



Understanding Risk and Protective Factors for Suicide: A Primer for Preventing Suicide

Risk and protective factors play a critical role in suicide prevention. For clinicians, identifying risk and protective factors provides critical information to assess and manage suicide risk in individuals. For communities and prevention programs, identifying risk and protective factors provides direction about what to change or promote. Many lists of risk factors are available throughout the field of suicide prevention. This paper provides a brief overview of the importance of risk and protective factors as they relate to suicide and offers guidance about how communities can best use them to decrease suicide risk.

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What are risk and protective factors?

Risk factors are characteristics that make it *more likely* that individuals will consider, attempt, or die by suicide. **Protective factors** are characteristics that make it *less likely* that individuals will consider, attempt, or die by suicide. Risk and protective factors are found at various levels: individual (e.g., genetic predispositions, mental disorders, personality traits), family (e.g., cohesion, dysfunction), and community (e.g., availability of mental health services). They may be fixed (those things that cannot be changed, such as a family history of suicide) or modifiable (those things that can be changed, such as depression).

Researchers identify risk and protective factors by comparing groups of individuals who have died by (or attempted or contemplated) suicide with a group of similar individuals who have not died by (or attempted or contemplated) suicide. If a specific characteristic is found more often in those who died by suicide than in the comparison group, then a risk factor for suicide may have been discovered. Likewise, if a specific characteristic is found more often in members of the comparison group, but not in the suicide group, then a protective factor may have been discovered.

Risk factors are not warning signs.

Risk factors are often confused with warning signs of suicide, and frequently suicide prevention materials mix the two into lists of “what to watch out for.” But the two are very different. **Warning signs indicate an immediate risk of suicide, whereas risk factors indicate someone is at heightened risk for suicide, but indicate little or nothing about immediate risk** (Rudd et al., 2006). Warning signs are only applicable to individuals, whereas risk and protective factors are found in individuals and communities. Being able to tell the difference between a risk factor and a warning sign is important in communications about suicide risk. Talking about warning signs helps people know what actions they can take right now to help someone at immediate risk for suicide. Talking about risk factors helps people understand what might need to change within an individual or a community in order to decrease suicide risk over time.

Risk and protective factors for heart disease and warning signs of a heart attack provide a familiar example. Risk factors for heart disease—such as tobacco use, obesity, and high cholesterol—do not indicate that someone is having a heart attack, merely that he or she is at heightened risk for suffering a heart attack at some point in time. On the other hand, warning signs of a heart attack—chest pain, shortness of breath, and nausea—indicate that someone may be having a heart attack right now. Similarly, risk factors for suicide—prior attempts, mood disorders, and substance abuse—indicate that someone is at heightened risk for suicide. But warning signs—threatening suicide, seeking means for suicide, and dramatic mood changes—indicate that someone may be at immediate risk for suicide (see Table 1).

For a list of expert-recommended warning signs, see the fact sheet at the Best Practices Registry for Suicide Prevention (BPR): <http://www.sprc.org/bpr/section-ii/warning-signs-suicide-prevention>

Table 1. Examples of Risk and Protective Factors and Warning Signs for Heart Attack and Suicide

	Heart Attack	Suicide
Examples of Risk Factors (Individual level) Indicate that someone is at higher risk for heart attack or suicide	<ul style="list-style-type: none"> • Tobacco use • Obesity • High LDL cholesterol • Physical inactivity 	<ul style="list-style-type: none"> • Prior suicide attempt • Mood disorders • Substance abuse • Access to lethal means
Examples of Protective Factors (Individual level) Indicate that someone is at lower risk for heart attack or suicide	<ul style="list-style-type: none"> • Exercise • Sound diet • High HDL cholesterol • Stress management 	<ul style="list-style-type: none"> • Connectedness • Availability of physical and mental health care • Coping ability
Examples of Warning Signs Indicate that someone is having a heart attack or is seriously considering suicide	<ul style="list-style-type: none"> • Chest pain • Shortness of breath • Cold sweat • Nausea • Lightheadedness 	<ul style="list-style-type: none"> • Threatening to hurt or kill oneself • Seeking a means to kill oneself • Hopelessness • Increasing alcohol or drug use • Dramatic mood changes

What are major risk and protective factors for suicide?

Researchers have identified dozens if not hundreds of risk and protective factors. Below are listed some of the most common *major* risk and protective factors for suicide.

Major risk factors for suicide include the following:

- Prior suicide attempt(s)
- Substance abuse
- Mood disorders
- Access to lethal means

One review found that those who had attempted suicide were at 38-times greater risk for dying by suicide than those who had not attempted suicide and those who had abused alcohol were at a 6-times greater risk for dying by suicide than those who had not abused alcohol (Harris & Barraclough, 1997). Other reviews found that those with mood disorders and those with access to lethal means had substantially greater risk for suicide than those who did not have mood disorders and who did not have access to lethal means (Bostwick & Pankratz, 2000; Brent, 2001).

Major protective factors include the following:

- Effective mental health care
- Connectedness to individuals, family, community, and social institutions
- Problem-solving skills
- Contacts with caregivers

Mental health care, including Cognitive Behavioral Therapy and Dialectical Behavior Therapy, can reduce suicide risk (Brown et al., 2005; Linehan et al., 2006). Connectedness between individuals, family members, community organizations, and social institutions forms the U.S. Centers for Disease Control and Prevention's focus on suicide prevention (U.S. Centers for Disease Control and Prevention, n.d.). Problem-solving skills decrease suicide risk (McAuliffe et al., 2006) and contacts, even those as simple as letters or postcards from health care providers to patients, have demonstrated reductions in suicide risk (Fleischmann et al., 2008; Motto & Bostrom, 2001).

When considering risk and protective factors, keep these points in mind:

- Not all risk and protective factors are created equal. Some risk factors have been shown to significantly increase risk, whereas other risk factors do not have as strong or well-demonstrated relationships to risk. Long lists mask the fact that some risk factors are much more powerful than others.
- High risk for suicide, whether for individuals or communities, is usually found in a combination or "constellation" of multiple risk factors.
- The significance of particular risk and protective factors varies among individuals and communities, so the degree of risk or protection conveyed by any one factor will differ among individuals and communities.
- Although risk factors generally contribute to long-term risk, immediate stressors—so-called tipping points—may create the final impetus for the suicidal act. Tipping points may include relationship problems or break-ups, financial hardships, legal difficulties, public humiliation or shame, worsening medical prognosis, and other stressful events.

Why are risk and protective factors important?

Risk and protective factors provide areas of emphasis for interventions that help prevent suicide. Simply stated, decreasing risk factors and/or increasing protective factors should decrease suicide risk.

For example, depression is a significant risk factor for suicide; therefore, lessening the number of individuals with depression should result in decreasing suicide. A study from the island of Gotland, Sweden, found that when primary care physicians were trained to identify and treat depression in their patients, the suicide rate of islanders went down (Rihmer, Rutz, & Pihlgren, 1995). Similarly, the restriction of lethal means—creating barriers to jumping from bridges as well as reducing access to

poisons, drugs, and firearms—has demonstrated reductions in suicide risk (Daigle, 2005; Mann, Apter, Bertolote, & Beautrais, 2005).

Risk factors can also be used to identify and target prevention efforts for members of groups that are at higher risk for suicide, for example, those who have attempted suicide in the past (Harris & Barraclough, 1997), those with mood disorders (Arsenault-Lapierre, Kim, & Turecki, 2004; Cavanagh, Carson, Sharpe, & Lawrie, 2003), gay and lesbian individuals who have been rejected by their families (Ryan, Russell, Huebner, Diaz, & Sanchez, 2010), individuals in substance abuse treatment (Britton & Conner, 2010), and older males (Conwell, Van Orden, & Caine, 2011). By identifying groups at higher risk, prevention practitioners can create and target interventions to the needs of members of those groups.

Using risk and protective factors in the strategic planning process

Effective prevention efforts are developed strategically. Using the Suicide Prevention Resource Center's (SPRC's) seven-step strategic planning process will increase the likelihood that suicide prevention efforts will lead to the desired outcomes (Table 2). **Identifying risk and protective factors plays a critical role in several strategic planning steps.** More information about SPRC's strategic planning process can be found at <http://www.sprc.org/collegesanduniversities/strategic-planning>

Table 2. Strategic Planning Steps

1. Describe the problem
2. Set goals
3. Identify strategies
4. Select interventions
5. Develop evaluation plan
6. Create action plan
7. Implement, evaluate, and improve

If a community was concerned with reports of teen suicide attempts, the resulting strategic planning steps might look something like this:

1. **Verify and describe the problem** The community hospital has reported a significant increase in teens who have been admitted to the emergency room (ER) due to suicide attempts, most by overdose of prescription medications.
2. **Set goals** The goal is to reduce these ER admissions by 50 percent.
3. **Identify strategies** A review of the literature and consultation with a prevention expert indicate that a combination of restricting *access to prescription medications* (risk factor) and increasing teen *problem-solving skills* (protective factor) may prove effective in reducing suicide attempts.
4. **Select interventions** An awareness campaign to educate parents about means restriction and a classroom program to bolster teen problem-solving skills are selected as interventions.
5. **Develop evaluation plan** An evaluation plan is developed to measure restriction of means, student problem-solving skills, and relevant admissions to the ER.
6. **Create action plan** An action plan—the who, what, when, where—of the strategic planning is developed.
7. **Implement, evaluate, and improve.** A risk factor (access to prescription drugs) and a protective factor (problem-solving skills) that contribute to teen suicide attempts are identified, interventions to impact these are selected, and an evaluation plan to measure these are

created. Evaluation results then allow the community to improve upon the intervention as needed.

This example used interventions to decrease risk factors and increase protective factors. Other strategic efforts may include risk or protective factors alone or in some combination. Generally, prevention efforts are more likely to be effective if multiple factors are addressed.

Existing suicide prevention programs that address specific risk and protective factors or the needs of specific groups can be found in the Best Practices Registry maintained by SPRC and the American Foundation for Suicide Prevention at www.sprc.org. These programs have been reviewed for accuracy, likelihood of meeting objectives, and adherence to program design standards.

Key points about risk and protective factors for suicide prevention

- Risk and protective factors play a critical role in the prevention of suicide for both individuals and communities.
- Risk factors are not warning signs.
- Major risk factors include prior suicide attempt(s), mood disorders, substance abuse, and access to lethal means.
- Major protective factors include effective mental health care, connectedness, problem-solving skills, and contacts with caregivers.
- Risk and protective factors provide targets for intervention in both individuals and communities: Decreasing risk factors generally decreases risk, and increasing protective factors generally decreases risk.
- Risk and protective factors vary between individuals and across settings.
- Suicide prevention efforts should begin with a strategic planning process that, among other goals, identifies and targets specific risk and protective factors for intervention.

Additional resources

The **SPRC** promotes the implementation of the National Strategy for Suicide Prevention and enhances the nation's mental health infrastructure by providing states, government agencies, private organizations, colleges and universities, and suicide survivor and mental health consumer groups with access to the science and experience that can support their efforts to develop programs, implement interventions, and promote policies to prevent suicide. Visit the SPRC website for more information (www.sprc.org).

The SPRC, in collaboration with the American Foundation for Suicide Prevention, manages and hosts the Best Practices Registry (**BPR**). The purpose of the BPR is to identify, review, and disseminate information about best practices that address specific objectives of the National Strategy for Suicide Prevention. The BPR is divided into three sections: evidence-based programs, expert and consensus statements, and programs that adhere to standards. As of mid-2011, more than 90 programs are listed in the BPR. Visit the BPR website for more information (<http://www.sprc.org/bpr>).

Further reading

Berman, A. L., Jobes, D. A., & Silverman, M. M. (2006). *Adolescent suicide: Assessment and intervention* (2nd ed.). Washington DC: American Psychological Association.

Goldsmith, S. K., Pellmar, T. C., Kleinman, A. M., & Bunney, W. E. (Eds.). (2002). *Reducing Suicide: A National Imperative*. Washington DC: National Academies Press.

U.S. Department of Health and Human Services (2001). *National Strategy for Suicide Prevention: Goals and Objectives for Action*. Rockville, MD: Author, Public Health Service. (See <http://store.samhsa.gov/product/SMA01-3517>)

References

- Arsenault-Lapierre, G., Kim, C., & Turecki, G. (2004). Psychiatric diagnoses in 3275 suicides: A meta-analysis. *BMC Psychiatry, 4*(37).
- Bostwick, J. M., & Pankratz, V. S. (2000). Affective disorders and suicide risk: A reexamination. *American Journal of Psychiatry, 157*(12), 1925-1932.
- Brent, D. A. (2001). Firearms and suicide. In H. Hendin & J. J. Mann (Eds.), *The clinical science of suicide prevention*. (Vol. 932, pp. 225-240). New York, NY: New York Academy of Sciences.
- Britton, P. C., & Conner, K. R. (2010). Suicide attempts within 12 months of treatment for substance use disorders. *Suicide and Life-Threatening Behavior, 40*(1), 14-21.
- Brown, G. K., Ten Have, T., Henriques, G. R., Xie, S. X., Hollander, J. E., & Beck, A. T. (2005). Cognitive Therapy for the Prevention of Suicide Attempts: A Randomized Controlled Trial. *JAMA: Journal of the American Medical Association, 294*(5), 563-570.
- Cavanagh, J. T. O., Carson, A. J., Sharpe, M., & Lawrie, S. M. (2003). Psychological autopsy studies of suicide: A systematic review. *Psychological Medicine, 33*(3), 395-405.
- Conwell, Y., Van Orden, K., & Caine, E. D. (2011). Suicide in older adults. *Psychiatric Clinics of North America, 34*(2), 451-468.
- Daigle, M. S. (2005). Suicide prevention through means restriction: Assessing the risk of substitution: A critical review and synthesis. *Accident Analysis & Prevention, 37*(4), 625-632.

- Fleischmann, A., Bertolote, J. M., Wasserman, D., De Leo, D., Bolhari, J., Botega, N. J., et al. (2008). Effectiveness of brief intervention and contact for suicide attempters: A randomized controlled trial in five countries. *Bulletin of the World Health Organization*, 86(9), 703-709.
- Harris, E. C., & Barraclough, B. (1997). Suicide as an outcome for mental disorders: A meta-analysis. *British Journal of Psychiatry*, 170(3), 205-228.
- Linehan, M. M., Comtois, K. A., Murray, A. M., Brown, M. Z., Gallop, R. J., Heard, H. L., et al. (2006). Two-Year Randomized Controlled Trial and Follow-up of Dialectical Behavior Therapy vs Therapy by Experts for Suicidal Behaviors and Borderline Personality Disorder. *Archives of General Psychiatry*, 63(7), 757-766.
- Mann, J. J., Apter, A., Bertolote, J., & Beautrais, A. (2005). Suicide prevention strategies: A systematic review. *JAMA*, 294(16), 2064-2074.
- McAuliffe, C., Corcoran, P., Keeley, H. S., Arensman, E., Bille-Brahe, U., de Leo, D., et al. (2006). Problem-solving ability and repetition of deliberate self-harm: A multicentre study. *Psychological Medicine*, 36(1), 45-55.
- Motto, J. A., & Bostrom, A. G. (2001). A randomized controlled trial of postcrisis suicide prevention. *Psychiatric Services*, 52(6), 828-833.
- Rihmer, Z., Rutz, W., & Pihlgren, H. (1995). Depression and suicide on Gotland: An intensive study of all suicides before and after a depression-training programme for general practitioners. *Journal of Affective Disorders*, 35(4), 147-152.
- Rudd, M. D., Berman, A. L., Joiner, T. E., Jr., Nock, M. K., Silverman, M. M., Mandrusiak, M., et al. (2006). Warning signs for suicide: Theory, research, and clinical applications. *Suicide and Life-Threatening Behavior*, 36(3), 255-262.
- Ryan, C., Russell, S. T., Huebner, D., Diaz, R., & Sanchez, J. (2010). Family acceptance in adolescence and the health of LGBT young adults. *Journal of Child and Adolescent Psychiatric Nursing*, 23(4), 205-213.
- U.S. Centers for Disease Control and Prevention. (n.d.). *Promoting Individual, Family, and Community Connectedness to Prevent Suicidal Behavior*. Retrieved from http://www.cdc.gov/violenceprevention/pdf/suicide_strategic_direction_full_version-a.pdf.

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