# Suicide Clusters in American Indian and Alaska Native Communities

Quantum Units Education
Affordable. Dependable. Accredited.

www.quantumunitsed.com

# Table of Contents

## AI/AN Suicide and Suicide Clusters Background

The purpose of this report is to examine what is known about suicide clusters within American Indian and Alaska Native (AI/AN) populations and to use that information to develop recommendations for stakeholders working to prevent and contain suicide clusters within AI/AN communities. This paper provides the results of the review based on: (1) the research on suicide clusters and contagion in general and within AI/AN communities; (2) discussions with several subject matter experts; and (3) interviews with representatives from the Centers for Disease Control and Prevention (CDC) and the Indian Health Service (IHS). The authors also reviewed the *CDC Recommendations for a Community Plan for the Prevention and Containment of Suicide Clusters* ("CDC Guidelines") and made recommendations on how the CDC Guidelines could be updated to address the specific needs of AI/AN communities.

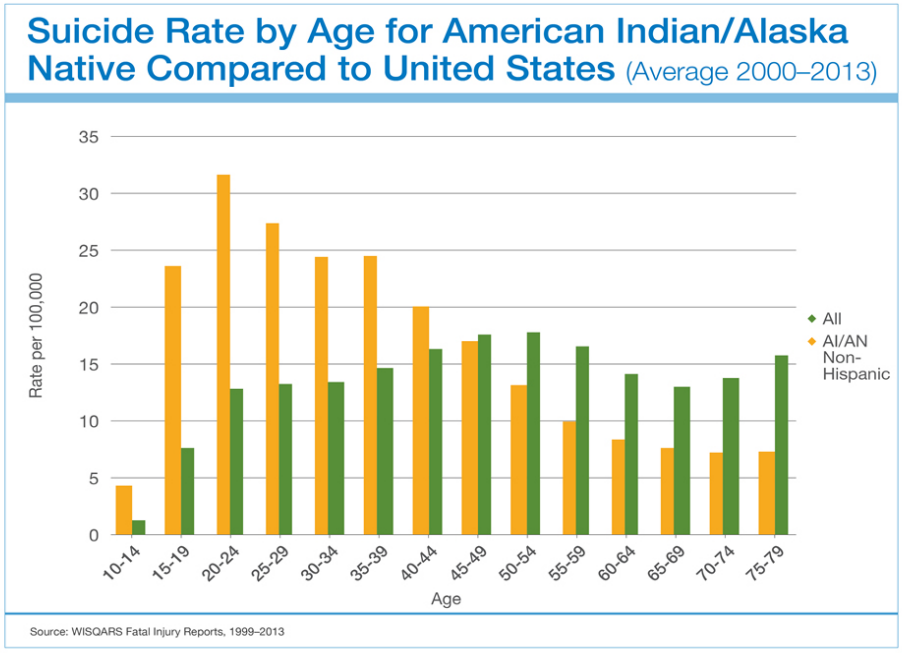
AI/AN adolescents and young adults, who—in some tribes—have alarmingly high suicide rates, are at greater risk for suicide contagion and cluster formation than other age demographics. Suicide clusters within typically close-knit, rural AI/AN communities can be devastating to AI/AN youth, families, and communities. Yet, the existing research on suicide clusters and contagion is limited and in some cases is several years old, particularly for this population. Any strategies that address suicide clusters and their impact on AI/AN communities must consider the factors that contribute to, and mitigate, suicide cluster formation, and must include solutions that reflect the traditions, culture, and diversity of AI/AN peoples.

## Prevalence

### Suicide

American Indian and Alaskan Native communities have strikingly higher suicide rates compared to the overall U.S. population. In 2010, the CDC reported suicide as the eighth leading cause of death among AI/AN, at a rate of 16.93/100,000 compared to an overall U.S. rate of 12.08/100,000 (as reported in SPRC, 2013). Yet unlike the general U.S. population, in which suicide rates increase with age, suicide rates decline with age for AI/AN (see chart A). The IHS *Trends in Indian Health* report (2014), which provides data on the approximately 58 percent of AI/AN who reside in IHS service areas, identified suicide as the second leading cause of death for AI/AN youth between the ages of 5 and 24 years old. This same report indicated that the adjusted suicide rate for AI/AN individuals between 15 and 24 years old was 39.7 per 100,000 compared with the U.S. all-race rate of 9.9 per 100,000. The adjusted suicide rate accounts for misrepresentation of race on state death certificates. The data in the report underscores the vulnerability of 15-24 year old AI/AN males, whose adjusted suicide rate of 58.7/100,000 was more than three and a half times the suicide rate for males of all races in that age group (16.0/100,000). While the adjusted suicide rate for AI/AN females in that age group was lower than males (20.2/100,000), it was still nearly six times the rate for females of all races (3.5/100,000).

Chart A:




*Suicide Prevention Resource Center (SPRC): [http://www.sprc.org/basics/scope/disparities](http://www.sprc.org/basics/scope/disparities)*

Although the suicide rate for all AI/AN people in the U.S. is undoubtedly high, this general data on AI/AN suicide does not reflect widespread variations in suicide by region and tribe. A study that linked death certificate data (1999-2009) to IHS patient registration data identified geographic differences, with the highest suicide rates occurring in Alaska (42.5/100,000) and the Northern Plains (26.2/100,000) (Herne, Bartholomew & Weahkee, 2014). The lowest suicide rates were in the East (11.6/100,000) and Southwest (19.7/100,000). Males had higher rates of suicide than females, which is consistent with rates for the overall U.S. population.

Tribal surveillance data further highlight some of the differences and similarities in suicidal behaviors among tribes. For example, significantly higher suicide rates have been found for Apache and some Alaska Native youth (10-25 years old) compared to all U.S. and all AI/AN populations (Mullany et al., 2009; Wexler, Silveira, & Bertone-Johnson, 2012). In a rural northwestern Alaskan region, the suicide rate was five times higher than the U.S. rate and slightly higher than the rate reported in a study from the previous decade (Wexler et al., 2012). Similar to other U.S. races and ethnicities, Apache and Alaska Native males were more likely to die by suicide than females (Mullany et al., 2009; Wexler et al., 2012). In contrast to the overall U.S. population and other AI/AN communities in which females are more likely to attempt suicide than males (CDC, 2012; SPRC, n.d.; Center for Behavioral Health Statistics and Quality, 2015), males and females from these two tribes had similar suicide attempt rates. In addition, the majority of Apache youth suicides were by hanging (80 percent), which contrasts with the use of

a firearm in 52 percent of suicides by U.S. (all race) and AI/AN (aggregated) youth. However, a CDC trends report (Sullivan, Annet, Simon, Luo, & Dahlberg, 2015) indicated an increase in suffocation as a method by both females and males. According to the report, the largest suffocation suicide rate increases were among AI/AN youth ages 15 to 19 and youth living in the Midwest.

### Suicidal Behaviors

AI/AN high school students also have higher rates of serious thoughts of suicide, suicide plans, and suicide attempts overall, with AI/AN females having higher rates of these behaviors than AI/AN males. In the 2011 Youth Risk Behavior Survey (CDC, 2011; SPRC, 2013), nearly 30 percent of AI/AN females reported serious thoughts of suicide compared to 14.3 percent of AI/AN males, and over a fifth of AI/AN females indicated they had made a suicide plan compared with 14.2 percent of AI/AN males. Nearly 20 percent of AI/AN females reported attempting suicide, compared with 7.9 percent of white females and 10 percent of AI/AN males. Studies indicate that AI/AN living on reservations or in rural areas have a higher prevalence of suicidal behaviors than those living in urban areas (Freedenthal & Stiffman, 2004; Gray & McCullagh, 2014; Mullany et al., 2009).

### Clusters

With young people at higher risk for suicide clustering, the alarmingly high rates of suicide among AI/AN adolescents and young adults heighten concerns about the potential for suicide clusters to form in AI/AN communities. Bechtold's description of an American Indian suicide cluster in the Plains during the early 1980s was the earliest article found describing a suicide cluster among AI/AN adolescents (Bechtold, 1988). Numerous news articles have documented the tragic consequences of suicide clusters that have spread through various AI/AN communities (Billings, 2013; Bosman, 2015; Horwitz, 2014; Nieves, 2007; Woodard, 2012). While there is limited research and tracked data on the frequency and prevalence of suicide clusters among AI/AN specifically, several findings from the general literature may be relevant to this population:

- Suicide clusters are most prevalent among adolescents and young adults (Gould, Wallenstein, Kleinman, O'Carroll, & Mercy, 1990) and suicide attempts also can cluster, particularly among adolescents (Gould, Petrie, Kleinman, & Wallenstein, 1994; Haw, Hawton, Niedzwiedz, & Platt, 2013).
- Having a friend or family member who attempted suicide increases the risk for suicidal behavior among young adults (Mueller, Abrutyn, & Stockton, 2012). The risk of a suicide after a friend or family member's suicide is 2–4 times higher for adolescents between the ages of 15 and 19 years old (Gould, 1990).
- "On average around 2 percent of suicides amongst 15–19 year olds in the U.S. were found to cluster spatially and temporally beyond that expected by chance, although this figure was as high as 13 percent in some states" (Mesoudi, 2009, p. e7252). In this study, the two states with the highest proportion of youth suicide clusters were among the three

states that had the largest AI/AN populations. These estimates stemmed from Gould, Wallenstein and Kleinman's analysis (1990) of vital statistic mortality data from 1978–1985 for 12 states. However, the estimates are still considered reasonable.

AI/AN communities face a perfect storm of these and other factors that may contribute to the formation and spread of suicide clusters among youth. First, many tight-knit, rural AI/AN communities have high suicide rates with limited or fragmented health care resources. Often, adolescents have been exposed to suicidal behavior among their friends and family members. Second, AI/AN youth have experienced the historical discrimination and trauma inflicted on AI/AN populations and often face additional economic marginalization including living in areas with high unemployment and poverty. Lastly, these suicide clusters, often described as "epidemic," create feelings of hopelessness, confusion, and panic in AI/AN communities that have experienced multiple traumas, as well as the loss of cultural values and traditions that could otherwise provide anchors of strength in crises. Adding to these contributing factors is the challenge of identifying suicide clusters in AI/AN communities as they emerge in order to prevent and contain the subsequent loss. Reasons for this include:

- There is no current national system that monitors and tracks suicide clusters in real time. The CDC National Violent Death Reporting System (NVDRS) provides a wealth of information, but the information is retrospective due to a lag time in availability of the data. Also, the information is available only for funded states.
- IHS utilizes a standardized and systematic method for documenting incidents of suicide, suicidal ideation, and suicidal attempts. Information is collected in the context of patient visits. The data does not populate the patient visit record and is not exported in real time. Additionally, tribes may or may not provide suicide reports to IHS, leading to incomplete epidemiological data.
- Very few tribes have suicide surveillance systems and they may or may not choose to share that information.
- These various "tracking" sources often do not interact with each other. While relational ties often span across regions, tribal health organizations serving different regions may not pool or share data.
- When multiple agencies or regions are involved, it may not be clear who is in charge or leading efforts to identify and intervene with suicide clusters.
- Information about suicide and clusters may spread through informal networks or word of mouth. Trying to track clusters may be more difficult when information is spread in this way. Additionally, taboos on discussing those who have died from suicide may make it difficult to identify the connections between individuals in a potential cluster.

Appendix A provides a detailed report on federal and tribal data sources for identifying and tracking AI/AN suicide clusters, the challenges in collecting and analyzing relevant data, and some promising international strategies for real-time data collection. Subsequent sections of this

paper will discuss suicide contagion and clusters, cluster formation, risk and protective factors, as well as prevention and intervention considerations for AI/AN communities.

## Suicide Clusters and Contagion: Terminology and Concepts

### Background

There are a number of challenges and inconsistencies in the literature on suicide clusters and contagion, including how these terms are defined and used. In addition, there is limited research and data on suicide clusters within AI/AN communities as well as in the general population. Only two research articles on suicide clusters within AI/AN communities were uncovered: Bechtold's 1988 study of a suicide cluster in a Plains tribe and Wissow, Walkup, Barlow, Reid and Kane's 2001 collaboration with a southwestern U.S. tribe that was concerned about increased suicides and potential clustering. However, information from these two articles, supplemented with research on suicide clusters in general, offer insights about theories on the formation and spread of clusters, risk and protective factors, and strategies for containment and community intervention.

While much can be learned and applied from the general literature on clusters and contagion to AI/AN communities, there are still significant gaps in information on the interplay of social, cultural and environmental factors in AI/AN suicide clusters, as well as the role and impact of newer technologies and social media. Given research findings that demonstrate associations between the media and contagion and between suicide exposure and clusters, further study of these areas and deeper understandings of clusters within AI/AN communities are critical research topics.

### Definitions

A suicide cluster occurs when several suicides or suicide attempts occur close together in time and/or place and are beyond what would be expected to occur by chance (Gould et al., 1990; Insel & Gould, 2008; Joiner, 1999; HHS, 2010). The number of suicides and/or attempts that constitute a cluster varies in the literature; some authors say two or more (Joiner, 1999); others three or more (Johansson, Lindqvist, & Eriksson, 2006). Clusters can also be identified statistically when there is a significant rise in the suicide rate (Johansson et al., 2006). However, this is a retrospective method for identifying clusters, which is less useful to communities and stakeholders making "in the moment" decisions to manage and contain suicide contagion and clusters.

The research identifies two main types of suicide clusters. "**Mass clusters**" are suicides that occur within a defined period of time after and in relation to an actual or fictional suicide story in the media (Haw et al., 2013; Joiner, 1999). None of the AI/AN suicide clusters studied was specifically identified as a mass cluster. "**Point clusters**," or space-time clusters, are suicides that occur in unusually high numbers over a short period of time and within a distinct geographic area or institution (Haw et al., 2013; Joiner, 1999). Suicide clusters can span from 2 weeks to 2 years

and typically occur in small or rural communities and institutions such as schools, military bases, or AI/AN reservations (Haw et al., 2013; Joiner, 1999; Mesoudi, 2009).

While the term "contagion" is sometimes used interchangeably with the term "suicide cluster," most often contagion refers to the various mechanisms by which suicide clusters occur or spread (Cheng, Silenzio, & Caine, 2014). It is a process in which the suicide or suicidal behavior of one or more individuals influences or leads to increases in suicides or suicidal behaviors of others (HHS, 2010). The term draws from infectious disease models and reflects the concept that individual factors and vulnerabilities as well as environmental factors influence whether or not the "disease" spreads (Gould, 1990). Yet, just one youth suicide can increase the potential for other suicides within a community and increase the potential for a suicide cluster (Johansson et al., 2006; Gould et al., 1990). Contagion is generally viewed as the primary cause of suicide clusters (Haw et al., 2013).

### Mechanisms of Suicide Clusters

A number of suicide cluster mechanisms have been proposed and studied, with varying degrees of rigor. Focusing on suicide cluster mechanisms can provide insights on the psychology of contagion and can aid the development of strategies to contain the spread of a suicide cluster in AI/AN communities. The majority of proposed mechanisms draw from social learning theory, which posits that most human behaviors are learned through observing another person's behavior. An extensive literature review of point clusters identified contagion as the main "purported" method through which these clusters are formed (Haw et al., 2013). Contagion can occur through direct contact with a suicide, through word of mouth, or through reporting by the media. The authors reviewed several proposed contagion mechanisms (modeling, suggestion, imitation, priming, complicated grief), noting there was limited evidence to support each one's role in cluster formation. Those with the most supportive evidence were:

- Imitation (copycat) as a mechanism: Proposes that reports of suicide have a suggestive effect on vulnerable people, which can lead to imitation of the behavior, particularly in response to a highly publicized suicide. This is known as the "Werther effect," and research shows that adolescents are particularly vulnerable (as reported in Haw, 2013).
- Learning/modeling: Suggests that learning occurs by watching others or through modeling. In the case of suicide clusters, modeling cues could include knowing someone who dies by suicide, being exposed to suicide within the community, or through media exposure to suicide. The suicide of someone who is perceived as having a higher status as well as the perception of higher rewards (such as notoriety, attention) can increase the effect or likelihood that an individual will imitate the behavior (Gould, 1990). Adolescents are more vulnerable to this mechanism because developmentally they are more impulsive, less inhibited, and less capable of considering the consequences and permanence of their behavior.

- Normalization: Suggests that familiarity with and exposure to suicide may normalize it, thus reducing the associated "taboo" and making it more acceptable as an option for dealing with stressors (Gould, 1990).
- Complicated Grief/Bereavement: Suggests that a vulnerable individual who is exposed to suicide may experience increased depression and engage in suicidal behavior in response to their difficult feelings of loss and grief (Johansson et al., 2006).

Additionally, Joiner (1999, 2003) proposed an alternative method of cluster formation that was not dependent on social learning. His theory, known as assortative relating or homophily, proposes that high-risk individuals tend to associate with other high-risk individuals. In this view, a suicide cluster is just a collection of individual suicides by high-risk individuals. Cheng et al. (2014) refer to these mechanisms as "contagion as affiliation" because they involve an affiliation with a like-minded group based on similar characteristics or attitudes. In this case, these connections are not protective but in fact may be involved in spreading adverse behaviors—in this case suicidal behaviors. Another relational element in some AI/AN communities that has been shared anecdotally is the idea of showing affinity for another person by following them into death or being "called" by a dead loved one.

For any of these mechanisms, the AI/AN community's isolation, high degree of inter-connection, and high rates of suicidal behavior increase the potential for AI/AN youth exposure to suicidal behavior, as well as the cohort of vulnerable youth with whom they may affiliate.

## Risk and Protective Factors

### Background

Risk and protective factors are individual, family, community, and environmental characteristics that either increase (risk factors) or decrease (protective factors) the likelihood that individuals will consider, attempt, or complete suicide (SPRC & Rodgers, 2011). These factors can be fixed, or unchangeable, such as family history or historic trauma, or they can be modifiable, such as depression, alcohol/drug use, and the reclaiming of traditional culture. In the case of suicide clusters and contagion, these factors can be useful in the development of immediate containment strategies, by identifying those most at risk for suicidal behavior and prioritizing their needs for intervention. These factors can also inform the type of guidance and strategies recommended for parents, communities, professionals, and other stakeholders. Risk and protective factors can also inform long-term suicide cluster prevention and planning efforts. Prevention strategies need to consider the persistent community and environmental factors that may perpetuate conditions that foster contagion and clusters.

### Risk Factors

As noted previously, there are two studies that explored suicide clusters within AI/AN communities and discussed risk factors: Bechtold's1988 study with a Plains tribal community and Wissow et al.'s 2001 study with a southwestern tribal community. Both communities were

rural and had high rates of suicide, poverty, and unemployment. These are environmental characteristics that are associated with greater risk for suicide clusters (Bechtold, 1988; Haw et al., 2013). AI/AN youth in closed communities who experience greater exposure to suicides are at increased risk for suicide contagion (Bechtold, 1988).

Both studies found a greater risk for clusters among males, adolescents/young adults, and those who engaged in acute or chronic alcohol use. Bechtold identified that exposure to the suicide of a family member or friend was also a risk factor for suicide clusters. Additional cluster risk factors include unstable family relationships or home life, individual and parental unemployment and/or alcoholism, and the loss of traditional AI/AN ways within the community. Another striking finding was the interrelationships among the victims in the Plains suicide cluster. For several victims, the only evident risk factor was a personal connection to one of the previous cluster victims, which the author attributed to the imitation mechanism. Wissow et al.'s 2001 study did not address family factors and traditional lifestyle practices, since researchers did not have access to that information.

A history of self-harm has been noted as a suicide cluster risk factor in the general literature, but not in AI/AN-specific literature. In addition, females are at greater risk of suicide attempts, while males are at greater risk of suicide deaths (Haw et al., 2013). Zenere (2009) notes that individuals who (1) have been exposed to suicide (either witnessing the suicide or having a relationship with the victim), (2) have a strong identification with the victim, and (3) are vulnerable (because of mental illness, substance use, or family instability) are at the greatest risk of contagion.

These risk factors need to be considered in the context of the historical trauma and discrimination that have had a devastating and disruptive effect on many AI/AN communities. Forced relocation, separation of children from their families, and the disruption of traditional language and cultural practices have had an ongoing negative impact on AI/AN youth and their connection to their culture and their families, their sense of hope, and their experience of meaningful contribution. These losses and the resulting sense of hopelessness, disconnection, and sadness increase suicide risk among adolescents and young adults (Goldston et al., 2008; Wexler, 2006; Wexler, 2009). Several studies have noted that elements inversely related to connectedness, such as relationship and family problems, isolation, or not having someone to talk to, are strongly correlated to suicidal behavior in AI/AN (Cwik, et al., in press; Borowsky, Resnik, Ireland, & Blum, 1999; Kral, 2012; Walls, Hautala, & Hurley, 2014; Wexler, Hill, Bertone-Johnson, & Fenaughty, 2008).

### Developmental Factors

Social development, peer acceptance, and identity development are key constructs of adolescent development (McNeely & Blanchard, 2009). Adolescents are highly influenced by their peers and susceptible to peer pressure as well as to media influences. They often look to their peers when trying to figure out how to deal with problems and stressors. In AI/AN communities where

parental and intergenerational relationships have been disrupted, peer relationships may intensify, which can result in both positive and negative influences. In addition, adolescents' ability to moderate their impulsivity and inhibitions is still developing, so they are more likely to make rash or impulsive decisions and struggle to delay gratification. Research on the adolescent brain sheds some light on this vulnerability. Areas of the brain involved in emotional responses are more active in adolescents than adults, while the parts that control emotional and impulsive responses are still maturing. This highlights adolescents' proclivity towards limited impulse control and their drive for novelty (Giedd, 2015.).

| AI/AN Risk Factors for Suicide Clusters | |
|---|---|
| Individual | Male<br>Adolescent or young adult<br>Alcohol use (acute and/or chronic) |
| Family | Exposure to family member suicide<br>Unstable family relationships or home life<br>Parental unemployment<br>Parental alcoholism |
| Community | Exposure to friend suicide<br>Loss of traditional ways within the community<br>Personal tie/connection to one of the prior cluster victims (imitation) |
| Environmental | Closed, rural, isolated community<br>High levels of poverty or unemployment<br>Lack of resources and/or fragmented services |

## Protective Factors

Increasing protective factors has been found to reduce the risk of suicidal behaviors (Borowsky et al., 1999; Mackin, Perkins, & Furrer, 2012). In fact, Borowsky et al. (1999) found that increasing protective factors was more effective at reducing AI/AN youth suicide rates than decreasing risk factors. Yet, there are few protective factors identified in the suicide cluster literature. Joiner (1999) indicated that strong social support, such as a supportive family, can serve as a buffer against the development of suicidal behavior and can offset the risks associated with relationships between vulnerable individuals. The concept that social supports and

connections are protective factors against suicidal behavior has been noted by other authors (Borowsky et al., 1999; Freedenthal & Stiffman, 2004).

A review of the broader literature on suicide and suicidal behaviors uncovers additional protective factors that have been shown to reduce AI/AN youth suicide. These factors are more proactive and resonate with the cultural values in many AI/AN communities. At the individual level, school completion, a commitment to tribal spirituality, and a sense of cultural belonging are associated with reduced suicide attempts (Freedenthal & Stiffman, 2004; SPRC, 2013; Wexler et al., 2015). Alaska Natives who followed a more traditional lifestyle reported greater happiness and less frequent alcohol or drug use for coping with stress. Family factors associated with reduced suicide attempts include family satisfaction and connectedness (Borowsky et al., 1999; Freedenthal & Stiffman, 2004). Several studies found that having a strong connection to family and discussing problems with family and friends lowered the risk for suicide attempts among AI/AN youth (Borowsky et al., 1999; Kral, 2012). Reservation youth who had never attempted suicide were found to have higher levels of family satisfaction (Freedenthal & Stiffman, 2004). These authors also identified social support as a protective factor.

At the community level, tribal self-governance, community control over resources, and functioning institutions (education, safety, health, community) are associated with reduced suicide risk in certain AI/AN communities (Chandler & Lalonde, 1998; Kral & Idlout, 2009). Communities that had embarked on cultural reclamation efforts reported lower suicide rates among their youth (Chandler & Lalonde, 1998). These cultural efforts included the use of traditional language, the incorporation of a strong spiritual orientation, and the presence of cultural centers. The authors proposed that providing these youth with a secure sense of their past, present, and future culture helped them more easily develop a connection to their own future and self-continuity.

## The Role of Media and Other Communication Sources during Suicide Clusters

### Media and Technology

Several studies have found an association between media stories about actual suicides and subsequent increases in suicides (Gould, 1990; Gould, Jamieson, & Romer, 2003; Gould, Kleinman, Lake, Forman, & Midle, 2014; Insel & Gould, 2008). Factors that affect these increases include the duration, prominence, and amount of coverage focused on stories of actual suicides. Research on the impact of media portrayals of fictional suicides has been inconsistent. To address the vulnerability of youth to media portrayals of suicide, media guidelines for responsible suicide reporting were established in several countries, including the United States (reportingonsuicide.org, 2015). Some subsequent research found that the suicide rates declined after these guidelines were implemented (Niederkrotenthaler & Sonnect, 2007).

Gould et al. (2014) did a retrospective study on the role of newspaper suicide stories in the formation of adolescent suicide clusters. Covering the period from 1988 to1996, the study found an association between newspaper reports of suicide and the emergence of suicide clusters. The authors discussed a number of mechanisms behind these findings:

- Suicide may be normalized as a result of repeated, detailed, and explicit suicide stories, which can further reduce vulnerable youths' inhibitions about suicide.
- These stories may trigger "priming mechanisms" by activating a thought that then activates related suicidal thoughts in suicidal, vulnerable youth.
- Adolescents may identify with an adolescent model or revere an idolized celebrity whose suicide story is presented in the media.

On AI/AN reservations and in villages, stories about suicides may spread through local newspapers and radio coverage. In addition to these news media, social media and technologies like texting are common means of communication and information sharing for many adolescents and young adults. Yet most of the research has focused on newspaper reports. So far, there is little research on the role of the internet and social media in suicide contagion and clusters. Robertson, Skegg, Poore, Williams, and Taylor (2012) found that social networking sites and text messaging can pose a risk factor, as they significantly increase the size of a potential victim's circle of influence. This creates the capacity for broader, faster, and more extensive spread of suicide stories and rumors, which can make containment of clusters more challenging. This is also quite possible in the tight-knit, highly connected rural reservations and Alaska Native villages where stories spread quickly through word of mouth and social media. Yet these technologies also have the potential to provide useful information and promote social connectedness and support, which can counteract the isolation and disconnection that at-risk youth may experience.

Robertson et al. (2012) conducted a study on a youth suicide cluster in New Zealand that was primarily linked through text messaging and social networking sites, including a memorial site for an earlier suicide. In some cases, youth became aware of a suicide before their parents or school staff, which made it more difficult for parents, the school, and the community to provide an appropriate, timely response and support. The authors identified several lessons learned from this study:

- Relevant community agencies should proactively develop a mechanism for earlier recognition of clusters and have a planned, coordinated, and strategic response. In addition to the recommendations in the CDC Guidelines, the response should include measures for eliminating potential sources of contagion, such as social media sites and accounts. It could also include monitoring online sites to detect conversations about suicide that could identify other at-risk youth.
- As early as possible, representatives from indigenous groups (such as elders and service providers), who understand links and relationships within their community, should be involved in intervention efforts. This can foster collaboration between various

stakeholders and might aid in earlier identification of clusters/contagion. In addition, their involvement could facilitate the development of more culturally responsive and appropriate community activities to strengthen youth support networks and available resources.

- Update the CDC Guidelines to reflect the impact of new and emerging communication technologies. This could include guiding parents on how to talk to their children about the suicides in their community, recommending safety measures for the home (e.g., keeping computers in places where parents can see their children); providing factual information on suicide prevention in media that parents typically access; considering ways that youth services can use social networking sites and text messaging as access points for their services; and, when feasible, having suicide prevention agencies or teams monitor social networking sites and post factual suicide prevention information and resources.

### Media/Communication Guidelines

While it is unclear the extent to which the media is a factor in suicide clusters and contagion within AI/AN communities, the established media guidelines still have relevance for AI/AN communities, which often have varied, informal, yet powerful communication channels and rituals that spread information quickly. These communication mechanisms can include word-of-mouth, community members going to the suicide site while medical/emergency personnel are still present, or funeral and commemorative rituals that glorify the deceased, such as through memorial sports tournaments, t-shirts, or dedicated memorial school lockers. Several experts interviewed for this report indicated that even the way family members describe the suicide to others may amplify risk if the suicide is portrayed as an understandable or uncontrollable response. For example, families may attribute the suicide to an event, like a difficult breakup or fight with a family member, or they may characterize the suicide as completely unexpected. Through these stories, the person who died by suicide may be further glorified or martyred. With that in mind, insights from the media research and the guidelines can inform containment efforts and discussions of suicide within AI/AN communities. Gould (2001) compiled suicide contagion media guidelines for the American Foundation for Suicide Prevention. Several recommendations focused on how suicide is portrayed and translate into usable guidance for parents and communities.

| **Do:** |
| --- |
| Emphasize that suicide is not inevitable. There are better options. |
| Exercise caution when displaying pictures of the victim and grieving family members/friends. Avoid glorifying the suicide/victim and creating opportunities for youth to over-identify with the victim. |

| Do Not: |
| --- |
| Portray or discuss suicide in a heroic or romantic way. |
| Misrepresent suicide as a mysterious act by someone who was otherwise "healthy" or "high achieving." |
| Represent suicide as a reasonable way of problem-solving. |
| Provide repeated, detailed, and/or explicit descriptions of the suicide and method of suicide. |

## AI/AN Community Involvement

It is critical for the AI/AN community to have a prominent and meaningful role in efforts to contain and prevent suicide clusters. This can aid earlier identification of potential suicide clusters and will increase the likelihood that culturally relevant approaches are developed to support at-risk youth and the community as a whole (Bechtold, 1988; Robertson et al., 2012). While the primary focus of this report is to provide information and guidance to support those dealing with the immediacy of a cluster, some prevention and longer-term planning strategies are also mentioned in this section. In addition, this section includes specific considerations for AI/AN communities that are dealing with suicide contagion and clusters.

Given the unpredictability of suicide cluster formation, communities are encouraged to develop postvention strategies prior to the occurrence of a suicide cluster. Few studies have documented suicide cluster response strategies and provided evidence on the effectiveness of these strategies. One literature review identified and evaluated suicide cluster postvention strategies with young people (Cox et al., 2012). While not specific to AI/AN communities, the authors identified the following promising school and community strategies for containing a cluster.

### Develop a Community Response Plan

Ideally, a community response plan has been developed prior to a cluster, can be implemented quickly when a suicide cluster is identified, and includes a cluster response team (Bechtold, 1988; Gould 1990; Zenere, 2009, Arensman, 2013). The cluster response team's purpose includes understanding the causes of the suicides, responding to distressed youth, and implementing the postvention strategies. Short-term efforts should focus on preventing imitation while long-term follow-up should focus on preventing depression, anxiety, and PTSD. According to Zenere (2009):

> The successful identification and containment of an active contagion may require a multidisciplinary, communitywide approach. Stakeholders such as school officials, law enforcement officers, emergency room directors, funeral directors, clergy, public health administrators, and representatives from mental health agencies can work collaboratively to develop a process and take appropriate actions to address a problem. Each group may have information that is valuable in

> making such determinations. Similar efforts have proven effective in halting suicide clusters in communities across the nation. (p.15)

Team members should be trained in appropriate intervention and management methods. A multi-disciplinary, community-involved approach may prove challenging in under-resourced and overly-stressed communities like many AI/AN communities, but it is an important target.

### Educational Meetings

Soon after the identification of a cluster, community educational meetings should be conducted to provide information about suicide, suicide risk, and coping strategies and to raise awareness of the issue.

### Individual and Group Counseling for Affected Peers

Crisis intervention for individuals and groups is important. Individual sessions can be offered for high-risk individuals and group sessions can be conducted for youth affected by a peer's suicide. These sessions can provide information on common reactions to suicide, ways to make homes safer (such as by limiting access to lethal means and to alcohol), signs of suicidal behavior, available resources, and referrals. In AI/AN communities with limited resources, training community health workers to supplement these efforts may be beneficial. These workers understand the culture and community and will likely be more accepted than outsiders who are brought in to aid these efforts. The White Mountain Apache Tribe has demonstrated the efficacy of community health workers in their suicide intervention efforts (Cwik et al., 2014).

### Screening High-Risk Individuals

High-risk individuals should be screened and monitored and interventions should be targeted towards those youth who are at highest risk (Bechtold, 1988; Gould, 1990). It is important to recognize AI/AN suicide cluster risk factors that may be shared by others in the community. Risk factors include those identified by research (males; adolescents/young adults; chronic or acute alcohol abuse; unemployed and/or school incompletion), as well as additional or emerging risk factors identified by tribal suicide surveillance and tracking systems (when available). For example, there may be seasonal or "day of the week" patterns that point to the need for scheduling positive youth activities during vulnerable times. Issues such as bullying could draw attention to other at-risk youth (victims or perpetrators) and the need for school and community education and programming. Communities may consider providing guidance on how to limit access to lethal methods used for suicide (means restriction). However, means restriction may be challenging in communities where the method of suicide can be more difficult to restrict, such as by hanging. This is a method used by some AI/AN youth. Kral, Idlout, Minore, Dyck and Kirmayer (2014) wrote about a community that removed closet rods and bedroom door locks as a means restriction effort. Guidance can also include restriction of associated factors, such as alcohol and drugs.

Other factors to consider include individuals who may blame themselves for the suicide of a friend or family member ("survivor's guilt"), who have weak social/familiar support, or who

have family histories of suicide, alcoholism, drug addiction, or mental illness (Zenere, 2009; SPRC & Rodgers, 2011). At-risk youth may be identified by schools, parents, health professionals, and other professionals who interact with youth (coaches, ministers, guidance counselors, etc.).

### Responsible Media Reporting of Suicide Clusters

Youth suicide clusters often receive a high amount of media attention, which may contribute to contagion. It is important to implement responsible media guidelines in the midst of suicide clusters and contagion. Media is not limited to newspapers. It may also include various communication methods and technologies that are common within the community, such as social media, text messaging, local media, word-of-mouth, or other internal communication mechanisms that have the potential to provide misinformation and glorify or idealize suicidal behavior. Consider whether it is possible to monitor relevant social networking sites for misinformation and to identify high-risk youth. Communities might also develop strategic social media activities such as posting prevention-oriented safe messaging on relevant social media sites.

### Promotion of Health Recovery within the Community to Prevent Further Suicides

The community response should not only address crisis intervention strategies, but also longer-term strategies to support the lingering effects on and ongoing recovery for affected youth and the community. This includes prevention efforts such as school screenings and community surveillance, and longer-term strategies that address family, community, and environmental risk factors. In addition, research has shown that increasing protective factors in AI/AN communities can reduce the risk of suicidal behavior.

## Considerations for Suicide Cluster Identification and Intervention with AI/AN Communities

The strategies for managing and containing suicide clusters within AI/AN communities need to be relevant to the culture and to the community. In light of this review of research and relevant literature, as well as discussions with subject matter experts and representatives from the CDC and IHS, there are a number of items that need to be considered when developing strategies for containing suicide clusters in AI/AN communities.

### Recognize/Acknowledge Tribal Differences

- Rates of suicide and suicidal behavior vary among AI/AN communities.
- Some tribes have established suicide surveillance tracking systems that can aid identification of risk factors and suicidal behavior patterns and inform intervention strategies.
- Belief systems on death and suicide may differ among tribes. In some AI/AN communities, it is not appropriate to talk about death and/or suicide. This silence can

hamper efforts to better understand the formation of a suicide cluster, to determine the mechanisms behind contagion, and to identify at-risk youth.

- Healing and spiritual practices may vary among tribes. Native traditions and spiritual beliefs may co-exist with other faith-based practices. Many AI/AN communities have followers of native spiritual traditions and western faith-based practices. Some community members practice both.

### Culturally Relevant Strategies and Interventions

- Memorial rituals for victims of suicide may be perceived as glorifying the suicide (Robertson et al., 2012). It is important to respect community rituals without fostering contagion and idealizing suicide (and note that these modern rituals are often not actually traditional practices).
- Interventions need to consider the AI/AN community's spiritual and cultural practices (Goldston, 2008). For instance, some AI/AN believe that a "spirit of suicide" inhabits a community or calls to youth (Bosman, 2015). This belief needs to be considered and may require spiritual interventions and healing rituals. AI/AN traditional and faith-based beliefs need to be recognized and respected as part of containment efforts. In a recent study of Apache adolescents with multiple suicide attempts (Cwik et al., in press, accepted manuscript), the authors found that culture and a traditional lifestyle were a desired source of strength for many adolescents who wished to live a traditional lifestyle as an adult. Yet, traditional healing practices were not a part of the intervention services they received.

### Intergenerational Separation

- In many AI/AN communities, connections between elders and youth are tenuous. This can intensify the importance of and reliance on peer relationships, both positively and negatively, for all youth and at-risk youth in particular (Walls, Hautala & Hurley, 2014). Communities may choose to support parents and peers through education on relevant and audience appropriate issues, such as suicide prevention, communication do's and don'ts, safety, accessing resources, etc.

### Marginalization and Hopelessness

- High rates of unemployment, poverty, and failure to complete school result in vulnerable youth who struggle with feelings of hopelessness and trying to find ways to make a meaningful contribution. Youth who are less marginalized are less likely to die from suicide (Wexler et al., 2015). Suicide cluster interventions and long-term strategies need to address multi-level risk and protective factors: individual, family/community, and environmental. Representatives from the AI/AN community need to have a lead role in identifying and containing suicide clusters in their communities. "In fact, the more an intervention derives from within the community and uses traditional knowledge, the greater the prospects for its preference and use (Walls, Johnson, Whitbeck, & Hoyt, 2006)" (as cited in Goldston et al., p.10).

### Normalization of Suicide

- High rates of suicides within AI/AN communities may lead to normalizing suicide as an acceptable solution to problems. In many communities, the majority of individuals have a friend or family member who has died from suicide (Walls, Hautala, & Hurley, 2014). Some communities are counteracting this normalization by drawing attention to the hurt, pain, and pointlessness of suicide. For example, Northwest Alaska holds an annual "Walk for Life" event to push back on normalizing suicide.

### Systems of Care/Help Seeking

- Systems of care are underutilized by those at risk for suicide in AI/AN communities (Goldston et al., 2008). Reluctance to seek help has been associated with stigma, embarrassment, hopelessness, loneliness, and a desire to be self-reliant (Freedenthal & Stiffman, 2007; Goldston et al., 2008).
- Systems of care typically take a psychological/individual-level approach to intervention and fail to address environmental, social, cultural, and spiritual issues (Gone & Trimble, 2012; Wexler, 2006; Wexler & Gone, 2012), which play a role in suicide contagion and clusters within AI/AN communities.
- There is wide variance in the availability of adequate behavioral health programs for AI/AN, with many isolated reservations experiencing significant provider shortages.
- When health and behavioral health care services are accessed by AI/AN, the services often are provided by non-Native health professionals. Consequently, care can be culturally inappropriate and thus ineffective (Goldston et al., 2008; Wexler & Gone, 2012). However, there has been success using paraprofessional health aids or community health workers to support AI/AN communities' suicide intervention efforts (Cwik et al., 2014; Wexler et al., 2012).
- Providers may be unaware of, or lack training in, cultural competence, suicide prevention and postvention, as well as the CDC Guidelines.

## Proposed Recommendations: Suggestions to Better Support AI/AN Communities

### Funding

It is recommended that the CDC, IHS, and SAMHSA collaborate on the development and coordination of funding opportunities to support AI/AN communities with the development of Suicide Cluster response plans. This recommendation is dependent upon the availability of designated funds. Without this type of support, it is likely that many stressed and resource-strapped AI/AN communities will not have the capacity to proactively develop these critical, community-specific response plans.

SAMHSA has several funding opportunities that require suicide cluster response protocols. Native Connections is a five-year grant opportunity that aims to reduce suicidal behaviors and

substance misuse among AI/AN youth. In the first year, grantees are required to develop suicide response protocols or revise existing protocols. These postvention protocols are intended to promote community healing, reduce the possibility of contagion, and reflect tribal traditions and culture. SAMHSA's five-year Garrett Lee Smith Youth Suicide Prevention grants provide funds for grantees (states and tribal communities) to implement best practice suicide prevention programs for youth and young adults, 10-24 years old. The grant specifies that grantees must "provide a protocol for response to suicide clusters." On a smaller scale, IHS's Methamphetamine and Suicide Prevention Initiative (MSPI) promotes the use and development of evidence-based, culturally relevant prevention and intervention approaches for AI/AN communities. MSPI has a focused area of funding for community/organizational assessment and planning to address either suicide or methamphetamine use.

While the SAMHSA funding mechanisms support large-scale systems-change efforts to address the continuum of suicide care in tribal communities, more focused efforts are needed. In addition, IHS may consider providing organizations with small, one-time planning grants to develop postvention protocols that integrate some of these recommendations into their policies.

## Modifying the CDC Guidelines

In 1988, the *CDC Recommendations for a Community Plan for the Prevention and Containment of Suicide Clusters* (CDC Guidelines) were developed to provide recommendations to communities responding to or trying to prevent suicide clusters. The CDC recognized that these guidelines would need periodic updates to reflect new knowledge in the suicide prevention field. What follows are suggestions and examples of how the CDC may consider updating its guidelines to better address the specific needs of AI/AN communities. These draw from research on suicide clusters in AI/AN communities and discussions with content experts as well as officials from CDC and IHS. There are several suggestions that are more general as well as suggestions on modifying specific recommendations that are within the CDC Guidelines.

### *General Recommendations*

In order to be more relevant and accessible to AI/AN communities, it is recommended that the CDC Guidelines be updated to include relevant examples of and reflect current knowledge about clusters and contagion within AI/AN communities. The updated guidelines should be written in a less formal, academic tone.

The CDC Guidelines should emphasize that postvention efforts should reflect each community's unique characteristics, resources, and practices because there is great variance in the structure, resources, culture, and spiritual practices of AI/AN communities. At the same time, community plans should follow what is scientifically suggested as "best practice" for decreasing future suicide risk.

The CDC Guidelines should refer to AI/AN practices that promote healing and that support containing the spread of suicide clusters within AI/AN communities. For example:

- Consulting with tribal elders or other respected community members to suggest and lead practices such as healing ceremonies or prayers targeting the events occurring in the community.
- Supporting traditional and spiritual interventions for community healing, such as to address the belief that a "suicide spirit" is present in the community.

The CDC Guidelines should acknowledge that some tribes have the capacity and intention to lead and manage suicide cluster containment and postvention efforts on their own, while others may want outside help from IHS, CDC, and SAMHSA. The solutions will be more meaningful if the AI/AN community decides when and how to access outside experts and support. For example:

- For AI/AN communities that rely on outside help, pairing "outside" experts with community stakeholders may ensure that their efforts align with local beliefs, practices, and traditions.
- Training community health workers or paraprofessionals from within the community is a strategy used by several AI/AN communities to support postvention efforts. These workers have intimate knowledge of and acceptance within the community. This strategy might also be useful to consider when the community response plan is being developed.

### *Specific Recommendations*

(The existing CDC recommendation is listed in bold and followed by suggestions for modifying the recommendation.)

**I. A community should review these recommendations and develop its own response before the onset of a suicide cluster.**

- This CDC Guidelines emphasize the importance of developing a multi-disciplinary, community-based response plan "**before the onset of a suicide cluster**." We suggest that the phrase "before the onset of a suicide cluster" be replaced with "before **a suicide occurs."** This more clearly emphasizes the importance of having a response plan established before there is a need. While this may be challenging for resource-strapped AI/AN communities, it is an important, proactive target to ensure that communities are prepared to prevent additional suicides.
- Each existing CDC recommendation includes comments and explanations. For this recommendation, the comments emphasize the importance of a coordinated community response plan involving appropriate sectors of the community. Since

each AI/AN community is structured in a unique way, the updated CDC Guidelines and commentary should acknowledge the various tribal/Alaska Native village "systems" (e.g., tribal leaders, clans and family groupings, schools, health service professionals, elders, and religious and spiritual leaders) and recognize the critical roles each may play in postvention and cluster containment.

- The community response plan should include a process and methods for eliminating potential sources of contagion by exploring what is contributing to the contagion and how the community perceives the mechanisms behind the cluster's spread. The plan should clearly identify the person(s) responsible for initiating the process and include AI/AN community members in active roles. This process might be conducted through community meetings, focus group discussions, key informant interviews, and/or fatality reviews. The inquiry may focus on the patterns associated with the cluster (e.g. geographic spaces, friendship networks, spiritual sickness, method similarity) in order to develop plans to intervene. Intervention strategies should then be appropriately tailored based on these findings. For example:
  - Modifying practices that increase risk of contagion such as funeral rites, memorials, or other events.
  - Initiating traditional healing or other spiritual practices to interrupt the contagion processes at multiple levels (family, community, school);
  - Monitoring, changing, or blocking social media sites that are potential triggers for contagion (Facebook, Twitter, etc.).
- Intervention strategies are more effective if they address individual, family/community, and environmental risk and protective factors. Community members should consider whether their plan adequately addresses multi-level risk and protective factors.

**II. The response to the crisis should involve all concerned sectors of the community and should be coordinated by…:**

- It is important to coordinate the response plan in accordance with the AI/AN community structure and culture. We recommend the following revision to emphasize this: "The response to the crisis should involve all concerned sectors of the community and should be coordinated <u>following local lines of authority and cultural protocols</u>. Important considerations follow: **(...).**
- This recommendation describes a process for implementing and coordinating the community response plan, including identifying the "host" agency's responsibilities. We suggest that this recommendation be updated to include the importance of designating a **lead agency/person**, who would (1) coordinate intervention efforts and (2) identify roles and responsibilities of relevant organizations, leaders, and community members.

- The commentary section should acknowledge that relevant AI/AN community agencies and representatives from indigenous groups (tribal elders, tribal leadership) should have an active, visible role in the development of the response plan. This can improve collaboration between key stakeholders, result in earlier identification of clusters, increase timeliness of response strategies, and facilitate the development of culturally responsive postvention approaches. AI/AN community members may understand complex community relationships (e.g., extended family networks that may widen the spread of contagion) that would not be recognized by outside/external sources of help.

**III. The relevant community resources should be identified.**

- No specific modifications. See suggestions in I.

**IV. The response plan should be implemented under either of the following two conditions:**

**A. When a suicide cluster occurs in the community… OR**
**B. When one or more deaths from trauma occur in the community.**

- Implementing the response plan when a single suicide occurs could not only prevent a cluster but is also good, recommended postvention. We recommend changing the wording in IV.A. from "When a suicide cluster occurs in the community…" to "When a single suicide occurs in the community...."

**V. If the response plan is to be implemented, the first step should be to contact and prepare the various groups identified above.**

- No specific modifications.

**VI. The crisis response should be conducted in a manner that avoids glorifying the suicide victims and minimizes sensationalism.**

- We recommend including information about the informal communication channels (such as word of mouth and social media) for spreading information in the typically rural, highly-interconnected AI/AN communities.
- AI/AN communities should be encouraged to target these informal communication methods in their postvention efforts to minimize the risk of contagion. This includes:
  - Providing guidance for community spokespersons on how to discuss the suicide/events and what information to share.
  - Identifying rituals and practices that may unintentionally increase potential risk for contagion such as holding memorial sports events, visiting the suicide site while emergency personnel are still present, or portraying the suicide as an understandable reaction.

    - Providing information on how to safely discuss suicide. See Section VIII, which provides suggestions on how AI/AN communities can adapt the Media Guidelines for different key stakeholders so that information is shared in productive, helpful ways rather than in ways that might foster risk and contagion.
- Robertson et al. (2012) suggested that the CDC Guidelines need to reflect the impact of new and emerging communication technologies, which are widely used by teens and young adults, the AI/AN demographic most at risk for suicide clusters. The authors further recommended that, when feasible, social networking sites be monitored for risk issues and that prevention information and resources be posted on social media.

**VII. Persons who may be at high risk should be identified and have at least one screening interview with a trained counselor; these persons should be referred for further counseling or other services as needed.**

- Cox et al. (2012) identified several promising suicide cluster containment practices for schools and communities, including screening high-risk individuals and providing individual and group counseling for affected peers. In AI/AN communities, emergency departments could also be an important screening venue.
- AI/AN community members, leaders, schools, health systems, professionals, and family members should be advised to take all talk of suicide seriously, be vigilant around anniversaries of suicides, and supervise youth or young adults more closely, especially those who talk about suicide, make suicide attempts, or fall into the "high-risk" category. In AI/AN communities, offering safety planning training to family members, emergency department staff, and school personnel can be an important strategy for postvention efforts.
- It is important to provide follow-up and support to survivors (family and friends), particularly siblings who may experience elevated suicide risk as they get older.
- AI/AN communities, schools, and families should consider increased monitoring and supervision of those considered "at risk" during this time. Youth should also be invited to talk about their feelings, be provided with information about the grieving process, and have access to support.
- Screening and intervention efforts should be based on what is currently known about AI/AN suicide cluster risk and protective factors (for more detail, see Risk/Protective Factors section in this report) such as
    - The vulnerability of AI/AN male teens
    - The impact of poverty, discrimination, and historical trauma on AI/AN youth's sense of hope, opportunity, and connection

- The heightened role that peer relationships might play for AI/AN youth who may be disengaged from parents/elders
- The protective role of tribal reclamation, connection to culture, and tribal healing practices
- The high degree to which AI/AN youth and young adults have been exposed to suicide (trauma), which leads to increased vulnerability, may normalize suicide, and might create the perception that suicide is a viable option for dealing with problems.

**VIII. A timely flow of accurate, appropriate information should be provided to the media.**

- Informal communication channels that often operate in rural and highly interconnected AI/AN tribal communities and villages. The CDC Guidelines should encourage different audiences, such as spiritual/religious leaders, elders, coaches, community workers, and parents, to adopt and adapt the existing Media Guidelines. The guidelines should reflect how information about suicide is shared within the community and could include recommendations, such as:
  - Suggesting that obituaries follow the media guidelines.
  - Coaching community members to not visit the site during or after an event.
  - Providing tips on how to talk safely about suicide.

**IX. Elements in the environment that might increase the likelihood of further suicides or suicide attempts should be identified and changed.**

- This CDC recommendation discusses restriction of immediate methods and associated factors, such as firearms and prescription drugs. However, this may prove challenging when the method of suicide is difficult to restrict, such as hanging. The commentary for this CDC recommendation should encourage AI/AN communities to consider other modifiable factors or suicide patterns that could inform prevention efforts, such as: seasonal or day-of-the-week patterns that highlight the need for additional programs or supports for youth and young adults; bullying trends that would benefit from school and community prevention and education efforts; periods when drinking or substance use may be higher (such as at fairs or community celebrations); or even economic or political changes (industry closings, elections, etc.) that might contribute to risk.

**X. Long-term issues suggested by the nature of the suicide cluster should be addressed.**

- There are individual, family, community, and environmental factors that contribute to and protect against suicide clusters in AI/AN communities. The commentary for this CDC recommendation should emphasize that AI/AN

prevention efforts should be multi-pronged to address the range of contributing factors.

- The CDC Guidelines encourage communities to consider establishing surveillance systems for suicide attempts as well as suicide deaths. The Guidelines could highlight successfully established AI/AN surveillance systems that have aided early identification and intervention in suicide clusters such as the White Mountain Apache Tribe surveillance system. These tracking systems may also provide a way to capture information on beneficial interventions and lessons learned that might not otherwise be tracked. They can provide information about useful outcomes and successful programming. They can also provide a mechanism for following-up with youth and young adults and connecting them to available resources.
- Investigation of the innovative New Zealand Community Postvention Response System (NZ CPRS) could offer additional suicide cluster monitoring and postvention response strategies (Ministry of Health, 2013; Ministry of Health, 2015). The NZ CPRS incorporates real-time data monitoring for clusters and contagion and a community development model that empowers the community to establish and lead suicide cluster postvention efforts.
- Communities can be encouraged to implement proven school-based suicide prevention curricula, such as the American Indian Life Skills Development curriculum, which is designed to reduce risk and enhance protective factors among American Indian adolescents and can be implemented with culturally specific modifications (LaFromboise, 1996).

### Providing Supplemental Trainings and Materials

It is recommend that the CDC Guidelines be supplemented with additional materials in different media that would provide technical assistance to the AI/AN community as well as providers and stakeholders involved in prevention and postvention efforts. These include:

- Webinars on the CDC Guidelines, community response plan development, and suicide cluster intervention and containment strategies.
- Webinars and/or print materials for personnel deployed to AI/AN communities. These should provide information about suicide clusters within AI/AN communities (e.g., prevalence, risk and protective factors, cultural considerations, and postvention strategies).
- Pamphlets or print materials that can be distributed to AI/AN communities during postvention efforts. These would offer practical strategies in plain language tailored specifically for AI/AN communities. The materials would address various relevant topics such as guidance on talking about suicide, rituals that may contribute to suicide contagion, and AI/AN cultural practices and traditions that can support containment.

These materials could also be developed for different audiences such as school personnel, tribal leaders, religious leaders, health workers, parents, and other relevant stakeholders.

## Conclusion

This paper examined what is known about suicide clusters within AI/AN populations and used that information to develop recommendations for stakeholders working to prevent and contain suicide clusters within AI/AN communities. Many of those recommendations—collaboration on the development and coordination of funding opportunities to support AI/AN communities, updating the CDC Guidelines, developing materials to supplement the CDC Guidelines—could be implemented by federal agencies working in partnership with tribal communities. That is a next step that will bring us closer to preventing suicide clusters and promoting healing within American Indian and Alaska Native communities.

# Appendix A: Data Sources for Identifying and Assessing Suicide Clusters in American Indian and Alaska Native Communities

## Background

When American Indian and Alaska Native (AI/AN) communities struggle with concerns about potential or emerging suicide clusters, data (on suicide occurrences, prevalence, patterns, etc.) can be one important tool in identifying the existence of clusters and may help inform suicide cluster prevention and intervention strategies. Sources for this analysis include a review of existing literature, and consultation with staff from the Centers for Disease Control and Prevention (CDC) and the Indian Health Service (IHS) as well as several subject matter experts, to identify potential data sources and tribal surveillance systems for identifying, tracking, and managing suicide clusters among AI/AN populations.

Accessing and analyzing reliable data on suicidal behavior within AI/AN populations can be a complicated process with several challenges. First, AI/AN populations are served by numerous government and tribal jurisdictions, which may have their own, varied systems for tracking and collecting data on suicidal behaviors. Often these systems are not connected, so it may be necessary to access multiple sources across jurisdictions to get accurate data on suicide trends and patterns in specific locations (SPRC & EDC, n.d.). Some data may be duplicated within the different sources. In addition, while some, but not all, tribes maintain their own suicide surveillance and tracking systems, there is not an established, national system that tracks suicide clusters.

Second, some data are publicly accessible while other data are restricted and require application and approval for access. The data may be aggregated or suppressed when the numbers are too small and/or to protect confidentiality. This is necessary but can make it difficult to develop a comprehensive understanding of suicidal patterns and trends, especially of clusters, which often occur in smaller groupings. Third, some of the data systems do not offer "real time" data, which affects the development of timely prevention and intervention efforts and programs. In the following section, we describe the data reporting and surveillance systems that could be useful for government representatives (tribal, local, federal), AI/AN communities, researchers, public health officials, and others who are interested in identifying, tracking, and managing suicide clusters in order to develop strategies and interventions to minimize the potential for future suicide clusters and contagion.

## CDC Data Sources

While CDC does not actively track suicide clusters, they have several resources that may be useful in identifying and analyzing suicide cluster patterns and trends. These resources include

the National Violent Death Reporting System (NVDRS), the National Vital Statistics System (NVSS), and Epi-Aids, a mechanism for evaluating urgent public health issues including suicide clusters. Below are descriptions of these resources, their relevance, and their limitations in identifying suicide clusters among AI/AN communities.

### National Violent Death Reporting System (NVDRS)

Since 2002, CDC's NVDRS has captured state-based data on violent deaths, including suicides. What makes this system unique is that it collects data from **three major** sources: death certificates, law enforcement reports, and coroner/medical examiner reports. Crime lab reports may be reported by some states, but often these are not routinely collected. As a result, NVDRS can provide information not only on demographics (gender, ethnicity, age) but also on causes of death including weapons involved, place of death, and circumstances surrounding the death. This can result in a more comprehensive picture of suicide-related factors and variables and also aid identification of trends and patterns related to suicide clusters and contagion.

In 2015, 32 states participated in the NVDRS through cooperative agreements with CDC. They included: Alaska, Arizona, Colorado, Connecticut, Georgia, Hawaii, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Utah, Virginia, Vermont, Washington, and Wisconsin. State NVDRS contact information is available at http://www.cdc.gov/violenceprevention/nvdrs/stateprofiles.html. It is hoped that in the future, the remaining 18 states will receive funding to participate in the NVDRS. When a state is newly funded, it requires 2–3 years for the data to become available, given the standard timeframe in which data can be acquired from the three data sources. As of the publication of this report, 17 states had data that was available through the year 2012.

Selected NVDRS data are available through CDC's Web-based Injury Statistics Query and Reporting System (WISQARS), an interactive database that is available to the public online at https://webappa.cdc.gov/sasweb/ncipc/mortrate.html. Reports can be generated that include demographic data as well as information on the circumstances surrounding the death/suicide such as a history of mental health problems or recent financial, employment, or relationship stressors. Table 1 provides the NVDRS Data Element Options.

In addition, more detailed, case-level microdata can be obtained for public health research from the NVDRS Restricted Access Database (RAD). Eligible users, including researchers, government employees, and public health officials, can apply for access by submitting RAD proposals that meet certain criteria (see http://www.cdc.gov/violenceprevention/nvdrs/rad.html) and include data sharing agreements that restrict how, when, and by whom the data can be used. Strong measures are in place to protect the confidentiality and security of data contained within RAD. Researchers can use NVDRS data to gain a deeper understanding of the circumstances of

suicide clusters. For example, Saman, Walsh, and Borówko (2012) used scan statistics and descriptive epidemiological methods with death certificate data to identify "hot spots" of suicides in some Kentucky counties. They were able to identify different suicide characteristics by gender. While the authors themselves did not use NVDRS in this particular research study, they do suggest that follow-up studies should link NVDRS data to vital statistics, socioeconomic data, and demographic data to provide a more in-depth understanding of the people who died in the suicide clusters and to aid future intervention and prevention efforts. (Note that vital statistics usually provides less data than NVDRS and the data from vital statistics often overlaps with NVDRS data.) Additionally, NVDRS provides demographic and socioeconomic data that are obtained from the multiple data sources included in the surveillance system; it is not reliant solely on death certificate data. Saman et al. (2012) also suggested that NVDRS data could be used for spatial analysis at the census tract level and allow comparisons with county-level analyses which would offer even more detail on suicide risk. "Moreover, a further investigation determining the factors associated with high-risk clusters of suicide is recommended using regression analysis by linking various sociodemographic and environmental county (or census-tract) characteristics to the vital statistics data. This approach would offer an ecological understanding of the county-level (or census-tract) characteristics that explain suicide risk (Saman et al., 2012, p. 10)."

However, the system does have limitations. First, NVDRS is not nationally representative, and therefore data are not generalizable to the entire United States. Second, due to the complexity of acquiring data from the three major data sources, there is a lag in data acquisition that may vary by data source. Therefore, the system cannot provide "real-time" surveillance and tracking. Third, data abstractors are limited to the information in the reports that are received and the reports might not include all information that is known about an incident. Finally, while NVDRS states are encouraged to work with tribes in order to collect and include appropriate data, state coroners/medical examiners may or may not get death certificates for deaths that occur on tribal lands.

### National Vital Statistics System (NVSS)

The CDC's NVSS is the nation's oldest intergovernmental data sharing system. Operated by the CDC's National Center for Health Statistics, the NVSS provides mortality data through WISQARS (http://www.cdc.gov/injury/wisqars/fatal.html). NVSS provides death counts and rates by state, county, age, race, ethnicity, and gender. It also includes the cause of death and injury mechanism (see Tables 2 and 3 for suicide mechanism data elements). Data are available for the years 1999 through 2013 (as of the date of this report). State- and county-level data for the years since 2007 are subject to more restrictive reporting rules to protect against disclosure of personally identifiable information. Along those lines, counts of less than 10 are suppressed for subnational geographic regions.

Death certificate data from state vital statistics systems in tandem with other descriptive information have been useful in identifying high-risk suicide cluster areas within states at the county level, which can then be used to target prevention and intervention efforts. For example, Saman et al. (2012) were able to identify suicide "hot spot" areas within specific counties in Kentucky using death certificate data files from the Kentucky Office of Vital Statistics. Through their research and analysis (using scan statistics and descriptive epidemiological methods) they uncovered gender differences in suicide characteristics as well as differences among suicide cases within and outside spatial clusters. Using this information, intervention and prevention efforts could be developed and targeted to those individuals and geographic areas at greatest risk.

### Epi-Aids

The CDC also offers Epi-Aids. This is a mechanism through which public health authorities, such as state health departments, tribal leaders, and military commanding officers, can request help in responding to an urgent public health event. Initially established as a response to infectious diseases, Epi-Aids have been broadened to address a wide range of public health issues, including unexplained illnesses, occupational injuries, and suicide clusters and contagion.

An assigned CDC Epidemic Intelligence Service (EIS) Officer leads the Epi-Aid effort in partnership with other key stakeholders. The goals of Epi-Aids are to control an epidemic and to prevent future, related epidemics. Epi-Aids involve careful and thorough data collection and analysis. Epi-Aids conducted within AI/AN tribal communities have typically focused on infectious disease outbreaks (Cheek, Hennessy, Redd, Cobb, & Bryan, 2011); however, one formal Epi-Aid was conducted with an AI/AN community in response to a suicide cluster. The CDC has also consulted with various AI/AN communities/tribes to provide technical assistance regarding suicide clusters. Cheek et al.'s review of AI/AN Epi-Aids since the 1950s indicated that most of the results were unpublished in order to maintain anonymity of the tribes. The authors highlighted the complexity of public health service delivery within tribal communities with multi-jurisdictions (tribal, county, state, federal), and the importance of involving the local community, respecting tribal culture and practices, and receiving approval from tribal leadership for all activities.

Typically, an Epi-Aid in response to a suicide cluster requires extensive planning time before the team can be on the ground and analyzing data. The Epi-Aid team will often analyze both quantitative and qualitative data sources (depending on the specific objectives determined for a particular Epi-Aid) and produce a final report of their findings. The final reports usually include the characteristics of suicidal behaviors, risk and protective factors, and recommendations on preventing and containing suicide clusters that are tailored to the community.

As mentioned earlier, the CDC has conducted one formal Epi-Aid with an AI/AN community in response to a suicide cluster and has also consulted with various AI/AN communities/tribes to

provide technical assistance. Details of the report from the tribal suicide cluster Epi-Aid remain unpublished at the request of the tribe. However, a review of published reports of suicide clusters in other communities provided insight into how this mechanism may be useful to AI/AN communities concerned with a potential suicide cluster. Fowler, Crosby, Parks, Ivey, & Silverman (2013) describe their investigation into and findings from a suspected cluster of youth suicides in Delaware during the first three months of 2012. At the request of the Delaware Department of Health and Human Services (DHHS), Division of Public Health, CDC activated an Epi-Aid to study suspected clusters that were affecting two counties. The goals of the investigation were to determine the frequency of fatal and non-fatal suicidal behavior during a defined timeframe (January 2012 through May 2012), compare trends during a 4-year period, identify individual, family, and community risk and protective factors, and make recommendations on relevant, useful youth suicide prevention and intervention strategies.

Implementing this and other suicide-cluster Epi-Aids is a complex, challenging process. First, it requires extensive advance planning and collaboration with various key stakeholders (e.g., the Delaware DHHS and affected schools). Second, it requires identifying and gaining access to quantitative and qualitative data sources that may be difficult to access, but could shed light on suicide attempts and completions. Data sources accessed in the Delaware Epi-Aid included records from law enforcement, the medical examiner, hospital emergency departments, and inpatient behavioral health facilities, as well as hotline reports, and state and national Youth Risk Behavioral Survey (YRBS) data. Accessing qualitative data via key informant interviews may present challenges depending on how recently the suicide deaths occurred and the need to respect community and cultural grieving processes. In Delaware, interviews were conducted with adults who had regular contact with youth, especially those who were affected by the suicide deaths; however, it was decided that interviews with youth would not be conducted at that time. The findings of this particular investigation provided a profile, common characteristics, and risk factors of at-risk youth. The findings also highlighted service gaps that, if addressed, could support prevention efforts such as increased accessible mental health resources and engaging youth activities. The report also highlighted detectable risk and protective factors and community-based strategies for primary prevention and for strengthening youth competencies, family functioning, and supportive relationships.

### Indian Health Service (IHS)

IHS provides federal health services to American Indians and Alaska Natives. It consists of 12 area offices and 170 service units that are either managed by IHS or tribally managed through self-determination contracts or self-governance compacts. There are also 33 urban health care service and resource centers that cover nearly 2.2 million AI/AN and represent 567 federally recognized tribes.

As a provider of direct services, IHS collects health information in the patients' health records. While IHS does have a suicide reporting form, there are many limitations to the data collected and the reporting form data cannot be construed as a regularly monitored surveillance system or tracking tool for suicide clusters. The internal suicide reporting form is dependent on providers to complete and the data collected may not be comprehensive. Some tribes have "opted out" of the data collection due to tribal sovereignty. Data from these forms, however, may help inform prevention or intervention activities (e.g., identification of patterns of suicide occurrences or characteristics that may emerge, such as bullying). IHS suicide cluster response is initiated at the request of tribes and varies depending on what assistance is requested. IHS, however, does not manage the "on-the-ground" response to suicide clusters, even if they direct the services that are being provided.

IHS does publish a periodic trends report, including one from 2014 (https://www.ihs.gov/dps/includes/themes/newihstheme/display_objects/documents/Trends2014Book508.pdf). The report provides AI/AN health status data, demographics, patient care, community health data, historical trends and, in some instances, comparisons with other populations. The most recent report provides data on suicidal deaths and rates by age and gender, for the period ranging from 2007 through 2009. Suicide rates are compared to suicide rates for "U.S. All Races and U.S. Whites." AI/AN rates are adjusted to account for misreporting of AI/AN race on state death certificates.

IHS also funds 12 Tribal Epidemiology Centers (TECs). The mission of the TECs is to improve the health and wellbeing of AI/AN communities by increasing awareness and understanding of their public health needs, strengthening their public health capacity, and developing culturally appropriate strategies and solutions (IHS, n.d.). TECs provide supports and services in partnership with tribal communities and often other partners, including IHS, federal and state agencies, and academic institutions. Examples of the types of public health services that TECs provide include managing public health information systems, assisting tribes with the surveillance and investigation of disease outbreaks and clusters, coordinating public health responses to disease outbreaks, and helping tribes establish meaningful data collection and management systems (National Indian Health Board, n.d.).

### Tribal Surveillance Systems

Several AI/AN communities have established surveillance systems that track suicidal behaviors within their communities. These systems can provide AI/AN community-specific information on suicide cluster trends, frequency, characteristics (risk and protective factors), and patterns. This can aid in more quickly identifying emerging suicide clusters and containing them. While we did not locate a source that compiles information on how many and which tribes maintain tribal surveillance and tracking systems, we did find information on several surveillance systems that have informed the literature on suicide and suicide clusters, including two that are discussed

here: the Maniilaq Association in northwestern Alaska and the White Mountain Apache Tribe (WMAT) in Arizona.

The Maniilaq Association, a small tribal health corporation, has operated a suicide surveillance system since 1989. In addition to data on age, gender, methods, and the number of deaths and attempts, they also capture data on situational factors like substance use/misuse, counseling history, employment loss, and relationship break-ups (Wexler, Silveira & Bertone-Johnson, 2012). The data provide clues on the characteristics and patterns of suicide within the region. Additional studies have explored youth's perceptions of suicide and related factors such as boredom, disconnection from parents and other adults, and the loss of hope for their futures. Many of these factors highlight the cultural and environmental risk factors for AI/AN youth suicide and the critical need to target all of these factors—and not just individual factors—in order to have a meaningful impact on AI/AN suicidal behavior, clusters, and contagion.

The WMAT surveillance system was established in 2001 after an alarming spike in suicides and suicide clusters, including among their youth under 20 years of age. In 2006, WMAT took the innovative step of mandating that all community members report suicidal ideation, attempts, or deaths. This reflects a tribal perspective that suicide and self-injury are public health problems and emphasizes individual and community health over individual privacy rights (Cwik et al., 2014).

The WMAT surveillance system offers primarily real-time tracking and reporting and captures data across the continuum of self-injury behaviors (ideation, attempts, death, non-suicidal self-injury, binge drinking) that are corroborated with community sources (IHS, police, emergency responders, local providers). All suicidal behavior reports result in personal follow-up and treatment referral by trained community health workers. The data are analyzed quarterly and annually for behavioral and socio-demographic trends so that the tribe can focus on early identification and intervention and develop a further understanding of health disparities, as well as characteristics that are specific to Apache youth.

Data from 2007–2012 are not yet publicly available, but process data from 2007 to 2011 show increases in suicidal behavior reports, which are being attributed to awareness of the system and willingness to make reports. The recent reports have been of less severe suicidal behaviors (attempts and ideation versus completions).. There were also significant increases in people seeking follow-up treatment—from 39 percent in 2007 to 71 percent in 2011 (Cwik et al., 2014).

Advantages of tribal surveillance systems:

- Access to real-time data that may aid identification of emerging suicide clusters, trends, and characteristics. This information can inform immediate intervention strategies and long- term prevention efforts. However, the Maniilaq Association has not used

surveillance data in this way since, as a tight-knit region with less than 10,000 people, identification of clusters is more immediate.
- Identification of characteristics and patterns that are unique to that AI/AN community.
- Capacity to provide more comprehensive data across the continuum of suicidal behaviors and self-injury, which can be useful when trying to understand clusters and contagion.
- Establishment of an important management role and control for the AI/AN community, which can foster culturally relevant interventions and understandings of suicidal clusters and contagion.

Challenges:

- Most tribes do not have surveillance systems.
- Data sharing procedures can be complicated by the relationship between the tribal sovereign nations and federal public health agencies like the CDC.
- Sustainability is an issue for funded surveillance systems.
- Different tribal surveillance systems may capture different data, which makes comparability of data difficult.

### Challenges of Identifying and Tracking Suicide Clusters

There are some additional limitations in tracking suicide clusters for AI/AN populations. First, AI/AN race may be incorrectly identified or non-identified in national databases. IHS attempts to address this by providing rates that are adjusted to account for misreporting of AI/AN race. Second, the national data sources often provide limited data that may aid identification of a cluster, but may not provide information on the mechanisms and factors contributing to the formation and spread of suicide clusters. Capturing that type of data may be further complicated by longer grieving periods in tribal communities, during which it may be inappropriate to discuss the death and the details of the death. Finally, the often complex relationships and family networks within and even between tribal communities and villages may complicate the identification of clusters. Family members may be related in ways that are not recorded or recognized in the existing data sources. A suicide may occur somewhere else, but have a ripple effect back in a home village or community.

The U.S. is not alone in efforts to establish accurate, reliable, and timely methods for identifying and tracking suicide clusters. Ireland has struggled with similar issues related to information gathering and real-time access to data in the midst of emerging suicide clusters. Ireland's pilot efforts to address some of these issues might be useful to consider. In 2008, Ireland established the Suicide Support and Information System (SSIS) as a pilot study with several goals: provide support to family grieving a loss through suicide; develop understanding and information on suicide incidence, causes, and associated risk factors; and develop real-time information to enable the identification of suicide clusters earlier in their formation (Arensmen et al., 2013). Until the establishment of this system, Ireland was hampered, like many other nations, by a system that had limited information on suicides that was often published 2–3 years after the

suicides occurred. This impeded their ability to identify suicide contagion and clusters early and target interventions that could contain the clusters' spread.

The SSIS has a unique two-step approach that provides support to family members while also gathering information about the suicide from multiple sources. The first step is proactive facilitation of support for bereaved family members of suicide victims. A trained research psychologist provides outreach to family members in order to assess their needs, provide support, and engage any relevant, needed resources. The second step involves obtaining qualitative and quantitative information from multiple different sources that had contact with victims in the 12 months prior to their deaths. Sources include coroners' records, family members, and health care professionals. These sources provided more detailed information about the circumstances around the death, the patterns of risk factors, and relationships of suicide victims within the cluster. In addition, Arensman et al. (2013) found it was important to examine the suicide cluster to determine if it was statistically significant across time and space. They used SaTScan (www.satscan.org) analysis to perform a geographical surveillance of deaths to determine if a statistically significant suicide cluster existed. Arensman et al. also emphasized the importance of examining the inter-relatedness (level of contagion) of cases within a cluster. The authors noted that:

> Through its systematic approach and access to multiple sources of information, the SSIS meets the requirement of a real-time register of suicide by monitoring patterns and risk factors associated with suicide to improve risk assessment and to identify emerging suicide clusters and contagion effects. In this regard the SSIS addresses the limitations of the suicide mortality data provided by the CSO [Central Statistics Office], and fulfills similar objectives as the UK National Confidential Inquiry into Suicide and Homicide (Kapur et al., 2013; Appleby et al., 1999) and the Scottish Suicide Information Database (ScotSID, Information Service Division, 2012). (Arensman et al., 2013, p.29)

The results of the pilot study have been promising. Data analysis has identified specific themes and risk factors that are associated with different subgroups of the population, such as men or women, persons who are unemployed, men under the age of 40, etc. The SSIS has been able to use official data more quickly than previously through their Central Statistics Office, which has aided the identification of emerging suicide clusters. In addition, by accessing multiple sources, the SSIS has been able to identify contagion effects as well as establish both direct and indirect relationships among the individuals involved in suicide clusters (National Suicide Research Foundation, n.d.).

> The outcomes of the SSIS in terms of specific risk factors associated with suicide clustering underline the need for intensive multi-level suicide prevention

> programmes whereby multiple interventions are implemented with key stakeholders at the same time. (Arensman, et al., 2013, p.30).

New Zealand is also receiving attention for innovative efforts to provide real-time data on suicides in order to more effectively identify, prevent, and/or contain potential suicide clusters. Since 2006, New Zealand police have been required to report every suicide and suspected suicide to the coroner (Ministry of Health, 2015). While individual coroners investigate suspected suicides, the Chief Coroner and the Coronial Services New Zealand (CSNZ) maintain a central collection and overview of this data. In July 2014, the New Zealand Ministry of Health created the Coronial Suspected Suicide Data Sharing Service (CDS) to align with one of the goals of the *New Zealand Suicide Prevention Action Plan 2013–2016*: to provide up-to-date suicide data to local agencies working to prevent further suicides (Ministry of Health, 2015). The CDS provides regional health centers with information on suspected suicides in their regions to support the health center's timely postvention responses. According to the New Zealand Ministry of Health's *Suicide Prevention Toolkit for District Health Boards* (2015):

Timely provisional coronial data on suspected suicides is an important element of local responses to these deaths for all agencies in order to:

- Provide timely and appropriate active outreach, support, and other suicide postvention services to family and communities bereaved by suicide (Action Area 4 of the NZSPAP 2013-2016)
- Coordinate inter-agency collaboration, as well as wider community involvement, in suicide postvention responses designed to identify potentially vulnerable individuals and ensure that they are linked with appropriate supports and services ( . . . )
- Reduce community distress and anxiety, and minimise risk contributing to any further suicidal behaviour ( . . . )
- Enable an accurate assessment of current local patterns of suspected suicides in order to discern possible suicide cluster or contagion ( . . . )." (p. 70–71, Appendix 5)

The New Zealand Ministry of Health also established the Community Postvention Response Services (CPRS) to support communities that were experiencing a suicide cluster or contagion. Both the CDS and CPRS are run by New Zealand's Clinical Advisory Services Aotearoa (CASA). CDS alerts CPRS to all Coronial Services New Zealand notices of suspected suicides. CPRS monitors suicide death data in real time for signs of potential clusters and contagion. CPRS works in partnership with communities to develop and coordinate culturally sensitive postvention responses to contain and manage suicide clusters and contagion. According to McDonnell (2014), CPRS works from a community development model, which focuses on empowering the community to lead the efforts while CPRS works in a supportive and advisory role. When the cluster/contagion has been contained, CPRS helps the community develop

prevention efforts and activities to address any underlying and modifiable risk factors (McDonnell, 2014).

**Table 1: National Violent Death Reporting Systems (NVDRS) Suicide-related Data Elements and Report Options**

Source: http://www.cdc.gov/ncipc/wisqars/nvdrs/Summary_of_Data_Elements_and_Report_Options_Table.htm (note: only fields relevant for suicide are included)

| Data Element | Options/Definitions |
|---|---|
| **Mode of Determining Manner or Cause** | • Abstractor Defined (based on information from death certificates, medical examiner or coroner reports, and police reports. Recommended for general use as it includes all available data sources)<br>• ICD-10 Underlying Death codes (more limited. Based only on data from vital statistics systems. If run by ICD-10 codes, can compare to counts and rates with those based on death certificates data in the NVSDS) |
| **Intent/Manner of Injury** | All intents, or any combination of the following<br>• Unintentional firearm<br>• Homicide<br>• Legal intervention<br>• Suicide<br>• Undetermined intent<br>• Homicide followed by suicide, except when using ICD-10 mode |

| Data Element | Options/Definitions |
|---|---|
| **Cause/Mechanism of Injury** | • Firearm (additional subcategories for abstractor assigned: all firearms, handgun, shotgun, rifle, other firearm, combination of firearms, unknown/not reported)<br>• Cut/Pierce/Stab with sharp instrument<br>• Struck by/against (additional subcategories for abstractor assigned: all, blunt instrument, personal weapons (hands, feet))<br>• Poisoning (additional subcategories for abstractor assigned: all, street/recreational drugs only, alcohol only, prescription drugs only, over-the-counter (OTC) drugs only, carbon monoxide or other gas only, multiple drug combinations, other specified poison, unknown drugs/not reported)<br>• Hanging, strangulation, suffocation<br>• Fall<br>• Drowning<br>• Fire/Burn<br>• Motor vehicle, including cars, vans, SUVs, buses, motorcycles and others<br>• Intentional neglect<br>• Other<br>• Unknown |
| **Years of Report** | **Calendar year of person's death** |
| **State** | • Individual participating states<br>• Groups of states |
| **Race, Ethnicity and Sex of the Victim** | • All races, white, black, American Indian/Alaskan Native, Asian/Pacific Islander<br>• All ethnicities, Hispanic, non-Hispanic, unknown<br>• Both sexes, male, female |
| **Place of Injury** | All, or any combination of the following:<br>• House/apartment/yard/driveway<br>• Residential institution/shelter/prison<br>• Highway/street/road/automobile<br>• Recreational/cultural area/public building<br>• Commercial/farm/industrial/construction area<br>• Natural area/countryside/forest<br>• Other including school/sports areas<br>• Unknown/missing |

| Data Element | Options/Definitions |
|---|---|
| **Homeless Status** | • All<br>• Homeless<br>• Not homeless<br>• Unknown/missing |
| **Pregnancy Status** | • All<br>• Pregnant<br>• Not pregnant<br>• Unknown/missing |
| **Military Status** | • All<br>• Current/former military<br>• Non-military<br>• Unknown/missing |
| **Suicide/Undetermined Death Circumstances** | • All persons with known circumstances<br>• Current depressed mood<br>• Current mental health problems<br>• Current treatment for mental health problem<br>• Ever treated for mental health problem<br>• Person left a suicide note<br>• Disclosed intent to commit suicide<br>• History of suicide attempts<br>• Crisis in past two weeks<br>• Intimate partner problem<br>• Other relationship problem<br>• Physical health problem<br>• Alcohol dependence<br>• Other substance problem<br>• Recent criminal legal problem<br>• Other legal problems<br>• Job problem<br>• Financial problem<br>• School problem<br>• Suicide of family or friend in the past five years<br>• Other death of family or friend in the past five years<br>• Perpetrator of interpersonal violence in the past month<br>• Victim of interpersonal violence in the past month |

**Table 2: Cause/Mechanism Data Elements for 1999 and Later Data (NVSS)**

Sources: http://www.cdc.gov/injury/wisqars/fatal_help/definitions_fatal.html
*Note: Table only includes Cause/Mechanism Elements for Suicide and Undetermined Injuries*

| Cause / Mechanism | Intent / Manner | |
|---|---|---|
| | Suicide | Undetermined |
| All Injury | X | X |
| Cut/piercing | X | X |
| Drowning/ Submersion | X | X |
| Fall | X | X |
| Fire/burn | X | X |
| Fire/flame | X | X |
| Hot Object | X | X |
| Firearm | X | X |
| Transportation-related | X | |
| Motor Vehicle (MV), Overall | X | X |
| MV Traffic | | X |
| Other Land Transport | X | X |
| Non-Firearm | X | |
| Poisoning | X | X |
| Struck by, against | X | X |
| Suffocation | X | X |
| Other specified, classifiable | X | X |
| Other specified, not elsewhere classifiable (NEC) | X | X |
| Unspecified | X | X |

**Table 3: Cause/Mechanism Data Elements for 1998 and Earlier Data (NVSS)**

Sources: http://www.cdc.gov/injury/wisqars/fatal_help/definitions_fatal.html
*Note: Table only includes Cause/Mechanism Elements for Suicide and Undetermined Injuries*

| Cause / Mechanism | Intent / Manner | |
|---|---|---|
| | Suicide | Undetermined |
| All Injury | X | X |
| Cut/piercing | X | X |
| Drowning/ Submersion | X | |
| Fall | X | X |
| Fire/burn | X | X |
| Fire/flame | X | X |
| Hot Object | X | X |
| Firearm | X | X |
| MV Traffic | | X |
| Non-Firearm | X | |
| Poisoning | X | X |
| Suffocation | X | X |
| Other specified, classifiable | X | X |
| Other specified, not elsewhere classifiable (NEC) | X | X |
| Unspecified | X | X |

Substance Abuse and Mental Health Services Administration. Suicide Clusters within American Indian and Alaska Native Communities: A review of the literature and recommendations. HHS Publication No. SMA17-5050. Rockville, MD: Center for Mental Health Services, Substance Abuse and Mental Health Services Administration, 2017.