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The Social Health of Nevada

Leading Indicators and Quality of Life in the Silver State

Prevalence and Patterns of Injury-Related Mortality in Nevada

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Introduction

Too many lives are lost to injury in the United States and in Nevada. Nearly 200,000 people in our country die each year from injuries, which is equivalent to one death every three minutes (CDC 2017b). Each of these deaths not only extinguishes a life, but also affects the friends, family, and community of the deceased. And deaths from injury are costly: researchers estimate that costs from fatal injuries exceed \$200 billion (CDC 2017b).

Injury refers to damage to the body from some external force, such as from a car crash or a fall, including kinetic, chemical, electrical, thermal or other forces. There are multiple types of death from injury. Health researchers and policymakers classify injuries as unintentional or intentional, and if intentional, injury deaths are further classified as either suicide or homicide. Researchers and policymakers further categorize injuries by the mechanism or circumstances of the injury (such as motor vehicle crash, poisoning, or firearm).

Highlights

- Recent trends show that injury mortality is not declining in Nevada or the United States.
- In Nevada, injury mortality rates, including those from suicide, homicide, unintentional poisoning, and unintentional motor vehicle crashes, exceed the national averages.
- Injury mortality in Nevada differs greatly across age, gender, and race/ethnicity.
- Gun violence and drug misuse are key issues for injury mortality prevention
- Social policies can have broad, manifold benefits, including population-level health advantages.

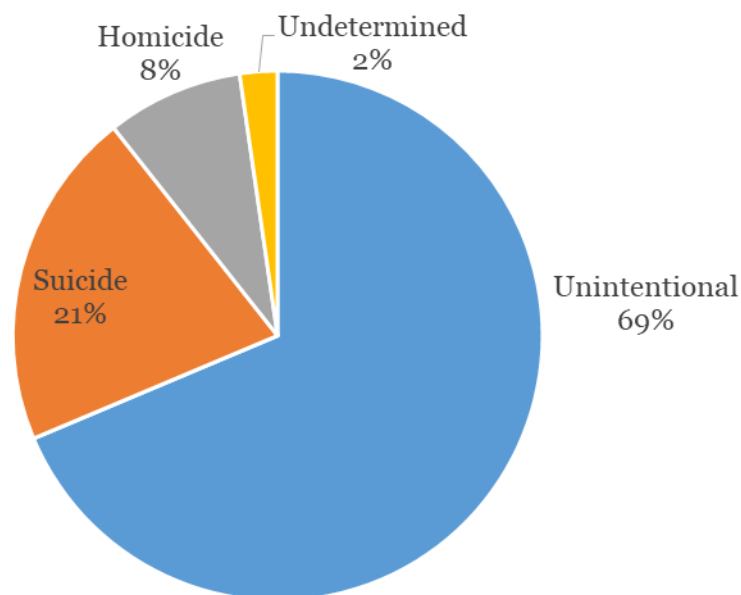
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Major Trends in Injury-Related Mortality

Figure 1 shows that in 2015, nearly seven in ten injury deaths in the United States were unintentional, with about two in ten from suicide and nearly one in ten from homicide. A small proportion (2%) had intentions that could not be determined.

Figure 1. Injury mortality by intention in the United States, 2015



Source: Calculated from number of deaths reported in Murphy et al. 2017

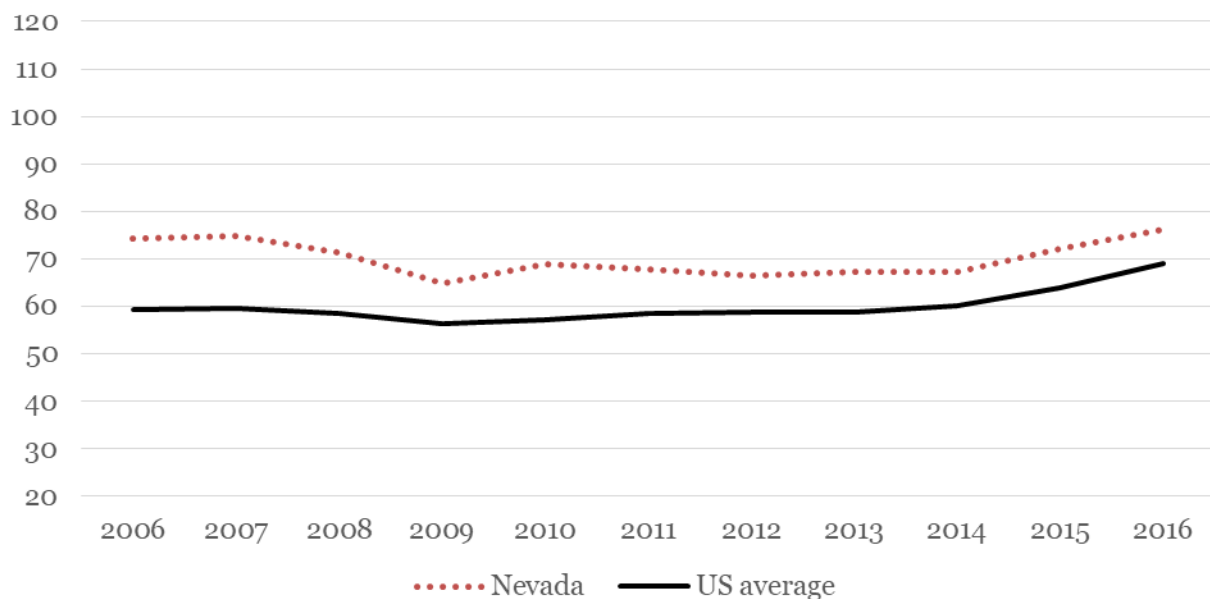
Injuries are a key area for public health because they are mostly preventable. Indeed, death from injury is much less common today than in decades past, thanks to preventive measures such as seatbelts or improved medication packaging as well as improved treatment and care. Yet, injury mortality is still quite high. Unintentional injuries were the third leading cause of death in 2016, trailing behind only heart disease and cancer (Kochanek et al. 2017). Suicide ranks tenth as the leading cause of death. Injuries are particularly dangerous for those in the first half of life since injury is the leading cause of death among those under the age of 45 in the United States (NRC and IOM 2013). Because injuries affect individuals of all ages, the deaths of young people from injuries takes many more years out of life compared to other causes of death which mostly affect older people.

Injury mortality is now on the rise in the United States, as indicated in the troubling surge of drug overdoses and suicides in recent years. See Appendix Figure 1 for a figure

displaying injury mortality rates from 2006-2012 among OECD countries, using data from OECD Health Statistics (2017). Economists Anne Case and Angus Deaton (2017) have shown that “deaths of despair,” or deaths from alcohol, drugs, and suicide, have been rising across the United States. These deaths are particularly high among individuals who are non-Hispanic White, middle-aged, and have low levels of education. Deaths of despair appear to be a problem in Nevada. Case and Deaton (2017:415) report that Nevada is 4th of the 50 states for non-Hispanic Whites deaths of despair aged 45-54.

In Nevada, injury mortality is a key public health issue. Figure 2 shows the rates of injury mortality for Nevada compared to the U.S. average from 2006 to 2016. These rates have been adjusted so that the age composition for Nevada and the United States do not affect the comparison. Nevada displays higher rates of injury mortality compared to the national average. Appendix Figure 2 displays additional detail, comparing Nevada to the ten states with the highest and lowest injury mortality. Historically, suicide rates have been high in Nevada. Las Vegas, the metropolitan area that is home to about two-thirds of Nevada’s population, has been known as the “suicide capital” (Wray et al. 2008). Other types of death from injury are also high in Nevada, with rates of unintentional poisoning, unintentional motor vehicle crashes, and homicide also exceeding the national average.

Figure 2. Age-adjusted death rates from injury per 100,000, 2006-2016



Source: CDC Wonder

In this report, we describe injury mortality in Nevada, with comparisons to the United States average. We focus on the most prevalent deaths from injury: suicide, homicide, poisonings, and motor vehicle crashes. We use data provided by the Centers for Disease Control and Prevention (CDC) in a web application known as Wide-ranging Online Data for Epidemiologic Research (CDC WONDER 2018). See the website for details on this useful, publicly-accessible resource (<https://wonder.cdc.gov/>). We present data from 2006-2016 to describe mortality rates. In Nevada, deaths within gender and race/ethnic groups can be a small number, but we describe rates within gender and race/ethnicity when possible. We conclude with implications for policies and prevention programs and recommendations for future research.

Suicide

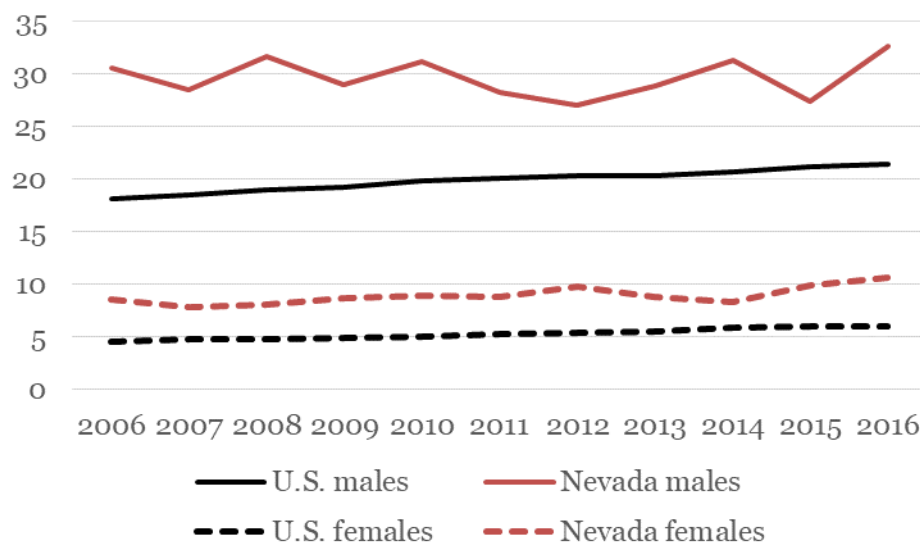
Suicide is more common in Nevada than the United States. From 1999-2009, suicide rates in Nevada were more than twice the national average (Wray 2012). Nevada lies in what has been termed the “suicide belt,” a geographic distinction that encompasses 10 western mountain states (Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, and Wyoming) (Wray et al. 2012). Suicide rates are often higher in rural, compared to urban areas, but the city of Las Vegas, home to nearly two-thirds of Nevada’s residents, displays a high suicide rate, leading to the moniker of “suicide capital” (Wray et al. 2008).

Figure 3 shows the age-adjusted suicide rates for men and women in Nevada and the United States from 2006-2016. Men and women in Nevada have consistently higher suicide rates across this period compared to the United States average. However, suicide rates are increasing across the United States: national rates increased 2.3% from 2014-2015 and another 1.5% in 2015-2016 (Murphy et al. 2017). Because the population is smaller in Nevada, it is harder to tell whether the increase/decrease from year to year reflects a trend or is just fluctuation. Nonetheless, suicide rates have not declined among Nevadans and have persisted at high levels. The figure also illustrates the higher rate of suicide among men compared to women. Research consistently finds that males take their lives at a much higher rate than females, although females attempt suicide more often.

Why are suicide rates so high in Nevada? Researchers often look at mental disorders, substance use, rural location, and gun ownership to explain suicide (Smith & Kawachi 2014). Yet, these factors may not fully account for the increased suicide risk among Nevadans compared to the rest of the United States since Nevada does not have disproportionate substance use, rurality, or gun ownership compared to other states. Social support and social isolation are also important factors, as social connections are key protective factors. In Las Vegas, the culture and anonymity that the city offers may

also promote individualism and isolation. Interestingly, the risk for suicide in Las Vegas is not limited to its residents; visitors to Las Vegas also demonstrate much greater risk of suicide compared to individuals who stay in their home county or who travel elsewhere (Wray et al. 2008). The gaming lifestyle and quick money losses of Las Vegas may contribute to high rates of suicide in the city (Phillips, Welty and Smith 1997). Problem gambling in particular has been related to elevated suicide risk (Seguin, Lesage, and McGirr 2010).

Figure 3. Age-adjusted suicide rates per 100,000, U.S. and Nevada 2006-2016

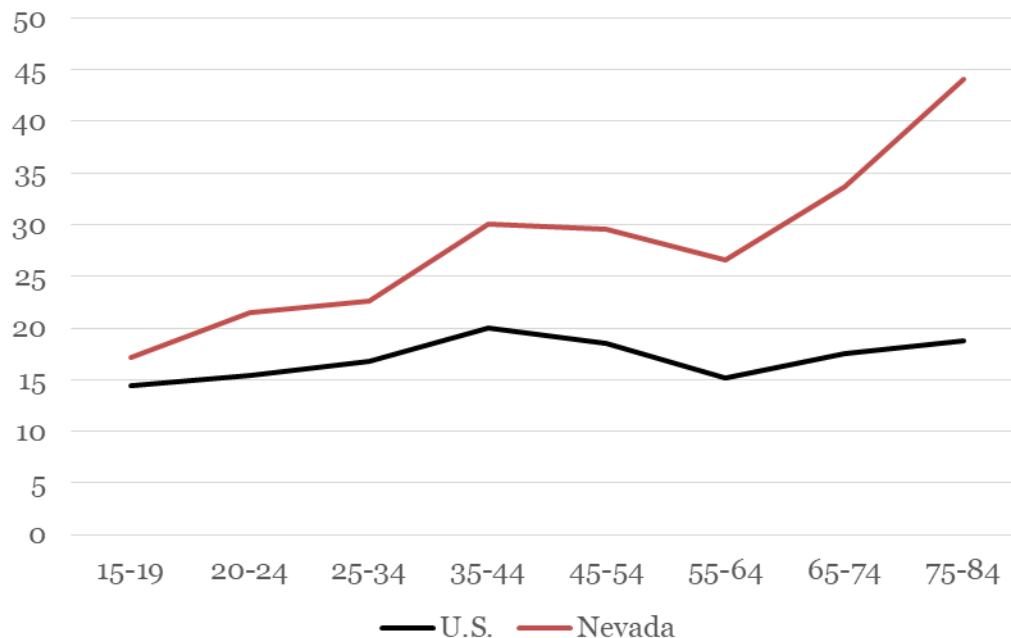


Source: CDC Wonder

As mentioned, men take their lives much more often than women. In the United States, suicide is also more common among non-Hispanic White, compared to Non-Hispanic Black or Hispanic individuals, and similar patterns emerge in Nevada. Native Americans also demonstrate high rates of suicide in the United States (Olson and Wahab 2006), but examining this relatively small population in Nevada prevents specific estimates and comparisons in this study. Veteran status is another important factor (Fernquist 2001), as suicide is more common among veterans (Zivin et al. 2007).

Age is another important variable: suicide is more common among middle- and older-aged adults. Figure 4 illustrates suicide rates by age groups for the United States and Nevada. Suicide is most common among older adults in Nevada. Among adolescents and young adults, rates in Nevada are similar to national patterns, but diverge at the older ages. Prior research has found similar results (Wray et al. 2012).

Figure 4. Crude death rates from suicide per 100,000, U.S. and Nevada in 2016



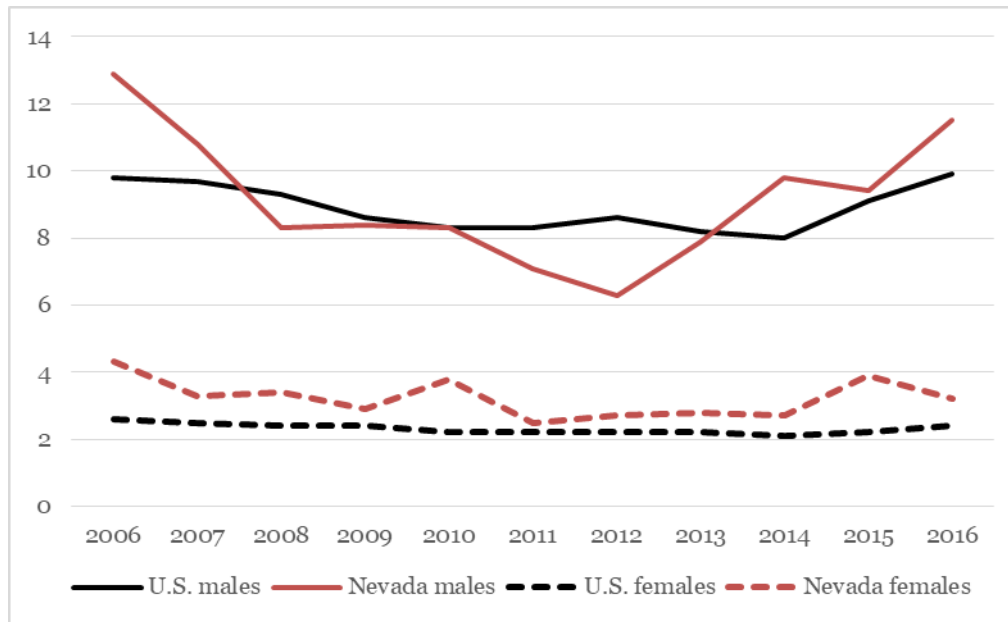
Source: CDC Wonder

Homicide

In 2016, Nevada had a slightly higher age-adjusted death rate from homicide (7.2) compared to the national average (6.2) (CDC Wonder). This high rate is particularly striking when one considers that the U.S. homicide rate is approximately seven times greater than that of other high-income nations (Fowler et al. 2015). Figure 5 highlights the age-adjusted death rates from homicide among men and women in the U.S. and Nevada from 2006 to 2016. For men, Nevada has tracked alongside the national trends, with steep inclines in recent years. Nevada women have died from homicide at slightly higher rates across the period.

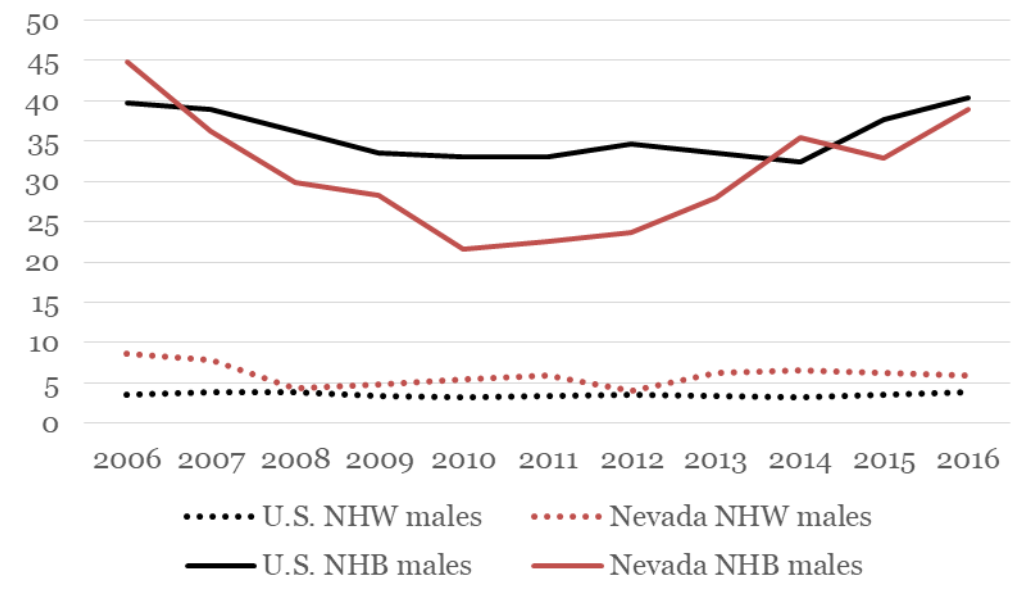
The risk of homicide differs across race/ethnicity and gender, with Black men displaying the highest rates both nationally and within Nevada. Figure 6 shows the age-adjusted homicide rates among non-Hispanic White and non-Hispanic Black men nationally and within Nevada for 2006-2016. Note that 2017 is not included here, and the statistics for this year will deviate from previous years because of the October 1 shooting which took 58 lives. The high rate of homicide among Black men is striking; in 2016, the rate is just under 40, indicating nearly 40 deaths for every 100,000 Black men in that one year. Further calculations (not shown) indicate that among those aged 15-34, the rate is even higher, exceeding 85 deaths per 100,000 non-Hispanic Black males in Nevada. Indeed, homicide is the leading cause of death among non-Hispanic Blacks aged 1-44 nationally (Sumner et al. 2015). Figure 6 also displays a U-shape over time among Black men. For this group, the homicide rate declined from 2006-2010, and then rose from 2011-2016.

Figure 5. Age-adjusted homicide rates per 100,000, U.S. and Nevada 2006-2016



Source: CDC Wonder

Figure 6. Age-adjusted homicide rates per 100,000, U.S. and Nevada 2006-2016



Source: CDC Wonder

The relatively high homicide rates in Nevada may stem from a variety of sources. Tourism and gaming are a feature of Nevada and its two largest cities, Las Vegas and Reno, and researchers have explored whether these characteristics are associated with higher crime. However, there does not appear to be any strong evidence linking tourism or gaming to increased crime (Barthe and Stitt 2007; Pelfrey 2011). Perhaps more salient to homicide, Nevada has seen rapid population growth and displays relatively high rates of poverty and low education (Wagner et al. 2012).

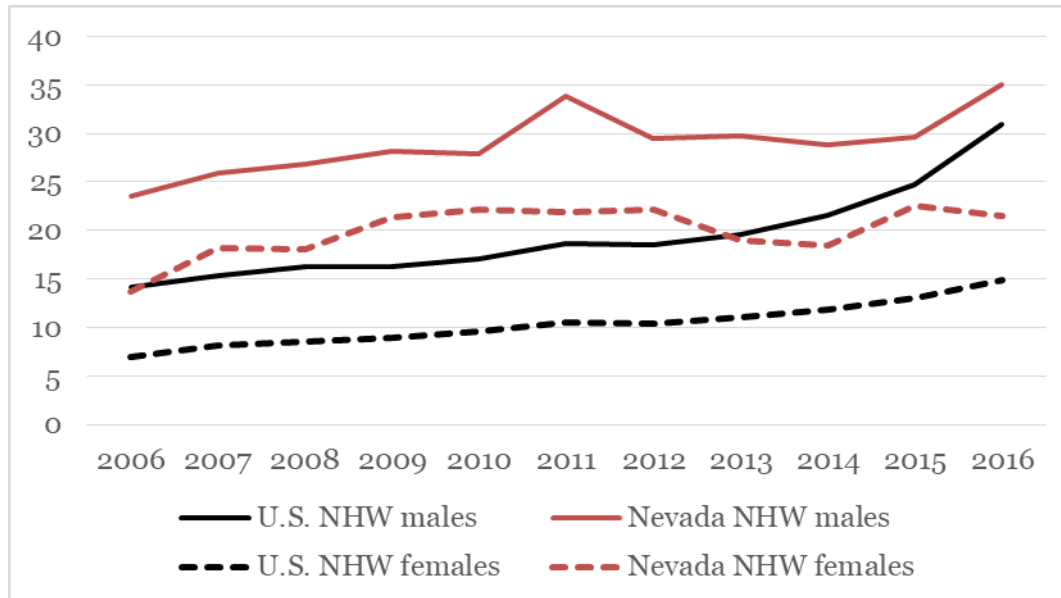
An area of concern is the higher homicide rates among women in Nevada, which may be driven by intimate partner violence. Women in Nevada are more than twice as likely to be shot to death by an “intimate partner” compared to women throughout the rest of the United States (Everytown for Gun Safety 2016). The Nevada Coalition to End Domestic and Sexual Violence is working to improve policies that increase safety for victims, and also provides training and assistance to service providers (NCESDSV 2018).

Unintentional Poisonings

The current opioid crisis has drawn public attention to deaths from unintentional poisonings, and Nevada has not been immune from the scourge of drug abuse. Figure 7 displays age-adjusted unintentional poisoning mortality rates for men and women in the United States and Nevada from 2006-2016. These deaths include overdoses from prescription opioids such as oxycodone, illegal opioids such as heroin and fentanyl, as well as other prescription, over-the-counter, and illegal drugs such as cocaine, alcohol, or acetaminophen. These deaths do not encompass all drug and alcohol related mortality, but only those deaths that are the result of poisoning. For example, drug use may contribute to chronic disease or injuries related to falling that are not captured with unintentional poisonings. Further, these include only unintentional poisonings, and not suicide or homicide using drugs. The figure shows that national rates of unintentional poisoning mortality have risen steeply among men and women from 2012-2016. Additional studies have shown that rates have increased even more in 2017 (CHR 2017). In contrast, Nevadan men and women had higher rates than the national average from 2006-2011, but as the national average increases in the latter years, Nevada does not display the same trajectory. Thus, in 2016, rates were similar for the United States and Nevada.

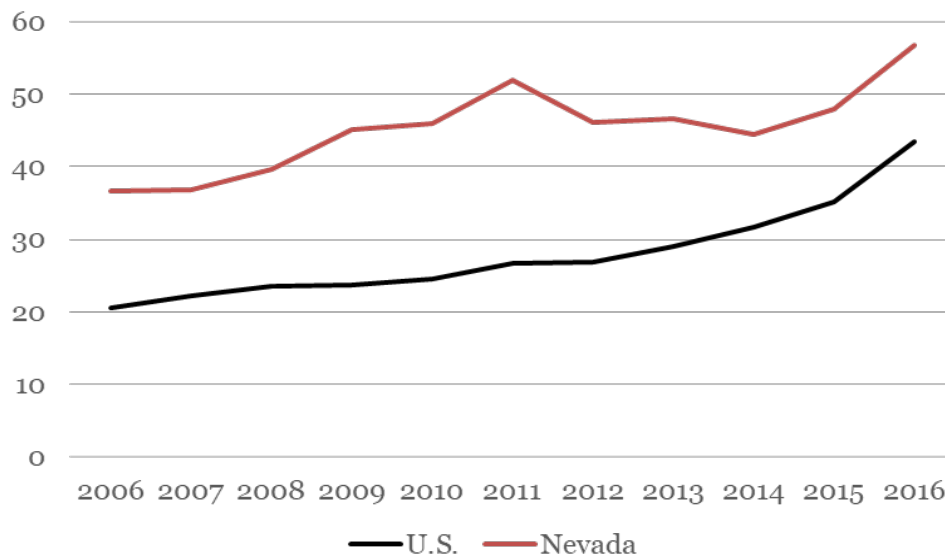
Yet, drug overdoses take many Nevadan lives. Nearly 3000 Nevadan lives have been lost to opioid deaths alone from 2010-2016 (DPBH 2017). Like national trends, non-Hispanic White males aged 35 to 64 in Nevada appear to be particularly vulnerable (DPBH 2017). Figure 8 illustrates the mortality rates from unintentional poisoning among non-Hispanic White males aged 35-64 in the United States and in Nevada. For both national and state trends, the incline is troubling. In Nevada, nearly 60 of every 100,000 White males aged 35-64 died in 2016. Recent research suggests that rates are rising rapidly nationwide among Non-Hispanic Black and Hispanic individuals, and future research should continue to monitor these rates at local, state, and national levels (Seth et al. 2018).

Figure 7. Age-adjusted mortality rates for unintentional poisoning per 100,000, U.S. and Nevada 2006-2016



Source: CDC Wonder

Figure 8. Mortality rates for unintentional poisoning per 100,000, Non-Hispanic White males aged 35-64 in U.S. and Nevada 2006-2016



Source: CDC Wonder

Opioids are the largest contributor to drug overdose deaths (CDC 2017d). Opioids reduce pain by interacting with opioid receptors on nerve cells, which can also produce euphoria. Researchers usually classify opioids into three groups: (1) prescription (natural or semi-synthetic) such as oxycodone, hydrocodone, morphine, or methadone; (2) heroin; and (3) synthetic, which includes fentanyl, a pain reliever many times more powerful than other opioids (CDC 2017e). The current surge in overdose deaths is the culmination of multiple circumstances beginning in the 1990s. First, prescribing of opioid medications dramatically increased in the 1990s. Throughout the 1990s and 2000s, pharmaceutical companies marketed opioid prescriptions, and patients with chronic pain were using these medications for long-term relief (Quinones 2015). Prescription opioids skyrocketed nationwide. For example, in Nevada in 2012, clinicians wrote 94 painkiller prescriptions for every 100 Nevada residents (NDPBH 2017). Prescribing rates peaked around 2012, and since then, have declined both nationally and in Nevada as clinicians and policymakers began making changes to prescribing practices. Yet, prescription rates remain high, with nearly one in five of all Americans receiving an opioid prescription in 2016 (CDC 2017a).

Accordingly, overdose deaths from prescription opioids increased over the 2000s and into the 2010s. The rate of increase in deaths from prescription opioids has slowed, but deaths from heroin and synthetic opioids (fentanyl) have spiked in the last decade. The CDC describes three waves of the opioid epidemic: first, the rise in prescriptions and deaths from opioids since the 1990s; second, the rapid increase in heroin overdose deaths starting in 2010; and third, the increase in synthetic opioid deaths beginning in 2013 (CDC 2017d).

In 2016, deaths from heroin and death from synthetic opioids both surpassed that of prescription drugs (CDC 2017c). Some have speculated that the curb in prescription opioids has contributed to the rise in heroin and fentanyl deaths, but studies have not found evidence for this hypothesis (Patrick et al. 2016), although more research in this area is needed (Fink et al. 2018). Perhaps a more important factor to this pattern is the increasing availability of heroin and fentanyl. Black tar heroin provided users with a cheap, accessible high (Quinones 2015). And fentanyl provides traffickers and dealers a cheap additive to heroin to increase potency, but also increases toxicity. Fentanyl is 50 to 100 times as strong as morphine, and can be prescribed as transdermal patches or lozenges, but most of the fentanyl that is misused is from illegally made fentanyl that is mixed with heroin and cocaine, either with or without the user's knowledge (CDC 2017c).

Nevada has been working on several fronts to combat the opioid epidemic, including better data monitoring, reduced prescription drug availability, and harm reduction efforts. State and local agencies are working together to better monitor drug abuse, overdoses, and mortality, as evidenced by the Nevada Opioid Overdose Surveillance Dashboard (2018; available at <https://opioid.snhd.org/>). Nevada has also strengthened its prescription monitoring program, and particularly with the passage of bill AB474 which took effect January 1, 2018. This bill provided guidelines about prescriptions and refill prescriptions of controlled substances (Rindles 2018). Additionally, Las Vegas

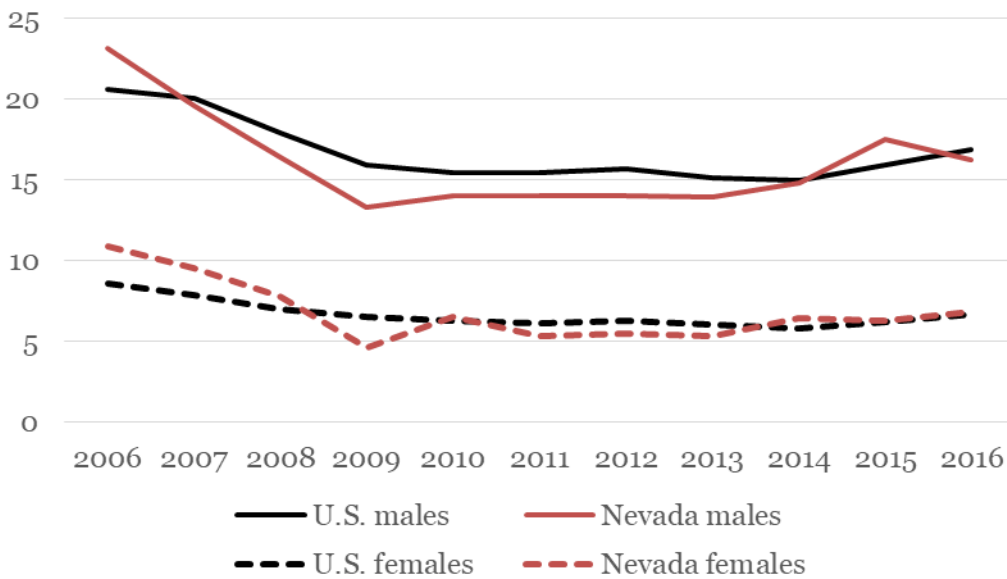
Police Department has organized prescription take-back days and the city also has many drug drop boxes where citizens can drop off unused or expired drugs safely with no questions asked (Nevada Division of Public and Behavioral Health Wellness and Prevention 2018). Lastly, Nevada has made efforts to better supply naloxone, a life-saving medication that can rapidly reverse the harmful effects of an opioid overdose. Naloxone works by binding to opioid receptors to block the effects of opioids with no known side effects. In 2015, Nevada passed the “Good Samaritan Drug Overdose Act” which prevents family members, first responders, and other individuals who administer naloxone in response to an overdose from criminal liability (Nevada Legislature 2015). In April of 2018, the Surgeon General issued a public health advisory to urge more Americans to carry naloxone (U.S. DHHS 2018). Determining how well these efforts have worked is challenging, given that we cannot know what would have happened without them. But a recent study reported increasing numbers of deaths from opioid overdoses nationally from 2015-2016, but no change within Nevada (Seth et al. 2018).

Motor Vehicle Crashes

Deaths from motor vehicle crashes have declined over the last century, thanks to improved automobile safety, reduced rates of impaired driving, and better transportation infrastructure. Yet, in the United States, about 90 people die each day from car crashes, resulting in a death rate far higher than peer countries (CDC 2016; Sauber-Schatz et al. 2016). If the United States had similar car crash mortality rates as other similar countries, over 18,000 lives would be saved each year (CDC 2016). Figure 9 displays the age-adjusted death rates from motor vehicle crashes among men and women in the United States and Nevada. This figure demonstrates that Nevada has similar rates of mortality as the nation, and that rates have not declined since 2009. Men are much more likely to die from motor vehicle crashes, with death rates more than twice that of women. Men drive more miles than women, drive more aggressively than women, and drive under the influence more often, contributing to this disparity (Chang 2012). Motor vehicle death rates by age are also similar in Nevada and the United States, as demonstrated in Figure 10. For both the state and the country, rates are highest among teens aged 15-19 and older individuals 65+. Small numbers prevent examination of Nevadan children under age 10.

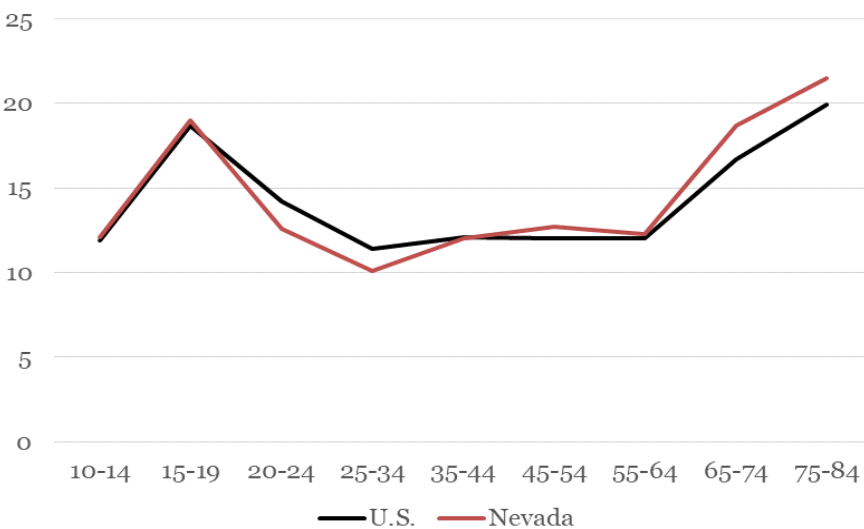
There are several factors contributing to motor vehicle fatalities that we must consider as points of intervention for reducing death. These factors include proper seatbelt, consistent car seat use, and impaired driving. A study comparing the United States to 19 other high-income countries found that the United States has the second highest percentage of deaths related to alcohol impairment and the third lowest rate of front seat belt use (Sauber-Schatz et al. 2016). About one in five traffic fatalities in Nevada are alcohol-related (NDOT 2016). Drug use, including marijuana and prescription drugs, can also impair driving and lead to car crashes. To our knowledge, there is no research examining the effects of marijuana legalization (occurring on January 1, 2017) on car crashes in Nevada. Seatbelts are the single most effective measure to avoid serious injury or death in a car crash. In Nevada, 371 unbelted drivers and passengers died from 2011-2015. Among unbelted Nevadans who died or were seriously injured in a crash, half were totally or partially ejected from the car during the collision (NDOT 2016).

Figure 9. Age-adjusted mortality rates from unintentional motor vehicle crashes per 100,000, U.S. and Nevada 2006-2016



Source: CDC Wonder

Figure 10. Mortality rates from unintentional motor vehicle crashes by age and per 100,000, U.S. and Nevada 2006-2016



Source: CDC Wonder

Most of the deaths in motor vehicle are car drivers and passengers, but motorcyclists, pedestrians, and cyclists also lose their lives in crashes. In Nevada, about one in five traffic deaths was a motorcyclist; motorcyclists are more than 27 times likely to die in crashes compared to car occupants (NDOT 2018b). The Nevada Department of Transportation (2016) reports that both injuries and fatalities to pedestrians by automobiles are on the rise in Nevada. Just over 300 pedestrians died on Nevada roadways between the years 2011-2015.

The Nevada Strategic Highway Safety Plan is leading efforts to eliminate deaths and serious injuries from traffic crashes. This coordinated, statewide coalition is focused on the six areas of emphasis that contribute to the most fatalities: lane departures, impaired driving, intersections, occupant restraints, pedestrians, and motorcycles (NDOT 2016).

Implications for Policies and Programs

Deaths from injuries are preventable. Rather than view such deaths as “accidents” that cannot be avoided, a public health approach seeks to identify and change the factors that lead to injuries. Injury prevention researchers focus on the three E’s: *education*, *engineering*, and *enforcement* (Christoffel 2012). For example, to reduce drunk driving, public health officials may work to educate the public on the dangers of drunk driving, install ignition mechanisms to prevent cars from starting unless the driver demonstrates s/he is not drunk, and implement legal consequences for those who have been caught drunk driving. Approaches that span the three E’s may require coordination of multiple agencies, but they may also be more effective since they can address multiple risks. Nevadans are already working together to reduce deaths from injuries, and in the sections above, we directed the reader to some local and state agencies and organizations. We also provide resources in the Appendix.

Additionally, we highlight three overarching considerations for reducing injury mortality in Nevada.

First, we emphasize the need to address gun violence. At the time of writing, the role of guns in mass shootings is at the forefront of public discourse. While this issue is important, we also need to address the role of guns in suicide as key to improving health and safety. Nearly half of suicides in 2015 were the result of a firearm (Murphy et al. 2017). Another way to think about the impact of guns on suicide is to consider that about three out of five firearm deaths are suicides, compared to about one out of three which are homicides (Murphy et al. 2017). Accessibility to means is a key issue for suicide, and research continually shows that removing immediate access to fatal means reduces suicide rates (Yip et al. 2014). The idea that individuals wanting to kill themselves will “find a way” has been disproven. And research further shows that gun availability is related to suicide rates (Kposowa, Hamilton, and Wang 2016). Thus, reducing access to guns may have multiple benefits, including reduced suicide and homicide rates.

Second, we highlight the pernicious consequences of drug abuse and misuse. We reported here the rising death rates from unintentional poisonings, but drugs and alcohol play a role in each of the other injuries as well, fueling suicides, homicides, and motor vehicle crashes. There are many efforts to educate individuals on the dangers of drugs and alcohol and also to enforce drug and alcohol laws, but perhaps fewer endeavors focusing on “engineering.” How can we engineer our environment such that people misuse drugs and alcohol less often? Many of the treatment approaches in the United States view alcohol and drug misuse and abuse as a moral, rather than medical issue. Medications, such as naltrexone, have been shown to be effective in treating heavy drinking (Rösner et al. 2010), yet few adults take these medications (Jonas et al. 2014) and addiction treatment counselors are largely unaware of effective pharmacotherapies (Abraham et al. 2009). An important solution is to better design and implement treatment programs. Researchers argue that the most commonly recommended treatment by clinicians, twelve-step programs, are among the least effective for recovery from alcohol or drug addiction, with only 5-10% succeeding in recovery (McGovern et al. 2004). Other countries have found greater success using “harm reduction” approaches that aim to reduce the impact that alcohol or drugs have on individual opportunities or livelihood. Such an approach involves individuals in their own recovery and focuses on improving multiple areas, including: 1) the ability to make money, 2) access to good meals, 3) access to housing/combating homelessness, 4) relating to families, 5) obtaining needed social services or benefits, 6) handling health problems 7) handling negative emotions 8) handling legal issues 9) improving oneself, and 10) managing drug related problems (Ruefli and Rogers 2004).

Third, we emphasize the need to address upstream determinants of safety and well-being. Upstream determinants include those factors that shape more proximate risks and protections, such as race/ethnicity, socioeconomic status, gender, age, sexual orientation, and immigrant status. The troubling rise in suicides and unintentional poisonings, combined with the relatively high rates of homicide and motor vehicle deaths in the United States compared to other countries, suggest that well-being in the United States, and in Nevada, is withering. Social policies that improve the economic and social lives of Nevadans and Americans can have broad, manifold benefits, including population-level health advantages.

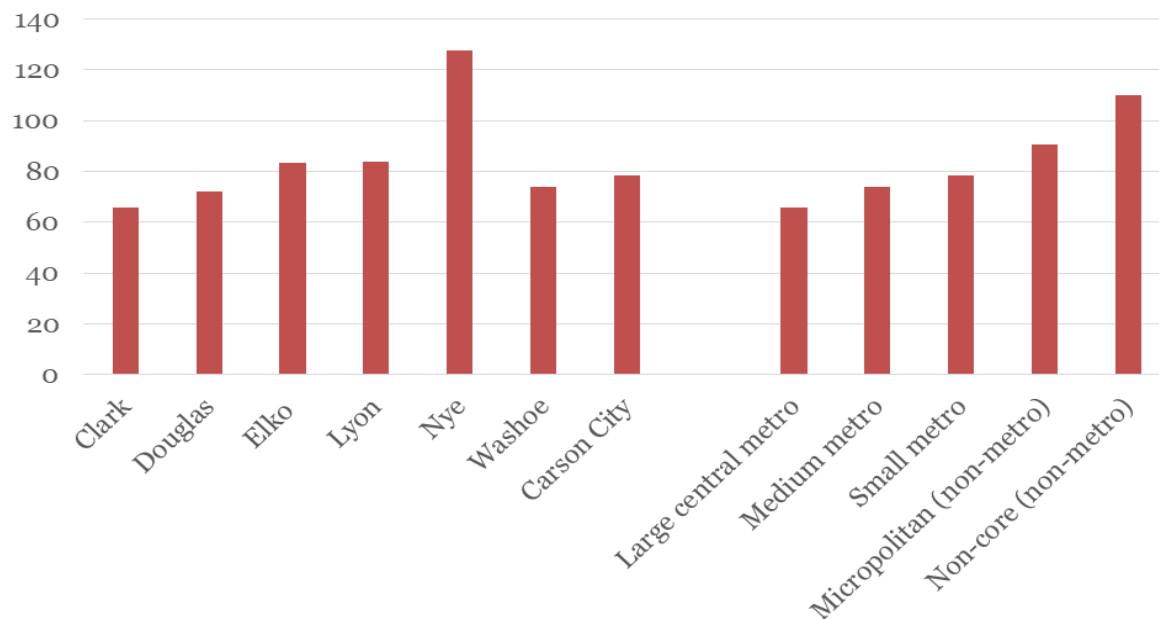
Recommendations for Future Research

Injury mortality is a key public health issue for Nevada. We described here the patterns of Nevadan injury mortality among four of the largest types: homicide, suicide, unintentional poisoning, and motor vehicle crashes. Future research should consider other types, including falls, drownings, or fires. Additionally, examining injury mortality by socioeconomic status (SES) was beyond the scope of this chapter, but research finds that injury mortality is strongly patterned by SES (Karb et al. 2016). Future work identifying the risk of death from injury by SES within Nevada will be important to targeting prevention efforts.

Identifying geographic heterogeneity within Nevada will also shed light on risk and protective factors leading to injury mortality. Figure 11 displays the injury mortality

rates combined from 2006 to 2016 for the six largest counties and by urbanization type. Small numbers of deaths prevent us from examining smaller counties. As shown in the chart, Clark County, which comprises more than two-thirds of Nevada's population and includes Las Vegas, has the lowest rate, whereas Nye County, a rural area known as the home for the nuclear waste site at Yucca Mountain, has the highest rate. Additionally, this chart demonstrates that the lowest injury mortality rates are in large central metropolitan areas, with increasing rates across urbanization such that rural areas have the highest rates. Although rural areas have higher rates, it should be noted that urban areas have greater numbers of deaths since there are more people. The extent to which intervention efforts could or should focus on population centers will be crucial to program efficacy.

Figure 11. Age-adjusted injury mortality rates per 100,000 by county and urbanization level, 2006-2016



Source: CDC Wonder

We encourage researchers to study injury and public health in Nevada. The race/ethnic diversity makes the state a fruitful area to study multiple subgroups. The unique environment that includes a desert landscape, throngs of tourists, casinos, and gold mining provides several points of comparison that can be leveraged in research.

Conclusion

The history of declining injury mortality is encouraging, but recent trends are concerning. Deaths from injury are mostly premature, and disproportionately contribute to years of life lost. In describing mortality, we have only discussed the tip of the injury iceberg. For each person that dies from injuries, an additional 13 people are hospitalized and 135 people are treated in an emergency room (CDC 2017b). Because

injuries are preventable, the public health community in Nevada should continue to work towards reducing mortality.

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Appendix A

Community Resources

Suicide:

National Suicide and Prevention Lifeline. Phone Number: 1-800-273-8255.
Website Address: <https://suicidepreventionlifeline.org>.

Reno Crisis Call Center. 24-hour Phone Number: 1-800-992-575. Local Phone Number: 775-784-8090. Website Address: <http://crisiscallcenter.org>.

Suicide Prevention Hotline of Nevada. 24-hour Phone Number: 1-877-885-4673.
Website Address: crisiscallcenter.org.

Suicide Prevention, Awareness, and Support. Website Address:
<http://www.suicide.org/hotlines/nevada-suicide-hotlines.html>.

Suicide Prevention Resource Center. Nevada Division of Public and Behavioral Health, Office of Suicide Prevention, 3811 W Charleston Blvd Las Vegas, NV 89102.
Phone Number: 702-486-8225. Website Address: <https://www.sprc.org/states/nevada>.

Nevada Division of Public and Behavioral Health. Office of Suicide Prevention.
Contact DPBH: Northern Offices: 4150 Technology Way, Suite 101 Carson City, NV 89706. Phone number: 775-684-2240. Fax: 775-684-8048. Southern Offices: 3811 Charleston Blvd. Suite 210 Las Vegas, NV 89201. Phone Number: 702-486-8225. Fax: 702-486-5250. Website Address: <http://suicideprevention.nv.gov/Contact/Contact/>.

Nevada Coalition for Suicide Prevention. Phone Number: 1-800-273-8255.
Website Address: <https://nvsuicideprevention.org/contact/>.

Substance use/misuse:

Desert Hope Treatment Center. Drug Treatment Center. Address: 2426 E Twain Ave, Las Vegas, NV 89121. Phone Number: 702-848-6223. Website Address: <https://deserthopetreatment.com>.

Las Vegas Recovery Center. Addiction Treatment Center. Address: 3321 N Buffalo Dr. #150, Las Vegas, NV 89129. Phone Number: 702-515-1373. Website Address: <https://lasvegasrecovery.com>.

Solutions Recovery. Addiction Treatment Center. Address: 2975 S Rainbow Blvd. Las Vegas, NV 89146. Phone Number: 702-228-8520. Website Address: <https://www.solutions-recovery.com>.

Mission Treatment. Address: 4120, 1536 N Boulder Hwy, Henderson, NV 89011. Phone Number: 702-558-8600. Website Address: <http://missiontreatment.com/wordpress1/>.

Adult Children of Alcoholics or Dysfunctional Families. Website Address: <http://www.meetings.adultchildren.org/find-a-meeting1>.

Alcoholics Anonymous. Address: 1431 E Charlston Blvd #15, Las Vegas, NV 89104. Website Address: <https://www.lvcentraloffice.org/>.

Narcotics Anonymous. Address: Henderson, NV 89014. Phone Number: 702-898-8111. Website Address: <https://region51na.org/meetings/meeting-list/>.

Destinations to Recovery. Address: 9089 S Pecos Rd #3500, Henderson, NV 89074. Phone Number: 877-466-0620. Website Address: <https://www.destinationsforteens.com>.

Nevada Enforcing Underage Drinking Laws. Address: 1711 Roop St. Carson City, NV 89706. Phone Number: 775-841-4733. Website Address: <http://www.nveudl.com/index.htm>.

Motor Vehicle Accidents:

Mothers Against Drunk Driving (MADD). Southern Nevada Affiliate. Address: Las Vegas, NV 89173. National Phone Number: 877-MADD-HELP. Local Phone Number: 775-910-3494. Website Address: www.MADD.org.

Nevada Department of Public Safety, Office of Traffic Safety. Zero Fatalities, Drive Safe Nevada. Website Address: <https://zerofatalitiesnv.com>.

Violence:

Emergency Services. Phone Number: 911.

The Department of Administration, Victims of Crime. Victim Advocacy. Program Manager Phone Number: 702-486-2740. Website Address: http://voc.nv.gov/Advocates/Victim_Advocates/.

Victim Assistance Academy of Nevada. Contact Priscilla Colegrove. Phone Number: 775-684-7953. Website Address: www.vann.nv.gov.

Trauma Intervention Program (tip) of Southern Nevada INC. Address: PO BOX 93203 Las Vegas, NV 89193. Phone Number: 702-229-0426. Website Address: <https://www.tipoflasvegas.org/help>.

Safe Nest. Address: Las Vegas, NV. Local Phone Number: 702-433-2889. 24-hour hotline: 702-646-4981. Website Address: <https://safenest.org>.

Safe House Inc. Address: 921 American Pacific Dr. Suite 300, Henderson, NV. 24-hour Hotline: 702-564-3227. Local Phone Number: 702-451-4203. Website Address: <http://safehousenv.org>.

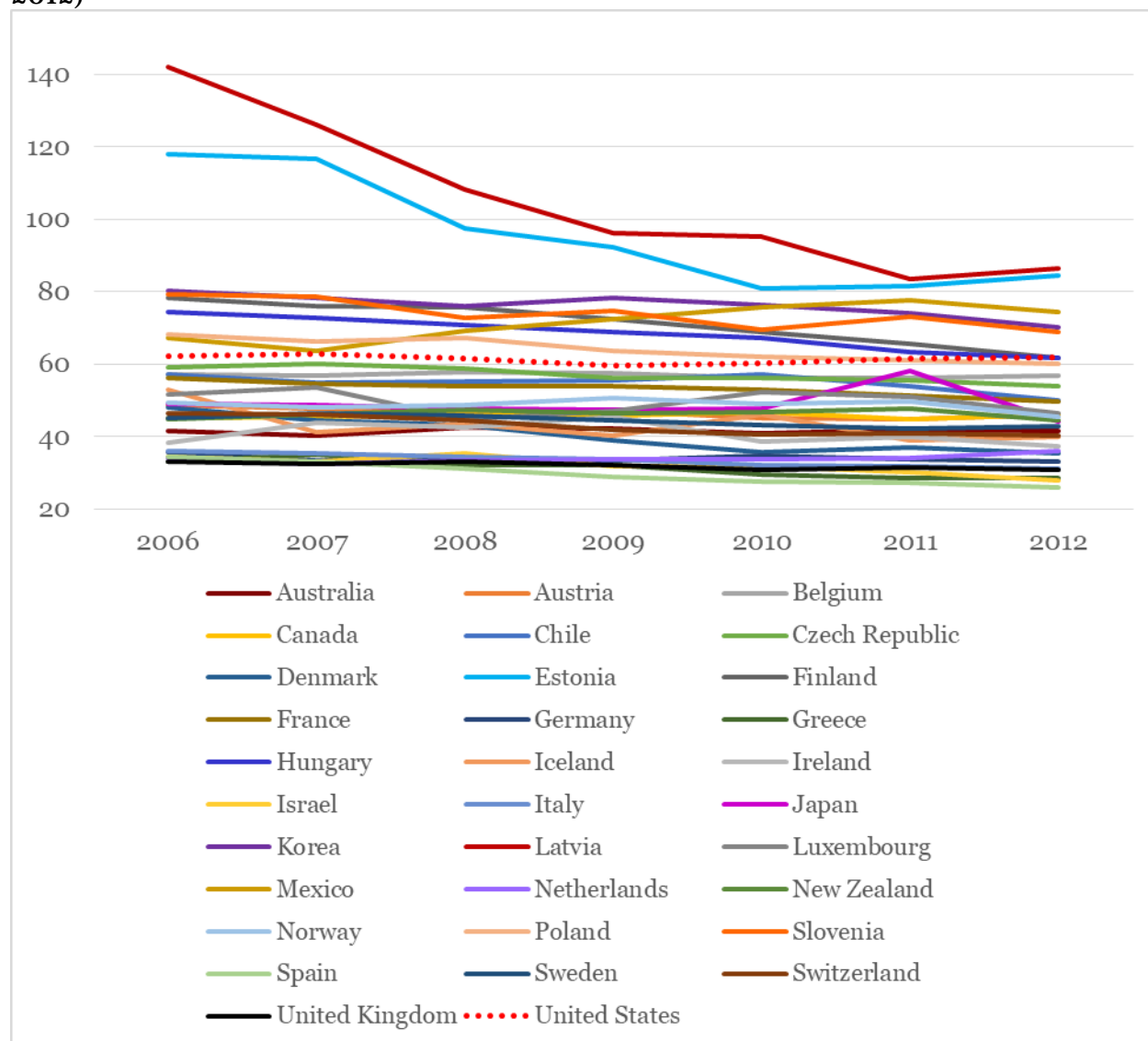
The Shade Tree. Address: 1 W Owens Ave, North Las Vegas, NV 89030. Local Phone Number: 702-385-0072. Website Address: www.theshadetree.org.

The Women's Development Center. Address: 4020 Pecos-McLeod Interconnect, Las Vegas, NV 89121. Local Phone Number: 702-796-7770. Website Address: <http://www.wdclv.org>.

Everytown, for Gun Safety. Phone Number: 646-324-8250. Website Address: www.nevada.everytown.org.

Appendix B

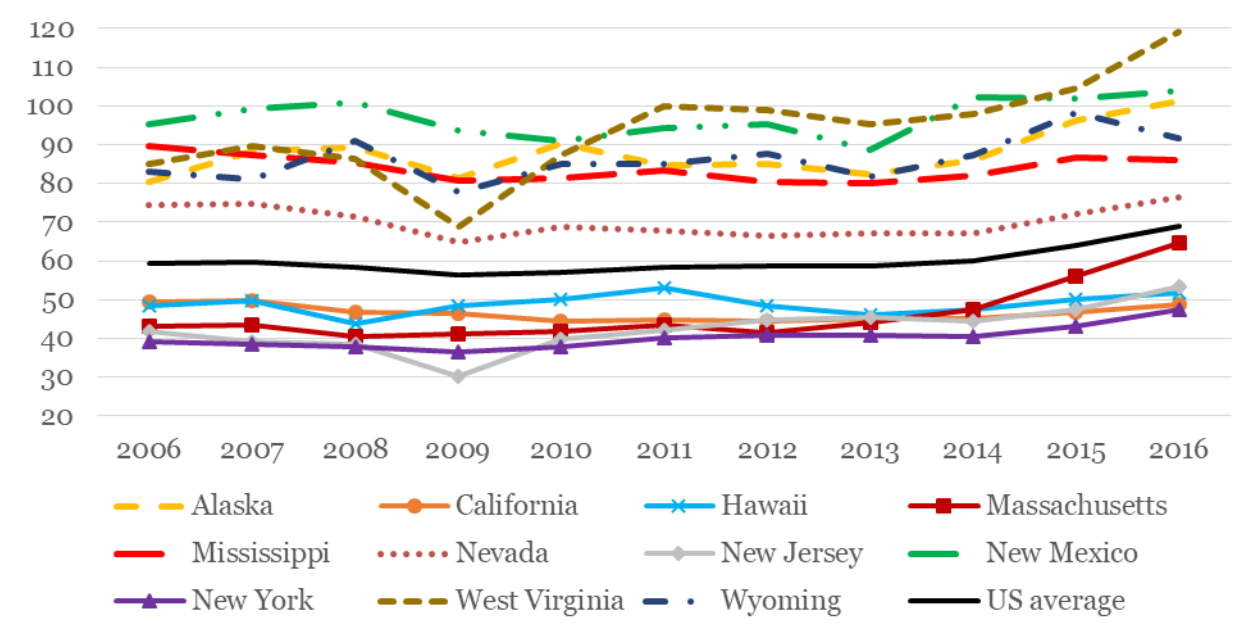
Figure 1. Age-adjusted death rates from injury per 100,000 for OECD countries (2006-2012)



Source: Data obtained from OECD Health Statistics (2017).

Notes: Countries missing data (Portugal, Slovak Republic, Turkey) are omitted.

Figure 2. Age-adjusted death rates from injury per 100,000 for Nevada, the United States, and selected states (2006-2016)



Source: CDC Wonder

Notes: Alaska, Mississippi, New Mexico, West Virginia and Wyoming have the highest combined injury mortality rates for 2006-2016; California, Hawaii, Massachusetts, New Jersey and New York have the lowest.