Maternal and Child Health
Issue Brief

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Child and Youth Injury in Colorado

Why is child and youth injury an issue in Colorado?

Injuries are the leading cause of death among Coloradans ages 1-24. Preventable, unintentional injuries resulted in 248 deaths in 2011, 40 percent of all deaths of children and youth ages 1-24.[1]

What are the major causes of child/youth deaths?

Table 1 shows the four leading causes of death of children and youth ages 0-24 from 2009-2011. Unintentional injuries are the leading causes of death for children and youth ages 1-24. Among unintentional injuries, suffocation was the leading type of unintentional injury death in infants.[1,2] Motor vehicle and drowning-related injury deaths were the leading types of unintentional injury deaths in children ages 1-4 years,[1] and motor vehicle injury was the leading cause of unintentional injury death in children and youth over five years of age.[1,3]

Colorado Goals and Priorities

By 2016, reduce the percentage of 9th-12th graders who report attempting suicide in previous 12 months to 5 percent.

By 2015, reduce youth motor vehicle fatalities to 10.5 fatalities per 100,000 youth ages 15-19.

Table 1. Leading causes of death, by age, Colorado residents, 2009-2011.[1,3]

Rank	<1 Year	1-4 Years	5-9 Years	10-14 Years	15-24 Years
1	Perinatal period conditions: N=597.	Unintentional injuries: N=55. 29% motor vehicle, 29% drowning, 16% suffocation, 7% fires, 5% falls	Unintentional injuries: N=37. 59% motor vehicle, 14% suffocation, 8% firearm (accidental)	Unintentional injuries: N=41. 56% motor vehicle, 7% drowning, 7% falls, 7% poisoning	Unintentional injuries: N=598. 50% motor vehicle, 33% poisoning, 5% drowning, 4% falls
2	Congenital abnormalities: N=263.	Congenital abnormalities: N=27.	Cancer: N=14.	Suicide: N=32.	Suicide: N=356.
3	Unintentional injuries: N=57. 79% suffocation, 11% drowning, 9% motor vehicle	Homicide: N=19. 95% child maltreatment	Congenital abnormalities: N=9.	Cancer: N=13.	Homicide: N=128. 1% Child maltreatment,* 94% domestic violence and interpersonal violence, 5% legal intervention
4	Homicide: N=22. 100% child maltreatment	Cancer: N=13.	Influenza and pneumonia: N=8.	Homicide: N=7. 71% child maltreatment	Cancer: N=61.

* Child maltreatment data is collected for youth up to age 17. Here, child maltreatment of youth over 18 is considered domestic or interpersonal violence.

Shaded areas indicate injury-related deaths.

Considering all types of injury death, homicide was the second leading cause of injury death of infants and the first leading cause of death for children ages 1-4. In fact, homicide ranked in the four leading causes of death in four of the five age groups for children and youth ages 0-24. Suicide ranked as the leading cause of death in the 10-14 and 15-24 year-old age groups, followed by motor vehicle crashes, after considering all types of injury death. Figure 1 shows the leading causes of injury- or violence-related death for children and youth ages 0-24. Suicide and motor vehicle accidents make up nearly 60 percent of all injury- or violence-related deaths.[1,3]

Figure 2 displays the leading causes of injury hospitalizations among males and females, ages 1-9 and 10-24 years. Whereas 96.3 percent of injury hospitalizations of children ages 1-9 are due to unintentional injury, 71.6 percent of injury hospitalizations of males ages 10-24 and only 56.0 percent of injury hospitalizations of female youth ages 10-24 are due to unintentional injuries.[4]

Figure 1. Leading causes of injury- or violence-related deaths, 0-24 year-olds, Colorado residents, 2009-2011.[1,3]

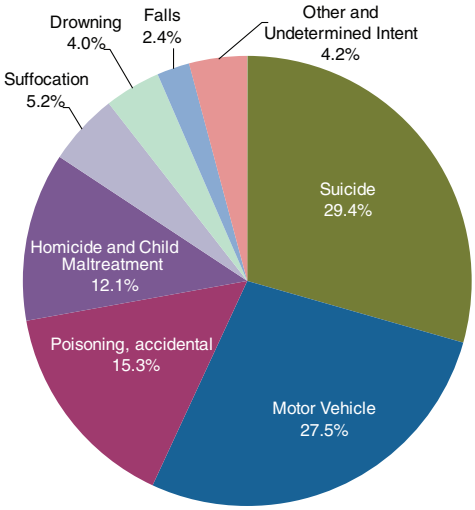


Figure 2. Leading causes of injury hospitalizations, by age and sex, Colorado residents, 2009-2011.[4]

* Unintentional/accidental

** Other includes: drowning, fire/burn, natural or environmental, machine, suffocation, other unintentional, child abuse, legal intervention, undetermined intent.

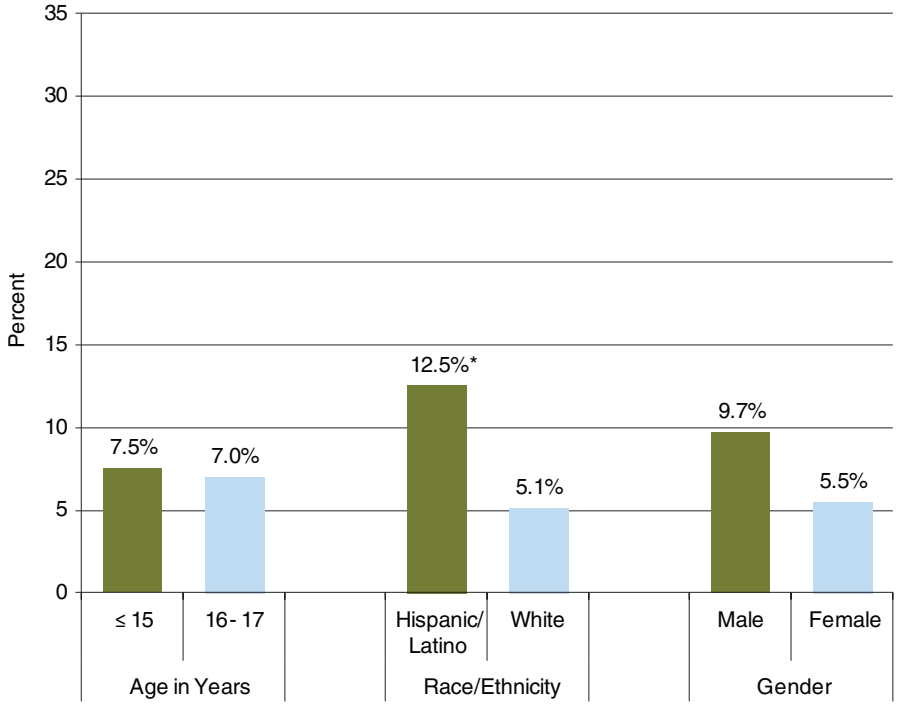
Who is more likely to experience injury, illness or adversity?

Children and youth living in communities with fewer economic opportunities and/or environments not built for safety, without positive adult relationships, and with more life stressors—among additional factors—are more likely than their peers to experience injury, illness, or adversity.[5,6] However, building safe, stable environments and fostering adult and peer connectedness can counteract negative influences in the lives of children and youth, and can assist them to build resiliency, make healthy decisions, and develop into happy, healthy adults.[6]

Differences in risk behavior

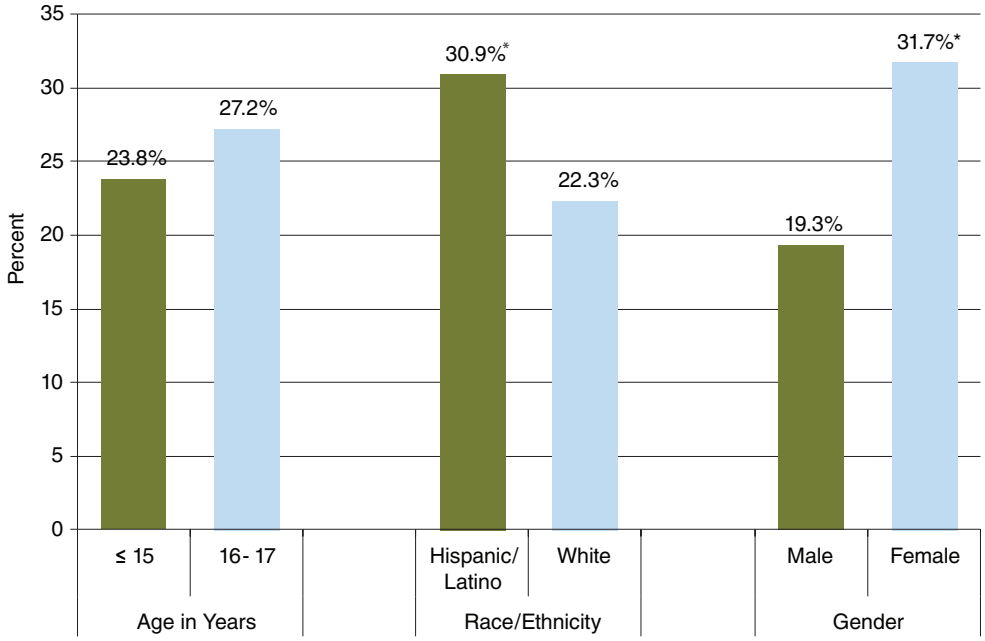
Resulting from a combination of environmental, developmental, and hormonal effects,[6] disparities in risk behavior can appear when describing data by age, race/ethnicity, and gender. In 2009, Hispanic youth and males wore seatbelts less often than youth of White/Non-Hispanic origin and females (Figure 3).[7] During the same year, 30.9 percent of Hispanic/Latino high school students and 31.7 percent of female youth reported stopping their usual activities due to feelings of sadness or hopelessness (Figure 4).[7]

Figure 3. Percentage of high school students that rarely/never wore a seatbelt while riding in a car driven by someone else, by age, race/ethnicity, and gender, Colorado residents, 2009.[7]



* Percentage is statistically significantly higher.

Figure 4. Percentage of high school students that felt so sad or hopeless for two or more weeks that they stopped doing usual activities, by age, race/ethnicity, and gender, Colorado residents, 2009.[7]



* Percentage is statistically significantly higher.

Unintentional injuries suffered by children and youth vary by age, environment, and gender of children and youth, among geographies and community systems.[5,6] Understanding risk and protective factors related to injury can help parents, children and youth, and systems prevent unintentional injury.

Creating environments that minimize hazard protect children and youth who take developmentally-appropriate risks.[6] Wearing recommended safety gear—like bicycle helmets—utilizing bike lanes, building safe spaces for sporting and walking, and parental/adult monitoring, among other protective measures, reduce accidental injury.[5,6]

Motor Vehicle Safety Risk and Protective Factors

Motor vehicle injuries account for nearly one of every ten injury hospitalization to children ages 1-9, and two of every ten for youth ages 10-24.[4] In 2012, 22 percent of Colorado children ages 1-14 did not use age-appropriate restraints[8] and in 2011 over 1,000 children and youth ages 0-14 were seriously injured from motor vehicle crashes, as reported by the officer at the time of crash.[9] In 2011 alone, 191 injury hospitalizations of 1-14 year-olds resulted from motor vehicle injuries.[4] Seatbelt and Graduated Driver Licensing laws, and alcohol age limits are among current regulations that prevent unintended injury.

Suicide Attempt Risk and Protective Factors

Suicide attempt was among the top two leading causes of injury hospitalization and is the top leading cause of death among youth ages 15-24 in 2011.[1,4] In 2011, 22 percent of Colorado high school students reported feeling so sad or hopeless almost every day for two or more consecutive weeks that they stopped their usual activities, and 15 percent reported seriously considering attempting suicide in the past year.[7] In the same year, 17 percent of Colorado middle school students reported *ever* seriously thinking about killing themselves.[7] Depression, gender, adverse childhood or family experiences, access to lethal means, behaviors considered "high-risk"—such as smoking, drinking, and fighting—and absence of school connectedness are associated with suicide ideation, attempt, or death.[10] Positive community environment and support, family and peer connectedness, school connectedness, and positive relationships can help youth build resiliency.[10] In 2011, Colorado high school students who participated in extra-curricular activities, a measure of school connectedness, were significantly less likely to have seriously considered suicide than students who did not participate in extra-curricular activities (13.3 percent compared to 17.7 percent).[11]

Child Maltreatment Risk and Protective Factors

Assault of children and youth includes child maltreatment (abuse and neglect), teen dating violence, interpersonal violence, and legal intervention. Child maltreatment is the leading cause of all injury deaths for children ages 1-4 and the second leading cause of all injury deaths for infants.[3] According to the Colorado Child Fatality Prevention System (CFPS), child maltreatment caused or contributed to 51 deaths of Colorado residents under age 18 in 2011. Sixty-nine percent of these children were under five years old, 62.8 percent were male, and 80.4 percent lived in urban counties.[3] In 2011, 57.1 percent of the child maltreatment perpetrators were the biological parent of the child and another 16.1 percent were the biological mother's boyfriend. Risk factors for perpetrators of child maltreatment included known criminal histories (35.7 percent), known history of substance abuse (33.9 percent), and known history as a domestic violence perpetrator (23.2 percent).[3]

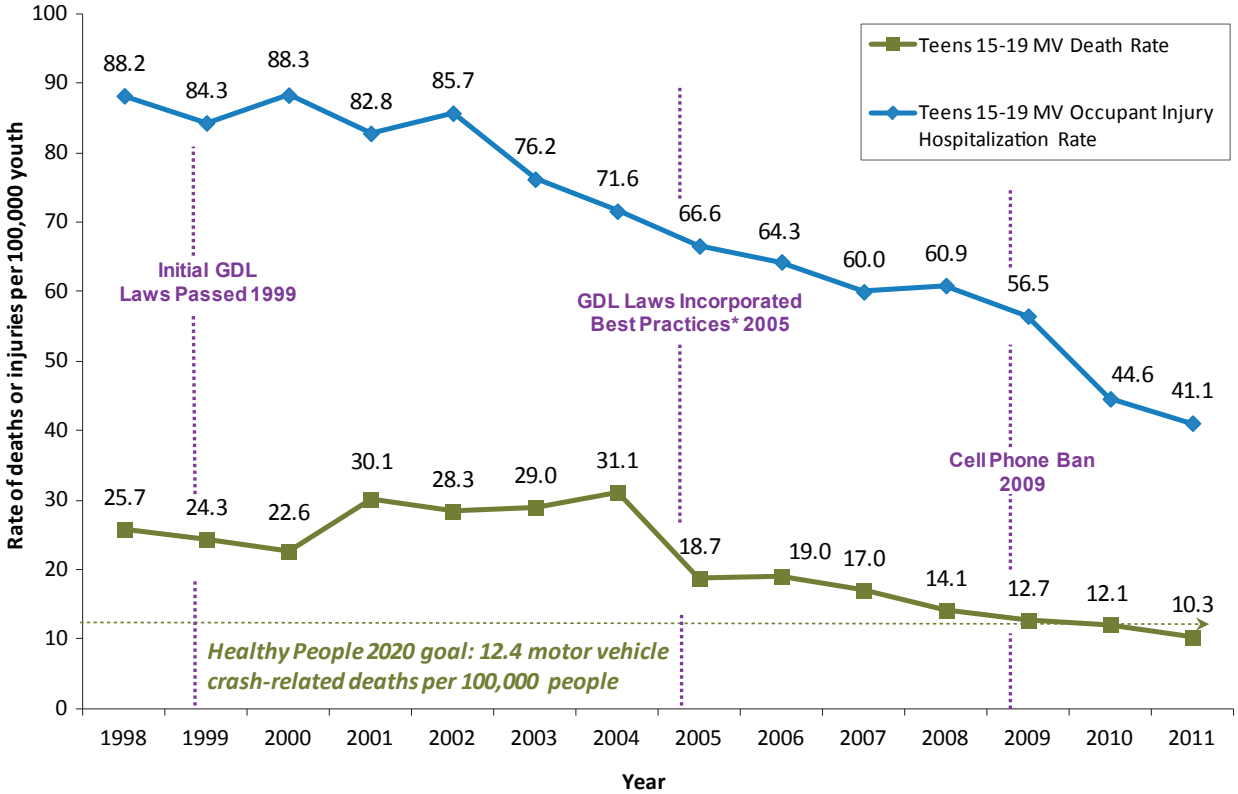
Spotlight on Colorado's Graduated Driver Licensing Laws

Graduated Driver Licensing (GDL) laws reduce motor vehicle injuries, crashes, and deaths by limiting driving distractions and supporting young drivers. GDL laws remove a variety of distractions, including peer passengers, and create driving environments in which parents or adults assist learning drivers. The laws reduce exposure to external risks, such as those occurring late at night, and "phase in" risk as drivers gain experience.[6,12]

In 2011, motor vehicle accidents were the leading cause of unintentional injury hospitalization for youth ages 15-19,[4] and more than three-fourths of the fatal crashes involving youth ages 16-19 were caused by 16-19 year-old drivers.[13] In order to prevent motor vehicle death and injury, Colorado enacted a GDL law in 1999 which was strengthened in 2005 to include passenger restriction and extended curfew best practices.[12]

In addition to restrictions required by the GDL law, a 2009 law banned youth under 18 years from using cell phones while driving.[12] As a result of the legislation, as well as public health programs and other efforts, the motor vehicle injury hospitalization rate per 100,000 15-19 year-old youth decreased from 88.2 in 1998 to 41.1 in 2011.[4] Similarly, motor vehicle deaths per 100,000 youth ages 15-19 decreased from 25.7 in 1998 to 10.3 in 2011.[1]

Figure 5. Colorado youth motor vehicle death and injury hospitalization rates by year, 15-19 year-olds, Colorado residents, 1998-2011. [1,4,12,14]



* Best practices include passenger restrictions and extended curfews.[12]
Note: The Healthy People 2020 goal includes crash deaths of people of all ages.[14]

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