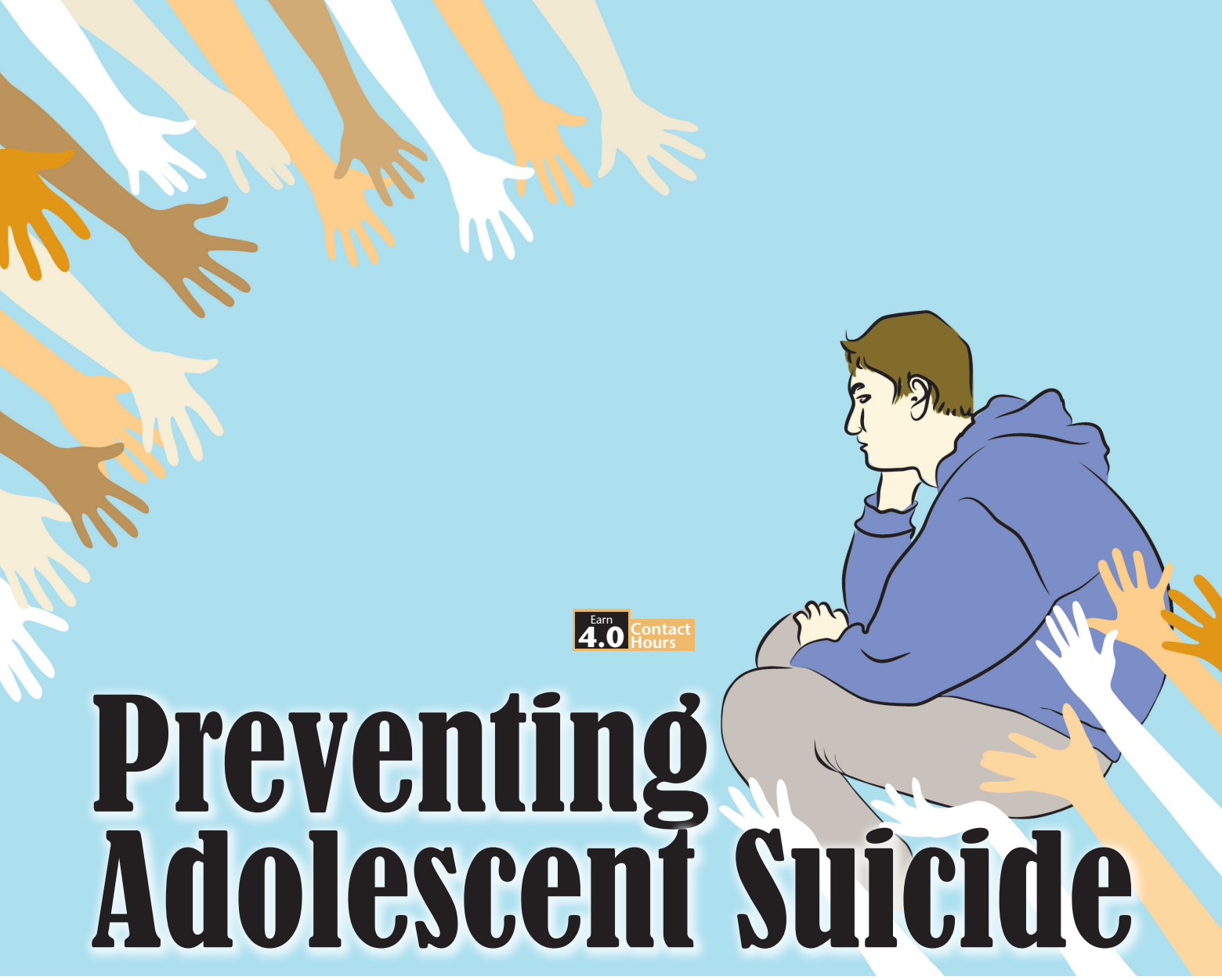


Earn 4.0 Contact Hours

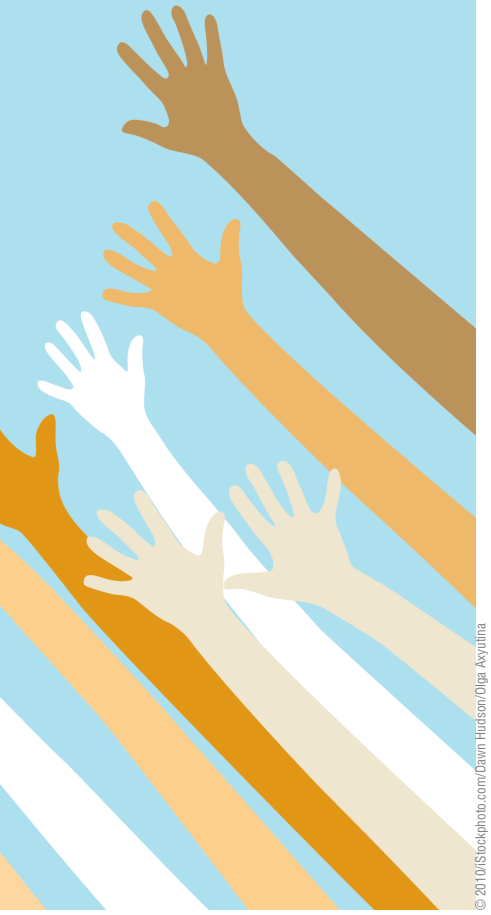
Preventing Adolescent Suicide

A Community Takes Action

Linda M. Pirruccello, MSN, RN

ABSTRACT

Suicide is the third leading cause of death for adolescents and young people in the United States. The etiology of suicide in this population has eluded policy makers, researchers, and communities. Although many suicide prevention programs have been developed and implemented, few are evidence-based in their effectiveness in decreasing suicide rates. In one northern California community, adolescent suicide has risen above the state's average. Two nurses led an effort to develop and implement an innovative grassroots community suicide prevention project targeted at eliminating any further teen suicide. The project consisted of a Teen Resource Card, a community resource brochure targeted at teens, and education for the public and school officials to raise awareness about this issue. This article describes this project for other communities to use as a model. Risk and protective factors are described, and a comprehensive background of adolescent suicide is provided.



It is not uncommon for adolescents to think about ending their lives (Gould & Kramer, 2001; Rueter, Holm, McGeorge, & Conger, 2008), although thinking about suicide does not always lead to suicide attempts (Pelkonen & Marttunen, 2003). The national 2007 Youth Risk Behavior Survey of a representative sample of students in grades 9 through 12 indicated 14.5% of students seriously considered attempting suicide, 11.3% made a suicide plan, and 6.9% attempted suicide during the 12 months preceding the survey (Eaton et al., 2008). It is for this reason that the nation's public health agenda objectives for *Healthy People 2010* prioritized adolescent suicide prevention efforts (U.S. Department of Health and Human Services, 2000).

Youth often experience tremendous stress, confusion, and hopelessness related to situations in their lives, schools, and communities, which too often lead young people to consider suicide as their only solution. Despite alarmingly high youth suicide rates, there has been limited research on how to comprehensively predict, treat, and prevent suicide among youth (Macgowan, 2004). Indeed, the complexities of youth suicide behavior continue to confound policy makers, professionals, communities, and researchers. Although public attention and awareness of youth suicide has increased during the past 2 decades in the United States, suicide was still the third leading cause of death in 2006 among youth ages 15 to 24, accounting for 4,189 deaths (Centers for Disease Control and Prevention [CDC], 2009a).

One purpose of this article is to raise awareness of the problem of adolescent suicide, which is the first step in the development of suicide prevention strategies. Another purpose is to encourage and inspire nurses and other health care professionals to become agents of change and leaders within their communities in preventing youth suicide. This article describes one suicide prevention project that led to the implementation of a grassroots community-based intervention program targeting youth. This project provides an example of nurses leading and collaborating within their local community in an effort to eliminate adolescent suicide.

SCOPE OF THE PROBLEM

Suicide is rare in childhood and early adolescence but increases every year as children age (Pelkonen & Marttunen, 2003). Suicide rates in the United States for male adolescents between ages 15 and 19 are four times higher than the rates for their female peers (CDC, 2009b). Due to the growing risk of suicide with increasing age, there is a critical need to target suicide prevention efforts in adolescents (Pelkonen & Marttunen, 2003) and develop suicide prevention programs.

During the past several decades, adolescent (ages 15 to 19) suicide rates in the United States have shifted. In 1950, suicide rates for both sexes for ages 15 to 19 were 2.7 per 100,000. By 1990, these rates reached a peak rate of 11.1 per 100,000. Subsequently, from 1990 to 2003, the rates significantly declined in this age group from 11.1 to 7.3 per 100,000 (National Center for Health Statistics, 2005). According to a recent CDC report, adolescent suicide rates for 2003-2004 demonstrated the largest increase in annual suicide rates during the past 15 years, from 11.61 to 12.65 per 100,000 (CDC, 2007b). The problem may actually be worse than these figures indicate because suicide rates may be underreported and misclassified (Institute of Medicine [IOM], 2002). These trends

TABLE 1

ADOLESCENT SUICIDE PREVENTION PROJECT STRATEGIES

Community-Wide Consciousness Raising	*Suicide Prevention Education for Parents, Students, Educators, and Counselors*
• Designing and distributing a teen resource card	• Design and distribute the Teen Resource Card for local adolescents
• Developing program resources	• Development and dissemination of a local crisis intervention resource brochure targeted to adolescents
• Measuring outcomes	• Goal: to eliminate adolescent suicides

demonstrate the urgency to prioritize suicide prevention efforts for adolescents.

Explanations for the differing rate trends are not easily understood. Some researchers assert the increased youth suicide rates of the 1990s were attributed to greater exposure of this population, particularly boys, to drugs and alcohol (Gould, Greenberg, Velting, & Shaffer, 2003). The possible reasons for declining adolescent suicide rates between 1990 and 2003 in the United States include the use of antidepressant medication in treating depressed adolescents (Olfson, Shaffer, Marcus, & Greenberg, 2003), the reduction of alcohol use (Birckmayer & Hemenway, 1999), and more restrictive gun control laws (Webster, Vernick, Zeoli, & Manganello, 2004).

RISK AND PROTECTIVE FACTORS

During the past two decades, there has been increased understanding about factors contributing to suicide, although the etiology of youth suicide has not been determined (Evans et al., 2005). Primary risk factors and protective factors (those that mitigate against youth suicide) have been suggested (IOM, 2002). However, the manner in which protective and risk factors influence suicide remains unclear (Lubell & Vetter, 2006).

Risk Factors

Risk factors reported to contribute to suicidal behavior include the following:

- Presence of psychiatric illness, with depression being most common (Burns & Patton, 2000).
- Previous history of suicide attempts (Hawton, Zahl, & Weatherall, 2003).
- Low family and peer support (Kerr, Preuss, & King, 2005).
- Physical and sexual abuse (Bensley, Van Eenwyk, Spieker, & Schoder, 1999).
- Victimization (Borowsky, Ireland, & Resnick, 2001).
- Same-sex orientation (Russell & Joyner, 2001).
- Serotonin deficiency (Kamali, Oquendo, & Mann, 2001).
- Having a family member who had attempted suicide (Brent & Mann, 2006).
- Access to firearms (Miller, Azrael, Hepburn, Hemenway, & Lippmann, 2006).

The relationship of substance abuse to adolescent suicide is unclear (Rowan, 2001). Certain psychosocial factors or stressors are also suggested to interact and contribute to increased youth suicide risk. These stressors include family discord, poor parent-child relationships, family history of suicide behavior, problems in school, breakup of a close relationship, arguments and fights, a friend attempting or completing suicide, and relocation (Macgowan, 2004).

Protective Factors

Protective factors in general are consistent with psychological health, but their influence in providing protection against youth suicide remains uncertain (Evans et al., 2005). Leading protective factors include having the following (World Health Organization, 2000):

- Supportive family and adult relationships.
- Connectedness to school and other organizations.
- Good social and coping skills.
- Self-confidence in one's own abilities.
- Willingness to seek help with difficulties.

Additional protective factors include access to evaluation and ongoing mental health resources, community support, and conflict resolution and skill building (CDC, 2007a).

SUICIDE PREVENTION APPROACHES

Although multiple risk and protective factors have been identified with suicide behavior in adolescence, further research is needed concerning the impact they have on current intervention strategies. Many different approaches have been taken to prevent suicide behavior in youth; however, few programs have been empirically tested for their effectiveness (Evans et al., 2005). Given the range of suggested risk and protective factors influencing youth suicide behavior, prevention efforts focusing on reducing risk factors and promoting protective factors should

incorporate and integrate the expertise of both health and non-health related sectors including the school system, community, government, business, religion, human services, and health organizations (Davidson, Ross, & Silverman, 2001).

COMMUNITY SUICIDE PREVENTION PROJECT

One local community in rural northern California that had adolescent suicide rates higher than the state average recognized the seriousness of the problem of youth suicide and decided to take action to address the problem. The project's suicide prevention strategies captured the entire community's energy and attention, and formalized a collaborative partnership between individuals and agencies from both health and non-health community sectors.

The program, led by nurses, included senior and junior high school educators, youth leaders, school counselors, civic leaders, mental health professionals, police officers, probation officers, religious leaders, local hospital officials, concerned parents, high school students, and media. The objectives of this project were to develop new suicide prevention strategies and to augment existing programs. The suicide prevention project focused primarily on raising community awareness about youth suicide and providing local adolescents with easy access to local community crisis intervention resources. The project strategies focused on three areas (**Table 1**).

Project Goals

The four goals of the adolescent suicide prevention project were:

- Elimination of adolescent suicide as measured by a zero adolescent suicide rate on the annual coroner's report.
- Improved community agency collaboration.
- Increased community awareness about identifying at-risk and high-risk youth.
- Enhanced awareness about accessible crisis response and referral sources.

TABLE 2

ADOLESCENT SUICIDE PREVENTION PROJECT BUDGET

Program Element	*Budget*
Suicide prevention education for parents, students, educators, and counselors (lecturer fee and meeting room rental)	$1,200
Design and development of resource guide, a tri-fold color brochure printed on quality paper ($1.20 per brochure)	$1,900
Design and distribution of Teen Resource Card ($1.50 per card, plus graphic designer fee and distribution costs)	$3,000
Conduct research to measure effectiveness of Teen Resource Card (statistician consulting fees to assist in survey instrument development and analysis of collected data, paper and printing costs, and student incentives)	$1,100
Total	$7,200

Project Planning

The project began when a small group of concerned citizens gathered to discuss the problem. Community stakeholders understood that the problem required a multidisciplinary collaborative approach and would involve the entire community, including schools, social services, faith-based organizations, law enforcement, town council, health care organizations, youth services, local media, teens, and concerned community members.

Organizers contacted leaders from these groups by telephone inviting them to join in the effort to identify possible interventions to eliminate local teen suicide. More than 30 community members came together, finding common ground. Initially, the community group met bimonthly during a 6-month period to finalize and adopt project interventions. The primary considerations in the initial 6 months included identifying innovative solutions to the problem; recruiting local teens to lead and make project decisions; developing a budget and identifying existing funding resources; identifying timelines and the project completion date; identifying all agency and community stakeholders; and identifying barriers and solutions to the project implementation.

Project Prevention Strategies

The three project prevention strategies included developing a wallet-size card; creating a local resource brochure; and providing suicide prevention education for parents, students, and counselors (**Table 1**). The teen card and resource brochure were developed and designed by local teens; both were distributed 6 months after the planning phase.

Teen Resource Card. The main prevention strategy was a plastic credit card style and wallet-size Teen Resource Card (**Figure**). Teens were invited to develop and design their card to maximize buy-in. They worked together with community stakeholders to formulate goals. The goals the

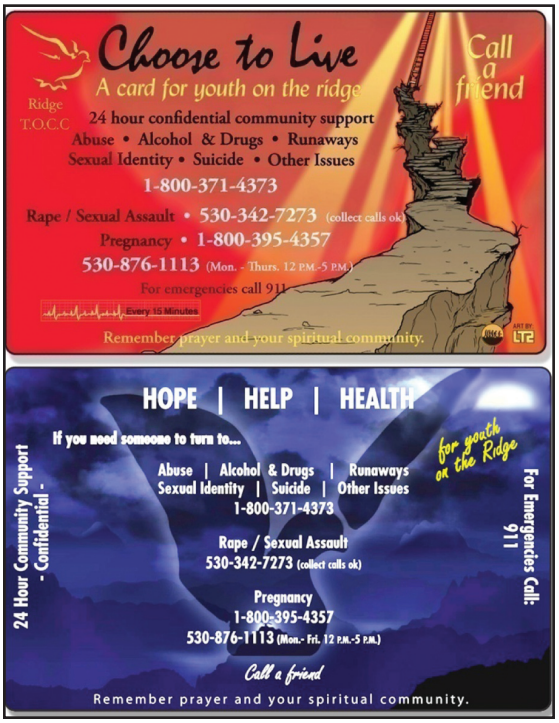


Figure. Teen resource card. A third panel (not pictured) featured discount offers from local businesses.

teens chose included immediate access to help, simplicity of use, and 24-hour crisis telephone numbers. The principle of community connectedness, including a spiritual component and guaranteed confidentiality, informed the process, and it was decided the card design would display peer support. Participating businesses requested that for discounts to be displayed on the back of the card, an expiration date for these offers should also be printed.

The card included both the key resource telephone numbers as well as discounts at local eateries and businesses frequented by youth. The card had to offer immediate access to crisis resources. The final version of the card displayed three main 24-hour crisis telephone numbers. The crisis telephone numbers were services offering support for substance abuse, mental health issues, homelessness and runaways, sexual assault crisis intervention, and unplanned pregnancy help. The card was designed to be simple to use, small enough to carry in a wallet, and attractive to encourage teens to carry it.

A total of 2,000 Teen Resource Cards were distributed within the community during a 2-year period. The total number of cards produced was determined by the total population of the local high schools, which was 1,600 students. Additional cards were ordered for distribution in local restaurants and coffee shops, physician offices, movie theaters, hospital emergency department waiting areas, and all teen gathering places community wide. The original 2,000 cards were ordered at an estimated cost of $1.50 per card (**Table 2**). The cards were made available at no cost to the youth. Student leaders in each age group were provided cards to share with their peers. Three hundred cards were estimated to be needed each academic year for incoming 9th-grade students.

Local Resource Brochure. The second resource was a tri-fold brochure that included information on a wide range of services. The contact telephone numbers included more than 100 local resources and national 24-hour crisis hot-line telephone numbers that provide physical and mental health services, social services, substance abuse treatment, sexual assault and physical abuse help, homeless shelters, employment and transportation services, and leisure activities. All telephone resources provided were verified by the nurse leaders.

Community-Wide Education. The third project prevention strategy was to provide community-wide education to raise awareness about the risk and protective factors for suicide. The education included information on evidence-based prevention strategies and referral resources in the community to increase the response and referral of suicidal youth.

A mental health professional with expertise in youth suicide behavior was sought to focus on the topics. A large variety of community venues that could accommodate a diverse community audience including high school students, interested community members, school counselors, teachers, and other professionals was investigated. Venues could range from donated space in schools and churches to rented spaces in a large meeting hall. Speakers were sought and asked to donate their services or were provided an honorarium. A larger estimated fee was also proposed to attract a nationally known mental health expert in adolescent and youth suicide.

Project Budget

The budget to implement the project was $7,200 (**Table 2**). Among the financial contributors were a local hospital, community service organizations, local businesses, private donors, and churches; grant funding was also provided by the local high school. Eleven hundred dollars of the budget were allotted for statistician consultation fees in survey instrument development, analysis of collected data, and student incentives to participate in the survey.

PILOT SURVEY

One year after the initial distribution of the Teen Resource Card, a pilot survey was conducted with local high school students (grades 9 through 12). The survey was developed by the nurse leaders and consisted

TABLE 3

RESULTS OF THE PILOT STUDY ON THE TEEN RESOURCE CARD

Question	*Ages*	*Response*
What, if anything, about the Teen Resource Card especially pleased you?	13 to 14	• "How it helps when we need it." • "That it can be there for help, if you need it or if you are going through a lot of problems."
	15 to 18	• "I think that it is good to give the kids resources."
		• "I feel that the card would be helpful to kids who are struggling."
		• "The discounts are good."
		• "I like it 'cause it gives you numbers that you can call if you need someone to talk to."
What, if anything, would you change on the design or information on the Teen Resource Card?	13 to 14	• "Design's good 'cause the information is easy to find."
	15 to 18	• "Different colors but black and white."
		• "I would make the design more artistic—to make people feel more safe calling."

of 17 items that were scored using a 4-point Likert scale. The survey sought to determine teens' opinions on the following three domains of the card: awareness of the card, motivation to use the card, and usefulness of the card.

Students were asked to rate items such as "I am carrying the teen card every day," "I find the teen card easy to use," and "I like to carry the teen card because of the telephone numbers available." Survey items were positively worded. Two open-ended questions were added at the end of the survey instrument to provide teens an opportunity to comment about the design of the card or suggest any changes they thought could be useful. Demographic information collected included gender and grade level. Due to the preliminary nature of this project, survey reliability and validity were not evaluated.

The pilot survey was administered to two groups of high school students by a university nursing student supervised by the nurse leaders. The first group consisted of students in grades 9 and 10 (n = 22), and the second group consisted of students in grades 11 and 12 (n = 18). Permission to administer the survey was granted by the teacher of record for the class. The purpose of the pilot survey was described to the students, and students were assured that taking the survey was voluntary and that their responses would be anonymous.

Composite variables for each of the three areas of interest were calculated by summing survey items in each of the three domains to identify level of awareness of the card, motivation, and perceived usefulness of the card. The higher the score, the stronger the positive evaluation for the three areas of interest.

Student responses from the two open-ended questions were examined. Forty-one percent of students did not respond to the two questions. Of those students who commented, results suggested older students (ages 15 to 18) were aware of the card and found the card useful and easy to use, although they did not always carry it. In addition, the older students were motivated to use the card because of the resource telephone numbers and not only just because of the design or discounts. In contrast, the majority of younger students (ages 13 to 14) were unaware of the card and did not know the kind of information on the card. However, a smaller percentage of younger students indicated they were motivated to carry and use the card because of the resource numbers.

Older students' suggestions about the card design included changing the color scheme to black and white. One of the older students suggested the design on the card should be more "artistic" to make people feel more at ease about calling the telephone numbers on the card, whereas another older stu-

KEY POINTS

1. Nurses can provide focused and innovative interventions to address critical concerns of youth suicide in a community.
2. Youth suicide is still the third-leading cause of death in ages 12 to 19 and increases every year as children age, indicating the need for new suicide prevention strategies.
3. Adolescents can be motivated and supported to become agents of change among their peers.

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dent suggested leaving the card design alone because it "looked cool." Only one younger student commented about the card design, stating the "Design's good 'cause the information is easy to find." Examples of student responses are shown in **Table 3**.

PRELIMINARY OUTCOMES

Prior to implementation of this project, the local community was rocked four times by unrelated deaths of four male adolescents—two from drug overdose and two from suicide. One year after the card distribution, an adolescent suicide rate of zero was recorded on the local coroner's report. It is impossible, however, to determine whether this reduction was a direct consequence of the cards. Data related to unsuccessful suicide attempts are not available.

This is a pilot study to explore and understand how the cards could provide an effective intervention to eliminate successful suicide attempts in adolescents. Due to the preliminary nature of this project, no scientific outcome data are available.

CONCLUSION

Teenage suicide is a national health crisis. Nurses, by virtue of the nature of their role as health care professionals, are ideally positioned in the community to provide leadership in the development of programs designed to prevent suicide. The suicide adolescent prevention project demonstrates how nurses in one community took a leadership role in the design and implementation of a suicide prevention project. The model they developed could be duplicated and used by nurses in other communities.

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