

Preventing Suicide Among Children and Adolescents in West Virginia

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Executive Summary

- Suicide is a preventable yet leading cause of death among youth in the United States and in West Virginia.
- Psychosocial risk factors for suicide include: history of suicidal behavior; non-suicidal self-injury; depression; hopelessness; substance use disorders; history of childhood/adolescent physical, sexual, and emotional abuse; access to lethal means of suicide
- Primary suicide prevention strategies include:
 - Training primary care physicians to screen for and respond to suicide risk
 - Continuing to provide training for “gatekeepers” and funding for gatekeeper training
 - Reduce the risk of and improve response to child abuse and neglect by:
 - Increasing funding for WV Child Protective Services to enhance capacity for abuse and neglect reporting and investigations
 - Clarifying language in state definitions of child abuse
 - Enacting minimum mandatory prison sentences for those convicted of child abuse or neglect
 - Increasing training of school personnel in the detection of child abuse and neglect
 - Strengthen WV state human trafficking legislation to prohibit the prosecution of minors for prostitution, or for any criminal activity occurring while being trafficked
- Secondary suicide prevention strategies include:
 - Restricting access to lethal methods of suicide
 - Systematic screening for suicide risk factors by
 - Adopting a statewide policy for screening all children and adolescents in school settings for suicide risk using an evidence-based assessment.
 - Providing funding for schools to conduct screenings
 - Providing funding to schools to provide services to identified students at risk of suicide.
 - Ensuring access to evidence-based behavioral healthcare for children and adolescents participating in Medicaid
 - Ensuring implementation of evidence-based psychological treatments for psychiatric and substance use disorders.

Chapter 1: The Scope of the Problem: Suicide among Children and Adolescents

In the United States, suicide is a well-known public health problem. Across all age-groups nationwide, suicide is the tenth leading cause of death. However, young people appear to be especially at risk of dying from suicide as this cause of death has remained the third leading cause of death among youth 15-19 years old for at least the past decade (Centers for Disease Control, 2011).

In West Virginia, suicide is the **second** leading cause of death for this age group (15-19 year-olds), and the **fifth** leading cause of death among children ages 10-14 (Children's Safety Network, 2013). The impact of this phenomenon is also reflected in data pertaining to injury-related hospitalizations: among 15-19 years-olds, intentional self-inflicted injury is the **fourth** leading cause of hospital admissions. Recent research at West Virginia University School of Medicine in Charleston has found that youth in the 15-19 year-old age group were significantly more likely than those in all other age groups to present to emergency departments for treatment of suicide attempts (Kerr, Sirbu, Turner, Dickey, Arif, Francis, & Broce, 2009), further indicating that this is a particularly high-risk population. Additionally, state-based epidemiological data indicate that risk of suicide does not substantially improve over the early adult years in our state, as data show that suicide is the third leading cause of death among 20-24 years-olds in West Virginia (Children's Safety Network, 2013). Thus, the risk of suicide experienced by children and adolescents is carried well into adulthood.

To understand how a child may progress to killing himself or herself, it is essential to understand the stepwise process from risk factors, to thoughts, to actions. As discussed later in this paper, several psychosocial and psychiatric risk factors are known to elevate the chance that a child or adolescent will die by suicide. In short, when life stressors accumulate or increase in intensity, and the child or adolescent lacks the emotional and social resources to cope with them, this situation may lead to considering suicide as an option. This process begins with risk factors that may prompt suicidal thoughts, followed by risk factors that exacerbate suicidal thoughts to the stage of planning one's suicide, and finally risk factors for taking action on those thoughts or plans by attempting suicide. When a suicide attempt does not result in death, the individual is then at an even greater increased risk for dying by suicide. In summary, without appropriate intervention, the process of suicide progresses from thinking, to planning, to attempting and reattempting (if unsuccessful), to death. Figures 1, 2, and 3 below present data on these variables from youth in West Virginia.

Figure 1 presents adolescent suicidal ideation data from the CDC’s Youth Risk Behavior Survey (YRBS) from 1993-2011 for both West Virginia and the US. The annual percentages of children in grades 9-12 reporting “seriously considering” suicide in the past year are presented. The findings from these data indicate a decrease in reported suicidal thoughts both in WV and in the US over the past two decades. These findings are consistent with a recent meta-analysis of research on suicidal thoughts and behaviors in adolescents conducted by Evans, Hawton, Rodham and Deeks (2005), which found that across several studies in a broad range of populations, 29-30% of teens reported a history of suicidal thoughts. By comparison, the World Health Organization (WHO) recently published 12-month prevalence data on suicidal thoughts and behaviors in 108,705 adults from 21 countries. The WHO data revealed that only 2% and 2.1% of adults in developed and developing nations respectively reported suicidal thoughts in the past year (Borges et al., 2010).

Figure 1. Percentage of Adolescents Grades 9-12 (ages 14-19) Reporting Seriously Thinking about Suicide in the Past 12 Months: West Virginia versus United States

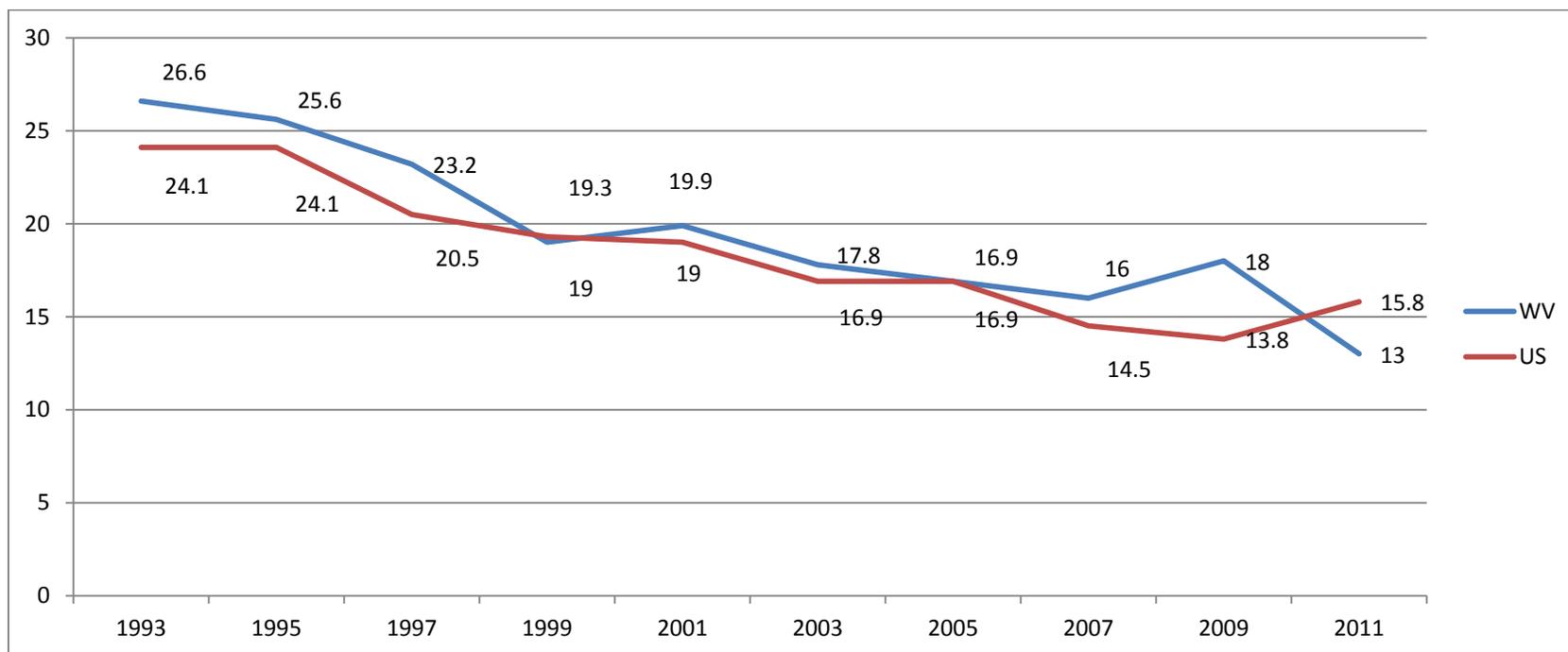


Figure 2 presents adolescent suicide planning data from the YRBS from 1993-2011 for both West Virginia and the US. The annual percentages of children in grades 9-12 who report making a suicide plan in the past year are presented. As depicted by these data, the overall trend within the state and nationwide was a decrease in reported suicide planning. By comparison, the WHO data (Borges et al., 2010) yielded suicide planning rates of just 0.6% and 0.7% among adults in developed and developing countries, respectively, in the past year.

Figure 2. Percentage of Adolescents Grades 9-12 (ages 14-19) Reporting A Suicide Plan in the Past 12 Months: West Virginia versus United States

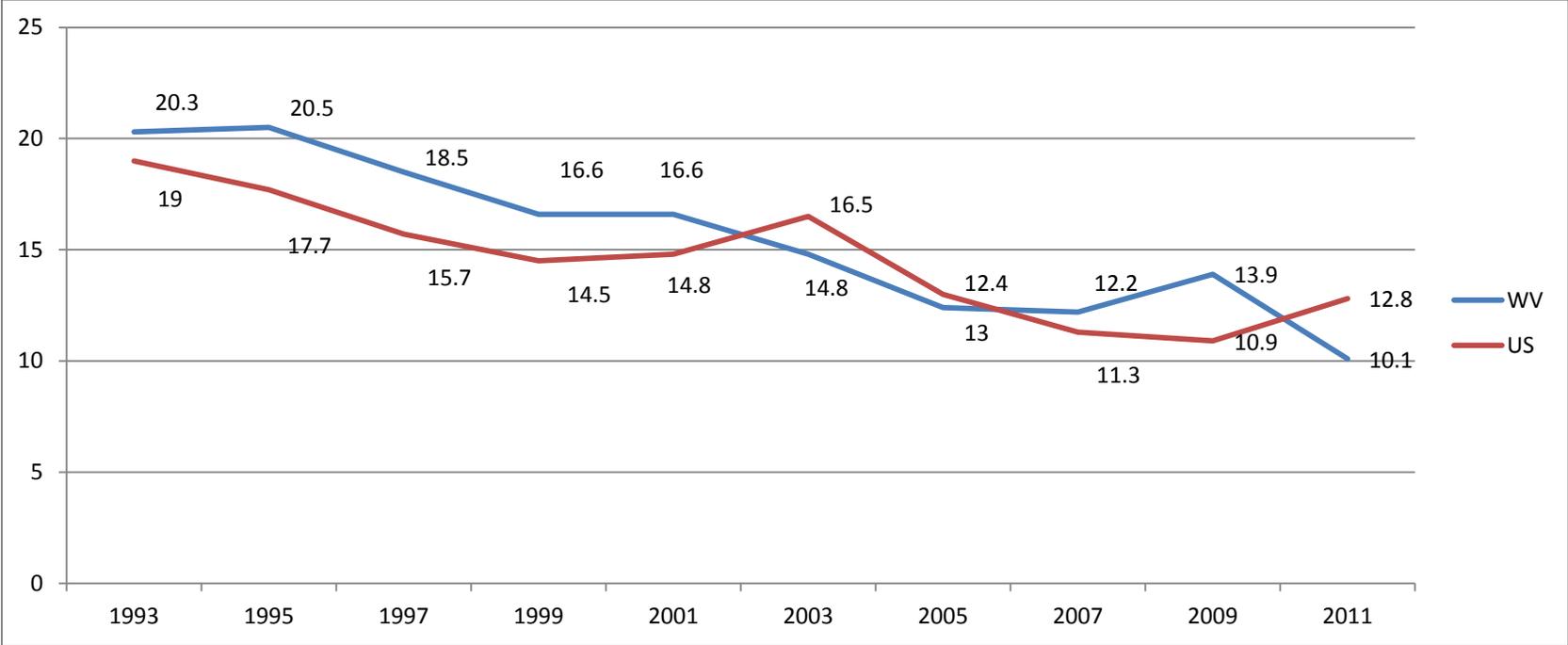
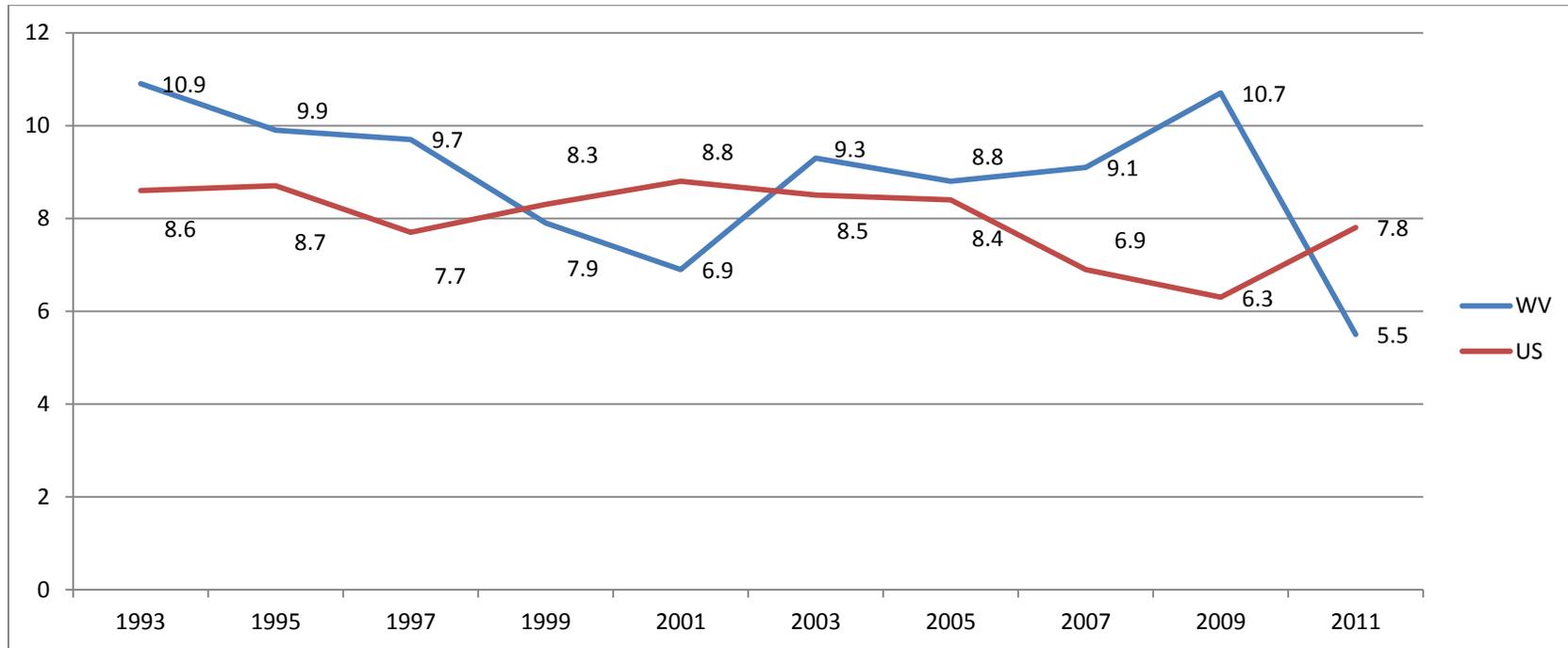


Figure 3 presents adolescent suicide attempt data from the CDC’s YRBS from 1993-2011 for both West Virginia and the US. The annual percentages of children in grades 9-12 reporting at least one suicide attempt in the past year are presented. These data indicate that the prevalence of reported suicide attempts has recently decreased in WV while remaining statistically and practically unchanged nationwide. These data are consistent with the recent meta-analysis by Evans and colleagues (2005), which found that approximately 9-10% of teens reported a history of suicidal behavior. The WHO data (Borges et al., 2010) indicated suicide attempt rates of 0.3% and 0.4% among adults in developed and developing countries, respectively, in the past year.

Figure 3. Percentage of Adolescents Grades 9-12 (ages 14-19) Reporting One or More Suicide Attempts in the Past 12 Months: West Virginia versus United States



It is clear from the data in Figures 1, 2, and 3 that rates of suicidal thoughts, suicide planning, and suicide attempts among adolescents are high. On average over the past two decades, approximately 1 out of 10 teens has reported attempting to end their life. Adolescents are at an exceedingly high risk for death by suicide.

Risk Factors

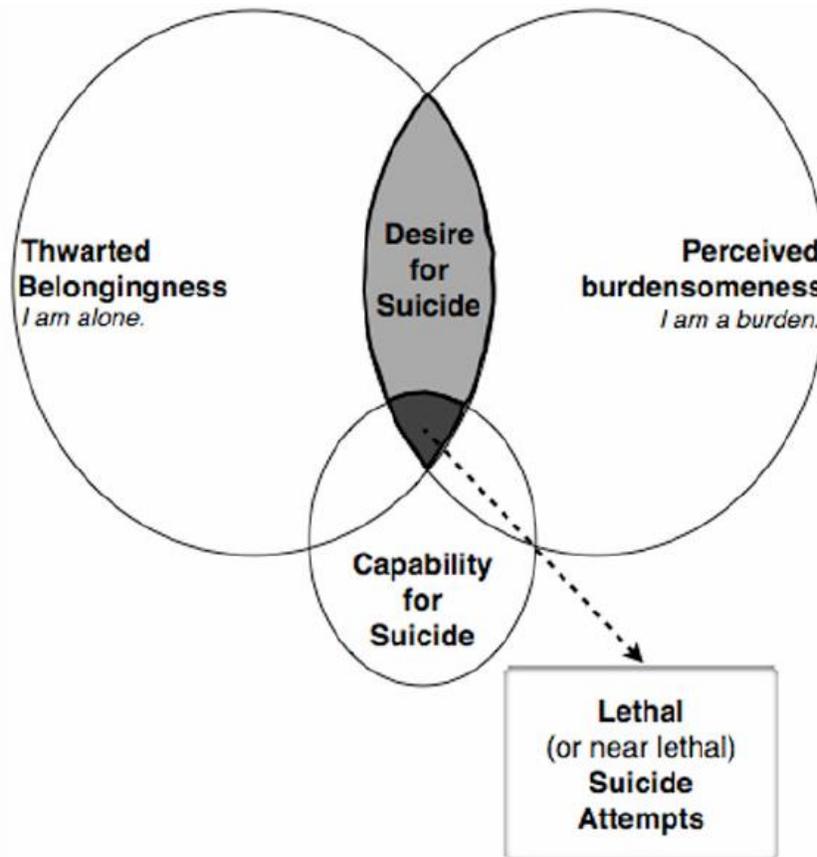
As noted by both the US Centers for Disease Control (2012) and the WHO (Krug, Dahlberg, Mercy, Zwi & Lozano, 2002), research has identified multiple risk factors for suicide in children and adolescents. These include the following:

- History of suicidal behavior/suicide attempts
- History of non-suicidal self-injury (e.g., cutting, burning, scratching and other forms of self-inflicted injuries)
- Depression
- Hopelessness
- Substance use disorders
- History of childhood/adolescent physical, sexual or emotional abuse
- Exposure to suicidal behavior in others
- Same-sex sexual orientation
- Legal system involvement
- Access to lethal means of suicide

These risk factors have been aggregated into an evidence-based, three-factor predictive model (Joiner, 2005; Van Orden, Witte, Cukrowicz, Braithwaite, Selby & Joiner, 2010) that accounts for risk of death by suicide:

- **Acquired capacity for self-harm:** development of the ability to inflict injury of any kind to oneself
- **Social isolation:** feeling disconnected from others
- **Perceived burdensomeness:** feeling like one is a burden to others, or that one's death is worth more than one's life

The known risk factors for suicidal behavior each contribute to the three domains of risk for suicide. When these three domains intersect, risk for suicide is highest (see Figure 4 below). Risk factors may fit into multiple domains, increasing the risk conferred by each. For example, depression may lead to both social isolation and to feelings of being a burden to others; childhood abuse may contribute to becoming desensitized to being physically harmed as well as to feeling socially isolated and feeling as if one is expendable.

Figure 4. Three-Factor (Interpersonal) Model of Suicide

Source: Van Orden et al. (2010)

Acquired Capacity for Self-Harm

One key risk factor for death by suicide is having acquired the capability for self-inflicted life-threatening behavior. There is an inherent aversion to self-damaging actions. Nonetheless, experience with physically harmful situations, whether self-inflicted or inflicted by others, appears to increase the capacity for self-inflicted injury, and ultimately suicide.

One form of acquired capacity for self-harm that is increasingly prevalent among adolescents and young adults is non-suicidal self-injury (NSSI, or self-injury). Self-injury is defined as any intentional, self-directed behavior that causes immediate destruction of body tissues and is not intended to cause death. Self-injury is a high-risk behavior that is different than suicidal behavior in multiple ways, including having a different function (typically to regulate intense emotions), higher frequency, higher number of methods used, and different outcome (Kerr, Muehlenkamp and Turner, 2010; Muehlenkamp and Kerr, 2010). Self-injury has a high prevalence among adolescents worldwide in clinical and non-clinical populations. Table 1 (below) lists the prevalence rates of self-injury that have been found in regions around the world.

Table 1. Prevalence of Non-Suicidal Self-Injury Internationally

Region	Prevalence Rate	Supporting Papers
North America: US, Canada	14-23%	Plener et al., 2009; Kerr et al., 2010; Lloyd-Richardson et al., 2007; Muehlenkamp & Gutierrez, 2005, 2007; Laye-Gindhu & Schonert-Reichl, 2005; Ross & Heath, 2002
Europe: UK, Germany, Hungary, Turkey	3.7-25.6%	Hawton et al., 2002; Rodham et al., 2004; Zoroglu et al., 2003; Csorba et al., 2005
Australia	5.1%	Patton et al., 1997
Asia: China, Japan	5.5-9.9%	Matsumoto & Imamura, 2008; Wong et al., 2007
Clinical adolescent populations	40-80%	Nock & Prinstein, 2004; Nock & Prinstein, 2005a, b; Hurry, 2000; Lofthouse et al., 2008

Self-injury establishes a form of acquired capacity for self-harm that increases risk for suicide. Understanding risk factors for this behavior is therefore essential for preventing suicide. Self-injury shares several psychological risk factors with suicide, including depression, anxiety disorders, and substance abuse. Thus, effective treatment of psychiatric disorders in children and adolescents may reduce risk of death by suicide.

Another risk factor for both suicide and self-injury among children and adolescents is child abuse and neglect. Childhood emotional, physical and sexual abuse and child neglect are associated with increased risk for suicide attempts (Beautrais et al., 1996; Dube et al., 2001; Lipschitz et al., 1999). Physically and sexually abused individuals are 3-4 times more likely to attempt suicide, while emotional abuse may increase risk of suicidal behavior as much as 9-fold (Dube et al., 2001). Recent research also indicates that childhood physical, sexual, and emotional abuse, and child neglect are associated with increased risk for self-injury (Glassman, Weirich, Hooley, Deliberto & Nock; Gratz, 2002; Kaess et al., 2012; Muehlenkamp, Kerr, Bradley & Larsen, 2010; Weddig & Nock, 2006). Therefore, prevention of, and/or early intervention in child abuse and neglect may also reduce the risk of suicide.

Chapter 2: Reducing Suicide Risk Among Children and Adolescents

Several options exist for reducing suicide risk among youth in West Virginia. Each option would contribute in a unique way to decreasing risk of death by suicide either directly, or by improving the overall health, safety, and well-being of youth in our state. These options fall into the following categories:

- Primary Prevention
- Secondary Prevention

Primary Prevention Strategies

Preventing psychiatric disorders in children and adolescents is imperative for primary prevention of suicide. Primary prevention strategies aim to decrease the probability of occurrence of a disease process. In the case of suicide, the target would be aimed at prevention of the suicidal process as early as possible. Although not all people who attempt or complete suicide have been diagnosed with a psychiatric disorder, approximately 90% have been (Moscicki, 2001); it is also reasonable to conclude that suicide is always the result of some form of psychiatric disorder (Joiner, 2010).

The following strategies should be employed for primary prevention of suicide in children and adolescents in West Virginia:

1. **Systematic education of primary care physicians (PCPs) in screening for and managing suicide risk.** This strategy is endorsed by the American Foundation for Suicide Prevention, and has been identified in a recent systematic review (Mann et al., 2005) as one of the few evidence-based primary prevention strategies. Several studies worldwide have found decreases in suicide rates following education of PCPs in recognizing and responding to depressed and suicidal individuals.
2. **Training “gatekeepers” to recognize and respond to suicide risk.** This strategy has been found to be effective for reducing suicide rates in some large organizations, including the US Air Force and the Norwegian Army. This strategy requires non-clinical personnel in school systems, including teachers, administrators, and other frontline staff, to be trained to identify and respond to children and adolescents exhibiting signs of suicide risk. The West Virginia legislature recently passed legislation (The Jason Flatt Act) supporting an initiative that requires 2 hours of gatekeeper training annually for school employees. Funding for this legislation must be maintained to support this practice in the future.
3. **Reducing the risk of child abuse and neglect.** Reducing physically, sexually, and emotionally abusive parenting practices will reduce one risk factor for both suicide and self-injury. This can be accomplished through multiple strategies.
 - a. ***Increase funding for Child Protective Services:*** Providing WV Child Protective Services with sufficient resources to investigate and monitor suspected or confirmed cases of child abuse and neglect will permit necessary intervention for

children in dangerous settings and situations. Provision of adequate resources includes increasing funding to provide more personnel for taking child abuse hotline calls and investigating reports of abuse and neglect. Centralizing the system for deciding which reports will be investigated will also provide the opportunity for intervening in situations that jeopardize the safety of children (this is currently decided at the county office level).

- b. ***Clarify definitions of child abuse in state law:*** A second strategy for reducing risk of child abuse is clarifying current state law regarding the definition of abuse. Currently, WV state law defines abuse as actions resulting in serious injury. The American Academy of Pediatrics (AAP) recommends using clear language based on medical terminology in legislation designed to protect children from abuse. Consistent with the AAP guidelines, current state law should be changed to articulate specific acts and behaviors, and specific medical terminology should be adopted to define consequences of those actions in the definitions of child abuse in WV state law.
- c. ***Implement minimum mandatory sentences for child abuse and neglect:*** A third strategy for reducing the risk of child abuse is increasing the criminal penalties for child abuse. Implementing minimum mandatory sentencing guidelines for child abuse convictions may serve as a deterrent for abusive parenting practices.
- d. ***Increase training in child abuse and neglect for school personnel:*** Providing enhanced training to teachers, school counselors, school psychologists, and administrators in the identification of abuse among students. Providing funding for additional training in educational setting will allow for a broader net to be cast in the effort to prevent this risk factor for suicide.
- e. ***Strengthen human trafficking legislation to protect minors from prosecution:*** A fifth and final strategy for reducing risk of child abuse is to strengthen protections for minors (children and adolescents) in current state laws pertaining to human trafficking. Research on survivors of human trafficking suggests that almost 70% of survivors have had suicidal thoughts, and over 60% of survivors have attempted to harm or kill themselves (Raymond & Hughes, 2001). While recent state legislation has criminalized human trafficking in West Virginia, there are no protections in state law against prosecution for minors who are arrested during the course of being trafficked (e.g., for prostitution). This leaves those minors who have already been traumatized by being enslaved vulnerable to being further harmed by the process of prosecution and the long-term effects of being arrested. For those under 18 (as well as many adults), involvement in prostitution is involuntary, being forced and coerced through threat of harm or actual violence by the trafficker. One way to protect children and adolescents from further trauma and greater risk for suicide is to reduce unnecessary involvement in the justice system. Specifically, WV state law should be amended to prohibit the prosecution of minors for prostitution, and to prohibit the prosecution of minors involved in criminal activity solely because of their status as a victim of human trafficking.

Secondary Prevention Strategies

Accurate identification and appropriate treatment of children and adolescents at risk for suicide is essential for reducing death by suicide. Secondary prevention strategies aim to provide an intervention as early in the disease process or onset of a behavior as possible to prevent its progression.

The following strategies should be employed for intervention and secondary prevention of suicide in children and adolescents in West Virginia:

1. **Screening for suicide risk factors.** This strategy is endorsed by the American Foundation for Suicide Prevention, and has been identified through scientific research as an evidence-based strategy for reducing risk of suicide. Identification of youth at risk for suicide is the first step in providing an intervention. The WV Department of Education should adopt a policy for screening all children and adolescents in school settings for suicide risk using an evidence-based assessment tool. The WV legislature must simultaneously provide funding for this initiative, as well as funding for the provision of services to those youth who are identified as being at risk for suicide.
2. **Restricting access to lethal methods of suicide.** This strategy is endorsed by the American Foundation for Suicide Prevention, and has been identified through scientific research as an evidence-based strategy for reducing risk of suicide. Restricting access to suicide methods includes but is not limited to:
 - a. Creating barriers on the sides of bridges: The state can implement this evidence-based strategy by appropriating funding for and enacting legislation that requires building barriers on bridges.
 - b. Reducing the amount of carbon monoxide emitted from vehicle exhaust pipes: set standards below levels that would lead to death by CO poisoning.
 - c. Restricting access to certain classes of pharmaceuticals: set purchase volume limits for pharmaceuticals with high lethality potential.
 - d. Firearm ownership legislation reform: waiting periods for firearms purchases; required trigger locks on personal firearms in homes with minors; new standards for background checks that would prevent the acquisition of firearms by youth who have been civilly committed and are consequentially at an elevated risk of suicide.
3. **Guarantee access to evidence-based behavioral healthcare.** Access to evidence-based treatments for psychiatric disorders in children and adolescents is required for mitigating suicide risk. Current WV Medicaid policy excludes the coverage of some evidence-based treatments due to a higher cost for services that last longer durations of time. Any psychological interventions that require sessions longer than 52 minutes are currently not covered by WV Medicaid. However, several evidence-based treatments prescribe treatment sessions that extend beyond this time limit. This current policy systematically

precludes children and adolescents participating in Medicaid to receive the full range of evidence-based treatments available. This restriction limits the availability of treatments that may reduce suicide risk. It is important to dismiss the myth that “some therapy is better than no therapy”, which is inconsistent with research.

4. **Dissemination and implementation of evidence-based behavioral treatments.** Ensuring that the treatment provided to youth at risk of suicide, or who demonstrate risk factors for suicidal behaviors, is based on the best available research is essential. With this in mind, the state should appropriate and prioritize funding for statewide training of mental health clinicians in all settings in the provision of evidence-based treatments for suicidal behavior and associated risk factors. Clinicians providing behavioral treatment to adolescents should be required to demonstrate competency in evidence-based behavioral treatments as a contingency for licensure.

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