Behavioral Health, Trauma & Injury

INTRODUCTION

Use and misuse of illicit drugs, such as heroin, fentanyl and cocaine, prescription opioid medications and alcohol are major issues nationally and in Connecticut, although in recent years illicit drug use in youth grades 9 through 12 declined from 2013 through 2017 according to results from the Connecticut Youth Behavioral Health Survey. Approximately one in six Connecticut adults (ages 18 and over) engaged in excessive alcohol consumption (heavy drinking or binge drinking) in 2017, slightly down from one in five in 2013. Prior to this, between 2000 and 2012, the *Healthy Connecticut 2020 (HCT2020) State Health Assessment* (2014) depicted rates for both heavy drinking and binge drinking that were increasing over time, so fortunately the rates for excessive drinking are currently on the downward trend, especially for males.

Addictions to drugs and alcohol are associated with overwhelming injury and death due to overdoses and intoxications, both unintentional (i.e. accidental) and intentional. Known risk factors for addiction are mental health disorders and exposure to childhood trauma. Traumatic events as a child, or adverse childhood experiences (ACEs), include physical abuse and neglect, sexual abuse, living with parents who misuse substances or have mental health disorders, and divorce or separation. It is known that the more adverse events that a child experiences, the greater his or her risk for chronic health and mental health issues. In 2017, an estimated 13.1% of adults in Connecticut experienced four or more ACEs with a higher percentage of 4+ ACES in adults on Medicaid (26%), non-insured (19%), of Hispanic ethnicity (18.3%), or have annual income of less than $35,000 (16.9%). Additionally, mental illness and trauma are linked to self-harm behaviors, including suicide. Mental health disorders also have a serious impact on physical health and are associated with many chronic diseases, including diabetes, heart disease, and cancer. While as a society we are striving for mental health parity, much of the population is living with unrecognized mental health disorders. Even when mental illness is identified, it is frequently untreated or undertreated.

Behavioral health issues, including mental illness and substance use disorders, are associated with substantial social and economic costs to families and communities. In Connecticut, the percentage of the population diagnosed with depression, anxiety, ADHD, and other mental disorders, excluding drug or alcohol dependence, has increased overall since 2012. Substance use and alcohol use disorder screening, brief intervention and referral to behavioral health and medical care are effective strategies that can make an impact on this underserved population. Trauma screening by medical and behavioral health providers will provide opportunities for appropriate care. Prevention, treatment, harm reduction, and supportive recovery services are essential to reversing these trends and preventing increases in related health concerns and injuries.

Unintentional injuries due to falls, motor vehicle crashes, and drug overdoses are the three most common types of injuries. In the HCT2020 *State Health Assessment*, from 2001 through 2010, fall deaths were on the rise and surpassed accidental poisoning in 2009. Accidental poisoning, of which a large percentage was due to drug overdose, was observed to be on a four-year decline between 2007 through 2010. Today, drug overdoses have taken back the top spot of unintentional deaths and by the end of 2019, over 1,000 people in Connecticut will have died that year from a drug overdose-related death. Fall deaths, another major public health issue, have doubled in the last ten years, especially in persons 85 years of age and older. Fortunately, the rate of fall deaths in 75 to 84-year olds is beginning to decline. Substantial work done by organizations providing services to the elderly including offering balance and strength classes, medication reviews, eye sight, hearing and blood pressure checks and assessing gait and manner of walking may have had an impact on subsets of the population. Finally, regarding motor vehicle traffic, or MVT-related injury, comprehensive graduated driver licensing laws for new drivers went into effect over the last decade, resulting in the downtrend trend in MVT-related injuries and deaths for youth and young adults 15 to 19 years of age.

Intentional injuries caused by violence and self-harm behaviors also contribute to premature mortality and morbidity. Suicide attempts and suicides are the leading cause of intentional injury and death in Connecticut's population. The rate of suicides continues to climb among Connecticut's population despite increased public awareness and educational efforts. This is similar to the rates depicted in the *HCT2020* State Health Assessment, where suicide rates increased 11.2% in males from 2000 through 2010 and 18% in females during the same time period. Suicide attempts and self-harm-related emergency department visits and hospitalizations in 15 to 24 year-olds are seen to be decreasing over time, but the rates of younger teens ages 10 to 14 year olds are rising. This is an area of particular concern. As with substance addictions and overdoses, mental illness and trauma play a significant role in suicide and self-harm behavior.

Rates of violent injuries and deaths are growing in correlation with increases in sexual violence, intimate partner violence, and family violence in Connecticut and nationally. Although rates of homicide in Connecticut are 30% that of suicide, assault-related non-fatal injury rates are high and rising over time.

Prevention efforts need to be focused on all at-risk individuals in Connecticut, but vulnerable and high burden populations need targeted attention. These are young Hispanic females who have a higher than average rate of suicide attempts, and high school seniors and young adult males who disproportionately are excessive drinkers, who use illicit drugs or misuse prescription narcotics, or engage in unsafe driving practices. High-risk groups for intimate partner violence (IPV) or family violence (FV) are females or young children (less than five-years old). IPV or FV injuries are more frequent among Hispanic or Black residents compared to Whites. Sexual violence within a dating relationship is also more prevalent among females or Black residents in Connecticut. Males and Blacks are more likely to die from firearms, although firearm deaths among Blacks are observed to be on the downward trend.

Regarding health disparities in unintentional injury, fall injuries are most prevalent in the very old and very young, while fall deaths occur most often in the elderly. Youth and young adults are more apt to be injured in a motor vehicle crash. Although the non-fatal MVT injury rate is on the downward trend for 15 to 19 year-olds, MVT-related injuries, such as traumatic brain injury and concussion, are the highest in Black residents.

Nearly all injuries and related disability and death are preventable. With the right preventive strategies and policies in place for people across the lifespan, as well as robust evaluation of prevention initiatives and policies, Connecticut can turn the tide on preventable injury and death.

BEHAVIORAL HEALTH SCREENING, REFERRAL, AND TREATMENT

Alcohol and drug use are leading causes of morbidity and mortality that frequently go unidentified in medical settings. Screening, Brief Intervention, and Referral to Treatment (SBIRT) is an evidence-based service that targets adults of all ages with nondependent substance use and provides effective strategies for intervention prior to the need for more extensive or specialized treatment. SBIRT strengthens the primary care infrastructure by addressing substance use and ensuring that appropriate care is given at the right time.

In 2011, the Connecticut Department of Mental Health and Addiction Services (DMHAS) received a 5-year grant from the Substance Abuse and Mental Health Services Administration (SAMHSA) to establish the Connecticut SBIRT program, which has now become the Connecticut SBIRT Training Academy. Through this grant, free SBIRT training and technical assistance was given to all staff in Connecticut's Federally Qualified Health Centers (FQHCs) and nine other partners.

The Connecticut SBIRT Training Academy website continues to provide health care or human service practitioners with background information on SBIRT evidence-based practice as well as the critical skills for performing screening, brief intervention and referral to treatment services. The Academy additionally provides coaching and consultation services to agencies engaging in SBIRT implementation efforts. Academy faculty have worked in a variety of settings including primary and dental care, community health centers, hospitals, military support services, and within community settings serving older adults and individuals with disabilities.[1]

Substance Use Screening

Despite the high prevalence of substance use and misuse in Connecticut, too many adults go without treatment — in part because their disorders go undiagnosed. Regular screenings in primary care and other healthcare settings enable earlier identification of substance use disorders, which translate into earlier care.

Because of the aforementioned efforts of Connecticut's SBIRT Training Academy, both Medicaid and FQHC data show marked increases in screening for substance use disorders, especially

SBIRT. Medicaid data indicate that from 2015 to 2018, billing for substance use screening and brief intervention increased 479% (**Figure 6.1**) 276 people 2015 to 1,598 people in 2018. The use of SBIRT in FQHCs has led to a dramatic increase in the number of individuals who have undergone screening and brief intervention in Connecticut, from just over 15,000 in 2015 to 32,334 in 2017, a more than twofold increase.

Among the number of people by age group who were screened for alcohol and other drug use and who received a brief intervention, we see that Connecticut residents ages 25–44 participated in SBIRT most frequently, 427 had brief intervention in 2018. However, between 2015 and 2018, older residents (ages 55 and over) had the greatest increase in billing for screening and brief intervention. Specifically, between 2015 and 2018, SBIRT utilization by Connecticut residents ages 55 to 64 increased by 591%, from 35 people in 2015 to 242 people in 2018.

Data analyses indicated that non-Hispanic White residents utilized SBIRT most frequently (**Figure 6.2**), while non-Hispanic Black and Hispanic residents utilized SBIRT at almost the same frequency year after year (Data sources handle race/ethnicity in a variety of ways. Throughout the SHA, categories around race/ethnicity are presented in a way that is consistent with the original data source). Of note, people who identify as being multiracial are referred to as being of two or more races; this is abbreviated as TOM.

Patients of FQHCs are more likely to have access to SBIRT than patients of independent health care providers. Primary care providers cite barriers such as the lack of clinical knowledge, time, and resources for SBIRT, a lack of space to conduct SBIRT, and difficulty responding to the need for treatment.

FIGURE 6.1: Number of people screened annually for alcohol and other drug use who received a brief intervention, CT, 2015–2018
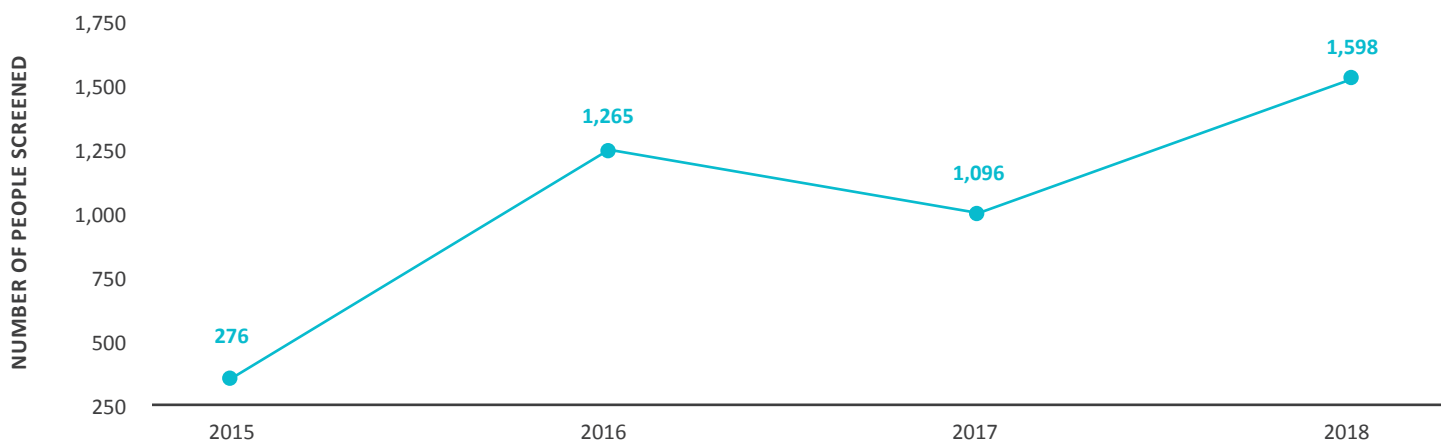
Source: *Connecticut Department of Mental Health and Addiction Services (CT DMHAS) CT Screening, Brief Intervention and Referral to Treatment (SBIRT) Program. Data analyzed April 25, 2019.*

FIGURE 6.2: Number of people screened for alcohol and other drug use who received a brief intervention by race/ethnicity, CT, 2015–2018
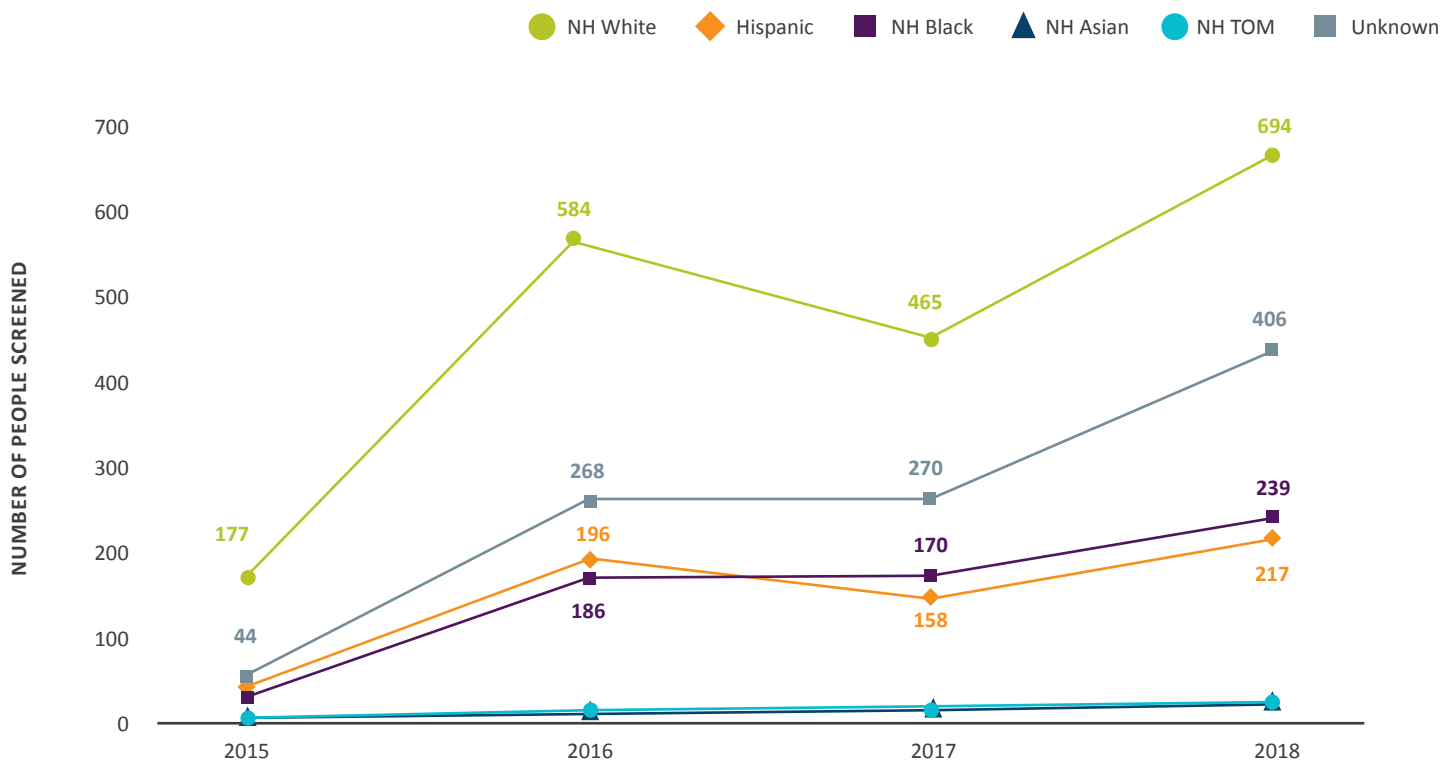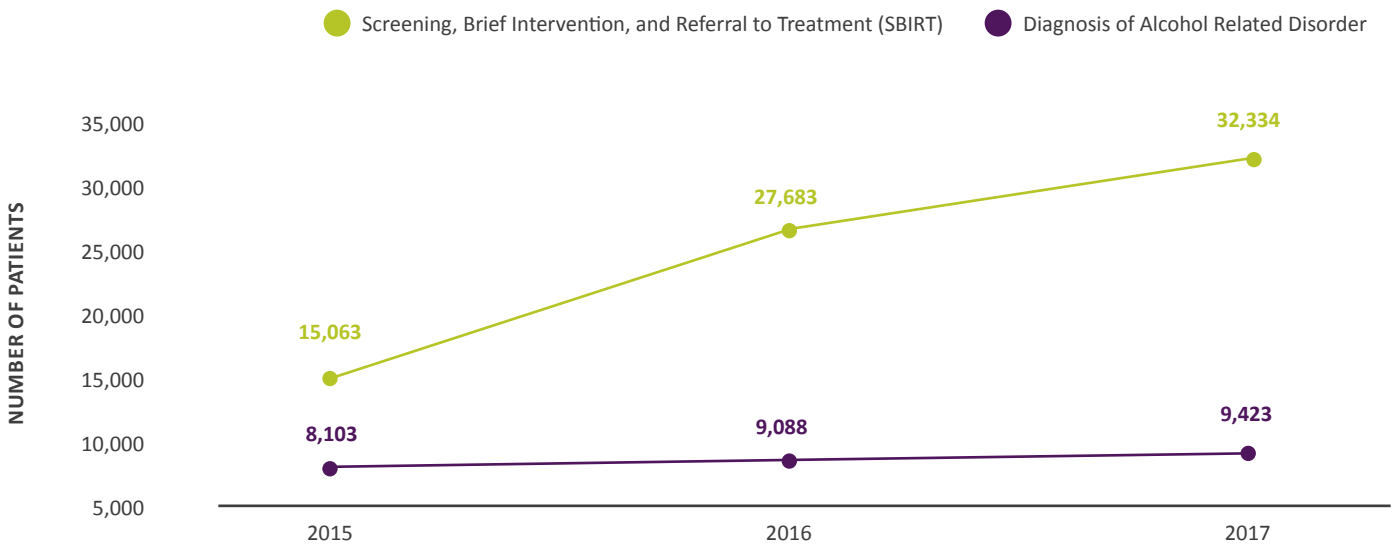

Source: *CT DMHAS CT SBIRT Program. Data analyzed April 25, 2019.*

In addition, patients may be reluctant to undergo SBIRT because of the stigma associated with substance use disorders, which are frequently not handled like other medical conditions.[1] Therefore, social norms and attitudes regarding substance use disorders need to be addressed both among primary care providers and patients and families.

Alcohol Screening

In 2015, of the 15,000 individuals who have undergone SBIRT screening at Connecticut's FQHCs, just over half receiving a diagnosis of Alcohol Use Disorder (**Figure 6.3**). By 2017, there was a dramatic increase in the number of individuals undergoing SBIRT screening and receiving brief intervention, while the difference in the proportion of individuals diagnosed compared to those screened became less over time, approximately a third of those screened.

FIGURE 6.3: Number of people who received SBIRT service vs people who received a diagnosis of alcohol related disorder, CT, 2015–2017

Source: Connecticut Department of Mental Health and Addiction Services (CT DMHAS) CT Screening, Brief Intervention and Referral to Treatment (SBIRT) Program. Data analyzed April 25, 2019.

SUBSTANCE USE

Alcohol Use and Abuse

Nationally, approximately 88,000 people die each year due to alcohol-related events, including chronic health problems attributed to excessive alcohol consumption such as liver cirrhosis, breast cancer and heart disease.[4,5,6] Excessive alcohol consumption, defined as either heavy drinking or binge drinking, is associated with numerous health problems, including diseases such as liver diseases, cancer, and fetal alcohol spectrum disorder, unintentional injuries, neurological impairments, violence, and social problems.[7] Heavy drinking is defined as consuming an average of more than two drinks per day for men, and more than one drink per day for women.[5] A person is binge drinking when they drink enough within a two-hour period that their blood alcohol concentration reaches 0.08 grams/deciliter. For men, this usually means consuming more than five drinks during one occasion; and for women, it is more than four drinks.[8]

Alcohol use disorder (AUD) refers to a chronic relapsing brain disease characterized by compulsive alcohol use, loss of control over alcohol intake, and a negative emotional state when not using.[9] AUD requires a Diagnostic and Statistical Manual (DSM)-5 diagnosis, and AUD severity is based on the number of DSM criteria met.

Youth alcohol prevention is critical, as young people who start drinking alcohol before age 15 are five times more likely to develop alcohol misuse or dependence than people who first used alcohol at age 21 or older.[10] Compared with adults, adolescent drinkers tend to consume higher quantities of alcohol per occasion but drink less frequently.[11] Underage drinkers ages 12 to 20 typically consume four to five drinks per drinking occasion, which is nearly double the average two to three drinks usually consumed by adults (older than age 25). Prevalence

PROGRAM SPOTLIGHT: CONNECTICUT ALCOHOL AND DRUG POLICY COUNCIL

The Connecticut Alcohol and Drug Policy Council (ADPC) is a legislatively mandated body composed of representatives from all three branches of State government, consumer and advocacy groups, private service providers, individuals in recovery from addictions, and other stakeholders in a coordinated statewide response to alcohol, tobacco and other drug (ATOD) use and abuse in Connecticut.

### PROGRAM SPOTLIGHT: LOCAL PREVENTION COUNCILS

This initiative supports 150-plus local, municipal-based alcohol, tobacco and other drug (ATOD) abuse prevention councils. The intent of this grant program is to facilitate the development of ATOD abuse prevention initiatives at the local level with the support of Chief Elected Officials. The specific goals of Local Prevention Councils (LPCs) are to increase public awareness of ATOD prevention and stimulate the development and implementation of local prevention activities primarily focused on youth.

FIGURE 6.4: Percentage of adults who were either binge drinkers or heavy drinkers by sex, CT, 2013–2017
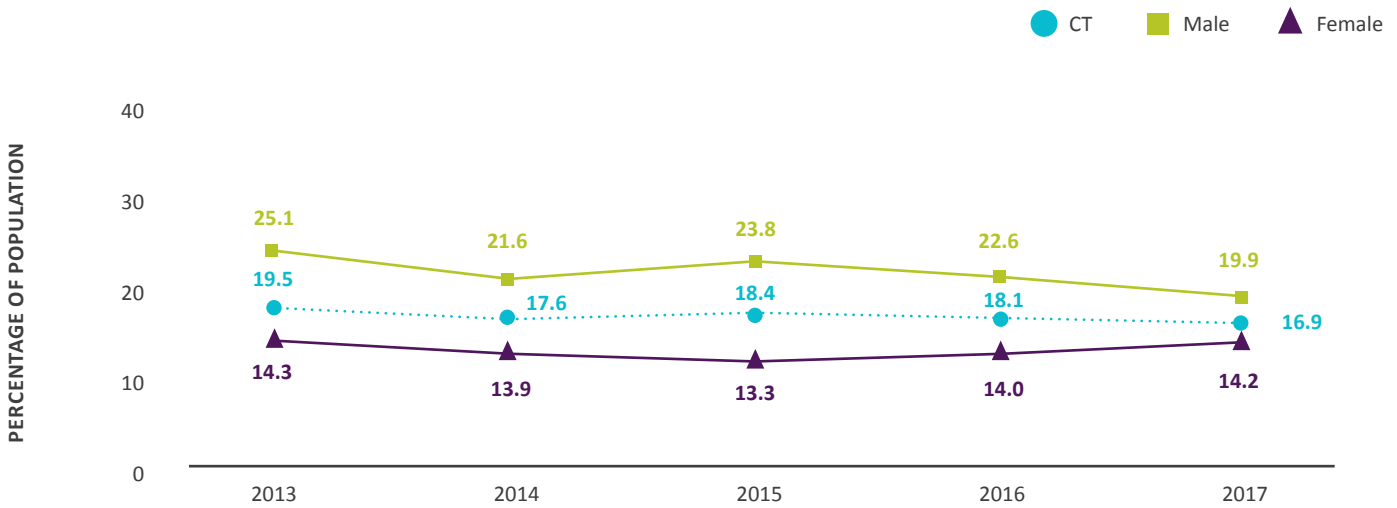
Source: CT DPH Health Statistics and Surveillance Section, Connecticut Behavioral Risk Factor Survey Prevalence Estimates for Risk Factors and Health Indicators: Selected Summary Tables 2013–2017. Retrieved from www.ct.gov/dph/BRFSS.

FIGURE 6.5: Percentage of adults who were either binge drinkers or heavy drinkers by age and race/ethnicity, CT, 2017
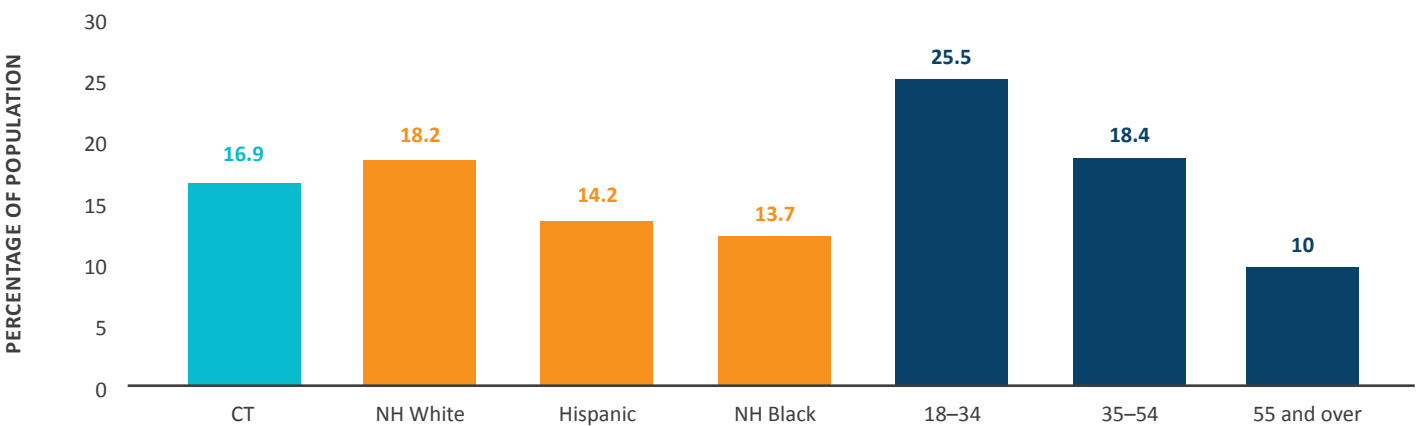
Source: CT DPH Health Statistics and Surveillance Section, Connecticut Behavioral Risk Factor Survey Prevalence Estimates for Risk Factors and Health Indicators: Selected Summary Tables 2018. Retrieved from www.ct.gov/dph/BRFSS.

rates for a variety of drinking-related outcomes peak in the early 20s age group. Following this peak, reliable age-related reductions in a variety of drinking-related outcomes occur beginning in the mid-20s and continue throughout the remainder of the life span.[12] Social supports, such as close relationships with parents and positive peer influence, can help decrease the risk of alcohol misuse. Parents and older siblings who drink can set the stage for the drinking habits of children. Also, early-childhood trauma is strongly associated with developing mental health problems, including alcohol dependence, later in life. People with early-life trauma may use alcohol to help cope with trauma-related symptoms.[12]

EXCESSIVE DRINKING

Approximately one in six Connecticut adults (ages 18 and over) engaged in excessive alcohol consumption in 2017, slightly down from one in five in 2013 (**Figure 6.4**). The prevalence of excessive alcohol consumption was consistently higher for male adults than their female counterparts; however, the difference between males and females narrowed over a five-year period due to a decrease in excessive drinking prevalence among males.

One in four young adults, ages 18–34 years, reported excessive drinking, with the proportion decreasing in the older age groups (**Figure 6.5**). Non-Hispanic White adults were the mostly likely to report excessive drinking, when compared to non-Hispanic Black and Hispanic Latinocounterparts.

ALCOHOL USE DISORDER (AUD)

In 2016–2017, the percent of people, ages 12 and over, who were diagnosed with AUD in the past year in Connecticut, 6.1%, was slightly higher than the national level of 5.5%.[13,14]

From 2009–2010 to 2016–2017, the percent of people, aged 12 and over, who were diagnosed with AUD in the past year decreased 22.2% from 7.9% to 6.1% (**Figure 6.6**). On average, adults ages 18 to 25 years had the highest prevalence of past year diagnosis of AUD, but has been on a downward trend since at least 2009. Youth aged 12 to 17 decreased in AUD by 43.8% between 2009 and 2017.

FIGURE 6.6: Percentage of people age 12 and over who were diagnosed with Alcohol Use Disorder in the past year by age group, CT, 2009–2016
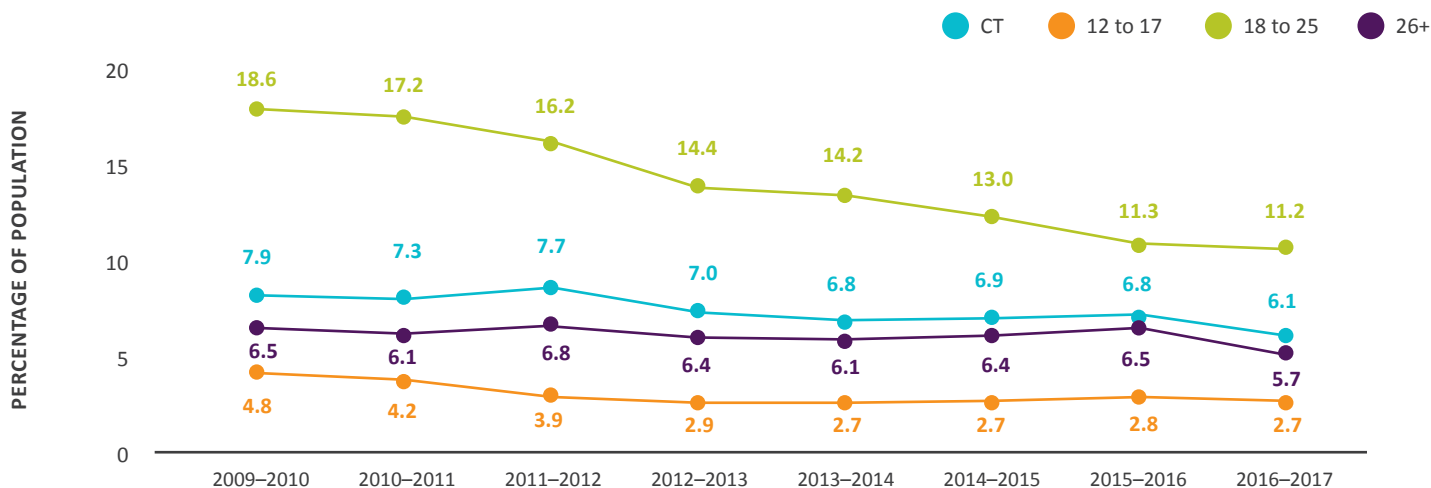
Source: Substance Abuse and Mental Health Data Archive (SAMHDA), National Survey on Drug Use and Health, 2009–2017. Retrieved from www.datafiles.samhsa.gov/study-series/national-survey-drug-use-and-health-nsduh-nid13517.

Marijuana Use

In recent years, social attitudes toward personal marijuana use have changed considerably. Specifically, as of June 25, 2019:

- 11 states and the District of Columbia have legalized recreational use for adults;[15]

- 15 other states, including Connecticut, have decriminalized its possession for personal use;[16] and

- 33 states, the District of Columbia (DC), Guam, Puerto Rico and US Virgin Islands have legalized marijuana use for medical purposes.[15]

While there is increased acceptance for marijuana use, there are also scant data available on the effects of long-term use. Initial research indicates that marijuana use at an early age can have long-lasting health and well-being effects, such as difficulties with problem solving, memory and coordination, as well as an increased risk for mental health issues.[17] In addition, marijuana use among youth can be a surrogate for a propensity toward risky behaviors, or self-medicating to alleviate stress or trauma. States are taking measures to prevent use among youth since brain development continues through one's mid-20s. For example, current marijuana legalization forums favor recreational marijuana legalization for only those 21 years and older to protect youth who are at most risk for negative long-term effects.

It should also be noted that while marijuana is gaining acceptance, the overall concentration of THC in marijuana is at the highest level since legalization efforts began in the late 1960s.

ADULTS

The increase in recreational marijuana use by adults sets the stage for an increase in episodic mental health incidents among regular users; increased regular use among adults aged 18 to 25 can have an impact on the still developing brain and result in negative long-term physical and mental health effects.

From 2009–2010 to 2016–2017, the estimated percentage of adults 18 and older who used marijuana in the past month increased by nearly 44%, from 7.6% to 10.9%. In 2016–2017, the percentage of adults who used marijuana in the past month was slightly above the national level of 9.5%.[14] On average, adults aged 18 to 25 years had a marijuana use prevalence that was nearly four times higher than adults aged 26 and older. For example, 2016–2017 estimates were 26.3% of 18 to 25 year-olds used marijuana in the last month, compared to 7.7 % of people 26 years of age and older.

YOUTH

Increased marijuana use among youth can be indicative of mental health stressors that are common at the intersection of youth and adulthood and indicate an increased likelihood of risky behaviors. Also, family, social networks, and peer pressure are key influencers of substance misuse among adolescents.

Overall, marijuana use among Connecticut high school youth has dropped from a high of 26% in 2013 to 20% in 2017, a 21.5% decrease in a 5 year period.

Data analyses indicated that in 2017, past month marijuana use was slightly more prevalent among females (21.6%), Hispanic/Latino residents (22.1%) and non-Hispanic White residents (21.4%) (**Figure 6.7**). Also, marijuana use increased with grade level, ranging from 11% of 9th graders to 30% of 12th graders, a difference of almost threefold.
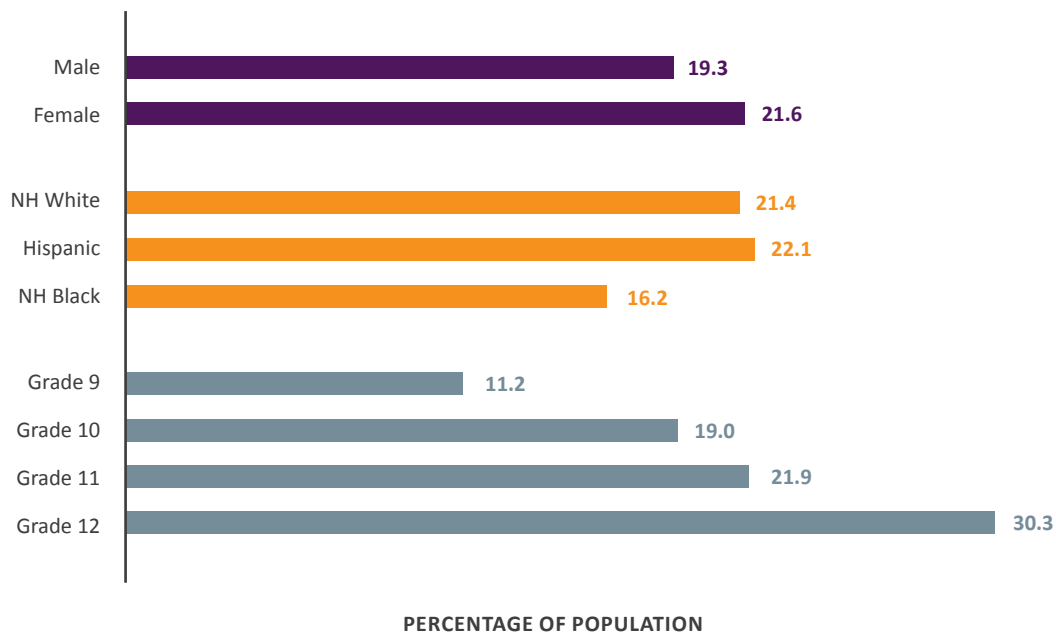
Illicit Drug Use

Substance use and misuse exerts a significant toll on health, safety, quality of life, families, and communities, and contributes to crime, incarceration, family violence, and unintentional injuries. Illicit (i.e. illegal) drug use costs the U.S. $161 billion annually.[18] Illicit drug use other than marijuana use includes the misuse of prescription psychotherapeutics and the use of cocaine (including crack), heroin, hallucinogens, inhalants, or methamphetamine.[2]

Early aggressive behavior, lack of parental supervision, academic problems, undiagnosed mental health problems, peer substance use, drug availability, poverty, peer rejection, and child abuse or neglect are risk factors associated with increased likelihood of youth substance use and misuse. Risk factors that occur during early childhood further increase the risk of youth substance misuse. Risk factors of prolonged duration (e.g., those that continue on from childhood through adolescence), are also associated with increased likelihood of youth substance misuse. Risk factors frequently associated with substance misuse are common across multiple disorders.[19]
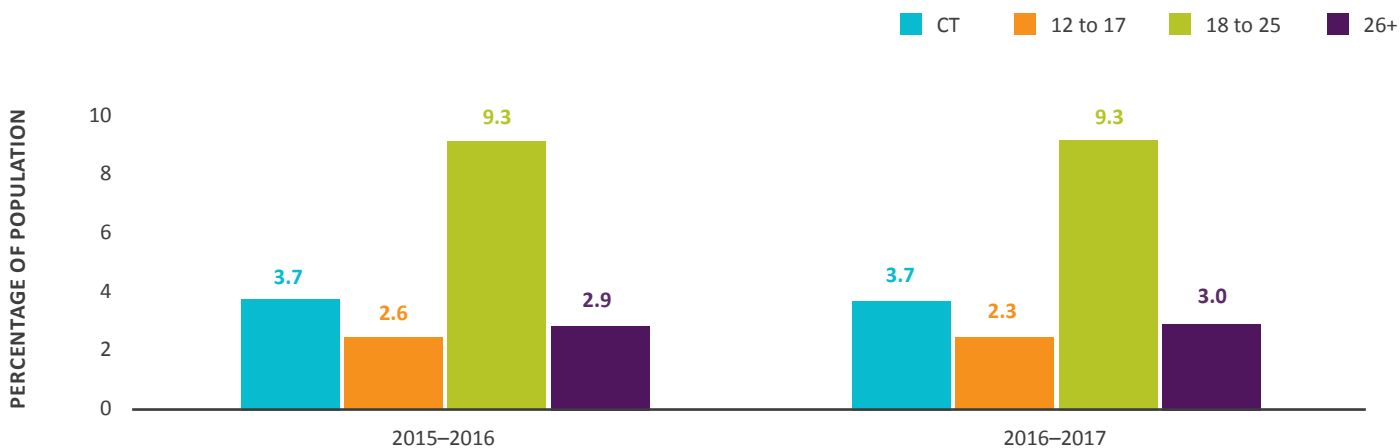
ADULTS

In recent years, the percentage of people who used illicit drugs, other than marijuana, in the past month remained relatively unchanged (**Figure 6.8**). Our state's overall prevalence of 3.7% is slightly higher than that of the national level, which is 3.4%.[14,20] Overall, adults 18–25 years of age had the highest prevalence of past month illicit drug use, other than marijuana. Their rate of 9.3% also exceeded the national level for the same age range, which was at 7.1%.

FIGURE 6.7: Percentage of youth in grades 9–12 who used marijuana in the last month by sex, race/ethnicity, and grade; CT, 2017

Male	19.3
Female	21.6
NH White	21.4
Hispanic	22.1
NH Black	16.2
Grade 9	11.2
Grade 10	19.0
Grade 11	21.9
Grade 12	30.3

PERCENTAGE OF POPULATION

Source: CT DPH, Connecticut School Health Survey, Summary Tables, 2017. Retrieved from www.ct.gov/dph/CSHS.

FIGURE 6.8: Percentage of people age 12 and over who used illicit drugs other than marijuana in the last month by age group, CT, 2015–2017

CT   12 to 17   18 to 25   26+

	2015–2016	2016–2017
CT	3.7	3.7
12 to 17	2.6	2.3
18 to 25	9.3	9.3
26+	2.9	3.0

PERCENTAGE OF POPULATION

Source: Substance Abuse and Mental Health Data Archive (SAMHDA), National Survey on Drug Use and Health, 2015–2017. Retrieved from www.datafiles.samhsa.gov/study-series/national-survey-drug-use-and-health-nsduh-nid13517.
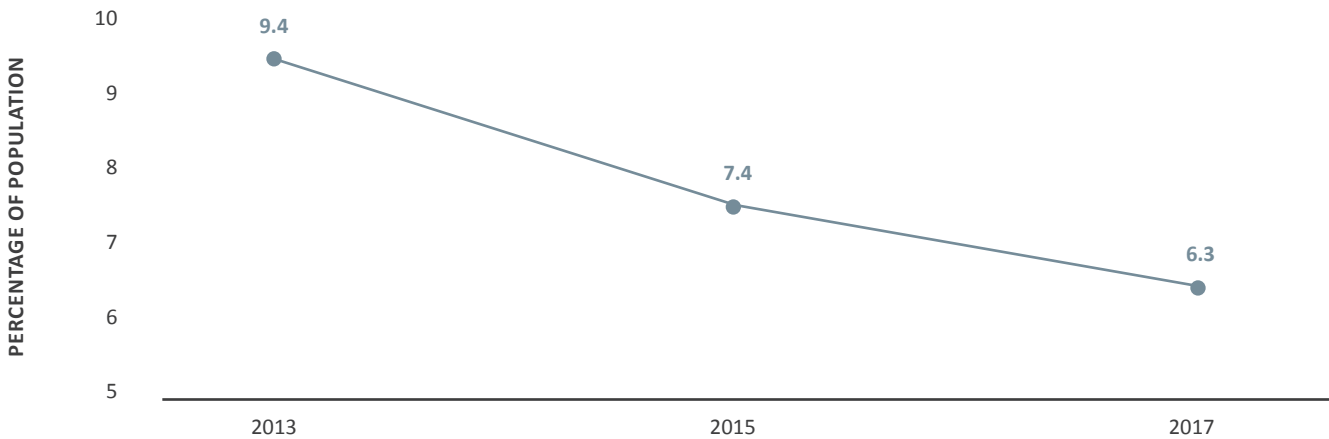
YOUTH

Illicit drug use among Connecticut high school youth has declined in recent years, from just under one in ten youth in 2013 to just under one in 15 youth in 2017 (**Figure 6.9**). Note: The youth estimates of illicit drug use based on the CT School Health Survey: Youth Behavior Component (CSHS), include marijuana whereas the NSDUH survey of people ages 12 and older describes illicit drug use, other than marijuana. Illicit drug use for Center

for Health Care Strategies (CHCS) survey includes marijuana, cocaine (including crack), heroin, hallucinogens, inhalants, and methamphetamine, as well as the misuse of prescription pain relievers, tranquilizers, stimulants, and sedatives.

In 2017, high school age males (11.2%) and 12th grade students (11.8%) were more likely than high school age females and students in lower grades to have ever used an illicit drug in their lifetime (**Figure 6.10**).

FIGURE 6.9: Percentage of youth in grades 9–12 who ever used illicit drugs, CT, 2013–2017

Source: CT DPH, Connecticut School Health Survey, Summary Tables, 2013–2017. Retrieved from www.ct.gov/dph/CSHS.

FIGURE 6.10: Percentage of youth in grades 9–12 who ever used illicit drugs by sex and grade level, CT, 2017
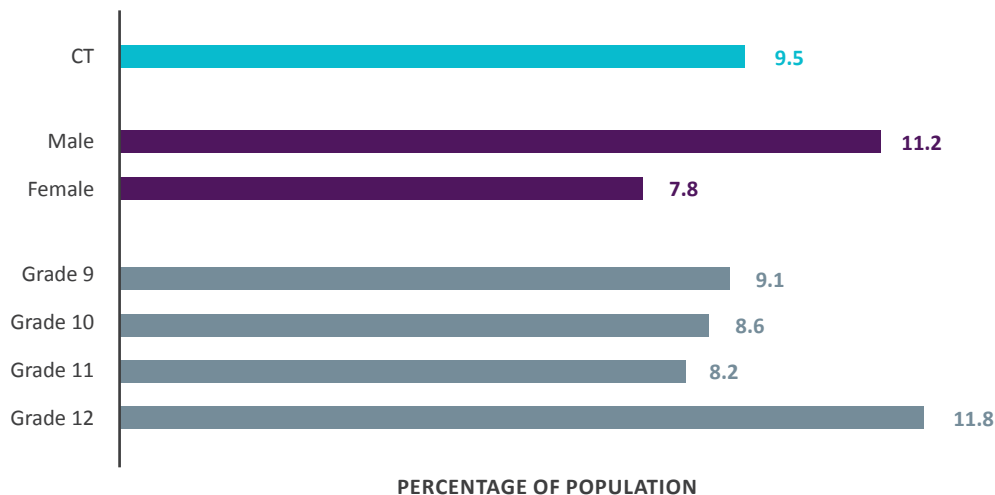
Source: CT DPH, Connecticut School Health Survey, Summary Tables, 2017. Retrieved from www.ct.gov/dph/CSHS.

PROGRAM SPOTLIGHT: SEARCH INSTITUTE'S 40 DEVELOPMENTAL ASSETS INITIATIVE

- The Development Assets® Framework identifies 40 positive supports and strengths that young people need to succeed. These assets focus on the relationships and opportunities youth need in their families, schools, and communities (external assets) and the social-emotional strengths, values, and commitments that are nurtured within young people (internal assets).

- Located in Guilford, Southington, and Middletown, Connecticut

Examples of Approaches:

- Developmental Assets for Youth (DAY) of Guilford — A community coalition composed of volunteers from the Guilford community (e.g., parents, youth, community leaders, law enforcement, and other sectors). DAY works to reduce high-risk behaviors such as underage drinking and other illicit youth substance use, and provides youth with the opportunities, skills, and values they need to grow into healthy, caring, and responsible adults.

- Southington's Town-wide Effort to Promote Success (STEPS) — Focuses on underage drinking, tobacco, marijuana, and prescription drug use prevention. Also, the organization follows the Search Institute's 40 Developmental Asset Model for youth.

For more information, see: www.search-institute.org/our-research/development-assets/developmental-assets-framework/

Prescription Drug Misuse

Drug overdose deaths in the United States have more than quadrupled from 1999 to 2017.[21] The current epidemic of drug overdoses began in the 1990s, driven by increasing deaths from prescription opioids that paralleled a dramatic increase in the prescribing of such drugs for chronic pain. In 2008, the number of deaths involving prescription opioids exceeded the number of deaths from heroin and cocaine combined. Since 2010, however, the U.S. has also seen sharp increases in deaths from heroin, synthetic opioids such as fentanyl, cocaine, and methamphetamine. In addition to deaths, overdoses from drugs, both prescription and illicit, are responsible for parallel increasing trends in non-fatal emergency department and hospital admissions.

Connecticut is among the top ten states with the highest rates of opioid-related overdose deaths. From 1999 through 2012, the death rate in Connecticut hovered near the national average. Through 2016, a more than fourfold increase was seen — from 5.7 deaths per 100,000 persons to 24.5 deaths per 100,000 persons. The national average in 2016 was 13.3 deaths per 100,000 persons.[22]

Figure 6.11 is a town map of Connecticut showing rates of unintentional drug overdose deaths per 10,000 town population during 2016 through 2018. In towns with no data (grey shading), there was less than an average of two unintentional drug overdose deaths per year, thus rates were not calculated for these towns. Regardless of density of population by town or city, the highest rates seen in the most current three year period are six towns or cities across the state, with death rates of greater than 5 deaths per 10,000 town residents per year. These were: Griswold, Norwich and New London in the eastern part of the state; Plymouth and Torrington in the western part of the state; and New Britain in the central part. Twelve towns had no (zero) unintentional drug overdose deaths among residents during 2016 through 2018.

FIGURE 6.11: Unintentional drug overdose death rates by town, CT, 2016–2018
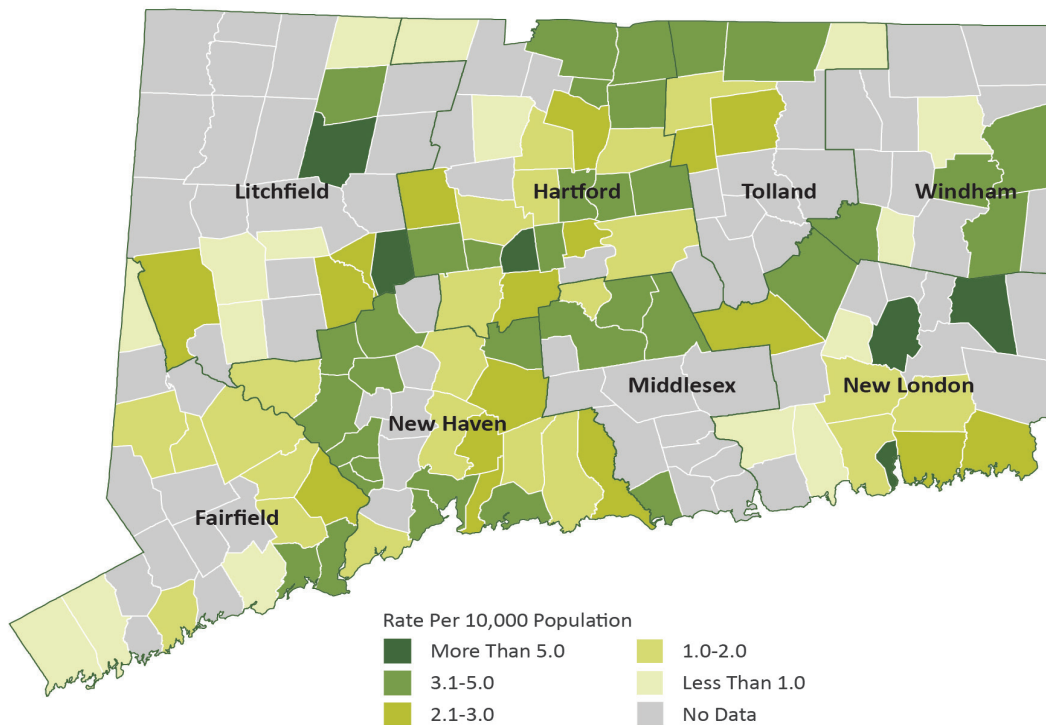
Rate Per 10,000 Population

- More Than 5.0
- 3.1-5.0
- 2.1-3.0
- 1.0-2.0
- Less Than 1.0
- No Data

Source: *Connecticut Office of the Chief Medical Examiner, 2015–2018 (town/city) Accidental Drug Intoxication. Data analyzed June 11, 2019. Retrieved from https://portal.ct.gov/OCME/Statistics.*

TREATMENT CENTER SPOTLIGHT: PROGRAMS AND LOCATIONS

Connecticut has 223 treatment centers that provide addiction services such as medication assisted treatment and counseling located across the state. These include:

- Private, nonprofit centers — 194

- Private, for-profit centers — 16

- Local, county, or community government-run centers — 2

- State-run centers — 6

- Federally run centers — 3 (2 Veterans Administration and 1 Department of Defense)

The state-run facilities include four state-funded inpatient treatment centers for persons with severe addiction and/or psychiatric problems, as well as mental health authorities across the state that are available to provide information and resources.

PROGRAM SPOTLIGHT: REDUCING PRESCRIPTION MISUSE

Connecticut Prescription Monitoring and Reporting System (CPMRS)

- The Prescription Monitoring Program collects prescription data for controlled substances (Schedule II through Schedule V drugs) into a centralized database, the CPMRS, which can then be used by healthcare providers and pharmacists in the active treatment of their patients.

- The CPMRS provides a complete picture of a patient's controlled substance use, including prescriptions from other providers. As a healthcare tool, the CPMRS is used to improve the quality of patient care and to reduce prescription misuse, addiction, and overdose. This allows providers the opportunity to properly manage the patient's treatment, including the referral of a patient to services offering treatment for drug misuse or addiction, when appropriate.

CT Opioid Response (CORE) Team
A group of Yale-affiliated physicians and health insurance providers tasked with finding evidence-based practices that would curb the number of opioid overdose deaths in the short term and change the culture of stigma around addiction.

CT's VA Healthcare
Implemented initiatives to care for more than 1,000 veterans addicted to opioids.

Over the last three years, CT Department of Consumer Protection Drug Control Division, using data analyzed from the Connecituct Prescription Monitoring and Reporting System (CPMRS), has observed a decrease in the number of opioid pain relievers being prescribed by heath care providers. In 2017, Connecticut prescribers wrote 2.2 million prescriptions for opioid pain relievers, or 48 prescriptions for every 100 persons. There was a 20 percent decline in opioid prescription numbers in 2017 compared to the year 2014.[23]

ADULTS

Just over 2% of adults, ages 18 and over, reported non-medical use of a prescribed pain medication within the last year (**Figure 6.12**). Young adults (18–34 years of age) and males had the highest prevalence of non-medical use of opioid pain relievers: 4.3% among people ages 18 to 34 (more than twice the percentage of the total population) and 2.8% among males.

Women ages 40–59 were prescribed more opioids than any other age group and received twice as many opioid prescriptions as their male counterparts (data not shown). This population is also particularly vulnerable when prescribed opioids after surgery, with about 13% of middle age women becoming newly persistent opioid users who continued to use opioids three to six months after surgery. This puts them at high risk for dependence and addiction. Compared to women of any age, middle age women have been shown to have the highest death rates from opioids.[24]
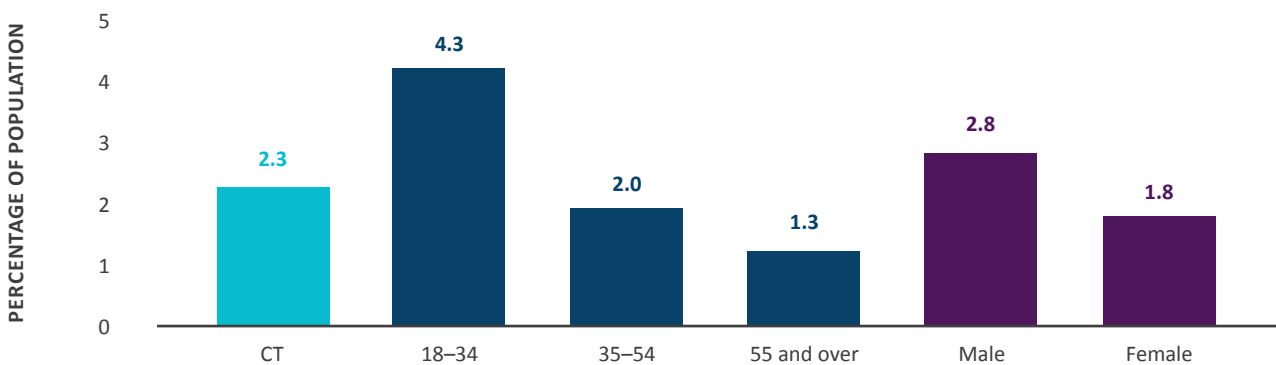
YOUTH

Nationally, while use of opioids among children is far less common, youth ages 10–19 who are prescribed opioids received, on average, a 60-day supply. In 2016, there were enough opioid prescriptions written for that age group such that every one in five children would have their own prescription.[25]

In our state, just over 10% of high school students reported ever taking a prescription pain medicine without a doctor's prescription or taking it differently than how a doctor told them to use it (**Figure 6.13**). Prevalence for inappropriate use of a prescription pain medicine was highest for non-Hispanic Black youth (11.3% compared to 10.1% for the total youth population surveyed), and among students in 12th grade (15.1%), followed by students in 11th grade (11.1%).
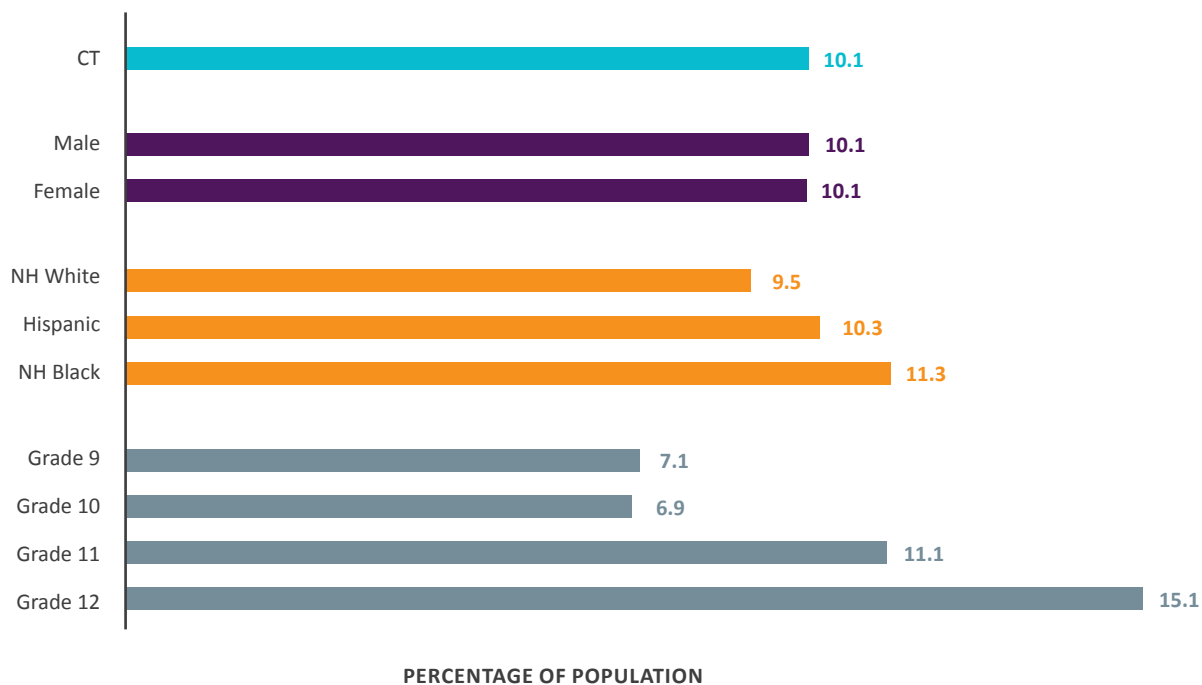
Driving Under the Influence

Drunk driving laws make it illegal nationwide to drive with a blood alcohol concentration (BAC) at or above 0.08%. For people under 21, "zero tolerance" laws make it illegal to drive with any measurable amount of alcohol in their system. Across the country, motor vehicle traffic crashes were the leading cause of death for teens, and about a quarter of those crashes involved an underage drinking driver. In 2017, young drivers, 16 to 24 years old, made up 42 percent of drivers involved in fatal

FIGURE 6.12: Percentage of adults ages 18 and over with non-medical use of prescribed pain medicine in the last year by age and sex, CT, 2015–2017


Source: CT DPH, Connecticut Behavioral Risk Factor Survey Prevalence Estimates for Risk Factors and Health Indicators: Selected Summary Tables 2015–2017. Retrieved from www.ct.gov/dph/BRFSS

FIGURE 6.13: Percentage of youth in grades 9–12 who ever took prescription pain medicine without a doctor's prescription or differently than how a doctor told them to use it by sex, race/ethnicity and grade level; CT, 2017

PERCENTAGE OF POPULATION

Source: *CT DPH, Connecticut School Health Survey, Summary Tables, 2017. Retrieved from: www.ct.gov/dph/CSHS.*

FIGURE 6.14: Percentage of drivers ages 16 and over who were involved in a crash while under the influence of medications, drugs, or alcohol; CT, 2015–2018
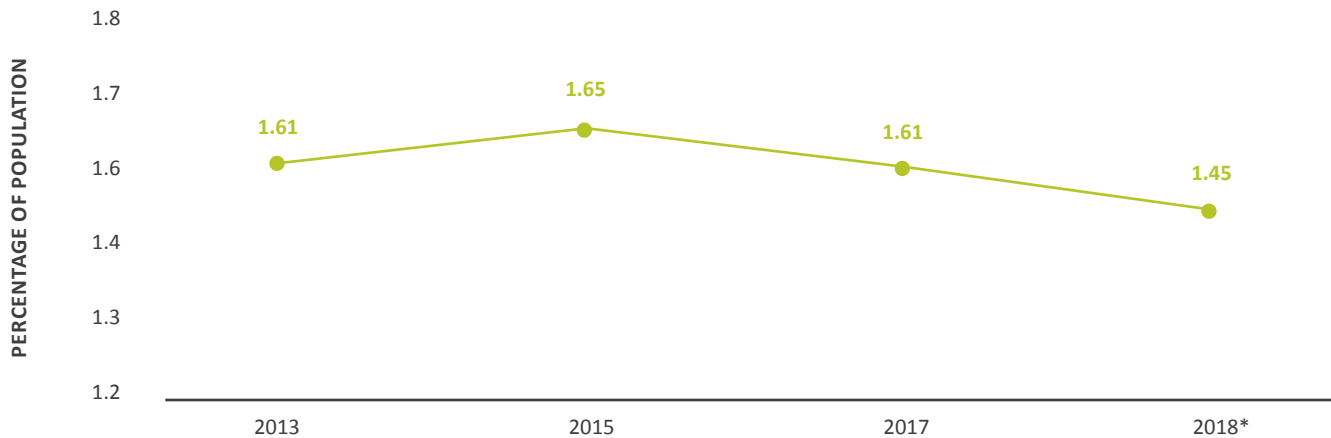
* 2018 data are provisional data.

Source: *UCONN, Connecticut Crash Data Repository. Data analyzed April 22, 2019. Retrieved from hwww.ctcrash.uconn.edu/QueryTool2.action.*
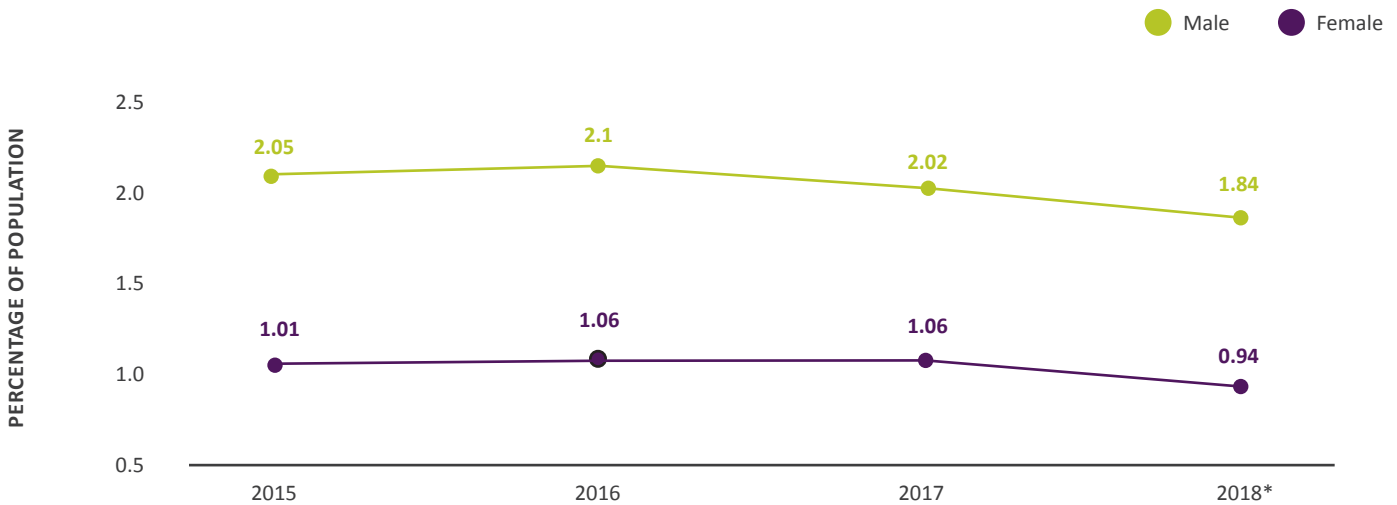
drunk-driving crashes. In 2017, more than two in five fatal automobile crashes in Connecticut involved at least one driver with a blood alcohol level of 0.08% or more, the highest rate of any state except for the District of Columbia.[3] Interactions between alcohol and other substances in the body, such as certain medications or illegal drugs increase impairment and make driving riskier.[26] Thanks to dedicated efforts, rates of drunk driving and alcohol-involved fatal crashes have gone down in recent years; however, about one in three traffic deaths in the U.S. still involve a drunk driver.[26]

OVERALL

Overall, the percent of drivers, ages 16 and over, who were involved in a crash while under the influence of medications, drugs, or alcohol increased from 2015 to 2016, and then decreased steadily through 2018 (**Figure 6.14**).

Drivers ages 25 to 34 had the highest prevalence of being under the influence of medications, drugs, or alcohol at the time of a crash, 2.25% in 2017, and drivers 65 years of age and older were least likely to be under the influence of alcohol and drugs at the time of a crash (0.53% in 2017). Male drivers had a higher prevalence of being under the influence at the time of a crash, compared to females (**Figure 6.15**).

Figure 6.16 is a town map of Connecticut indicating percentages of residents, by town, who were under the influence of medications, illict drugs, and/or alcohol at the time of a motor vehicle crash. The highest percentages were in three towns/cities in Connecticut, primarily in the central to south-eastern parts of the state. They were East Haddam, Lebanon and Plainfield. Although the higher risk (3 to 5+ percent) towns are spread throughout the state, there were not as many higher risk towns in Fairfield and New Haven Counties, compared with the other Connecticut counties.

YOUTH

Approximately 6% of Connecticut's young drivers through grade 12 reported driving a motor vehicle in the past 30 days when they had been drinking alcohol.[27] One in three of our state's high school-aged young drivers reported texting on a cell phone while driving in the past 30 days.[27] Just over one in five young drivers up through 12th grade engaged in unsafe driving in the past 30 days (including drunk driving or using a cell phone while driving) (**Figure 6.17**). The prevalence was slightly higher for males and non-Hispanic White youth. Prevalence increased with each grade level as well, up to 49% of 12th graders. As a note, caution should be exercised when interpreting the estimates in **Figure 6.17** due to low statistical validity.

FIGURE 6.15: Percentage of drivers ages 16 and over who were involved in a crash while under the influence of medications, drugs, or alcohol by sex; CT, 2015–2018
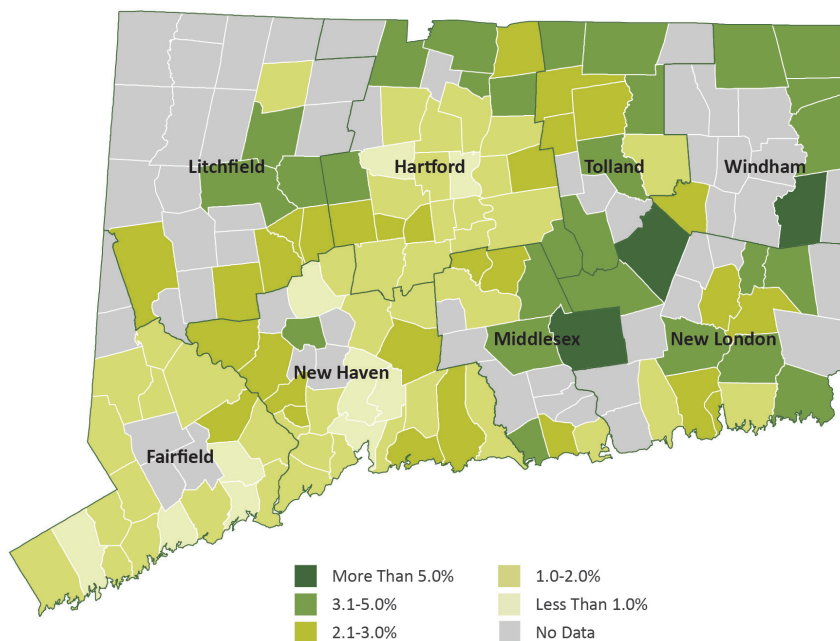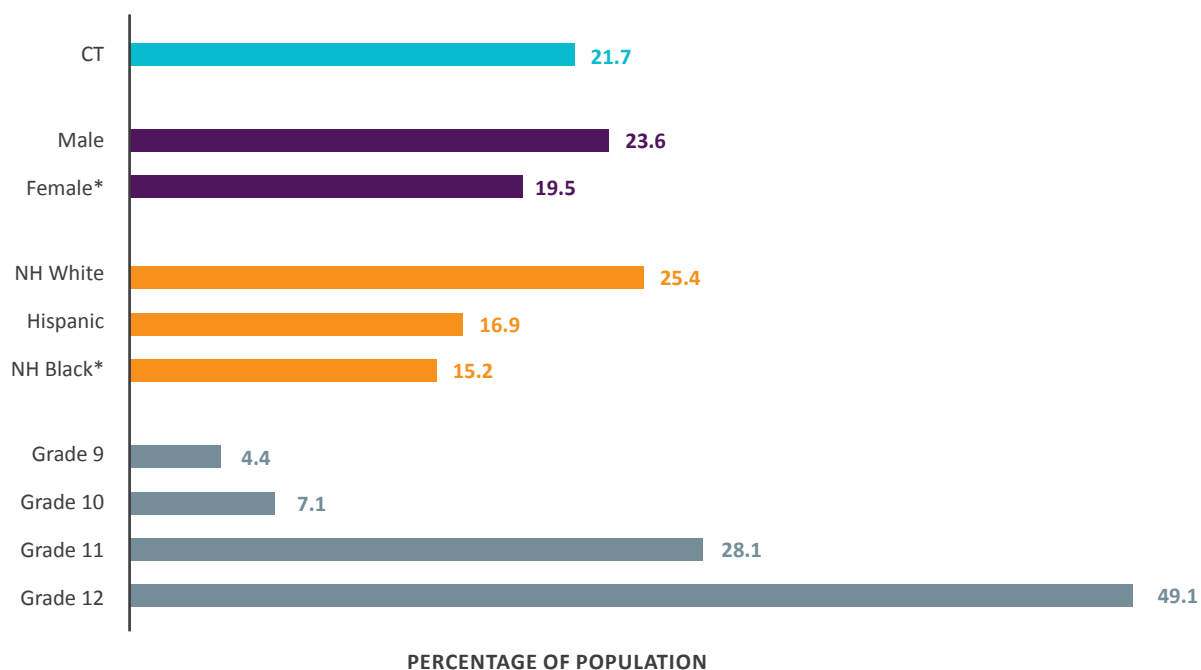

* 2018 data are provisional data.

Source: *UCONN, Connecticut Crash Data Repository. Data analyzed April 22, 2019. Retrieved from www.ctcrash.uconn.edu/QueryTool2.action.*

FIGURE 6.16: Percentage of drivers ages 16 and over who were involved in a crash while under the influence of medications, drugs, or alcohol by town of crash; CT, 2015–2018

More Than 5.0%	1.0-2.0%
3.1-5.0%	Less Than 1.0%
2.1-3.0%	No Data

Source: UCONN, Connecticut Crash Data Repository. Data analyzed April 22, 2019. Retrieved from www.ctcrash.uconn.edu/QueryTool2.action.

FIGURE 6.17: Prevalence of young drivers through grade 12 who engaged in unsafe driving in the past 30 days, including drunk driving or using a cellphone while driving, by sex, race/ethnicity, grade; CT, 2017

CT	21.7
Male	23.6
Female*	19.5
NH White	25.4
Hispanic	16.9
NH Black*	15.2
Grade 9	4.4
Grade 10	7.1
Grade 11	28.1
Grade 12	49.1

PERCENTAGE OF POPULATION

* Caution should be exercised when interpreting these estimates due to low statistical validity

Source: CT DPH, Connecticut School Health Survey, Summary Tables, 2017. Retrieved from: www.ct.gov/dph/CSHS.

MENTAL HEALTH DISORDERS

Mental health is an essential part of overall health and well-being. Mental health disorders are usually associated with significant distress or disability in social, occupational, or other important activities. A few mental health disorders manifest in behaviors that violate the rights of others or bring the individual into significant conflict with societal norms or authority figures.[28]

> "...when I look at my health and I look at what are the things that I do to make me healthy...it's not just what I eat and drink. It's not whether I go to the doctor or not. It's the relationships that I have, it's my mental health."

— STATE HEALTH ASSESSMENT FOCUS GROUP,
VETERANS AND THEIR FAMILIES

Depression is one of the most common mental health disorders in the U.S. and can greatly impact one's health and quality of life. Specifically, depression can exacerbate other serious medical illnesses, such as diabetes, cancer, heart disease, and Parkinson's disease. Conversely, sometimes medications taken for these chronic illnesses may cause side effects that contribute to depression.

Anxiety disorders cost the U.S. more than $42 billion a year, almost one third of the $148 billion total mental health bill for the U.S. Over half of these costs (approximately $23 billion) are associated with the repeated use of healthcare services, as those with anxiety disorders often seek relief for symptoms that mimic physical illnesses.[29]

Symptoms of Attention-Deficit Hyperactivity (ADHD) and Disruptive Behavior disorders range from inattentiveness and disorganization to anti-social behavior and substance abuse that can disrupt school and work.[30] A woman's lifestyle choices and behavior during pregnancy, including use of alcohol, tobacco or other drugs, or early exposure to environmental toxins during pregnancy or exposure to toxins like lead at a young age are thought to be risk factors for ADHD in children.

Adverse childhood experiences and trauma are risk factors for depression, anxiety, and post-traumatic stress disorder. To mitigate these risks, as a state, we are engaged in several public health and policy initiatives. These include the following:

• State Health Improvement Plan (SHIP) Action Teams are coordinating upstream interventions to reduce the risk of adverse childhood events and ongoing trauma.

• The state's Multi-System Trauma-Informed Collaborative to Improve Outcomes for Children Exposed to Violence (MSTIC) aimed to develop, coordinate, and enhance policies and practiced among state systems that serve youth to improve outcomes for children exposed to violence and trauma.

• Department of Mental Health and Addiction Services provides both service delivery and statewide education.

Even with these efforts, challenges remain to diagnose, support, and treat individuals with mental health disorders, which often carry stigma that prevent people from seeking diagnosis and treatment.

In Connecticut, we can see that the percentage of the population diagnosed with depression, anxiety, ADHD, and other mental disorders, excluding drug or alcohol dependence, has increased overall since 2012 (**Figure 6.18**). Between 2012–2017, the prevalence of depression, anxiety disorder, ADHD, and other mental disorders increased by 19%, 70%, 35%, and 34%, respectively. Notably, our state's prevalence rates for each of these mental disorder categories exceeded the prevalence for the nation, overall. In addition, it is likely that these data are underestimated, because they do not reflect undiagnosed individuals.

"We are losing our youth to mental health issues. The schools, the city, the mental health facilities need a better link to help with this issue. They need to develop more things for our youth."

— **STATE HEALTH ASSESSMENT FOCUS GROUP,**
HISPANIC COMMUNITY

FIGURE 6.18: Percentage of people diagnosed with mental health disorders by diagnoses, CT, 2012–2017

● Depression and other mood disorders

● Attention deficit and disruptive behavior disorders

● Anxiety disorders, including Post-Traumatic Stress Disorder

● Other mental disorders, excluding drug or alcohol dependence
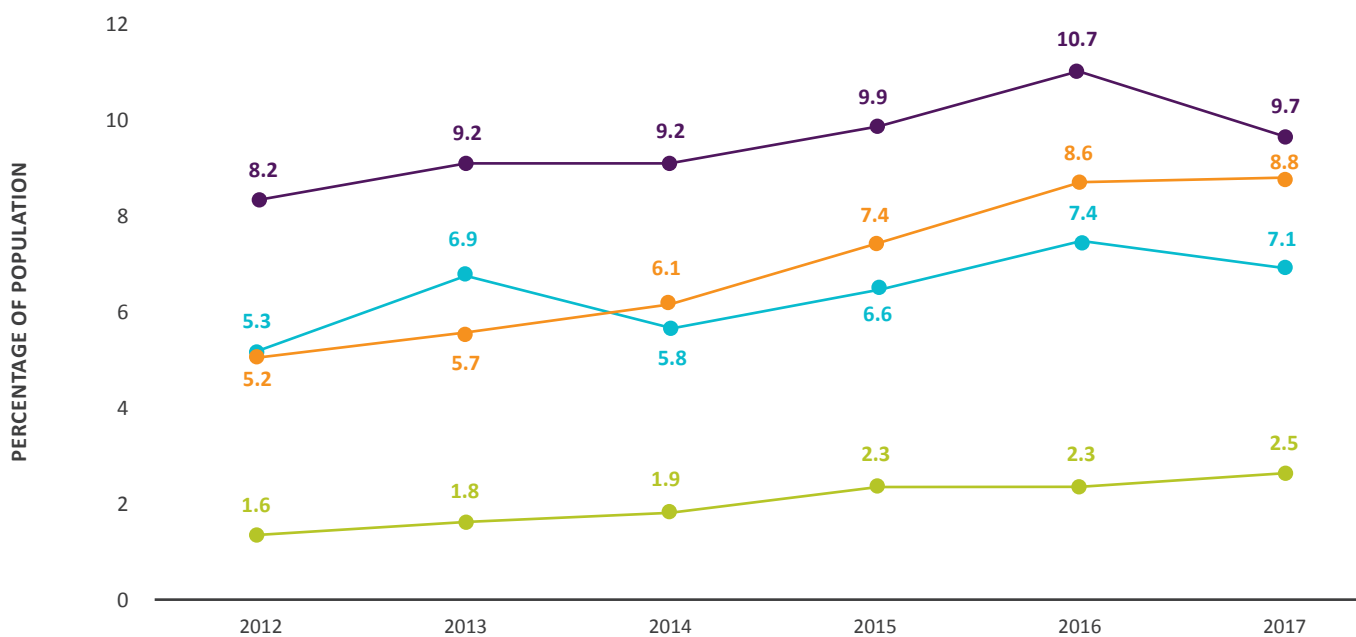
Source: Health Resources and Services Administration, Connecticut Health Center Data, 2012–2017. Data analyzed April 1, 2019. Retrieved from https://bphc.hrsa.gov/uds/datacenter.aspx?state=CT.

INTENTIONAL INJURIES AND TRAUMA

Violence-related injuries and deaths, resulting from acts such as child abuse and neglect, domestic violence, assaults, homicides, and sexual violence are described as intentional. Self-directed violence such as suicides are also described as intentional violence. These forms of violence can result in a range of conditions related to physical, mental, and reproductive health, social support, and financial independence and stability. These conditions can produce costs both in the immediate aftermath of violence and over the lifespan.

Adverse Childhood Experiences

Adverse Childhood Experiences (ACEs) are stressful or traumatic events, including abuse, neglect and household dysfunction that occur during childhood. These events can affect people of all backgrounds and are strongly related to the development and prevalence of a wide range of health problems throughout a person's lifespan.[31] There is a strong association with ACEs and other risk factors for diseases, disability, and early mortality.

> "I think that instead of now identifying children's behavior as like more behavioral, we're linking it back to the trauma and the developmental stages of the brain. Why are children behaving this way? Well, because the trauma started at this age. And we know there is a shift in the brain when there's trauma."

— **STATE HEALTH ASSESSMENT FOCUS GROUP,** BLACK/AFRICAN AMERICAN WOMEN

In the United States, the total lifetime economic burden associated with child abuse and neglect and other ACEs was approximately $124 billion in 2008.[32] This economic burden rivals the cost of other high-profile public health problems, such as stroke and type 2 diabetes. Children in low-income households or those belonging to racial and ethnic minority groups have a disproportionally greater exposure to ACEs compared to white children or children from more affluent households; also, these children experience significant disparities in both early brain development and healthcare access because of increased exposure.[33]
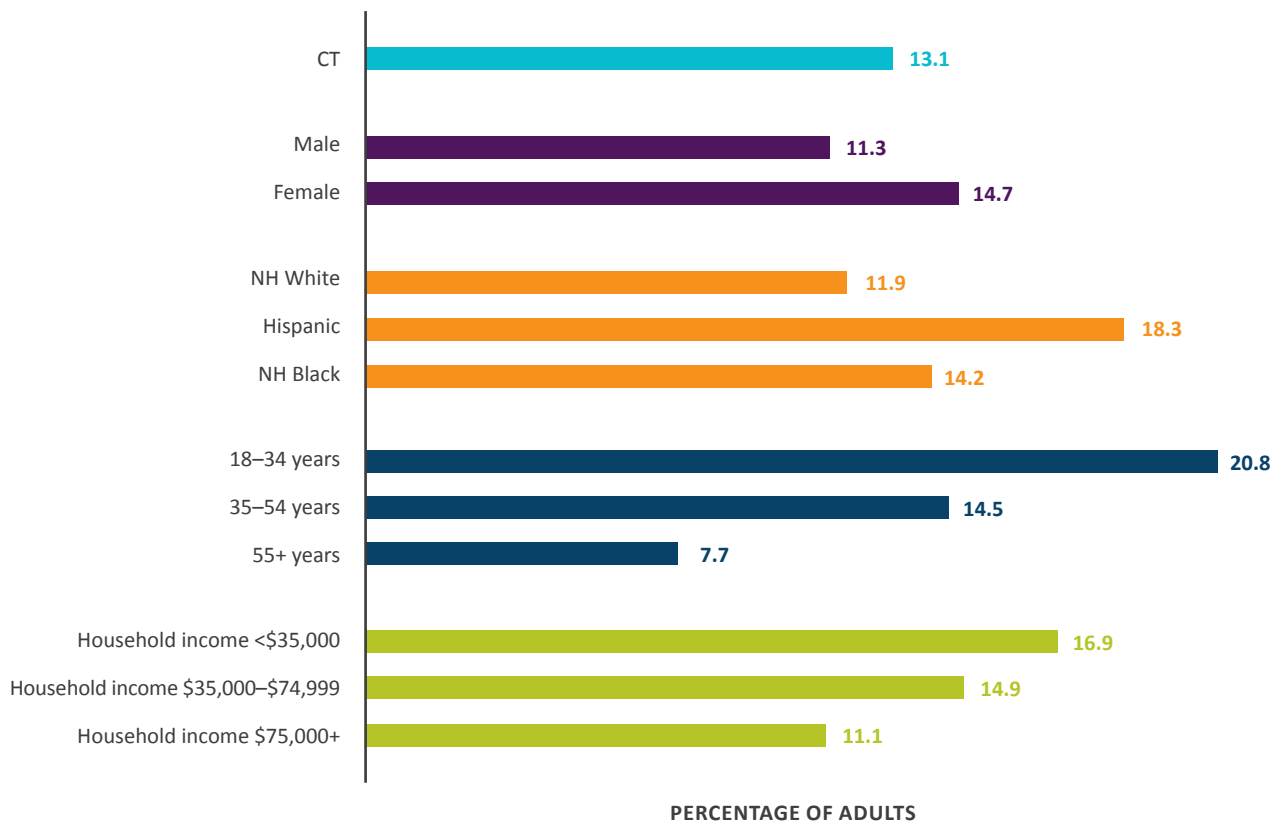
Research has demonstrated that ACEs are common, they cluster (meaning many people experience more than one ACE and therefore cumulative effects of ACEs must be considered), and ACEs have a dose-response relationship with many health problems (i.e., an individual's cumulative ACEs score is strongly correlated with health, social, and behavioral problems throughout their lifespan, including substance use disorders).[34]

Connecticut's State Innovation Models Health Enhancement Community Initiative recognizes the health and economic burden incurred by ACEs; thus, ACEs are listed as one of the main health priorities to improve child well-being among children pre-birth to age eight. In addition, CT's Health Improvement Coalition's Mental Health and Substance Abuse team addresses ACEs through trauma screening.

In our state, 13% of adults have experienced four or more ACEs (**Figure 6.19**). The prevalence of four or more ACEs was greater in adults ages 18–34 and among female adults. Hispanic or Latino adults were the most likely to report experiencing four or more ACEs, followed by non-Hispanic Black and then non-Hispanic White residents. Finally, the prevalence of four or more ACEs was found to be inversely related to household income. The higher the number of ACEs (4 or more), the lower the household income.

The prevalence of four or more ACEs was higher for adults enrolled in Medicaid (26%) versus those who were not (12%; **Figure 6.20**) in CT. Additionally, the prevalence of four or more ACEs was higher among uninsured adults (19%) than among insured adults (13%; **Figure 6.21**).

FIGURE 6.19: Percentage of adults ages 18 and over with four or more adverse childhood experiences by demographic characteristics, CT, 2017

| Category	Percentage
CT	13.1
Male	11.3
Female	14.7
NH White	11.9
Hispanic	18.3
NH Black	14.2
18–34 years	20.8
35–54 years	14.5
55+ years	7.7
Household income <$35,000	16.9
Household income $35,000–$74,999	14.9
Household income $75,000+	11.1

PERCENTAGE OF ADULTS

Source: CT DPH, Connecticut Behavioral Risk Factor Survey Prevalence Estimates for Risk Factors and Health Indicators: Selected Summary Tables 2017. Retrieved from www.ct.gov/dph/BRFSS.

FIGURE 6.20: Percentage of adverse childhood experiences by Medicaid enrollment status, CT, 2017
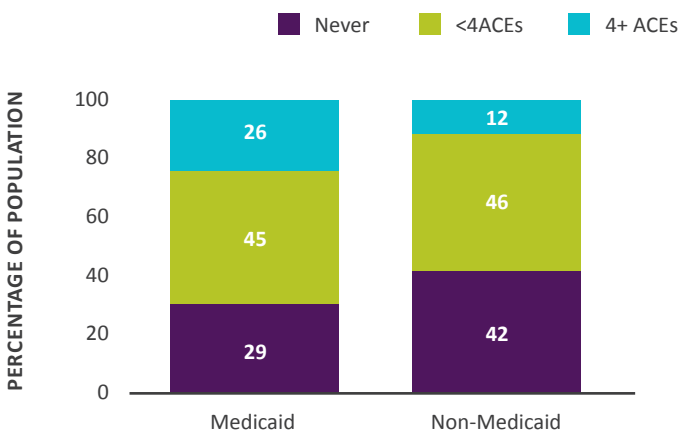
Never / <4ACEs / 4+ ACEs

	Medicaid	Non-Medicaid
4+ ACEs	26	12
<4ACEs	45	46
Never	29	42

Source: CT DPH, Connecticut Behavioral Risk Factor Survey Prevalence Estimates for Risk Factors and Health Indicators: Selected Summary Tables 2017. Retrieved from www.ct.gov/dph/BRFSS.

FIGURE 6.21: Percentage of adverse childhood experiences by health insurance status, CT, 2017
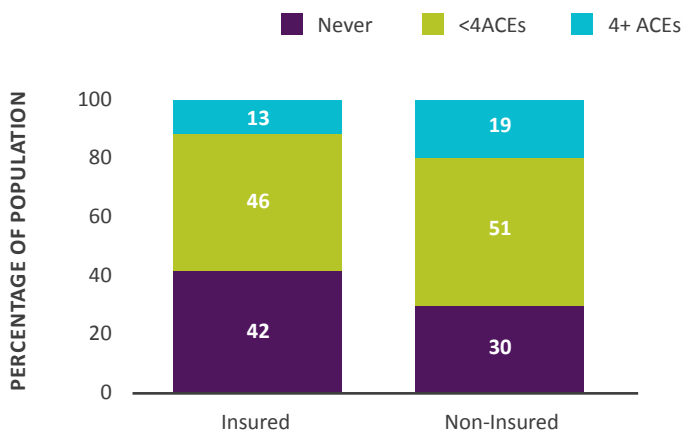
Never / <4ACEs / 4+ ACEs

	Insured	Non-Insured
4+ ACEs	13	19
<4ACEs	46	51
Never	42	30

Source: CT DPH, Connecticut Behavioral Risk Factor Survey Prevalence Estimates for Risk Factors and Health Indicators: Selected Summary Tables 2017. Retrieved from www.ct.gov/dph/BRFSS.

Intimate Partner and Family Violence

The CDC defines intimate partner violence (also described as domestic violence or DV) as "physical, sexual, or psychological harm by a current or former partner or spouse. This type of violence can occur among heterosexual or same-sex couples and does not require sexual intimacy."[35] Intimate partner violence (IPV) is an important indicator that speaks to the well-being of both women and men. One in six women and one in 19 men in the U.S. report having been stalked by an intimate partner, and nearly half of all women (47 percent) and men (47 percent) have experienced psychological aggression, such as humiliating or controlling behaviors.[35] Intimate partner homicides, in most instances, follow a predictable pattern of stages and are preventable. Implementing services and laws to protect the victims of intimate partner violence can disrupt the predictable patterns of violent behavior, reducing the number of intimate partner deaths. In addition, deaths resulting from intrafamily violence are important indicators that speak to children's and families' well-being and safety, and the extent of elder abuse that takes place within a specific locale. Intrafamily violence can result from prior or ongoing maltreatment/abuse, mental illness that includes acute psychotic episodes, mental deficiencies,

spousal revenge, and disputes. Noticing and acknowledging signs of an abusive relationship and mental illness are the first steps to ending it. By monitoring deaths from intimate partner and family violence, policy makers and stakeholders can amend services and policy to better serve the well-being of victims and prevent future occurrences.

Gender, social environment (e.g., cultural norms and values), income and social status, and education and literacy are most directly related to IPV and family violence. Addressing and improving these social determinants of health can be protective against power differentials and status inconsistency,[36] and prevent potential perpetrators from committing acts of violence.[37]

INTIMATE PARTNER VIOLENCE AND FAMILY VIOLENCE INJURIES

The rate of intimate partner or family violence-related emergency department (ED) visits and hospitalizations per 100,000 Connecticut population trended upwards overall from 2008 to 2017. These data indicated that the ED visit and hospital admittance rates almost doubled among females between 2008 and 2014 and continued to increase.

FIGURE 6.22: Rate of people who were hospitalized or seen at the emergency department as a result of intimate partner violence or family violence by sex, CT, 2008–2017
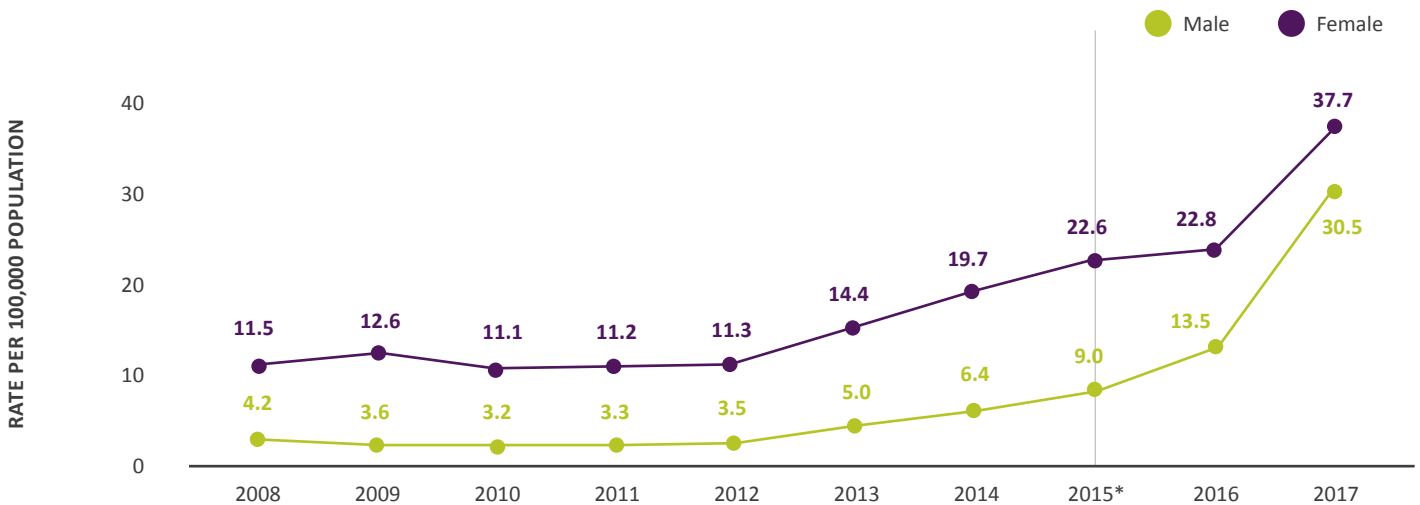
* The vertical line is the break line where the diagnosis codes were converted from ICD9 to ICD10 (as of Oct. 1, 2015).

Source: *CT DPH Injury and Violence Surveillance Unit, CHIME data. Data analyzed March 19, 2019.*

Females consistently had a higher rate of intimate partner or family-related ED visits and hospitalizations than males, and the gap between males and females increased between 2013 and 2015 and decreased between 2015 to 2017 (**Figure 6.22**). The decrease could be attributed to a change in diagnostic codes from ICD-9 to ICD-10; however, we will need few more years of data to confirm if this decreased trend is truly due to the changes in diagnostic codes.

Over the last decade, Hispanic and non-Hispanic Black residents had higher rates of intimate partner or family violence-related EDs and hospitalizations than non-Hispanic Whites. Non-Hispanic Blacks had the highest rate in 2017 (data not shown).
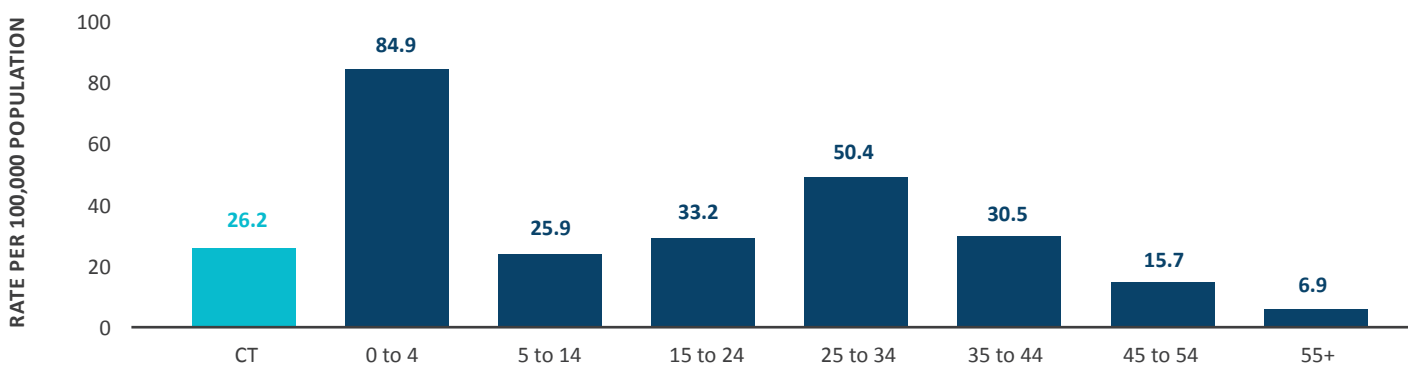
Over the last decade, all age groups experienced an increase in rates per 100,000 population of intimate partner or family violence-related ED visits and hospitalizations, with rates highest among children ages 0 to 4 from 2016–2017 (**Figure 6.23**). Family violence-related injuries in children under 5 years of age were three times higher than the state average; in adults age 25 to 34 they were double the state average.

INTIMATE PARTNER VIOLENCE DEATHS

Women accounted for 84% of the deaths due to IPV and were five times more likely to die from IPV when compared to men. In Connecticut from 2015–2018, an average of 34% of homicides of women were attributable to intimate partner violence, compared to 1.2% of male homicides (**Figure 6.24**). The largest proportion of women who died by intimate partner homicide comprised non-Hispanic Black women, followed by Hispanic women, and then non-Hispanic White women (**Figure 6.25**). Intimate partner violence-related homicides were predominant in women when compared to men.

The greatest number of deaths due to IPV occurred among residents ages 25 to 44 years, where women experienced 12 deaths and men experienced 5. The number of IPV deaths among women was more than double the number of IPV deaths among men. Among women, the second highest proportion of IPV-related deaths occurred among those 45–64 years of age (n=8), followed by those aged 18–24 (n=5) and those 65 years of age and older (n=5).

FIGURE 6.23: Rate of people who were seen at the emergency department as a result of family violence by age group, CT, 2016–2017

Category	Rate per 100,000 population
CT	26.2
0 to 4	84.9
5 to 14	25.9
15 to 24	33.2
25 to 34	50.4
35 to 44	30.5
45 to 54	15.7
55+	6.9

Source: CT DPH Injury and Violence Surveillance Unit, CHIME data. Data analyzed March 19, 2019.

FIGURE 6.24: Percentage of intimate partner violence-related homicides by sex, CT, 2015–2018
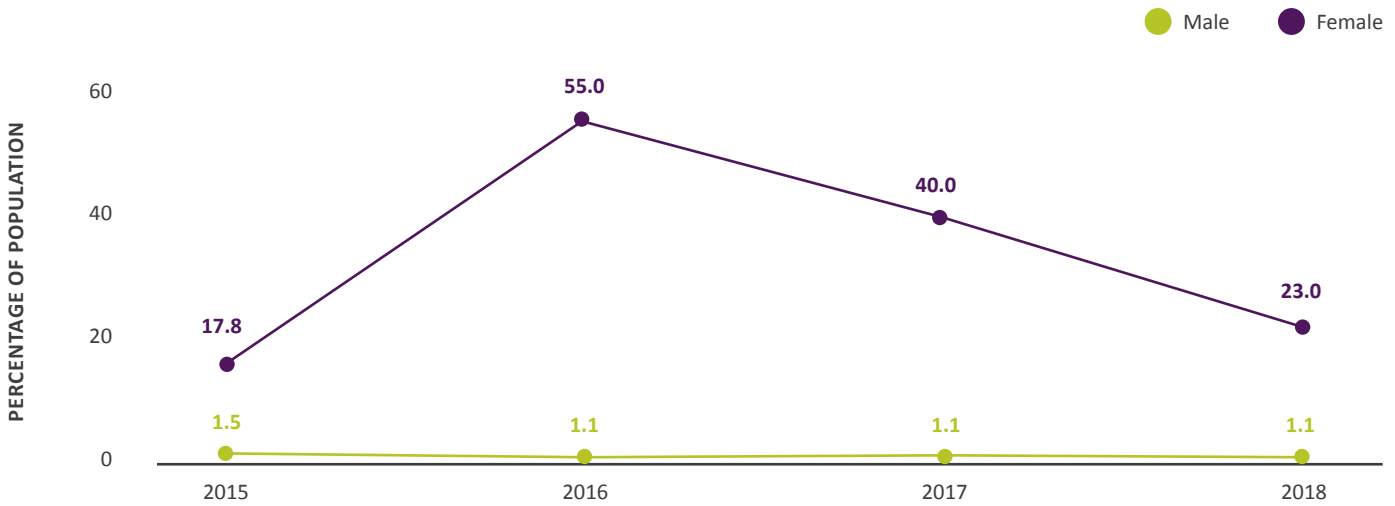
Source: CT DPH Injury and Violence Surveillance Unit, Connecticut Violent Death Reporting System. Data analyzed March 29, 2019.

As future data are collected, populations of interest include immigrant/undocumented populations that experience IPV and their access to social services and other legal and financial assistance.

FAMILY VIOLENCE DEATHS

In recent years, 434 deaths from homicide occurred in Connecticut; 49 (11.3%) of those homicides were due to domestic or family violence. Each year, males consistently account for slightly more family violence-related deaths than females.

Over two out of five deaths due to family violence occurred among our youngest residents between 0–17 years of age (**Figure 6.26**). For infants to children 9 years of age, 100% of deaths due to family violence were perpetrated by parents. Among residents 65+ years of age, 100% of the deaths were perpetrated by children of the victims.

FIGURE 6.25: Percentage of homicides in women due to intimate partner violence by race/ethnicity, CT, 2015–2018
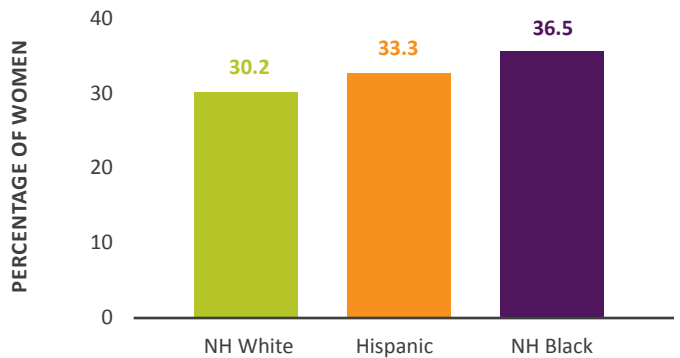
Source: CT DPH Injury and Violence Surveillance Unit, Connecticut Violent Death Reporting System. Data analyzed March 29, 2019.

RESOURCE SPOTLIGHT: INTIMATE PARTNER VIOLENCE SPECIALISTS

CT's Department of Children and Families assigned regional Intimate Partner Violence (IPV) Specialists to provide consultation, support, leadership, and coordination to improve outcomes for children and families impacted by domestic violence. The IPV Specialists:

- Utilize a family, strength-based approach that integrates non-clinical and clinical approaches to support child protection practice and service provision and coordination. This approach focuses heavily on supporting frontline workers with specific cases and in some instances, includes direct consultation with families.

- Offer guidance to social workers, especially as it pertains to information and resources that can help the entire family system.

- Promote systems change. The positions focus heavily on education and training both within the agency and in the community.

Please see the link for more details which are available in CT.gov portal: https://portal.ct.gov/DCF/Intimate-Partner-Violence/Home

FIGURE 6.26: Percentage of deaths due to family violence by age group, CT, 2015–2018
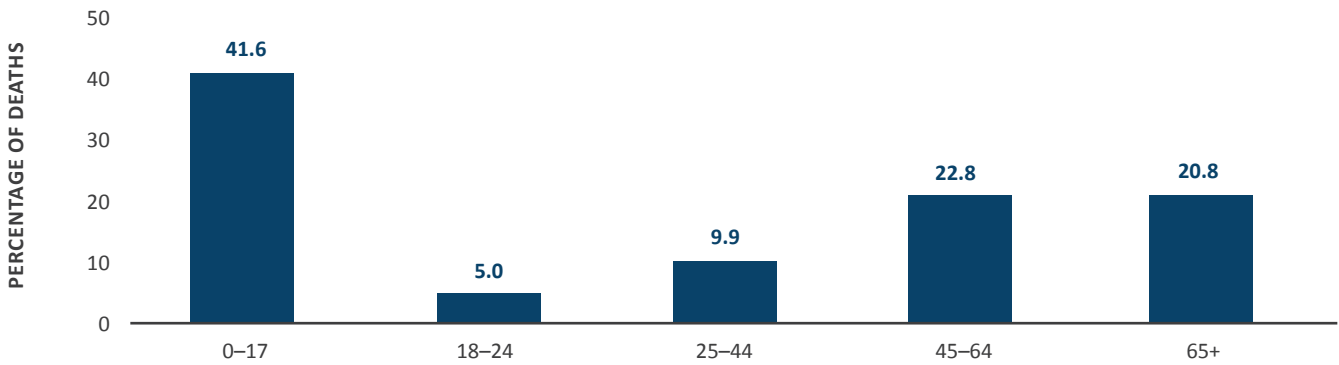
Source: CT DPH Injury and Violence Surveillance Unit, Connecticut Violent Death Reporting System. Data analyzed March 29, 2019.

FIGURE 6.27: Number and percentage of family violence deaths by race/ethnicity, CT, 2015-2018
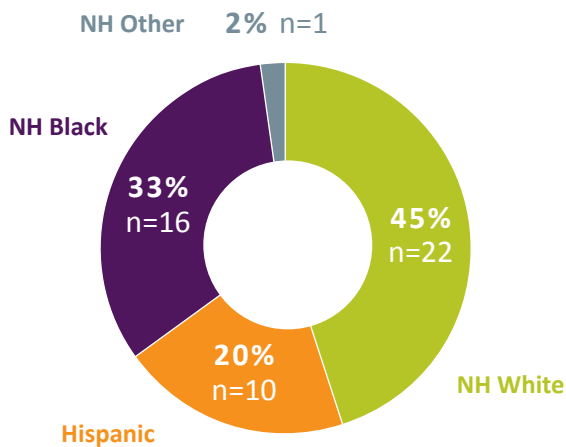
Source: CT DPH Injury and Violence Surveillance Unit, Connecticut Violent Death Reporting System. Data analyzed March 29, 2019.

The largest proportion of deaths related to family violence comprised non-Hispanic White residents, followed by non-Hispanic Black and Hispanic residents, respectively (**Figure 6.27**). Based on population rates, non-Hispanic Black residents had proportionately higher rates than other race/ethnicity groups.

Sexual Violence

Sexual violence is defined as someone forcing another person he or she is dating or going out with to do sexual things they did not want to do (e.g., kissing, touching, or being physically forced to have sexual intercourse). Sexual violence has far-reaching effects on society and is a significant public health problem in Connecticut. Sexual violence causes immediate and long-term physical, social, and psychological consequences as well as additional negative health risk behaviors.[38] Nationally, compared to adult men and women who had not experienced sexual violence, those who had were:

• More likely to experience poor physical health, and

• Over two times more likely to experience poor mental health in their lifetimes.[39]

In addition, rape is one of the costliest crimes; it is estimated that each rape costs the victim an average of $122,461, including medical, mental health, loss of productivity, and pain and suffering costs.[40]

Sexual violence disproportionately affects youth, and those who experience sexual violence as a youth are more likely to become victims again in adulthood. Nationally, more than 40% of female victims of rape experienced it first when they were 17 years old or younger, and nearly one in three of all victims experienced it first when they were between the ages of 11 and 17. Nearly one in four male victims of sexual violence also first experienced it when they were 17 years of age or younger.[39] In CT, compared to high school students who had not experienced sexual violence, students who had experienced sexual violence in a dating relationship (i.e. "sexual dating violence") were:

- Three times more likely to use prescription drugs to get high,

- Three times more likely to miss school, and

- Two times more likely to seriously consider suicide.[41]

Among CT high school students, 7.5% report being forced to have sexual intercourse in their lifetimes, and one in ten reported experiencing sexual dating violence in the past 12 months (**Figure 6.28**). Notably, when we look at the percentage of high school students who experienced sexual dating violence in CT versus the US overall, we see that CT's percentages exceeded the national percentages overall, as well as across all gender,

race/ethnicity, and high school grade level categories. When looking at high school students in our state specifically, we see that females, non-Hispanic Black and Hispanic/Latino students, and those in the 9th and 10th grades had the highest percentages of students who experienced sexual dating violence, when compared to males, non-Hispanic White students, and those in upper grade levels.

To address sexual violence among young people in our state, CT DPH, the CT Alliance to End Sexual Violence (The Alliance), and The Alliance's nine rape crisis centers developed a State Action Plan that prioritized the following strategies:

- **Sexual violence training in K-12 schools:** Connecticut passed legislation (Public Act 14-196) requiring schools to implement sexual violence awareness and prevention training in K-12 schools statewide beginning in October 2016. Through this legislation, the State Department of Education collaborated with The Alliance, the CT DPH, and other stakeholders to develop a framework for sexual violence awareness and prevention in K-12 schools. The group is currently working on a strengths and needs assessment of these awareness and prevention efforts in CT schools, and will be developing a toolkit accordingly.

FIGURE 6.28: Percentage of sexual dating violence in youth within the past 12 months, by sex, race/ethnicity, and grade; CT and U.S., 2017
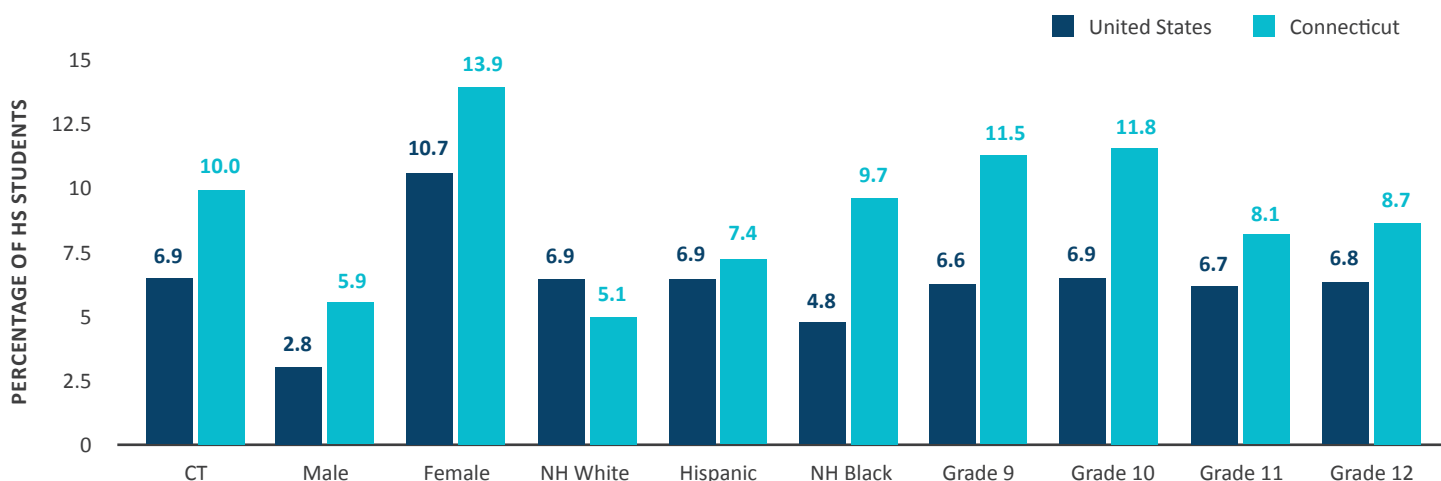
Source: CT DPH, Connecticut School Health Survey, Summary Tables, 2017. Retrieved from www.ct.gov/dph/CSHS.

- **Addressing sexual violence in athletic environments:** CT DPH and The Alliance collaborate with the CT Interscholastic Athletic Conference (CIAC) to create protective environments for student athletes through a pro-social media campaign and trainings for athletes, coaches and administrative staff. The collaboration helps athletic clubs to develop best practices and policies for sexual violence response and prevention. The collaboration also focuses efforts on empowering girls through sports and leadership activities.

- **Sexual violence Youth Participatory Action Research (YPAR):** CT DPH and The Alliance selected sexual assault crisis services centers and community-based organizations that work with underserved youth (i.e., youth with intellectual disabilities or LGBTQ youth) to complete community-based Youth Participatory Action Research (YPAR) around the topic of sexual violence in CT in March 2019. YPAR has four major tenets that include shared authority, inclusion, knowledge legitimacy, and being a vehicle for social change. These principles make YPAR a unique opportunity for engaging youth in sexual violence prevention that is both led by youth and that can create sustainable organizational changes.

Bullying and Fighting

Bullying is considered a traumatic event, and fighting may be considered either a traumatizing experience or a consequence/ outcome of having repeated exposure to trauma.

Bullying also indicates disruption in the school setting that impacts school connectedness, which is an important protective factor for substance use, sexual behavior, mental health, and academic success. Aside from the immediate effects from the bullying event itself, young people who are bullied are more likely to experience negative physical, academic, and mental health issues such as:

- Depression and anxiety;
- Health complaints; and
- Decreased academic achievement and school participation.

In addition, young people who were bullied, either at school or electronically, may engage in risky behaviors into adulthood, including:

- Having multiple sexual partners;
- Having sex without a condom; and
- Using substances in a harmful way.

Young people who bully others can also engage in violent and other risky behaviors into adulthood. Specifically, they are more likely to:

- Use and misuse alcohol and other drugs in adolescence and as adults;

- Get into fights, vandalize property, and drop out of school;

- Engage in early sexual activity;

- Have criminal convictions and traffic citations as adults; and

- Be abusive toward their romantic partners, spouses, or children as adults.[42]

Students who are both targets of bullying and engage in bullying behavior are at greater risk for both mental health and behavior problems than students who only bully or are only bullied.[43]

The percentage of students in CT and the US overall who were in a physical fight once or more during the 12 months prior trended down in the last decade (**Figure 6.29**). CT's rate is consistently below that of the nation overall.

In recent years, CT females were more likely than CT males to be bullied on school property. The percentage of females who were bullied on school property has decreased in recent years, from 26.1% in 2013 to 20.8% in 2017, whereas the percentage of males who were bullied on school property remained relatively stable between 2013 and 2017.

Black and Hispanic youth who are bullied are more likely to suffer academically than their white peers.[44] In our state, the percentage of Hispanic students who were bullied on school property steadily decreased in recent years, from 22.4% in 2013 to 14.5% in 2017. The percentage for White students decreased slightly but still remained high compared to the other two groups (21.8% in 2017). The percentage of bullying for Black students slightly increased between 2011 and 2017 to 16.2%.

When it comes to electronic or cyberbullying, the percentage of females being cyberbullied is consistently higher than the percentage of males in recent years, and almost double the percentage of males being cyberbullied in 2017 (**Figure 6.30**). For both males and females, the rates have remained relatively stable in recent years.

SEXUAL VIOLENCE DISPROPORTIONATELY AFFECTS PRIORITY POPULATIONS

While sexual violence does not discriminate, it does disproportionately affect populations that face additional challenges, such as lack of financial resources, those in marginalized communities, and racial and ethnic minorities. Specifically, those disproportionately affected include:

· **Racial and ethnic minorities:** Nationally, nearly half of non-Hispanic women of two or more races (TOM), over one third of Black women, and more than 1 in every 4 Hispanic women have experienced some form of contact sexual violence during their lifetime.

· **Those from low-income households:** Nationally, approximately 44% of victims of sexual violence report that their annual household income is less than $25,000 (while only 22% of US citizens identify their household income is below $25,000).

· **Those identifying as lesbian, gay, and bisexual:** Nationally, approximately 44% of lesbian women, and over 60% of bisexual women experienced rape, physical violence, and/or stalking by an intimate partner in their lifetime. Similarly, gay and bisexual men experience increased levels of sexual violence, with 1 in 4 gay men and more than 1 in 4 bisexual men having experienced rape, physical violence, and/or stalking by an intimate partner in their lifetime. Of transgender individuals, nearly 35% reported lifetime physical abuse by a partner and 64% reported experiencing sexual assault.

· **Youth:** As mentioned, sexual violence is common in youth, and those who experience it as a youth are more likely to become victims again in adulthood.
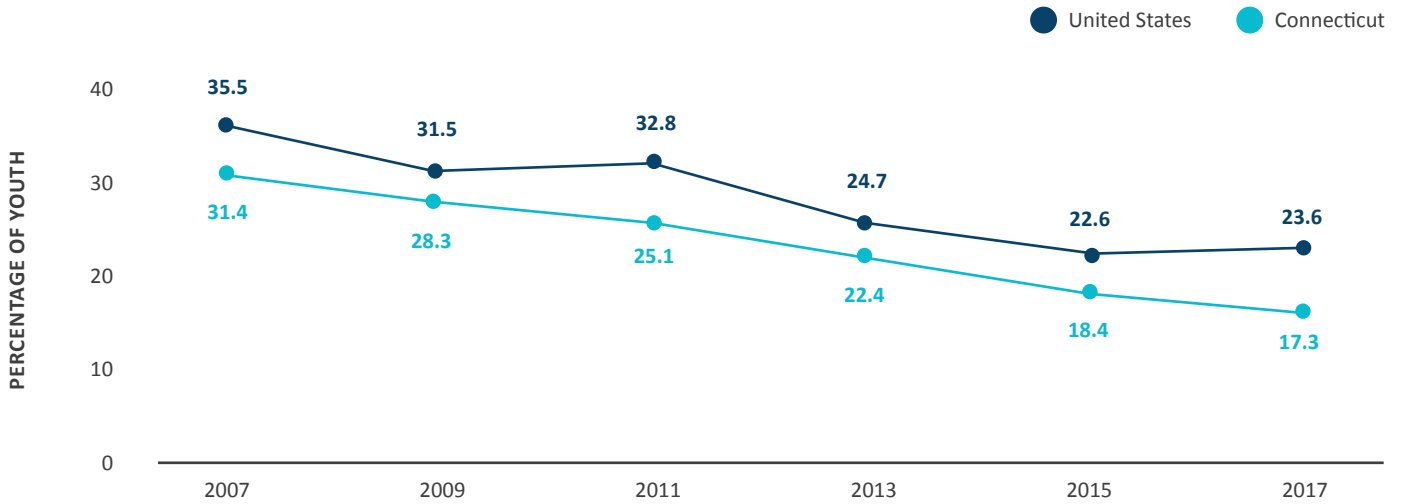
For these reasons, sexual violence prevention activities in CT are focused around youth, unserved or underserved communities, and those at increased risk such as LGBTQ individuals. The CT Department of Public Health will also continue to monitor data around sexual violence and health disparities in CT to inform program activities and delivery.

Sources:

National Intimate Partner And Sexual Violence Survey: 2010 summary report. Retrieved from the Centers for Disease Control and Prevention, National Center for Injury Prevention and Control.

Justice Department, National Crime Victimization Survey (NCVS): (2016).

FIGURE 6.29: Percentage of youth who were in a physical fight during the previous 12 months, US and CT, 2007–2017

● United States   ● Connecticut

PERCENTAGE OF YOUTH

	2007	2009	2011	2013	2015	2017
United States	35.5	31.5	32.8	24.7	22.6	23.6
Connecticut	31.4	28.3	25.1	22.4	18.4	17.3

Source: CT DPH, Connecticut School Health Survey, Summary Tables, 2007–2017. Retrieved from www.ct.gov/dph/CSHS.

FIGURE 6.30: Percentage of youth who were bullied electronically in the previous 12 months, by sex, CT, 2011-2017

● Male   ● Female

PERCENTAGE OF YOUTH

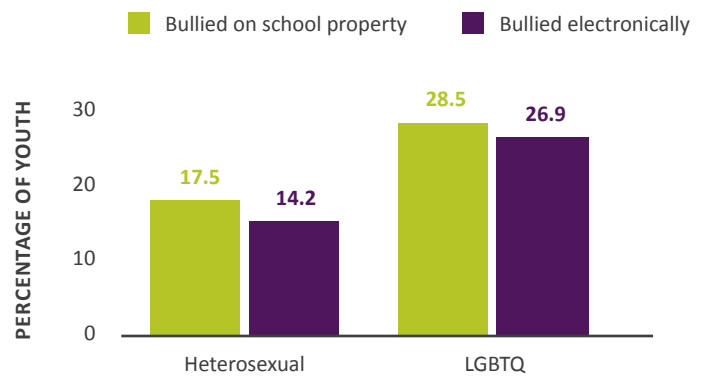|	2011	2013	2015	2017
Female	20.1	22.8	17.4	20.9
Male	12.5	12.3	10.3	11.0
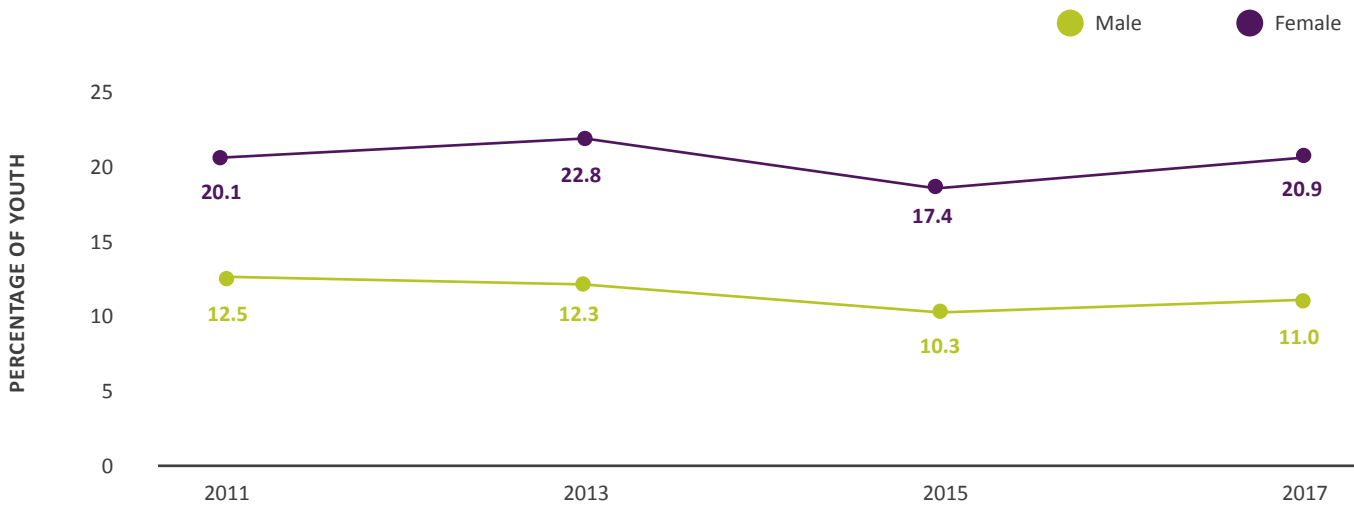
Source: CT DPH, Connecticut School Health Survey, Summary Tables, 2011–2017. Retrieved from www.ct.gov/dph/CSHS.

Cyberbullying, broken out by race/ethnicity, indicated that there was a steady decrease among Hispanic youth being cyberbullied and a steady increase in cyberbullying among Black youth in recent years. The percentage of White students being cyberbullied has remained relatively stable, but comparatively higher than the other two groups. In 2017, the percentage of youth who were cyberbullied was 18.3% among non-Hispanic Whites, 13.4% among non-Hispanic Blacks, and 12% among Hispanic residents.

Youth who identify as lesbian, gay, bisexual, transgender, or queer (LGBTQ) are more likely to be bullied, both on school property and electronically, when compared to students who identify as heterosexual (**Figure 6.31**). The percentage of LGBTQ youth who reported cyberbullying was almost double the percentage of heterosexual youth who reported cyberbullying, 26.9% versus 14.2%.

FIGURE 6.31: Percentage of youth who were bullied on school property or electronically by sexual identity, CT, 2017

Source: CT DPH, Connecticut School Health Survey, Summary Tables, 2017. Retrieved from www.ct.gov/dph/CSHS.

APPROACH SPOTLIGHT: STATE AND LOCAL EFFORTS TO ADDRESS BULLYING

The Sandy Hook Elementary School mass shooting in Newtown, CT, has prompted a galvanized legislature and community focusing on prevention and precipitants to school shootings which include bullying. Initiatives include:

- **State legislation that provides statutory requirements for:**
  + Teacher preparation around bullying prevention, identification, and response; and
  + Development of school climate assessments and safe school climate plans.
- **CT State Department of Education — Character Education:** The Academic Office Bureau offers workshops, training and technical assistance to schools and other agencies working to prevent bullying. Also, parents with concerns and/or complaints about bullying in their child's school can contact the Bureau for information and guidance.

- **Eyes on Bullying website, which provides:**
  + Information, insights, strategies, activities, and resources that address bullying.
  + Information designed for caregivers and parents of preschool and school-age children and youth, and well suited for use in child care programs, after school and youth programs, and camps.
  + Website: http://eyesonbullying.org/
- **National Conference for Community and Justice Bridges/Anti-Bullying/Prejudice Reduction Program:** A two-day anti-bullying and prejudice reduction program for middle and high school age youth where students begin to understand the origins of prejudice and recognize the harmful effects of stereotypes.

Firearm Injuries and Deaths

The United States is currently positioned uniquely regarding firearms globally — it is the only country in the world that includes a constitutional right to bear arms and does not explicitly include any restrictive conditions. This translates to a burden of gun violence that outpaces other populous, high-income countries. Although Connecticut fares better than the Nation, preventing firearm injury has been a priority for the state since the Sandy Hook Elementary School shooting in December 2012. In April 2013, the Connecticut General Assembly passed a major legislative package requiring universal background checks, banning the sale of high capacity magazines and certain assault weapons, preventing firearm injury, promoting firearm safety and ensuring mental health are priorities, and creating a registry for dangerous weapon offenders.

Guns are the most commonly used weapons in suicides (about half of all suicides in the U.S. involve a firearm). Societal costs to firearm injuries include work loss, medical and mental health care, employer costs and decreased quality of life, calculated to be about $229 billion in 2015.[45]

A reduction in firearm incidents would directly impact the trauma experienced by families of the victims. People who live in communities with high incidence of firearm violence experience an overburden of stress as they live with the uncertainty that firearm violence could take their life or that of a loved one or that they might witness a shooting. Overall, a safer community would offer residents greater opportunities to pursue healthy lifestyles and improve community vitality and cohesion.

Although the rates of death and injury vary over the reporting period, the overall firearm death rate has declined 19.3% between 2008 and 2016, from 5.7 per 100,000 CT population to 4.6 (**Figure 6.32**). A spike in firearm death rate (6.2 per 100,000 population) in 2012 is attributable to the shooting at Sandy Hook Elementary School.

In the last decade, the rate of non-fatal firearm injuries experienced mostly a decline, from 8.9 per 100,000 CT population to 4.8 in 2014. It has increased 9.6%, however, since 2016. It should be noted that an increase occurred at the transition from the ICD-9 to ICD-10 reporting systems in 2015, so trends depicted here should be interpreted with caution.

Compared to females, males are much more likely to be victims of both firearm deaths and non-fatal injuries. Specifically, the male firearm-related death rate is approximately 9–10 times the rate of females (**Figure 6.33**). The rate of non-fatal firearm-related ED visits and hospitalizations remained relatively stable over time for CT females (data not shown). For males, who also had much higher non-fatal firearm injury rates compared to females, the rate trended downwards (48.8%) during 2008 through 2014. This decrease was not sustained, however, because the rate increased 11.6% from 2016 through 2017. Again, due to the change from ICD-9 to ICD-10 coding in 2015, trends should be interpreted with caution.

When examining the race/ethnicity of firearm victims, non-Hispanic Black residents have consistently experienced greater rates of both injury and death than any other racial/ethnic group. However, there has been a downward trend of firearm death rates in non-Hispanic Black residents from a high of 18.8 in 2011 to 10.0 in 2016 (**Figure 6.34**). This was a substantial decrease by 48.6% over a 6-year period.

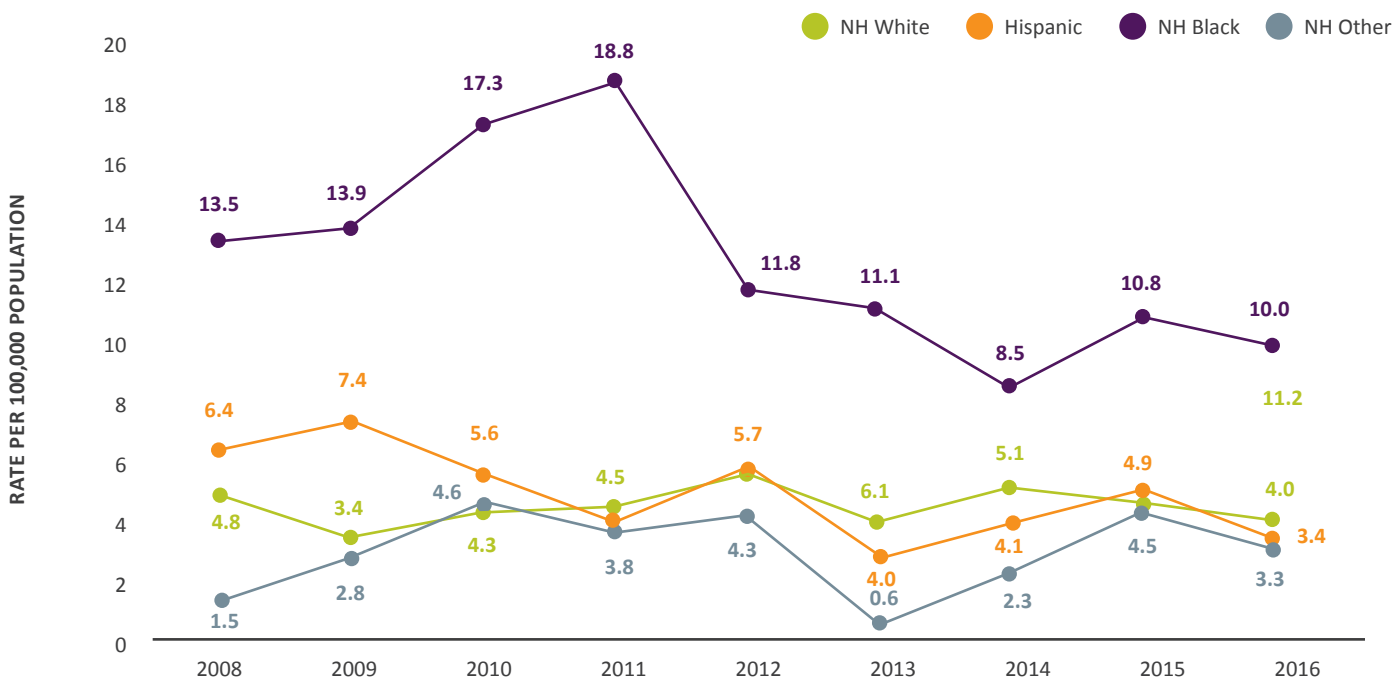**FIGURE 6.32: Rate of firearm-related deaths, CT, 2008–2016**
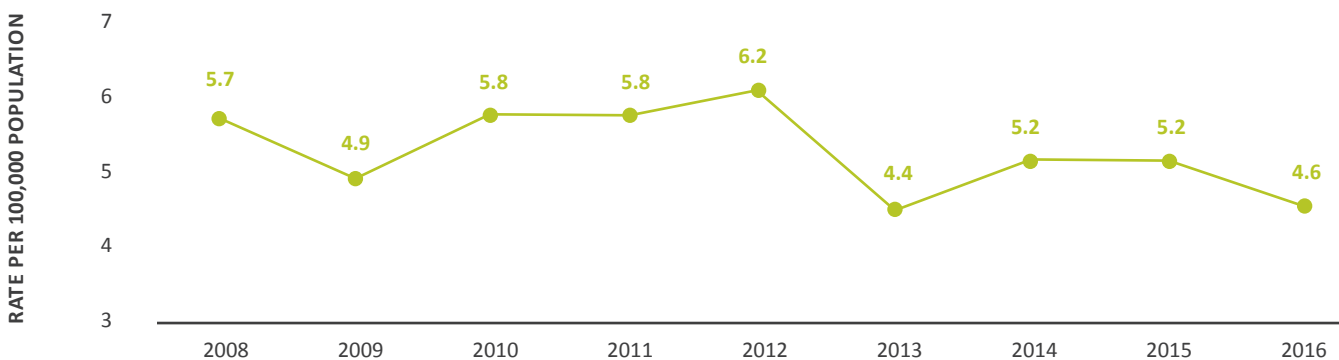
Source: CT DPH Surveillance Analysis and Reporting, CT Death Registry, 2008–2016. Data analyzed March 18, 2019.

FIGURE 6.33: Rate of firearm-related deaths per year by sex, CT, 2008–2016
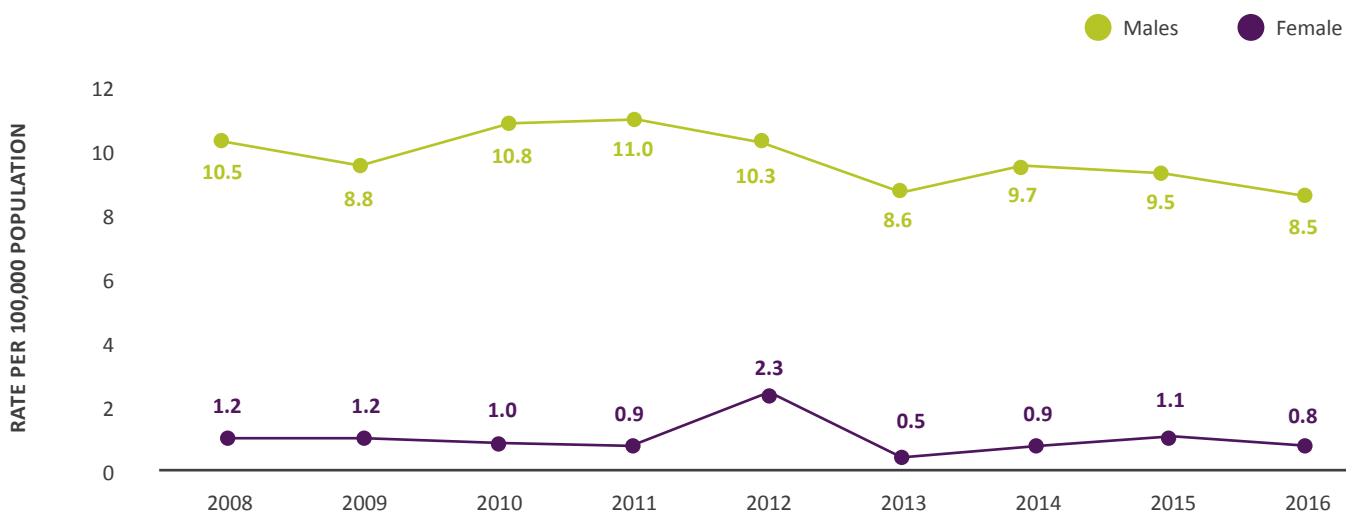
Source: CT DPH Surveillance Analysis and Reporting, CT Death Registry, 2008–2016. Data analyzed March 18, 2019.

**FIGURE 6.34: Rate of firearm-related deaths by race/ethnicity, CT, 2008–2016**

Source: CT DPH Surveillance Analysis and Reporting, CT Death Registry, 2008–2016. Data analyzed March 18, 2019.

Nonfatal and fatal firearm injury rates were the highest in 15 to 29 year-olds between 2008 and 2017, but fortunately trending down over time. In 2016 through 2017, the number of non-fatal firearm-related EDs and hospitalizations was the highest in 15 to 19 year-olds with 396 (**Figure 6.35**), 30 to 44 year-olds were next highest with 162, followed by 45 to 59 year-olds with 80. These counts translate to crude population rates of 80.3, 37.0 and 15.7 per 100,000 CT population, respectively.

Generally speaking, community- and school-level initiatives that influence the social determinants of health such as housing, economic development, and education show promise in reducing rates of crime and violence. It should be noted, however, that the mere presence of violence undermines these determinants. In addition, expanded access to mental health services and putting routine mental health assessments into place are critical to prevent and address firearm injuries and deaths, as they can reduce the lingering stigma associated with seeking care and reframe mental health as a part of an individual's whole health.[46]

FIGURE 6.35: Number of non-fatal firearm-related emergency department visits and hospitalizations by age group, CT, 2016–2017
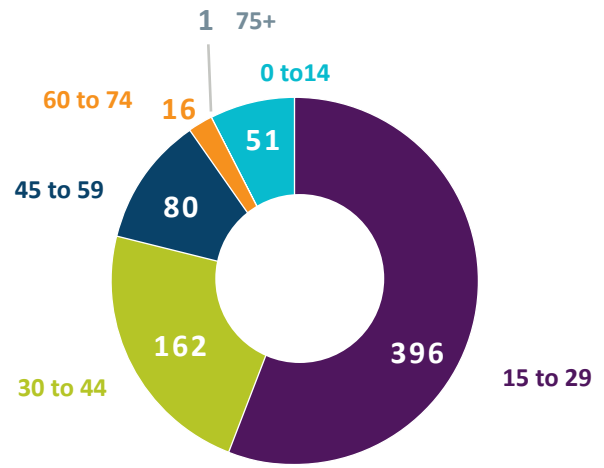
Source: CT DPH Injury and Violence Surveillance Unit, CHIME data. Data analyzed March 19, 2019.

UNINTENTIONAL INJURIES

In the US, unintentional injury is the leading cause of non-fatal injury for all age groups, as well as the leading cause of death for individuals ages 1 to 44.[47] Unintentional injuries are defined as injuries that occur without intent of harm or death, and often occur via unplanned events that include falls, motor vehicle crashes, concussions or traumatic brain injury, drug overdose, and poisoning.

Falls

Falls are the leading cause of injury and injury death among adults 65 years of age and older. In CT alone, falls account for $1.37 billion a year in lifetime costs related to medical expenses and other expenditures.[48] In addition, even the fear of falling by older adults can limit their activities and social life, thereby resulting in further physical decline, depression, social isolation, and feelings of helplessness.

"...fall prevention, that's a big thing. I think everybody as you get older, that's probably the number one fear is falling."

— STATE HEALTH ASSESSMENT FOCUS GROUP,
AGING ADULTS

Falls occur for many reasons, including biological, behavioral, and environmental factors. Risk factors include:

- Previous falls;
- Chronic health conditions (e.g., arthritis, stroke);
- Conditions in the home (e.g., slippery floors, loose rugs, cords on the floor, poor lighting);
- Fear of falling;
- Medicines (including interaction effects);
- Mobility problems (e.g., muscle weakness, balance);
- Poor nutrition (leading to weakness, dizziness, fainting); and
- Poor vision or hearing.

Yet, falls are also preventable across all populations, regardless of health status, socioeconomic factors, or demographic characteristics. Preventing falls can be promoted by:

- Developing and implementing a public education campaign about the potential risks of using multiple medications (polypharmacy).

- Promoting implementation of evidence-based multi-faceted programs for community-dwelling older adults that integrate fall risk reduction strategies.

- Educating healthcare, childcare, and other care providers on fall prevention.

- Partnering with athletic, sports, and recreation stakeholders to develop strategies, policies, and training on use of appropriate protective equipment.

- Collaborating with regulators and other partners to promote development and maintenance of playgrounds that meet guidelines for Public Playground Safety.

- Developing comprehensive home safety program for families and caregivers, focusing on injury risks for children.

- Identifying, accessing, and analyzing potential alternative sources of data on causes and locations of falls for specific age groups, including home, recreational, and sports-related falls.

- Developing procedures for improving the coding of data on causes and locations of falls.

PARTNER SPOTLIGHT: REDUCING FALL RISK

Connecticut Healthy Living Collective (CHLC): A partnership of state, regional, philanthropic and community organizations focused on healthy aging.

A key initiative of the CHLC is to raise awareness and enhance access to evidence-based prevention and health promotion programs in Connecticut.

Two evidence-based fall prevention programs offered in Connecticut that are shown to reduce fall risk and fear of falling, and improve balance and strength are:

- A Matter of Balance

- Tai Ji Quan: Moving for Better Balance

For a listing of the highest tier evidence-based programs rated by the National Council on Aging, please see the link (www.ncoa.org/resources/ebpchart/).

A recent survey conducted by CHLC, and funded by CT DPH, has identified at least 16 organizations offering A Matter of Balance and 12 offering Tai Ji Quan. Local health agencies, senior centers, trauma centers and visiting nurse associations have participated in delivering and hosting these programs in Connecticut communities.

As our state's older adult population grows, a growing number of residents prefer to age in place. Thus, to promote the health of older adults especially, and our residents overall, falls prevention is critical to address.

FALL-RELATED DEATHS

The Healthy Connecticut 2020 objective is to reduce the number of deaths due to falls by 10% by the year 2020. The rate of fall-related deaths has trended upwards in the last decade, peaking in 2015. Males had higher rates of fall-related deaths than females for most of the past decade; however, the gap between males and females decreased in recent years.

When looking at the rate of fall-related deaths by age, we see that our oldest residents, aged 75 and over, carry the highest burden (**Figure 6.36**). While the rate for seniors 85 years of age and older increased overall in the last decade, the rate for seniors between the ages of 75 to 84 decreased overall.

Non-Hispanic White residents had the highest rates of fall-related deaths, compared to all other races/ethnicities over the past decade (**Figure 6.37**). Residents who identify as non-Hispanic Other had the highest increase in fall-related death rates, from 1.5 deaths per 100,000 residents in 2008 to 8.8 deaths per 100,000 residents in 2016, an increase by almost five times. The non-Hispanic Other race/ethnicity category includes Asian or Pacific Islander, American Indian or Native Alaskan.

## FALL-RELATED EMERGENCY DEPARTMENT VISITS AND HOSPITALIZATIONS

Overall, the rate of an unintentional-fall-related emergency department (ED) visits and hospitalizations per 100,000 population had an overall downward trend over the last decade (**Figure 6.38**). Females consistently had higher rates of such ED visits and hospitalizations compared to males, and both trended downward as well. As a note, rates prior to 2015 cannot be directly compared to rates from 2016 onwards due to the change from ICD-9 to ICD-10 coding.

**FIGURE 6.36: Rate of fall-related deaths by age group, CT, 2008–2016**
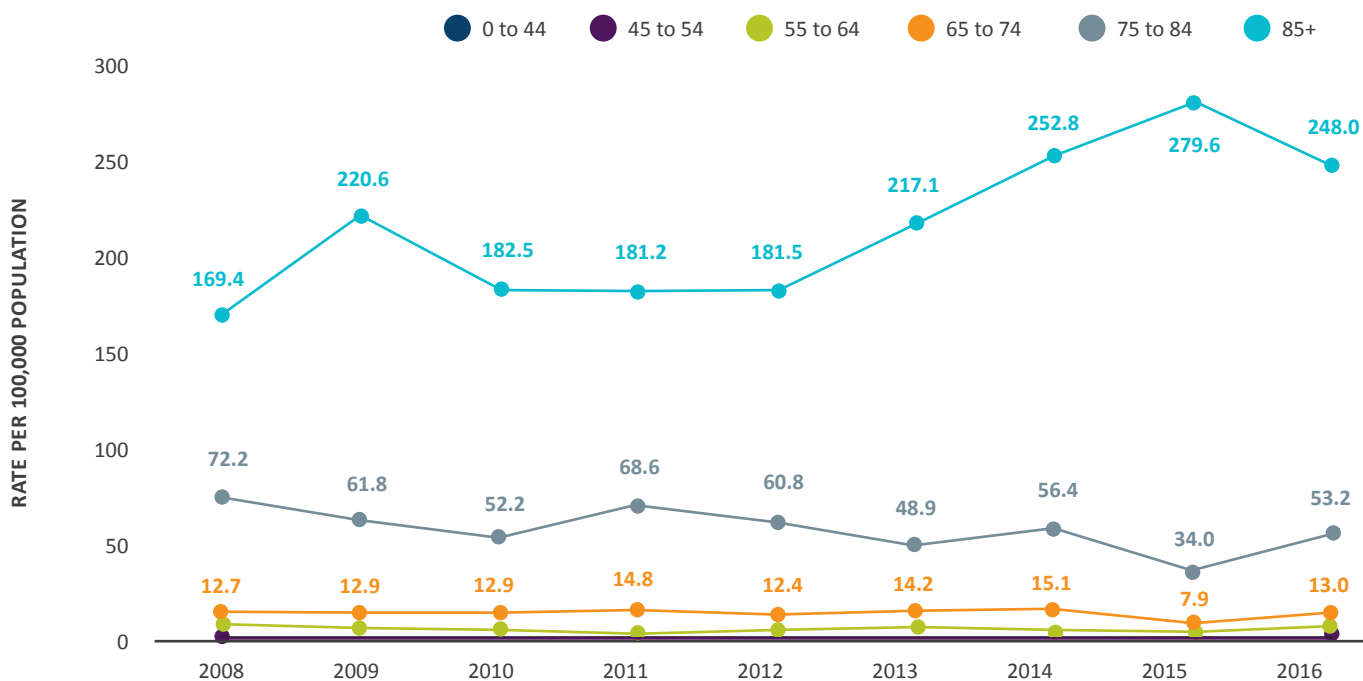
Source: *CT DPH Surveillance Analysis and Reporting, CT Death Registry, 2008–2016. Data analyzed March 18, 2019.*

FIGURE 6.37: Rate of fall-related deaths by race/ethnicity, CT, 2008–2016
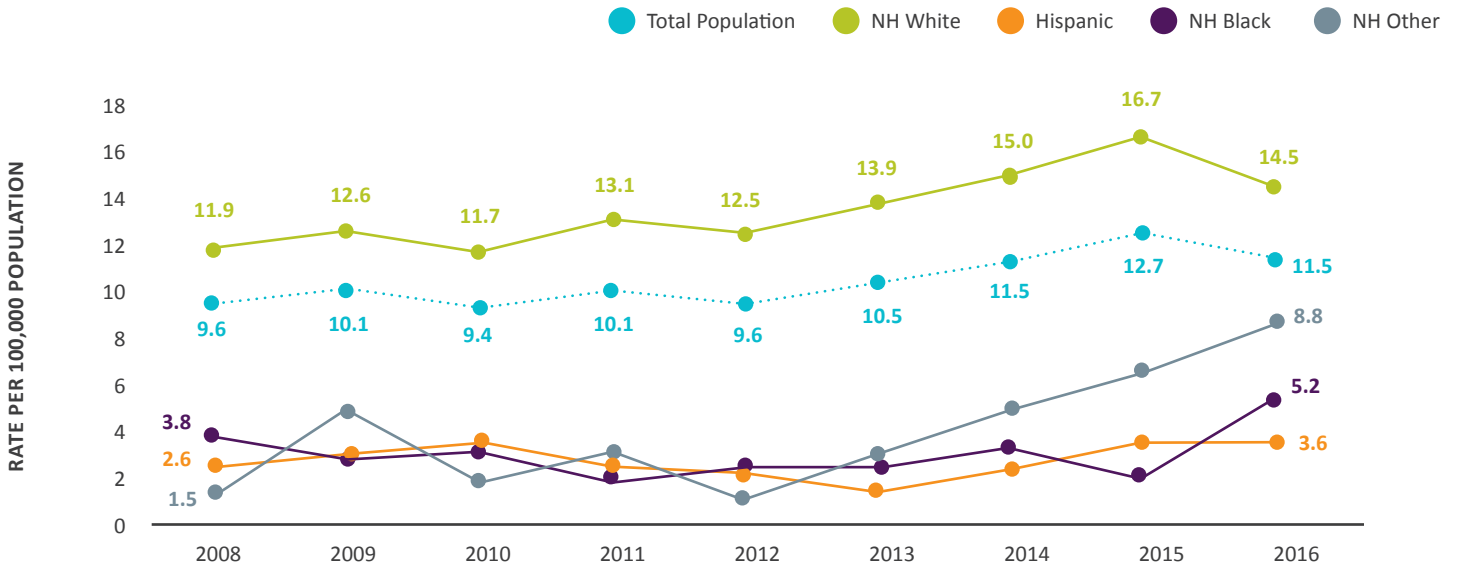
Source: CT DPH Surveillance Analysis and Reporting, CT Death Registry, 2008–2016. Data analyzed March 18, 2019.

FIGURE 6.38: Rate of people who were seen at the emergency department or admitted to the hospital as a result of an unintentional fall by sex, CT, 2008–2017
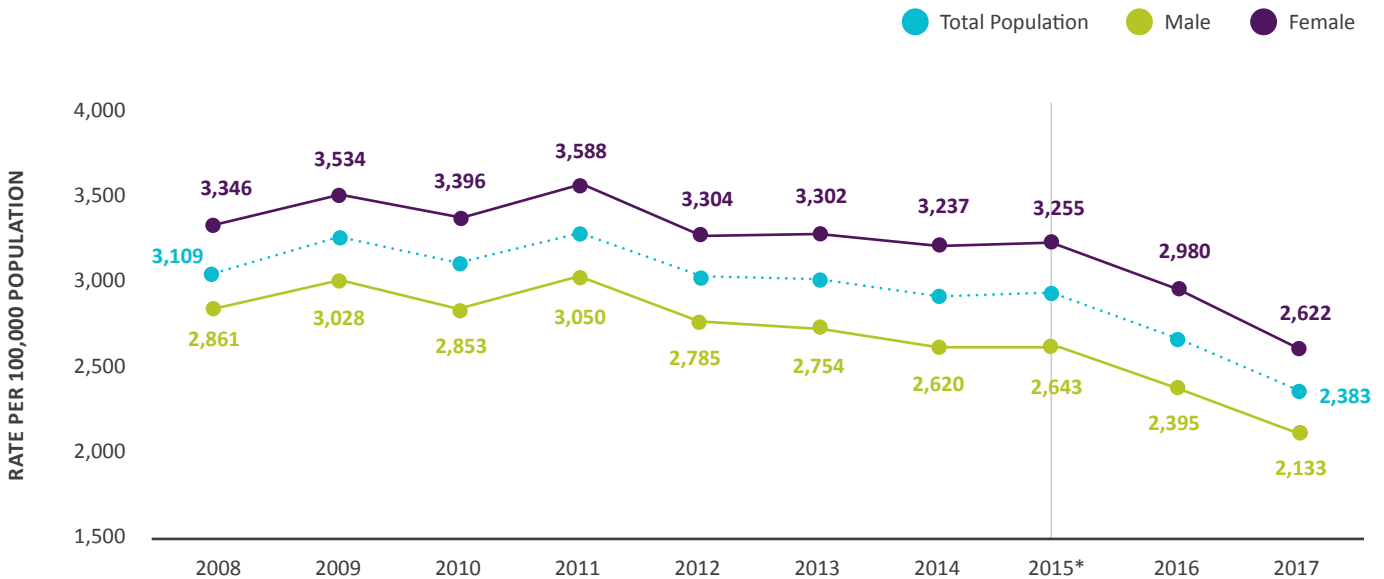
* The vertical line is the break line where the diagnosis codes were converted from ICD9 to ICD10 (as of Oct. 1, 2015).
Source: CT DPH Injury and Violence Surveillance Unit, CHIME data. Data analyzed March 19, 2019.

Like fall-related deaths, fall-related ED visit and hospitalization rates disproportionately burden our eldest residents (**Figure 6.39**). People ages 85 and older had the highest rate, which was double the rate of people ages 75 to 84, who had the second highest rate. The age group with the third highest rate are children ages 0 to 4. Overall, rates across all groups declined over the last decade.

Over the last decade, the rate for unintentional fall-related ED visits and hospitalizations decreased for all races/ethnicities, except non-Hispanic Black residents. Non-Hispanic Black residents had the lowest rate in 2008 (2,356.8 per 100,000 population) among all races/ethnicities, but by 2014, they had the highest rate (3,027.9) (graph not shown). This was a 28.5% increase in six years. Conversely, over a similar time period, Hispanic residents went from having the highest rate for unintentional fall-related ED visits and hospitalizations in 2008 (3,447.4 per 100,000 population) to having the second lowest by 2015 (2,701.6) which was a 21.6% decrease.

FALL-RELATED CONCUSSIONS

In contrast to other fall-related injuries, the rate of ED visits and hospitalizations due to fall-related concussions (and other traumatic brain injuries) per 100,000 population trended upwards over the last decade. Female residents consistently had higher rates than male residents, with the gap widening in recent years (trend data not shown).

Motor Vehicle Crashes

Motor vehicle crashes are currently the third leading cause of death due to unintentional injury after falls and unintentional drug overdose. One in three crash deaths in the US involves drunk driving, and almost one in three involves speeding. Motor vehicle traffic-related non-fatal emergency department (ED) visits and hospitalizations have incurred millions of dollars in healthcare and related costs.[49]

Yet, many of these deaths and non-fatal injuries can be prevented. Reducing motor vehicle crash deaths was one of the great public health achievements of the 20th century for the US with the introduction of safety belts. Today, the CT DPH recommends the following steps to prevent motor vehicle-related injuries:

- Strict seat belt laws;

- Mandates for all vehicles, except buses, to be fitted with a safety belt in designated seating positions;

- To wear a seat belt on every trip;

- To make sure children ride in properly installed car seats or booster seats appropriate for their weight and age;

- To wear bicycle and motorcycle helmets while riding;

FIGURE 6.39: Rate of unintentional fall-related emergency department visits and hospitalizations by age group, CT, 2016–2017
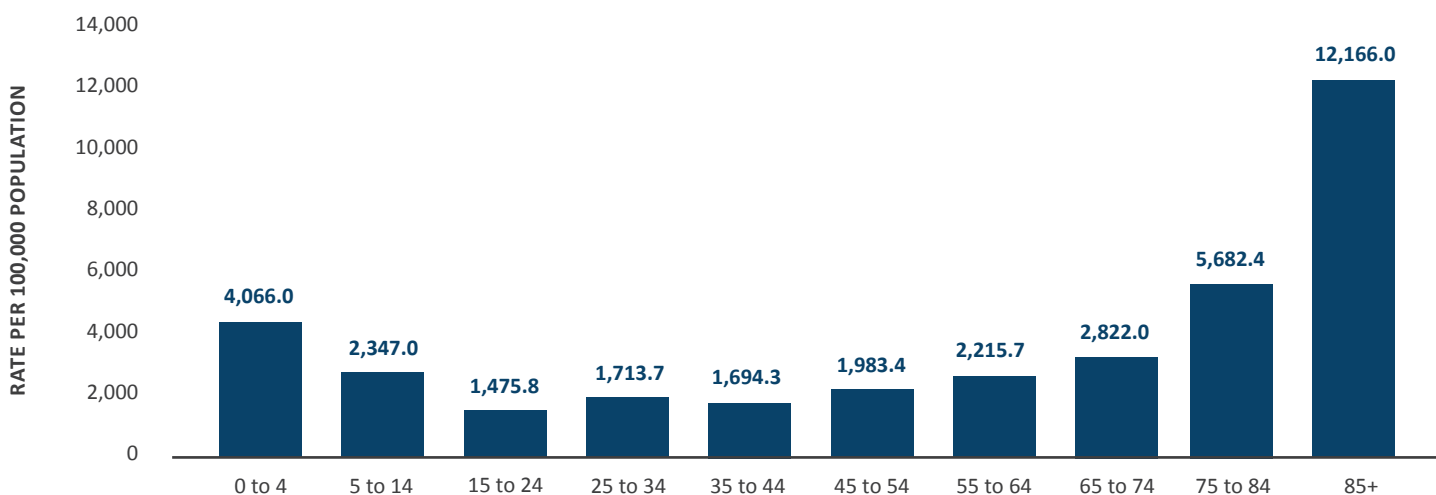
Source: CT DPH Injury and Violence Surveillance Unit, CHIME data. Data analyzed March 19, 2019.

- To avoid using electronic devices or doing other activities in the car that distract you from driving;

- Do not drink and drive or let others drive after drinking;

- To walk facing oncoming traffic and wear highly visible reflective clothing if walking at night;

- To obey the speed limits;

- Encouragement for parents to discuss motor vehicle safety with their teenage drivers and passengers, such as following the rules of the road, creating a parent-teen safe driving contract, monitoring their teen's driving, and learning and enforcing Connecticut's teen driving laws, which include restrictions on two of the most risky situations for young drivers — driving at night and driving with other teen passengers.

FATAL MOTOR VEHICLE CRASHES

Though motor vehicle crash-related death rates which included drivers and passengers per 100,000 population were variable over the last decade, overall rates trended towards a decline in 2016 compared to 2008 (**Figure 6.40**). Males had about three times higher rates of motor vehicle traffic crash deaths per 100,000 population than females.

The highest risk groups for death in a motor vehicle crash are the 15 to 29 year olds and persons age 75 years and older. Although they are the highest risk groups, the trend line is decreasing over the years for both age groups (death data not shown).

Rates of motor vehicle traffic crash deaths per 100,000 population were similar among non-Hispanic Whites, non-Hispanic Blacks, and Hispanics over time.

PROGRAM SPOTLIGHT: CLICK IT OR TICKET — CONNECTICUT

Goal
Maintain safety belt use rates at a level that is consistently above the national average.

This CT Department of Transportation enforcement campaign was implemented in partnership with CT's law enforcement and supported by the Departments' Statewide Health Improvement Coalition.

PROGRAM SPOTLIGHT: PREVENTIVE HEALTH AND HEALTH SERVICES BLOCK GRANT FUNDING

This funding is provided to local health departments to address motor vehicle injury through activities designed to increase the correct use of safety belts and child safety seats and promote pedestrian safety.

Strategies utilized include:

- Safety seat checkup events;

- Training programs for parents, caregivers and health professionals

- Community awareness campaigns; and

- Development of community coalitions to identify local problems and implement environmental or policy changes to address these problems.

NONFATAL MOTOR VEHICLE-RELATED EMERGENCY DEPARTMENT (ED) VISITS AND HOSPITALIZATIONS

The number and rates of non-fatal motor vehicle traffic-related ED visits and hospitalizations has trended downward, about 21.2%, between 2008 and 2017. Females had slightly higher rates of non-fatal motor vehicle traffic-related ED visits and hospitalizations per 100,000 population than males over the last decade as well (data not shown).

People aged 15 to 29 years had the highest rates of non-fatal motor vehicle traffic-related ED visits and hospitalizations per 100,000 population, followed by residents aged 30 to 44 years and 45 to 59 years (**Figure 6.41**). Adults aged 75 years and older, children aged 0 to 14 years, and adults aged 60 to 74 years had similarly lower rates. No health disparities were seen by sex and the trends were that they follow the similar trend over time (data not shown).

Non-Hispanic Blacks had higher rates of non-fatal motor vehicle traffic-related ED visits and hospitalizations per 100,000 population than any other race/ethnicity group throughout the last decade (**Figure 6.42**). Non-Hispanic Whites had the lowest rates, relative to all other racial/ethnic groups.

MOTOR VEHICLE TRAFFIC (MVT)-RELATED TRAUMATIC BRAIN INJURIES

Between 2008 and 2013, MVT-related traumatic brain injuries (TBI), including concussions, were on an upward trend and since 2013, the numbers and rates have decreased overall and by sex. Males had higher numbers and rates of MVT-related TBI and concussions than females throughout the last decade as well.
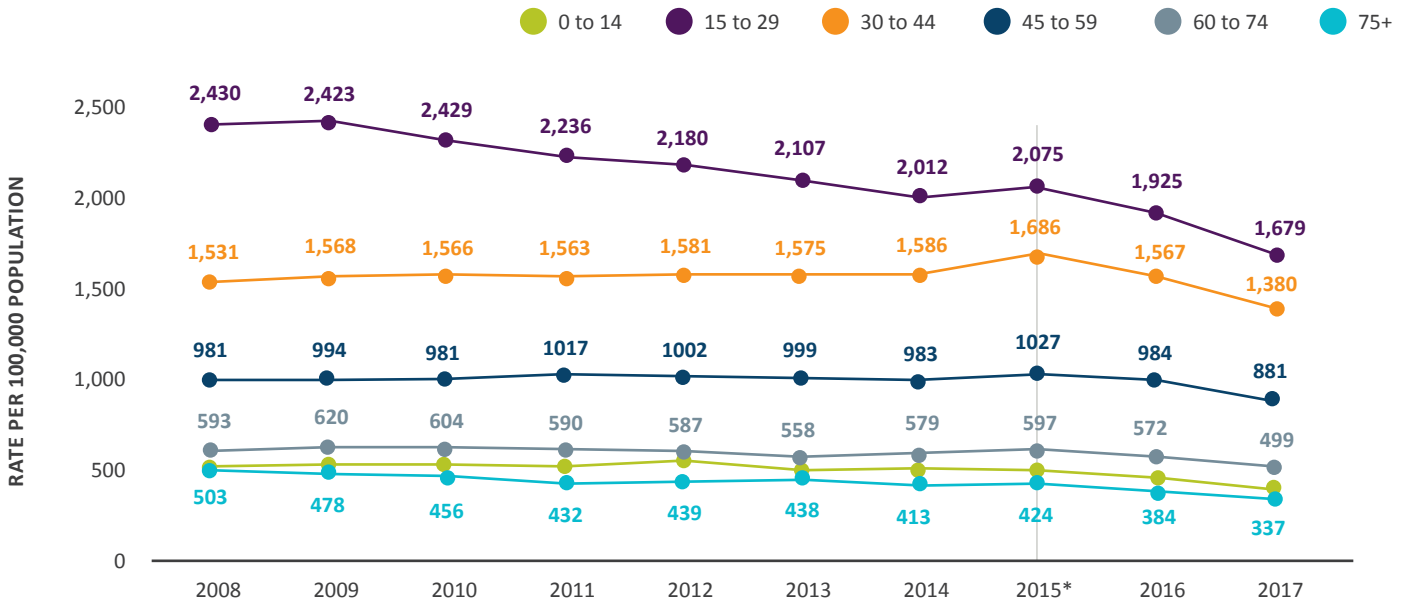
Persons aged 15 to 34 years had the highest numbers and rates of motor vehicle traffic-related traumatic brain injuries and concussions per 100,000 population (data not shown).

FIGURE 6.40: Rate of motor vehicle traffic crash deaths by sex, CT, 2008–2016
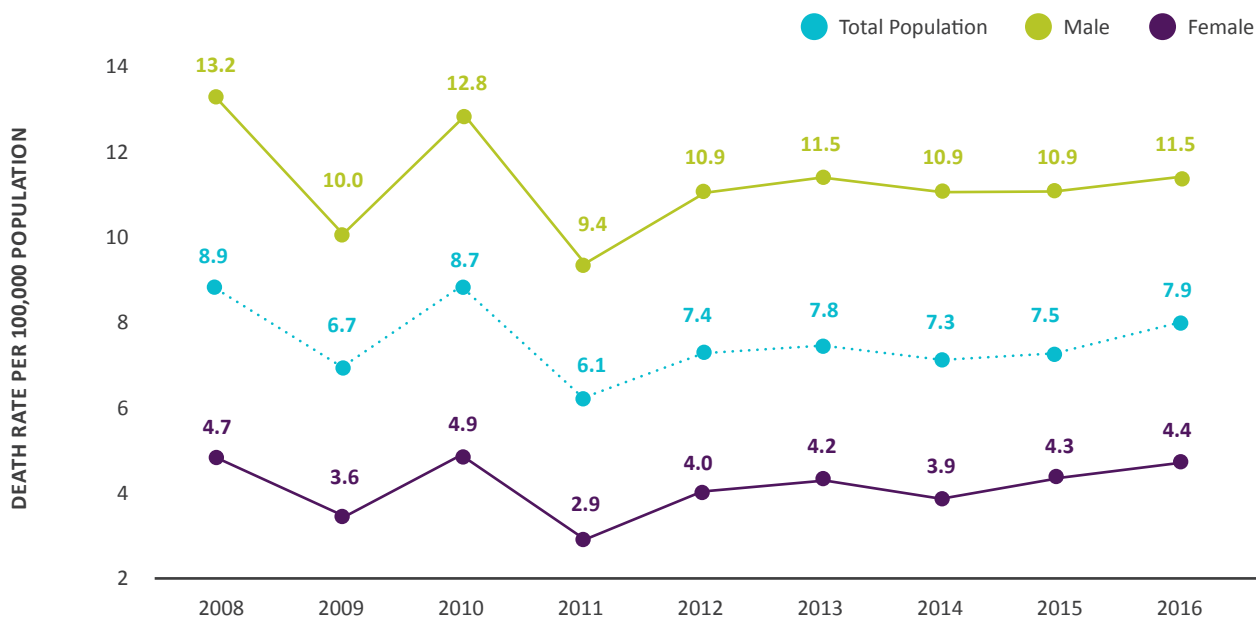
Source: CT DPH Surveillance Analysis and Reporting, CT Death Registry, 2008–2016. Data analyzed March 18, 2019.
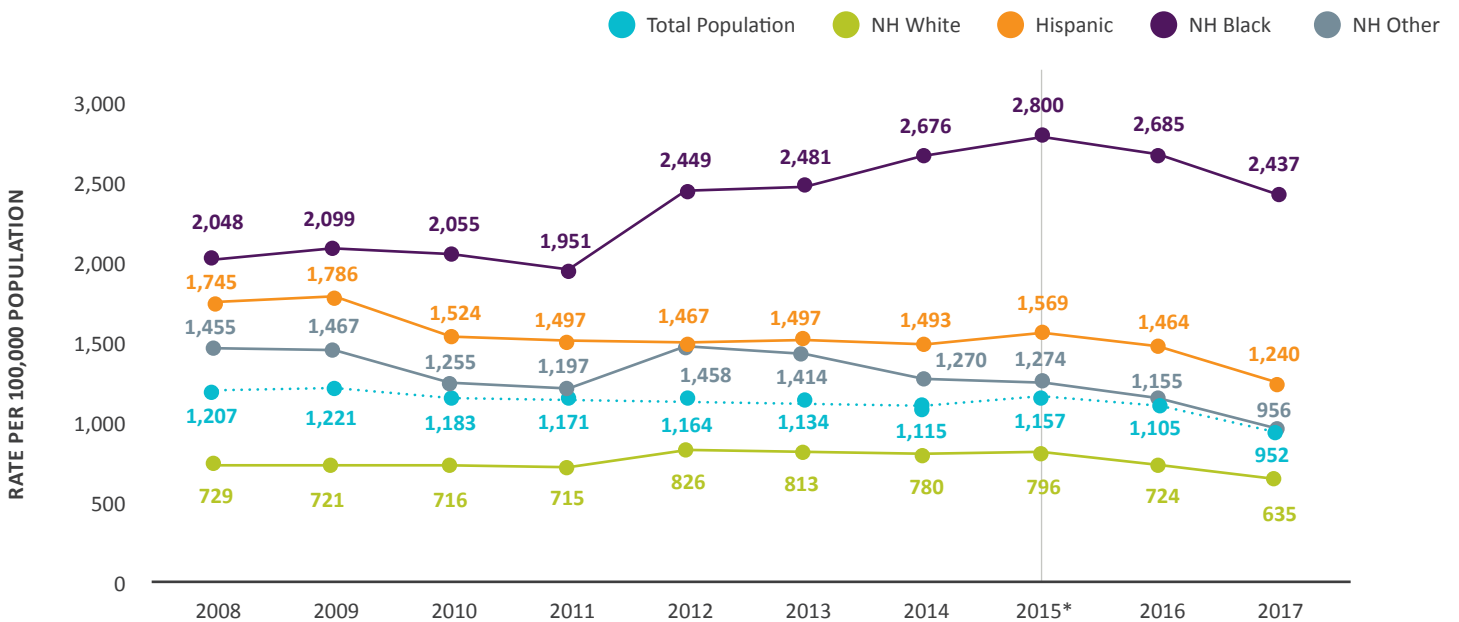
FIGURE 6.41: Rate of non-fatal motor vehicle traffic-related emergency department visits and hospitalizations by age group, CT, 2008–2017

Legend: ● 0 to 14 ● 15 to 29 ● 30 to 44 ● 45 to 59 ● 60 to 74 ● 75+

RATE PER 100,000 POPULATION

15 to 29: 2,430 (2008), 2,423 (2009), 2,429 (2010), 2,236 (2011), 2,180 (2012), 2,107 (2013), 2,012 (2014), 2,075 (2015*), 1,925 (2016), 1,679 (2017)

30 to 44: 1,531, 1,568, 1,566, 1,563, 1,581, 1,575, 1,586, 1,686, 1,567, 1,380

45 to 59: 981, 994, 981, 1017, 1002, 999, 983, 1027, 984, 881

60 to 74: 593, 620, 604, 590, 587, 558, 579, 597, 572, 499

75+: 503, 478, 456, 432, 439, 438, 413, 424, 384, 337

Years: 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015*, 2016, 2017

The vertical line is the break line where the diagnosis codes were converted from ICD9 to ICD10 (as of Oct. 1, 2015).

Source: *CT DPH Injury and Violence Surveillance Unit, CHIME data. Data analyzed March 19, 2019.*

FIGURE 6.42: Rate of non-fatal motor vehicle traffic-related emergency department visits and hospitalizations by race/ethnicity, CT, 2008–2017

Legend: ● Total Population ● NH White ● Hispanic ● NH Black ● NH Other

RATE PER 100,000 POPULATION

NH Black: 2,048 (2008), 2,099 (2009), 2,055 (2010), 1,951 (2011), 2,449 (2012), 2,481 (2013), 2,676 (2014), 2,800 (2015*), 2,685 (2016), 2,437 (2017)

Hispanic: 1,745, 1,786, 1,524, 1,497, 1,467, 1,497, 1,493, 1,569, 1,464, 1,240

NH Other: 1,455, 1,467, 1,255, 1,197, 1,458, 1,414, 1,270, 1,274, 1,155, 956

Total Population: 1,207, 1,221, 1,183, 1,171, 1,164, 1,134, 1,115, 1,157, 1,105, 952

NH White: 729, 721, 716, 715, 826, 813, 780, 796, 724, 635

Years: 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015*, 2016, 2017

The vertical line is the break line where the diagnosis codes were converted from ICD9 to ICD10 (as of Oct. 1, 2015).
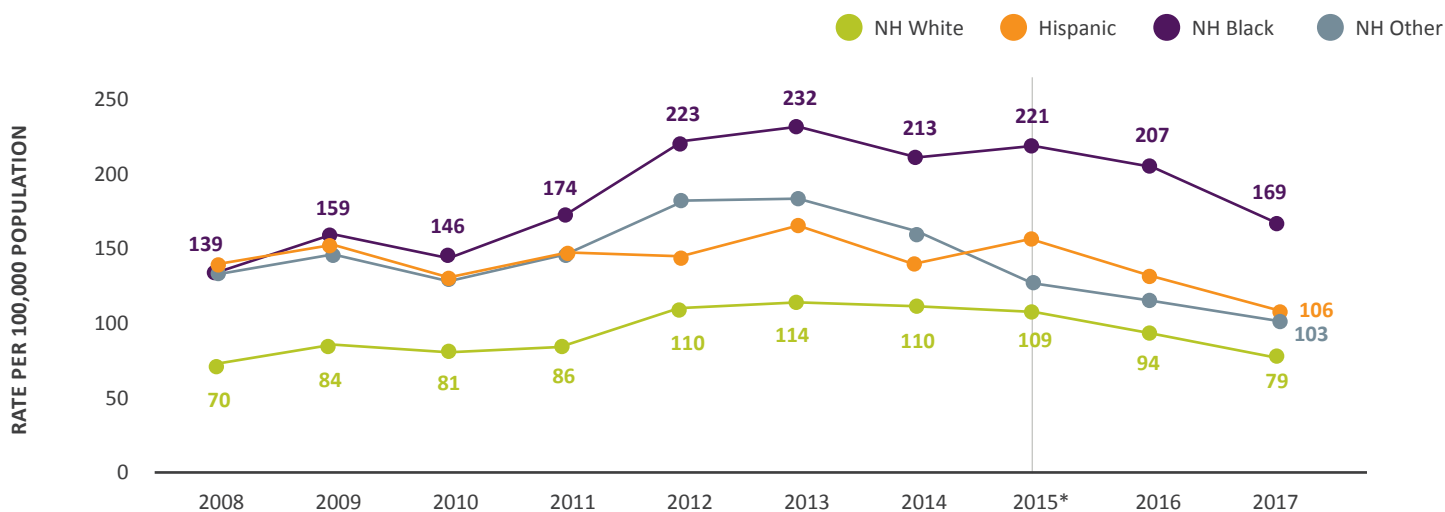
Source: *CT DPH Injury and Violence Surveillance Unit, CHIME data. Data analyzed March 19, 2019.*

Non-Hispanic Black residents had higher rates of MVT-related TBI and concussions per 100,000 population than any other race/ethnicity group over the last decade, whereas non-Hispanic White residents had the lowest rates (**Figure 6.43**). Though trends need to be interpreted with caution due to the transition from ICD9 coding to ICD10 coding, across all racial/ethnic groups, we see that TBI increased for non-Hispanic Black and non-Hispanic Whites until about 2013 where it then started to decline.

MOTOR VEHICLE TRAFFIC (MVT) AND BICYCLE CRASHES

Over the last decade, the rate of non-fatal motor vehicle traffic (MVT)-bicycle crash-related emergency department visits and hospitalizations per 100,000 population trended downwards overall (**Figure 6.44**). The rate for males was consistently higher than that of females throughout the entire time period from 2008 to 2017, but notably the overall trend has declined over time, especially among males.

FIGURE 6.43: Rate of motor vehicle traffic-related traumatic brain injuries and concussions by race/ethnicity, CT, 2008–2017

* The vertical line is the break line where the diagnosis codes were converted from ICD9 to ICD10 (as of Oct. 1, 2015).

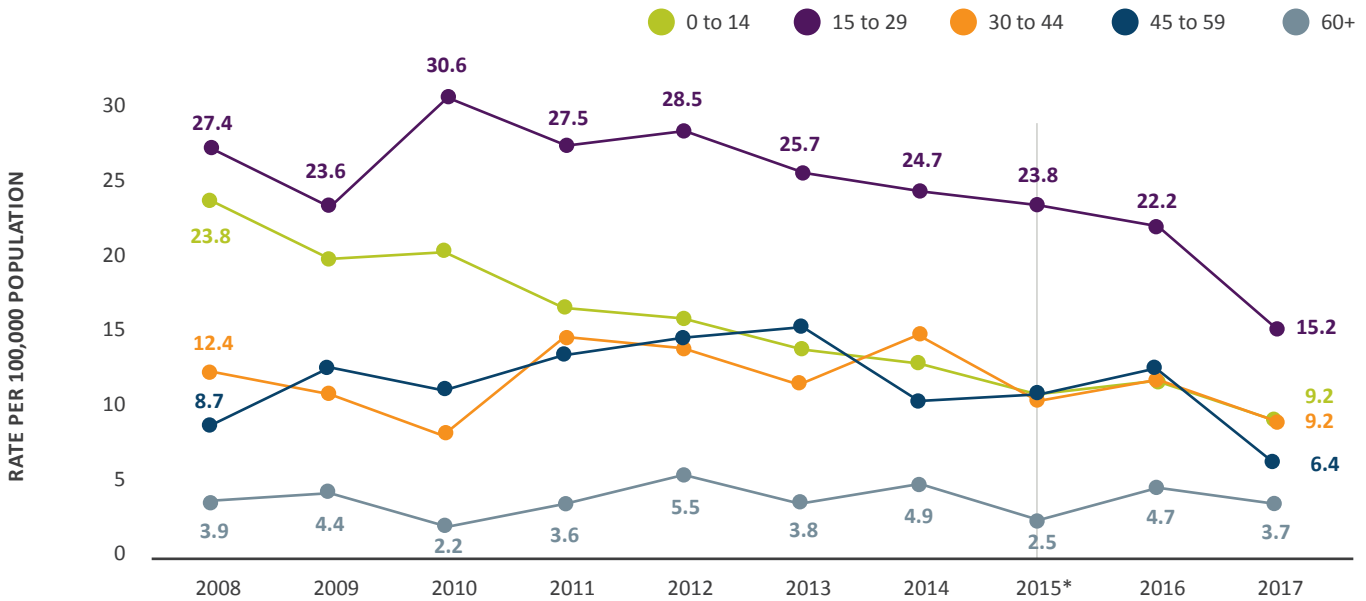***Source:*** *CT DPH Injury and Violence Surveillance Unit, CHIME data. Data analyzed March 19, 2019.*

FIGURE 6.44: Rate of non-fatal motor vehicle traffic-bicycle crash-related emergency department visits and hospitalizations by sex, CT, 2008–2017
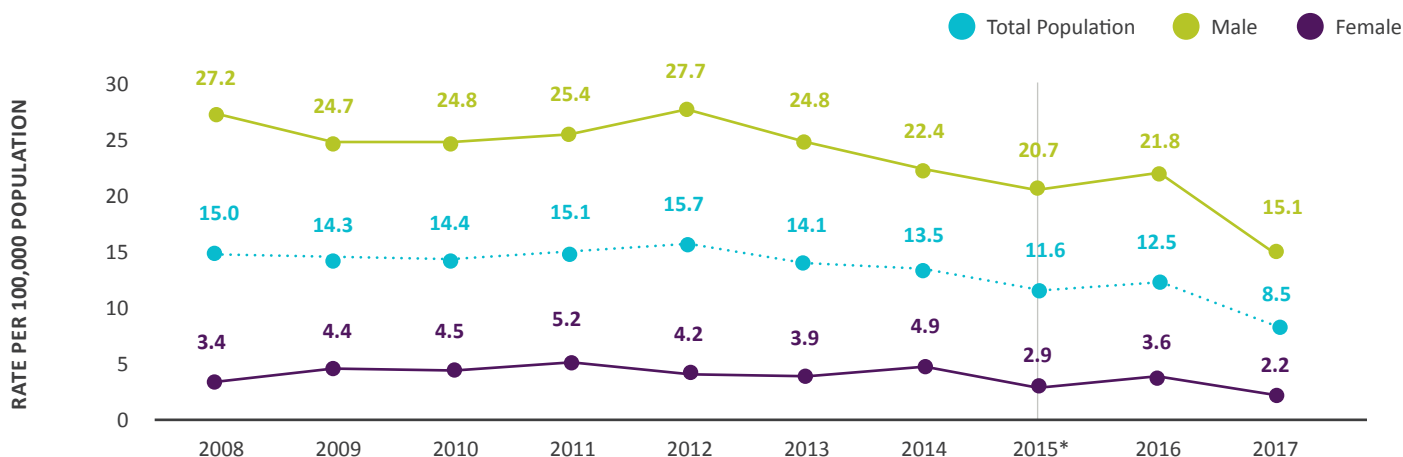
* The vertical line is the break line where the diagnosis codes were converted from ICD9 to ICD10 (as of Oct. 1, 2015).

Source: *CT DPH Injury and Violence Surveillance Unit, CHIME data. Data analyzed March 19, 2019.*

FIGURE 6.45: Rate of non-fatal motor vehicle traffic-bicycle crash-related emergency department visits and hospitalizations by age group, CT, 2008–2017

Legend: 0 to 14, 15 to 29, 30 to 44, 45 to 59, 60+

RATE PER 100,000 POPULATION

	2008	2009	2010	2011	2012	2013	2014	2015*	2016	2017
15 to 29	27.4	23.6	30.6	27.5	28.5	25.7	24.7	23.8	22.2	15.2
0 to 14	23.8									9.2
30 to 44	12.4									9.2
45 to 59	8.7									6.4
60+	3.9	4.4	2.2	3.6	5.5	3.8	4.9	2.5	4.7	3.7

The vertical line is the break line where the diagnosis codes were converted from ICD9 to ICD10 (as of Oct. 1, 2015).
Source: *CT DPH Injury and Violence Surveillance Unit, CHIME data. Data analyzed March 19, 2019.*

FIGURE 6.46: Rate of non-fatal motor vehicle traffic-bicycle crash-related emergency department visits and hospitalizations by race/ethnicity, CT, 2008–2017

Legend: NH White, Hispanic, NH Black, NH Other

RATE PER 100,000 POPULATION

	2008	2009	2010	2011	2012	2013	2014	2015*	2016	2017
Hispanic	35.3	27.8	26.2	26.9	23.9	21.2	24.0	20.0	21.2	12.4
NH Black	26.1	18.5	25.4	24.6	35.6	34.3	31.2	23.7	26.8	20.2
NH Other	17.0	18.4	14.3	15.3	19.6	13.7	15.4	11.1	13.2	8.0
NH White	6.8	7.5	7.5	8.1	9.4	9.3	8.1	7.8	8.2	5.7

The vertical line is the break line where the diagnosis codes were converted from ICD9 to ICD10 (as of Oct. 1, 2015).
Source: *CT DPH Injury and Violence Surveillance Unit, CHIME data. Data analyzed March 19, 2019.*

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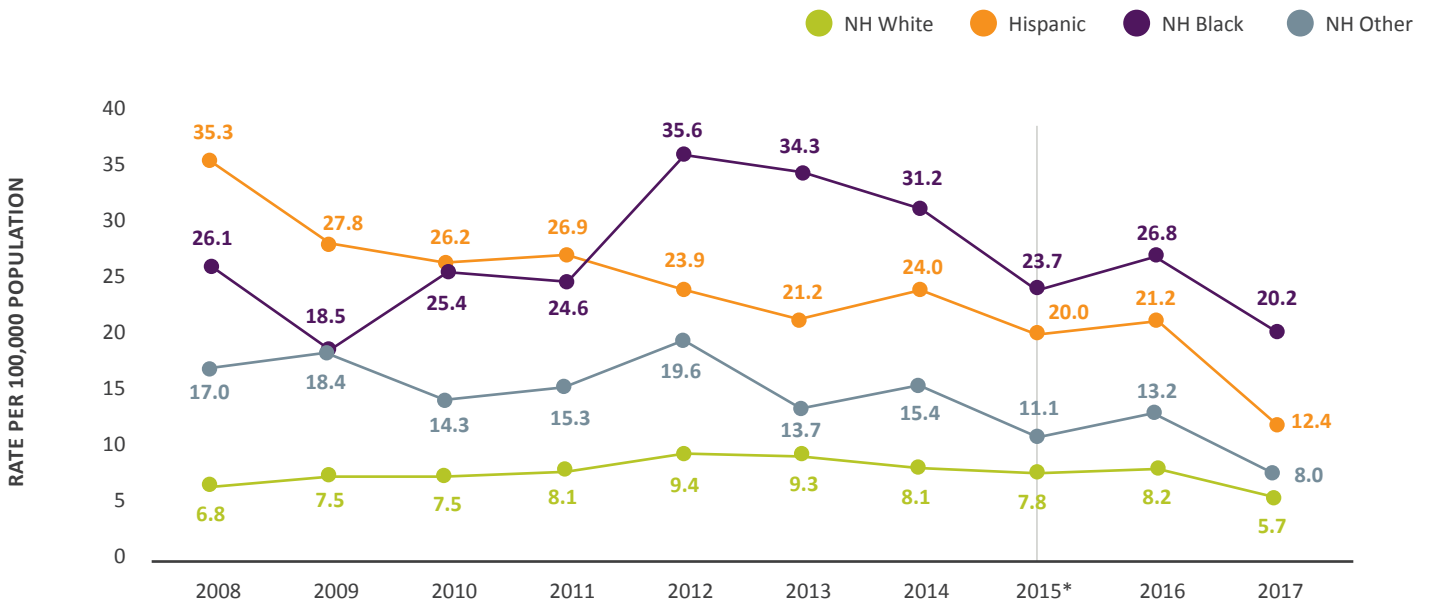
Residents aged 15 to 29 years had the highest motor vehicle traffic — bicycle crash-related ED visits and hospitalizations (**Figure 6.45**). Overall, rates for all age groups decreased over the past decade as well, especially among the under-thirty year-olds and children.

Non-Hispanic White residents consistently had the lowest rates of non-fatal MVT-bicycle crash-related ED visits and hospitalizations from 2008 to 2017 (**Figure 6.46**). Non-Hispanic Black residents and Hispanic residents alternated as the racial/ethnic group with the highest rates over the last decade. The injury rates among non-Hispanic Black residents spiked in 2012, but since then have been declining over time, although they remain the group with the highest rates overall. Nonfatal injury rates among Hispanics were on a continuous downward trend between 2008 and 2017.

MOTOR VEHICLE TRAFFIC (MVT) AND PEDESTRIAN CRASHES

Similar to the downward trend in non-fatal motor vehicle traffic (MVT)-bicycle crash-related injury rates, the rate of non-fatal MVT-pedestrian crash-related emergency department (ED) visits and hospitalizations per 100,000 population has trended downwards since 2008. Males consistently have a higher rate of such ED visits and hospitalizations, when compared to females (**Figure 6.47**).

Residents aged 15 to 29 years had the highest rates of non-fatal MVT-pedestrian crash-related hospitalizations per 100,000 population, with individuals 75 years of age and older having the lowest rates (**Figure 6.48**). Though trends need to be interpreted with caution due to the conversion from ICD9 to ICD10 coding, overall rates declined across all age groups.

Among all racial/ethnic groups, non-Hispanic Black residents had the highest rates of non-fatal MVT-pedestrian crash-related ED visits and hospitalizations per 100,000 population over the past decade (**Figure 6.49**). Non-Hispanic White residents consistently had the lowest rates and rates among Hispanics were on a continuous downward trend between 2008 and 2017.
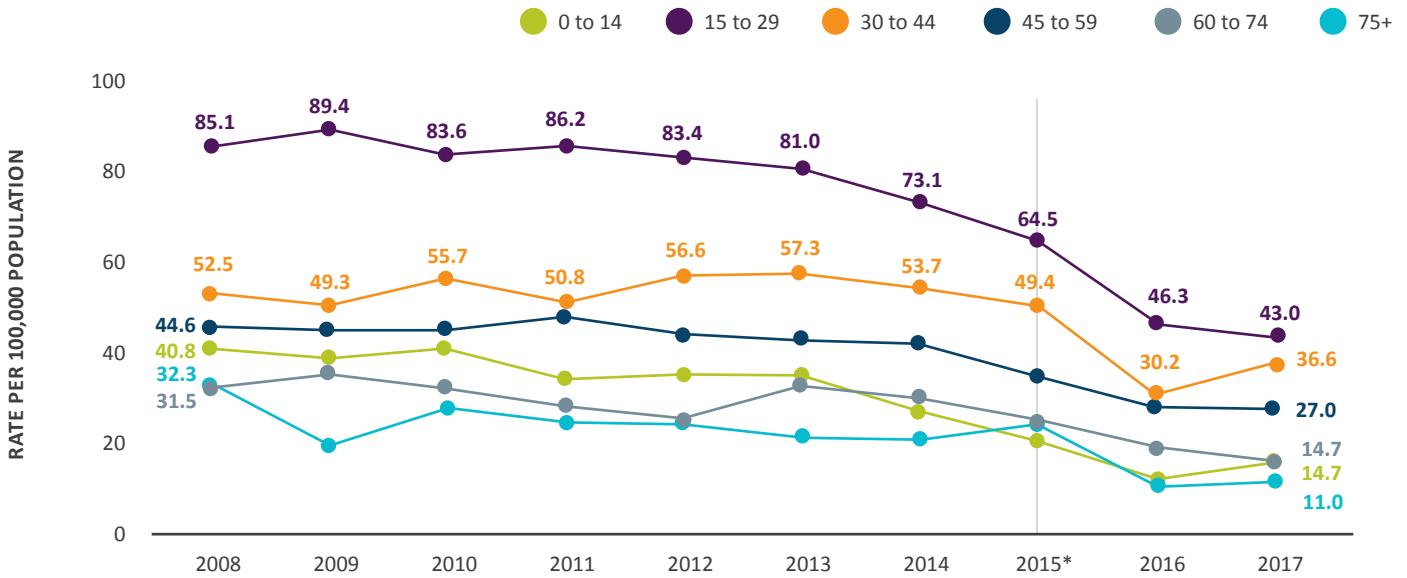
FIGURE 6.47: Rate of non-fatal motor vehicle traffic-pedestrian crash-related emergency department visits and hospitalizations by sex, CT, 2008–2017
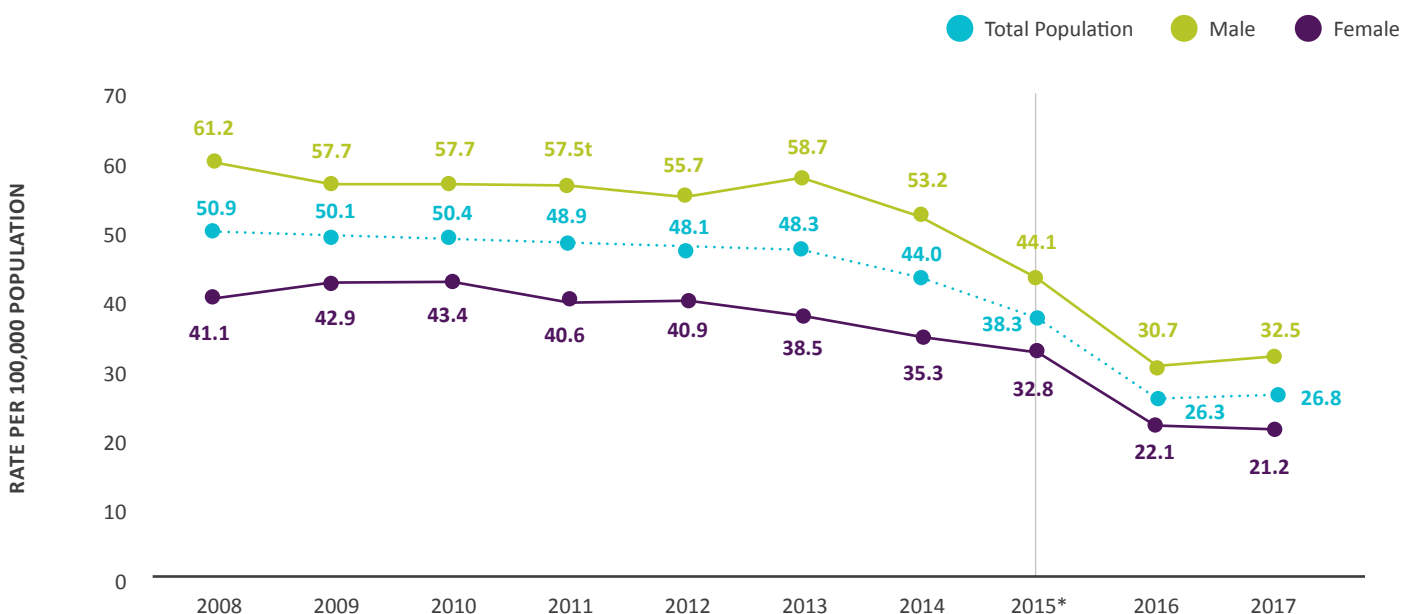
* The vertical line is the break line where the diagnosis codes were converted from ICD9 to ICD10 (as of Oct. 1, 2015).

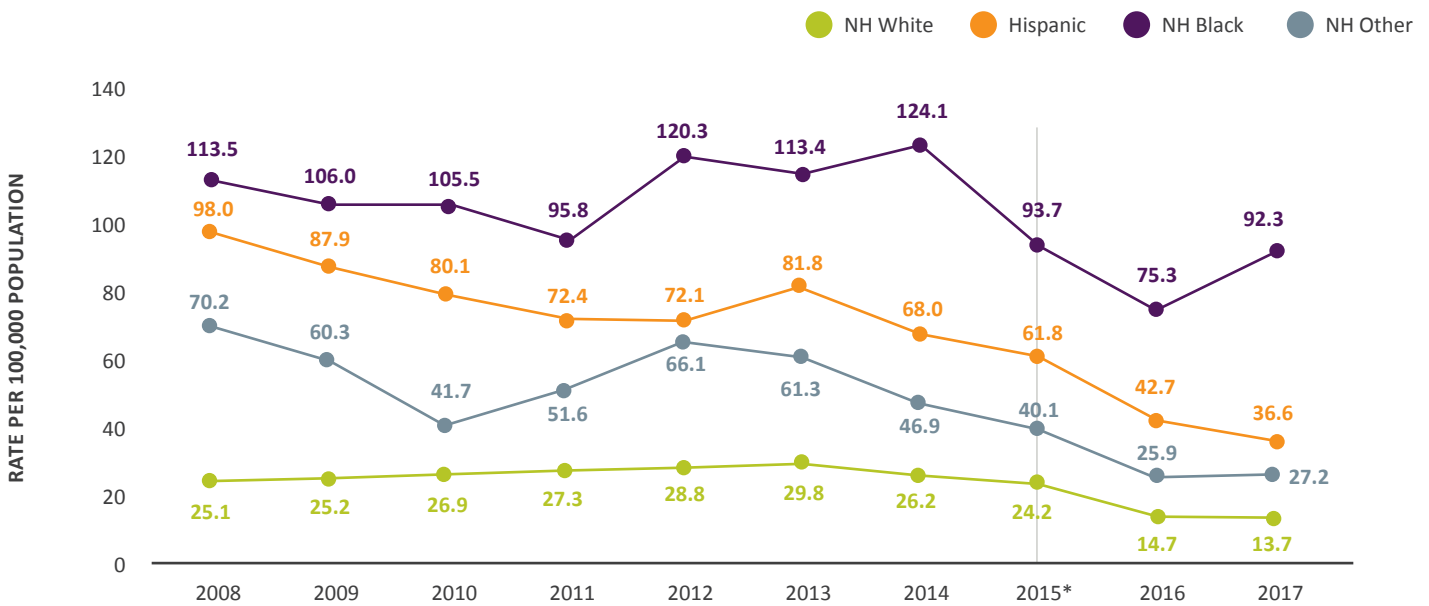**Source:** CT DPH Injury and Violence Surveillance Unit, CHIME data. Data analyzed March 19, 2019.

FIGURE 6.48: Rate of non-fatal motor vehicle traffic-pedestrian crash-related emergency department visits and hospitalizations by age group, CT, 2008–2017

Legend: 0 to 14 · 15 to 29 · 30 to 44 · 45 to 59 · 60 to 74 · 75+

* The vertical line is the break line where the diagnosis codes were converted from ICD9 to ICD10 (as of Oct. 1, 2015).

Source: *CT DPH Injury and Violence Surveillance Unit, CHIME data. Data analyzed March 19, 2019.*

FIGURE 6.49: Rate of non-fatal motor vehicle traffic-pedestrian crash-related emergency department visits and hospitalizations by race/ethnicity, CT, 2008–2017

Legend: NH White · Hispanic · NH Black · NH Other

* The vertical line is the break line where the diagnosis codes were converted from ICD9 to ICD10 (as of Oct. 1, 2015).

Source: *CT DPH Injury and Violence Surveillance Unit, CHIME data. Data analyzed March 19, 2019.*

Drug Overdose

Drug overdose deaths continue to increase in the United States and among the more than 70,200 people who died of drug overdoses in 2017, 47,600 (67.8%) were due to causes related to prescription opioids, heroin, and synthetic opioids.[50] In our state, Hartford, New Haven, and Fairfield Counties have high drug overdose mortality numbers. Hartford, Bridgeport, and New Haven cities also have widespread problems with prescription opioid/illicit drug overdose-related emergency department visits, hospitalizations, and mortality rates. These same cities also have the lowest income levels, highest poverty rates, greatest population densities and the highest concentration of racial and ethnic minorities in CT. Poverty is exacerbated by racial and economic segregation, which correlates with increased heroin and prescription drug misuse.

Opioid overdoses are of particular concern; on average, 130 Americans die every day from an opioid overdose.[51] In 2017, the US Department of Health and Human Services (HSS) declared the opioid epidemic as a public health crisis/emergency. Devastating consequences of the opioid epidemic include increased opioid overdose-related deaths and increased emergency department visits and hospitalizations. Also, more newborns are experiencing withdrawal syndrome due to opioid use and misuse by mothers during their pregnancy.[50]

It is important to collaborate and coordinate with local health departments and other community-based partners to conduct outreach and education programs and continue drug overdose prevention activities in all of CT's communities. Through Centers for Disease Control and Prevention grants, the CT DPH funded six local health departments and districts to address the issue of drug overdose in their locales. DPH will continue to extend its reach to engage other local health agencies and other local organizations over time.

DRUG OVERDOSE DEATHS

The Connecticut age-adjusted drug overdose death rate per 100,000 population in year 2017 was 30.9 compared to the national rate of 21.7.[52; 53] In recent years, the rates of drug overdose-related mortality increased steadily overall and for both males and females. From 2017–2018, rates decreased slightly overall and for females (**Figure 6.50**).

FIGURE 6.50: Rate of drug overdose-related deaths by sex, CT, 2013–2018
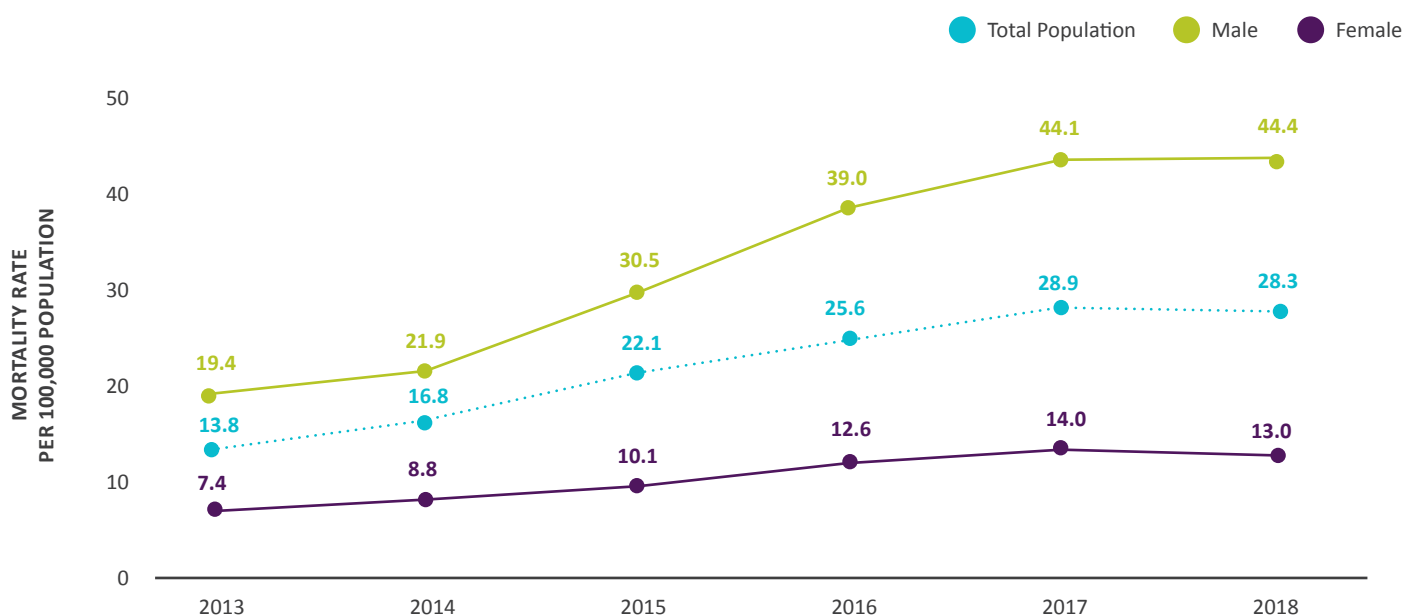
Source: *Connecticut Office of the Chief Medical Examiner, 2015–2018 (town/city) Accidental Drug Intoxication. Data analyzed June 11, 2019. Retrieved from https://portal.ct.gov/OCME/Statistics.*

Mortality rates steadily increased between 2013 and 2017 across all age groups 18 years of age and older, a range of 14.9–26.4 in 2013 to a range of 19.4–62.2 in 2018 (data not shown). The highest rate in 2018 was in the 35–44 year-olds. In year 2018, there was a small decrease in mortality rates among 18–34 year olds and 55–64 year olds, whereas an increase was seen in 35–54 year olds and 65 and older.

By race/ethnicity, non-Hispanic White residents have the highest burden of drug overdose-related mortality, with a high of 33.2 per 100,000 CT population in 2017 (**Figure 6.51**). However, from 2017–2018 their rates slightly decreased while rates for all other racial/ethnic groups continued to increase during the same time period.

DRUG OVERDOSE-RELATED EMERGENCY-DEPARTMENT (ED) VISITS AND HOSPITALIZATIONS

Similar to drug overdose deaths, non-fatal drug overdose-related ED visits and hospitalizations in our state have increased in recent years when compared to 2013 (**Figure 6.52**). Between 2013 and 2017, the rates for males and females remained relatively higher. The drug overdose-related emergency department (ED)

visits and hospitalization rate dramatically increased for males during the period 2013–2017. For the same time period, the rate for females increased more gradually, but with a slight decrease in 2017.

When looking across all age groups, overdose related ED and hospitalization rates have increased overall in recent years. Among residents under 5 and between 5–14 years of age, most overdose-related hospitalizations were due to unintentional use of drugs involving prescription medicines whereas for residents ages 15–64, overdoses involved prescription drugs and other illicit drugs. In addition, residents between the ages of 25 to 34 had the highest drug overdose-related ED visits and hospitalizations, with a rate of 482.2 per 100,000 CT population (data not shown).

The three largest race/ethnicity groups had very similar rates over a period of years between 2013 and 2017, whereas the non-Hispanic Other race group rates were consistently less year to year. Overall trend showed that drug overdose-related rates for all races/ethnicities decreased in 2017 compared to the previous years (**Figure 6.53**).

FIGURE 6.51: Rate of drug overdose-related deaths by race/ethnicity, CT, 2013–2018
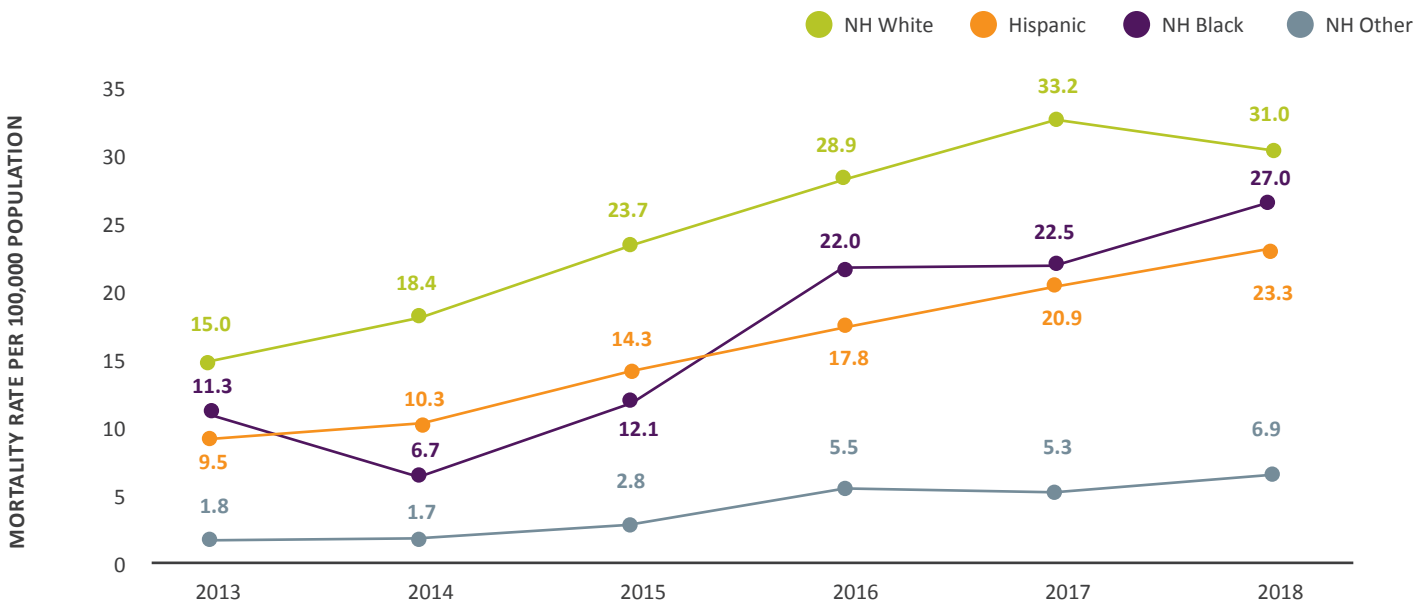
FIGURE 6.52: Rate of drug overdose-related emergency department visits and hospitalizations by sex, CT, 2013–2017
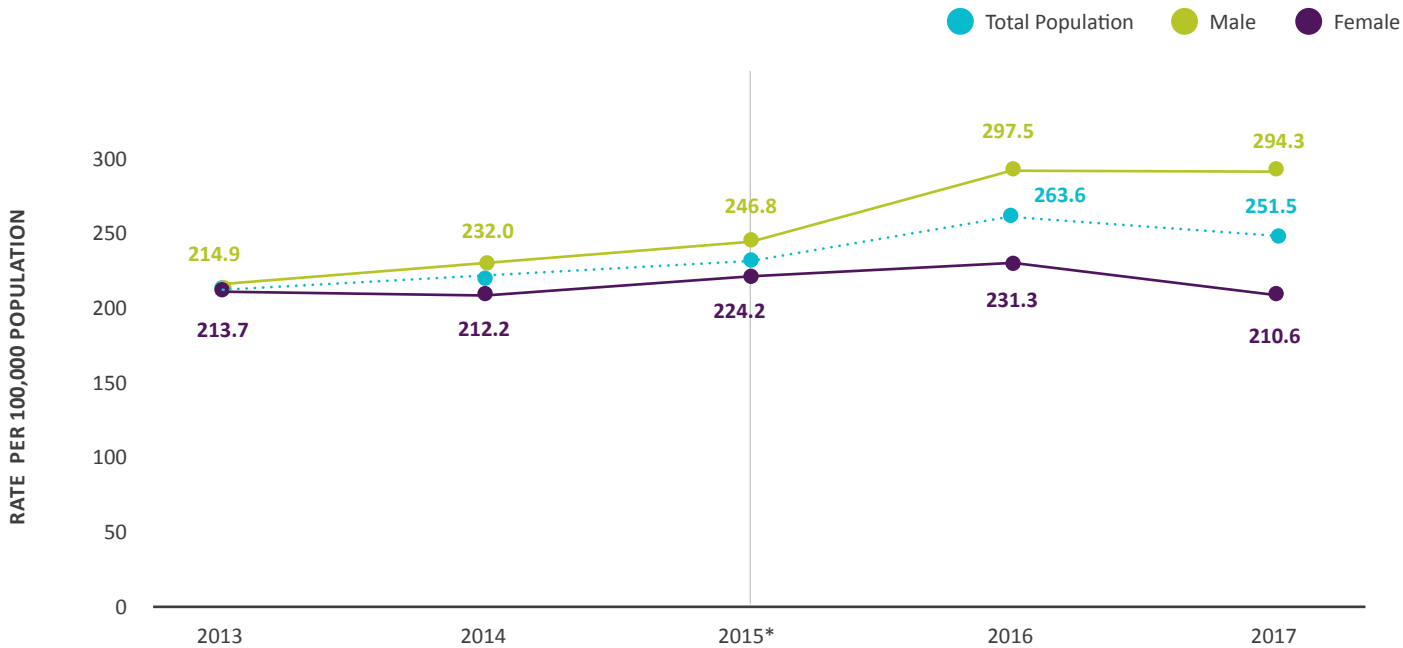
* The vertical line is the break line where the diagnosis codes were converted from ICD9 to ICD10 (as of Oct. 1, 2015).

Source: CT DPH Injury and Violence Surveillance Unit, CHIME data. Data analyzed March 19, 2019.

FIGURE 6.53: Rate of drug overdose-related emergency department visits and hospitalizations by race/ethnicity, CT, 2013–2017

* The vertical line is the break line where the diagnosis codes were converted from ICD9 to ICD10 (as of Oct. 1, 2015).

Source: DPH Injury and Violence Surveillance Unit, CHIME data. Data analyzed March 19, 2019.

Poisoning

While most unintentional poisoning deaths in the US are attributable to the misuse and abuse of drugs, environmental substances (e.g., carbon monoxide and pesticides) also contribute to illnesses related to poisoning each year. Household products, such as cleaning agents, personal care and topical products, and pesticides are among the top ten substances responsible for poisoning exposures annually. Occupational poisonings occur from exposures to a variety of chemicals.

Social determinants that are associated with poisoning injury or death include:

- Poverty — Poor access to heating sources can necessitate the use of unsafe heating options.

- Population density — Cars parked in unventilated areas adjacent to living quarters can increase the likelihood of carbon monoxide exposure.

- Poverty and paucity of child care — Absent supervision of children leads to ingestion of poisonous substances.

- Illiteracy — Inability to read warnings on household materials.

Across all ages, 77% of poison exposures reported to US poison centers in 2017 were unintentional. Nationally, carbon monoxide causes the most nondrug poisoning deaths, especially among people over 65 years old and males.[54] In addition, the majority of pesticide poisoning exposures are unintentional and occur in children under 6 years old or in adults over 20 years old.

Though poisoning affects all ages, children under six years of age comprise a disproportionate percentage of the cases and peak poisoning frequency occurs in children ages one and two. Childhood exposures often occur as a result of exploratory behavior. In these cases, the amounts ingested are usually small and the health effects minimal. However, exposures to some medicines and household chemicals even in small amounts can result in serious illness or death. In contrast, poisoning (including drug poisoning) in teens and adults is more serious.[55]

The rate of non-fatal poisoning-related emergency department (ED) visits and hospitalizations per 100,000 population trended downwards from 2008–2014, from 173.1 per 100,000 population in 2008 to 136.6 in 2014 (data not shown), and then increased dramatically from that point onwards. Rates for males and females also decreased to the same extent within the same

time period, but the gap between the two sexes has widened in the last two years (2016 and 2017). It should be noted that trends should be interpreted with caution since ICD-9 codes transitioned to ICD-10 codes in 2015.

High incidence rates were observed in the 0 to 4 year-old age group between years 2008 to 2016 and trended downward in year 2017. The 25 to 34 year-old age group had the highest rate in year 2017 which was due to prescription opioids and illicit drug misuse (data not shown).

Hispanic and non-Hispanic Black residents had higher rates of non-fatal poisoning-related ED visits and hospitalizations than non-Hispanic White residents, although the rates in both groups decreased over time between 2008 and 2014. The rate for Hispanic residents decreased most dramatically during this time period, from 257.5 per 100,000 population in 2008 to 156.0 in 2014. Recently however, in the last two years, the rates have climbed (in 2016 and 2017). Other race, non-Hispanic residents had the lowest rates among all racial/ethnic groups in the last decade (data not shown).

Suicide

In 2016, suicide was the tenth leading cause of death overall in the US, claiming the lives of nearly 47,000 people.[56] There were twice as many suicides nationally as there were homicides.[56]

In our state, suicides are a major cause of intentional injury death, with an average of 392 suicides per year. Between 2015 and 2017, among all violent deaths, 78% were due to suicide and 22% were due to homicides.[57] In 2016, 3.6% of adults age 18 and over actually attempted suicide in their lifetime.[58]

A history of depression and other mental illnesses, hopelessness, substance abuse, certain health conditions, previous suicide attempts, violence victimization and perpetration, and genetic and biological determinants are some of the individual level determinants related to suicide ideation, attempt, and mortality.[58] Focusing prevention efforts on suicide ideation and attempts may assist in reducing the burden of suicide mortality.

SUICIDAL IDEATION

Suicidal ideation, or thinking about, considering, or planning a suicide, is a precursor for suicide attempts and mortality.[56]

HIGH SCHOOL STUDENTS

Nationally, suicide contemplation by high school students in the last 12 months was 17.2%. By comparison, our state is below the national average. Yet, about one in eight Connecticut high school students seriously considered attempting suicide in the last 12 months (**Figure 6.54**). High school students who contemplate suicide are more likely to be female, Hispanic or Latino, and in ninth grade, compared to other high school students.

Suicide contemplation among high school students fluctuated over the last decade from as high as 15.1% in 2005 to as low as 13.1% in 2007, without any notable trends in either direction between 2005 and 2017.

ADULTS

One in eight Connecticut adults (18 years and over) have contemplated suicide (**Figure 6.55**). Those between the ages of 18–34 were the most likely to report suicidal ideation. Adults aged 35–54 years had the second highest proportion of suicide ideation, and adults aged 55 and over had the lowest proportion. As was seen in adolescents, female adults were slightly more likely to report suicidal ideation when compared to males.

While the vast majority of adults, aged 18 and over, have never thought of suicide, almost one in ten have thought of suicide and almost one in 25 have attempted suicide (**Figure 6.56**).

FIGURE 6.54: Percentage of high school students who seriously considered attempting suicide in the last 12 months by sex, race/ethnicity and grade; CT, 2017
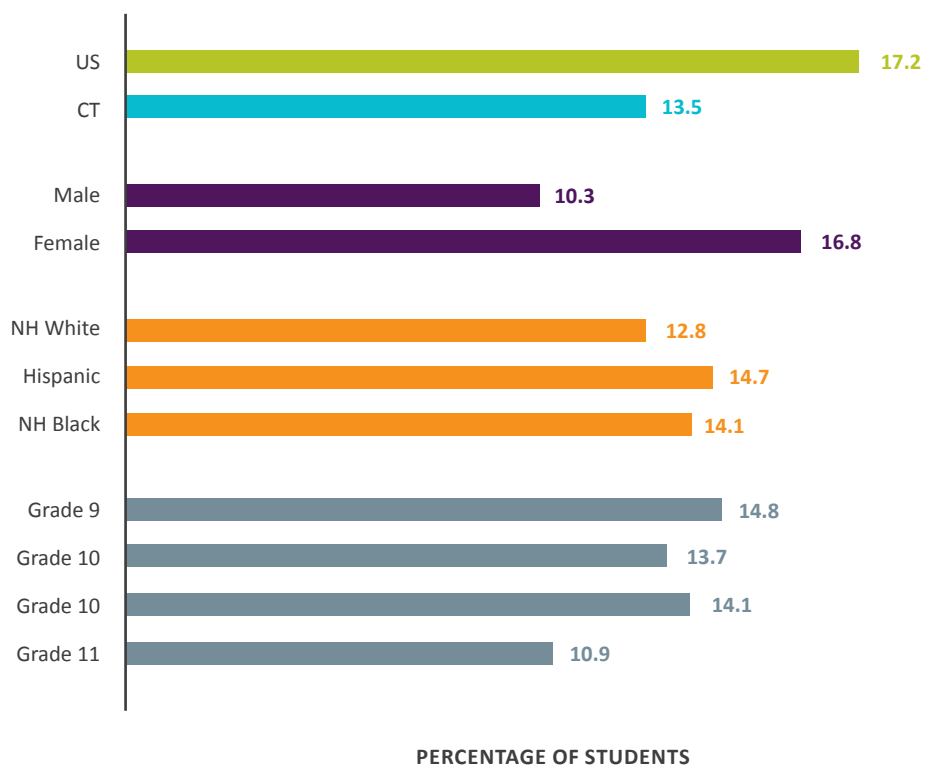

PERCENTAGE OF STUDENTS

Source: *CT DPH, Connecticut School Health Survey, Summary Tables, 2017. Retrieved from: www.ct.gov/dph/CSHS; Kann, L., McManus, T., Harris, W. A., Shanklin, S. L., Flint, K. H., Queen, B., ... & Lim, C. (2018). Youth risk behavior surveillance—United States, 2017. MMWR Surveillance Summaries, 67(8), 1.*

FIGURE 6.55: Percentage of adults aged 18 and over who had thoughts of suicide in the last year by age and sex, CT, 2016
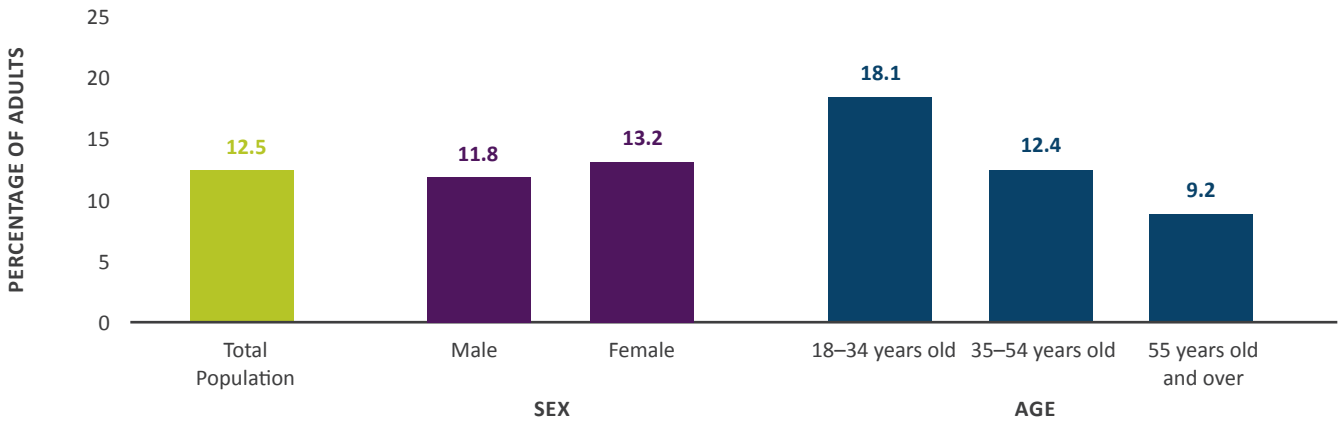
Source: CT DPH, Connecticut Behavioral Risk Factor Survey Prevalence Estimates for Risk Factors and Health Indicators: Selected Summary Tables 2016. Retrieved from www.ct.gov/dph/BRFSS.

FIGURE 6.56: Percentage of adults aged 18 and over who had thoughts of suicide and who actually attempted suicide in their lifetime, CT, 2016
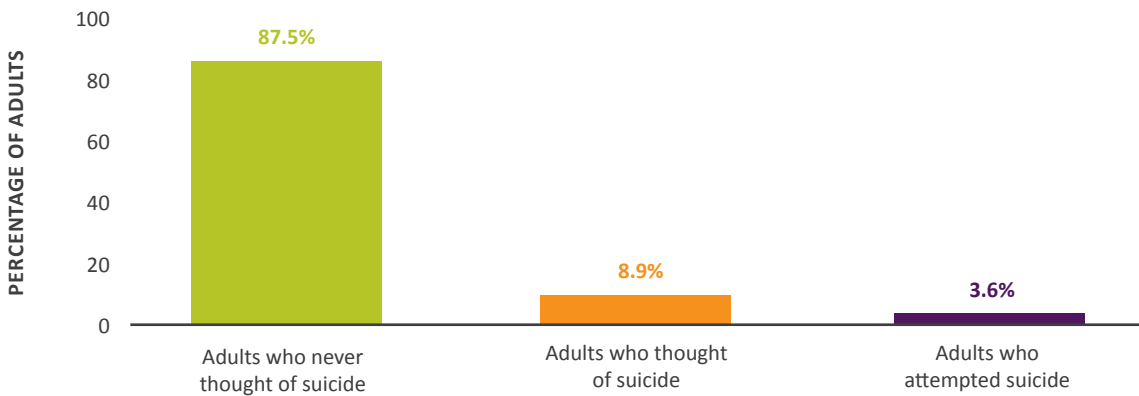
Source: CT DPH, Connecticut Behavioral Risk Factor Survey Prevalence Estimates for Risk Factors and Health Indicators: Selected Summary Tables 2016. Retrieved from www.ct.gov/dph/BRFSS.

SUICIDE ATTEMPTS

A non-fatal, self-directed, potentially injurious behavior with an intent to die because of the behavior is known as a suicide attempt.[56]

OVERALL POPULATION

Nonfatal injuries related to self-directed violence (self-harm) and suicide emergency department (ED) visit or hospitalization rates show a decrease between 2012 and 2014, from 117.5 per 100,000 population in 2012 to 106.9 in 2014 (data not shown). Rates before 2015 cannot be directly compared to rates from 2016 onwards due to a change in diagnostic data classification that started in October 2015. While we do not have multiple years of trend data following this data classification transition, we do see a decrease in the rate of self-harm and suicide attempts from 2016 to 2017 (88.0 per 100,000). As additional years of data are collected moving forward, we can observe if this downward starting trend remains consistent.

Females consistently have higher rates of suicide attempts and self-harm-related ED and hospital visits per 100,000 people when compared to males (**Figure 6.57**). Again, while trends cannot be seen across the full period of time due to changes in diagnostic data classification, we do see a decrease in suicide attempt and self-harm-related ED and hospitalization rates among both males and females from 2016 to 2017.

When broken out by race/ethnicity, we see that Hispanic residents had higher rates of suicide attempts and self-harm-related ED and hospital visits per 100,000 population than any other race/ethnicity group through 2014 (**Figure 6.58**). However, their rates steadily decreased over time while the rates of non-Hispanic Black, non-Hispanic White, and non-Hispanic residents of other race remained relatively stable. From 2015 onwards, Hispanic rates were similar to or fell below the rates of non-Hispanic Black residents.
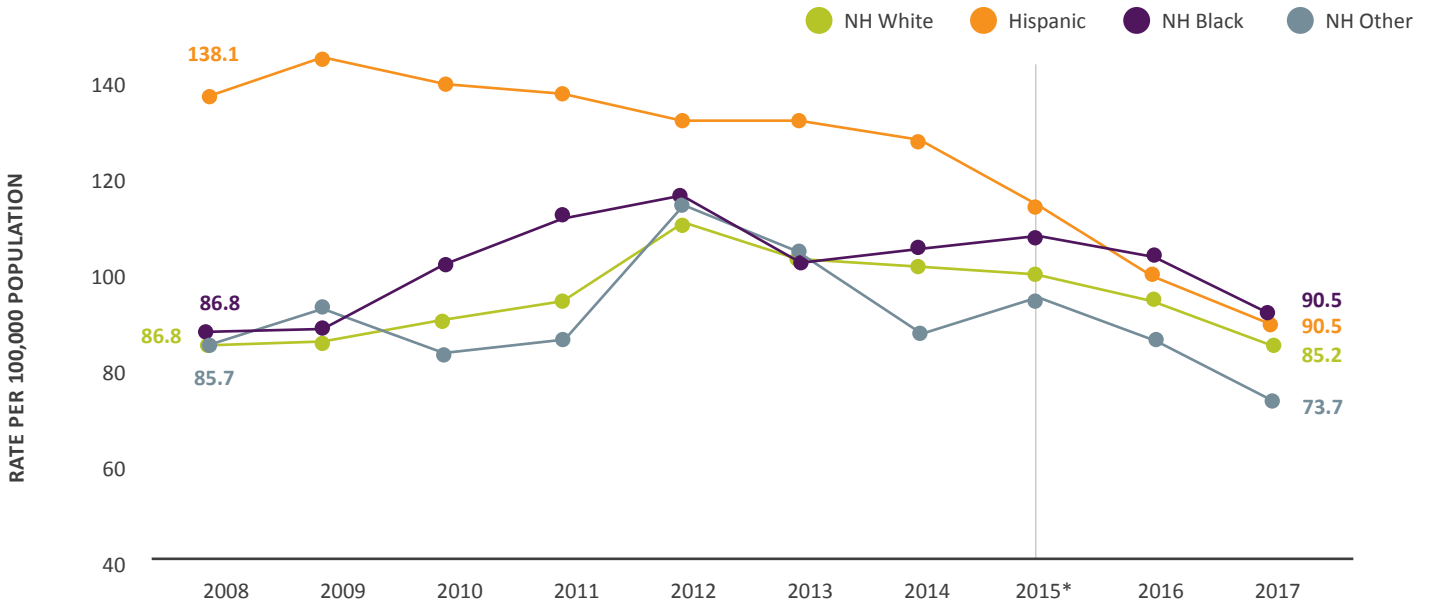
FIGURE 6.57: Rates of suicide attempts and self-harm-related emergency department and hospitalization visits by sex, CT, 2008–2017
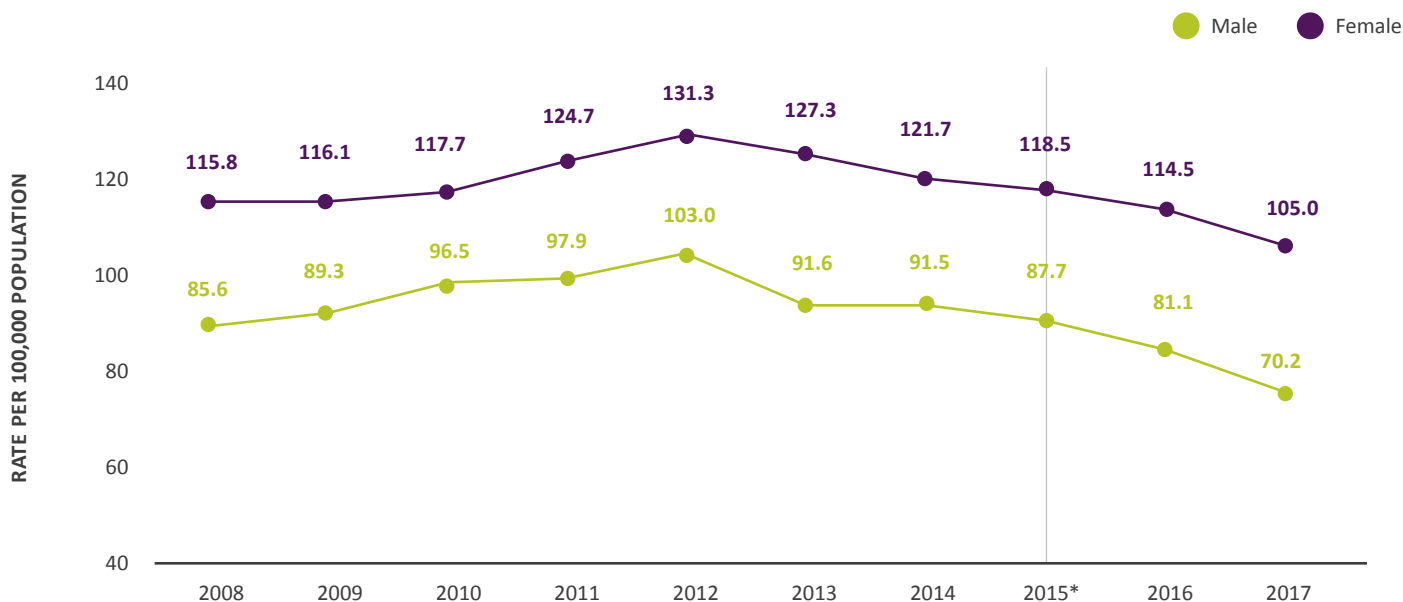
* The vertical line is the break line where the diagnosis codes were converted from ICD9 to ICD10 (as of Oct. 1, 2015).

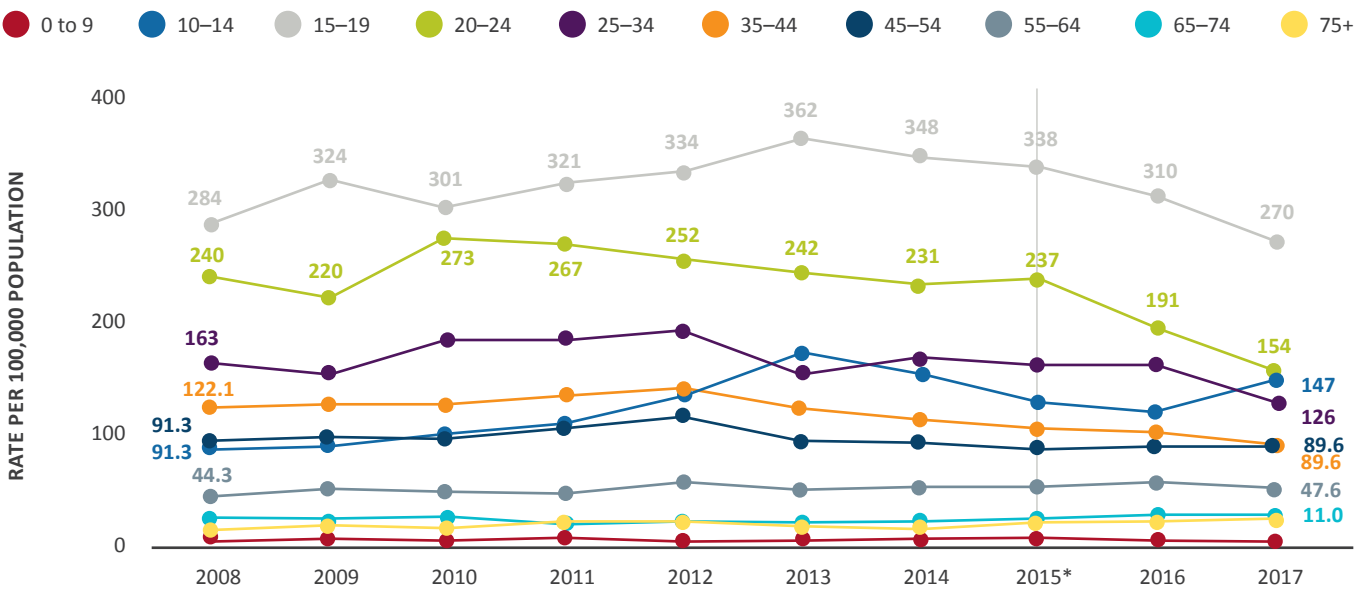**Source:** *CT DPH Injury and Violence Surveillance Unit, CHIME data. Data analyzed March 19, 2019.*

FIGURE 6.58: Rate of suicide attempts and self-harm-related emergency department visits and hospitalizations by race/ethnicity, CT, 2008–2017

● NH White ● Hispanic ● NH Black ● NH Other

* The vertical line is the break line where the diagnosis codes were converted from ICD9 to ICD10 (as of Oct. 1, 2015).

Source: *CT DPH Injury and Violence Surveillance Unit, CHIME data. Data analyzed March 19, 2019.*

FIGURE 6.59: Rate of suicide attempts and self-harm-related emergency department visits and hospitalization by age group, CT, 2008–2017

● 0 to 9 ● 10–14 ● 15–19 ● 20–24 ● 25–34 ● 35–44 ● 45–54 ● 55–64 ● 65–74 ● 75+

* The vertical line is the break line where the diagnosis codes were converted from ICD9 to ICD10 (as of Oct. 1, 2015).

Source: *CT DPH Injury and Violence Surveillance Unit, CHIME data. Data analyzed March 19, 2019.*

Residents aged 15 to 19 years, followed by residents aged 20–24 consistently have the highest rates of suicide attempts and self-harm-related ED and hospital visits per 100,000 population (**Figure 6.59**). While trends need to be interpreted with caution due to the diagnostic data classification change, we see that rates generally trended downward for both age groups, with rates for residents ages 20–24 in 2017 decreasing to be on par with rates for adolescents ages 10–14 years of age. Among older age groups, as age increases, the rates of suicide attempts decrease for age groups of 25–34, 35–44, 45–54, and 55–64. Among adults, residents aged 75 years and older had the lowest rate of suicide attempts and self-harm-related ED and hospital visits per 100,000 people.

YOUTH

Almost one in ten Connecticut high school students attempted suicide. While the prevalence of suicide attempts decreased from 2005 to 2011, since then there has been a slight increase (**Figure 6.60**).

The prevalence of students who attempted suicide did not vary significantly by sex, race/ethnicity, or grade level, though female youth, non-Hispanic Black youth, and youth in tenth grade had slightly higher proportions of suicide attempts (data not shown).

SUICIDE DEATH RATES

A suicide is a death caused by a self-directed injurious behavior with intent to die as a result of the behavior.[56] Since DPH began collecting suicide data, age-adjusted rates have steadily increased to just over ten suicides per 100,000 people (data not

shown). Approximately 90% of suicides occurred in people 25 years of age or older, with an average age of 49 years old.[59]

While females had a higher age-adjusted rate of suicide attempts when compared to males, the age-adjusted rate of males who died by suicide was three times higher than that of females (**Figure 6.61**). Across all age groups, men account for 88% of all suicides.

Non-Hispanic White, Connecticut residents had the highest age-adjusted suicide rate among all races/ethnicities, accounting for approximately 78% of all suicides and averaging approximately 12 deaths per 100,000 each year (**Figure 6.62**).

Among both males and females, residents aged 45–64 had the highest age-specific suicide rate of any age group, and youth ages 0–17 years of age had the lowest rates (**Figure 6.63**). While not pictured, the age-specific suicide rates for men ages 65 and over have steadily increased in recent years, from 18.8 people per 100,000 in 2015 to 22.9 people per 100,000 in 2018.

Figure 6.64 is a town map of Connecticut showing rates of suicides per 10,000 town population during 2015 through 2018. In towns with no data (grey shading), there was less than an average of two suicides per year, thus rates were not calculated for these towns. Regardless of density of population by town or city, the highest rates seen in the most current four year period are four towns or cities across the state, with death rates of greater than 2 deaths per 10,000 town residents per year. These were: Winchester, Bristol and Burlington in the northwestern area, Stafford in the northern part of the state and Stonington in the southeastern part.

FIGURE 6.60: Percentage of high school students who actually attempted suicide in the last 12 months, CT, 2005–2017
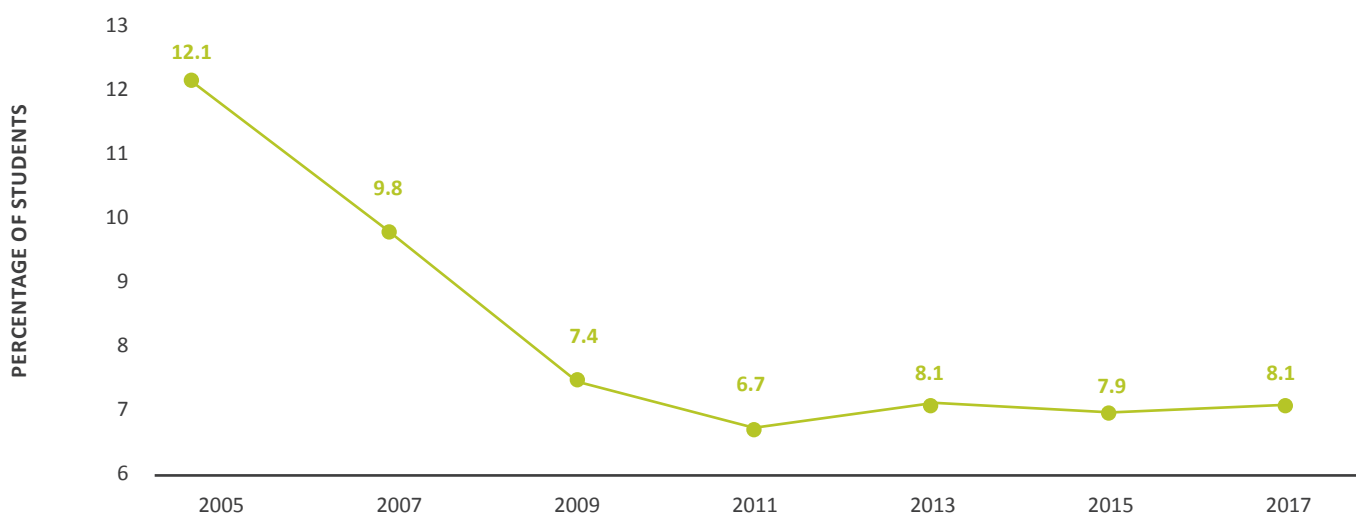
Source: CT DPH, Connecticut School Health Survey, Summary Tables, 2005–2017. Retrieved from: www.ct.gov/dph/CSHS.
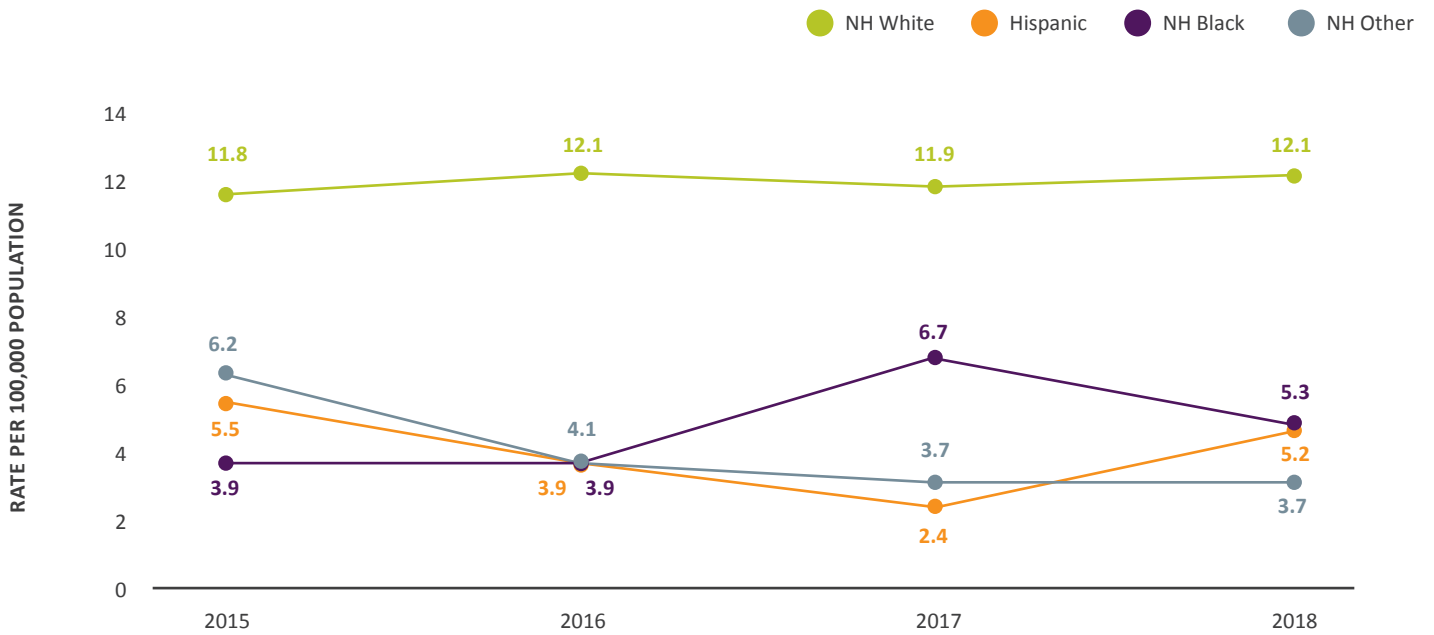
FIGURE 6.61: Age-adjusted suicide rate by sex, CT, 2015–2018
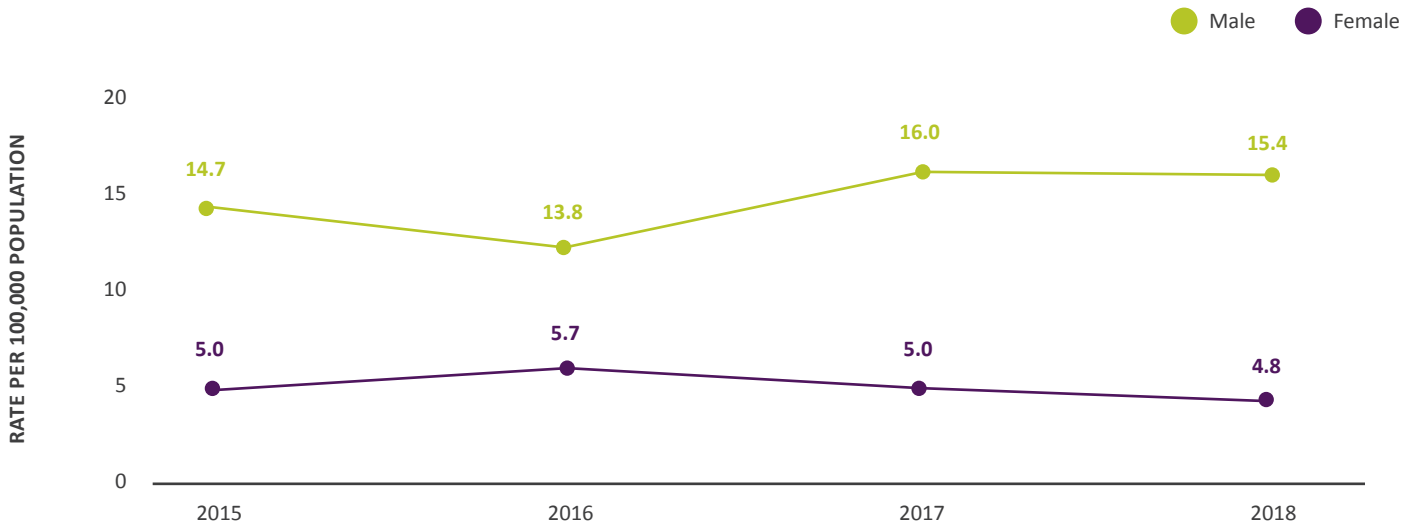
● Male   ● Female

2018 data are preliminary.

Source: *CT DPH Injury and Violence Surveillance Unit, Connecticut Violent Death Reporting System. Data analyzed March 25, 2019.*

FIGURE 6.62: Age-adjusted suicide rates by race, CT, 2015–2018

● NH White   ● Hispanic   ● NH Black   ● NH Other

Source: *CT DPH Injury and Violence Surveillance Unit, CHIME data. Data analyzed March 19, 2019.*

FIGURE 6.63: Age-adjusted suicide rate by sex and age, CT, 2018
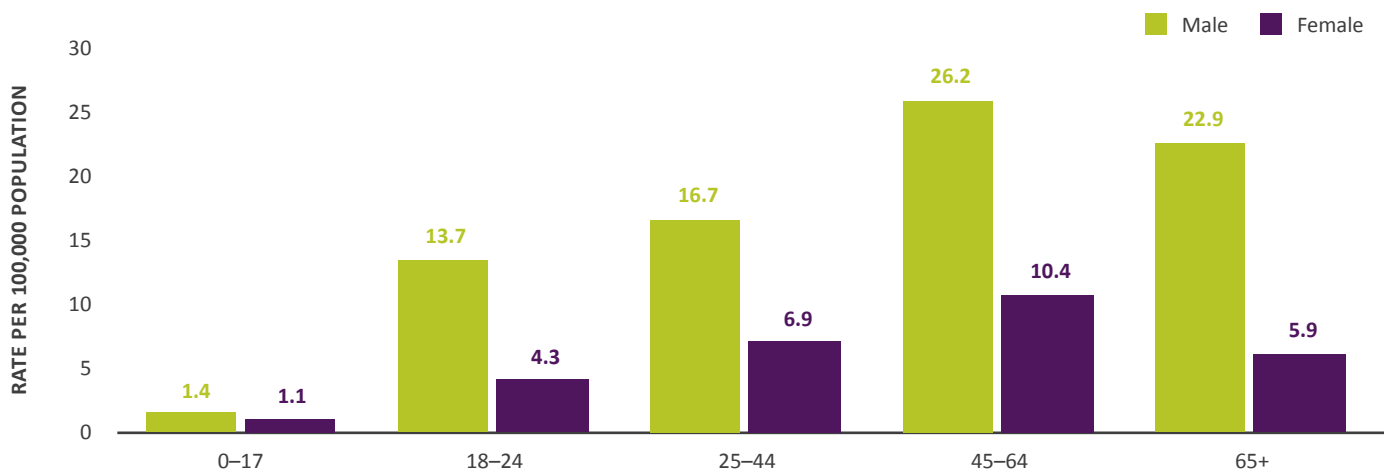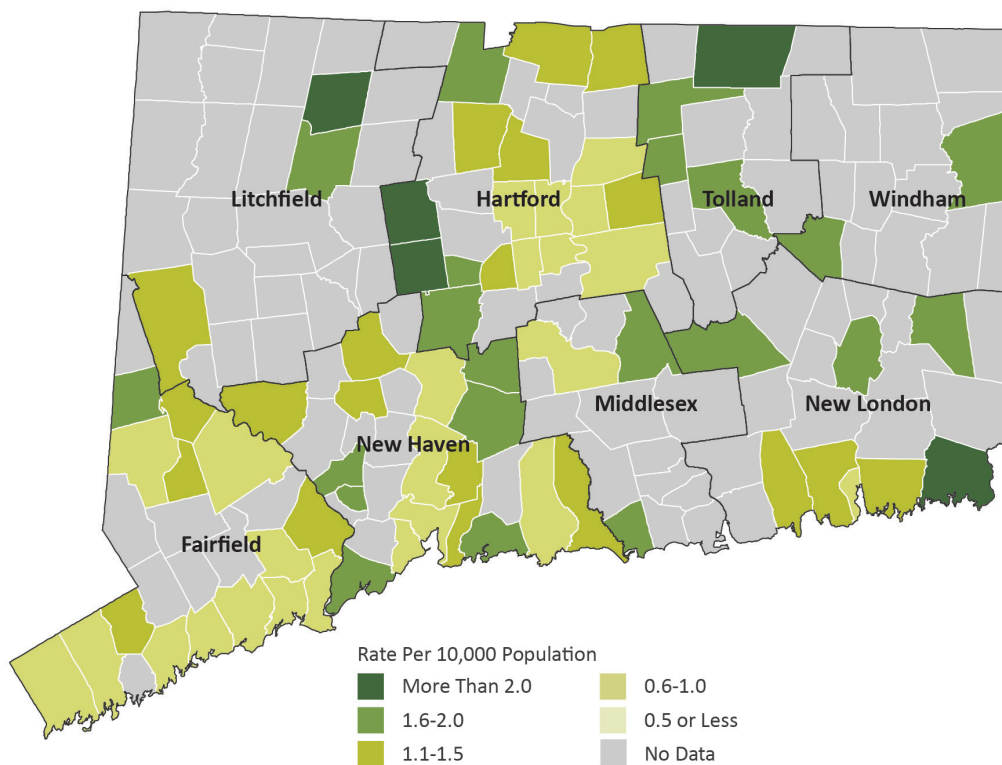

*2018 data are preliminary.

Source: *CT DPH Injury and Violence Surveillance Unit, Connecticut Violent Death Reporting System. Data analyzed March 25, 2019.*

FIGURE 6.64: Suicide rate by town, CT, 2015–2018

Source: *CT DPH Injury and Violence Surveillance Unit, Connecticut Violent Death Reporting System. Data analyzed March 25, 2019.*

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