



# MADD

Activism | Victim Services | Education

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## A 2008 Q3 Summary of Statistics

In 2007, an estimated 12,998 people died in drunk driving related crashes—a decline of 3.7 percent from the 13,491 drunk driving related fatalities of 2006.<sup>1</sup>

On average someone is killed by a drunk driver every 40 minutes.<sup>2</sup>

In 2001, more than half a million people were injured in crashes where police reported that alcohol was present — an average of one person injured almost every minute.<sup>3,4</sup>

About three in every ten Americans will be involved in an alcohol-related crash at some time in their lives.<sup>5</sup>

Impairment is not determined by the type of drink, but rather by the amount of alcohol ingested over a specific period of time.<sup>6</sup>

A standard drink is defined as 12 ounces of beer, 5 ounces of wine, or 1.5 ounces of 72-proof distilled spirits, all of which contain the same amount of alcohol – about .54 ounces.<sup>7</sup>

The impact of alcohol involvement increases with injury severity. Alcohol-involved crashes accounted for 10 percent of property damage only crash costs, 21 percent of nonfatal injury crash costs; and 46 percent of fatal injury crash costs.<sup>8</sup>

## General Statistics

Since 1980 (the year Mothers Against Drunk Driving was founded), alcohol-related traffic fatalities have decreased by over 47 percent, from over 30,000 to under 16,000 and MADD has helped save over 358,000 lives.<sup>9</sup>

Beer is the drink most commonly consumed by people stopped for alcohol-impaired driving or involved in alcohol-related crashes.<sup>10,11</sup>

Beer is the drink of choice in most cases of heavy drinking, binge drinking, drunk driving and underage drinking.<sup>12</sup>

Alcohol is society's legal, oldest and most popular drug.<sup>13</sup>

A first time drunk driving offender on average has driven drunk 87 times prior to being arrested.<sup>14</sup>

Fifty to 75 percent of drunk drivers whose licenses are suspended continue to drive.<sup>15,16</sup>

Motor vehicle crashes are the leading cause of death for people from 2 to 34 years old.<sup>17</sup>

In 2002, 2.3% of Americans 18 and older surveyed reported alcohol-impaired driving, compared with only 2.1% in 1997.<sup>18</sup>

In 2002, 2.3% of Americans 18 and older surveyed reported alcohol-impaired driving, including 3% of 18-20 year olds and 4.1% of 21-34 year olds.<sup>19</sup>

In 2002, surveys estimates that Americans took over 159 million alcohol-impaired driving trips, compared with only 116 million in 1997.<sup>20</sup>

Of the over 159 million alcohol-impaired driving trips estimated that Americans took in 2002, over ten percent (18 million trips) were made by 18-20 year olds.<sup>21</sup>

In 2006, the rate of alcohol impairment among drivers involved in fatal crashes was four times higher at night than during the day (36% versus 9%).<sup>22</sup>

The rate of alcohol impairment among drivers involved in fatal crashes was four times higher at night than during the day (36% versus 9%). In 2006, 15 percent of all drivers involved in fatal crashes during the week were alcohol-impaired, compared to 31 percent on weekends.<sup>23</sup>

In fatal crashes in 2006, the highest percentage of drivers with a BAC level of .08 or higher was for drivers ages 21-24 (33%), followed by ages 25-34 (29%) and 35-44 (25%).<sup>24</sup>

Surveys estimate the highest prevalence of both binge and heavy drinking in 2005 was for young adults aged 21 to 23, with the peak rate occurring at age 21. The rate of binge drinking was 36.2 percent among those aged 18 to 20, 20 percent among those ages 16 and 17, and 49.3 percent at age 21.<sup>25</sup>

The speed of alcohol absorption affects the rate at which one becomes drunk. Unlike foods, alcohol does not have to be slowly digested. As a person drinks faster than the alcohol can be eliminated, the drug accumulates in the body, resulting in higher and higher levels of alcohol in the blood.<sup>26</sup>

The average person metabolizes alcohol at the rate of about one drink per hour. Only time will sober a person up. Drinking strong coffee, exercising or taking a cold shower will not help.<sup>27</sup>

There is evidence that heavier drinkers prefer to drink at bars and other person's homes, and at multiple locations requiring longer driver distances. Young drivers have

been found to prefer drinking at private parties, while older, more educated drivers prefer bars and taverns.<sup>28</sup>

Alcohol-related fatalities are caused primarily by the consumption of beer (80 percent) followed by liquor/wine (20 percent).<sup>29</sup>

About 49 percent of those 21 years of age and older surveyed report that they did not consume any alcohol in the past month. Another 23 percent report binge drinking during that period.<sup>30</sup>

In 2007, 18.6 million persons aged 12 or older were classified with dependence on or abuse of alcohol. This represents 7.5 percent of the population. The number and the percentage have remained similar since 2002.<sup>31</sup>

Binge drinkers (those who have five or more drinks on any occasion) compromise only approximately 20 percent of the US population, but drink approximately 83 percent of the alcohol. Frequent bingers (those who have five or more drinks at a time five or more times in the past month) are only approximately six percent of the US population, but drink about half of the alcohol.<sup>32</sup>

In 2002, 86.4% of the Americans 18 and older who reported driving after they had had too much to drink also reported binge drinking. Binge drinkers were over 13 times more likely to report alcohol-impaired driving than those to drink, but did not report binge drinking.<sup>33</sup>

Of the over 159 million alcohol-impaired driving trips surveys estimate Americans took in 2002, over 44 percent, or 71 million trips, were made by moderate drinkers.<sup>34</sup>

The majority of those who reported alcohol-related DUI in the 12 months prior to a national survey are not alcohol dependent or alcohol abusers. In 2000, 37% of the Blacks, 38% of the Hispanics, 29% of Whites, 44% of the Native Americans/Alaskan Natives, 39% of Native Hawaiians/Pacific Islanders, 22% of the Asians and 28% of those of Mixed race who report committing DUI in the past year are alcohol abusers or dependent; all the others who drove under the influence are not.<sup>35</sup>

In 2007, an estimated 12.7 percent of persons aged 12 or older drove under the influence of alcohol at least once in the past year. This percentage has decreased since 2002, when it was 14.2 percent.<sup>36</sup>

Among persons aged 12 or older, males were nearly twice as likely as females (16.3 vs. 8.6 percent) to drive under the influence of alcohol in the past year.<sup>37</sup>

Forty-one percent of the 2,182 motorcycle operators who died in single-vehicle crashes in 2007 had BAC levels of .08 g/dL or higher. Sixty-five percent of those killed in single-vehicle crashes on weekend nights had BACs of .08 g/dL or higher.<sup>38</sup>

In 2006, 41 percent of the drivers with BAC levels of .08 g/dL or higher who were involved in fatal crashes were speeding, compared with only 15 percent of the drivers with no alcohol in their system.<sup>39</sup>

In 2002 and 2003, almost 16.6 percent of adult drivers aged 21 or older surveyed that they had driven while under the influence of alcohol or illicit drugs during the past year.<sup>40</sup>

According to a SAMHSA report, combined data from 2004 to 2006 indicate that 15.1 percent of current drivers aged 18 or older drove under the influence of alcohol in the past 12 months ("past year"), and 4.7 percent drove under the influence of illicit drugs in the past year.<sup>41</sup>

In 2007 an estimated 7.8 percent of 16 or 17 year olds, 18.3 percent of 18 to 20 year olds, and 25.8 percent of 21 to 25 year olds reported driving under the influence of alcohol in the past year.<sup>42</sup>

Seventy-five percent of the fatal crashes between midnight and 3 AM involve alcohol.<sup>43</sup>

### **Alcohol Advertising**

Recent advertising expenditures in the United States for beer, wine, and liquor combined (\$1.9 billion) totaled over 10 times the amount spent on milk ads (\$137.7 million).<sup>44,45</sup>

In 2007, approximately one out of every five alcohol advertisements was placed on programming that youth ages 12 to 20 were more likely per capita to see than adults of the legal drinking age.<sup>46</sup>

In 2007, the alcohol industry spent \$923,639,745 on television advertising. The alcohol industry spent \$6.6 billion for the 2,033,931 alcohol product advertisements that aired on television between 2001 and 2007.<sup>47</sup>

Studies show that alcohol advertising may predispose young people to drinking. As a result, efforts to prevent drinking among young people should give attention to countering the potential effects of alcohol advertising.<sup>48,49,50</sup>

Research studies have found that exposure to and liking of alcohol advertisements affect young people's beliefs about drinking, intentions to drink, and actual drinking behavior.<sup>51</sup>

Research shows that not only does increased exposure to alcohol advertising relate to how young a person will begin drinking, but also that underage drinking prevention programming can help counteract this effect.<sup>52</sup>

Young people view approximately 20,000 commercials each year, of which nearly 2,000 are for beer and wine.<sup>53</sup>

Youth, between the ages of 12-20, exposure to alcohol advertising on television has risen by 38% from 2001 to 2007. Almost all of these placements were on cable television, where distilled spirits companies in particular have dramatically increased their alcohol advertising in the past seven years.<sup>54</sup>

Between 2001 and 2007, alcohol companies aired 73,565 “responsibility” advertisements on television. Youth ages 12 to 20 were 22 times more likely to see an alcohol product advertisement than an alcohol-industry-funded “responsibility” advertisement.<sup>55</sup>

Forty-nine percent of children live in homes with no set rules about TV watching.<sup>56</sup>

The availability of alcohol within a community can influence drinking rates and related problems.<sup>57</sup>

Alcohol use was depicted, typically in a positive light, in more than 70 percent of a sample of episodes in prime-time television programming in 1999.<sup>58</sup>

Alcohol use was depicted, typically in a positive light, in more than 90 percent of the 200 most popular movie rentals for 1996-1997.<sup>59</sup>

About 17 percent of the 1,000 most popular songs in 1996-1997 across five genres of music popular with youth contained alcohol references, including almost one-half of the rap music.<sup>60</sup>

Of those surveyed, African-American youth heard 12 percent more beer advertising and 56 percent more ads for distilled spirits than non-African-American youth on the radio and saw 77 percent more alcohol ads in magazines.<sup>61</sup>

About twelve percent of the television advertisements placed by the alcohol industry violated their own standards by exposing the ads to an audience comprised of more than 30% underage people.<sup>62</sup>

### **Arrests and Convictions for Driving Under the Influence**

Over 1.46 million drivers were arrested in 2006 for driving under the influence of alcohol or narcotics. This is an arrest rate of 1 for every 139 licensed drivers in the United States.<sup>63</sup>

One arrest is made for driving under the influence for every 772 episodes of driving within two hours of drinking and for every 88 episodes of driving over the illegal limit in the U.S.<sup>64</sup>

Of the approximately 4.2 million people aged 16 to 20 in 2002 and 2003 who reported DUI involving alcohol or illicit drugs in the past year, about four percent (169,000 people) indicated they had been arrested and booked for DUI.<sup>65</sup>

Among the 5.3 million convicted offenders under the jurisdiction of corrections agencies in 1996, nearly 2 million, or about 36 percent, were estimated to have been drinking at the time of the offense.<sup>66</sup>

Forty percent of people convicted of violent victimizations (sexual assault, robbery, homicide, aggravated assault, and simple assault) and 25 percent of victims had been drinking at the time of the event.<sup>67</sup>

Only 17 percent of impaired drivers who are injured in crashes are charged and convicted. Eleven percent are charged and not convicted and 72 percent are never charged.<sup>68</sup>

### **Crash Risk**

The percentages of drivers involved in fatal crashes with a BAC level of .08 or higher in 2007 were 27 percent for motorcycle operators, 23 percent for light trucks, and 23 percent for passenger cars. The percentage of drivers with BAC levels of .08 or higher in fatal crashes was the lowest for large trucks (1 percent).<sup>69</sup>

Research continues to show that young drivers 15 to 20 years old are more often involved in alcohol-related crashes than any other comparable age group. Alcohol-crash involvement rates, share of the alcohol-crash problem and alcohol-crash risk all reach their peaks with young drivers, with the peaks for fatal crashes occurring at age 21.<sup>70</sup>

Among those that were primarily legislative in nature, laws establishing administrative license revocation (ALR) have been found to reduce alcohol-related crashes by up to 40 percent. This adds support for prior research showing the effectiveness of driver license sanctions in general.<sup>71</sup>

Of the general driving age public, 97 percent see drinking and driving as a threat to their personal safety, and 66 percent feel it is extremely important to do something to reduce the problem in terms of where tax dollars should be spent.<sup>72</sup>

A 2008 AAA poll measuring the Traffic Safety Culture of Americans, found that 80% supported requiring drivers who have been convicted of DWI to use equipment that tests them for alcohol, i.e. an ignition interlock device. Also, 88% of the respondents in the poll felt that drunk driving is a serious traffic safety concern.<sup>73</sup>

In 2007, Alcohol involvement — either for the driver or for the pedestrian — was reported in 49 percent of the traffic crashes that resulted in pedestrian fatalities. Of the pedestrians involved, 35 percent had a blood alcohol concentration (BAC) of .08 grams

per deciliter (g/dL) or higher. Of the drivers involved in fatal crashes, only 14 percent had a BAC of .08 g/dL or higher, less than one-half the rate for the pedestrians. In 6 percent of the crashes, both the driver and the pedestrian had a BAC of .08 g/dL or higher.<sup>74</sup>

The crash risk associated with driving after drinking across all blood alcohol content levels is higher for underage drinkers than for adults.<sup>75</sup>

### **Occupant Protection**

Seat belt use in 2008 stood at 83 percent, a slight gain from 82 percent use in 2007.<sup>76</sup>

In 2007, while 62 percent of all drivers involved in fatal crashes were wearing their seat belts/helmets, only about 34 percent of all alcohol-impaired drivers in fatal crashes were wearing their seat belts/helmets.<sup>77</sup>

In 2006, seat belts were used by only 26 percent of fatally injured drivers with BAC levels of .08 or higher, compared to 39 percent of fatally injured drivers with BAC levels between .01 and .07, and 57 percent of fatally injured drivers with no alcohol (BAC = .00).<sup>78</sup>

From 1975 through 2007, it is estimated that safety belts saved 241,658 lives, including 15,147 lives saved in 2007. If all passenger vehicle occupants over age 4 wore safety belts, an additional 5,024 lives could have been saved in 2007.<sup>79,80</sup>

Among children under age 5, an estimated 425 lives were saved in 2006 by child restraint use. Of these 425 lives saved, 392 were associated with the use of child safety seats and 32 with the use of adult seat belts. At 100 percent child safety seat use for children under 5, an estimated 521 lives (that is, an additional 96) could have been saved in 2006. Over the period 1975 through 2006, an estimated 8,325 lives were saved by child restraints from 1975-2006.<sup>81</sup>

Over half (55 percent) of the passenger vehicle occupants killed in traffic crashes in 2006 were unrestrained.<sup>82</sup>

In 2006, 65 percent of the young drivers (15 to 20 years old) of passenger vehicles involved in fatal crashes who had been drinking were unrestrained. Of the young drivers who had been drinking and were killed in crashes, 77 percent were unrestrained.<sup>83</sup>

During 2007, 6,532 passenger vehicle occupants age 14 and younger were involved in fatal crashes. For those children where restraint use was known, 25 percent were unrestrained; among those who were fatally injured, 45 percent were unrestrained.<sup>84</sup>

In 2006, 35 percent of passenger car occupants and 37 percent of light truck occupants involved in fatal crashes were unrestrained.<sup>85</sup>

In 2007, the average safety belt usage was 14 percentage points higher in states with primary laws than in states without (87 percent to 73 percent).<sup>86</sup>

Research has found that lap/shoulder seat belts, when used, reduce the risk of fatal injury to front-seat passenger car occupants by 45 percent and the risk of moderate-to-critical injury by 50 percent. For light-truck occupants, seat belts reduce the risk of fatal injury by 60 percent and moderate-to-critical injury by 65 percent.<sup>87</sup>

Ejection from the vehicle is one of the most injurious events that can happen to a person in a crash. In fatal crashes in 2006, 75 percent of passenger vehicle occupants who were totally ejected from the vehicle were killed. Seat belts are effective in preventing total ejections: only 1 percent of the occupants reported to have been using restraints were total ejected, compared with 31 percent of the unrestrained occupants.<sup>88</sup>

Use of safety belts at the time of a crash makes a significant difference in hospitalization outcomes. One person in six (17%) who was wearing a safety belt at the time of the crash was hospitalized compared to one person in three (32%) who was not wearing a safety belt at the time of the crash.<sup>89</sup>

### **Young Drivers** **(15 to 20 years old)**

In 2006, 25 percent of 15- to 20-year-old drivers killed in motor vehicle crashes had a BAC level of .08 g/dl or higher.<sup>90</sup>

In 2006, 27 percent of the young male drivers involved in fatal crashes had been drinking at the time of the crash, compared with 15 percent of the young female drivers involved in fatal crashes.<sup>91</sup>

In 2005, 2,035 youth (aged 15-20) were killed in alcohol-related traffic crashes, accounting for 33 percent of all traffic deaths for that age group.<sup>92</sup>

In 2005, 1,789 people were killed in alcohol-related traffic crashes involving an underage drinking driver.<sup>93</sup>

In 2006, drivers 15 to 24 years of age were involved in over 30.5 percent of all traffic fatalities even though drivers in the 15-24 age range represented 14.2 percent of the 2006 population.<sup>94</sup>

In 2002 and 2003, 4.2 million people (21 percent) aged 16 to 20 reported DUI involving either alcohol or illicit drugs in the previous year. Seventeen percent report DUI involving alcohol, fourteen percent reported DUI involving illicit drugs, and eight percent reported DUI involving alcohol and other drugs.<sup>95</sup>

Findings from four studies have quantified the crash risk associated with teenage drivers transporting teenage passengers. Collectively, these studies indicate that the presence of passengers strongly increases crash risk for teenage drivers; the more passengers the greater the risk.<sup>96</sup>

Traffic crashes are the number one killer of teens(15-20 year old) and 31% of teen traffic deaths are alcohol-related.<sup>97</sup>

Although young drivers make up a mere 6.4 percent of the total driving population in the U.S., they constituted 12.9 percent of the drivers involved in fatal crashes in 2006.<sup>98</sup>

### **Youth (under 21) Drinking - Incidence**

In 2007, the average age at first alcohol use among recent initiates aged 12 to 49 was 16.8 years, similar to the corresponding 2006 estimate (16.6 years).<sup>99</sup>

In 2007, Most (85.9 percent) of the 4.6 million past year alcohol initiates were younger than age 21 at the time of initiation.<sup>100</sup>

More males than females aged 12 to 20 reported current alcohol use (29.2 vs. 27.4 percent, respectively), binge drinking (21.3 vs. 16.5 percent), and heavy drinking (7.9 vs. 4.3 percent) in 2006.<sup>101</sup>

Alcohol is the No. 1 drug problem among our youth.<sup>102</sup>

Underage drinkers are responsible for over 16 percent of all alcohol consumed in the United States. This is about \$18 billion in alcohol sales.<sup>103</sup>

In 2006, more than half (53.9 percent) of persons aged 12 to 20 (20.6 million persons) had used alcohol in their lifetime. Almost half (46.1 percent, 17.6 million) had used it in the past year, and more than a quarter (28.3 percent, 10.8 million) had used it in the past month. One in five persons in this age group (19.0 percent, 7.2 million) engaged in binge alcohol use, meaning they had consumed five or more drinks of alcohol on at least one occasion in the past month. This includes 2.4 million (6.2 percent of persons aged 12 to 20) who drank heavily, defined as 5 or more days of binge alcohol use in the past month.<sup>104</sup>

Combined data from 2002 to 2006 indicated that an annual average of 9.4 percent of persons aged 12 to 20 (3.5 million persons in that age range) met the diagnostic criteria for an alcohol use disorder (dependence or abuse) in the past year.<sup>105</sup>

Combined data from 2002 to 2006 indicated that rates of current (past month) alcohol use were 7.0 percent for youths aged 12 to 14, 27.5 percent for youths aged 15 to 17, and 51.3 percent for 18 to 20 year olds. Binge alcohol use rates for these age groups were 3.3, 17.8, and 36.3 percent, respectively.<sup>106</sup>

More than one fifth (23.3 percent) of persons aged 12 or older participated in binge drinking at least once in the 30 days prior to the survey in 2007. This translates to about 57.8 million people. The rate in 2007 is similar to the rate in 2006 (23.0 percent).<sup>107</sup>

In 2007, about 10.7 million persons aged 12 to 20 (27.9 percent of this age group) reported drinking alcohol in the past month. Approximately 7.2 million (18.6 percent) were binge drinkers, and 2.3 million (6.0 percent) were heavy drinkers. These figures have remained essentially the same since the 2002 survey.<sup>108</sup>

Binge drinking has been defined as at least five drinks in a row for men and four drinks in a row for women.<sup>109</sup>

Teenagers are not well informed about alcohol's effects. Nearly one-third of teens mistakenly believe that a 12-ounce can of beer contains less alcohol than a standard shot of distilled spirits.<sup>110</sup>

It is estimated that at least 2/3 of alcohol outlets sell to underage purchasers without asking for identification.<sup>111</sup>

In fiscal 2000, \$71.1 million was targeted at preventing underage alcohol use by the U.S. Departments of Health and Human Services, Justice, and Transportation. In contrast, the fiscal 2000 federal budget authority for drug abuse prevention was 25 times higher – \$1.8 billion.<sup>112</sup>

In 2007, 62 percent of eighth graders reported that alcohol is “very easy” or “fairly easy” to get. This is down from 75 percent a decade earlier.<sup>113</sup>

In 2007, 82.6 percent of tenth graders reported that alcohol is “very easy” or “fairly easy” to get. This is down from 89 percent a decade earlier.<sup>114</sup>

In 2007, 92.2 percent of twelfth graders reported that alcohol is “very easy” or “fairly easy” to get.<sup>115</sup>

The average age of first alcohol use has generally decreased since 1965, indicating that youth are starting to drink at younger ages.<sup>116</sup>

By ages 19 and 20, 70 percent of all drinkers engage in heavy drinking, suggesting that the majority of young people are at great risk of making poor decisions that have significant long-term consequences.<sup>117</sup>

About 91 percent of all drinks consumed by teenagers are consumed by those who drink heavily.<sup>118</sup>

In 2007 a national survey established that alcohol has been tried by approximately 38.9 percent of eighth graders, 61.7 percent of tenth graders, and 72.2 percent of twelfth

graders. This is down from 53 percent of eighth graders, 72 percent of tenth graders, and 82 percent of twelfth graders a decade earlier.<sup>119</sup>

In 2007, 5.5 percent of eighth graders, 18.1 percent of tenth graders, and 28.7 percent of twelfth graders reported drinking heavily (over five drinks in one sitting) in the 30 days preceding a national alcohol survey.<sup>120</sup>

In 2007, 55 percent of twelfth graders, 41 percent of tenth graders report having tried alcohol and 18 percent of eighth graders report having been drunk at least once.<sup>121</sup>

In 2007, 16 percent of eighth graders, 33.4 percent of tenth graders, and 44.4 percent of twelfth graders reported drinking in the 30 days preceding a national alcohol survey.<sup>122</sup>

Only 31 percent of parents of 15- to 16-year-olds believe their child had a drink in the past year, compared to the 60 percent of teens in that age group who reported drinking.<sup>123</sup>

In a survey, 33 percent of 6th to 12th graders said their parents never, seldom, or sometimes set clear rules for them and almost half said their parents never, seldom, or sometimes discipline them when they break the rules.<sup>124</sup>

In 2003, 5 percent of students in grades 9–12 had at least one drink of alcohol on school property in the 30 days prior to a national alcohol survey, and 45 percent of students had at least one drink somewhere.<sup>125</sup>

A survey indicates that as of 2007, 72.2 percent of high school seniors have used alcohol; in comparison, 46.2 percent have smoked cigarettes; 41.8 percent have used marijuana, and 7.8 percent have used cocaine.<sup>126</sup>

Among underage current drinkers in 2007, 30.2 percent paid for the alcohol the last time they drank, including 8.2 percent who purchased the alcohol themselves and 21.8 percent who gave money to someone else to purchase it.<sup>127</sup>

Among underage drinkers in 2007, who did not pay for the alcohol the last time they drank, the most common source was an unrelated person aged 21 or older (37.2 percent). Other underage persons provided the alcohol on the last occasion 20.7 percent of the time. Parents, guardians, or other adult family members provided the alcohol 19.5 percent of the time. Other sources of alcohol for underage drinkers included (a) took the alcohol from home (5.5 percent), (b) took it from someone else's home (3.4 percent), and (c) got it some other way (8.5 percent).<sup>128</sup>

US purchase surveys show that 40 to 90 percent of outlets sell to underage buyers<sup>129,130,131</sup> and that this stems from low and inconsistent levels of enforcement against adults who sell or provide alcohol.<sup>132,133</sup>

### **Youth (under 21) Drinking - Impacts**

Underage alcohol use is more likely to kill young people than all illegal drugs combined.<sup>134 135</sup>

In 2007, the U.S. Surgeon General estimates that approximately 5,000 persons under age 21 die from alcohol-related injuries involving underage drinking each year.<sup>136</sup>

High school binge drinking is a major predictor of binge drinking in college.<sup>137</sup>

The total cost attributable to the consequences of underage drinking was \$61.9 billion per year in 2001 dollars. This is \$5.4 billion in medical costs, \$14.9 billion in work loss and other resource costs, and \$41.6 billion in lost quality of life.<sup>138</sup>

The average harm from an illegal underage drink is three dollars per drink.<sup>139</sup>

More than 40 percent of individuals who start drinking before the age of 13 will develop alcohol abuse or alcohol dependence at some point in their lives.<sup>140</sup>

An early age of drinking onset is associated with alcohol-related violence not only among persons under age 21 but among adults as well.<sup>141</sup>

High school students who use alcohol or other substances are five times more likely than other students to drop out of school or to believe that earning good grades is not important.<sup>142</sup>

People who begin drinking before age 14 are three times more likely than those who began drinking after age 21 to report ever driving after drinking too much and four times more likely to report doing so in the past year.<sup>143</sup>

People who begin drinking before age 14 are seven times more likely than those who began drinking after age 21 to report being in a motor vehicle crash because of their drinking.<sup>144</sup>

Those who have their first drink prior to age 19 are significantly more likely to become alcohol dependent, to drive after drinking, and to sustain injuries that required medical attention than those who did not drink before age 19. Those who first drank at younger ages believe they could consume more drinks and still drive safely and legally.<sup>145</sup>

Parents' drinking behavior and favorable attitudes about drinking have been positively associated with adolescents' initiating and continuing drinking.<sup>146</sup>

In a 2001 survey, 41 percent of frequent binge drinkers reported having unplanned sex and 21 percent reported having unsafe sex as a result of their drinking in the past year.<sup>147</sup>

Youth who start drinking before age 15, compared to those who wait until age 21, were 12 times more likely to be unintentionally injured while under the influence of alcohol, 7 times more likely to be in a motor vehicle crash after drinking, and 10 times more likely to have been in a physical fight after drinking.<sup>148</sup>

Among young people, 41 percent of frequent heavy drinkers of those surveyed reported riding with an intoxicated driver, compared with only 14 percent of those who never drank.<sup>149</sup>

In 1999, nearly 40 percent of people under age 21 who were victims of drownings, burns, and falls tested positive for alcohol. Youth constituted 7 percent of nonfatal and 30 percent of fatal alcohol-related drownings and burns.<sup>150</sup>

Alcohol has been reported to be involved in 36 percent of homicides, 12 percent of male suicides, and 8 percent of female suicides involving people under 21 – a total of about 1,500 homicides and 300 suicides in 2000.<sup>151</sup>

Among drinkers, those who had their first drink before the age of 13 were twice as likely to have unplanned sex and more than twice as likely to have unprotected sex.<sup>152</sup>

In 2001, there were approximately 119,500 alcohol-related visits to the emergency department involving people under the age of 21.<sup>153</sup>

In 2002, approximately 1.6 million children between the ages of 12 and 17 ran away from home and slept on the street. Of those who ran away, half reported using alcohol in the past year; only one-third of those who did not run away reported using alcohol in the past year.<sup>154</sup>

Underage drinkers are susceptible to immediate consequences of alcohol use, including blackouts, hangovers, and alcohol poisoning and are at elevated risk of neurodegeneration (particularly in regions of the brain responsible for learning and memory), impairments in functional brain activity, and the appearance of neurocognitive defects. Heavy episodic or binge drinking impairs study habits and erodes the development of transitional skills to adulthood.<sup>155</sup>

Among the 14 millions adults aged 21 or older who were classified as having past year alcohol dependence or abuse, more than 13 million (95 percent) had started using alcohol before age 21.<sup>156</sup>

People reporting first use of alcohol before age 15 were more than five times more likely to have past year alcohol dependence or abuse compared with people who first used alcohol at age 21 or older.<sup>157</sup>

Teens who drink are significantly more likely to carry a handgun; 12.4% of 12-17 year olds who reported heavy use of alcohol reported carrying a handgun in the past year,

compared with 4.7% who reported using alcohol in the past month and only 2.4% of those who reported no use of alcohol in the past year.<sup>158</sup>

Teens who drink are significantly more likely to steal; 22.8% of 12-17 year olds who reported heavy use of alcohol reported stealing or trying to steal something worth more than \$50 in the past year, compared with 8.2% who reported using alcohol in the past month and only 1.8% of those who reported no use of alcohol in the past year.<sup>159</sup>

Teens who drink are significantly more likely to sell illegal drugs; 27.9% of 12-17 year olds who reported heavy use of alcohol reported selling illegal drugs in the past year, compared with 6.2% who reported using alcohol in the past month and only .8% of those who reported no use of alcohol in the past year.<sup>160</sup>

Teens who drink are significantly more likely to be violent; 22.4% of 12-17 year olds who reported heavy use of alcohol reported attacking someone in the past year with the intent of seriously hurting them, compared with 10.8% who reported using alcohol in the past month and only 5.8% of those who reported no use of alcohol in the past year.<sup>161</sup>

In 2004, during weekends around prom, graduation, and homecoming, 47% of traffic crash fatalities of 15-20 year olds were alcohol-related. Of these alcohol-related fatalities, 69% involved a 15-20 year old driver with alcohol in his/her system.<sup>162</sup>

Parents underestimate their children's use of alcohol: for 12- to 13-year olds, the parents thought that seven percent had used alcohol, but 11 percent of their children said they did; for 14- and 15-year-olds, the comparable numbers were 21 percent and 33 percent; and for 16- to 18-year-olds, the numbers were 44 percent and 56 percent.<sup>163</sup>

Of 12- to 18-year-olds, 44 percent of the youth who reported having drinks in the past year were described by their parents as nondrinkers, and 27 percent of those who reported having binge drunk in the past month were described by their parents as nondrinkers.<sup>164</sup>

Youth who reported that a parent or a friend's parent had provided alcohol at a party within the past year reported drinking more on their last drinking occasion and were twice as likely to have consumed alcohol within the past 30 days and to have engaged in binge drinking.<sup>165</sup>

Over a half (53.4 percent) of the current underage alcohol users drank at someone else's home the last time they used alcohol and another 30.3 percent drank in their own home.<sup>166</sup>

Family factors, such as parent-child relationships, discipline methods, communication, monitoring and supervision, and parental involvement, also exert a significant influence on youthful alcohol use.<sup>167168</sup>

### **Youth (under 21) Drinking – College Specific**

A College Alcohol Survey of four colleges indicated that binge-drinking levels are associated with ease of access to alcohol, price, special promotions, and outlet density in college communities.<sup>169</sup>

In 2001, approximately 44 percent of college students reported binge drinking, in a college survey. This percentage is almost identical to rates in three previous surveys.<sup>170</sup>

Students who attended schools with high rates of heavy drinking experienced a greater number of secondhand effects, including disruption of sleep or studies, property damage, and verbal, physical, or sexual violence.<sup>171</sup>

Each year, drinking by college students, ages 18-24, contributes to an estimated 1,700 student deaths, almost 600,000 injuries, almost 700,000 assaults, more than 90,000 sexual assaults, and 474,000 engaging in unprotected sex. In 2001, 2.8 million college students drove a car while under the influence of alcohol.<sup>172</sup>

As a result of their drinking, about 25 percent of college students report academic consequences, 11 percent report they have damaged property under the influence of alcohol, and 5 percent are involved with police or campus security.<sup>173</sup>

Drinking reduces the number of hours spent studying per day among college students. Each additional drink per occasion is associated with fifteen minutes less studying per day.<sup>174</sup>

Binge drinking is associated with lower grades among college students. Approximately five drinks per occasion are associated with a GPA lower by half a grade.<sup>175</sup>

Each additional drink consumed by college students per occasion increased the probability of missing a class by 8 percent and getting behind in school by 5 percent.<sup>176</sup>

Approximately 6 percent of college students have been diagnosed as alcohol dependent and nearly one-third of students would be given an alcohol abuse diagnosis under psychiatric criteria. Approximately 44 percent of students reported at least one symptom of either abuse or dependence.<sup>177</sup>

Access to an unlimited amount of alcohol for a flat fee increases the number of drinks in a sitting by 1.6 drinks on average.<sup>178</sup>

One out of every four college students who drink report having forgotten where they were or what they did while drinking during the school year. The incidence of blackout was doubled (54 percent) among frequent binge drinkers.<sup>179</sup>

In 2001, 23 percent of underage college students reported obtaining alcohol from a parent or relative, up from 17 percent in 1993.<sup>180</sup>

Over two out of every five of all college students are binge drinkers.<sup>181,182</sup>

Four in every five college students drink and about half of these engage in heavy drinking.<sup>183</sup>

Self-reported heavy drinking by college students has remained at approximately 44 percent for the past decade.<sup>184</sup>

A 2008 Study found that young adults aged 18 to 22 enrolled full time in college were more likely than their peers not enrolled full time to use alcohol in the past month, binge drink, and drink heavily. Past month alcohol use was reported by 63.7 percent of full-time college students compared with 53.5 percent of persons aged 18 to 22 who were not enrolled full time. Binge and heavy use rates for college students were 43.6 and 17.2 percent, respectively, compared with 38.4 and 12.9 percent, respectively, for 18 to 22 year olds not enrolled full time in college.<sup>185</sup>

Nearly half (48 percent) of all of the alcohol consumed by students attending 4-year colleges is consumed by underage students.<sup>186</sup>

Eighteen percent of US college students reported suffering from clinical significant alcohol-related problems in the past year, compared with 15 percent of their non-college-attending peers. College students were also more likely to be diagnosed as alcohol abusers than their non-college-attending peers.<sup>187</sup>

Among college students ages 18–24 from 1998 to 2001, alcohol-related unintentional injury deaths increased from nearly 1600 to more than 1700, an increase of 6% per college population.<sup>188</sup>

The proportion of 18–24-year-old college students who reported driving under the influence of alcohol from 1998 to 2001 increased from 26.5% to 31.4%, an increase from 2.3 million students to 2.8 million.<sup>189</sup>

Heavy-drinking college students not only place their own health at risk, but also they jeopardize the well-being of others. As many as 46% of the 4553 people killed in 2001 in crashes involving 18–24-year-old drinking drivers are persons other than the drinking driver.<sup>190</sup>

From 2006 to 2007, the rate of driving under the influence of alcohol among persons aged 18 to 25 decreased from 24.4 to 22.8 percent.<sup>191</sup>

57.8 percent of full-time college students aged 18 to 20 used alcohol in the past month, 40.1 percent engaged in binge alcohol use, and 16.6 percent engaged in heavy alcohol use.<sup>192</sup>

### **Minimum Drinking Age Laws**

All States and the District of Columbia now have 21-year-old minimum drinking age laws. NHTSA estimates the 21 drinking age laws have reduced traffic fatalities involving drivers 18 to 20 years old by 13 percent and have saved an estimated 26,335 lives since 1975. In 2007, an estimated 826 lives were saved by minimum drinking age.<sup>193,194</sup>

### **Children**

In 2007, 1,670 children age 14 and younger were killed in motor vehicle crashes. Of those 1,670 fatalities, (20%) occurred in alcohol-impaired driving crashes.<sup>195</sup>

Children riding in vehicles with drivers who had a BAC level of .08 or higher accounted for half (153) of these deaths. Another 45 children age 14 and younger who were killed in traffic crashes in 2006, were pedestrians or pedalcyclists who were struck by drivers with a BAC of .08 or higher.<sup>196</sup>

Between 1985 and 1996, there were 5,555 child passenger deaths involving a drinking driver. Of these deaths, 3,556 or 64 percent occurred while the child was riding with a drinking driver.<sup>197</sup>

### **Alcohol and the Brain**

It has become clear over recent years that alcohol impacts both behavior and brain function differently in adolescents and adults. Adolescents are more vulnerable than adults to the effects of alcohol on learning and memory.<sup>198</sup>

The brain does not finish developing until a person is at least in their early 20s, and one of the last regions to mature is intimately involved with the ability to plan and make complex judgments.<sup>199,200,201,202</sup>

Alcohol may encourage aggression by disrupting normal brain mechanisms that normally restrain impulsive behavior such as aggression.<sup>203</sup>

Alcohol affects all parts of the brain, which also affects the heart rate, coordination, speech, and destruction of brain cells.<sup>204</sup>

Heavy drinking over many years may result in serious mental disorders or permanent, irreversible damage to the brain or peripheral nervous system.<sup>205</sup>

Alcohol dilutes itself in the water volume of the body in order to travel through the system. Those vital organs, like the brain, that contain a lot of water and need an ample blood supply are particularly vulnerable to the effects of alcohol.<sup>206</sup>

### **BAC Levels**

In 2007, 31.6 percent of the 41,059 traffic fatalities occurred in crashes in which at least one driver or nonoccupant had a BAC of 0.08 g/dl or greater.<sup>207</sup>

Drivers with a BAC level of .08 or higher involved in fatal crashes were eight times more likely to have a prior conviction for driving while impaired (DWI) than were drivers with no alcohol (8% and 1%, respectively).<sup>208</sup>

In 2006, 84 percent (12,491) of the 14,840 drivers with a BAC of .01 or higher who were involved in fatal crashes had BAC levels at or above .08, and 55 percent (8,201) had BAC levels at or above .15. The most frequently recorded BAC level among drinking drivers in fatal crashes was .16.<sup>209</sup>

In 2007, all 50 States, the District of Columbia, and Puerto Rico had by law created a threshold making it illegal per se to drive with a BAC of .08 or higher. Of the 12,998 people who died in alcohol-impaired drunk driving crashes in 2007, 8,644 (66.5%) were drivers/motorcycle riders with a BAC of .08 or higher. The remaining fatalities consisted of 3,579 (26.5%) motor vehicle/motorcycle occupants and 776 (7%) were classified as nonoccupants or others.<sup>210</sup>

At BACs as low as 0.02 percent, alcohol affects driving ability and crash likelihood. The probability of a crash begins to increase significantly at 0.05 percent BAC and climbs rapidly after about 0.08 percent.<sup>211</sup>

For drivers age 35 and older with BACs at or above 0.15 percent on weekend nights, the likelihood of being killed in a single-vehicle crash is more than 380 times higher than it is for non-drinking drivers.<sup>212</sup>

Over four out of five (83 percent) persons of driving age have heard of blood alcohol concentration (BAC) levels, but only 27 percent can correctly identify the illegal BAC limit for their state.<sup>213</sup>

There is considerable evidence that laws that lower the illegal BAC limit from .10 to .08 can reduce alcohol-related fatalities by an average of seven percent.<sup>214</sup>

The risk of a driver being killed in a crash at .08 BAC is at least 11 times that of drivers without alcohol in their system. At .10 BAC the risk is at least 29 times higher.<sup>215</sup>

Virtually all drivers, even experienced drinkers, are significantly impaired at .08 BAC. The results of nearly 300 studies reviewed have shown that, at .08 BAC, virtually all drivers are impaired, which includes critical driving tasks such as divided attention, complex reaction time, steering, lane changing, and judgment.<sup>216</sup>

The latest research shows that .08 laws not only reduce the incidence of impaired driving at lower BACs, they also reduce the incidence of impaired driving at higher BAC levels (i.e., .15 BAC or higher).<sup>217</sup>

### **Cost of Alcohol-Related Crashes**

Alcohol-related crashes in the United States cost the public an estimated \$114.3 billion in 2000, including \$51.1 billion in monetary costs and an estimated \$63.2 billion in quality of life losses. People other than the drinking driver paid \$71.6 billion of the alcohol-related crash bill, which is 63 percent of the total cost of these crashes.<sup>218</sup>

In 2000, the average alcohol-related fatality in the United States cost \$3.5 million. The estimated cost per injured survivor was \$99,000.<sup>219</sup>

In 2000, alcohol-related crashes accounted for an estimated 18 percent of the \$103 billion in U.S. auto insurance payments. Reducing alcohol-related crashes by 10 percent would save \$1.8 billion in claims payments and loss adjustment expenses.<sup>220</sup>

The societal costs of alcohol-related crashes in the United States averaged \$1.00 per drink consumed. People other than the drinking driver paid \$0.60 per drink.<sup>221</sup>

Studies have consistently found that the societal savings from checkpoints significantly outweigh the initial investment. One study found that there was an average cost savings of \$50,000 per checkpoint, including over \$3,000 in medical costs.<sup>222</sup> Another found a \$6 benefit for every \$1 invested.<sup>223,224</sup> A third found a \$23 benefit for every \$1 invested.<sup>225</sup>

Costs for people involved in crashes who were not wearing safety belts were 55 percent higher than those who were.<sup>226</sup> Up to 85 percent of these costs are borne by society, not the individual involved in the crash.<sup>227</sup> This is why the financial benefits of upgrading to a primary belt law are 16 times greater than the costs.<sup>228</sup>

Financially, .08 BAC laws are estimated to save 14 times what they cost to implement.<sup>229</sup>

Financially, zero tolerance laws are estimated to save 22 times what they cost to implement.<sup>230</sup>

Mandatory server training saves about \$200 per driver in medical, non-medical and quality of life costs, but costs only \$59 per driver – a savings of more than three to one.<sup>231</sup>

The annual employer cost of motor vehicle crashes in which at least one driver was impaired by alcohol exceeds \$9 billion.<sup>232</sup>

### **Repeat Offenders**

About one-third of all drivers arrested or convicted of driving while intoxicated or driving under the influence of alcohol are repeat offenders.<sup>233</sup>

The risk of a driver who has one or more DWI convictions becoming involved in a fatal crash is about 1.4 times the risk of a driver with no DWI conviction.<sup>234</sup>

## **Gender**

Male drivers involved in fatal crashes were almost twice as likely to have been driving with a .08 BAC or greater (24 percent) than female drivers (15 percent).<sup>235</sup>

Men are more likely than women to be driving at the time of a fatal crash.<sup>236</sup>

## **Diverse Populations**

Motor vehicle crashes are the leading cause of death for Hispanics ages 1-44, and the third leading cause of death for all ages surpassed only by heart disease and cancer.<sup>237</sup>

The Hispanic population has increased by 57.9 percent in just ten years (1990-2000), much faster than the U. S. population as a whole. This rapid population growth means that Hispanics will constitute an increasing proportion of crash injuries and fatalities.<sup>238</sup>

At highest risk are Hispanic children ages 5-12, who are 72 percent more likely to die in a motor vehicle crash than non-Hispanic children.<sup>239</sup>

In 2004, average Native American seat belt usage among drivers on reservations was 56.6 percent.<sup>240</sup>

Overall, in 55 percent of Native American violent victimizations, the victim said the offender was under the influence of alcohol, drugs, or both.<sup>241</sup>

Native Americans have a rate of arrest for alcohol violations (DUI, liquor law violations, and public drunkenness) more than double the national rate. Arrests of Native Americans under the age of 18 for alcohol-related violations are also twice the national average.<sup>242</sup>

In a recent survey, Hispanic students (36.4 percent) were significantly more likely than Caucasian students (28.5 percent) to have ridden with a driver who had been drinking alcohol. Overall, 30.2 percent of students have ridden with a driver who had been drinking alcohol.<sup>243</sup>

A 2003 survey reported 12.9 percent of Caucasian high school students drove after drinking alcohol, compared to 11.7 percent for Hispanic and 9.1 percent for African Americans. Overall, 12.1 percent of students have ridden with a driver who had been drinking alcohol.<sup>244</sup>

A 2003 survey reported that high school students who drank before the age of 13 years were highest among African Americans at 31.2 percent. Among Hispanics, 30.2 percent drank before age 13 and, among Caucasians, 25.7 percent drank before age 13.<sup>245</sup>

Among persons aged 12 to 20, past month alcohol use rates in 2007 were 16.8 percent among Asians, 18.3 percent among blacks, 24.7 percent among Hispanics, 26.2 percent among those reporting two or more races, 28.3 percent among American Indians or Alaska Natives, and 32.0 percent among whites.<sup>246</sup>

The rate of past year alcohol use disorder among persons aged 12 to 20 was higher for American Indians or Alaska Natives (14.9 percent) than for whites (10.9 percent), blacks (4.6 percent), Hispanics (8.7 percent), and Asians (4.9 percent). One in eight Native Hawaiians or Other Pacific Islanders (12.7 percent) met the criteria for an alcohol use disorder.<sup>247</sup>

A study of 2002 advertising found that alcohol advertising overexposed African-American youth compared to non-African-American youth, reached underage African Americans more effectively than young adult African Americans, and exhibited significant concentration of brands and magazines.<sup>248</sup>

Self-reported incidences of drunk driving vary significantly by ethnic groups: 18.5% of mixed race people reported driving under the influence of alcohol in the past year, compared with 18.2% of Native Americans, 16.8% of Whites, 12.7% of African-Americans, 12.2% of Hispanics, and 11.1% of Asian Americans.<sup>249</sup>

Among youths aged 12 to 17 in 2007, whites had higher rates of current alcohol use than any other racial/ethnic group. In 2007, 18.2 percent of white youths were current drinkers, while 8.1 percent of Asian youths, 10.1 percent of black youths, 12.5 percent of those reporting two or more races, and 15.2 percent of Hispanic youths used alcohol in the past month.<sup>250</sup>

Of African-American males, 16.5% reported driving under the influence of alcohol in the past year, compared with 20.8% of all males. Of African-American females, 9.2% reported driving under the influence of alcohol in the past year, compared with 11.1% of all females.<sup>251</sup>

In 2005, 78 percent of African-Americans were observed wearing seat belts in the front seats of vehicles, compared with 82 percent usage overall.<sup>252</sup>

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