

# Adult Suicide and Circumstances in Rhode Island, 2004–2010

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The Rhode Island Violent Death Reporting System (RIVDRS) collects violent death data from death certificates, medical examiner reports, and law enforcement reports and is a joint project of the Office of State Medical Examiners and the Center for Health Data and Analysis in the Rhode Island Department of Health.<sup>1</sup>

Suicide is the third leading cause of injury death in Rhode Island. In 2010, there were more deaths due to suicide in Rhode Island than due to car crashes.<sup>2</sup> The number of suicides has increased each year in Rhode Island during 2005–2010, making suicide one of the top four injury priorities identified in the 2013 Rhode Island Injury Prevention Plan. An understanding of suicide and its associated risk factors is important for planning public health interventions. RIVDRS is the only data base that collects comprehensive information regarding circumstances surrounding a suicide such as mental health/substance abuse, interpersonal, life stressor, and suicide event circumstances. Early identification of high-risk individuals may successfully prevent suicide. RIVDRS data provide insight into common risk factors that can inform early identification by health care providers. This study explores adult suicide and circumstances by gender in Rhode Island during 2004 – 2010.

## METHODS

### Data sources

RIVDRS captures data on all suicide deaths that occur in Rhode Island. The data are incident-based rather than victim-based.<sup>1,3</sup> Suicide death is a death resulting from the intentional use of force against oneself as defined by the World Health Organization.<sup>3</sup> The seven-year period 2004–2010 was selected for analysis due to yearly fluctuations in the number of Rhode Island suicides in each year. There were a total of 731 suicides in RI in that seven-year period. A majority of cases (713) were adult suicides ages 18 years old and older. Only 18 cases of youth suicide (ages 13–17) were identified in the data base. Our final analysis is focused on adult suicides and includes data on 556 men and 157 women.

### Data analysis

Circumstance data included in this report were collected from death investigations conducted by the Office of the State Medical Examiner and law enforcement reports. RIVDRS allows for more than one circumstance to be recorded

for a person who dies by suicide. For the purposes of this study, circumstance information on suicide deaths is summarized into the following four categories: 1) mental health/substance abuse; 2) interpersonal conflict including intimate partners; 3) life stressor such as a loss of employment, illness, sexual or physical abuse, or family death; and 4) suicide event.<sup>4</sup> Percentages show distributions in the underlying population relative to circumstance characteristics by gender. The statistical software used for the analysis was SAS version 9.2 (SAS Institute, Cary, NC, 2010).

## RESULTS

Overall, there is an increasing trend of total suicide deaths across the seven-year period 2004–2010 in Rhode Island. The highest percentage of suicide was observed among adults aged 45–64 years (321 deaths or 45.0% of all adult suicides). More than 78% of adults who died by suicide in that time period were men, and 22% were women. Information about suicide circumstances was available for 95.8% (N=713) of all adult suicides; 95.5% of men (N=556) and 96.8% of women (N=157).

Similar percentages of adult male and female suicide decedents were reported to have a depressed mood at the time

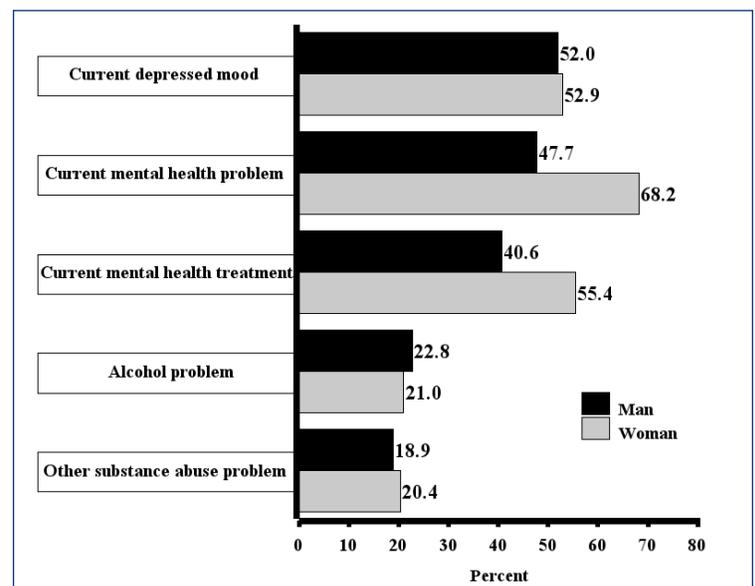
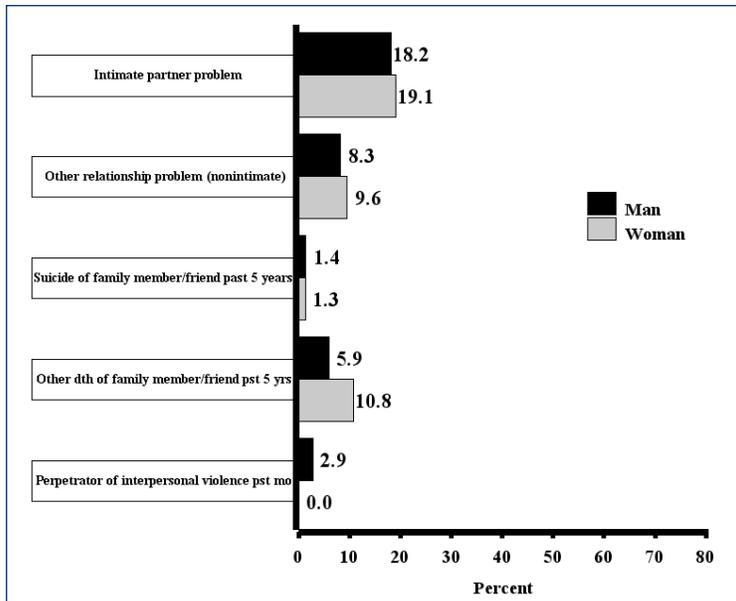


Figure 1. Percentage of mental health/substance abuse circumstances of adult suicide by gender in Rhode Island, 2004–2010



**Figure 2.** Percentage of interpersonal circumstances of adult suicide by gender in Rhode Island, 2004-2010

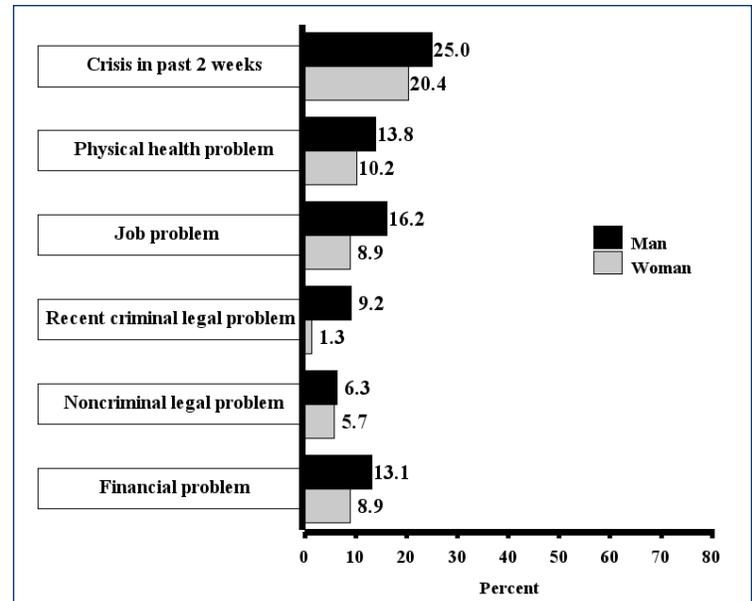
of death. However, a majority of female suicide decedents (68.2%) were reported to have a current mental health problem compared to males (47.7%); and more than half of all females (55.4%) were currently receiving mental health treatment compared to males (40.6%). Gender differences were not found in alcohol use (22.8% females and 21.0% males) and other substance use (18.9 and 20.4%) (Figure 1).

Intimate partner/ interpersonal problems were identified in a slightly higher percentage of female suicides than male suicides (19.1% and 18.2%, respectively) (Figure 2). A larger percentage of males were reported to have a crisis in the past two weeks, physical health problem, job/financial problem, and recent criminal/ legal problem compared to females (Figure 3). Females were more likely to leave a suicide note, disclose intent to commit suicide, and have a history of suicide attempt(s) than their male counterparts (Figure 4).

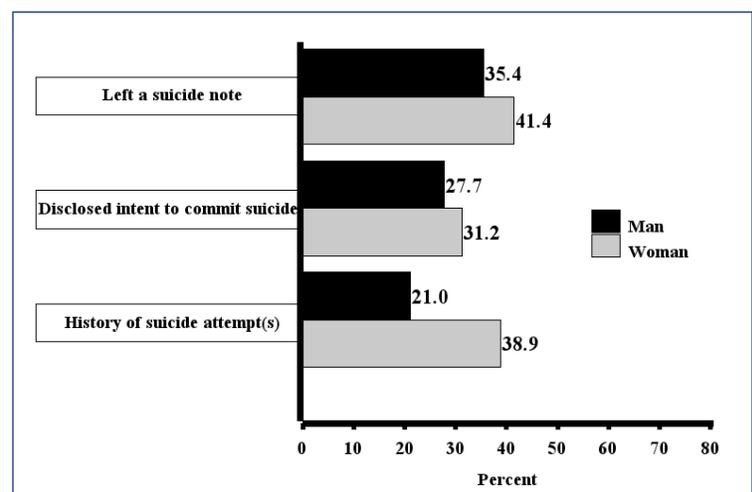
## DISCUSSION

Over a seven-year period, 713 Rhode Island adults committed suicide, approximately 100 each year. Adults aged 45-64 and men accounted for most of these deaths (45.0 % and 78.0%, respectively). These findings have important implications for state suicide prevention efforts.

The most common circumstance recorded for adults who died by suicide was having a current mental health problem and the majority of them (84.1%) were receiving treatment. Most suicide decedents had mental distress with multiple stresses (e.g., a recent crisis, physical health/job/financial problems) preceding death. These additional stresses may contribute to mental health treatment non-compliance. RIVDRS data suggest that mental health treatment alone



**Figure 3.** Percentage of life stressor circumstances of adult suicide by gender in Rhode Island, 2004-2010



**Figure 4.** Percentage of suicide event circumstances of adult suicide by gender in Rhode Island, 2004-2010

might not sufficiently address all the circumstances that contribute to suicide. A range of social supports are also needed to prevent suicide.

In Rhode Island 13.8% of all adult male suicides are related to physical health problems (Figure 3). Suicide prevention practitioners should be aware that males experiencing physical health problems might be at increased risk of suicide. Job/financial problems were also more common among male suicide victims. Job loss can trigger a series of negative events such as relationship and financial problems. Particularly during difficult economic times, prevention programs need to incorporate financial planning and provide social support for those unemployed persons.<sup>4</sup>

For the seven-year period 2004-2010, a large percentage of adult suicide decedents had disclosed their intent to commit suicide to others, and had history of suicide attempt(s). These indicate that we need to educate the public on how to respond when someone discloses suicidal intentions, and monitor those who attempt suicide.<sup>4</sup>

Suicides associated with mental and physical health problems tend to be less impulsive, and will be more likely to involve planning. Suicides related to intimate partner/ interpersonal problems and recent life crises are typically more impulsive, and therefore less likely to involve planning.<sup>5</sup>

The findings in this study are subject to at least three limitations. First, RIVDRS may miss some suicide cases due to undetermined intent cases. Certain suicides might not be identified, for example, when no suicide note is present. Second, circumstance information is collected through medical examiner and law enforcement reports as second-hand information. For instance, some information such as depressed mood is based on family reports. Family members might not reveal all the circumstances to the investigators, possibly resulting in incomplete reports.<sup>6</sup> Third, because of small death counts in some circumstance categories, findings should be interpreted with caution.

In conclusion, suicide is a serious, but preventable public health problem. Understanding the circumstances surrounding suicides is critical for developing suicide prevention programs and policies.<sup>7</sup> Statewide suicide prevention efforts should focus on reducing the underlying circumstances that lead to suicide in the most high-risk populations. Given the multiple and complex factors that contribute to suicide, there is not one approach or one agency alone that can effectively prevent suicide. A comprehensive and coordinated "public health approach" is needed from all sectors and at all levels. Important steps our state can take to reduce suicide deaths include:

- Screen patients early and often for risk of suicide, exposure to violence, and substance abuse, and, make referrals to treatment as appropriate.
- Advocate for coverage and reimbursement for routine screening services.
- Coordinate patient care with behavioral health professionals as needed.
- Encourage owners of guns to use common-sense safety measures and safe storage practices, such as using gun safes and trigger locks, storing guns and ammunition in separate locations, and immediately reporting lost or stolen guns to law enforcement.

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### Disclosure

The authors have no financial interests to disclose.

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