

Suicide & Suicide Attempts

MAGNITUDE OF THE PROBLEM

National

Overall, suicide is the 11th leading cause of death for all Americans,¹ and claims the lives of approximately 30,000 Americans each year.² According to the Centers for Disease Control and Prevention, from 1994-1998 Native Americans had the highest suicide rates in the United States (12.71 per 100,000 population) followed by whites and African Americans (12.67 and 6.41, respectively).³ Rates for Native Americans may actually be higher since there is underreporting of Native American race on state death certificates. A study conducted by the Indian Health Service (IHS) utilizing the National Death Index (NDI) found that 10.9 percent of matched IHS-NDI records showed race as something other than American Indian or Alaska Native. The percentage of records with inconsistent classification of race ranged from 1.2 percent in the Navajo Area to 28.0 and 30.4 percent in the Oklahoma and California Areas, respectively.⁴

From 1994-1998, the U.S. rates among males were four to six times higher than females among all races. Suicide rates increased with age and were highest among Americans 65 years of age and older. The 10-year period from 1980-1990 was the first decade since the 1940s that the suicide rate for older Americans rose instead of declined.⁵ Risk factors for suicide among older persons differ from those among the

young. Older persons have a higher prevalence of depression, a greater use of highly lethal methods, and social isolation. They also make fewer attempts per completed suicide, have a higher-male-to-female ratio than other age groups, have often visited a health-care provider before their suicide, and have more physical illnesses.⁶

For young people 15-24 years of age, suicide is the third leading cause of death, behind unintentional injury and homicide. In 1999, more teenagers and young adults died from suicide than from cancer, heart disease, AIDS, birth defects, stroke, and chronic lung disease combined.¹

Suicide statistics based on death certificate data may not convey the true problem of suicide. Because there are no uniform criteria for classifying suicide, two certifiers may rule differently as to whether the death should or should not be determined to be suicide. Suicide deaths may also be under-reported because some suicide deaths are never recorded;⁷ it is suspected that many single motor vehicle crashes may be suicide deaths.⁸

Suicide risk factors vary among age groups, however, depression, death of a family member, exposure to suicide, and a previous suicide attempt are risk factors common to all age groups. Youth risk factors are unique in that youth are more impulsive and reactive, and have less communication and coping

skills. Parental or family discord, divorce, substance abuse, high-risk behavior, financial problems, and access to firearms are additional risk factors. Often the precipitating factor may be stress-related due to the breakup of a boyfriend or girlfriend, family discord, or problems at school.⁸ Among older persons, risk factors include social isolation, poor communication, diminished life goals, poor physical health, disability, chronic pain, and fading recuperative power.⁹

Completed suicides are not the only public health problem, as suicidal ideation, planning, and attempts also have a major public health impact. In the United States in 1998, there were an estimated 671,000 hospital emergency department visits for suicide attempts.¹⁰ Important differences exist for suicide ideation and behavior. For example, while the suicide rate is higher for males than females, the rates of suicidal thoughts and suicide attempts is higher for females.¹¹

Oklahoma

According to Oklahoma State Department of Health Vital Statistics data, 2,356 Oklahoma residents committed suicide between 1997 and 2001. Data shows there were more than 450 suicides each year. The average annual rate for males (23.3/100,000 pop.) in Oklahoma was more than four times greater than the rate for females (5.1/100,000 pop.) Rates were highest for males 65 years and older (Figure 1). The rate for whites (15.4/100,000) was more than twice the rate for Native Americans (8.51/100,000 pop.) and African Americans (6.8/100,000 pop.). Among the white population, the age-specific incidence rate was highest for persons 25-44 years of age (Figure 2). While the rate for whites

dropped during this 5-year period, the rate for Native Americans increased substantially (Figure 3). Firearms were the leading method for completing suicide for persons older than 14 years of age; person younger than 14 years were more likely to use hanging as a

Figure 1. Suicide Death Rates by Age and Sex, Oklahoma, 1997-2001

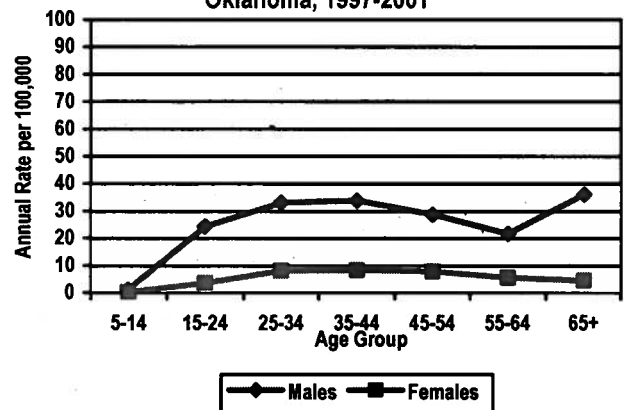
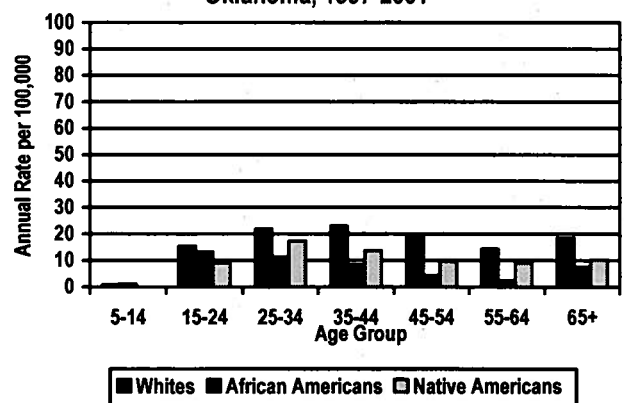


Figure 2. Suicide Rates by Age and Race, Oklahoma, 1997-2001



method (Table 1).

Blood alcohol content (BAC) levels were tested on 2,048 (87%) persons 15 years of age and older; 32% (662) showed positive results. Persons 35-44 years of age were most likely to have a positive BAC (Figure 4). More than half of Native Americans had a positive BAC (54%) compared to 31% of whites and 30% of African Americans.

In April 1999, the Oklahoma Legislature adopted House Joint Resolution 1018 creating the Adolescent Suicide Prevention Task Force. The purpose of the Task Force was to study the problem of youth suicide in Oklahoma and to develop a comprehensive state plan for youth suicide prevention and intervention. The Task Force developed the *Oklahoma Youth Suicide Prevention Plan* and submitted the *Plan* to the Governor and Legislature in October 2000. During the 2001 legislative session, the Oklahoma Legislature passed House Bill 1241 which created the Youth Suicide Prevention Act and the Youth Suicide Prevention Council. The bill directs the Board of Health to establish a system for collecting information concerning suicide attempts among persons of all ages who were hospitalized or treated and released.

Effective July 1, 2001, suicides and hospitalized suicide attempts became a reportable condition in Oklahoma. Data is collected to determine the magnitude of the problem. A report on the findings will be prepared and distributed. Injury surveillance data will provide critical information to assess the need for specific injury prevention policies and programs. This data will also be important for evaluating the effectiveness of intervention programs.

Figure 3. Suicide Death Rates by Race, Oklahoma, 1997-2001

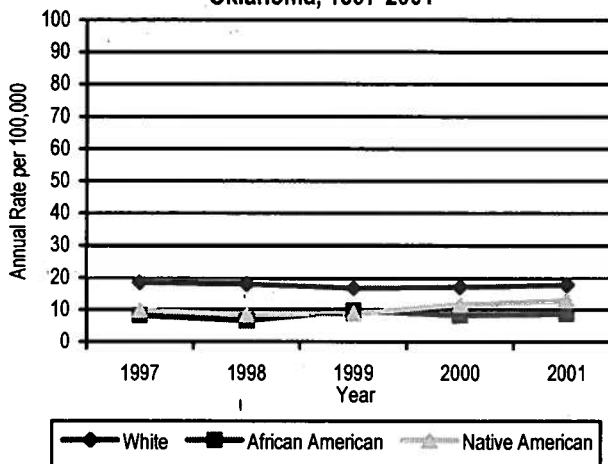


Figure 4. Suicides by Age and Percent Positive Blood Alcohol Concentration, Oklahoma, 1997-2001

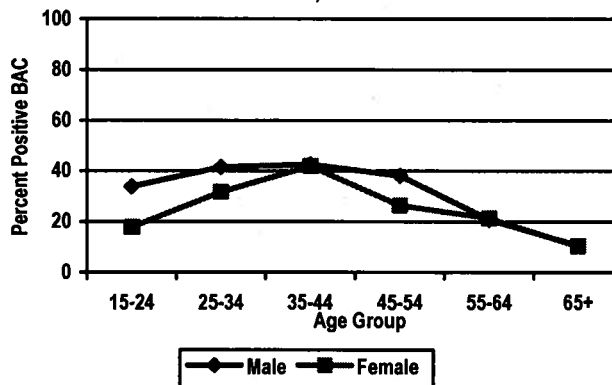


Table 1. Suicides by Age Group and Method, Oklahoma, 1997-2001

Age Group* (in years)	Firearms	Hanging	Drugs/Poison	CO & Other Gases	Other	Total**
≤ 14	9 (45%)	10 (50%)	0 (0%)	0 (0%)	1 (5%)	20
15-24	240 (67%)	89 (25%)	25 (7%)	12 (3%)	7 (2%)	361
25-34	247 (57%)	102 (24%)	59 (14%)	24 (6%)	22 (5%)	430
35-44	298 (56%)	92 (17%)	118 (22%)	28 (5%)	27 (5%)	535
45-54	241 (61%)	44 (11%)	88 (22%)	23 (6%)	25 (6%)	398
55-64	157 (73%)	13 (6%)	35 (16%)	14 (7%)	9 (4%)	214
65+	336 (85%)	22 (6%)	27 (7%)	12 (3%)	12 (3%)	397
Total	1529 (65%)	372 (16%)	352 (15%)	113 (5%)	103 (4%)	2356

Source: OSDH Vital Statistics

*Age unknown for 1 firearm suicide.

**Percents may not add up to 100 due to rounding.

YEAR 2010 OBJECTIVES

1. **Reduce suicides to 9.2 suicides per 100,000 population.**

Baseline: 14.1 deaths per 100,000 population were caused by suicide in 1998 (crude rate)

Target setting: 35 percent reduction

Data source: OSDH Vital Statistics data, 1998 (includes E codes 950.0-959)

2. **Reduce the rate of suicide attempts.**

Possible data sources: OSDH Injury Surveillance, 2002; OSDH Youth Risk Behavior Survey, 2002

PREVENTION STRATEGIES

Inadequate or nonexistent evaluation is a frequent problem in reviewing interventions directed at interpersonal violence and suicide. Despite its role as a major cause of death, suicide is a rare event. Except in the case of suicide clusters, no community or individual school is likely to experience many suicides. As a result, the evaluation of programs becomes statistically difficult.¹² Consequently, most of the studies that have been conducted have examined changes in knowledge and attitudes among the targeted youth. These results are very limited because the injury prevention literature is replete with studies that show that there is little correlation between attitude and knowledge and change in behavior. No studies have used random assignment of subjects to intervention and control groups. It has been recommended that interventions be designed with specific measurable objectives and thoroughly evaluated,¹² and large scale, rigorous randomized controlled trials of suicide prevention programs be conducted.¹³ Because the issues surrounding suicide are complex, successful prevention efforts should address multiple risk and protective

factors as well as prevention strategies. Therefore, a variety of organizations and individuals should work together to provide the most comprehensive services and use of valuable resources. Collaborative efforts such as public and private partnerships will increase the likelihood of success in generating support for and improving suicide prevention efforts. In addition, because of risk and protective factors related to suicidal behavior, it is important that local mental health and substance abuse service providers be included in suicide prevention efforts. The public health system and mental health system in Oklahoma are governed by two separate agencies which often results in duplication of efforts. Several communities across Oklahoma have organized partnerships called *Turning Point* to address health concerns in the communities. The purpose of these partnerships is to build broad community support and participation in public health priority setting and action and may provide a vehicle for future collaborations among local agencies and organizations.

Research on Suicide and Suicide

Prevention – Increasing the understanding of how individual and environmental risk and protective factors interact with each other to affect an individual's risk for suicidal behavior is the challenge in building suicide prevention plans and strategies on solid scientific evidence. Data is needed to help establish community-specific prevention priorities and for evaluating the effectiveness of suicide prevention efforts.

Youth Suicide Prevention

Programs that address risk and protective factors at multiple levels are likely to be most effective. Local data on suicide should be used in combination with evidence-based models to develop community-specific, culturally appropriate suicide prevention

programs targeting the general population as well as those most at risk. In 2001, the Oklahoma Youth Suicide Prevention Coalition sponsored a Youth Listening Conference. The listening conference provided a structured forum for youth to present their views and opinions as well as their solutions on issues that they face to a panel comprised of community leaders. Some of the topics included spirituality, eating disorders, relationship issues, discrimination, substance abuse, suicide, and many other topics that teenagers face.

Life Skills Training – The most popular suicide prevention programs in the 1980s were school-based programs operating on the rationale that teenagers are more likely to turn to peers than to adults for support when dealing with suicidal thoughts. When the efficacy of these school-based programs were evaluated, researchers found only modest increases in knowledge and attitudes, while others reported either no effects or detrimental effects.^{14,15,16} As a result of these limitations, the emphasis shifted toward programs that emphasize life-skills training, including developing problem-solving, coping, and cognitive skills. Evaluations of these programs have shown promising results.^{17,18,19} Skills-based prevention programs do not have to be limited to school settings, and can be incorporated into community centers, runaway shelters, and other locations that are more likely to reach high-risk youth and young adults. For skills training to be most effective, it needs to be implemented early in the child's development and should involve parents, as well.²⁰ A coordinated school health program is one way of including life-skills training in the school setting. Coordinated school health programs contain eight major areas of focus: comprehensive school health education; physical education; school health services; school nutrition services; school counseling, psychological,

and social services; healthy school environment; school-site health promotion for staff; and family and community involvement in school health.

Gatekeeper Training for Youth Suicide Prevention – A strategy involving the training and education of adults who come in contact with suicidal youth in both schools (e.g., teachers, counselors, coaches, etc.) and the community (e.g., pediatricians, clergy, police, recreation staff, etc.) is known as "gatekeeper training." These individuals are often in a position to be among the first to detect signs of suicide contemplation and offer assistance to adolescents in need. The purpose of the gatekeeper training is to develop the knowledge, attitudes, and skills to identify students at risk; to determine the levels of risk; to manage the situations; and to make a referral when necessary. Research on the effectiveness of gatekeeper training is limited, but the findings are encouraging.^{21,22}

Direct Screening of Youth – Another prevention strategy that has received attention and has yielded encouraging results is direct screening of youth. One common method used to do this is a three-stage screening process. In the first stage, students complete a brief self-report questionnaire called the Columbia Teen Screen during a health class. Based on their answers, students who may have an increased risk are advanced to the second phase and assessed further through a computerized Diagnostic Interview Schedule for Children (DISC). An advantage of the two-stage process is that it reduces the number of students who have to be seen by a clinician by screening out those students who are not at risk.¹⁴ When the DISC interview is completed, the computer produces a diagnostic report that is reviewed by a physician who then personally interviews students in the third stage of the

screening process. The physician determines whether the identified student needs to be referred for further evaluation. A case manager contacts the students' parents to assist students who are deemed to be in need of additional intervention and also to ensure treatment compliance.¹⁴ Although this strategy appears to be quite promising, it is important to remember that among teenagers, suicidal tendencies may come and go as crises occur and are resolved. Therefore, multiple screenings may be necessary in order to minimize false negatives.²³ Considerable effort must be made to assist the families and adolescents in obtaining help if it is needed.²³

Reducing Access to Lethal Means and Methods of Self-Harm – Evidence suggests that removing or restricting access to lethal means of suicide (i.e., firearms, poisons, medications, alcohol, bridge railings, carbon monoxide, etc.) is an effective suicide prevention strategy that can decrease suicide.²⁰ Further, education on the restriction of access to lethal means is seen as one of the most promising suicide interventions. Often referred to as "means restriction," this approach is based on the premise that a small, but significant number of suicide acts are impulsive in nature making suicidal thoughts and quick access to lethal means a deadly combination. Therefore, a self-destructive act can be prevented by eliminating access to such means of self-harm.

Easy access to a firearm, especially for the young, is an important risk factor for suicide.²⁵ A potentially suicidal adolescent's risk of actually committing suicide increases 75-fold if there is a gun in the home.²⁶ Among parents whose children visited an emergency department for a mental health assessment or treatment, those who received injury prevention education from hospital staff are significantly more likely to limit access to

lethal means of self-harm than families who did not receive such education.²⁷

A concern often raised with regard to the effectiveness of means restriction is the chance that individuals will substitute an available method for one that is restricted. Although some evidence of method substitution exists,²⁸ method substitutions do not appear to be an inevitable reaction to firearms restriction.^{29,30} Even if method substitution does occur, the chances of survival may be greater if the new methods are less lethal.³¹

Suicide Prevention Among Older Persons

Although older persons are among the highest risk groups for suicide, there are few interventions identified that are specifically directed at persons in these age groups. Despite the lack of published proven interventions, some experts suggest several possible prevention measures, including identifying depression among older persons and ensuring better treatment, allowing individuals to work for as long as they are able, making retirement a gradual process that involves counseling, providing free medical examinations for persons 60 years of age and older, and providing telephone service to older persons living alone.⁹ Other prevention programs include providing suicide prevention education programs for organizations that are in contact with older persons including Eldercare, church groups, home-delivery meal services, and volunteer programs. Because older men, the demographic group at greatest risk for suicide, may be even less likely than others to report depression,²⁴ it is recommended that public awareness campaigns, coupled with education of health care providers, be implemented to educate older persons and their families about the signs and symptoms of clinical depression and the risks and warning signs of suicide in late life. They

should be informed of the benefits of available treatments, and dispelled of the myths that depression and suicidal thoughts are a "normal" part of aging.²⁰

Training For Recognition of At-Risk Behavior and Delivery of Effective Treatment

– There is evidence that many health professionals are not adequately trained in providing proper assessment and treatment of suicidal clients, identifying clients who need referral for specialized care, or recognizing risk factors often found in grieving family members. Therefore, community suicide prevention efforts should address the need to provide training to health care and other professionals. It has been recommended that greater emphasis be placed in undergraduate, graduate, and continuing medical education on recognition and effective treatment of depressive disorders and suicidal states in older people.²⁰

The Mental Health Association of Tulsa has a partnership with the Oklahoma State University College of Osteopathic Medicine in which all third year residents complete several hours of suicide prevention training, including questions to ask patients.

Community Outreach to Identify Older Persons at Risk for Suicide

– While initiatives in primary care settings show promise in identifying suicidal tendencies among older persons, persons who do not have access to care would be missed. Community outreach is needed for these people. The Elder Services Division of the Spokane Mental Health Center in Spokane, Washington has developed a comprehensive model of outreach. The program combines a method for reaching at-risk older persons living in the community known as the Gatekeeper model, and a comprehensive clinical case management system. The Gatekeeper model relies on nontraditional

community referral sources to identify older individuals at risk for self-harm, meter readers, utility workers, bank personnel, apartment and mobile home managers, postal carriers, and others receive a small amount of gatekeeper education and training, then during the course of their routine business, are equipped to observe older people in their homes and the community to detect at-risk behavior. They refer older persons at risk to the Clinical Case Management Program that is equipped to respond with clinical referrals; in home medical, psychiatric, family, and nutritional assessments; medication management and respite services; and crisis intervention. An important element of the program's success is its collaborative funding and support by the region's consortium of aging services providers and the mental health system.¹¹

Effective Clinical and Professional Practices

– Many of those who commit suicide visit a non-mental health clinician within the last month of their lives. Several studies have shown that from 43 percent to 76 percent of older people who committed suicide saw a primary care provider within 30 days of death.^{11,32,33,34} From 19 percent to 49 percent saw a physician within one week of their suicide. These findings point to the important role primary care providers can play. Depression is a common risk factor associated with suicide in later life, yet studies have demonstrated that primary care providers have difficulty recognizing treatable depression in their patients.^{35,36} Several factors may impede recognition of depressive disorders in older patients, including physicians typically spend less time with older patients,³⁷ and older persons are less likely to voluntarily report symptoms of depression.³⁸ Some physicians may also mistakenly assume that depression is a "natural" consequence of aging.³⁹ Self-administered screening tools for depression have been validated for use among older

primary care patients, including the Geriatric Depression Scale and the Center for Epidemiologic Studies-Depression Scale.^{40,41} It has been recommended that these measures be used routinely in primary care offices.²⁰ A controlled study entitled PROSPECT (Prevention of Suicide in Primary Care Elderly Collaborative Trial) is testing the effectiveness of using Health Specialists to collaborate with physicians and help them recognize depression, offer timely and appropriately targeted treatment recommendations, and encourage patients to adhere to treatment. Additionally, procedures are implemented to educate patients, families, and physicians on depression and suicidal thoughts.⁴²

Improved Access to and Community Linkages with Mental Health and Substance Abuse Services – No transportation, conflicting schedules, lack of health care professionals to meet the needs, and little, none or inappropriate insurance coverage are barriers to identifying those at risk and providing adequate health care. To be effective, services to prevent suicide must be available when and where people need them. Ideally, a community should provide a variety of confidential services in many different places. Providing mobile services, including information, education, screening, treatment, and consultation to the general population as well as those at highest risk may be effective in improving access to mental health services.

RECOMMENDED STRATEGIES FOR THE PREVENTION OF SUICIDE AND SUICIDE ATTEMPTS

RECOMMENDATION

1. Continue statewide surveillance of suicides and hospitalized suicide attempts.
2. Implement gatekeeper-training programs in communities across the state.
3. Improve access and coordination with mental health care services.

IMPLEMENTATION PLAN

- 1a. Secure state funding to continue surveillance of suicides and hospitalized suicide attempts by 2005.
- 2a. Secure ongoing funding for gatekeeper-training programs by 2005.
- 2b. Provide train-the-trainer activities for persons who work with youth who are interested in becoming regional suicide prevention trainers (parents, school personnel, youth ministers, etc) by 2005.
- 2c. Provide technical assistance to communities implementing gatekeeper-training programs on an ongoing basis.
- 3a. Increase interaction and dialogue between the OSDH and Department of Mental Health and Substance Abuse Services by having a regular joint meeting of the State Board of Health and Board of Mental Health and Substance Abuse Services by 2006.
- 3b. Increase interaction between county health departments, Area Agencies on Aging, and local mental health programs/providers by 2006 by pooling resources and having joint meetings with the local boards of these agencies.
- 3c. Increase interaction between Health and Human Services agencies on youth issues by collaborating on joint initiatives with Area Prevention Resource Centers by 2006.
- 3d. Increase interaction between county health departments, Indian Health Service, and Native American tribes in Oklahoma by 2006.

RECOMMENDATION

3. Improve access and coordination with mental health care services. (continued)

4. Establish and implement screening programs.

5. Implement training programs for recognition of at-risk behavior among older persons.

6. Establish coordinated school health programs that include life skills training.

IMPLEMENTATION PLAN

- 3e. Increase interaction and dialogue between the OSDH and state aging agencies/organizations by 2005 by implementing recommendations in *Guide to State Health Departments and State Aging Agencies Working Together*.

- 4a. Partner with schools, youth organizations, local mental health programs, and mental health associations to implement professionally designed mental health screening instruments to identify youth with mental illnesses associated with suicidal behaviors by 2005.

- 4b. Partner with schools, local physicians, and mental health providers to implement the Adopt-a-Doc/Nurse model in schools by 2005.

- 5a. Collaborate with medical and nursing schools to place greater emphasis on recognition and effective treatment of depression by 2005.

- 5b. Partner with CONTACT to develop an evaluation of their community outreach program (i.e., Gatekeeper model) designed to reach at risk older persons by 2006. If results are effective, implement similar programs in other communities.

- 5c. Incorporate suicide prevention training into caregiver training programs by 2005.

- 6a. See #2a-2c in *Infrastructure*.

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