

The Facts

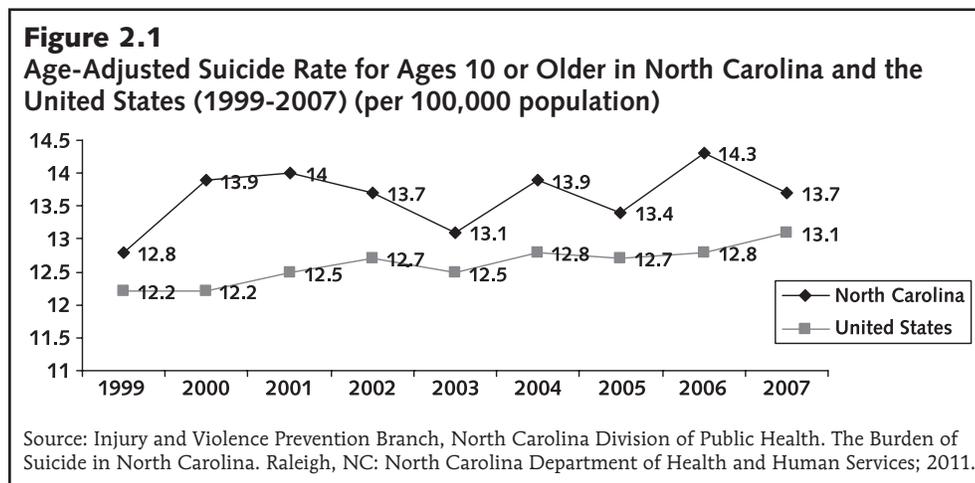
Suicide risk is not isolated to any specific population group. It touches all of us, young and old, male and female, as well as those from varying racial and ethnic groups. It is a devastating problem that has tremendous emotional consequences for the family and friends of people who die by suicide, and physical and psychological consequences for those who survive suicide attempts. Suicide death is the 11th leading cause of death for people age 10 and older in the United States.¹ Most Americans have been affected by someone they know who has either attempted or died by suicide. These are our family, our friends, and our neighbors. In 1998, the Surgeon General officially declared suicide a national public health crisis.²

Nationally the suicide rate in 2008 was 13.6 per 100,000 population, representing more than 33,000 deaths according to the Centers for Disease Control and Prevention (CDC). However, the death rate is the proverbial tip of the iceberg. It is estimated that for every completed suicide there at least 11 and possibly as many as 25 attempts.^{3,4} There is no way to capture an accurate account of everyone who attempts suicide because not everyone who attempts suicide enters the health care system. The most common proxy measure used to measure suicide attempts is the number of people who present in the emergency department with self-inflicted injuries. Between 2005 and 2010, about 392,000 people with self-inflicted injuries went to emergency departments across the country for treatment.⁴

In North Carolina, the state suicide death rate increased slightly between 1999-2007 (from 12.8 per 100,000 people in 1999 to 13.7 in 2007), and has been consistently higher than the national average (see Figure 2.1).^a In 2009, 1,157 North Carolinians (14.3 per 100,000) died from suicide.⁵



In North Carolina, the state suicide death rate has been consistently higher than the national average.



a North Carolina suicide data are captured in the North Carolina Violent Death Reporting System (NC VDRS). This system is funded through the CDC, which collects information from death certificates, medical examiner reports, and law enforcement reports. NC VDRS is operated by the North Carolina Division of Public Health's Injury and Violence Prevention Branch to provide injury and violence prevention specialists and policymakers detailed information on the victims, suspects, relationships, circumstances, and weapons that are associated with every incident of violence that results in a fatality in North Carolina.

Death by suicide was one of the top ten leading causes of death for people aged 5-64 in 2010.

Death by suicide was one of the top ten leading causes of death for people aged 5-64 in 2010 (see Table 2.1). From 2004 to 2008, the state suicide rate among people age 10 or older averaged 14 per 100,000 population, the rate of hospitalizations for self-inflicted injury was 76.0 per 100,000 population, and the rate of emergency department visits was 106.3 per 100,000 people. Each year more than 1,000 North Carolinians die from self-inflicted injuries, more than 6,000 are hospitalized, and more than 8,000 are treated in emergency departments for self-inflicted injuries.⁶ Suicide deaths resulted in 86,690 years of potential life lost in North Carolina between 2004-2007. Years of life lost is the measure of the years of potential life lost because of premature death before 65 years of age. The total years of life lost to suicide deaths under age 65 in the state is more than each of those lost to homicide, congenital abnormalities, cerebrovascular disease, human immunodeficiency virus (HIV), and diabetes mellitus.⁷ The most common means of death by suicide in North Carolina in 2009 was firearms, followed by hanging and poisoning.

Table 2.1
Number of Deaths per Year Attributable to Leading Causes of Death by Age Group in North Carolina (2010)

| Rank | Age-Group | | | | | | | All Ages |
|------|--|--|--|---|---|---|---|--|
| | <1 | 1-4 | 5-14 | 15-24 | 25-44 | 45-64 | 65 and Over | |
| 1 | Short gestation 117 | Other unintentional injuries 32 | Cancer - 28 Motor vehicle injuries - 28 | Motor vehicle injuries 282 | Other unintentional injuries 576 | Cancer 5,348 | Diseases of the heart 13,076 | Cancer 18,013 |
| 2 | Congenital anomalies 173 | Motor vehicle injuries - 21 | * | Other unintentional injuries - 149 | Cancer 571 | Diseases of the heart 3,515 | Cancer 12,020 | Diseases of the heart 17,090 |
| 3 | SIDS 53 | Homicide 13 | Other unintentional injuries 16 | Homicide 133 | Motor vehicle injuries 440 | Other unintentional injuries 758 | Chronic lower respiratory diseases 3,787 | Chronic lower respiratory diseases 4,490 |
| 4 | Maternal complications 51 | Congenital anomalies 12 | Homicide 10 | Suicide 132 | Diseases of the heart 431 | Chronic lower respiratory diseases - 666 | Cerebro-vascular disease 3,588 | Cerebro-vascular disease 4,281 |
| 5 | Complications of the placenta - 45 | Cancer 9 | Congenital anomalies 9 | Diseases of the heart - 40 | Suicide 375 | Cerebro-vascular disease - 595 | Alzheimer's disease 2,788 | Alzheimer's disease 2,813 |
| 6 | Diseases of the circulatory system 27 | Diseases of the heart 5 | Diseases of the heart 8 | Cancer 36 | Homicide 228 | Diabetes mellitus 544 | Nephritis, nephrotic syndrome, and nephrosis 1,509 | Other unintentional injuries 2,762 |
| 7 | Other unintentional injuries 21 | Pneumonia and influenza - 4 Septicemia - 4 | Chronic lower respiratory diseases - 5 | Congenital anomalies 12 | HIV 102 | Chronic liver disease and cirrhosis 505 | Pneumonia and influenza 1,434 | Diabetes mellitus 2,036 |
| 8 | Bacterial sepsis 18 | * | Suicide 4 | Cerebro-vascular disease 6 | Diabetes mellitus 96 | Suicide 475 | Diabetes mellitus 1,392 | Nephritis, nephrotic syndrome and nephrosis 1,886 |
| 9 | Necrotizing enterocolitis 17 | Conditions originating in the perinatal period - 3 In-situ/benign neoplasms - 3 | In-situ/benign neoplasms - 3 Septicemia - 3 | Pneumonia and influenza 5 | Cerebro-vascular disease 81 | Motor vehicle injuries 350 | Other unintentional injuries 1,210 | Pneumonia and influenza 1,684 |
| 10 | Respiratory distress 13 | * | * | Anemias - 4 Diabetes mellitus - 4 Nephritis, nephrotic syndrome, and nephrosis - 4 Pneumonitis due to solids and liquids - 4 | Chronic liver disease and cirrhosis 78 | Nephritis, nephrotic syndrome, and nephrosis 320 | Septicemia 971 | Motor vehicle injuries 1,368 |

Source: North Carolina Violent Death Reporting System. Injury and Violence Prevention Branch, Division of Public Health, North Carolina Department of Health and Human Services. Data Request-NCIOM: 2004-2008. Data Analysis Received August 2011.

* Table is blank when two or more conditions had the same number of deaths in the preceding rank.

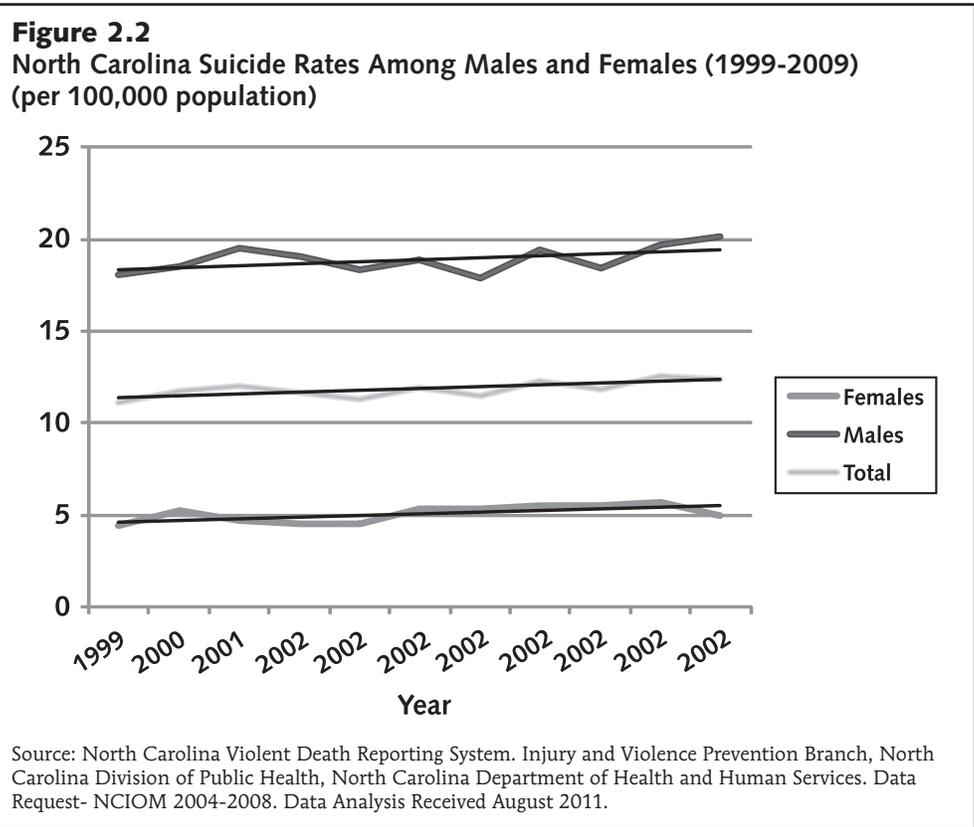
Demographic Differences in Suicide Attempts and Suicide Deaths

While the risk of suicide is shared among all demographic groups, the burden is not shared equally. Some groups have higher risks. For example, men are more likely to die by suicide (although women are more likely to attempt suicide). The risk of suicide also varies by age and gender.

Gender

In North Carolina, men have an almost four times greater likelihood of dying by suicide than females. Between 1999-2009, the suicide death rate was 18.9 per 100,000 population for men, compared to 5.1 per 100,000 for women (see Figure 2.2).⁶ Suicide death was the seventh leading cause of death for males and the 15th leading cause of death for females over the age of 10.³ The gender difference may be related to the difference between suicide attempts and deaths. North Carolina data showed that women had a 30% greater chance of having an emergency department visit for self-inflicted injury in 2009 (female: 118.9/100,000; male: 90.1/100,000) and an approximately 35% greater likelihood of being admitted for a self-inflicted injury in 2008 (female: 80.0/100,000; male: 59.4/100,000). This suggests that men use more lethal methods to commit suicide. But, some national studies have found that the reason for the higher percentage of male versus female suicide deaths is more complex.⁸ Men of all ages are more likely to commit suicide via firearms whereas the method among females varies by age;

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methods include suffocation (10-24 years), poisoning (25-64 years), and firearms (65+ years).⁹ When using firearms, men are more likely to shoot themselves in more lethal areas (e.g. the head) than women.¹⁰ Men who have committed suicide are also more likely than women to have blood alcohol contents (BACs) above 0.08 g/dL, suggesting that alcohol could be a more serious risk factor for suicide among men than among women.¹¹

Age

During the 2010-2011 school year in North Carolina, 373 students attempted suicide and 23 died by suicide. There were 25 attempts but no deaths of elementary students, 113 attempts and 3 deaths of middle school students, and 235 attempts and 20 deaths of high school students.¹² Suicide is the fourth leading cause of death among youth and young adults ages 15-24 years in North Carolina.¹³ Between 1999 and 2009, 1,439 youth and young adults ages 10 to 24 died. Regardless of age, male youth had higher suicide rates than female youth. More than half (56%) of the youth suicides involved firearms; 30% involved hanging, strangulation, or suffocation; 9% involved poisoning; and 5% involved other methods of suicide.⁷

Risk factors for youth include depression, alcohol or other drug use disorder, physical or sexual abuse, disruptive behavior, association with lethal means, eating disorders, rejection related to lesbian/gay/bisexual/transgender (LGBT) association, stressful life events, and incarceration.^{2,3,14,15} Bullying is another risk factor for youth.¹⁶⁻¹⁸ Experiencing a high frequency of bullying as well as experiencing varying types of bullying are both correlated with an increased risk of suicide.¹⁷ Youth are less likely to die from suicide attempts than adults and are more likely to attempt suicide as an act of impulsive desperation.^{2,14} Youth are more likely to attempt suicide with firearms (especially among those ages 15-24 years), suffocation (especially among those 10-14 years), and poisoning (including overdose).

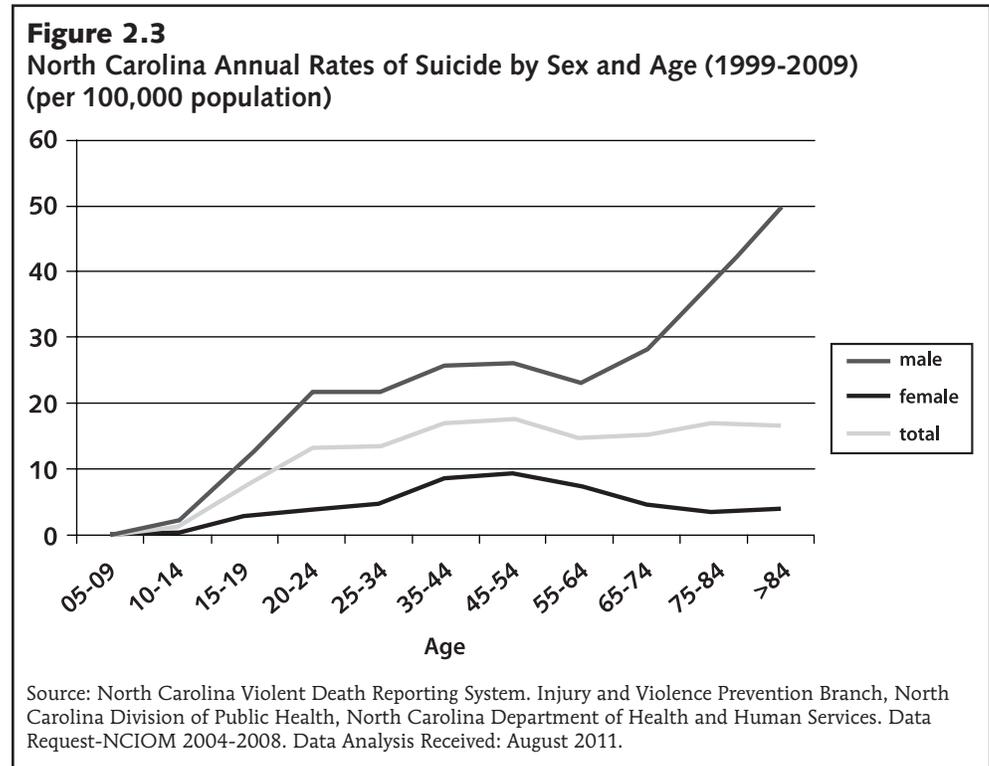
The greatest number of deaths by suicide occurs in the 35-44 age group. Between 1999 and 2009, there were 2,432 North Carolinians who died by suicide in this age group, followed by 2,312 in the 45-54 age group. These groups also have the highest rate of dying by suicide (17/100,000 and 17.5/100,000 respectively). However, these total numbers mask very distinct differences by gender. As noted earlier, men have a much higher death rate for suicides than females in every age group. Across all age groups, men are almost four times more likely to die by suicide than women. However this difference is accentuated as the population ages. For example, older men (ages 65-74) have a 6 times greater chance of dying by suicide than women, and men older than age 75 have more than a 12 times greater likelihood of dying by suicide (see Figure 2.3).

National studies suggest that risk factors for older adults include stressful life events, bereavement and family discord, lack of social support, physical illness or perceived poor health, substance use disorders, poor sleep quality, affective illness, depressive symptoms, and bone fracture.^{19,20} The co-existence

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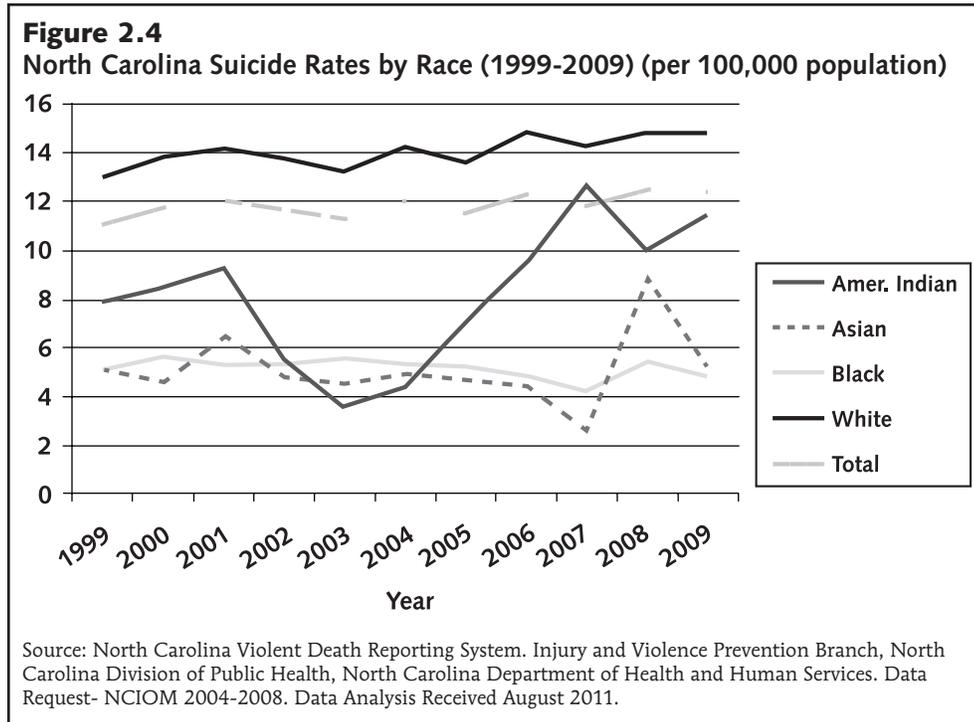
of multiple physical illnesses also increases the risk of suicide, especially those in conjunction with heart failure, chronic lung disease, seizures, and chronic pain.²¹ Many older adults who commit suicide see their doctor within one month of death, suggesting that doctor visits could be a good point of intervention.²¹ Depression, poor sleep quality, and limited social support are also risk factors for natural death.²⁰ Because of this, sometimes non-violent suicide in elders can be mistaken for natural causes.²¹

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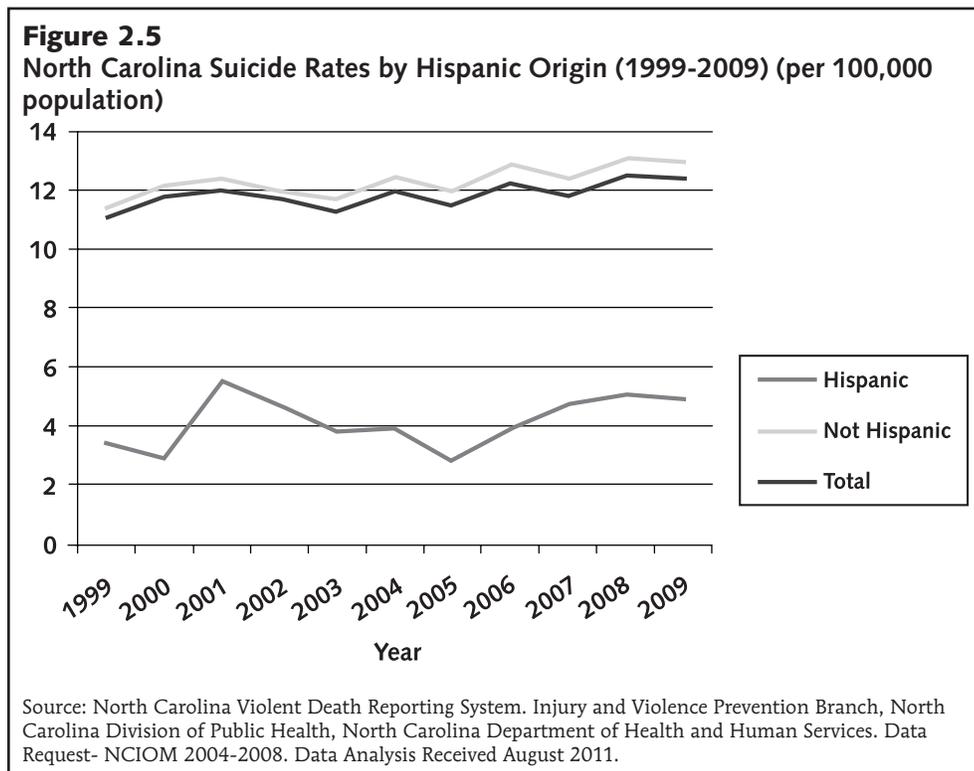


Race/Ethnicity

Suicide rates and risk factors also vary by race and ethnicity. In North Carolina, the highest death rate has been consistently among whites (1999-2009), followed by American Indians, Asian and Pacific Islanders, and blacks (see Figure 2.4). National data show that racial discrimination, perceived discrimination (especially among Latinos and US-born whites), familial acculturative stress (especially among blacks, non-US-born whites, and Latinos), and social acculturative stress (especially among Latinos) are all risk factors for suicide associated with race and ethnicity.^{15,22} Alcohol is a significant risk factor among the American Indian/Alaskan Native and Latino populations.¹¹ These two racial/ethnic groups also have the highest blood alcohol content in suicide victims of all racial/ethnic groups.¹¹



Among all ethnicities, non-Hispanic people were more than 2.5 times more likely to die by suicide than people of Hispanic descent (see Figure 2.5).⁶



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Suicide is the second leading cause of death for members of the armed forces.

Military Service Status

Nationally, suicide is the second leading cause of death for members of the armed forces.²³ Suicide rates among military members in all branches is on the rise and, as of 2009, was higher than rates among the general population.²³ Male veterans are twice as likely to die by suicide than men in the general population.²³ Currently deployed service members have the highest rates of suicide in the military.²⁴ Female service members are at higher risk of suicide while deployed.²⁴ National studies show that risk factors for suicide by service members include combat exposure, frustration secondary to injury, limited insight into personal deficits, challenges related to coping, stressors related to deployment, perceived burdensomeness, thwarted belongingness, cognitive symptoms of traumatic brain injury, and sub-threshold post-traumatic stress disorder (PTSD), and PTSD.^{23,25-28} Veterans with co-morbid PTSD and other mental health conditions are at an especially increased risk of suicide ideation and/or attempting suicide.^{29,30} This is a current concern since 27% of Operation Iraqi Freedom/Operation Enduring Freedom veterans have at least three co-morbid mental health diagnoses.³⁰ Military members are most likely to commit suicide by firearms, followed by hanging/suffocation, and poisoning.³¹

In North Carolina between 2004 and 2008, 1,148 veterans died by suicide. The suicide rate among North Carolina veterans was 29.6 per 100,000. That rate was more than twice the overall suicide rate of 14 per 100,000 in the general population.⁷ The age adjusted veteran suicide rate for ages 20 or older was slightly higher than the rate for non-veterans of the same age. The small number of veteran suicides compared to those non-veterans ages 20 to 24 may skew the data in favor of a higher veteran rate.⁷ The North Carolina National Guard suicide rate for 2010 was 42 per 100,000 and decreased to 33 per 100,000 in 2011.^b

Rural and Urban

According to the Office of Management and Budget 2010 Standards, there are 40 metropolitan counties leaving 60 that are either micropolitan or neither.^c In those 40 urban or metropolitan counties, the suicide rate in 2004-2008 was 13.2 per 100,000 population as opposed to 15.9 per 100,000 population in the rural (micropolitan or neither) counties.^d Similarly, the hospitalization rate for self-inflicted injuries was 74.9 per population in the urban counties and 78.6 per population in the rural counties.

^b Tyson A. Suicide Prevention and Resilience Program Manager, North Carolina National Guard. Written communication. May 10, 2012

^c A metropolitan county is a county that has at least one urbanized area with a population of at least 50,000, plus adjacent outlying counties that have a high degree of social and economic integration with the metro county. A high degree of social and economic integration means at least 25% of workers living in the county work in the metro (or micro) county, or at least 25% of employment in that county is accounted for by workers who reside in the micro or metro county. A micropolitan county is one that has an urbanized area with 10,000-50,000 or adjacent counties with a high degree of social and economic integration. A county labelled as "Neither" is one that is neither metro or micro. http://www.whitehouse.gov/sites/default/files/omb/assets/fedreg_2010/06282010_metro_standards-Complete.pdf.

^d Data analysis of rural and urban suicide death rates and hospitalization from self-inflicted injury rates prepared by Pam Silberman, JD, DrPH, North Carolina Institute of Medicine.

Risk and Protective Factors

Risk Factors

Suicide is a complex problem with many risk factors. Two of the primary risk factors are mental health problems and/or substance use disorders. The National Institute of Mental Health has reported that over 90% of people who commit suicide have depression and/or substance abuse disorders—often in combination with other mental health disorders.³ However other studies of people who die by suicide have not shown that high of a correlation between mental illness, substance use, and suicide. One study of suicide victims in the 13 states participating in the National Violent Death Reporting System suggested that between 21-44% of those who have died by suicide had a current mental illness (variations based on race/ethnicity), although only 15-33% of those who died were receiving current treatment for their mental illness at the time of death. This study also showed that between 25-40% had alcohol present in their bodies at the time of death.³² In general, white non-Hispanics had higher likelihood of mental illness and treatment for mental illness, followed by black non-Hispanics, other non-Hispanics, and then Hispanics. However Hispanics had a higher likelihood of having alcohol present at time of death, followed by white non-Hispanics, other non-Hispanics, and black non-Hispanics.

In North Carolina between 2004-2008, the statistics are somewhat higher than the rest of the country for mental health and substance abuse treatment. More than 60% of females and more than 40% of males who died by suicide in North Carolina had ever been treated for a mental health condition, and a similar percentage were in current treatment when they died (see Table 2.2).¹³ Substance abuse was also fairly common among suicide victims with 14% of men and more than 11% of women having an alcohol use disorder and almost 12% of men and almost 15% of women having a disorder with another substance. In 2009, prescription pharmaceuticals were used in 69.2% of all suicide deaths by poisoning (59.2% of male deaths by poisoning and 82.4% of female deaths by poisoning).¹³ Another important circumstance of suicide is the connection to previous attempts. Between 2004-2008 in North Carolina, more than 12% of men and almost 30% of women had a previously documented attempt of suicide at the time of their death by suicide.¹³

Two of the primary suicide risk factors are mental health problems and/or substance use disorders.

Table 2.2
Circumstances of Suicide Victims for Ages 10 or Older by Gender in North Carolina (2004-2008)

| Circumstance** | Male | | Female | | TOTAL | |
|--|--------|---------|--------|---------|--------|---------|
| | Number | Percent | Number | Percent | Number | Percent |
| Mental Health | | | | | | |
| Current depressed mood | 1,764 | 46.6 | 532 | 45.3 | 2,296 | 46.3 |
| Current mental health problem | 1,574 | 41.6 | 784 | 66.8 | 2,358 | 47.5 |
| Current treatment for mental illness | 1,389 | 36.7 | 739 | 63.0 | 2,128 | 42.9 |
| Ever treated for mental illness | 1,538 | 40.6 | 780 | 66.4 | 2,318 | 46.7 |
| Substance Abuse | | | | | | |
| Alcohol problem | 562 | 14.8 | 135 | 11.5 | 697 | 14.1 |
| Other substance problem | 457 | 12.1 | 178 | 15.2 | 635 | 12.8 |
| Interpersonal | | | | | | |
| Intimate partner problem | 1,085 | 28.6 | 246 | 21.0 | 1,331 | 26.8 |
| Other relationship problem | 276 | 7.3 | 86 | 7.3 | 362 | 7.3 |
| Recent suicide of friend/family (past 5 years) | 43 | 1.1 | 14 | 1.2 | 57 | 1.2 |
| Other death of friend/family | 150 | 4.0 | 56 | 4.8 | 206 | 4.2 |
| Perpetrator of interpersonal violence in past | 303 | 8.0 | 17 | 1.5 | 320 | 6.5 |
| Victim of interpersonal violence in past month | 10 | 0.3 | 20 | 1.7 | 30 | 0.6 |
| Life Stressor | | | | | | |
| Crisis within two weeks | 1,452 | 38.3 | 328 | 27.9 | 1,780 | 35.9 |
| Physical health problem | 770 | 20.3 | 220 | 18.7 | 990 | 20.0 |
| Job problem | 307 | 8.1 | 45 | 3.8 | 352 | 7.1 |
| School problem | 15 | 0.4 | 4 | 0.3 | 19 | 0.4 |
| Financial problem | 276 | 7.3 | 53 | 4.5 | 329 | 6.6 |
| Recent criminal-related legal problem | 353 | 9.3 | 32 | 2.7 | 385 | 7.8 |
| Other legal problems | 90 | 2.4 | 18 | 1.5 | 108 | 2.2 |
| Suicide Event | | | | | | |
| Left a suicide note | 1,037 | 27.4 | 369 | 31.4 | 1,406 | 28.3 |
| Disclosed intent to complete suicide | 950 | 25.1 | 240 | 20.4 | 1,190 | 24.0 |
| History of suicide attempts | 469 | 12.4 | 341 | 29.1 | 810 | 16.3 |

Source: North Carolina Violent Death Reporting System. Injury and Violence Prevention Branch, North Carolina Division of Public Health, North Carolina Department of Health and Human Services. Data Request- NCIOM: 2004-2008. Data Analysis Received August 2011.

**Circumstances were available for 91.9% (3,788/4,120) of male victims, 94.2% (1,174/1,246) of female victims, and 92.5% (4,962/5,366) of all suicide victims. The percentage of circumstances for suicide victims is based on the number of cases reporting circumstances in North Carolina from 2004-2008, not the total number of suicides. Note, too, that each victim may have more than one circumstance. Accordingly, the total number of circumstances may exceed the total number of suicides.

Among those with a current mental health diagnosis at the time of suicide, there were four diagnoses that were the most common (see Table 2.3). Depression or dysthymia was the most common followed by bipolar disorder, schizophrenia, and anxiety disorder in men and women.¹³ These four disorders account for more than 90% of mental health diagnoses among both men and women with a current mental health diagnosis at the time of suicide. This probably under reports the number of suicide victims who had an underlying mental illness, as there is still a stigma associated with the receipt of mental health services. Thus, many people who are depressed or have other mental health or substance use disorders do not enter the mental health system.¹³

Table 2.3
Current Mental Health Condition at the Time of Suicide by Gender for Ages 10 or Older in North Carolina (2004-2008)

| Current Mental Health Problem** | Male | | Female | | TOTAL | |
|---|--------|---------|--------|---------|--------|---------|
| | Number | Percent | Number | Percent | Number | Percent |
| Depression / Dysthymia | 1,276 | 81.1 | 649 | 82.8 | 1,925 | 81.6 |
| Bipolar Disorder | 140 | 8.9 | 91 | 11.6 | 231 | 9.8 |
| Schizophrenia | 53 | 3.4 | 13 | 1.7 | 66 | 2.8 |
| Anxiety Disorder | 37 | 2.4 | 13 | 1.7 | 50 | 2.1 |
| Post-Traumatic Stress Disorder | 8 | 0.5 | 0 | 0.0 | 8 | 0.3 |
| Attention Deficit Disorder (ADD) or Hyper-Reactivity Disorder | 7 | 0.4 | 0 | 0.0 | 7 | 0.3 |
| Eating Disorder | 0 | 0.0 | 5 | 0.6 | 5 | 0.2 |
| Obsessive-Compulsive Disorder | 0 | 0.0 | 1 | 0.1 | 1 | 0.0 |
| Other | 31 | 2.0 | 4 | 0.5 | 35 | 1.5 |
| Unknown / Missing | 58 | 3.7 | 23 | 2.9 | 81 | 3.4 |

Source: North Carolina Violent Death Reporting System. Injury and Violence Prevention Branch, North Carolina Division of Public Health, North Carolina Department of Health and Human Services. Data Request- NCIOM: 2004-2008. Data Analysis Received August 2011.

** Percentages are based on 1,574 males, 784 females, and 2,358 total suicide victims with a current mental health condition.

Note: Each victim may have more than one current condition. Accordingly, the total number of mental health conditions may exceed 100%.

While mental health and substance abuse are the leading risk factors for suicide, there are other biopsychosocial, environmental, and sociocultural risk factors as well (see Table 2.4). The Surgeon General’s Call to Action to Prevent Suicide lists the following risk factors:

Many of these risk factors can be reduced through prevention or early intervention at the individual and community level, and by making it easier to access appropriate mental health or substance use services.

Table 2.4
Suicide Risk Factors

| Biopsychosocial Risk Factors | Environmental Risk Factors | Sociocultural Risk Factors |
|--|---|---|
| <ul style="list-style-type: none"> • Mental disorders, particularly mood disorders, schizophrenia, anxiety disorders, and certain personality disorders • Alcohol and other substance use disorders • Hopelessness • Impulsive and/or aggressive tendencies • History of trauma or abuse • Major physical illnesses • Previous suicide attempt • Family history of suicide | <ul style="list-style-type: none"> • Job or financial loss • Relational or social loss • Easy access to lethal means • Local clusters of suicide that have a contagious influence | <ul style="list-style-type: none"> • Lack of social support and sense of isolation • Stigma associated with help-seeking behavior • Barriers to accessing health care, especially mental health and substance abuse treatment • Certain cultural and religious beliefs (for instance, the belief that suicide is a noble resolution of a personal dilemma) • Exposure to, and influence of, others who have died by suicide, including through the media |

Source: National Strategy for Suicide Prevention. Goals and Objective for Action Rockville, MD: Public Health Service. US Department of Health and Human Services, 2001. p.36

While there is debate about the percent of the variation in suicide attempts or suicide deaths attributable to these various risk factors; depression and other serious mental illness, alcohol use, and substance abuse are major risk factors. Many of these risk factors can be reduced through prevention or early intervention at the individual and community level, and by making it easier to access appropriate mental health or substance use services.

Protective Factors

Just as there are risk factors which increase the likelihood of suicide ideation, attempts, or death, there are protective factors which can help protect people from suicide risk as well. The US Surgeon General lists the following protective factors against suicide in the Call to Action to Prevent Suicide report:³³

- Effective clinical care for mental, physical, and substance use disorders
- Easy access to a variety of clinical interventions and support for help-seeking

- 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 nonviolent handling of disputes
- Cultural and religious beliefs that discourage suicide and support self-preservation

Other protective factors have been found in specific populations. For example, friends or relatives to confide in and regular church attendance has been found to be protective against suicide among the older adult population.²⁰ Social support and spiritual/religious beliefs were also found to be protective among the military population along with a sense of purpose regarding the future, mental health care, employment/volunteerism, and being married.^{24,25}

Suicide has devastating effects in North Carolina. Data from the North Carolina Violent Death Reporting System and other sources demonstrate that suicide affects all North Carolinians—both rural and urban, male and female, younger and older, and all races and ethnicities. There are many risk factors that increase the risk for suicide, but there are also protective factors that can reduce risk and prevent suicide. In the next chapter, there will be discussion of current systems and programs and how they may be improved to help keep North Carolinians protected.

There are protective factors which can help protect people from suicide risk.

References

1. Centers for Disease Control and Prevention, US Department of Health and Human Services. National suicide statistics at a glance: twenty leading causes of death highlighting suicide among persons ages 10 years and older, United States, 2006. http://www.cdc.gov/ViolencePrevention/suicide/statistics/leading_causes.html. Published September 30, 2009. Accessed August 16, 2011.
2. Division of Public Health, North Carolina Department of Health and Human Services. Saving tomorrow's today: North Carolina's plan to prevent youth suicide. <http://www.injuryfreenc.ncdhhs.gov/About/YouthSuicidePreventionPlan.pdf>. Published October 2004. Accessed August 15, 2011.
3. National Institute of Mental Health, National Institutes of Health, US Department of Health and Human Services. Suicide in the US: statistics and prevention. NIH Publication No. 06-4594. <http://www.nimh.nih.gov/health/publications/suicide-in-the-us-statistics-and-prevention/index.shtml>. Published September 27, 2010. Accessed August 16, 2011.
4. Centers for Disease Control and Prevention, US Department of Health and Human Services. Suicide: consequences. <http://www.cdc.gov/ViolencePrevention/suicide/consequences.html>. Published August 24, 2010. Accessed August 16, 2011.
5. North Carolina Violent Death Reporting System, Injury & Violence Prevention Branch, Division of Public Health, North Carolina Department of Health and Human Services. Provisional tables & figures for 2009 annual report. <http://www.injuryfreenc.ncdhhs.gov/About/2009%20NC-VDRS%20Provisional%20Tables%20&%20Figures.pdf>. Published November 3, 2011. Accessed April 2012.
6. North Carolina Violent Death Reporting System, Injury and Violence Prevention Branch, Division of Public Health. North Carolina Department of Health and Human Services. Data Request-NCIOM: 2004-2008. Data Analysis Received: August 2011.
7. North Carolina Injury Epidemiology and Surveillance Unit, Injury and Violence Prevention Branch, Division of Public Health, North Carolina Department of Health and Human Services. The burden of suicide in North Carolina. <http://www.injuryfreenc.ncdhhs.gov/ForHealthProfessionals/2008BurdenofSuicideinNC.pdf>. Published February 2011. Accessed May 4, 2011.
8. Kposowa AJ, McElvain JP. Gender, place, and method of suicide. *Soc Psychiatry Psychiatr Epidemiol.* 2006;41(6):435-443.
9. Centers for Disease Control and Prevention, US Department of Health and Human Services. National suicide statistics at a glance: percentage of suicides, by age group, sex and mechanism, United States, 2002-2006. <http://www.cdc.gov/ViolencePrevention/suicide/statistics/mechanism02.html>. Published September 30, 2009. Accessed August 16, 2011.
10. Stack S, Wasserman I. Gender and suicide risk: the role of wound site. *Suicide Life-Threat.* 2009;39(1):13-20.
11. Centers for Disease Control and Prevention, US Department of Health and Human Services. Alcohol and suicide among racial/ethnic populations-17 states, 2005-2006. *MMWR Morb Mortal Wkly Rep.* 2009;58(23):637-641.
12. North Carolina Division of Public Health, North Carolina Department of Health and Human Services. North Carolina annual school health services report 2010-2011. <http://www.ncdhhs.gov/dph/wch/doc/stats/SchoolHealthServicesAnnualReport-2010-2011.pdf>. Accessed May 21, 2012.
13. North Carolina Violent Death Reporting System, Injury & Violence Prevention Branch, Division of Public Health, North Carolina Department of Health and Human Services. Annual Report 2009. Published April 2012.

14. Centers for Disease Control and Prevention, US Department of Health and Human Services. Suicide prevention: youth suicide. http://www.cdc.gov/ViolencePrevention/pub/youth_suicide.html. Published October 15, 2009. Accessed August 31, 2011.
15. National Prevention Council, Office of the Surgeon General, US Department of Health and Human Services. National prevention strategy: America's plan for better health and wellness. <http://www.healthcare.gov/center/councils/nphpphc/strategy/report.pdf>. Published June 2011. Accessed August 15, 2011.
16. Klomek AB, et al. High school bullying as a risk for later depression and suicidality. *Suicide Life Threat Behav.* 2011;41(5):501-516.
17. Klomek AB, Marrocco F, Kleinman M, Schonfeld IS, Gould MS. Peer victimization, depression, and suicidality in adolescents. *Suicide Life Threat Behav.* 2008;38(2):166-180.
18. Kaminski JW, Fang X. Victimization by peers and adolescent suicide in three US samples. *J Pediatr.* 2009;155(5):683-688.
19. Conwell Y, Duberstein PR, Caine ED. Risk factors for suicide in later life. *Biol Psychiatry.* 2002;52(3):193-204.
20. Turvey CL, et al. Risk factors for late-life suicide: a prospective, community-based study. *Am J Psychiatry.* 2002;10(4):398-406.
21. Juurlink DN, Herrmann N, Szalai JP, Kopp A, Redelmeier DA. Medical illness and the risk of suicide in the elderly. *Arch Intern Med.* 2004;164(11):1179-1184.
22. Gomez J, Miranda R, Polanco L. Acculturative stress, perceived discrimination, and vulnerability to suicide attempts among emerging adults. *J Youth Adolesc.* 2011;40(11):1465-1476.
23. Bryan CJ, Cukrowicz KC. Associations between types of combat violence and the acquired capability for suicide. *Suicide Life Threat Behav.* 2011;41(2):126-136.
24. National Institute of Mental Health, National Institutes of Health, US Department of Health and Human Services. Army STARRS preliminary data reveal some potential predictive factors for suicide. <http://www.nimh.nih.gov/science-news/2011/army-starrs-preliminary-data-reveal-some-potential-predictive-factors-for-suicide.shtml>. Published March 22, 2011. Accessed September 1, 2011.
25. Brenner LA, Homaifar BY, Adler LE, Wolfman JH, Kemp J. Suicidality and veterans with a history of traumatic brain injury: Precipitating events, protective factors, and prevention strategies. *Rehabil Psychol.* 2009;54(4):390-397.
26. Cox DW, et al. Suicide in the United States Air Force: risk factors communicated before and at death. *J Affect Disord.* 2011;133(3):398-405.
27. Jakupcak M, et al. Hopelessness and suicidal ideation in Iraq and Afghanistan war veterans reporting subthreshold and threshold posttraumatic stress disorder. *J Nerv Ment Dis.* 2011;199(4):272-275.
28. Sher L. A model of suicidal behavior in war veterans with posttraumatic mood disorder. *Med Hypotheses.* 2009;73(2):215-219.
29. Brenner LA, et al. Posttraumatic stress disorder, traumatic brain injury, and suicide attempt history among veterans receiving mental health services. *Suicide Life Threat Behav.* 2011;41(4):416-423.
30. Jakupcak M, et al. Posttraumatic stress disorder as a risk factor for suicidal ideation in Iraq and Afghanistan war veterans. *J Trauma Stress.* 2009;22(4):303-306.

31. Centers for Disease Control and Prevention, US Department of Health and Human Services. Surveillance for violent deaths–National Violent Death Reporting System, 16 states, 2007. *MMWR Morb Mortal Wkly Rep.* 2010;59(SS04):1-50.
32. Karch DL, Barker L, Strine TW. Race/ethnicity, substance abuse, and mental illness among suicide victims in 13 US states: 2004 data from the national violent death reporting system. *Inj Prev.* 2006;12(suppl 2):ii22-ii27.
33. Public Health Service, US Department of Health and Human Services. National strategy for suicide prevention: goals and objectives for action. <http://store.samhsa.gov/shin/content/SMA01-3517/SMA01-3517.pdf>. Published 2001. Accessed June 5, 2012.