Suicide in Native American males, ages 15 - 24

Between 2003 and 2007, there were seven completed Native American suicides by 15-24 year Native American young males (NAYM), accounting for 4.49% of all 15-24 year old Idaho male suicides and .63% of all known Idaho suicides during that time, that were reported to the Idaho Bureau of Vital Records and Health Statistics of the Idaho Department of Health & Welfare. Because each suicide affects an average of 15 people, the impact of even seven suicides is far reaching. In response to the higher rate of suicides among Idaho's NAYM, the Idaho Department of Health & Welfare has selected NAYMs as one of four special 'at-risk' populations for further study. The hope is that the research literature summarized below will support Idaho's suicide prevention community in their efforts to understand NYAM suicide, identify youth at risk and raise family, school and tribal awareness of the signs and symptoms of NYAM suicides and to design and implement suicide prevention programs.

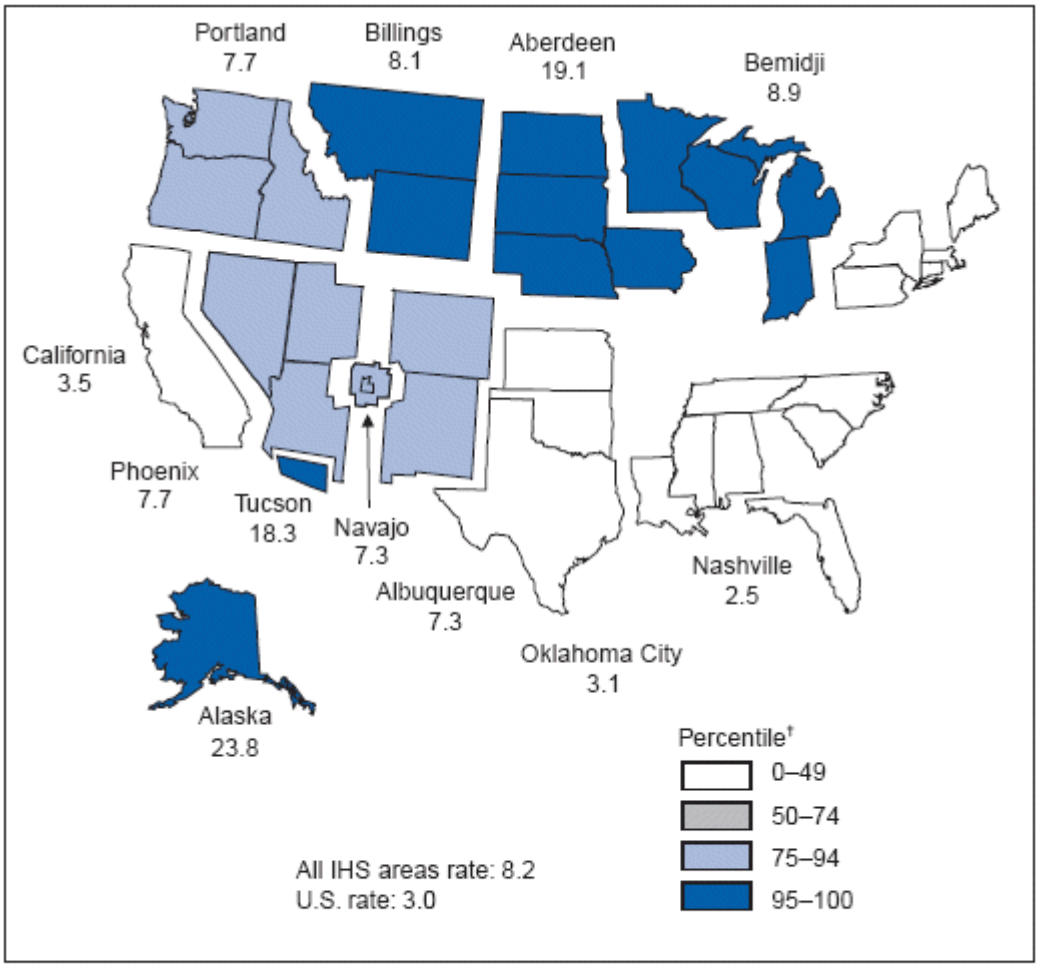
The following framework gives an overview of the available data and research literature with the intent to provide a broad overview for people working with Native American suicide prevention and treatment. Wherever possible, Internet links point to fuller abstracts or the full text of the research articles. We have also included Idaho-specific information on NAYM suicides provided by the Idaho Bureau of Vital Records and Health Statistics at the Idaho Department of Health &Welfare to illustrate the extent of the phenomenon in Idaho.

National data on the trends of Native American male suicide 15 – 24 years old

The high prevalence of suicide among Native American young males has achieved widespread recognition and concern, but relatively little research (Olson & Wahab, 2006). Suicide was the third leading cause of death among NAYM, ages 15 to 24, and was the second leading cause of death for Native American males ages 10 – 34 years old (Kochanek, Murphy, Anderson, & Scott, 2004; National Center for Injury Prevention and Control, 2006). The national suicide rate for NAYM is three times higher than same age males of any other racial group (http://www.nopcas.com/stats/). In comparison, the rate for Native American female ages 5- are 2.22 to 3.6 times higher than females in the general population.

Adults aged 25-29 had the highest rate of suicide in the American Indian and Alaska Native population, 20.67 per 100,000, nearly twice the overall US suicide rate. Native American male rates peak at 67 per 100,000 in the 25-34 age group in general, and Native American males ages 20 years and older are four times more likely to commit suicide. (CDC, 2003). Overall Native American males had suicide rates almost five times higher than Native American females (http://www.nopcas.com/research/).

The figure below shows the national distribution of suicides by Native American youth from the Indian Health Service. The highest rates of youth suicide occurred in the Alaska, Aberdeen and Tucson Areas, with suicide rates six to eight times greater than national rates. The preponderance of Native American suicide rates in the north or the west of the United States is roughly consistent with general distribution of suicides in the United States.



* Per 100,000 population.
† Shading of IHS regions corresponds to the national ranking of state rates in percentiles for all U.S. populations combined for 1989–1998.

Figure 1. Suicides among American Indians and Alaska Natives Aged 19 Years and younger, by Indian Health Service (IHS) Administrative Areas: 1989–1998. http://www.ucalgary.ca/~ptrembla/aboriginal/aboriginal-youth-suicide-rates-usa-canada.htm.

Table 1 below presents Centers for Disease Control and Prevention (CDC) data comparing suicide incidence for NAYMs and same age white males. Table 2 presents the same data for Native American young females and their white counterparts. Several common trends in adolescent suicide and suicide by Native American adolescents are apparent in Tables 1 and 2. Both tables reflect the general reduction in the suicide rate observed nationally since the late 1990s. Both tables also show the higher suicide rate among Native American adolescents, with the male Native American rate often twice the rate of white counterparts and almost five times the national rate of 10.4/100,000 for NAYMS aged 20-25. The rate for 20-25 year old Native American females is also higher than their white counterparts, but at 9.14/100,000 it is one-fifth of the Native American 20-24 year old male rate and is less than the overall national suicide rate of 10.4/100,000. Figures 1 and 2 present the CDC data in graphic form. Note that even though the overall pattern of suicides holds for the females, the magnitude is dramatically lower.

American Male Adolescent Suicide Native American / White						
-	1990-1998 Suicide Deaths / 100,000			1999-2003 Suicide Deaths / 100,000		
Age Group	**Native American**	**White**	**RR**	**Native American**	**White**	**RR**
10-14	4.86	2.59	1.9	3.57	2.10	1.7
15-19	38.65	18.26	2.1	31.44	14.49	2.2
20-25	51.60	27.51	1.9	37.73	24.18	1.6
15-25	45.35	23.04	2.0	34.46	19.14	1.8
Data obtained from http://www.ucalgary.ca/~ptrembla/aboriginal/aboriginal-youth-suicide-rates-usa-canada.htm. RR = Risk Ratio: Risk for Suicide by Native American Males Compared to White males. Native American Males (Non-Hispanic) Have Been Two Times More at Risk for Suicide Than Their Non-Hispanic White Counterparts.						

Table 1. CDC data for suicides for Native American and white males.

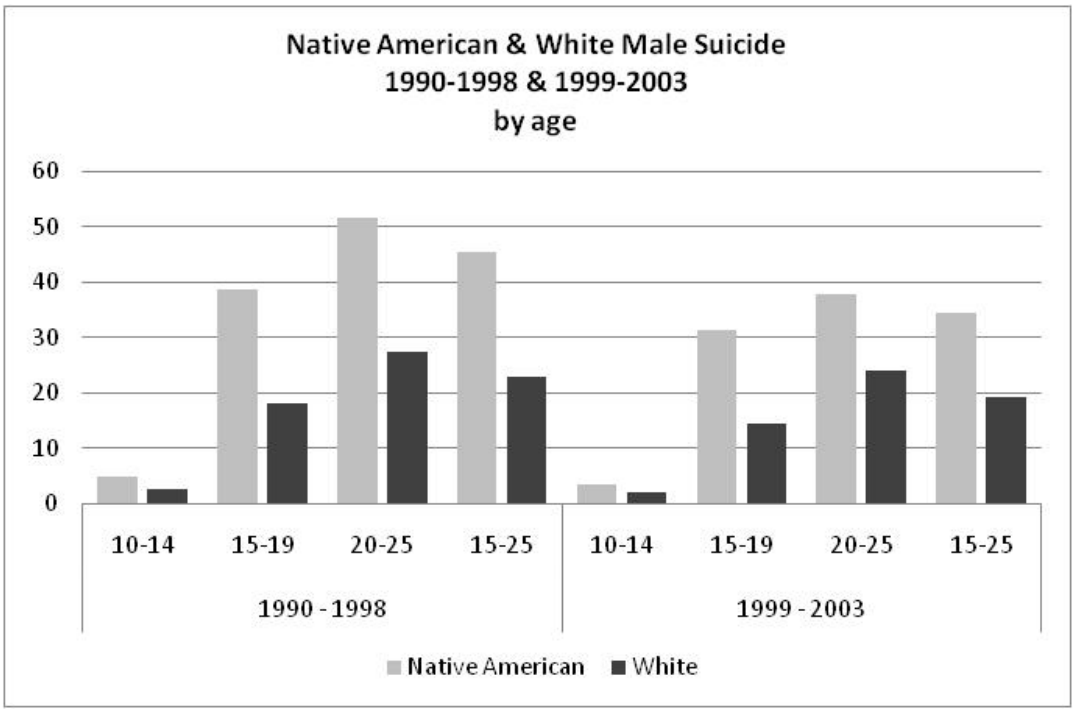


Figure 1. CDC data for suicides for Native American and white males, ages 10-25 for 1990-1998 and for 1999-2003.

American Female Adolescent Suicide Native American / White						
-	1990-1998 Suicide Deaths / 100,000			1999-2003 Suicide Deaths / 100,000		
Age Group	**Native American**	**White**	**RR**	**Native American**	**White**	**RR**
10-14	1.66	0.91	1.8	1.58	0.58	2.7
15-19	9.16	3.70	2.5	8.63	2.92	2.9
20-24	9.11	4.29	2.1	8.16	3.76	2.2
15-24	9.14	4.01	2.3	8.41	3.32	2.5
Data obtained from http://www.ucalgary.ca/~ptrembla/aboriginal/aboriginal-youth-suicide-rates-usa-canada.htm. RR = Risk Ratio: Risk for Suicide by Native American Females Compared to White Females. Native American Females (Non-Hispanic) Have Been Two to Three Times More at Risk for Suicide Than Their Non-Hispanic White Counterparts.						

Table 2. CDC data for suicides for Native American and white females.

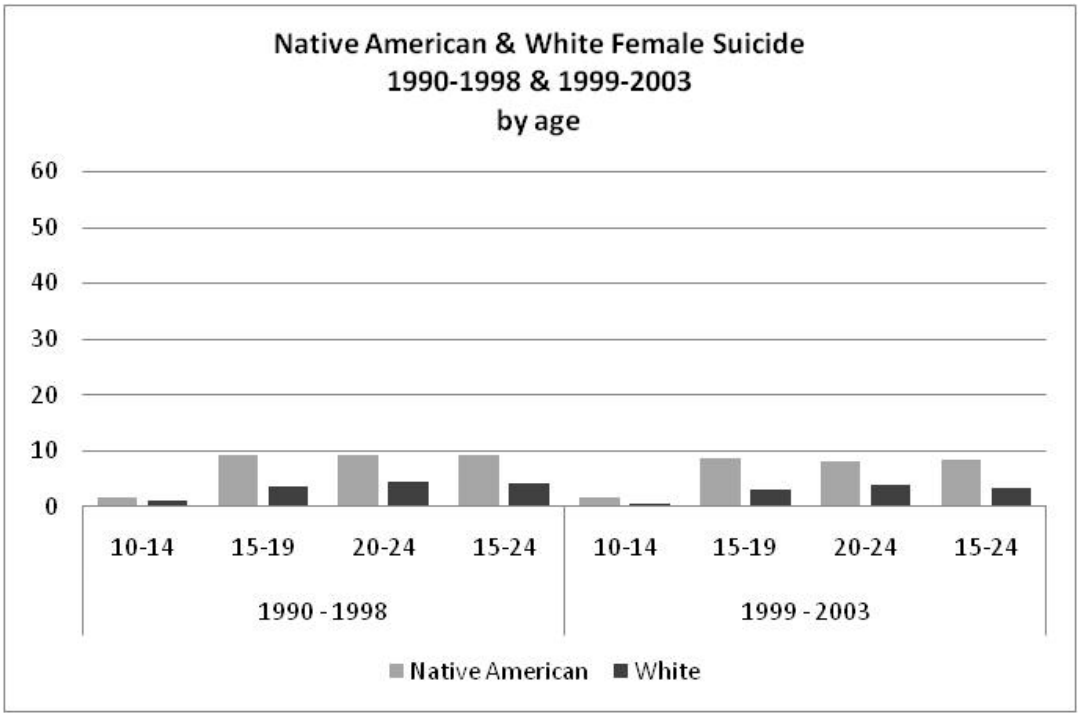


Figure 2. CDC data for suicides for Native American and white females, ages 10-24 for 1990-1998 and for 1999-2003. The data presented in Figures 1 and 2 were obtained from: http://webappa.cdc.gov/sasweb/ncipc/mortrate10_sy.html.

Idaho data on the trends of Native American male suicide 15 – 24 years old

The Idaho Bureau of Vital Records and Health Statistics records document only seven NAYM suicides between 2003 and 2007. The actual occurrence of NAYM suicides in Idaho may be higher due to different reporting practices used by the different tribes in Idaho, and different levels of collaboration with the Bureau of Vital Records. With that caveat, the tables below present Idaho specific suicide data for young Native American males.

Idaho Resident Deaths* Native American Males age 15-24 by Age group from 2003-2007		
Ages	**Suicide Deaths**	**All causes of Deaths**
15-17	2	6
18-20	2	3
21-24	3	11
Total	**7**	**20**

*ICD-10 Codes for Suicide: X60.0-X84.9 and Y87.0. Idaho Bureau of Vital Records and Health Statistics, Idaho Department of Health and Welfare (06/2009)

Table 3. Table 3 shows the age distribution of Idaho NAYM suicides and all Native American deaths from 2003 to 2007.

Idaho Resident Suicide Deaths* Native American Males age 15-24 by Place of Injury from 2003-2007	
Home	3
Other, specified, or unknown place	2
Residential institution, Nursing home	1
Total	**7**

*ICD-10 Codes for Suicide: X60.0-X84.9 and Y87.0.Idaho Bureau of Vital Records and Health Statistics, Idaho Department of Health and Welfare (06/2009)

Table 4. Table shows where Idaho NAYM suicides occurred from 2003 to 2007.

Suicide Methods used by Native American young males

National data on the mechanisms used in completed Native American suicides show the same mechanisms as in the general population of completed suicides, with firearms, suffocation (hanging) and poisoning as the main vehicles. Figure 3 shows the proportion of suicide methods used by Native Americans in a large study (Wallace, Calhoun, Powell, O'Neil, J, and James, 1996). The proportion of firearms used is lower than that employed by same-aged males in the overall population during the study period. CDC mortality data for 1991 show that firearms were used in 70.9% of general adolescent male suicides, but only in approximately 37% of NAYM suicides during the same interval (CDC WISQARS Mortality Data (1992-2002)). Table 5 shows the distribution of suicide methods used by adolescent male Native Americans by in the Wallace et al. study.

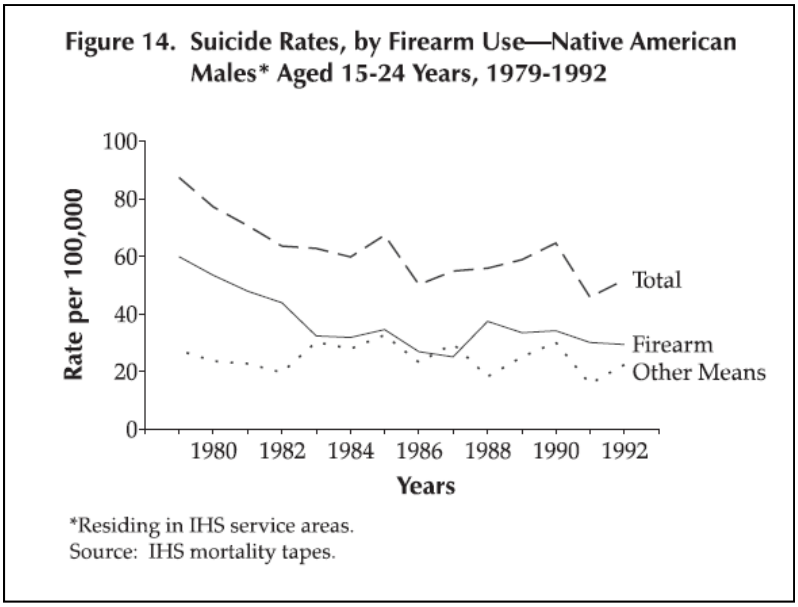


Figure 3. The proportion of firearms to other methods used in completed Native American suicides from 1979 – 1992 (Wallace, Calhoun, Powell, O'Neil, J, and James, 1996).

Percentage of suicides by Method Native American Adolescent males 1979 - 1992	
Mechanism	**Percentage**
Firearm	59%
Hanging	31%
Poisoning	5%
Other means	5%
Total	**100%**

Table 5. Suicide methods used by adolescent Native American males from 1979 – 1992 identified by (Wallace, Calhoun, Powell, O'Neil, J, and James, 1996).

Mechanisms of suicide for Native American young males in Idaho

The mechanisms of suicide used by NAYM in Idaho parallel those of the national data – the primary methods are firearms followed by suffocation and poisoning. Table 6 shows the suicide mechanisms used by NAYMs in Idaho from 2003 to 2007. Although it is highly questionable to calculate percentages based on seven cases, Table 6 does so to facilitate comparisons with the national NAYM data. For the sake of comparison, Table 7 shows the mechanisms used in all Idaho completed suicides from 2003 – 2007.

Idaho Resident Suicide Deaths* Native American Males age 15-24 by Mechanism from 2003-2007		
Mechanism	**Total**	**Percentage**
Intentional self-harm by discharge of firearms	4	57%
Intentional self-harm by suffocation	2	29%
Intentional self-harm by poisoning	1	14%
Total	**7**	**100.0%**

*ICD-10 Codes for Suicide: X60.0-X84.9 and Y87.0.Idaho Bureau of Vital Records and Health Statistics, Idaho Department of Health and Welfare (06/2009)

Table 6. Suicide methods used by Idaho's adolescent Native American males from 2003 to 2007. Note that the percentages are shown for comparison purposes, although the number of cases is too low to produce reliable percentages.

Idaho Resident Suicide Deaths* Mechanism by Sex, Race, and Ethnicity 2003-2007							
Mechanism	**Total**	**White**	**Black**	**American Indian or Alaska Native**	**Asian/ Pacific Islander**	**Other race**	**Not stated**
Poisoning	166	161	1	3	-	1	-
Suffocation	163	153	1	8	-	1	-
Drowning and Submersion	6	5	1	-	-	-	-
Discharge of firearms	738	713	2	10	3	8	2
Fire/Hot object or substance	5	5	-	-	-	-	-
Cut/Pierce	15	13	-	-	1	1	-
Struck by or Against	-	-	-	-	-	-	-
Fall	15	13	-	1	1	-	-
Transport	6	6	-	-	-	-	-
Other*	6	6	-	-	-	-	-
TOTAL, all years	**1,120**	**1,075**	**5**	**22**	**5**	**11**	**2**

* ICD-10 Codes for Suicide: X60.0-X84.9 and Y87.0 Intentional self-harm by 'Other' includes mechanisms designated as: 'other specified, classifiable;' 'other specified, not classifiable;' or 'other, unspecified.' Idaho Bureau of Vital Records and Health Statistics, Idaho Department of Health and Welfare (06/2009)

Table 7. Suicide methods used by all Idaho completed suicides from 2003 to 2007.

Causes of NAYM suicide

The causes underling any suicide are complex and the causes underlying the unique suicide pattern of an entire culture more so. Many of the underlying causes of NAYMs are the same as with adolescent males in general. Depression, especially when combined with substance use, and a tendency of males to solve problems directly, impulsively and violently, coupled with normal adolescent emotional angst and reticence of males to discuss emotions all contribute to a high completed suicide rate. In addition, some research has found that, compared with other racial and ethnic groups, American Indian/Alaska Native youth have more serious problems with mental health disorders related to suicide, such as

anxiety, substance abuse, and depression (Olson, L. M., & Wahab, S. (2006). All of these factors likely play a role in the elevated suicide rate of Native Americans in general and of NAYMs in particular.

These factors are all present in NAYMs, but there may be some additional cultural issues that act to raise the suicide rate. Dapice, Inkanish, Martin and Brauchi (2004) present a cluster of factors impacting Native American physical and mental health, including the heightened risk for suicide. Among the factors cited, the following seem relevant to Native American suicide:

- Loss of culture, cultural support & communication systems
- Loss of traditional family structure & consequent family dysfunction
- Cultural stresses amounting to chronic high stress levels and post-traumatic stress disorder (PTSD)
- Personal and cultural depression
- Diminished family ties due to depression, substance use and suicide among family members
- Alcohol and drug addiction
- Physical and sexual child abuse
- Distrust of, and fear of stigma for receiving, mental health services
- Lack of help seeking behavior
- Lack of available or accessible mental health services
- Perception of discrimination

Risk & Protective Factors on NAYM suicide

Similar to the causes of NAYM suicide, many of the risk and protective factors are the same as in the general population. Untreated depression, impulsive anger, lack of emotional confidants, loss of hope and substance use are all risk factors for NAYM suicide, just as they are for all adolescents. However, Wagman-Borowsky, Resnick, Ireland, and Blum, (1999) identified a number of factors unique or of unusually high influence for Native American youth. Their study of 13,454 Native American youths from Alaska, Arizona, California, Minnesota, Montana, New Mexico, South Dakota, and Tennessee found the following. The work of other researchers is also included below.

- Risk factors
    - Having a friend who attempted or completed suicide was the most powerful risk factor
    - Having a family member who attempted or completed suicide was another powerful risk factor
    - Unmanaged or poorly managed depression
    - A history of physical or sexual abuse. Sexual abuse was a strong predictor of attempting suicide for male youth
    - Use of alcohol, marijuana, or other drugs, due to the substance use itself as well as the underlying factors of the substance use, such as depression or hopelessness
    - A self-perception of poor general health was associated with a history of suicide attempts among Navajo adolescents (Grossman, Milligan & Deyo, 1991)
    - An arrest history (Bender, 2003)
    - Treatment for emotional problems
    - Somatic symptoms, including headaches, breathing problems, stomach problems, allergies, and nerves, and being concerned about one's health
    - Gang involvement and a history of being treated for emotional problems were significant risk factors for boys

    - Knowing where to get a gun and a history of being in a special education class were significant risk factors for girls

- Protective factors
    - Perceived and actual connectedness to family
    - Discussing problems with friends or family
    - Emotional health
    - Having a nurse or clinic in school was a protective factor for females
    - Anger management classes were a protective factor for males

Signs & Symptoms of Suicide (not specific to Native Americans youth, but youth in general)

- Recent loss of a friend or family member through death or suicide
- Previous suicide attempts
- Use or increased use of drugs and/or alcohol
- Talking about suicide, or making a plan
- Giving away prized possessions
- Expressions of hopelessness, helplessness and anger at oneself or the world
- Themes of death or depression in conversation, writing, reading or art
- Statements of not being missed if dead
- Other losses, such as loss of a parent through divorce
- Strong personality changes, withdrawal, aggressiveness or moodiness
- New involvement with high-risk activities
- Sudden dramatic decline or improvement in schoolwork

Prevention

General suicide prevention techniques are also applicable to Native American youth. In addition, there is a recognized evidence-based suicide prevention program developed by and for Native Americans. The American Indian Life Skills Development Curriculum (AILSDC) is a Native American based framework for life skills development and suicide prevention. Generalized to be accessible to all tribes, it is based upon an earlier intervention, the Zuni Life Skills Development Curriculum (the two titles are sometimes used synonymously). Like many life skills programs, the core life skills development activities focus on self-esteem; identifying emotions and stress; increasing communication and problem-solving skills; recognizing and eliminating self-destructive behavior; and setting personal and community goals. The suicide prevention mechanisms include reduction in depression and hopelessness instilled by the life skills and cultural teachings and from two specific units on suicide. More information on the American Indian Life Skills Development Curriculum can be found at: http://www.idahosuicide.info/_uploads/AmericanIndianLifeSkillsDevelopment.pdf.

There have been a number of other Native American specific suicide prevention programs, although several no longer appear to be available.

- Wind River Behavioral Program (Tower 1989)
- Tohono O'odham Psychology Service (Kahn, et al. 1988)
- Western Athabaskan Natural Helpers Program (May, et al. 2005)
- Indian Suicide Prevention Center (Shore, et al. 1972)

Other general suicide prevention approaches, alone or in combination, may also play a significant role in the prevention of NAYM suicides. These include:

- Cultural believes, influence and approaches. For example, LaFromboise and Hayes (2008) state that the Zuni tribal beliefs not only prohibit suicide, but even the portrayal of suicide by tribal members.
- Education & awareness to involve peers, families and communities in watching and caring for each other during suicide crises
- Signs and symptoms training to help individuals, peers, families and communities spot the warning signs of suicide before a crisis develops
- Screenings to give youth contemplating suicide a chance to recognize and communicate their distress
- Programs that encourage help seeking behavior or seek to lower the stigma of mental health services
- Anti-depressant regimens
- Locally available mental health services
- Means reduction programs

Treatment

There are many calls from within and without the Native American community for research-based, culturally relevant suicide interventions or treatment programs. However, none could be located. There are successful Native American addiction treatment programs designed by tribal leaders and based on cultural factors, such as Wellbriety (Cliff, S. (2005), http://www.wellbriety-nci.org/), that might serve as a model for a Native American suicide postvention.

Several researchers and authors have described elements that a Native American suicide postvention could or should include. For the individual, the focus remains on crisis management - stabilizing the individual by treating the depression using conventional means, including a brief regimen of anti-depressants. At a tribal or cultural level, the focus is on incorporating cultural beliefs and practices into treatment and involving tribal healers and leaders in the design and implementation of the program (McCabe, 2007). For example, one author suggests that most critical therapeutic issue for Indian youth is the positive reinforcement of their Indianism. (Phillips, 2009). Others focus on the importance of reestablishing and improving family and tribal contact and communications to mitigate suicide risk, especially in NAYMs.

There is also some intriguing work in recent years in cultural trauma, essentially a form of post-traumatic stress disorder (PTSD) that afflicts entire peoples and individual members. Brave Heart & DeBruyn (1998) make a specific case about many Native American health issues, including suicide, as a cultural grieving reaction to the onset of Europeans and the loss of traditional Native American lands, ways and culture. If the high rate of suicides by Native Americans is driven by a cultural form of PTSD, then perhaps the tools and techniques used with other forms of PTSD may play be beneficial role in future suicide treatment programs for Native Americans.

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