up 71% (2,028) of motor vehicle occupant/driver fatalities among children in 2013.<sup>1</sup>
- Of the 480 children ages 8 and under who died in motor vehicle crashes in 2013, 147 (31%) were unrestrained.<sup>1</sup>

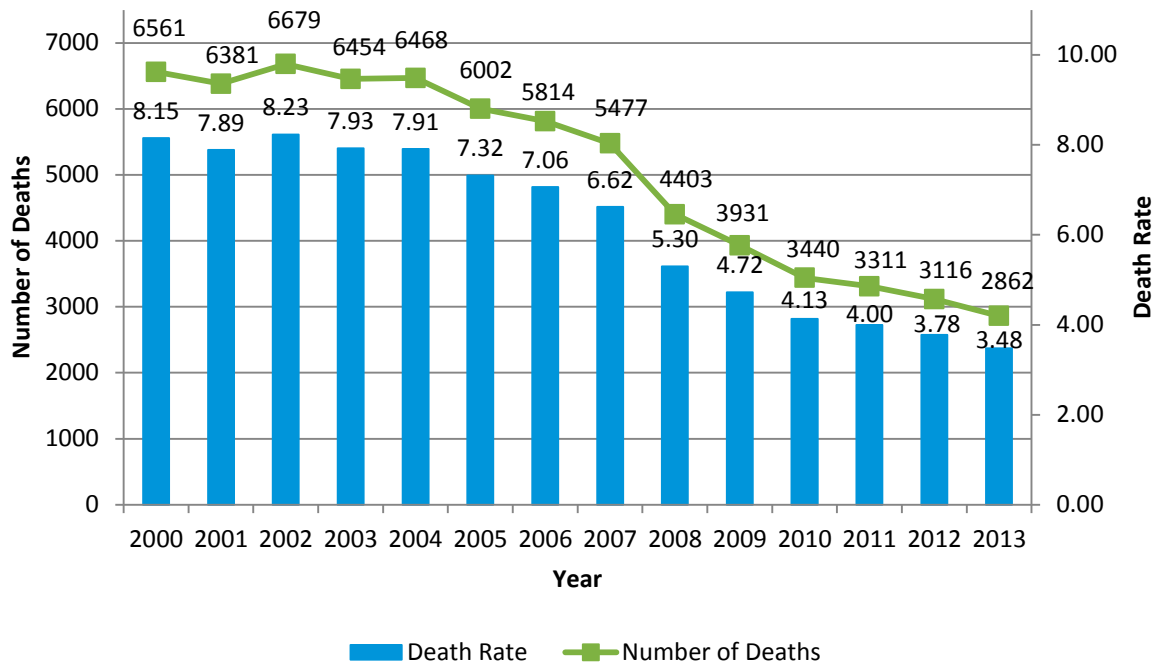
#### Frontovers and backovers

- 262 children ages 14 and under died in not-in-traffic crashes in 2007. 45% of these deaths were backovers, and 49% were frontovers.<sup>2</sup>

#### Heatstroke

- 30 children, ranging in age from 1 month to 5 years, died from heatstroke or suspected heatstroke while left in cars in 2014.<sup>3</sup>

**2000-2013 MV Occupant Crash Fatalities and Death Rate Among Children Ages 19 and Under**



Death Rate per 100,000 Children  
 Person Type codes used were 1: Driver of a MV In-Transport, 2: Passenger of a MV In-Transport, 9: Unknown Occupant Type in a MV In-Transport



## Injuries

### Motor vehicle crashes

- 373,829 children ages 19 and under were nonfatally injured in motor vehicle crashes in 2011. Of these, 211,050, or 56%, were ages 16 to 19.<sup>4</sup>

### Frontovers and backovers

- 92,000 children ages 14 and under are seen in emergency rooms for not-in-traffic crash injuries each year, based on annualized estimates from 2008 to 2010.<sup>5</sup>

### Heatstroke

- <500 children ages 14 and under are seen in emergency rooms for heat exhaustion in cars each year, based on annualized estimates from 2008 to 2010.<sup>5</sup>

## Additional Statistics

### Child passenger safety

- Motor vehicle crashes are the number one cause of death among children ages 1 to 19.<sup>18</sup>
- Booster seats have been shown to reduce the risk of serious injury by 45 percent compared to seat belts alone for children ages 4 to 8 years.<sup>19</sup>
- Children should ride in a back seat until they are at least 13 years of age.<sup>6,7</sup>
- Children 2 to 5 years of age using safety belts prematurely are four times more likely to suffer a serious head injury in a crash than those restrained in child safety seats or booster seats.<sup>8</sup>
- When installed and used correctly, child safety seats and safety belts can prevent injuries and save lives. Child safety seats can reduce fatal injury by up to 71 percent for infants and 54 percent for toddlers (ages 1 to 4).<sup>6</sup>
- The overall critical misuse for child restraints is about 73 percent. Infant seats have the highest percent of critical misuse, followed by rear-facing convertible seats.<sup>9</sup>
- It is estimated that 284 children were saved due to restraint use in 2012 alone.<sup>10</sup>
- From 1975 through 2012, an estimated 10,157 lives were saved by child safety seats or adult seat belts for children ages 4 and under.<sup>10</sup>

### Frontovers and backovers

- Sports utility vehicles and trucks are involved in more backovers than cars.<sup>11</sup>
- Approximately 39 percent of backover deaths occurred at home in the driveway, an apartment parking lot or in a townhome complex.<sup>11</sup>
- Drivers in backover and frontover deaths are often family members or family friends of the injured child.<sup>12</sup>



### Heatstroke

- Heatstroke is the number one cause of non-crash, vehicle-related death in children ages 14 and under.<sup>2</sup>
- Within 10 minutes, the inside temperature of a vehicle can be up to 20 degrees hotter than the outside temperature; after 30 minutes the vehicle’s temperature can be up to 34 degrees hotter.<sup>13</sup>
- A child’s body does not have the same internal temperature control as an adult’s and can warm three times to five times faster. Body temperature may rise to 106 degrees Fahrenheit within 10 to 15 minutes.<sup>13 14</sup>
- A review of 636 media reports of child heatstroke deaths from 1998 to 2014 indicates that 53 percent of heatstroke deaths among children in vehicles occurred when a child was “forgotten” by a parent or caregiver, 29 percent of deaths occurred when a child gained access to an unattended vehicle and 17 percent occurred when a child was intentionally left in a vehicle. Circumstances were unknown in 1 percent of cases.<sup>15</sup>
- Heatstroke deaths have been recorded in 11 months of the year in 46 states.<sup>15</sup>

### Teen passengers and teen drivers

- The risk for crashes is higher for newly licensed teen drivers, teens driving with other teens, and male teens, compared to other teenagers.<sup>16</sup>
- Mile for mile, teens ages 16 to 19 are three times more likely to be involved in a crash compared to older drivers.<sup>17</sup>
- Compared with other age groups, teens have the lowest rate of seat belt use. Only 54% of high school students reported always wearing a seat belt when riding with someone else.<sup>16</sup>
- Comprehensive graduated driver licensing (GDL) programs have been linked to a 38% reduction in fatal crashes, and a 40% reduction in injury crashes.<sup>16</sup>

### References

- <sup>1</sup> NHTSA, NCSA Data Resource Website. Fatality Analysis Reporting System Encyclopedia. Available at <http://www-fars.nhtsa.dot.gov/QueryTool/QuerySection/SelectYear.aspx>. Accessed January 12, 2015. Person Type codes used were 1: Driver of a MV In-Transport, 2: Passenger of a MV In-Transport, 9: Unknown Occupant Type in a MV In-Transport.
- <sup>2</sup> National Highway Traffic Safety Administration. Traffic safety facts, crash stats: not-in-traffic surveillance (NiTS) 2007-children. DOT HS 811 116. Washington, DC: National Highway Traffic Safety Administration, National Center for Statistics and Analysis.
- <sup>3</sup> Null J. Heatstroke Deaths of Children in Vehicles. Department of Geosciences, SFSU Website. Available from: <http://ggweather.com/heat/hyperthermia2014.htm>. Accessed January 12, 2015.
- <sup>4</sup> NHTSA. Estimate of passenger vehicle occupants (ages 19 and younger) injured in motor vehicle traffic crashes by year, age group, and restraint use. General Estimates System 2007-2011. August 6, 2013.
- <sup>5</sup> National Highway Traffic Safety Administration. Traffic safety facts, crash stats: not-in-traffic surveillance—non-crash injuries. August 2012. DOT HS 811 655. Washington, DC: National Highway Traffic Safety Administration, National Center for Statistics and Analysis.
- <sup>6</sup> National Highway Traffic Safety Administration. Traffic safety facts, 2009 data: occupant protection. Washington, DC: National Highway Traffic Safety Administration, National Center for Statistics and Analysis.
- <sup>7</sup> Committee on Injury, Violence, and Poison Prevention. Child passenger safety. *Pediatrics*. 2011; 127: 788-793.
- <sup>8</sup> Winston FK, Durbin DR, Kallan MJ, Moll EK. The danger of premature graduation to safety belts for young children. *Pediatrics*. 2000; 105(6): 1179-1183.
- <sup>9</sup> Decina LE, Lococo KH. Child restraint system use and misuse in six states. *Accid Anal Prev*. 2005. 37: 583-590.
- <sup>10</sup> National Highway Traffic Safety Administration. Traffic Safety Facts 2012: Children. April 2014. DOT HS 812 011.



<sup>11</sup> Insurance Institute for Highway Safety, Highway Loss Data Institute. Q&A: backover crashes. Insurance Institute for Highway Safety, Highway Loss Data Institute Website, June 2011. Available from: <http://www.iihs.org/research/qanda/backover.html>. Accessed October 26, 2011.

<sup>12</sup> Insurance Institute for Highway Safety. Q&A: Backover Crashes. August 2012. Available at: <http://www.iihs.org/research/qanda/backover.aspx#cite-text-0-6>. Accessed March 28, 2013.

<sup>13</sup> Null J. Never leave your child alone in a car fact sheet. San Francisco, CA: San Francisco State University, Department of Geosciences; August 2007.

<sup>14</sup> Centers for Disease Control and Prevention. Extreme heat: a prevention guide to promote your personal health and safety. Centers for Disease Control and Prevention Website. Available from: [http://www.bt.cdc.gov/disasters/extremeheat/heat\\_guide.asp](http://www.bt.cdc.gov/disasters/extremeheat/heat_guide.asp). Accessed October 26, 2011.

<sup>15</sup> Null J. Heatstroke Deaths of Children in Vehicles. Department of Geosciences, SFSU Website. Available from: <http://www.ggweather.com/heat/#stats>. Accessed January 12, 2015.

<sup>16</sup> Centers for Disease Control and Prevention. Teen Drivers Fact Sheet. Available at [http://www.cdc.gov/motorvehiclesafety/teen\\_drivers/teendrivers\\_factsheet.html](http://www.cdc.gov/motorvehiclesafety/teen_drivers/teendrivers_factsheet.html). Accessed January 10, 2012.

<sup>17</sup> Insurance Institute for Highway Safety (IIHS). Fatality facts: teenagers 2010. Available at: <http://www.iihs.org/research/fatality.aspx?topicName=Teenagers&year=2010>. Accessed March 28, 2013.

<sup>18</sup> Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS). National Center for Injury Prevention and Control Website. Leading causes of death, children ages 19 and under. Available from: <http://www.cdc.gov/injury/wisqars/index.html>. Accessed March 2013.

<sup>19</sup> Arbogast KB, Jermakian JS, Kallan MJ, Durbin DR. Effectiveness of belt positioning booster seats: an updated assessment. *Pediatrics*. 2009; 124(5):1281-6.

Last updated January 2015. If you have a question about this factsheet, please call 202-662-0600.

