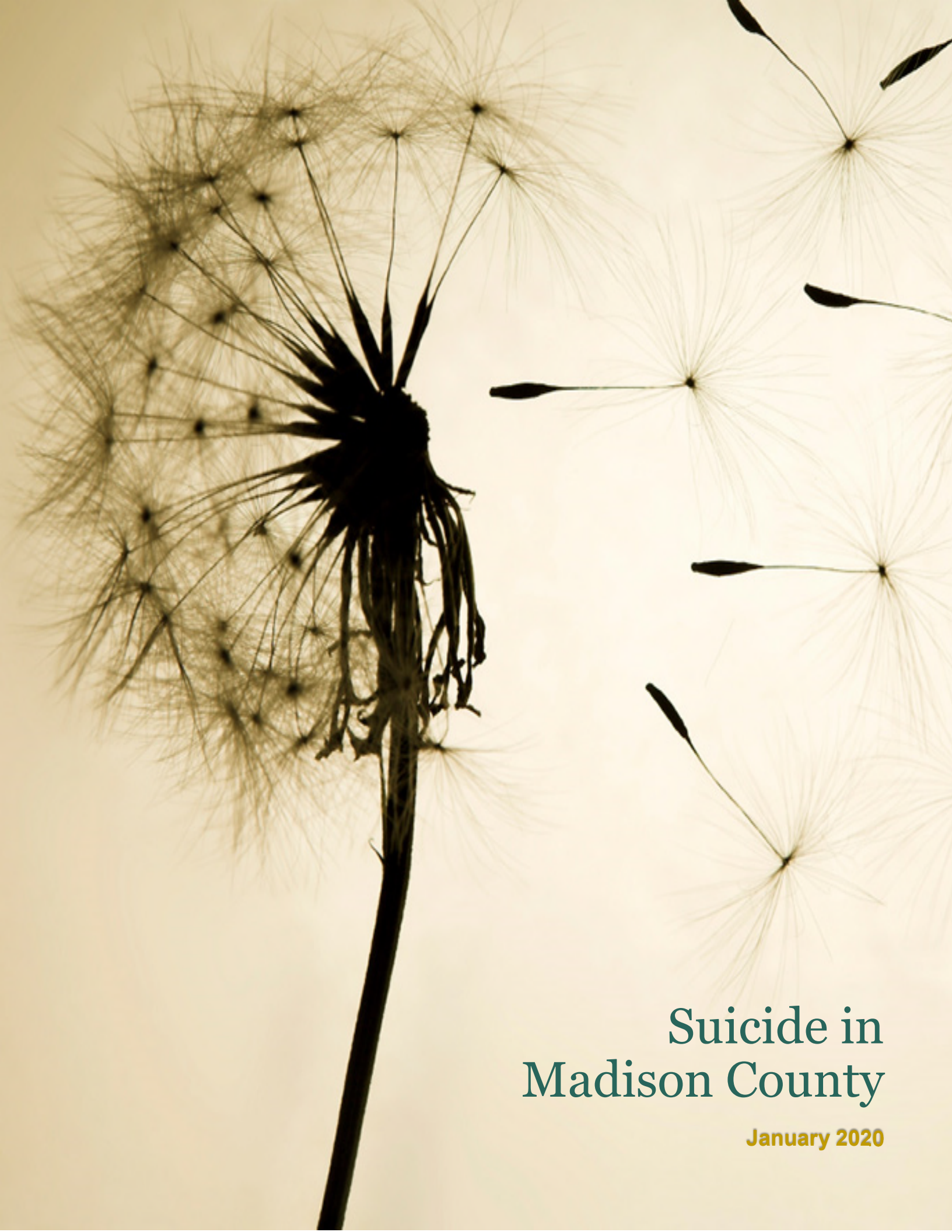


Suicide in Madison County

January 2020

Table of Contents

Foreword

Madison County experiences a higher rate of suicide mortality than the New York State (NYS) average.[1] The Madison County Department of Health (MCDOH), with support from the Suicide Prevention Coalition of Madison County, developed this health issue profile to better understand and address suicide in our community.

Suicide is a complex issue and cannot be fully understood by statistical analysis or reviewing research articles alone. Therefore, MCDOH used key informant interviews, in addition to collecting data and conducting a literature review, as a tool to gain a more comprehensive understanding of suicide and its complexities.

The interviews with local experts gathered information related to community trends, insights into previous and/or current efforts, and recommendations for future strategies. Those individuals participating in the interviews represented different areas of expertise (i.e. mental/ behavioral health providers, emergency responders, school staff, and faith-based personnel) as well as providing their own personal perspective.

Themes from local expert interviews were interwoven into this report along with national trends and local statistics. Lastly, suicide is a narrow topic among a broader conversation of emotional and mental health. It is our hope that this report acts as a catalyst for more conversation about mental health and collective action within the community to address suicide.

Acknowledgements

A special thanks to Shannon Roy, MPH Candidate at the State University of New York at Buffalo School of Public Health and Health Professions, for her preliminary research on the topic and providing assistance with key informant interviews.

Thank you to the community members who provided by their professional expertise on this subject through key informant interviews as well as organizational data. Their dedicated work to suicide prevention as well as insight regarding future strategies is invaluable to Madison County.

Recommended citation:

Bird E, Roy S, Faisst E. Suicide in Madison County, New York. Wampsville, NY: Madison County Department of Health, 2020.

Madison County DEPARTMENT of HEALTH

SUICIDE PREVENTION COALITION of Madison County

Introduction

The term suicide refers to the intentional act of taking one's own life. A suicide attempt is when someone harms themselves with the intent to end their life, but does not die as a result of their actions. Suicide ideation describes the thoughts of engaging in suicide-related behavior. See Table 1 for additional definitions. Although these are well-defined terms in the suicide prevention field, an interviewee remarked that "there's no one meaning to suicidal thoughts and behaviors." For instance, suicidal ideation or behavior may never lead to an attempt of suicide or suicide death. However, the following terms and accompanying definitions will be used to articulate this topic area.

Table 1. Terms and definition related to suicide.

Suicide	The act of intentionally causing one's own death
Suicide Attempt	When a person harms or attempts to harm themselves with the intent to end their life, but they do not die because of their action
Suicidal Behavior	This may include suicide attempts, self-injury with some level of intent, developing a plan for suicide, gathering the means for the plan, or any other evident action or thought indicating intent to end one's life
Lethal means	Refers to the method, instrument or object used to attempt suicide
Suicide Ideation	Thoughts of engaging in suicide-related behavior
Non-Suicidal Self-Injury (NSSI)	Refers to the intentional destruction of one's own body tissue without suicidal intent and for purposes not culturally sanctioned. Examples include cutting, burning, hitting.
Risk Factors for Suicide	Characteristics or conditions that increase the chance that a person may attempt to take their life; suicide risk is most often the result of multiple factors converging at one moment in time
Postvention	A crisis intervention strategy designed to assist with the grief process following suicide loss

Prevalence

In the United States, suicide is the tenth leading cause of death, accounting for over 47,000 lives in 2017 alone. Over 10 million adults experience suicidal thoughts, 3.2 million adults make a plan, and 1.4 million adults attempt suicide in a given year (Figure 1).[2]

From 1999 to 2016, suicide rates increased in 44 states, with 25 states experiencing increases of greater than 30%. Rates consistently increased among persons in all age groups under 75 years, both sexes, all racial/ethnic groups, and all urbanization levels.[3] In 2017, the suicide rate was 14.0 per 100,000 individuals.[3]

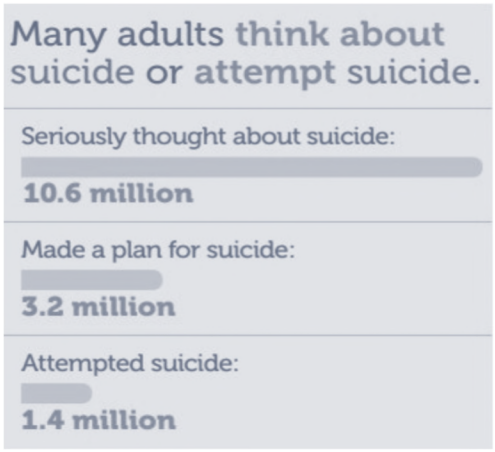


Figure 1. Prevalence of USA adults who think about or attempt suicide (CDC, National Center for Injury Prevention and Control, Division of Violence Prevention, 2019).

New York State (NYS) is among the 44 states that have experienced an increase in suicide rates. NYS is currently ranked 49th among the United States with a 28.8% increase between 1999 and 2016. With nearly 1,700 suicide deaths in 2017, NYS had the 6th highest number behind California, Texas, Florida, Pennsylvania, and Ohio. By age group, suicide is the second leading cause of death among ages 15-34 years, 4th among ages 35-54, 9th for ages 55-64, and 18th for ages 65 and older in NYS.[4]

Despite upward trends across demographics, there is a gap widening between rural and urban areas. Rural regions have experienced higher rates of suicide than urban counterparts across the United States.[3] Similar trends are observed in NYS. All urban regions of NYS saw an increase of 27.9% from 1999 to 2012, before a slight decrease in the years (2013-2016). In contrast, suicide rates in rural areas of NYS have been consistently higher than urban ones and continued to increase since 1999.[5]

Madison County – a predominantly rural area – has one of the highest rates among NYS counties (Figure 2). Compared to the NYS rate of 8.5 deaths for every 100,000, the death by suicide rate in Madison County is 14.1. Although Madison County rates have fluctuated greatly in certain years, the trend line has remained higher than NYS (Figure 3, page 6).

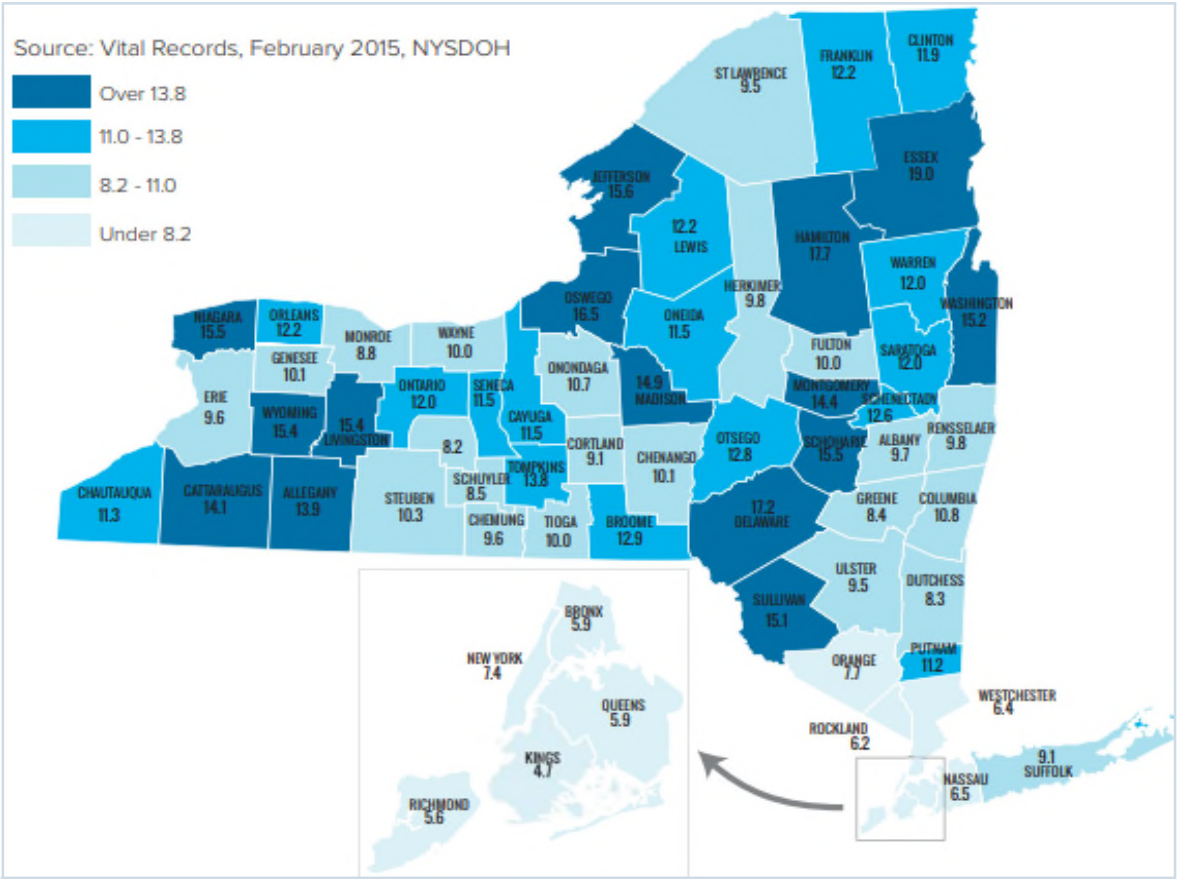


Figure 2: The age-adjusted death rate per 100,000 in New York State counties (2015), NYS OMH

"Only when a suicide is complete is the effect profound, but up until that point, it is below the surface."
- Joseph Karney, Navy Veteran & Suicide Prevention Advocate

Suicide death has a significant impact on community members. Though the research varies, it is estimated that for a single suicide event, 115 people are impacted.[6] Individuals affected often include family members and close friends, work colleagues, and acquaintances. One in five will experience a devastating or major-life impact.[6] People closest to the individual may experience the most impact, including feelings of shock, anger, guilt, and depression. This concept is often referred to as the *ripple effect.*

The impact of suicide goes beyond those immediately affected and affects society as a whole. There is a financial cost to death by suicide. On average, the costs associated with one suicide death is just over $1 million in NYS, including direct medical costs and work loss.[4]

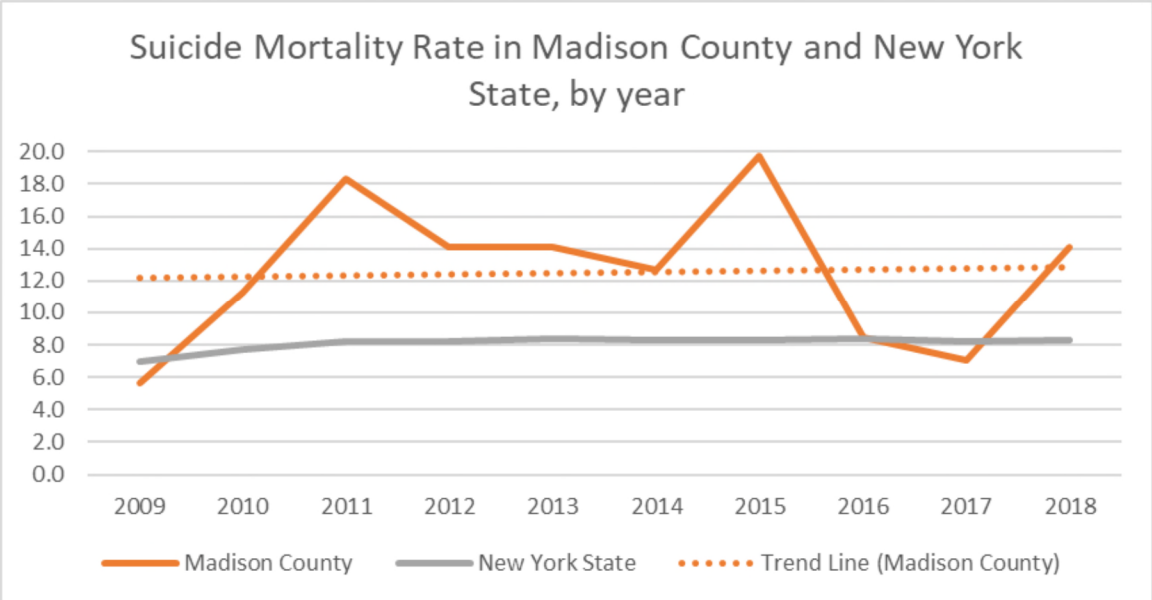


Figure 3. Suicide mortality rate in Madison County and New York State (2009-2018). Source: NYS Department of Health, Vital Statistics.

Risk Factors

Warning signs indicate an immediate risk of suicide (Figure 4). Whereas risk factors indicate that someone is more susceptible to suicide, but may indicate little or nothing about immediacy.[7]

There is not a single risk factor that leads to an occurrence of suicide; factors can interact with each other and a person at-risk may experience one, many, or none of them. Suicide is considered a *multi-determined act* given that it involves individual, social, and environmental factors.[8]

The likelihood of an attempt is highest when risk factors are present or escalating, when protective factors or coping strategies have diminished, and when the individual has access to lethal means. This is sometimes referred to as the *perfect storm*. This section outlines risk factors identified through national trends in addition to the key informant themes relevant to Madison County.

WARNING SIGNS

- Feeling like a burden
- Being isolated
- Increased anxiety
- Feeling trapped or in unbearable pain
- Increased substance use
- Looking for a way to access lethal means
- Increased anger or rage
- Extreme mood swings
- Expressing hopelessness
- Sleeping too little or too much
- Talking or posting about wanting to die
- Making plans for suicide

Figure 4. The most common warning signs of suicide. Source: Centers for Disease Control and Prevention.

"When you're working with people, we tend to put a filter on and that's when we miss things."
- Skip Hellmig,
Former Pastor & Police Officer

History of Trauma

The term *adverse childhood experiences* (ACEs) refers to a wide range of stressful events during childhood that can cause negative, long-term effects on an individual's physical and mental health. There are three types of ACEs: abuse, neglect, and household dysfunction. Abuse includes physical, emotional, and sexual abuses. Neglect can include both physical and emotional neglect. Household dysfunction can include exposure to domestic violence, family member (s) with mental illness, family separation/divorce, substance abuse, and incarceration. On a national level, 2 in 3 adults have been exposed to at least one ACE.

The impact of trauma, without support from an adult, can result in inhibited child development, engagement in risky health behaviors as well as poor mental and physical health outcomes. Adults with ACEs have a 2-to-3 times greater risk for suicide attempts and suicidal ideation compared to adults who were not exposed to ACEs.[9] On a local level, we can estimate the proportion of youth that have ACEs (Table 2).

Table 2. Indicators of Adverse Childhood Experiences in Madison County among youth (0-18 years).

Indicator	Madison County	New York State
Unwanted sexual contact with an adult (7-12th graders)	5%	--
Physically harmed by an adult at home within past year (7-12th graders)	11%	--
Rate of divorce cases with children (<18 years)*	94.0 per 100,000	79.1 per 100,000
Admissions to foster care system	52.1 per 100,000	79.7 per 100,000
CPS reports of child abuse/maltreatment	324.1 per 100,000	248.7 per 100,000

Sources: 2018 TAP Survey, Madison County Youth Bureau & Madison County Department of Social Services

Mental Health

Positive mental health encompasses physical, emotional, social, and psychological well-being where an individual is productive, able to adapt to changes or adversity, able to maintain fulfilling relationships with others, and contributes positively to society. On a national level, nearly 20% of adults (18 years and older) and 17% of youth (6-17 years) experience mental illness each year.

A person's mental health status can have an impact on their suicide risk. According to interviews conducted with family, friends, and medical professionals, up to 90% of people who die by suicide had shown symptoms of a mental health condition.[10] However, only 46% of people who die by suicide had a diagnosed mental health condition.[10] Among people who died by suicide in NYS, 51% had a mental health diagnosis in 2015.[11]

While depression is a major risk factor for suicidality, suicide ideation can also be present among non-depressed individuals.[12] A portion of individuals exhibiting suicidal ideation may not meet the criteria for a depressive disorder. As a local expert explained, "not everyone who thinks about suicide is depressed." In NYS, 44% of individuals who died by suicide in 2015 had a depression diagnosis.[11]

Post-traumatic stress disorder (PTSD) is a psychiatric disorder that can occur in people who have experienced or witnessed a traumatic event (e.g. natural disaster, war/ combat, personal assault, serious accident).[13] PTSD is the only anxiety disorder that independently predicts suicidal ideation and suicide attempts.[14] Specifically, the severity of PTSD symptoms is significantly related to suicide risk.[14] Although anyone can experience PTSD, it is commonly associated with veterans and first responders given their occupation. Nationally, PTSD affects approximately 8% of adults. Women are twice as likely as men to have PTSD (10% vs. 4%).[13]

In addition, traumatic brain injuries (TBI) have been directly related to suicide risk.[14] TBI is sudden damage to the brain caused by an outside force (e.g. motorcycle or car accidents, falls, sports injury, or assault). By comparison to the general population, individuals who have experienced a TBI have higher rates of suicidal ideation, suicide attempts, and death by suicide. Depending on the severity of the injury sustained, individuals with TBI are 3 to 4 times more likely to die by suicide than the general population.[14] It is estimated that 1.5 million US adults sustain a TBI each year.[15]

In Madison County, 11.7% of adults report poor mental health for at least 14 days of the last month, including stress and depression.[16] This is slightly higher than the average percentage of NYS adults (10.1%). Although the psychiatric admissions rate for children is similar for Madison County and NYS, the rate for adults is much lower in Madison County. The rate for emergency room (ER) visits for mental health are also lower in Madison County than NYS among both adults and children (Table 3).

Although the rates of mental health admissions are lower than NYS, the numbers reported by service providers demonstrate high need in Madison County.

Table 3. Age-adjusted rates for emergency room (ER) visits related to mental health and psychiatric admission, broken down by children and adults.[16]

	Madison County	New York State
Age-Adjusted ER Rate for Mental Health		
Children	37.2 per 10,000	90.6 per 10,000
Adults	67.5 per 10,000	108.9 per 10,000
Psychiatric Admissions*		
Children	31.7 per 100,000	32.2 per 100,000
Adults	14.0 per 100,000	40.5 per 100,000

*Number of Madison County residents using in person services per day

Currently, the Madison County Mental Health Clinic is monitoring nearly 30 adults (18-60 years) and 20 children (11-17 years) identified as high-risk; 80% of whom experience suicide ideation. While there was a similar number of men and women among adults, there were mostly female adolescents within this group.

About 10% of those individuals are on the Suicide Safer Care Pathway. This system is designed to tailor treatment plans for high-risk individuals with increased engagement and suicide-specific clinical practices.

In the first five months of 2019, 23 adults and 15 children (<18 years) from Madison County were served by the Liberty Resources Mobile Crisis Team. The majority of referrals came from a community member (51%), followed by local police/sheriff (14%). The most common reasons are emotional/mood instability (51%), suicide ideation/self-harm (41%), and behavioral instability (27%).

Pathways Wellness Center has worked with nearly 100 community members, who live with a mental health diagnosis or other barriers to living well. In 2018, there were 127 Madison County residents referred to Short-Term Crisis Respite and 49 were admitted. Short-term crisis respite offers support in a home-like setting for individuals experiencing an emotional or psychiatric crisis. Of the patients admitted, 45% have a substance abuse disorder in addition to a primary mental health diagnosis. The most common mental health illnesses were depression, schizoaffective disorders, bipolar, and general anxiety disorder.

In 2018, Madison County Sheriff and local police departments received nearly 300 mental health related calls. This does not include State Police calls involving Madison County residents; therefore, the volume of 911 calls related to suicide or general mental health may be underestimated. The call may result in police transport to a psychiatric emergency room for an evaluation, a call to the mobile crisis team, transport to the county mental health clinic for an evaluation, or a referral to another local provider.[17]

Social Isolation

A person's social connections and community can play a large role in determining their risk for suicide and can impact people over their lifespan. From a historical perspective, humans have relied on their social networks to survive and thrive. Research suggests that some people find solitude in being alone, while others experience loneliness (i.e. desire for social connection). Social isolation may occur when an individual lives alone, has limited contact with friends or family, or does not belong to a group (i.e. religious congregation, volunteer organization, coworkers).

"Isolation [can cause] suicide and suicide ideation [can cause] isolation."
–Maureen Campanie,
Associate Director of BRiDGES & Loss Survivor

Social isolation can be a lifestyle choice, or more commonly, situational. For instance, death of a loved one, family or friends moving away, remote rural housing, or having impaired mobility. Social isolation may be caused by the rurality of an area; therefore, increase the risk of suicide among rural residents. Given that situational isolation is imposed on an individual rather than by choice, they are more likely to feel lonely.[18,19] Loneliness is linked to depression and subsequently, increase risk for suicidal thoughts or behavior.[18]

Madison County is predominantly rural (58%), which increases the risk of suicide (see **Vulnerable Populations** section, page 17).

In the last ten years, 62% of suicide deaths occurred among adults (ages 25 and over) who were either never married, separated/ divorced, or widowed.[20] Relationship status may indicate level of social isolation.

Alcohol & Substance Abuse

An increase in alcohol use is listed as a warning sign for suicide. It is also considered a risk factor. Individuals who die by suicide were more likely to have alcohol use disorder (AUD).[21] AUD is characterized as a chronic relapsing brain disease with compulsive alcohol use, loss of control over alcohol intake, and a negative emotional state when not using alcohol.[22] Individuals may be using alcohol as an unhealthy coping mechanism for other mental health disorders (e.g. depression), past trauma, or social isolation. While it may ease one's psychological stress, AUD may also trigger suicidal thoughts and behavior.[23] Nationally, AUD affects about 16 million adults and adolescents (12-17 years).[22]

Many studies find that alcohol is often consumed prior to suicide death among both adults and young adults.[21] Acute alcohol use is an immediate risk for suicidal behavior by lowering inhibition and promoting suicidal thoughts. Risk, therefore, increases with the amount of alcohol consumed.[24]

The hospitalization rate due to alcohol abuse is 15 per 10,000 people in Madison County compared to 28.1 for NYS. In Madison County, 25% of adults report binge drinking within the past 30 days (5+ drinks for men, 4+ drinks for women per occasion) compared to 18.3% of NYS adults.[16] The 2018 Teen Assessment Project conducted by Madison County Youth Bureau reported that 42% of respondents (9-12 grade students) have drank alcohol; up from 36% in 2014.[25] Of the high school students who report drinking alcohol, 25% reported having five or more drinks within a 2-3 hour timeframe during the past 30 days. Lastly, the percentage of driving deaths related to alcohol use is 31% in Madison County compared to only 22% in NYS.[26]

Similar to alcohol, substance abuse is often interconnected with suicidal thoughts and behavior. Adults who have abused pain relievers (including opioids) within the past year are more likely to experience serious thoughts of suicide compared to the general population (Figure 5).[27] Of the US suicide deaths caused by intentional poisoning in 2017, 60% are anesthetics and narcotics, including opioids, heroin, and fentanyl.[27]

The overdose death rate in Madison County is about the same as NYS (excluding NYC); however, Madison County was the only county in Central New York with a higher rate in 2018 than the previous year (Figure 6) .

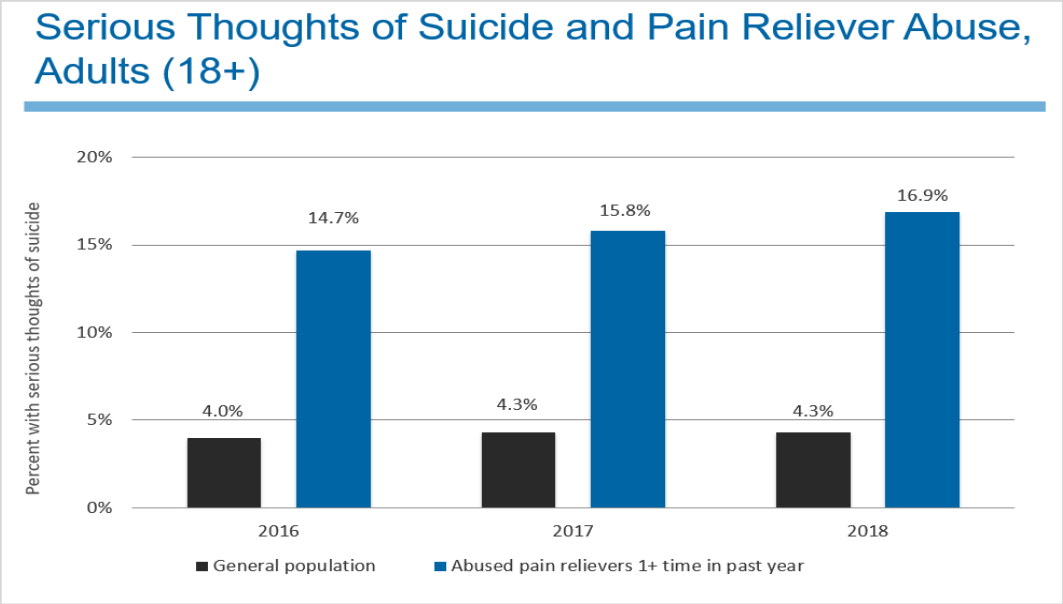


Figure 5. Serious thoughts of suicide among adults who abuse pain relievers compared to general population (2016-2018). Source: Centers for Disease Control and Prevention (2019).

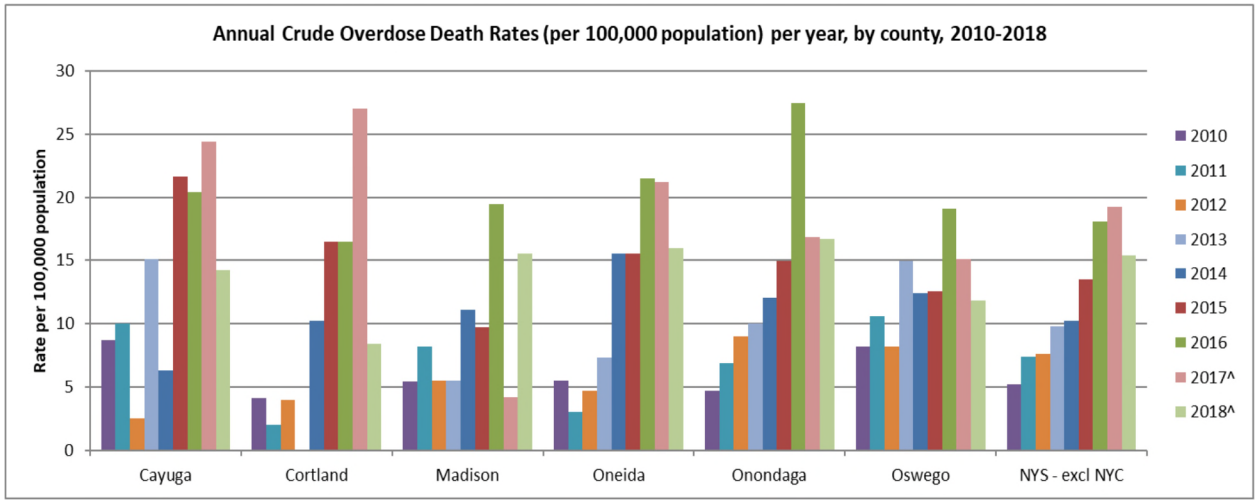


Figure 6. Crude rate of overdose deaths by year, comparing all Central New York counties and New York State (excluding NYC) (2008-2018). ^Counts are not final, death certificates could still be pending/ under investigation. Source: 2010-2013 — NYSDOH Vital Statistics; 2014-2018 — NYSDOH, New York State County Opioid Quarterly Reports. Accessed 10/2019.

Physical Health, Chronic Pain, and Opioids

As mentioned in the previous section, the use of substances is a risk factor for suicide; however, opioid use specifically is interconnected with chronic health conditions and physical pain. A number of physical health conditions have been linked to risk of death by suicide, regardless of age, biological sex, and the presence of mental health and substance use disorders. These physical conditions include back pain, brain injury, cancer, congestive heart failure, chronic obstructive pulmonary disease, epilepsy, HIV/AIDS, migraines, and sleep disorders.[28] Having two or more conditions further increases risk for suicidal thoughts and behavior.[28]

Individuals who have chronic health conditions often suffer from chronic pain. Experiencing chronic pain coincides with increased prescribing and availability of opioids.[29] By taking opioids, an individual increases their risk for suicide. Individuals with chronic pain may also experience emotional distress, isolation, depression, and hopelessness given that they cannot fulfill their former roles in family or work. They may also experience socioeconomic stress given that the pain hinders work productivity or working at all. Furthermore, individuals with chronic pain are more likely to have a history of alcohol and substance abuse.[29] All of these factors amplify their risk for suicidal thoughts and behaviors.

Chronic diseases affect approximately 133 million people in the United States, nearly 40% of the total population.[30] Although we do not know the exact number of Madison County residents living with chronic health conditions, we can estimate a high proportion given the national statistic. About 12.1% of the population in Madison County is limited in activities because of a physical, mental, or emotional condition. The percentage is similar to both NYS (11.4%) and the US (12.8%).[16]

> "Often I find that it is not that people want to be dead, they want relief from the pain or the situation that they're in."
> –Anonymous

Non-Suicidal Self-Injury

Non-suicidal self-injury (NSSI) refers to the intentional destruction of one's own body tissue without suicidal intent and for purposes not culturally sanctioned. Common methods include burning, cutting, and hitting; body pierces, for instances, are not included in NSSI. Although NSSI is characteristically less lethal and occurs without the intent to die, it is considered a risk factor for suicide. One reason is the association between NSSI with emotional and psychiatric distress. Research indicates that NSSI may be a gateway behavior to death by suicide by reducing an individual's inhibition to suicide through repeated acts of NSSI. The act of NSSI is linked with an increased risk for both suicidal ideation and the ability to act on those thoughts.[31]

About 15-20% of adolescents and young adults report a history of NSSI, while only 6% of adults in the US. In both adolescents and adults, rates of NSSI are highest among individuals who receive psychiatric treatment for depression, anxiety, and emotional dysregulation.[31] In NYS, the rates of emergency department visits for NSSI has increased by 42% from 2001 to 2016.2 The age-adjusted hospitalization for NSSI is 117.4 per 100,000 persons in Madison County compared to 65.0 in NYS.[1]

Access to Lethal Means

When a person experiences suicidal ideation, their risk of suicide can increase if they have access to lethal means (i.e. method, instrument, or object used to attempt suicide). Several factors influence lethality, including inherent deadliness, ease of use, accessibility, and ability to abort mid-attempt.[32] For instance, car exhaust with high CO level is more deadly than a car exhaust with low CO level. The ease of use refers to whether the method needs technical knowledge or not. For example, there is greater accessibility if an individual has a lethal dose of pills versus a prescriptive dose that needs to accumulate before becoming lethal. Methods that can be interrupted without harm during an attempt, including an overdose, poisoning, or hanging, offer a brief time for an individual to change their mind. In contrast, attempting suicide with a gun or jumping from a bridge, does not provide that option.[33]

Across the nation, nearly half of all suicide deaths involved firearms. We understand that the mental health status of an individual impacts the method used. Approximately 84% of people who die by suicide without known mental health conditions are male compared to 69% of individuals with known mental health conditions. Although the most common methods are the same for both groups, the proportion is slightly different (Figure 7).[27]

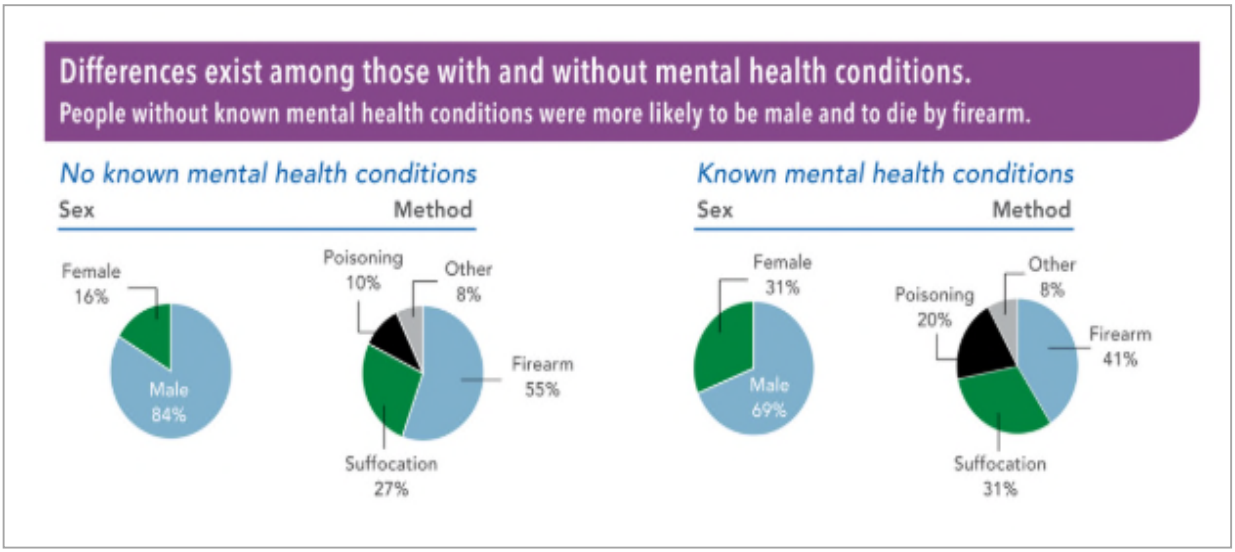


Figure 7. Comparison of suicide methodology among individuals with and without known mental health diagnosis. Source: Centers for Disease Control and Prevention, Vital Statistics.

Firearms play a considerable role in the discussion of suicide due to their accessibility and efficacy. Firearms account for half of all suicide deaths in the United States, and more specifically, are the leading method for nearly every age group (second among 10-14 year olds).[34] Up to 85% of firearm suicide attempts are fatal, while most nonfatal attempts are overdoses, followed by cutting.[33] Approximately 42% of Americans own or live in a household with guns.[32,35] People living in homes with guns have the same likelihood to experience depression, substance abuse, and suicidal ideation. While the rate of suicide attempts are consistent across states, the rates of suicide are higher in states with higher gun ownership.[35,36] With greater access to firearms, the risk of dying by suicide increases.[37]

Between 2009 and 2018, nearly half (47%) of suicide deaths in Madison County involved a firearm, followed by asphyxiation (37%), intentional self-poisoning (12%), and blunt force trauma (3%).[20] Biological sex and age have an impact on the means used in suicide deaths. Female suicide deaths were more likely to be due to asphyxiation (42%) or intentional self-poisoning (42%), and less likely by firearms (16%). Conversely, 53% of male suicide deaths were by firearms, followed by asphyxiation (36%) (Figure 8). Over half (60%) of all suicide deaths by firearm occurred among individuals between 40 and 69 years. In contrast, younger people in Madison County are more likely to use hanging as a method.[20]

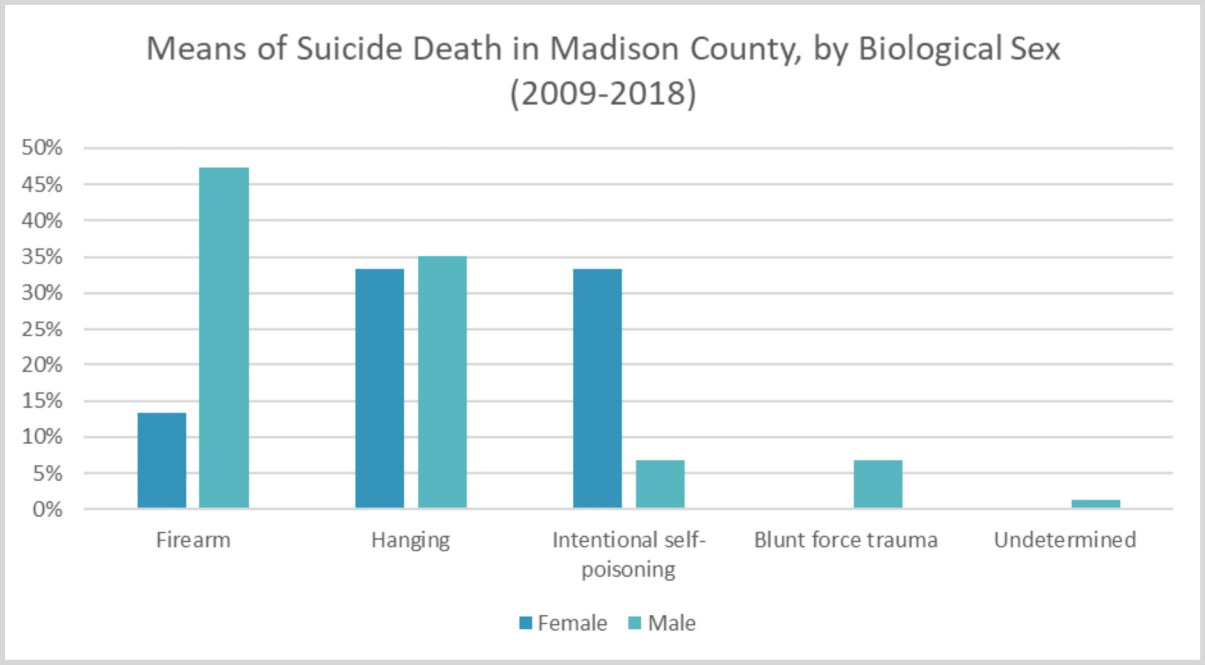


Figure 8. Proportion of lethal means by biological sex among suicide deaths in Madison County (2009-2018). Source: New York State Vital Statistics (May 2018).

Means Reduction

Many suicide attempts occur with little planning; most often in response to a short-term crisis.[36] In fact, 1 in 4 suicide attempts have a deliberation period of less than five minutes. There is evidence to suggest that individuals without access to lethal means will not carry out the attempt.[38]

The effectiveness in preventing suicide death by limiting access to lethal means has been well-documented across a variety of means and countries. In Australia, the rate of suicide deaths decreased after barbiturate (controlled substance) access was restricted.[36] The number of suicides in Asia significantly dropped when access to pesticides – the leading mechanism of suicide in this region – was reduced. The United Kingdom experienced a 30% decrease in suicides after carbon monoxide levels in domestic gas were reduced to nearly zero percent.[36] On an individual level, removing access to lethal means is a key component of a person's safety plan. Other examples of means reduction include using gun locks, bridge barriers, and secure medication storage.

"Most folks, if you take away the method that they were thinking about, they're not going to find another method."
– Alexandra Mikowski, Centers of Treatment Innovation Program Director, Family Counseling Services

Previous Suicide Attempts

A person who has attempted suicide previously are 30-40 times more likely to die by suicide than someone without a history of suicide attempts.[39] These individuals may suffer long-term physical and mental health issues in the aftermath, ranging from depression, anger, guilt, and physical impairment. The means of suicide and severity of the attempt can influence the impact. It is important to note that the vast majority (70%) of attempt survivors do not pursue future attempts, approximately 23% reattempt non-fatally, while 7% do die by suicide.[40]

History of Loss

Exposure to suicide or suicidal behaviors can result in an increase in suicide or suicidal behaviors. This concept is referred to as suicide contagion and may impact an individual's family or peer group. It may also occur via media reports.[41,42]

Loss survivors may experience ongoing pain and suffering, including complicated grief, stigma, depression, anxiety, posttraumatic stress disorder (PTSD), and increased risk of suicidal ideation and suicide.[43] Depression and anxiety symptoms are higher among people exposed to suicide compared to those who are not.[6]

Individuals exposed to suicide are more likely to report suicide ideation. Furthermore, the depth of their relationship with the decedent increases the risk for depression, anxiety, PTSD, and suicide attempt.[6] People who experience suicide loss are 65% more likely to attempt suicide than those who experienced a natural cause death.[39]

Young people, in particular, who have experienced suicide loss through the death of a friend or loved one, are nearly four times more likely to attempt suicide themselves.[44] For both adolescent boys and girls, knowing a friend who had attempted suicide was a significant predictor of moving from suicide ideation to suicide attempt.[45]

Vulnerable Populations

Using national trends in suicide prevention along with numerical and qualitative data including Madison County data, certain populations were identified as more likely to experience risk factors for suicide than other population groups. The following section discusses these vulnerable populations in more detail.

Age

Over the course of the lifespan, age groups differ in their vulnerability to suicidal thoughts and behavior. In Madison County, the rate of suicide mortality is 2-3 times higher for people ages 10-34 years, 45-54 years as well as 85 and older adults (Table 4, page 18). The hospitalization rate for self-harm is significantly higher in Madison County when compared to NYS for the following age groups: 10-19, 25-34, and 35-44 years.[1]

Table 4. The rates for suicide mortality and self-harm hospitalization by age group in Madison County and NYS (per 100,000 population).

	Madison County	New York State
Suicide Mortality Rate By Age*		
10-19 years	9.5 per 100,000	3.2 per 100,000
20-24 years	16.9 per 100,000	8.8 per 100,000
25-34 years	22.1 per 100,000	8.6 per 100,000
35-44 years	8.8 per 100,000	10.1 per 100,000
45-54 years	22.2 per 100,000	12.9 per 100,000
55-64 years	15.6 per 100,000	12.0 per 100,000
65-74 years	9.7 per 100,000	9.9 per 100,000
75-84 years	9.6 per 100,000	9.7 per 100,000
85+ years	23.1 per 100,000	9.4 per 100,000
Self-Harm Hospitalization Rate*		
10-19 years	112.3 per 100,000	63.8 per 100,000
20-24 years	66.5 per 100,000	87.4 per 100,000
25-34 years	79.4 per 100,000	64.7 per 100,000
35-44 years	132.0 per 100,000	55.7 per 100,000
45-54 years	96.9 per 100,000	58.2 per 100,000
55-64 years	37.1 per 100,000	37.2 per 100,000
65-74 years	14.1 per 100,000	20.0 per 100,000
75-84 years	-	19.8 per 100,000
85+ years	-	21.0 per 100,000

Source: New York State Suicide and Self-Harm Dashboard (2014-2016)[1]

Youth

In 2017, suicide was the second leading cause of death for people ages 15 to 34 in Madison County.[46] A higher percentage of Madison County high school students reported feeling sad or hopeless compared to NYS. Although not as many students attempted suicide in Madison County compared to NYS, nearly 28% of those who attempted suicide resulted in medical treatment (see Table 5, page 19).[25] See **Appendix A** on page 53 for the percentages by grade.

Although there is greater awareness of the opportunity schools have to prevent and respond to youth suicidal behaviors, school-based mental health professionals feel under-prepared to effectively organize and engage in appropriate efforts.[39] There is evidence that youth development programming in conjunction with suicide prevention, can provide protective effects. Creating suicide safer schools begins with an organizational policy with the purpose of protecting the health and well-being of all students by having procedures in place to prevent, assess the risk of, intervene in, and respond to suicide. Currently 18% of school districts in Madison County have a suicide-related policy (see **Appendix B,** page 53).

Table 5. Percentage of Suicide-Related Indicators among High School Students in Madison County Compared to New York State

	High School Students (Grades 9-12)	
	Madison County	New York State
Felt sad or hopeless (2+ weeks)	39.3%	30.4%
Seriously considered attempting suicide	18.4%	17.4%
Percent of students who made a plan for suicide	12.5%	--
Percent of students who attempted suicide	6.7%	10.1%
Percent of suicide attempts that resulted medical treatment*	27.7%	4.1%

Sources: Madison County Youth Bureau, Teen Assessment Survey (2018), New York State Youth Risk Behavior Survey (2017) *May refer to injury, poisoning, or overdose

Science indicates that frontal lobes of the brain, which houses the impulse control function, do not fully developed until the mid- to late-20s. This makes young people particularly susceptible to events and experiences that could lead to suicide ideation and/or attempt.[46] Suicide attempts in adolescents are typically less lethal; however, the impact on the individual along with their social network is long-lasting (e.g. social contagion, history of loss).[47]

Young adults are heavily influenced by the media they consume. The rise of electronic communication and social media is linked to the dramatic increase in major depression, psychological distress, and suicide-related outcomes among young people, ages 12 to 25 years.[48] For example, one month after the release of the Netflix show, 13 Reasons Why, suicide rates among United States youths ages 10-17 increased by 28.9%.[49] As one community expert stated, "Young people have easy access to the internet, where they can be talking about suicide and coping skills, but it is very easy to learn the wrong coping skills or be talking about the wrong aspects of suicide."

"Youth who have experienced suffering of any kind are particularly at risk because their brains aren't fully developed, they're impulsive, [and] they're risk takers."
–Susan Jenkins,
Executive Director of BRiDGES

Research indicates that certain subsections of young people are more at-risk. For example, youth involved with the juvenile justice or child welfare systems have a high prevalence of risk factors for suicide. Compared to the general youth population, between 60 and 70% of young people involved with the juvenile justice system meet criteria for at least one psychiatric disorder and are three times more likely to die by suicide.[50] In 2018, nearly 25% of youth in the foster care system had a diagnosis of major depression. A quarter of the same population also reported attempting suicide at least once by 17 years.[51] In Madison County, approximately 6% or 860 children (<18 years) are involved with the child welfare system.

The Centers for Disease Control and Prevention (CDC) found that youth who identify as lesbian, gay, or bisexual are 4.5 times more likely to attempt suicide compared to their heterosexual peers. Those who question their sexuality or gender identity are over twice as likely to attempt suicide compared to their peers.[52]

Adolescents are vulnerable to bullying, which is defined as aggressive or deliberately harmful behavior that is repeated over time. Young people who experience bullying are at greater risk for suicidal thoughts and behaviors.[53] Individuals who identify as LGBTQ or have unhealthy weight are often targets of bullying and can have greater risk for suicidal thoughts and behavior.[54,55] In the 2018 TAP Survey, 19% of Madison County high school students reported that they feel constantly teased, threatened, or harassed by other youth. This is an increase from the 14% that reported this on the 2014 TAP Survey and the 12% reported in 2010.[25]

Bullying may be connected with social isolation. Isolation from peers can lead to lower estimations of self-worth and self-confidence.[45] Adolescent females, who feel isolated from their community or have poor peer relationships, are at greater risk for suicidal thoughts than girls who are embedded in cohesive friendship groups.[45] Adolescent males seem more unaffected by their social context than adolescent females.[45] In Madison County, 1 in 4 high school students, who reported having suicidal ideation, indicated feelings of aloneness and isolation as the main reason.[25]

The era of screen time contributes to social isolation among young people.[56] About 43% of high school students spend 3 or more hours per day using the computer, smartphones, or playing video games (excluding school-related activity) and nearly 21% spend 3 or more hours per day watching television.[57]

"[Screen time] inhibits people's ability to do relationships because they're just isolating by virtue of mind-numbing entertainment."
– Mick Keville, Senior Pastor at CrossRoads Community Church

Young Adults

The rate of suicide mortality among Madison County residents, ages 20-34 years, is 2-3 times higher than the rate for NYS (see Table 4, page 18). Youth in general, regardless of their generation, engage is risky behaviors. What is different with the millennials is that along with the normal risk behaviors, there is an increase in anxiety and depression that exacerbates the risk for suicide for the young population.[43] Generation-specific factors that contribute to anxiety and depression include financial stressors stemming from large student loan debt, and the rising costs of both health care and housing. In addition, social support is lacking among young people due to lower community engagement (e.g. volunteerism, religious groups) and waiting longer for long-term romantic relationships. All of these factors may increase feelings of sadness and hopelessness, which can contribute to suicidal ideation and attempts.

"Millennials are convinced they have no future, they won't do better than their parents."
–Skip Hellmig,
Former Police Officer & Pastor

Middle-Aged & Older Adults

The rate of suicide mortality is 2-3 times higher for people ages 45-54 years and adults 85 and older. The hospitalization rate for self-harm is higher for Madison County residents ages 35-44 years compared to their NYS counterparts (Table 4, page 18).[1] The data for self-harm hospitalization is unavailable for adults 75 years and older. For individuals between the ages of 45-54, limited information about suicide deaths is available.

The population in Madison County is becoming increasingly older as the Baby Boomer generation ages and the younger generation has opted to leave the area.[58] In addition to the potential of family and friends leaving the community, older adults may experience more social isolation due to death of peers and family members.[19] Moreover, rural communities have limited public transportation and community centers for senior programming; both of which limit an older person's options for social interaction. The majority of older adults (75 years and older) who attempt or die by suicide, suffer from depression.[12] Older adults may face ageism given that societal attitude tends to devalue life as people age; people may mistake depression and grief among older adults as normal aging, which can interfere with identifying and diagnosing depression by patients, families, and health providers.[59]

Biological Sex

From 1999 to 2015, rates of suicide deaths increased significantly among males in 34 states and females in 43 states. Historically, women have had higher rates of attempt, while men have higher suicide rates.[60] The suicide mortality rate is similar for women in Madison County compared to NYS; however, the self-harm hospitalization rate for women in Madison County is nearly double that of NYS (Table 6). See **Appendix C** on page 54 for the leading cause of premature death by biological sex.

Table 6. The age-adjusted rates of suicide mortality and self-harm hospitalization in Madison County and New York State, by sex.

	Madison County	New York State
Suicide Mortality Rate*		
Male	22.7 per 100,000	12.8 per 100,000
Female	4.6 per 100,000	4.2 per 100,000
Self-Harm Hospitalization Rate*		
Male	39.5 per 100,000	41.8 per 100,000
Female	92.7 per 100,000	49.7 per 100,000

Source: New York State Suicide and Self-Harm Dashboard (2014-2016)[1]

The number of female suicide deaths accounted for 15.4% of all suicide deaths, ranging from 20 to 80 years old. Among female deaths by suicide, the majority had a high school diploma/GED or some college/ associate's degree (83%), while 17% had a bachelor's degree or higher (Figure 9).[20] Of the women who died by suicide, nearly 43% were married, 29% never married, 21% widowed, and 7% separated or divorced.[20]

The suicide mortality rate of men in Madison County is nearly twice as high compared to NYS men, while the rate for self-harm hospitalization is about the same (Table 4, page 18). From 2009 to 2018, nearly 85% of all suicide deaths were among men.[20] The age range was larger (16-90 years) among men who died by suicide. The education level among male suicide deaths varied more than women. In the same timeframe, about 18% of men did not have a high school diploma, 50% completed high school or GED, followed by 17% with some college/associate's degree, and 15% with a bachelor's or higher (Figure 9).[20] Of the men who died by suicide, 45% were never married, 28% were married, 18% widowed, and 9% separated or divorced.[20]

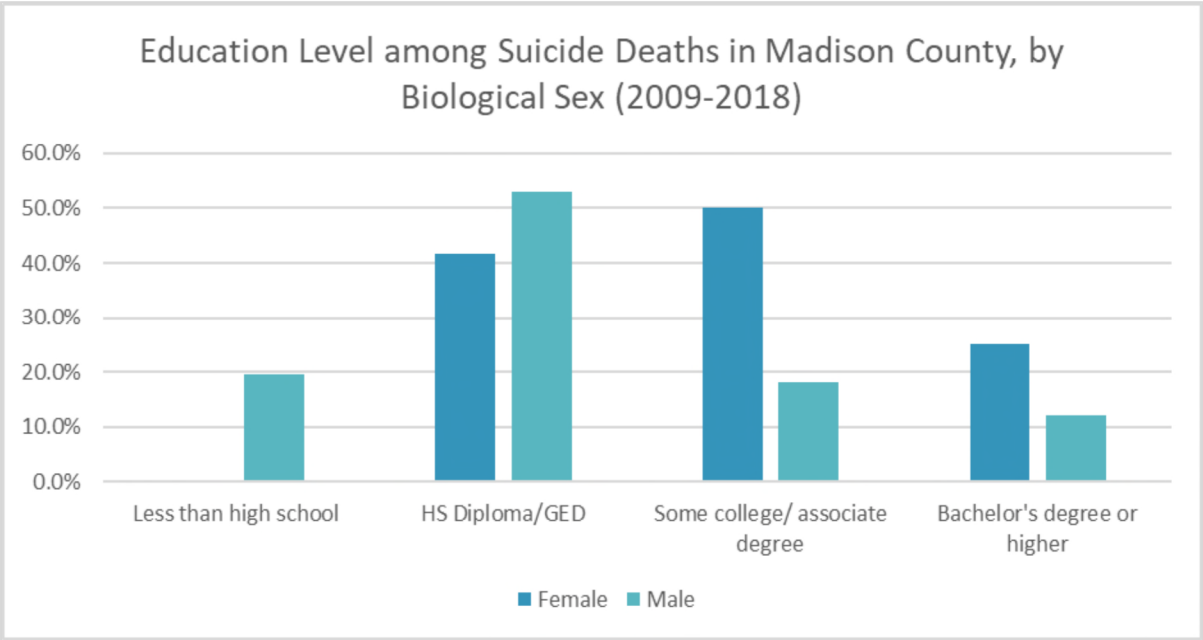


Figure 9. Education level among individuals who died by suicide in Madison County, by biological sex (2009-2018). Source: New York State Vital Statistics (May 2018).

The reasons for this gap in suicide deaths between men and women are unclear. Most literature points to inherent or culturally-imposed characteristics between women and men. Women are generally more open to communicating their emotional wellness, particularly feelings of depression or anxiety. Men may not be as comfortable or forthcoming about their feelings; therefore, may be less likely to seek help for depression and other mental health issues.[60]

Coping strategies between men and women are often characterized differently as well. Men may exhibit risky, defensive, or avoidant behavior to manage stress, such as alcohol/drug use, gambling, or social withdrawal. As an interviewee described, "[men] are a more difficult population to get in contact with, to reach."

Another key informant described the higher risk for men as a result of "…isolation, higher stress, no management skills…don't know how to ask for help." High stress can be related to economic instability. Historically, men were considered the family breadwinners and more likely to experience pressure during economic hardship.[60]

Inmates

Suicide is the leading cause of death for jail inmates, accounting for 34% of inmates in local jails and the fourth leading cause of death among state prisoners. The risk of suicide increases for youth in juvenile system or individuals who identify as LGBTQ involved with corrections. One factor may be that people with mental health issues are over-represented in prisons and jails. In fact, 37% of people incarcerated in the state and federal prison system have a diagnosed mental illness compared to only 20% of the general public.[10] In Madison County, from June 2018 to July 2019, 77 inmates were placed on constant (24/7) suicide watch during the booking process. The individuals placed on constant watch ranged from 17 to 75 years old; 23 were women and 54 were men.

LGBTQ

Individuals who identify as LGBTQ (i.e. lesbian, gay, bisexual, transgender, queer/questioning) are more vulnerable to suicidal thoughts and behaviors. LGBTQ youth report high levels of rejection, harassment, victimization, violence, and sexual abuse.[61]

Specifically, youth who identify as lesbian, gay, or bisexual are four times more likely to attempt suicide compared to heterosexual youth.[10]

Although suicide risk tends to be highest during teen years and early 20s, adults in the LGBTQ community are also at risk for suicide.[54] Poor mental health, specifically depression, is more common in individuals who identify as LGBTQ.[62] In addition, health risk behaviors, including smoking and binge drinking, are more prevalent among LGBTQ adults when compared to the general population.[62] Transgender adults in particular are nearly twelve times more likely to attempt suicide than the general population.[10]

There is misconception that LGBTQ individuals only experience mental health issues because of their sexual or gender identity. In reality, the increased risk of mental health issues and suicide stem from negative experiences within society. The stigma of LGBTQ can cause harassment, discrimination, and prejudice from family, friends, and the broader community. Moreover, LGBTQ individuals are more likely to have negative experiences in the healthcare system. Together, these factors can significantly impact mental health and lower help-seeking behavior.[54] This results in a greater vulnerability to suicide among the LGBTQ community.

Rural Communities

Nationally, rural communities have higher suicide deaths compared to their urban counterparts. Despite a strong sense of community in rural towns, the low population density and wide geographic area can lead to loneliness and social isolation. A smaller population may limit a person's ability to find like-minded people or people with shared interests and experiences. As a result, people with do not fit into the status quo can feel like an outsider. According to the US Census Bureau, Madison County is 58% rural.[58]

Rural areas are more susceptible to the effects of economic decline. Unlike urban settings, rural areas do not have the same amount of shared resources and may have limited social networks. There are usually fewer job opportunities and it is more difficult to switch from one career path to another depending on an individual's experience and education level.[63] The impact of economic decline can be detrimental given the culture of self-reliance in rural communities. A strong sense of self-reliance deters individuals from seeking help and creates isolation. The cultural hobbies and professions in rural communities are often associated with increased access to lethal means, such as hunting firearms and agricultural pesticides.[63]

Rural communities have limited access to healthcare resources. A shortage of clinics, hospitals, and health professionals leads to a lack of treatment for both physical and mental health issues. Even when there are mental health services available, rural communities show lower rates of utilization of these services than their urban counterparts.[63] These low rates of utilization may be due to long travel distances as well as stigmas against visiting mental healthcare facilities.[64] A majority of rural adults agree the cost (70%), embarrassment (65%), and stigma (63%) would be an obstacle if they were seeking help or treatment for a mental health condition.[64] These factors contribute to the increased rates of suicide within the rural community. Please see **Barriers** section on page 33.

Employment

Research demonstrates that certain careers and unemployment are associated with higher rates of suicide death. This is likely related to nature of the job itself, job security, and income level. In 2016 report, Healthy Workplaces in Madison County, 23% of individuals who died by suicide had an occupation related to the professional, technical, or managerial category (Table 7). Nearly 20% of suicide deaths were among individuals within the other category (i.e. student, homemaker, unemployed, disabled, unknown, postal worker). This is followed by structural work, agriculture, and service professions (Table 7). The employment and unemployment trends are similar among all suicide deaths in NYS, excluding NYC.[11]

Employment and education level together impact the risk for suicide. In Madison County, nearly 65% of individuals who die by suicide did not complete high school or have a high school diploma/GED. Education levels tend to be higher among women who die by suicide compared to men (Figure 8, page 15). In addition to education level, different professions are linked to varying degrees of financial stability and stress levels. The section below identifies specific professions and unemployment as high-risk populations.

Table 7: Proportion of Madison County suicide deaths by sex and occupation (2008 to 2016*)[65]

Occupation	Male	Female	Total
Professional, Technical, Managerial	15%	8%	23%
Other**	16%	3%	19%
Structural Work (e.g. construction)	16%	0%	16%
Agriculture, Fishery & Forestry	8%	3%	11%
Service Occupations	10%	0%	10%
Machine Trades	7%	0%	7%
Transportation	7%	0%	7%
Clerical and Sales	3%	0%	3%
Self-Employed	3%	0%	3%

*2016 data only includes January through July

**Includes student, homemaker, unemployed, disabled, unknown, postal worker

Farmers

Rural communities are more vulnerable to suicide compared to urban environments. Farming is a main occupation in rural areas, including Madison County. Farming is associated with several risk factors related to high rates of suicide. Those factors include long work hours with few breaks or vacation, social isolation, and unpredictability.

Unpredictability encompasses weather, large debt loads/high interest rates, government regulation, machinery breakdown, commodity prices, crop yield, and livestock illness.

Due to these factors, it is difficult to "get farmers off the farm" as Karin Bump, Executive Director of the Cornell Cooperative Extension (CCE) in Madison County described. In turn, members of the agricultural community may not receive primary care services; therefore, less likely to be screened for mental health disorders, particularly suicide risk. They may be more reluctant to seek healthcare and other social services because of their occupational responsibilities. It can also limit social connectedness by decreasing the number of people within a social network.

Given the physicality of the job, farmers are affected by chronic pain and the use of pain medicine, including prescribed opioids.[66] As discussed previously, both chronic pain and opioid use are risk factors for suicide. In addition to the professional hardships, there has been negative messages in the media around farming, such as animal cruelty, pesticide use, mass production, and pollution.[66,67] These misconceptions by the public can further alienate the farming community, contributing further to social isolation and exacerbating the risk of suicide. Farmers make up 11% of the suicide deaths in Madison County.[20]

Emergency First Responders

Emergency first responders, including emergency medical technician (EMTs), police, or firefighters, are more vulnerable to dying by suicide than the general population. First responders are expected to be mentally tough and respond appropriately in difficult situations. There is a camaraderie created among members due to similar experiences, which can serve as support by understanding the stressors and challenges of the job. That said, the "us versus them" mentality can inhibit members from seeking help from family and mental health professionals.[68] First responders are subjected to not only traumatic events, such as a house fire or car crash, but may also be responding to someone attempting suicide. As one local expert explained, "all this trauma just builds up" among first responders and it can have a devastating impact on individuals who do not seek help.

The Blue HELP organization reported 578 known suicides among law enforcement officers, between January 2016 and June 2019, including 53 in NYS. Nearly 80% of those 578 individuals were on active duty, followed by a small percentage of retired, medical separated, suspended/terminated, and resigned.[69]

The National Fallen Firefighters Foundation reported that fire departments are four times more likely within a given year to experience suicide than a line-of-duty death. This is particularly true among men in fire service at the beginning (18-24 years) and end (40-55 years) of a service career. This could be attributed to the difficulty of adapting to the stresses of the job, such as increased trauma exposure or transitions of adjusting to retirement, while feeling a loss of identity.[68]

In NYS, there were 58 suicide deaths among firefighters and 15 among EMTs between 1987 and 2018. The top five known reasons include marital/family relationships, depression, health issues (e.g. cancer diagnosis), addiction, and diagnosed PTSD.[70]

"You're looking at yourself and saying 'but I would never do that' …well that's a wrong assessment…"
–Skip Hellmig,
Former Police Officer & Pastor

Veterans

Historically, veterans are more vulnerable to suicide. Suicide rates among veterans at both state and national levels are significantly higher than non-veterans. The annual number of veteran suicide deaths has exceeded 6,000 since 2008 (Figure 10, page 29).[71] In 2016, the national suicide rate among veterans was 1.5 times greater than non-veteran adults with an average of 20 veteran suicide deaths per day.[72] Of those 20 veterans, an average of only 6 are users of Department of Veteran Affairs (VA) services.[73] In NYS, 11.5% of suicide deaths between 2014 and 2016 were among veterans.[1]

Several factors may impact a veteran's risk for suicide. First, veterans face the trauma of war violence during active combat. Veterans are also more susceptible to risk factors like chronic pain, mood disorders, and substance abuse.[74] Of the patients seen by the Veteran's Health Administration, 41% have a diagnosed mental illness or substance use disorder.[10]

After veterans leave active duty, they may have difficulty transitioning into civilian life; they may feel disconnected from the people around them who do not share their experiences. They may also feel that they've lost their purpose.[75]

Service members learn a "deal with it" mentality in order to adapt to dangerous or uncomfortable situations in combat. This thought process is difficult to adjust during the transition period, making it more challenging to seek help.[75]

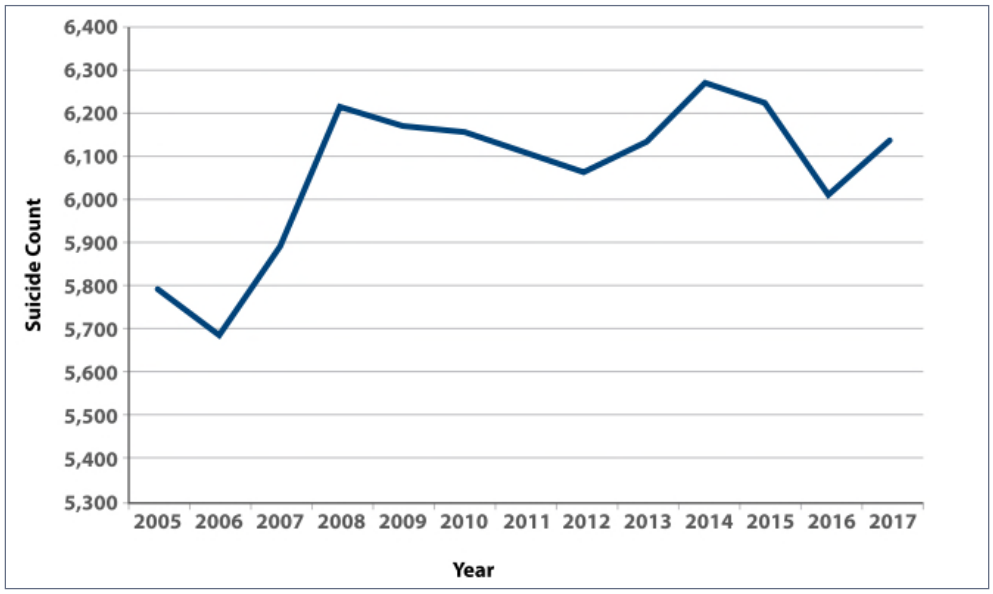


Figure 10. Annual number of veteran suicide deaths (2005-2017)

Veterans may have greater access to lethal means. In 2017, 70.7% of male Veteran suicide deaths resulted from a firearm injury and 43.2% of female Veteran suicides.[71]

In the US, the number of suicide deaths among veterans remains highest for individuals over age 60; however, when adjusting for population size, rate of suicide mortality is highest among veterans 18-39 years of age (Figure 11, page 30).[76] In Madison County, there are over 5,000 veterans accounting for about 9% of the population.[58] Between 2009 and 2018, nearly 17% of all suicide deaths were among veterans. Although the percentage changes from year to year, this represents a high proportion of suicide deaths.

"It is a loss of identity. Feeling like you're nobody… I don't have a friend base, I've been gone for 36 years… I find myself alone and I have to sort through a lot of things in my mind to justify pressing on and moving forward."

- Joseph Karney,
Navy Veteran & Suicide Prevention Advocate

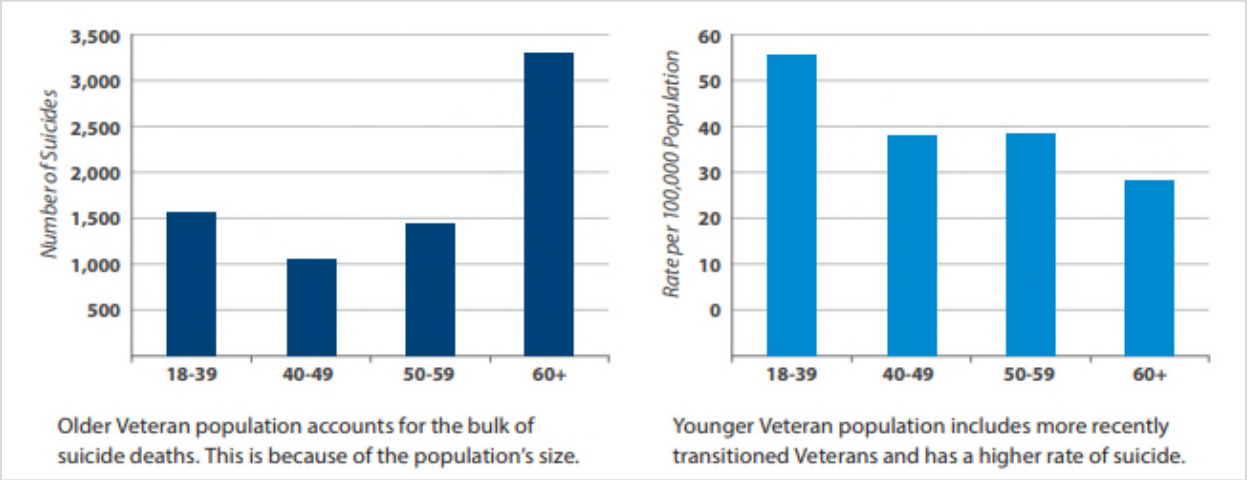


Figure 11: Number of veteran suicide deaths compared to rate per 100,000 population by age group. Source: US Department of Veterans Affairs, National Strategy for Preventing Veteran Suicide 2018-2028.

Providers

Physicians have higher rates of burnout, depressive symptoms, and suicide risk than the general population. Yet, they are less likely to seek mental health care due to time constraints, self-perceived weakness, and concerns about reputation and confidentiality.[77] The suicide rate among male physicians is nearly one and half times higher than the general male population, while the rate among female physicians is over two times greater than the general female population.[77] Nearly one-third of medical residents experience depression compared to only 8% of the public.[77] In addition, veterinarians, particularly female veterinarians, are 3.5 times more likely to die by suicide than the general population. They too experience job stressors, high student debt, depression, and burnout. Unlike physicians, veterinarians have the difficult job of euthanizing patients, sometimes with treatable injury or illness.[78]

Similar to emergency responders, suicide death can significantly impact healthcare providers, including mental and behavioral health personnel. A traumatic event can cause stress and lower morale among staff. One study revealed that 71% of providers had experienced traumatic loss (i.e. overdose, suicide, unexpected death) in their career. Given that there is no grief ritual for clinicians, they do not always have closure for their loss.[44] This concept is referred to as *disenfranchised grief* and may cause further isolation or an inability to cope with their feelings.

"You never know why… we feel like we let somebody down. 'What did I do wrong? What could I have seen?' The whole staff feels that way."
– Skip Hellmig,
Former Pastor & Police Officer

Unemployed

Unemployment is a well-established risk factor for suicide. Job loss has very tangible, negative consequences that may adversely affect one's mental health. When a person loses their job, they first may experience shock, which in turn may elevate the risk of impulsive behaviors. They lose a steady routine of a structured workday and workplace relationships, which may lead them to become socially isolated.[79] As they actively search for jobs, they may become discouraged and distressed with every one that does not work out. People who are unemployed have a higher risk for developing psychological distress, anxiety, or depression.[80]

Individuals unable to find a job may experience financial strain causing higher levels of stress. The longer the unemployment duration, the higher the probability of exhausting both social and material coping resources, such as money or support from family/relatives. Over time, both the odds of re-employment and prospective earnings decline.[80] In Madison County, 4.5% of the population is unemployed, slightly lower than NYS unemployment percent of 6.8%.[58]

Race/Ethnicity

On a national level, disparities exist among suicide deaths by race and ethnicity. The rate of suicide is highest among individuals who identify as American Indians and Alaska Natives (AI/AN) living in the United States (Figure 12, page 32). For this population, the suicide rate is approximately 250% higher than the whole population for ages 15-34 years. Suicide is the second leading cause of premature death for all ages within the AI/AN population. Nationally, this population demonstrates higher rates of drug and alcohol use, greater exposure to violence, and disproportionately higher rates of certain mental health issues, all of which are risk factors for suicide.[81] Young people who identify as AI/AN experience higher rates of anxiety, victimization, substance abuse, and depression. Indigenous communities face unique challenges that contribute to suicide rates, such as distrust of the United States government, ongoing marginalization, poverty, underemployment, lack of basic services, and collective disempowerment.[82]

When looking at race and ethnicity, the second highest suicide rate is among non-Hispanic white individuals in the United States (Figure 12, page 32). There is a rising trend in both AI/AN and white racial groups over the past ten years, while the trend lines among Asian/Pacific Islander, Hispanic, and Black individuals have remained relatively unchanged (Figure 12, page 32).

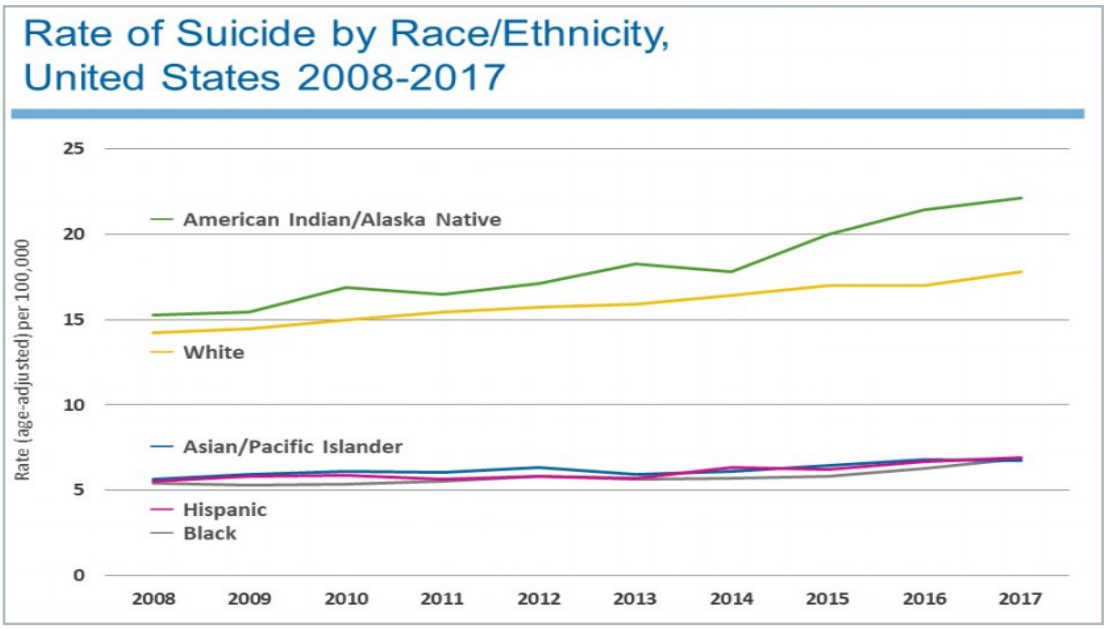


Figure 12. Rate of suicide by race/ethnicity in the United States (2008-2017)
Source: Centers for Disease Control and Prevention (2017), www.sprc.org

Trends related to race/ethnicity among suicide deaths differ for NYS. White residents have the highest rate of suicide, followed by Asian/Pacific Islander and Black/African American residents (Figure 13). In contrast to national trends, individuals who identify as AI/AN have the lowest rate, which has remained consistent between 2008 and 2017. Over the last ten years, nearly all suicide deaths have occurred among White residents in Madison County.[20,58]

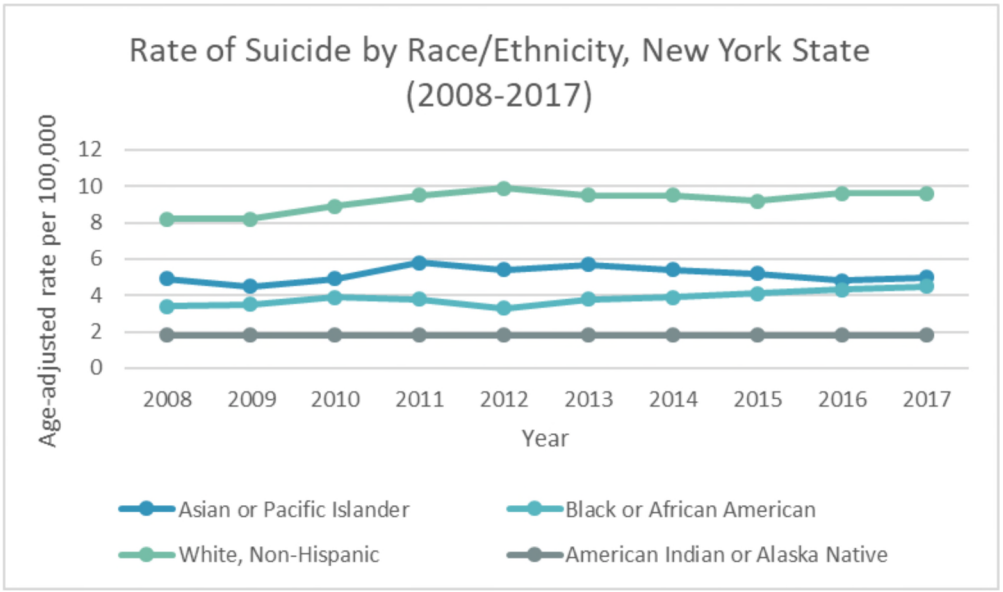


Figure 13. The age-adjusted rate of suicide by race/ethnicity in New York State between 2008 and 2017. Source: Centers for Disease Control and Prevention, WONDER Database (2019). https://wonder.cdc.gov/.

Barriers

Stigma

A significant portion of people do not seek mental health treatment. Only 43.3% of U.S. adults with mental illness received treatment in 2018.[10] One potential barrier that deters individuals from seeking mental health treatment is the stigma that our society places on people with mental health needs.

The impact of stigma is twofold: public stigma and self-stigma. The first is the reaction that the general population has to individuals with mental health illness, including negative stereotypes (i.e. weakness, incompetence, or dangerous), prejudice (i.e. emotional reaction based on stereotype), and discrimination (i.e. avoidance, limit housing or employment opportunities). The latter explains that individuals with mental health illness have a negative belief about themselves and respond accordingly (e.g. fail to seek help, work, or housing).[83] Self-stigma prejudice can cause low self-esteem as well as low self-efficacy.[83]

As a result, persons with mental health conditions often conceal symptoms and demonstrate lower help-seeking behavior. Although women and younger adults (18-44 years) are more likely to reach out for help, men, people of racial/ethnic minorities, and older adults are less likely.[84] Physical or somatic symptoms of mental illness (e.g. dizziness, upset stomach) are more likely to be reported given that they are more culturally acceptable.[84]

Seeking help is extremely difficult as a result of this stigma. It also inhibits people from checking in with others. As Susan Jenkins, Executive Director of BRiDGES, articulated, "…the person [who] actually needs the services might not be in a position to ask for help and those around that person don't know how to reach in [for services]." This stigma around mental health hinders dialogue around suicidal thoughts and behavior.

"The hardest thing…is getting through that door the first time, because it's scary."
–Maureen Campanie,
Associate Director of BRiDGES & Loss Survivor

Healthcare Infrastructure

Access

Across the country, 60% of all counties do not have a practicing psychiatrist.[10] Madison County is designated as a mental health professional shortage area. The mental health provider ratio in Madison County is 560 patients to 1 compared to NYS's 370:1 ratio.[85] As a result of the mental health provider shortage, primary care providers (PCPs) often become the first point of contact for patients experiencing suicidal thoughts.

Although efforts have been made to educate and train PCPs on the utilization of suicide screenings (i.e. PHQ9) through the Suicide Prevention Resource Center's initiative Zero Suicide, mental health diagnosis and counseling is outside the realm of primary care. Therefore, placing a large burden on PCPs to identify mental health illness among patients and refer them to appropriate resources during annual visits. It can also create barriers in the accessing services, since mental health services are generally not located in the same facility. As one key informant stated, "The [screening] should always be the start of a conversation, not the end of one." While PCPs may be equipped to implement a screening tool, individuals are left more vulnerable to suicide without adequate referral process.

In addition to PCPs not being prepared for this role, the number of PCPs that serve Madison County is low. The ratio of patients to primary care providers is much higher in Madison County (1,780:1) compared to NYS (1,200:1).[85] In turn, providers have longer wait lists and community members do not have timely access to medical or mental healthcare. Collectively, this exacerbates the problem of accessing services. Lastly, patients may not be able to see the same provider every time they go to an appointment, which may deter them from disclosing poor mental health, especially suicide ideation.

"I could be the greatest technician in the world, but if I don't have a good relationship with the person who is sitting with me, I am going to be limited in how helpful I can be."
– Anonymous

Financial

The Affordable Care Act lowered the rates of uninsured people with mental illness and substance use disorders.[46] That said, 11.3% of US adults with a mental health illness did not have insurance coverage in 2018, slightly more than the general public.[10] Changes to health insurance have improved access to mental health and substance abuse care specifically. The Mental Health Parity and Addiction Equity Act requires health insurers to cover mental health and substance abuse services at the same level as healthcare services; however, the law does not require large group plans to offer those benefits. More recently, the parity law was extended to the use of telemedicine in NYS, which presents an opportunity for improved access.[86]

Despite these improvements, financial barriers to mental health treatment still exist. Barriers include high rates of denials of care by insurers, high out-of-pocket costs for mental health care, finding in-network providers, and providers not taking new patients.[87]

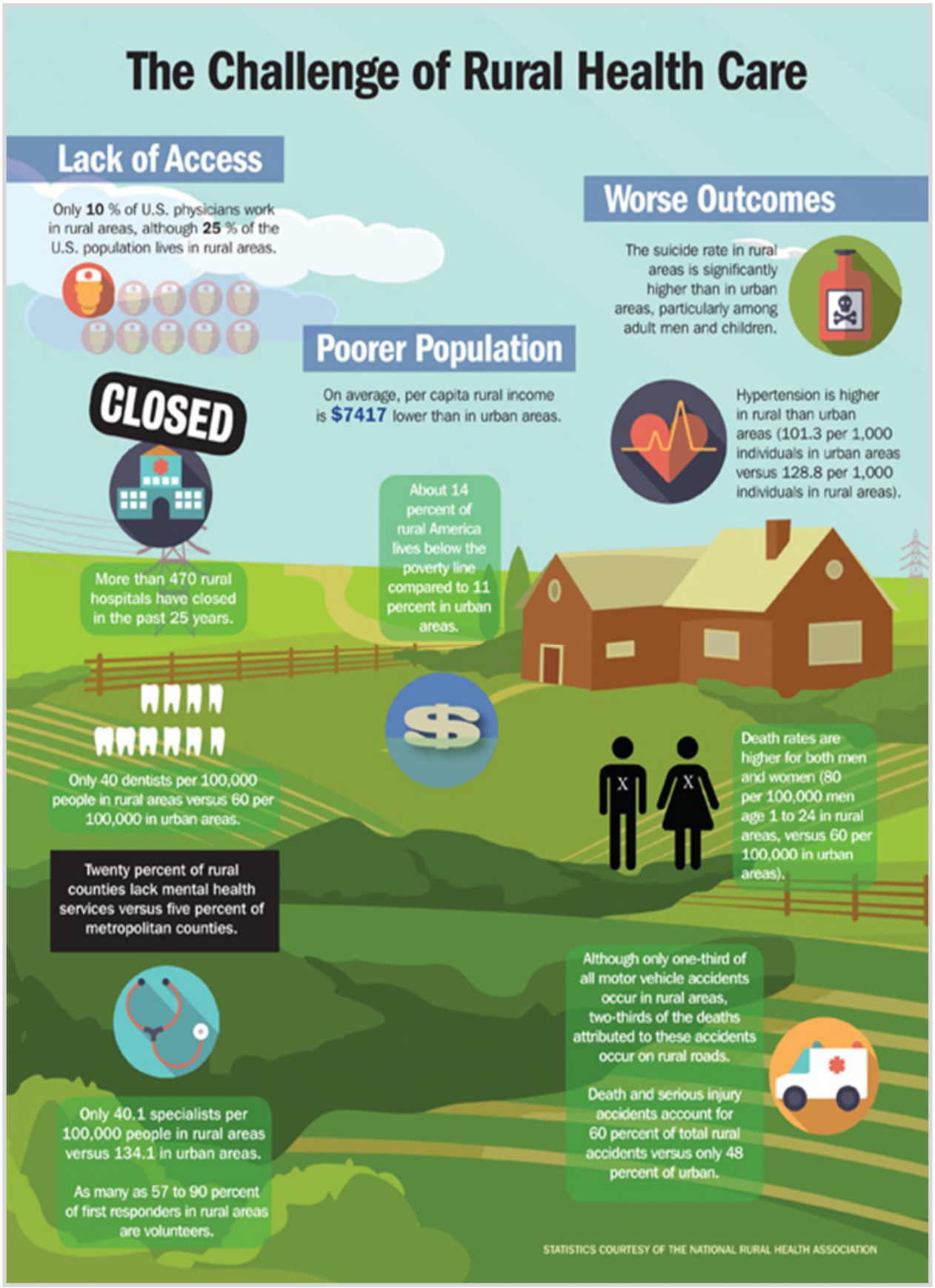
Transportation

Nearly every community expert discussed the issues of transportation that create barriers to seeking mental health and behavioral health services. Madison County is a predominantly rural setting with a limited number of providers dispersed throughout. In addition to time constraint, community members face difficulty in attending appointments due to unreliable or unavailable modes of transportation (e.g. public bus lines).[86]

Data Collection

The accuracy of death data makes it difficult to distinguish accidental versus intentional death (i.e. suicide), particularly given the opioid epidemic. Medical examiners do not always code deaths as suicide if there is reason for doubt.[88,89]

Stigma may play a role in coding deaths as accidental rather than a suicide. The shame felt by families may be one reason; another may be religious or other cultural considerations.[88] The question of life insurance may be another. The majority of life insurance policies do have coverage regardless of the cause of death; however, most policies do not cover suicide if the death occurred within the first two years of the policy. If the claim is denied due to suicide, the beneficiary typically receives only the premiums paid by the policyholder.[90] Both of these factors can results in an underestimate number of deaths by suicide. Approximately 10-30% of all suicide deaths are coded incorrectly.[88]


The Challenge of Rural Health Care
Lack of Access
Only 10 % of U.S. physicians work in rural areas, although 25 % of the U.S. population lives in rural areas.
Worse Outcomes
The suicide rate in rural areas is significantly higher than in urban areas, particularly among adult men and children.
Poorer Population
On average, per capita rural income is $7417 lower than in urban areas.
Hypertension is higher in rural than urban areas (101.3 per 1,000 individuals in urban areas versus 128.8 per 1,000 individuals in rural areas).
CLOSED
More than 470 rural hospitals have closed in the past 25 years.
About 14 percent of rural America lives below the poverty line compared to 11 percent in urban areas.
Only 40 dentists per 100,000 people in rural areas versus 60 per 100,000 in urban areas.
Death rates are higher for both men and women (80 per 100,000 men age 1 to 24 in rural areas, versus 60 per 100,000 in urban areas).
Twenty percent of rural counties lack mental health services versus five percent of metropolitan counties.
Although only one-third of all motor vehicle accidents occur in rural areas, two-thirds of the deaths attributed to these accidents occur on rural roads.
Death and serious injury accidents account for 60 percent of total rural accidents versus only 48 percent of urban.
Only 40.1 specialists per 100,000 people in rural areas versus 134.1 in urban areas.
As many as 57 to 90 percent of first responders in rural areas are volunteers.
STATISTICS COURTESY OF THE NATIONAL RURAL HEALTH ASSOCIATION

Protective Factors

Protective factors are characteristics that make a person less likely to engage in suicidal behavior (Figure 14). Similar to risk factors, protective factors are found at various levels including individual, family, and community.[91]

- **Easy access to a variety of clinical interventions for mental health**
- **Effective clinical care for mental, physical and substance use disorders**
- **Restricted access to highly lethal means of suicide**
- **Strong connections to family and community support**
- **Support through ongoing medical and mental health care relationships**
- **Skills in problem solving, conflict resolution and handling problems in a non-violent way**
- **Cultural and religious beliefs that discourage suicide and support self-preservation**

Figure 14. Protective factors for suicide prevention. Source: Suicide Prevention Resource Center (2011).

As discussed above, individuals who experience mental health conditions, poor physical health (i.e. chronic health conditions), and substance misuse are more susceptible to suicide than their counterparts. Therefore, effective clinical care of mental and physical health along with substance use disorders play an important role in suicide prevention. There are recommended clinical interventions for mental health disorders and specifically suicide, including Cognitive Behavioral Therapy and Dialectical Behavior Therapy. Another protective factors is restricted access to lethal means. All healthcare providers – primary care or behavioral – should receive training to provide brief suicide prevention intervention, including safety planning and counseling on reducing access to lethal means.[91]

The linkage between different healthcare settings (i.e. primary care, specialty mental health, emergency department, substance abuse care, school-based programs) is critical for the detection and treatment of mental health disorders and specifically, suicide prevention.[84] This is particularly important due to the low number of providers in rural communities. As part of the broader system, case managers or community health workers play a unique role by advocating for community members who need multi-faceted services (e.g. mental health, transportation to appointments, stable housing, and welfare benefits). Lastly, health and behavioral health care organizations should establish pathways for high-risk patients to ensure they receive follow-up services in a timely manner. This comprehensive framework increase patient access and utilization of healthcare systems as well as maintaining relationships with providers.[91]

Developing life skills and resiliency may be on an individual level or community. Life skills refers to critical thinking, stress management, conflict resolution, problem-solving, and coping skills. Resilience refers to traits such as optimism that promote one's ability to adapt to stress and adversity. These skills serve as a protective factors given that they help individuals overcome new challenges, whether economic stress, relationship turmoil, or physical illness.[91]

"Coping is not just the task of the individual; communities have to learn how to cope"
– Anonymous

Social connection is a protective factor for suicide. Connectedness may exist between individuals (e.g. coworkers, friends, and neighbors), family members, and community organizations (e.g. school, faith-based community). Positive and supportive social relationships and connection to a larger community can effectively buffer risk factors in an individual's life; therefore, making suicidal behaviors less likely.[91] New research suggests that suicide attempts by youth are inextricably linked to their relationships not only with peers, but also adults. Students that are connected with peers and have supportive relationships with adult staff are less likely to attempt suicide.[92] It is demonstrated that LGBTQ youth, who have a strong tie with one accepting adult, are 40% less likely to attempt suicide.[93]

Lastly, an individual's risk of suicide decreases with religious, cultural, or personal beliefs that discourage suicide. For many people, identifying a greater meaning to life or finding a purpose with family, career path, or volunteerism, can lower risk of suicide.[91]

The effect of protective factors may vary from person to person. Recommendations for suicide prevention should address both risk and protective factors on an individual, organizational, and community level.

Current Strategies & Resources

National

Substance Abuse and Mental Health Services Administration (SAMHSA): Under the U.S. Department of Health and Human Services, SAMHSA leads public health efforts with the mission to reduce community impact of substance abuse and mental illness.

- National Suicide Prevention Lifeline: Provides 24/7, free and confidential support for anyone in distress (call or chat); provides prevention and crisis resources as well as best practices for practitioners. https://suicidepreventionlifeline.org/.

American Foundation for Suicide Prevention: Comprised of local chapters in all 50 states, this national organization raises awareness, funds scientific research, and provides resources and financial aid to those affected by suicide (e.g. Healing Conversations, Out of the Darkness Walk). https://afsp.org/.

Suicide Prevention Resource Center (SPRC): Resource center devoted to advancing the implementation of the National Strategy for Suicide Prevention through infrastructure and capacity building; funded by SAMHSA. https://www.sprc.org/.

- Zero Suicide: A system-wide, organizational commitment to safer suicide care in health and behavioral health care systems. https://www.sprc.org/.

Trans Lifeline: Organization dedicated to improving the quality of trans lives by responding to the critical needs of our community with direct service, material support, advocacy, and education. https://www.translifeline.org/.

The Code Green Campaign: Provides advocacy and education about the mental health issues that affect first responders. https://codegreencampaign.org/.

The Trevor Project: National organization providing crisis intervention and suicide prevention services to LGBTQ young people under 25. www.thetrevorproject.org.

COMMUNITY RESOURCES

"Don't play out of your league… If you don't know what to do, it's always better to get them someone who does."
– Skip Hellmig, Former Pastor & Police Officer

"If someone is here and they identify at-risk for suicide, we make sure they leave with a plan and are connected with another service."
– Maureen Campanie, Associate Director of BRiDGES & Loss Survivor

National Action Alliance for Suicide Prevention: National organization that works with 250 national partners from the public and private sectors to advance the National Strategy for Suicide Prevention (National Strategy). Priority areas include: transforming health systems, transforming communities, and changing the conversation. https://theactionalliance.org/.

Suicide Awareness Voices of Education (SAVE): Aims to prevent suicide through public awareness and education, reduce stigma and serve as a resource to those touched by suicide. https://save.org/.

New York State

Hutchings Psychiatric Center (Syracuse): Community-based mental health facility which provides an integrated network of inpatient and outpatient services for children and adults residing in the Central New York region. Hosts a Child and Adolescent Crisis Respite House, where children and adolescents ages 10-17, who are at risk of or are experiencing an emotional/ behavioral crisis can go receive support in a homelike environment.

- Attempted Suicide Short Intervention Program (ASSIP): A brief treatment after a suicidal crisis intended to help people (18-65 years) understand the event and find ways to establish effective coping strategies in the future; program intended to complement other recommended treatments.

Four Winds Hospitals (Saratoga, Westchester): Four Winds provides comprehensive range of mental health treatment services for children, adolescents and adults; both inpatient hospitalization services and outpatient programs. They also have a Teaching & Learning Center for both academic instruction and preparation for re-entry.

Mohawk Valley Psychiatric Center (Utica): Provides individualized psychiatric treatment and rehabilitation services that promote recovery among children (5-17 years) and adults (18 and over years).

NYS Office of Mental Health

- Suicide Prevention Office (SPO): Aims to strengthen suicide safer care across health care settings starting with behavioral health, followed by primary care, emergency rooms, and substance abuse disorder treatment settings. Their main partners are the Suicide Prevention-Training, Implementation, and Evaluation (SP-TIE) program within the Center for Practice Innovations and the Suicide Prevention Center of New York (SPCNY). The goal of SP-TIE is to increase the capacity of clinicians in the state to assess, manage, and treat suicidal individuals, while SPC-NY aims facilitate post-vention responses and activities to address loss and limit contagion effect in addition to building support for community-based prevention. In 2016, SPO released *7366 Too Many: New York State's Suicide Prevention Plan* focusing efforts in three main areas:

    1. Prevention in Health and Behavioral Healthcare Settings – i.e. Zero Suicide in New York State
    2. Prevention in Competent, Caring Communities Across the Lifespan
    3. Suicide Surveillance and Data-Informed Suicide Prevention

Website: https://www.omh.ny.gov/omhweb/suicide_prevention/

Madison County

Madison County Departments

- Mental Health Services: Provides outpatient services for individuals with mental health needs, intellectual delays, and/or alcohol and substance abuse. Services include individual, family, and group therapy, psychiatric medication management, skills training, and psycho-educational modules.
- Crisis Services: Serves as a single point of access for emergency mental health services and coordination of crisis services during regular business hours Monday-Friday as well as the 24/7 phone line.
- Suicide Safer Care Pathway: A pathway for the identification of suicidal ideation and behavior, assessment for those identified, and creation of a suicide care plan for those at risk, including increased engagement and monitoring using suicide-specific treatments.
- Madison County Jail: Under the supervision of Madison County Mental Health, the jail staff conduct a suicide screening with every inmate during the intake. Individuals flagged as *high-risk* are placed on 68/[1] watch, evaluated by a mental health professional, and will continue to meet with staff for further evaluation, support, and safety planning. All inmates have access to supportive therapy and medication management.

Website: https://www.madisoncounty.ny.gov/390/Mental-Health

- Justice-Involved Youth: The Madison County Probation Department implements multiple screening tools among the youth (7-17 years) involved with the juvenile justice system, including the Youth Assessment & Screening Instrument (YASI) and Child Trauma Screen. In 2020, the Department will add the Massachusetts Youth Screening Instrument (MAYSI-2), which assesses in the following categories: Alcohol/Drug Use; Angry-Irritable; Depressed-Anxious; Somatic Complaints; Suicide Ideation; Thought Disturbance; and Traumatic Experiences.

St. Joseph's Health

- Comprehensive Psychiatric Emergency Program (CPEP): a licensed Psychiatric Emergency room serving individuals from Onondaga and Madison counties. Provides evaluation and treatment for individuals of all ages who are suffering from an acute mental health crisis. The three main components are emergency room evaluation and treatment, extended observations beds, and mobile crisis outreach. https://www.sjhsyr.org/find-a-service-or-specialty/behavioral-health/comprehensive-psychiatric-emergency-program-cpep.

Upstate Medical Child and Adolescent Psychiatry Clinic (Syracuse)

- Division of Child and Adolescent Psychiatry: provides medication management and therapy for children, adolescents and families. They also offer diagnostic and medication consultation in the outpatient clinic.

Liberty Resources, Inc.

- Mobile Crisis Unit: a team that responds to individuals in crisis, over the phone or in person, to reduce emergency room visits and ensure everyone receives proper care. http://www.liberty-resources.org/mobile-crisis/.
- Crisis Bed Respite Center: home-like settings where someone who is experiencing a mental health or psychiatric crisis can go and receive 24-hour support. http://www.liberty-resources.org/residential-services/mental-health-residential-services/omh-crisis-bed-respite/.
- Pathways Wellness Center: offers wellness recovery action planning, whole health action management, individualized support plans, vocational/educational support, peer-run support groups, wellness activities, 24/7 warm-line, wellness monitoring through the use of mobile applications, and linkages to community resources, entitlements, and treatment systems. http://www.pathwayswellnesscenter.org/.
- Mental Health Clinic: Outpatient clinic for mental health services, located in the City of Oneida.
- Venture House: 10-bed community residence for adults who have a serious and persistent mental illness. Located in the City of Oneida. https://www.liberty-resources.org/community-residences.

Mobile Crisis of Central New York

BRiDGES – Madison County Council on Alcoholism & Substance Abuse, Inc.: A non-profit organization improving the quality of life in the community by providing advocacy and services related to alcohol/substance abuse and suicide prevention. Located in the City of Oneida.

- Hosts the Suicide Prevention Coalition of Madison County
- Coordinates local events and training (e.g. Out of the Darkness Walk, movie screenings, safeTALK)
- Facilitates a monthly Grief Support group for loss survivors

Website: https://www.bridgescouncil.org/

Crisis Intervention Team: A team consisting of individuals from community based organizations, police departments, LGU staff, jail staff, and local DSS, which meets to discuss the needs of high-risk individuals. Keeps track of Mobile Crisis utilizations, which can be accessed by the community through the Madison County clinic crisis line.

Family Counseling Services: A private, non-profit organization offering professional counseling and prevention services. Mental health, medication management, and chemical dependency counseling programs are available for youth, adults and families, who are experiencing emotional, personal, and alcohol or drug-related problems. In Madison County, there are offices in Oneida and Morrisville. Website: https://fcscortland.org/.

Contact Community Services: Syracuse-based organization that supports social, emotional, behavioral and mental health of children, youth, and adults by delivering support through crisis and suicide prevention, student programming, teacher training, mental health training, and community resources. Website: http://www.contactsyracuse.org/.

Oneida Indian Nation Health Services: Provides state-of-the-art health services for Oneida Indian Nation members and American Indians living in Central New York, including Primary Care (medical, dental), Behavioral Health Services, and Pathways Case Management.

Clear Path for Veterans: Non-profit organization providing information, programs, and resources to local veterans and their families. The organization is one of seven to participate in Operation Deep Dive, a community-based veteran suicide prevention study led by America's Warrior Partnership and the University of Alabama with support from Bristol-Myers Squibb Foundation.

- Peer/Wingman Programs: Provides individualized support and assistance to veterans getting back on track with personal goals from a fellow veteran. This program was created in honor of PFC. Joseph Dwyer, who took his own life after returning from Iraq in 2008.
- Wellness Programs: Multifaceted approach to developing well-being, including social engagement and integrative medicine.
- Warriors Working: empowers veterans to enter the workforce by equipping them with the necessary skills and training to ensure success in achieving their goals (i.e. career counseling, peer mentor support, job search and resume assistance, interview techniques).

Website: http://www.clearpath4vets.com/.

Recommendations

The recommendations outlined below were adapted from resources provided by SAMHSA's National Strategy for Suicide Prevention Implementation Assessment Report and the CDC's Preventing Suicide: A Technical Package of Policy, Programs, and Practices to meet the needs of Madison County.[94]

Prevention

Expand the capacity of the Suicide Prevention Coalition of Madison County

1. Increase coalition capacity for programming and evaluation through designated personnel time
2. Increase funding for local initiatives (e.g. campaigns, programs, training)
3. Increase the number of support group meetings and locations
4. Expand the type of support groups provided (i.e. suicide attempt survivors)

Reduce Risk Factors

Expand the capacity of the Suicide Prevention Coalition of Madison County

1. Conduct a county-wide marketing campaign on the risk factors for suicide and action steps
    a. Promote the National Suicide Prevention Lifeline on billboards, local theaters, social media, and "moving advertisements" (e.g. county/nonprofit/business vehicles)

New York State, https://www.bethe1to.com/

Chautauqua County, Community Alliance for Suicide Prevention

2. Maintain a website with national, state, and local resources available
    a. County-wide examples:
        Lewis County, https://lewislivesmatter.com/
        Erie County, http://suicidepreventionecny.org/resources/
        Humboldt County DHHS, https://humboldtgov.org/2047/Suicide-Prevention-Program
3. Conduct social media outreach with suicide prevention messaging
4. Expand distribution of print materials to cross-sector community organizations

Provide education and awareness to high risk groups (i.e. LGBTQ, veterans, farmers, youth, inmates)

1. Collaborate with community organizations that serve high-risk populations
    a. Train volunteers with regular interaction with community members on the risk factors and warning signs (e.g. Clear Path, Office for the Aging, faith organizations)
2. Implement a suicide prevention training embedded in the middle/high school curriculum with emphasis on how to support a peer
3. Increase parent education on identifying suicide risk among children and youth
4. Promote the utilization of VA services among Madison County veterans

Reduce acute crisis by addressing unmet needs, including housing instability, job security, healthcare benefits

1. Increase utilization of community health workers and case management staff
2. Promote the utilization of NY FarmNet among the farming community

Increase support for individuals and families with a history of suicide

1. Implement family history of suicide screening as part of primary care visits
2. Increase the number of referrals to counseling services and grief support groups
3. Increase awareness of and support for local loss survivor group

Implement community-wide policies and programs to reduce excessive alcohol use

1. Implement a county-wide campaign to raise awareness of risks associated with excessive alcohol use
2. Promote non-alcohol social gatherings among community members
3. Create zoning regulations that limit the location and density of alcohol retailers

Educate policy makers, professionals, and organizations on suicide prevention and the impact of suicide, mental illness, and substance abuse has within Madison County

1. Promote regular communication with community groups via email and social media
2. Provide education to the media on their role in suicide prevention, including how to report on suicide deaths using appropriate language, encourage help-seeking behaviors, and prevent the perpetuation of myths around suicide
    a. http://reportingonsuicide.org/ (Sources: National Action Alliance for Suicide Prevention, SPRC, SAVE, AFSP)
    b. *Recommendations for the Media,* Centers for Disease Control and Prevention

Lower stigma of suicide by fostering positive dialogue among community leaders and members

1. Implement research-informed communication efforts designed to prevent suicide by changing knowledge, attitudes, and behaviors

Strengthen Protective Factors

Increase social connectedness among high risk populations

1. Collaborate with community organizations that work with high-risk populations
    a. Expand peer-to-peer programs for veterans (Wingman / Battle Buddies program)
        i. Clear Path for Veterans, http://www.clearpath4vets.com/programs/peer/wingman-programs
        ii. Local VFW chapters (Canastota, Bridgeport)
    b. Create opportunities for social gatherings in more rural communities
    c. Develop adult and peer mentorship programs for high-risk youth
        i. Sources of Strength, https://sourcesofstrength.org/
    d. Increase community engagement among adults to enhance physical health, reduce stress, and decrease depressive symptoms (e.g. volunteerism, group exercise, religious activities)[43]

Continue to provide trauma-informed care training to professionals

1. Provide trauma-informed care training to professionals in a variety of community settings (i.e. healthcare, schools, law enforcement)
    a. National Council for Behavioral Health, https://www.thenationalcouncil.org/areas-of-expertise/trauma-informed-behavioral-healthcare/

Increase community awareness of warning signs and referral resources

1. Continue to provide gatekeeper training to destigmatize mental health programs leading to suicide ideation/attempts and build skills across a wide variety of community sectors (i.e. schools, medical personnel, religious organizations, first responders, workplaces)
    a. **Applied Suicide Intervention Skills Training (ASIST):** ASIST is a two-day practice-dominated course to help caregivers learn to recognize and review risk, and to intervene to prevent imminent risk of suicide. Fifteen contact hours are available for Social Workers, Licensed Mental Health Counselors, and Credentialed Alcohol and Substance Abuse Counselors (CASACs).
    b. **Suicide Alertness For Everyone (safeTALK):** SafeTALK is a half-day alertness training that prepares anyone 15 or older, regardless of prior experience or training, to recognize warning signs, effectively communicate with individuals who are thinking about suicide, and connect them with life-saving intervention resources.
    c. **Question, Persuade, Refer (QPR):** QPR is a one-hour training that instructs participants to recognize the signs of a suicidal crisis and how to question, persuade, and refer someone to help. Similar to CPR, an emergency medical intervention, QPR is an emergency mental health intervention.
    d. **Mental Health First Aid:** international, skills-based training course that teaches participants about mental health and substance-use issues. The course instructs on risk factors and warning signs for mental health and addiction concerns, strategies for how to help someone in both crisis and non-crisis situations, and where to turn for help.

Improve suicide-related surveillance, data collection, research, and evaluation, including timely reporting to identify potential trends

1. Obtain data on suicide and suicide attempts to make available to community partners
2. Establish a Suicide Death Review Committee (similar to Child Death Review) to identify opportunities for future prevention and intervention
    a. Example: Onondaga County – multi-sector suicide fatality review team

Increase access, awareness, and utilization of treatment and support services[2]

1. Address the shortage of mental health prescribers (i.e. psychiatric nurse practitioners, psychiatrists) in rural areas – traveling mental health providers, case managers
2. Increase accessibility to reliable transportation, http://www.communityrides.org/data/uploads/docs/Volunteer_Driver_Report_Schlachman.pdf
3. Increase utilization of telehealth
    a. Child/adolescent population: ProjectTeach, https://projectteachny.org/
4. Continue safer suicide care pathway

Adopt formal policies and culture at the organizational level to create protective environments

1. Resources for school districts:
    a. Trevor Project, https://www.thetrevorproject.org/wp-content/uploads/2019/09/Model_School_Policy_Booklet.pdf
    b. Prevent Suicide NY, https://www.preventsuicideny.org/wp-content/uploads/2019/08/SchoolsSuicidePreventionGuide.pdf
2. Resource for workplaces:
    a. Workplace Suicide Prevention, https://workplacesuicideprevention.com/wp-content/uploads/2019/10/National-Guidelines-Report.pdf

Build skills for coping and resiliency among individuals, organizations, and community at-large

1. Implement social-emotional learning programs that focus on developing communication, problem-solving skills, emotional regulation, conflict resolution, help seeking and coping skills.[95]
    a. Dialectical Behavior Therapy (DBT), https://childmind.org/article/dbt-dialectical-behavior-therapy/
    b. PAX Good Behavior Game, https://www.goodbehaviorgame.org/
2. Increase participation in family programs that strengthen parenting skills, enhance positive parent-child interactions, and improve children's behavioral and emotional skills, while providing additional support for parents.
    a. Example: Strengthening Families Program, https://strengtheningfamiliesprogram.org/

World Health Organization, Multi-Tier System of Supports

Tier 1 – Individualized Supports

Determine level of risk
Notify parents
Make a safety plan
Refer to community mental health
Follow up, return to school meeting

Tier 2 – Target Group Supports

Screening, interventions, supports for higher risk groups
Screenings and supports during stressful life situations

Tier 3 – Universal Supports

Faculty and staff awareness education
Focus on social emotional learning
School connectedness
Mental health literacy education
Student suicide awareness education

Table adapted from "A Guide for Suicide Prevention in New York Schools"

3. Increase community resiliency through collaboration with local organizations (i.e. health care, faith-based, education, recreation departments, public safety, mentorship programs)
    a. The Community Resiliency Model, Trauma Resource Institute
        i. https://www.traumaresourceinstitute.com/crm
        ii. http://grscan.com/wp-content/uploads/2016/03/Mary-Lynn-ACE-Conference-Community-Resilience-PDF.pdf

Intervention

Promote the adoption of suicide screening tools into a variety of community settings

1. Increase the number of primary care settings that incorporate suicide screening into their practice
    a. Train medical professionals of the appropriate method for screening and referral process
        i. Resource: Zero Suicide, https://zerosuicide.sprc.org/
2. Increase the number of workplaces that implement the interactive screening program (ISP)
    a. Resource: https://afsp.org/our-work/interactive-screening-program/isp-eaps-organizations-workplaces/
3. Promote the incorporation of a suicide screening among children in the welfare system

Promote the use of safety planning among high-risk individuals

1. Increase the number of providers trained in safety planning, https://zerosuicide.sprc.org/resources/safety-planning-intervention-suicide-prevention
2. Increase utilization of paper and mobile applications for safety planning

Promote efforts to reduce access to lethal means and methods of self-harm among high-risk individuals

1. Train mental/behavioral health providers on Counseling on Access to Lethal Means (CALM) methodology
    a. Resource: http://www.sprc.org/resources-programs/calm-counseling-access-lethal-means
2. Educate parents, health care providers, health and safety professionals on the assessment of lethal means in home, school, community, and identify actions to reduce the means of self-harm within their environments.
    a. Provide mechanisms to reduce access to lethal means (i.e. gun locks)
    b. Increase safe storage practices, including medication, firearms, and other household products.
3. Implement a public information campaign designed to promote the reduction of accessibility to lethal means

Promote a coordinated system of suicide prevention and response among provider organizations

1. Deliver integrated services and establish formal partnerships between existing organizations that foster care coordination. Resources:
    a. Rural Health Information Hub, https://www.ruralhealthinfo.org/toolkits/mental-health/2/primary-care-integration
    b. Kaiser Commission on Medicaid and the Uninsured, Integrating Physical and Behavioral Health Care: Promising Medicaid Models, https://www.integration.samhsa.gov/integrated-care-models/kaiser_brief_on_integrated_health_2014.pdf
    c. Baer Center Integrated Care Model, https://www.fountainhouse.org/sites/default/files/Fountain%20House-Knickman%20NYU%20Study_052017.pdf

Postvention

Increase services provided and utilized by suicide survivors following hospital discharge

1. Increase utilization of mental health services after hospital discharge
2. Collaborate with hospitals to provide peer specialist referrals as part of a patient's discharge plan after attempting suicide

Provide training to mental and behavioral health providers on traumatic loss

1. The Impact of Suicide on Professional Caregivers: A Guide for Managers and Supervisors, https://www.omh.ny.gov/omhweb/suicide_prevention/omh_postventionguide.pdf

Promote postvention resources for organizations outside of service providers

1. Promote the implementation of postvention planning in school districts
    a. Resource: After a Suicide: A Toolkit for Schools, http://www.sprc.org/sites/default/files/resource-program/AfteraSuicideToolkitforSchools.pdf
2. Promote the implementation of postvention planning in workplaces
    a. Resource: A Manager's Guide to Suicide Postvention in the Workplace, https://theactionalliance.org/sites/default/files/managers-guidebook-to-suicide-postventionweb.pdf
3. Promote the implementation of postvention planning in faith-based organizations
    a. Resource: Suicide Prevention Competencies for Faith Leaders: Supporting Life Before, During, and After a Suicidal Crisis, https://theactionalliance.org/sites/default/files/fhl_competencies_v8_interactive.pdf
4. Promote the implementation of postvention planning in higher education settings
    a. Resource: A Guide for Response to Suicide on College campuses, http://hemha.org/wp-content/uploads/2018/06/jed-hemha-postvention-guide.pdf

Develop Traumatic Events Response Network to offer supportive services to individuals, groups, organizations, or schools impacted by suicide or other traumatic incident

1. Coordinate with the Office of Mental Health, Crisis Intervention Team, and other local partners to create a Traumatic Events Response Network
2. Develop a referral process for community resources including counseling, grief support groups
3. Resource: Cortland County, Post-Trauma Response Team, https://www.sevenvalleyshealth.org/posttraumaresponseteam

Promote Suicide Bereavement Clinician Training Program (SBCTP) among local mental health providers

1. Resource: American Foundation for Suicide Prevention, https://afsp.org/our-work/loss-healing/suicide-bereavement-clinician-training-program/

Increase awareness of resources and support groups for loss survivors and suicide attempt survivors

1. American Foundation for Suicide Prevention, Healing Conversations, https://afsp.org/find-support/ive-lost-someone/healing-conversations/
2. BRiDGES, Grief Support After Death by Suicide, https://www.bridgescouncil.org/suicide-prevention
3. Suicide Awareness Voices of Education (SAVE), https://save.org/find-help/attempt-survivor-resources/
4. National Suicide Prevention Lifeline, https://suicidepreventionlifeline.org/help-yourself/attempt-survivors/

"If we don't have a plan of 'how do we respond to these incidences', then people are left feeling alone…"
– Alexandra Mikowski,
Centers of Treatment Innovation Program
Director, Family Counseling Services

Appendix A

Percentage of Suicide-Related Indicators among High School Students in Madison County Compared to New York State

	Total		9th Grade		10th Grade		11th Grade		12th Grade	
	MC	NYS	MC	NYS	MC	NYS	MC	NYS	MC	NYS
Felt sad or hopeless (2+ weeks)	39.3%	30.4%	35.1%	25.5%	41.6%	29.7%	42.1%	35.4%	38.4%	31.3%
Seriously considered attempting suicide	18.4%	17.4%	16.8%	14.7%	19.5%	19.5%	20.3%	18.8%	16.8%	15.8%
Plan	12.5%	--	11.0%	--	13.2%	--	13.5%	--	12.2%	--
Attempted suicide	6.7%	10.1%	5.8%	9.7%	7.8%	10.6%	7.6%	9.6%	5.5%	9.7%
Of the students who attempted suicide, the percent that resulted medical treatment*	2.0%	4.1%	1.8%	4.6%	2.0%	3.3%	2.6%	3.0 %	1.5%	5.1%

*May refer to injury, poisoning, or overdose. Sources: Madison County Youth Bureau, Teen Assessment Survey (2018), New York State Youth Risk Behavior Survey (2017)

Appendix B

Suicide-Related Policies in Madison County School Districts

School District	Suicide-related policy?
Brookfield School District	No
Canastota School District	No
Cazenovia School District	No
Chittenango School District	No
DeRuyter School District	Yes
Hamilton School District	No
Madison School District	No
Morrisville-Eaton School District	Yes
Oneida City School District	No
Stockbridge Valley School District	No
Madison County BOCES	No

Appendix C

Leading Causes of Premature (<75 years) Death for Madison County by Year and Sex

	Population	Premature Death Rate	#1 Cause	#2 Cause	#3 Cause	#4 Cause	#5 Cause	#6 Cause
2016	TOTAL	312.0 per 100,000	Cancer	HD	UI	CLRD	Stroke	Pneumonia and Influenza
	Men	397.6 per 100,000	Cancer	HD	UI	CLRD	Pneumonia and Influenza	Suicide
	Women	228.0 per 100,000	Cancer	HD	CLRD	UI	Stroke	Liver Disease
2015	TOTAL	293.9 per 100,000	Cancer	HD	CLRD	UI	Suicide	Diabetes
	Men	354.0 per 100,000	Cancer	HD	CLRD	UI	Suicide	Diabetes
	Women	234.7 per 100,000	Cancer	HD	CLRD	UI	Liver Disease	Diabetes
2014	TOTAL	329.0 per 100,000	Cancer	HD	UI	Diabetes	CLRD	Suicide
	Men	371.8 per 100,000	Cancer	HD	UI	Suicide	CLRD	Perinatal Condition
	Women	286.8 per 100,000	Cancer	HD	Diabetes	UI	CLRD	Liver Disease
2013	TOTAL	247.6 per 100,000	Cancer	HD	UI	CLRD	Suicide	Liver Disease
	Men	316.2 per 100,000	Cancer	HD	UI	Suicide	CLRD	Liver Disease
	Women	182.0 per 100,000	Cancer	HD	UI	CLRD	Stroke	High BP & Kidney Disease
2012	TOTAL	302.8 per 100,000	Cancer	HD	CLRD	UI	Suicide	Diabetes
	Men	343.0 per 100,000	Cancer	HD	UI	CLRD	Suicide	Diabetes
	Women	264.2 per 100,000	Cancer	HD	CLRD	UI	Stroke	Suicide
2011	TOTAL	263.8 per 100,000	Cancer	HD	UI	Suicide	CLRD	Diabetes
	Men	333.8 per 100,000	Cancer	HD	UI	Suicide	CLRD	Diabetes
	Women	196.6 per 100,000	Cancer	HD	UI	Stroke	CLRD	Kidney & Urinary Tract Diseases

CLRD: Chronic Lower Respiratory Diseases. BP: Blood Pressure. UI: Unintentional Injury. HD: Heart Disease. Rates based on fewer than 10 events in the numerator are unstable. Note: Ranks are based on numbers of deaths, then on mortality rates.
Source: New York State Vital Statistics (May 2018)

References

1. NYS Health Connector - Suicide & Self-Harm Dashboard. New York State Department of Health. https://nyshc.health.ny.gov/web/nyapd/suicides-in-new-york. Published 2016 2014. Accessed March 28, 2019.
2. Suicide|Violence Prevention|Injury Center|CDC. https://www.cdc.gov/violenceprevention/suicide/index.html. Published September 3, 2019. Accessed September 17, 2019.
3. Stone DM, Simon TR, Fowler KA, et al. Vital Signs: Trends in State Suicide Rates — United States, 1999–2016 and Circumstances Contributing to Suicide — 27 States, 2015. MMWR Morb Mortal Wkly Rep. 2018;67(22):617-624. doi:10.15585/mmwr.mm6722a1
4. Suicide Facts & Figures: New York 2019. American Foundation for Suicide Prevention; 2019. https://afsp.org/about-suicide/state-fact-sheets/#New-York.
5. Tavella C, Wyman P. Communities United for a Suicide Free New York. Albany: New York State Office of Mental Health; 2019:50. https://omh.ny.gov/omhweb/resources/publications/suicide-prevention-task-force-report.pdf. Accessed September 17, 2019.
6. Cerel J, Maple M, van de Venne J, Moore M, Flaherty C, Brown M. Exposure to Suicide in the Community: Prevalence and Correlates in One U.S. State. Public Health Rep Wash DC 1974. 2016;131(1):100-107. doi:10.1177/003335491613100116
7. Rudd M, Berman A, Joiner TJ, Nock M, Silverman M, Mandrusiak M. Warning signs for suicide: theory, research, and clinical applications. Suicide Life Threat Behav. 2006;36(3):255-262. doi:doi.org/10.1521/suli.2006.36.3.255
8. Roy A. Suicide. A multidetermined act. Psychiatr Clin North Am. 1985;8(2):243-250.
9. Dube SR, Anda RF, Felitti VJ, Chapman DP, Williamson DF, Giles WH. Childhood Abuse, Household Dysfunction, and the Risk of Attempted Suicide Throughout the Life Span: Findings From the Adverse Childhood Experiences Study. JAMA. 2001;286(24):3089-3096. doi:10.1001/jama.286.24.3089
10. Mental Health By the Numbers | NAMI: National Alliance on Mental Illness. https://www.nami.org/learn-more/mental-health-by-the-numbers. Accessed September 26, 2019.
11. The New York Violent Death Reporting System: Data Viewer. Albany, NY: NYS Department of Health; 2018:1-4. https://www.health.ny.gov/statistics/prevention/injury_prevention/nvdrs/docs/2015nyvdrs_dataviewer.pdf.
12. Raue PJ, Ghesquiere AR, Bruce ML. Suicide Risk in Primary Care: Identification and Management in Older Adults. Curr Psychiatry Rep. 2014;16(9):466. doi:10.1007/s11920-014-0466-8
13. How Common Is PTSD in Adults? Washington, DC: US Department of Veterans Affairs, National Center for PTSD https://www.ptsd.va.gov/understand/common/common_adults.asp.
14. Barnes S, Walter K, Chard K. Does a History of Mild Traumatic Brain Injury Increase Suicide Risk in Veterans with PTSD? Rehabil Psychol. 2012;57(1):18-26. doi:10.1037/a0027007
15. Kemp J, Brenner L, Homaifar B, Olson-Madden J, Huggins J. Traumatic Brain Injury and Suicide. Denver, CO: VISN 19 Mental Illness, Research, Education, and Clinical Center, Denver VA Medical Center https://www.sprc.org/sites/default/files/migrate/library/TBI_Suicide.pdf.
16. HealtheConnections. Health Indicator List. HealtheCNY: Connecting You to Better Health. http://www.healthecny.org/indicators. Published 2019. Accessed February 22, 2019.
17. Mental Hygiene Law - Admissions Process. https://www.omh.ny.gov/omhweb/forensic/manual/html/mhl_admissions.htm. Accessed November 21, 2019.
18. Trout D. The Role of Social Isolation in Suicide. Suicide Life Threat Behav. 1980;10(1):10-23. doi:https://doi.org/10.1111/j.1943-278X.1980.tb00693.x

19. Singer C. Health Effects of Social Isolation and Loneliness. J Aging Life Care. (Spring 2018). https://www.aginglifecarejournal.org/health-effects-of-social-isolation-and-loneliness/. Accessed September 30, 2019.
20. Vital Statistics of New York State. New York State Department of Health. https://www.health.ny.gov/statistics/vital_statistics/. Published 2019. Accessed March 28, 2019.
21. Kaplan MS, Huguet N, McFarland BH, et al. Use of Alcohol Before Suicide in the United States. Ann Epidemiol. 2014;24(8):588-592.e2. doi:10.1016/j.annepidem.2014.05.008
22. Alcohol Use Disorder | National Institute on Alcohol Abuse and Alcoholism (NIAAA). https://www.niaaa.nih.gov/alcohol-health/overview-alcohol-consumption/alcohol-use-disorders. Accessed November 21, 2019.
23. Suicidal Behavior and Alcohol Abuse. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2872355/. Accessed November 22, 2019.
24. Conner K, Bagge C. Suicidal Behavior: Links Between Alcohol Use Disorder and Acute Use of Alcohol. J Natl Inst Alcohol Abuse Alcohol. 2019;40(1):4.
25. Louis T, Dudrick J. Tapping into Teen Concerns, Perceptions and Behaviors in Madison County, New York. Wampsville, NY: Madison County Youth Bureau, Upstate Institute at Colgate University; 2019:1-91. https://www.madisoncounty.ny.gov/DocumentCenter/View/9945/Madison-County-2018-Teen-Assessment-Project-Report-PDF. Accessed September 30, 2019.
26. County Health Rankings & Roadmaps: New York. Robert Wood Johnson Foundation, University of Wisconsin Population Health Institute; 2019. www.countyhealthrankings.org. Accessed March 25, 2019.
27. CDC. More than a mental health problem. Centers for Disease Control and Prevention. https://www.cdc.gov/vitalsigns/suicide/index.html. Published November 27, 2018. Accessed June 4, 2019.
28. Physical Health and Risk of Suicide Death | Suicide Prevention Resource Center. https://www.sprc.org/news/physical-health-risk-suicide-death. Accessed July 16, 2019.
29. Cheatle MD. Depression, Chronic Pain, and Suicide by Overdose: On the Edge. Pain Med. 2011;12(suppl_2):S43-S48. doi:10.1111/j.1526-4637.2011.01131.x
30. About Chronic Diseases Q&A. Washington, DC: National Health Council: Putting Patients First; 2014:2. https://www.nationalhealthcouncil.org/sites/default/files/AboutChronicDisease.pdf.
31. Klonsky ED, Victor SE, Saffer BY. Nonsuicidal Self-Injury: What We Know, and What We Need to Know. Can J Psychiatry Rev Can Psychiatr. 2014;59(11):565-568.
32. Lethality of Suicide Methods. Harvard TH Chan School of Public Health, Means Matter. https://www.hsph.harvard.edu/means-matter/means-matter/case-fatality/. Published September 11, 2012. Accessed October 1, 2019.
33. Harvard Injury Control Research Center. Means Matter: Suicide, Guns & Public Health. Harvard School of Public Health https://www.sprc.org/sites/default/files/migrate/library/MeansMatter.pdf.
34. Council of Juvenile Correctional Administrators. Council of Juvenile Correctional Administrators Toolkit: Reducing the Use of Isolation.; 2015. http://cjca.net/wp-content/uploads/2018/02/CJCA-Toolkit-Reducing-the-Use-of-Isolation-1.pdf.
35. Miller M, Lippmann S, Azrael D, Hemenway D. Household firearm ownership and rates of suicide across the 50 United States. J Trauma. 2007;62(4):1029-1034. doi:doi.org/10.1097/01.ta.0000198214.24056.40
36. Reducing Suicides by Firearms. Washington, DC: American Public Health Association; 2018. https://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2019/01/28/reducing-suicides-by-firearms. Accessed October 9, 2019.
37. Mental illness, previous suicidality, and access to guns in the United States. - PubMed - NCBI. https://www.ncbi.nlm.nih.gov/pubmed/18245165. Accessed September 27, 2019.
38. Simon O, Swann A, Powell K, Potter L, Kresnow M, O'Carroll P. Characteristics of impulsive suicide attempts and attempters. Suicide Life Threat Behav. 2001;32(1):49-59. doi:doi.org/10.1521/suli.32.1.5.49.24212.

39. Fazio M. 1,700 Too Many: New York State's Suicide Prevention Plan 2016-17. Albany, NY: OMH Suicide Prevention Office, NYS Office of Mental Health; 2016:1-40. https://www.omh.ny.gov/omhweb/resources/publications/suicde-prevention-plan.pdf.

40. Owens D, Horrocks J, House A. Fatal and non-fatal repetition of self-harm. Systematic review. Br J Psychiatry. 2002;181:193-199. doi:doi.org/10.1192/bjp.181.3.193

41. Qin P. The Relationship of Suicide Risk to Family History of Suicide and Psychiatric Disorders. Psychiatr Times. 2003;20(13). https://www.psychiatrictimes.com/relationship-suicide-risk-family-history-suicide-and-psychiatric-disorders. Accessed November 21, 2019.

42. What does "suicide contagion" mean, and what can be done to prevent it? | HHS.gov. https://www.hhs.gov/answers/mental-health-and-substance-abuse/what-does-suicide-contagion-mean/index.html. Accessed November 21, 2019.

43. Stone D, Holland K, Bartholow B, Crosby A, Davis S, Wilkins N. Preventing Suicide: A Technical Package of Policy, Programs, and Practices. Atlanta, GA: Division of Violence Prevention, National Center for Injury Prevention and Control, Centers for Disease Control and Prevention; 2017:1-62. https://www.cdc.gov/violenceprevention/pdf/suicideTechnicalPackage.pdf.

44. Tal Young I, Iglewicz A, Glorioso D, et al. Suicide bereavement and complicated grief. Dialogues Clin Neurosci. 2012;14(2):177-186.

45. Bearman P, Moody J. Suicide and Friendship Among American Adolescents. Am J Public Health. 2004;94(1):89-95.

46. Auerbach J, Gracia JN, Farberman RK, Warren M, Miller BF, Lang A. Pain in the Nation: Building a National Resilience Strategy: Alcohol and Drug Misuse and Suicide and the Millennial Generation - a Devestating Impact. Trust Am Health.:34.

47. Brière FN, Rohde P, Seeley JR, Klein D, Lewinsohn PM. Adolescent suicide attempts and adult adjustment. Depress Anxiety. 2015;32(4):270-276. doi:10.1002/da.22296

48. Twenge JM, Cooper AB, Joiner TE, Duffy ME, Binau SG. Age, period, and cohort trends in mood disorder indicators and suicide-related outcomes in a nationally representative dataset, 2005-2017. J Abnorm Psychol. 2019;128(3):185-199. doi:10.1037/abn0000410

49. Cole C. NIMH » Release of "13 Reasons Why" Associated with Increase in Youth Suicide Rates. https://www.nimh.nih.gov/news/science-news/2019/release-of-13-reasons-why-associated-with-increase-in-youth-suicide-rates.shtml. Published April 29, 2019. Accessed May 23, 2019.

50. Scott M, Underwood M, Lamis D. Suicide and Related-Behavior Among Youth Involved in the Juvenile Justice System. Child Adolesc Soc Work J. 2015;32. doi:10.1007/s10560-015-0390-8

51. Okpych NJ, Courtney ME. Characteristics of foster care history as risk factors for psychiatric disorders among youth in care. Am J Orthopsychiatry. 2018;88(3):269-281. doi:10.1037/ort0000259

52. Sexual Identity, Sex of Sexual Contacts, and Health-Related Behaviors Among Students in Grades 9–12 — United States and Selected Sites, 2015 | MMWR. https://www.cdc.gov/mmwr/volumes/65/ss/ss6509a1.htm. Accessed September 26, 2019.

53. Holt M, Vivolo-Kantor A, Polanin J, Holland K, DeGue S, Matjasko J. Bullying and Suicidal Ideation and Behaviors: A Meta-Analysis. Pediatrics. 2015;135(2):e496-509. doi:10.1542/peds.2014-186.

54. National LGBT Health Education Center. Suicide Risk and Prevention for LGBTQ People. Fenway Institute; 2018. https://www.lgbthealtheducation.org/wp-content/uploads/2018/10/Suicide-Risk-and-Prevention-for-LGBTQ-Patients-Brief.pdf.

55. Zeller MH, Reiter-Purtill J, Jenkins TM, Ratcliff MB. Adolescent Suicidal Behavior Across the Excess Weight Status Spectrum. Obes Silver Spring. 2013;21(5):1039-1045. doi:10.1002/oby.20084.

56. Keville M. Key Informant Interview: Suicide in Madison County. October 2019.

57. Youth Risk Behavior Surveillance — United States, 2017. US Department of Health and Human Services, Centers for Disease Control and Prevention; 2018:1-479. https://www.cdc.gov/healthyyouth/data/yrbs/pdf/2017/ss6708.pdf.
58. QuickFacts: Madison County, New York. Maryland: United States Census Bureau; 2017. https://www.census.gov/quickfacts/madisoncountynewyork. Accessed February 22, 2019.
59. Suicide I of M (US) C on P and P of A and A, Goldsmith SK, Pellmar TC, Kleinman AM, Bunney WE. Barriers to Effective Treatment and Intervention. National Academies Press (US); 2002. https://www.ncbi.nlm.nih.gov/books/NBK220944/. Accessed June 4, 2019.
60. Player MJ, Proudfoot J, Fogarty A, et al. What Interrupts Suicide Attempts in Men: A Qualitative Study. PLoS ONE. 2015;10(6). doi:10.1371/journal.pone.0128180
61. Willging CE, Green AE, Ramos MM. Implementing school nursing strategies to reduce LGBTQ adolescent suicide: a randomized cluster trial study protocol. Implement Sci IS. 2016;11. doi:10.1186/s13012-016-0507-2
62. Behavioral Risk Factor Surveillance System. Sexual Orientation and Gender Identity: Selected Demographics and Health Indications. Centers for Disease Control and Prevention https://www.health.ny.gov/statistics/brfss/reports/docs/1806_brfss_sogi.pdf.
63. Hirsch JK. A Review of the Literature on Rural Suicide. Crisis. 2006;27(4):189-199. doi:10.1027/0227-5910.27.4.189
64. Helbich M, Blüml V, de Jong T, Plener PL, Kwan M-P, Kapusta ND. Urban–rural inequalities in suicide mortality: a comparison of urbanicity indicators. Int J Health Geogr. 2017;16. doi:10.1186/s12942-017-0112-x
65. Madison County Health Department. Healthy Workplaces in Madison County. Madison County Department of Health; 2017. https://www.madisoncounty.ny.gov/DocumentCenter/View/3061/Madison-County-Healthy-Workplaces-Profile-2018-PDF?bidId=.
66. Bump K. Key Informant Interview: Suicide in Madison County. October 2019.
67. White D, Meyers C, Doerfert D, Irlbeck E. Exploring Agriculturalists' Use of Social Media for Agricultural Marketing. J Appl Commun. 2014;98(4):1-16.
68. Henderson S, LeDuc TJ, Couwels J, Van Hasselt VB. Firefighter Suicide: the Need to Examine Cultural Change. https://www.fireengineering.com/articles/print/volume-168/issue-12/features/firefighter-suicide-the-need-to-examine-cultural-change.html. Published December 30, 2015. Accessed June 4, 2019.
69. Law Enforcement Suicides. Auburn, MA: Blue HELP; 2019:1. http://www.bluehelp.org/.
70. Firefighter Behavioral Health Alliance - Firefighter and EMT Suicide Deaths. PowerPoint presented at the: June 23, 2019. www.ffbha.org.
71. 2019 National Veteran Suicide Prevention Annual Report. US Department of Veterans Affairs, Office of Mental Health and Suicide Prevention; 2019.
72. Nelson HD, Denneson LM, Low AR, et al. Suicide Risk Assessment and Prevention: A Systematic Review Focusing on Veterans. Psychiatr Serv. 2017;68(10):1003-1015. doi:10.1176/appi.ps.201600384.
73. VA Suicide Prevention Program, Facts about Veteran Suicide.; 2016. https://www.va.gov/opa/publications/factsheets/Suicide_Prevention_FactSheet_New_VA_Stats_070616_1400.pdf.
74. New York State Suicide Prevention Task Force. Suicide Prevention Task Force Report - 2019.; 2019:50. https://omh.ny.gov/omhweb/resources/publications/suicide-prevention-task-force-report.pdf. Accessed May 23, 2019.
75. Karney J. Key Informant Interview: Suicide in Madison County. November 2019.
76. U.S. Department of Veterans Affairs. National Strategy for Preventing Veteran Suicide 2018-2028. Office of Mental Health and Suicide Prevention https://www.sprc.org/sites/default/files/resource-program/VA_National-Strategy-for-Preventing-Veterans-Suicide2018.pdf.
77. Ten Facts about Physician Suicide and Mental Health. American Foundation for Suicide Prevention https://afsp.org/wp-content/uploads/2016/11/ten-facts-about-physician-suicide.pdf.

78. Fink-Miller E, Nestler L. Suicide in physicians and veterinarians: risk factors and theories. Curr Opin Psychol. 2018;22:23-26. doi:doi.org/10.1016/j.copsyc.2017.07.019

79. Norström T, Grönqvist H. The Great Recession, unemployment and suicide. J Epidemiol Community Health. 2015;69(2):110-116. doi:10.1136/jech-2014-204602

80. Gajewski P, Zhukovska K. Short-run and long-run effects of unemployment on suicides: does welfare regime matter? Eur J Public Health. 2017;27(6):1038-1042. doi:10.1093/eurpub/ckx180

81. Gray JS, McCullagh JA. Suicide in Indian country: The continuing epidemic in rural Native American communities. J Rural Ment Health. 2014;38(2):79-86. doi:10.1037/rmh0000017

82. Wexler L, Chandler M, Gone JP, et al. Advancing Suicide Prevention Research With Rural American Indian and Alaska Native Populations. Am J Public Health. 2015;105(5):891-899. doi:10.2105/AJPH.2014.302517

83. CORRIGAN PW, WATSON AC. Understanding the impact of stigma on people with mental illness. World Psychiatry. 2002;1(1):16-20.

84. Institute of Medicine (US) Committee on Pathophysiology and Prevention of Adolescent and Adult Suicide. Reducing Suicide: A National Imperative. Washington, DC: National Academies Press (US); 2002. https://www.ncbi.nlm.nih.gov/books/NBK220944/.

85. NYS Health Profiles: Find and Compare New York Health Care Providers. New York State Department of Health. https://profiles.health.ny.gov/hospital/. Published 2019. Accessed March 28, 2019.

86. Rural Behavioral Health: Telehealth Challenges and Opportunities. SAMHSA Brief. 2016;9(2):1-13.

87. The Doctor Is Out: Continuing Disparities in Access to Mental and Physical Health Care. Arlington, VA: National Alliance on Mental Illness; 2017. https://www.nami.org/About-NAMI/Publications-Reports/Public-Policy-Reports/The-Doctor-is-Out/DoctorIsOut.pdf.

88. Stone DM, Holland KM, Bartholow B, et al. Deciphering Suicide and Other Manners of Death Associated with Drug Intoxication: A Centers for Disease Control and Prevention Consultation Meeting Summary. Am J Public Health. 2017;107(8):1233-1239. doi:10.2105/AJPH.2017.303863.

89. Hansen A. Coding's Impact on Suicide Prevention. J AHIMA. 2018;89(8):68-69.

90. Araujo M. What is Covered (or Not) in a Life Insurance Policy for Suicide? Balance Make Money Pers. October 2019. https://www.thebalance.com/does-a-life-insurance-policy-cover-suicide-2645609.

91. Rogers P. Understanding Risk and Protective Factors for Suicide: A Primer for Preventing Suicide. Newton, MA: Suicide Prevention Resource Center, US Department of Health and Human Services, SAMHSA; 2011. https://www.sprc.org/sites/default/files/migrate/library/RiskProtectiveFactorsPrimer.pdf. Accessed September 17, 2019.

92. Wyman PA, Pickering TA, Pisani AR, et al. Peer-adult network structure and suicide attempts in 38 high schools: implications for network-informed suicide prevention. J Child Psychol Psychiatry. 2019;60(10):1065-1075. doi:10.1111/jcpp.13102

93. National Survey on LGBTQ Mental Health. New York, New York: The Trevor Project; 2019. https://www.thetrevorproject.org/survey-2019/.

94. National Strategy for Suicide Prevention Implementation Assessment Report. Rockville, MD: Center for Mental Health Services, Substance Abuse and Mental Health Services Administration: US Department of Health and Human Services, Substance Abuse and Mental Health Services Administration; 2017. https://store.samhsa.gov/system/files/sma17-5051.pdf. Accessed September 25, 2019.

95. Breux P, Samet M. A Guide for Suicide Prevention in New York Schools. Albany, NY: New York State Office of Mental Health; 2019:1-32. https://www.preventsuicideny.org/wp-content/uploads/2019/08/SchoolsSuicidePreventionGuide.pdf.

Madison County Department of Health

www.healthymadisoncounty.org © 2018

P.O. Box 605 Wampsville, NY 13163

Phone (315)366-2361 Fax (315)366-2697

health@madisoncounty.ny.gov