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BESt PRACTICES FOR THE PREVENTION OF SUICIDE

# OVERVIEW

Suicide is a serious problem that affects people all over the world. According to researchers (Nordentoft, 2010), almost one million people die annually from suicide around the world, making it “the second most common cause of non-illness death worldwide” (p. 848). According to the Centers for Disease Control and Prevention, suicide is a significant problem for a number of reasons: one, it is highly prevalent; two, it is associated with other risk factors; three, the health and economic consequences are substantial; four, it can be prevented (Stone et al, 2017). In 2015, almost 50,000 people died as a result of suicide, putting it as the 10th leading cause of death in the U.S. (Stone et al, 2017, p. 7). **It is also the second leading cause of death for people aged 15-24, with suicide increasing almost 25% between 1999 and 2014, and the largest increase in suicide happening to girls ages 10-14 (Kreuze & Ruggiero, 2018).** Data from a national youth survey (the 2013 Youth Risk Behavioral Survey, or YRBS) found that 17% of high school students have “seriously considered” attempting suicide in the past year, with almost 14% making a plan to do so (Perry et al, 2016). Suicide also strikes particular groups quite hard, including American Indian/Alaska Native, whites, veterans, and LBGTQ youth. While there is no singular cause or determinant of suicide, it is associated with other risk factors (e.g., “biological, psychological, interpersonal, environmental, and societal influences that interact with each other, over time” (Stone et al, 2017, p. 8).

**The risk factors for suicide are many, and occur at multiple levels;** at the individual level, they include a history of depression, substance abuse, being the victim of violence; at the relationship they include conflicted or violent relationships, a sense of isolation and lack of social support or family; at the community level, they include barriers to healthcare and lack of community belonging; and at the societal level, they include availability of lethal means of suicide, stigma associated with help-seeking, and romantic portrayals of suicide (Stone et al, 2017, p. 8).

The consequences of suicide are far-reaching and lifelong. **Researchers have estimated that over 13 million Americans know someone who has died by suicide in the past year,** or almost 7 percent of the population. People who are close to someone who has died by suicide suffer long-term consequences, including anger, guilt, depression, anxiety, PTSD, and increased risk of suicidal ideation and suicide (Stone et al, 2017, p. 9).

At the same time, **Stone and colleagues also recognize that suicide can be prevented and is “best achieved by a focus across the individual, relationship, family, community, and societal-levels, and across all sectors, public and private”** (2017, p. 9). Similarly, a high-quality research team from Europe (Van der Feltz-Cornelis et al, 2011) also suggested that suicide prevention strategies incorporate “multilevel strategies [that] target several populations or several levels within healthcare systems, such as public health or primary care,” noting that “synergistic combinations” of strategies “ought to be part of recommended best practices” (2011, p. 320).

**This review aims to review up-to-date research literature on suicide prevention, with the moving target of providing “best practices” for suicide prevention.**As such, it reviews important, evidence-based programs that have been evaluated in the past decade and aims to provide healthcare providers with recommendations for practice. At the same time, it acknowledges real limitations of trying to provide recommendations for practice in the area of suicide prevention. Typically, in behavioral health, “best practices recommendations” are those that have been rigorously tested and empirically proven to be effective means of prevention. The “gold standard” to determine the efficacy of a particular intervention or treatment in behavioral health is randomized clinical trials (RCT). **However, as Nordentoft (2011) and others acknowledge, there are numerous ethical, legal, and practical reasons why RCT cannot be used in the field of suicide prevention.** Perry et al (2016) found a paucity of interventions aimed at suicide prevention, suggesting that many randomized clinical trials exclude, or screen out, those who have suicidal thoughts of behavior. The authors noted that one reason for the lack of empirical research in online suicide prevention might be due to the “practical and ethical difficulties associated with conducting research with suicidal individuals, and in particularly, with the especially vulnerable group of adolescents” (Perry et al, 2016, p. 78).

Therefore, these recommendations are made knowing that even though there are limitations to these recommendations (e.g., due to ethical considerations which would make RCT impossible, and that it is unimaginable to subject those at risk of suicide to “control” conditions), these recommendations have been proven to be effective in *individual trials and research studies.*

## ARTICLE 1: Best Practice Elements of Multilevel Suicide Prevention Strategies

### Summary

In their quest to find best practices of suicide prevention strategies, **Van der Feltz-Cornelis et al (2011) conducted a massive review of research literature, dating from 1964 to 2011, totaling over 2,100 articles during that period**. After narrowing the literature down, the authors selected six systematic reviews of research that met their criteria (i.e., describing public health approaches aimed at suicide prevention; covering universal, selected, or indicated populations; from community-wide to individual level approaches). Across the literature, the researchers categorized the results according to the levels of intervention the strategies utilized (primary care, population level, etc). This systematic review relied heavily on research done by Mann and colleagues (2005), considered a “landmark” paper in the field of suicide prevention.

**Primary care:** At this level, **the authors found one best practice to be improving the recognition of risk for suicide**, especially among those with depression or with symptoms of it, and initiating treatment via antidepressants or effective psychological treatment (i.e., cognitive behavior therapy) (2011, p. 322).

**Population level:** At this level, the authors found mixed results for popular suicide prevention strategies, such as public awareness campaigns that aim to help people recognize the risk of suicide and help-seeking behavior, as well as to reduce the stigma associated with help-seeking behavior (2011, p. 323).  **Van der Feltz-Cornelis and colleagues noted that while awareness raising is a popular strategy, researchers have found “no detectable effects of public awareness on the primary outcome measure of reduced rates of suicidal acts**-- and also not on intermediate measures like increased treatment seeking or antidepressant use” (2011, p. 323). The authors noted that successful awareness raising strategies were part of comprehensive, multi-pronged strategies. Another effective population-level strategy is reducing access to lethal means of suicide, e.g., access to guns, and also pesticide, gas, dangerous drugs, physical barriers at jumping sites, and lower toxicity antidepressants. (p. 327).

**Targeted populations:** The authors found that psychiatric patients are one of the highest risk groups for committing suicide, and that “the improvement of acute, continuation, and maintenance treatment, including psychiatric hospitalization, for people with recurrent or chronic disorders...has preventative potential” (2011, p. 327). **Strategies such as emotional support (i.e., telephone hotlines and the like) is a significant way to reduce suicidal behavior.** The authors also researched the effectiveness of school-based programs, and while these curricula may increase knowledge and improve attitudes about suicide, there is little conclusive data that they can prevent suicidal behavior (p. 327). In addition, suicide prevention programs targeting people of color have demonstrated effectiveness as well, as the authors report, especially those that involve community-wide health programs, work to change family dynamics and expectations, and train school staff to respond to student crises.

Overall, the authors found that “an integrated strategy that includes community facilitator training, general practitioner training [to identify depressed patients], and ready access to mental healthcare offer the greatest potential” (2011, p. 328). This strategy can then be combined with environmental (or social-ecological) approaches that restrict access to means for suicide, as well as media guidelines for reporting on suicide.

## ARTICLE 2: Crucial Elements in Suicide Prevention Strategies

### Summary

In this article, Nordentfoft (2011) described a number of suicide prevention strategies using the preventive model (Universal, Selective, and Indicated). The author detailed how each level of strategy may work to prevent the staggering number of people who attempt suicide. Worldwide, the author noted, over a million people per year die from suicide, making it the “second most common cause of non-illness death worldwide” (p. 848). Over the last thirty years, health organizations, led by the World Health Organization (WHO), have championed suicide prevention for their member states-- issuing a number of strategy guidelines to assist in the process. Beginning in 1992, a number of countries have adopted suicide prevention strategies, including Finland, Australia, the United States, England, Germany, Malaysia, New Zealand, and Ireland. **These strategies are conceptualized as “a comprehensive and nationwide approach to reduce suicidal behaviors across the lifespan through coordinated and culture sensitive responses from multiple public or private sectors of society” (p. 848).**

The author describes how the prevention model works for all three sectors of society:

**Universal** for population-level strategies, such as reducing suicide risk by removing barriers to care, increasing knowledge of suicide, and improving social support and coping skills. Universal strategies are often public education campaigns, awareness initiatives, means restrictions, and school-based crisis teams**.** The author noted that there are a number of environmental strategies which, although not necessarily intended to prevent suicide, could be considered universal strategies. For example, “mandatory implementation of catalytic converters” (i.e., to reduce the risk of suicide from car exhaust), “reduction of carbon monoxide in household gas due to environmental concerns, and school-based programs aimed at reducing bullying” (2011, p. 850).

**Nordentoft described one universal strategy which is unquestionably effective at reducing the risk of suicide: means prevention (or restricting access to means for suicide).** In different cultures around the world, means prevention means different things. For example, in the US, 60% of those who die by suicide use guns; in Southeast Asia, the same number ingest pesticide. In the U.S., a number of studies demonstrate a strong correlation between access to guns and increased risk of suicide by such guns; at the same time, “strict gun legislation reduces firearms suicide rate” (Nordenftoft, 2011, p. 850). **The author cited a review of studies by Lester (1998) that recommended a range of ways to limits means to suicide,** including “strict gun laws, car emission control of carbon monoxide content, restricting access to tops of buildings, fencing bridges, limiting packet size of medication frequently used for suicidal acts, enclosing pills in plastic blisters” (p. 850).

**Selective** for at-risk groups that have a higher probability of becoming suicidal. These strategies include gatekeeper training for “frontline” caregivers, support and skills training for at-risk populations, increased access to crisis and referral services, as well as screening programs.

Nordentoft (2011) noted that “the most important risk groups are the mentally ill, alcohol and drug abusers, and those with a newly diagnosed severe somatic disease, prisoners, and homeless persons” (p. 850). The author noted the connection between mental health and suicide, reporting that “most mental health disorders multiplies the suicide risk at least tenfold” (p. 850). Those people with schizophrenia, for example, are at an increased risk of suicide, with a recent meta-analysis found the lifetime risk of suicide to be almost 6%. In addition, those with “affective disorder and alcoholism” are at increased risk of suicide, between 6-7% lifetime risk.

The author described how those who have received a diagnosis of severe somatic illness, such as cancer, are at risk of suicide. This kind of diagnosis is especially prevalent among the elderly. In addition, to the above-named groups, homeless and prisoners are also at risk of suicide, leading the author to note that “there is poor evidence for effectiveness of interventions directed versus the risk of suicide. **Therefore, the best possible guideline will be to provide the best possible support and treatment to persons in risk groups, and to provide skill-building to staff” to increase awareness of the risk of suicide (p. 850).**

**Indicated** are for individuals who have a high risk of suicide, including those who have attempted suicide or have early signs of potential suicide. These strategies are designed to reduce risk factors and increase protective factors. Programs include groups in high school and college that aim to build coping, emotional regulation, and support skills, case management for high-risk individuals, and referrals to treatment and/or intervention facilities (p. 849).

The author noted that there are a number of risk factors for suicide including “alcohol and drug abuse, depression, previous in-patient treatment, sociopathy, unemployment, frequent change of address, hostility, hopelessness, and living alone” (2011, p. 851). Of those who attempted suicide, predictors included being male, getting older, those who have attempted suicide previously, somatic disease (e.g., cancer), substance abuse, and ongoing psychiatric treatment.

**At the same time, Nordentoft (2011) noted a number of interventions that may be effective in reducing the risk of suicide** and or tendency toward self-harm for an indicated population, including dialectical behavior therapy (DBT), problem-solving therapy, and providing an emergency contact card (in addition to standard aftercare), and intensive aftercare and outreach following an attempt (p. 851). The author noted while these interventions may have promising results, there are too few participants in these studies to reach statistical significance about the empirical efficacy of such interventions.  In addition, the differences between research studies (i.e., different demographics, social, cultural, political, and economic contexts), it is difficult to draw firm conclusions. That being said, research (Hawton et al, 1999) has suggested that case management may be effective with these high-risk individuals.

Nordentoft (2011) noted a number of effective interventions. One that sent letters four times a year, for a course of five years, “significantly reduced the suicide rate in [the] contact group compared to [the] no-contact group” (p. 852). Another study found that the use of postcards (as opposed to letters) was equally effective, causing a reduction in the rate of repeat suicidal acts. In addition, the use of the phone to communicate was associated with reduced suicidal acts. The author found that while “even low intensity interventions can be effective” “large randomized clinical trials are needed in order to establish stronger evidence basis in this important field” (p. 852).

Overall, the author found that universal, selective, and indicated interventions may be useful forms of suicide prevention.

## ARTICLE 3: Technology-Oriented Suicide Prevention Interventions for Adolescents and Adolescent Gatekeepers: A Qualitative Review

### Summary

In this article, Kreuze and Ruggiero (2018) reported on technology-oriented, suicide prevention strategies for adolescents, and adults who interact with them. Youth suicide is a pressing problem, as it is the second-most common cause of death for young people aged 15-24. Between 1999-2014, suicide increase almost 25%, with the largest increase (200%) happening to girls aged 10-14 (p. 219). **Every year, over 200,000 young people receive emergency medical treatment for self-inflicted injuries, though even this startling figure underestimates the problem, as many more youth experience suicide ideation, suicide planning, and suicidal behavior than those who harm themselves.**

The authors noted that one contributing factor in suicidal behavior is mental health; half of all mental health disorders begin by age 14, and roughly three-quarters begin by age 24 (p. 220), though there may be a period of roughly 8-10 years between onset and intervention. **It is important to address these pressing public health issues in adolescence, as young people will carry these mental health disorders into adulthood, which increases the risk of suicidal behavior.** Suicide prevention strategies require collaboration between a range of diverse stakeholders, including adults who interact frequently with youth (i.e., parents, teachers, school counselors, coaches, and more). This article aimed to evaluate the effectiveness of technology-focused suicide prevention strategies that were listed in two databases: SAMHSA’s National Registry of Evidence-Based Programs and Practices (discontinued as of April 2018); and the Suicide Prevention Center’s Best Practices Registry. For the purposes of this research review, suicide prevention strategies are categorized using the standard public health model: Universal, Selective, or Indicated strategies.

**Universal** strategies include programs and curricula that affect entire populations, such as school-based programs.

**Lifelines Curriculum** This school-based intervention is aimed at increasing the ability of the entire community (e.g., parents, students, teachers, school counselors, and others) “to recognize and respond to troubled students” (Kreuze & Ruggiero, 2018, p. 225). In this comprehensive curriculum, students learn how to intervene in suicidal behavior through role-play, discussion, and video observation. In addition to student curriculum, this intervention includes parent education, gatekeeper training for school staff, crisis provider information, and administrative guidelines (p. 225). Though only the student portion of this intervention was evaluated, research suggested that “students experienced significant increases in knowledge about suicide, positive attitudes toward suicide intervention, positive attitudes toward obtaining help for troubled peers, and positive attitudes toward seeking adult help” (p. 225).

**Strategies and Tools Embrace Prevention with Upstream Programs (STEP UP)** This school-wide intervention includes social and emotional learning curricula “with the goals of promoting positive mental health, enhancing emotional competence, and creating a safe school climate” (Kreuze & Ruggiero, 2018, p. 226). Students are taught skills of metacognition, mindfulness, and emotional regulation. Research found that “students exhibited significantly greater self-regulation, social competence, and responsibility” (p. 227).

**Selective** strategies are aimed at specific groups, such as gatekeeper training for teachers who interact with young people.

**Kognito At-Risk for High School Educators** In this intervention, gatekeepers, such as teachers, complete online training that provides “communication strategies, methods for avoiding pitfalls in referral conversations, and real-time advice about connecting at-risk students to support resources” (Kreuze & Ruggiero, 2018, p. 225). The goals of this self-paced, narrative-based online module are to help high school educators “identify, approach, and refer students experiencing psychological distress” (p. 225). This training, according to the authors, significantly helped educators identify, approach, and refer students, and also gave gatekeepers confidence to help students accept help. The educators reported a 71% increase in approaching potentially suicidal students.

**Question, Persuade, Refer (QPR)** This intervention is a gatekeeper training that uses online, video-based modules to teach about “suicide epidemiology, myths, facts, statistics, warning signs, communication strategies, and resource information” (Kreuze & Ruggiero, 2018, p. 227). The aim of the program is simple: train gatekeepers to Question if the person is suicidal, Persuade the person to accept help, and Refer the person for treatment or care. Research found that QPR training “significantly increased self-perceived knowledge and self-efficacy, significantly increased declarative knowledge, knowledge of access to services, asking students about suicide, and self-reported referrals of students by school personnel” (p. 227).

**Indicated** strategies are aimed at specific individuals, such as young people who are being hospitalized for suicide attempts.

**Emergency Room Intervention for Adolescent Girls** This intervention is for girls who are in the emergency room after attempting suicide, though it trains emergency room staff how to provide improved care for girls and their families during this vulnerable time. The program consists of showing girls a television program (soap opera) that shows how adolescents are affected by suicide, focusing on ER procedures, coping strategies, and the reasons for treatment. A therapist meets with patients and their families, providing treatment in the ER. Research on this intervention found that girls enrolled in this program had less suicidal ideation and symptoms of depression, and that they were more likely to attend outpatient sessions, and complete the course of treatment, than control group patients (Kreuze & Ruggiero, 2018, p. 224).

An adaptation of the above program, **Family Intervention for Suicide Prevention,** aimed to improve the emergency room experience for adolescents and their families post-suicide attempt. This program is similar to the first, though with an addition of safety plans, in which youth describe “triggers” for suicide ideation and create safety cards during crises. In addition, youth enrolled in this program attended psychotherapy sessions, and received medication. Results from this intervention suggested that participants were more complete elements of the program, and that symptoms of their depression decreased as well (Kreuze & Ruggiero, 2018, p. 224-225).

Kreuze and Ruggiero (2018) reported that many technology-based interventions “were identified as efficacious, producing positive outcomes related to youth suicide prevention and gatekeeper preparedness” (p. 231), and that these interventions were able to reach a large number of participants due to the ease of “scaling up” and accessibility.

## ARTICLE 4: Web-Based and Mobile Suicide Prevention Interventions for Young People: A Systematic Review

### Summary

In this article by Perry et al (2016), researchers conducted a literature review to systematically analyze the outcomes of web-based and mobile suicide prevention interventions for young people aged 12-25. What they found, however, was disconcerting-- an almost total paucity of high-quality interventions that have been empirically evaluated for effectiveness, even though youth suicide is a pressing problem. **The authors reported that over 17% of high school students have “seriously considered” committing suicide in the past year, with 14% of students “making a plan” to do so**, and 8% actually doing so (Perry et al, 2016, p. 74).

Previous systematic literature reviews have found few effective interventions for suicide prevention, though the authors reported that cognitive behavior therapy “has shown some preliminary positive effects” (Perry et al, 2016, p. 74). In addition, while suicide prevention programs in school generally led to improvements in knowledge, attitudes, and help-seeking around suicide prevention, these programs have not led to decreases in suicide ideation and behavior (p. 74). **However, Perry et al (2016) noted that two programs, Signs of Suicide, and the Good Behavior Game (GBG), were found to be effective deterrents for suicide attempts.** Signs of Suicide is focused on suicide awareness, education, and screening, and was found to reduce suicide attempts. The Good Behavior Game, despite not being specifically focused on suicide, was found to reduce participants’ suicide ideation and behavior through its overall focus on improving the classroom environment and reducing disruptive behaviors.

While this limited research suggests the effectiveness of reducing suicide attempts and behavior, there has been little research on how online and mobile-based technologies can offer similar outcomes in an accessible, low-cost, and convenient manner. Since 92% of young people are online almost constantly, these methods may be effective forms of suicide prevention. **Perry et al (2016) noted that while there has been research on online prevention efforts, the relatively few studies conducted have been low quality, and have targeted participants with depression, although not everyone who exhibits suicidal behavior presents for depression.**

The authors conducted a review of recent literature (from 2000 to 2015), including studies that focused on suicidal behavior, thoughts, or actions; were primarily online or mobile-based; were directed at young people aged 12-25; and were published in an English language, peer-reviewed journal. **245 relevant full-text articles were found and screened, and 244 were excluded from this review, leaving one journal article meeting the above criteria.**

The remaining article discussed a pilot study for students aged 14-18 who reported suicide ideation; these students received cognitive behavior therapy (CBT), including “cognitive restructuring, and behavioral activation, with a specific focus on problem solving around suicidal ideation” (Perry et al, 2016, p. 76). The intervention was delivered via an online adult therapist character who provided information; in addition, young people told their stories via video diaries, and students completed activities and took part in message boards. **Though this pilot study only included 21 participants, “statistically significant reductions in ... suicide ideation, as well as secondary outcomes of depression and hopelessness were observed” (p. 77).**

The authors noted that one reason for the lack of empirical research in online suicide prevention might be due to the “practical and ethical difficulties associated with conducting research with suicidal individuals, and in particularly, with the especially vulnerable group of adolescents” (Perry et al, 2016, p. 78). The researchers also reported that three new web-based prevention that are moving toward clinical trials is a promising sign. Both screening and gatekeeper training are increasingly moving online as well; in addition, peer training, through social or digital media applications, may do so as well. Perry et al ended the article by noting that “we are on the cusp of an exciting era in which a range of innovative approaches to this significant problem will be explored” (p. 78).

# Conclusion

This research review aimed to provide clear analysis of effective suicide prevention programs in the United States, while also introducing research from partners around the world, as suicide truly represents a global cause for concern. Suicide is one of the world’s deadliest problems, taking almost one million per year, annually. At the same time, the rate of suicide is exploding for young people. **Suicide is the second leading cause of death for people aged 15-24, with suicide increasing almost 25% between 1999 and 2014, and the largest increase in suicide happening to girls ages 10-14 (Kreuze & Ruggiero, 2018).** Perry et al reported that almost 17% of high school students seriously considered suicide, with 14% making plans for suicide, and 8% of high school students attempting suicide. While these numbers are alarming, the effect of suicide is not limited, of course, to those who attempt suicide. The effects a suicide has on family, friends, and community are widespread, leading to depression, post-traumatic stress disorder, anger, stress, and feelings of guilt.

At the same time, the authors of the articles reported in this review mentioned that suicide prevention programs and strategies can be effective if utilized in a multilevel, integrated manner. **Stone and colleagues also recognize that suicide can be prevented, and is “best achieved by a focus across the individual, relationship, family, community, and societal-levels, and across all sectors, public and private”** (2017, p. 9), and a team of European researchers suggested that that suicide prevention strategies incorporate “multilevel strategies [that] target several populations or several levels within healthcare systems, such as public health or primary care,” noting that “synergistic combinations” of strategies “ought to be part of recommended best practices” (2011, p. 320). Though this review aimed to provide “best practices” recommendations for states, communities, and associated partners, we also want to acknowledge that there are serious practical and ethical limitations to conducting research on suicide prevention, leading a substantial dearth of research on effective suicide prevention strategies. That being said, we reported on suicide prevention efforts that may reduce suicidal behavior and ideation; increase knowledge, help-seeking behavior; or provide effective care for those who have attempted suicide.

In the first article reported, Van der Feltz-Cornelis et al (2011) conducted a massive review of research literature, dating from 1964 to 2011, totaling over 2,100 articles during that period. **At the primary care level, the authors found** **one best practice to be improving the recognition of risk for suicide**, especially among those with depression or with symptoms of it, and initiating treatment via antidepressants or effective psychological treatment (i.e., cognitive behavior therapy) (2011, p. 322). At the population level, the authors found mixed results for popular suicide prevention strategies, such as public awareness campaigns that aim to help people recognize the risk of suicide and help-seeking behavior, as well as to reduce the stigma associated with help-seeking behavior (2011, p. 323). Among target populations, Strategies such as emotional support (i.e., telephone hotlines and the like) is a significant way to reduce suicidal behavior for psychiatric patients. Overall, the authors found that “an integrated strategy that includes community facilitator training, general practitioner training [to identify depressed patients], and ready access to mental healthcare offer the greatest potential” (2011, p. 328).

**In the second article, Nordentfoft (2011) described a number of suicide prevention strategies using the preventive model (Universal, Selective, and Indicated).** The author reported a number offor population-level strategies (Universal), such as reducing suicide risk by removing barriers to care, increasing knowledge of suicide, and improving social support and coping skills. One universal strategy which is unquestionably effective at reducing the risk of suicide: means prevention (or restricting access to means for suicide). Selective programs (for those groups that are at increased risk of suicide) include gatekeeper training for “frontline” caregivers, support and skills training for at-risk populations, increased access to crisis and referral services, as well as screening programs. The author noted that the best possible guideline will be to provide the best possible support and treatment to persons in risk groups, and to provide skill-building to staff” to increase awareness of the risk of suicide (p. 850). Indicated(for individuals who have a high risk of suicide, including those who have attempted suicide or have early signs of potential suicide) strategies are designed to reduce risk factors and increase protective factors. Best practices for this group include dialectical behavior therapy (DBT), problem-solving therapy, and providing an emergency contact card (in addition to standard aftercare), and intensive aftercare and outreach following an attempt (p. 851).

In the third article, Kreuze and Ruggiero (2018) reported on technology-oriented, suicide prevention strategies for adolescents, and adults who interact with them. Youth suicide is a serious problem, as **over 200,000 young people receive emergency medical treatment for self-inflicted injuries, though even this startling figure underestimates the problem,** as many more youth experience suicide ideation, suicide planning, and suicidal behavior than those who harm themselves. The researchers describe a number of promising strategies for the prevention of suicide, including school-based universal strategies designed to increase knowledge and emotional capacities; gatekeeper training for selective populations that aim to increase adults’ capacity to interact and make referrals for potentially suicidal adolescents; and treatment for young women and other teens following suicide attempts (for indicated individuals).

The fourth article reported on findings from a systematic review of literature about how to best prevent suicide. The authors noted incredible (and troubling) statistics that over 17% of high school students have “seriously considered” suicide in the past year, with 14% actively making plans, and 8% attempting it. Though previous literature reviews have found few effective prevention strategies (aside from cognitive behavior therapy), the authors did report that **two programs, Signs of Suicide, and the Good Behavior Game (GBG), were found to be effective deterrents for suicide attempts.** In addition, the authors described a number of emerging prevention strategies/programs, with the caveat that they are currently being evaluated and/or studied.

Overall, this review of relevant research found that there are a number of promising strategies to reduce the number of people, including adolescents, who attempt suicide.

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