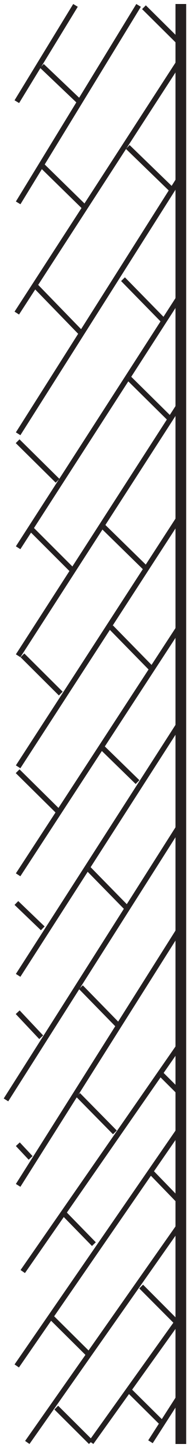

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THE RISE IN METHAMPHETAMINE USE AMONG AMERICAN INDIANS IN LOS ANGELES COUNTY

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Abstract: A preliminary review of substance abuse treatment admission data from 2001-2005 was conducted to explore the use of methamphetamine among American Indians in treatment programs funded by Los Angeles County. Comparisons were made between primary methamphetamine users and users whose primary drug was a substance other than methamphetamine. In that period, the number of American Indians reporting methamphetamine as their primary drug in Los Angeles County significantly increased, particularly among females.

Methamphetamine (MA) use and production has become an exigent concern for many American Indian and Alaska Native (AI/AN) communities. There is growing evidence of the problems of MA use and production on AI reservations (e.g., Committee on Indian Affairs, 2006; Evans, 2006; Office of Applied Studies, 2005a). In April 2005, Arizona Senator John McCain and his colleagues on the U.S. Senate Committee on Indian Affairs convened a hearing on the impacts of MA on AI communities. The testimony of Kathleen W. Kitcheyan, Chairwoman of the San Carlos Apache Tribe, gave voice to the growing concerns about MA:

> The rapid rise and spread of meth use and production has multiplied the challenges to the safety and well-being of the San Carlos Apache people. The use, production, and trafficking of meth is destroying my community—shattering families, endangering our children, and threatening our cultural and spiritual lives (Committee on Indian Affairs, 2006).

Methamphetamine is a potent stimulant that is used worldwide. It is known for being a highly addictive drug that can lead to serious health risks. According to the Substance Abuse and Mental Health Services' Treatment Episode Data Set, there has been a marked increase nationally in the number of people seeking treatment for MA. In 1993, there were 21,000 admissions to publicly funded treatment in the U.S. In 2003, the number rose to 117,000 admissions (Office of Applied Studies, 2005b). Studies of the general U.S. population have illuminated the problem of MA use among AI/ANs (Iritani, Hallfors, & Bauer, 2007; Office of Applied Studies, 2005a). For example, a national study of crystal MA use among young adults in the U.S. found that AI/ANs were 4.2 times more likely than Whites to report past year use of MA (Iritani et al.).

Nationally, AI/ANs predominately seek substance abuse treatment services for alcohol; however, the number of AI/ANs seeking treatment for illicit drug use appears to be rising. In 1994, 23.6% of AI/ANs who entered treatment did so for illicit drug use. In 2002, the number rose to 37.1% (Office of Applied Studies, 2005b). Methamphetamine use has become a particularly significant problem. The number of Indian Health Service outpatient treatment encounters attributed to amphetamine/MA use has increased substantially over the years. In 1997, 136 visits were related to amphetamine/MA use; by 2004, the number of such visits had increased to 4,046 (Indian Health Service, 2005). A large treatment outcome study in California found that 28% of AI/AN treatment seekers reported amphetamines as their primary drug problem (Evans, Spear, Huang, & Hser, 2006). The rate of primary amphetamine use for AI/ANs was higher than that for other illicit drugs, including marijuana, cocaine, heroin, and other street drugs (Evans et al.).

Treatment admissions for MA use have risen steadily in Los Angeles County since 2000. In 2001, 16% (*N* = 5,237) of all adults reporting for treatment in county-funded programs reported MA as their primary drug. During this same year, cocaine, alcohol, and heroin were the three most commonly reported primary drug problems. In 2005, admissions for primary MA use nearly doubled to 30% (*N* = 8,207), and MA became the most frequently reported primary drug problem (Crèvecoeur, Finnerty, & Rawson, 2002; see also Office of Health Assessment & Epidemiology, 2006). The number of primary MA users entering treatment in Los Angeles County has risen for most ethnic groups over the last 5 years, most notably for Whites, Hispanics, Asians, Native Hawaiians, and AI/ANs. The only group that did not show an increase in treatment admissions for primary MA use was African Americans (Crèvecoeur, Snow, & Rawson, 2006).

The influx of MA into rural AI/AN communities was documented in a 2006 report commissioned by the Bureau of Indian Affairs (Evans, 2006). The report summarized results from a survey of 96 tribal law enforcement agencies across the U.S. Respondents were asked questions about the presence of MA in their communities, the extent of MA-related crimes, and the impact of MA-related problems on local law enforcement agencies. Seventy-four percent of respondents cited MA use as the top drug problem in their communities; 64% of respondents indicated that domestic violence crimes had increased because of the presence of MA in their communities. Increases in burglary (reported by 57% of respondents), assault and battery (reported by 64%), and child neglect/abuse (reported by 48%) associated with MA use were also noted (Evans, 2006).

There is currently little information on MA use among urban adult AI/ANs. Los Angeles County provides a unique opportunity to study substance abuse patterns among urban AI/ANs. California has the largest AI/AN population in the U.S.— 696,633 individuals (U.S. Census Bureau, 2006). The AI/AN population in Los Angeles County is 153,951. This is the largest concentration of urban AI/ANs in the U.S. In terms of substance abuse treatment, approximately 6,000 AI/ANs receive publicly funded treatment in California each year. Los Angeles County typically serves 300-600 AI/ANs each year (Los Angeles County Department of Health Services, 2007).

The purpose of this article is to report findings from an exploratory examination of Los Angeles County adult treatment admission data from 2001-2005. The goal of the study was (1) to explore the extent of MA use among urban AI/ANs over time, and (2) to examine similarities and differences in characteristics and patterns of use between AI/ANs admitted to treatment for primary MA use and AI/ANs admitted for use of a primary drug other than MA (non-MA users).

Methods

Procedures

The data were submitted by Los Angeles County-funded alcohol and other drug treatment programs to the Los Angeles County Evaluation System, a treatment outcomes study run by researchers at UCLA Integrated Substance Abuse Programs (Crèvecoeur et al., 2002). All data were stripped of any information that might be used to identify a specific treatment participant prior to their receipt by UCLA.

All analyses were performed using SPSS, version 14.0.

Measures

The Los Angeles County Participant Reporting System Admission and Discharge Questions.

The Los Angeles County Participant Reporting System (LACPRS) questionnaire was developed and implemented by the Los Angeles County Alcohol and Drug Program Administration (ADPA). The LACPRS system allows treatment providers to access and enter data directly into the ADPA file server via the Internet. Treatment providers administer the LACPRS questionnaire as an interview with all participants at treatment entry and discharge. Pre-post comparisons are used to assess treatment outcomes. The data are based on participants' self-report.

The LACPRS questionnaire includes demographic, substance abuse, and health-related variables. The demographic variables consist of questions regarding the sex, race/ethnicity, age, disability, and veteran status of the treatment participant, as well as whether they are homeless. The substance use questions include the identification of the primary and secondary substances of abuse, routes of administration, frequency of use, and age at first use of the primary/secondary substances. There are additional questions regarding medical/psychiatric problems and treatment, employment-related activities, legal issues, and family conflict.

Many of the items were taken directly from the Addiction Severity Index (ASI; McLellan, Luborsky, Woody, & O'Brien, 1980). The ASI is a standardized assessment tool designed for individuals seeking substance abuse treatment. The ASI has been validated for use with diverse populations (McLellan et al., 1985); however, there have been no studies validating the use of the ASI for AI/AN populations and other U.S. minority populations. The LACPRS, like the ASI, does not capture culturally-specific information for AI/AN populations, e.g., tribal affiliation, acculturation level, and use of substances for ceremonial purposes.[1] Additionally, the LACPRS does not include a question on sexual orientation, nor transgender status. The LACPRS was designed to be brief and universal to Los Angeles County substance abuse treatment providers.

Sample

AI/ANs represent only 1.4% of the total treatment population in Los Angeles County. Data from five consecutive calendar years (2001-2005) were combined[2] creating a sample of 2,285 treatment admissions.

Treatment participants self-identify as AI or AN. The two ethnicities were combined on the LACPRS questionnaire until 2004. Based on the data from 2004 and 2005, there were a total of 229 ANs in the sample.

Over the five years, 29.8% (*n* = 681) of the admissions were for treatment of primary alcohol use, 25.7% (*n* = 587) for primary MA use, 17.3% (*n* = 395) for primary cocaine use, 13.6% (*n* = 310) for primary heroin use, 10.6% (*n* = 242) for primary marijuana use, and 3% (*n*= 70) for other drug use The total number of admissions included in the MA group was 587 and the total number in the non-MA group was 1,698. See Appendix Table A for a breakdown of the number of primary MA users by year.

In terms of the treatment modalities where participants sought care, 49.5% in the MA group entered outpatient treatment (non-pharmacologic), 46% entered residential treatment, and 4.5% entered daycare habilitative treatment (an intensive form of outpatient counseling designed for women with dependent children). Among participants in the non-MA group, 47.6% entered outpatient drug-free treatment, 44.9% entered residential treatment, 4.7% entered narcotic treatment programs, which primarily treat heroin addiction, and 2.8% went to daycare habilitative treatment.

Results

Rise in treatment admissions for primary MA use among urban AI/ANs

The percentage of AI/AN individuals in Los Angeles County seeking treatment for MA as a primary drug problem increased between 2001 and 2005 (see Figure 1). In 2001, 24.8% of AI/AN participants (*n* = 133) reported MA as their primary drug. In 2005, this number rose to 31% (*n* = 213). In 2004, MA replaced alcohol as the most commonly reported primary drug problem by AI/AN individuals at treatment admission (29.8% and 26.3%, respectively), and this trend continued into 2005 (31% and 26.5%, respectively).

A closer examination of the data indicated that the rise in AI/AN treatment admissions for primary MA use was driven primarily by AI/AN females, who have consistently reported higher rates of MA use than AI/AN males. When primary MA use among AI/ANs was broken out by gender, it became clear that alcohol was still the primary drug problem reported by males, whereas MA had become a more significant drug issue for AI/AN females. In 2001, 31.7% of females and 17.5% of males reported MA as their primary drug. The proportion of AI/AN females admitted to treatment for a primary MA problem increased to 40.3% in 2005. The proportion of male AI/ANs admitted to treatment for MA rose to 23.8%; however, over the years, an increasing number of women sought treatment for primary MA use, χ2 (1) = 37.03, *p* < .001. Figures 2 and 3 illustrate the changes in alcohol and primary MA use among females and males over the years.

Figure 1
Primary Drug Admissions for AI/AN Treatment Participants in Los Angeles County (N = 1,268)

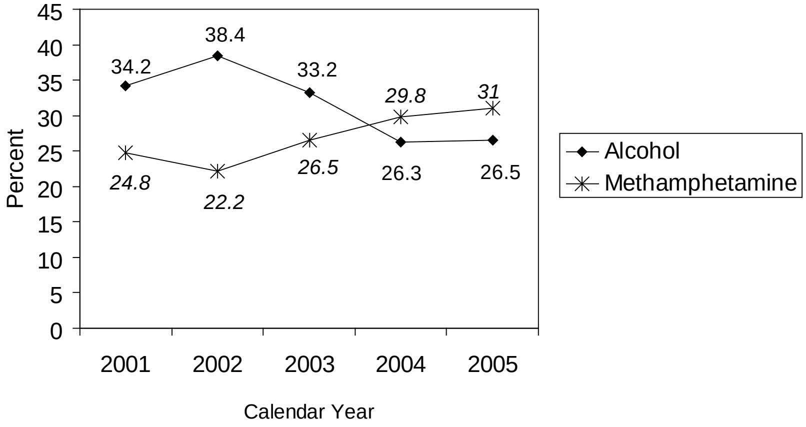


Figure 2
Primary Drug Admissions for <u>Female</u> AI/AN Treatment Participants in Los Angeles County (*N* = 970)

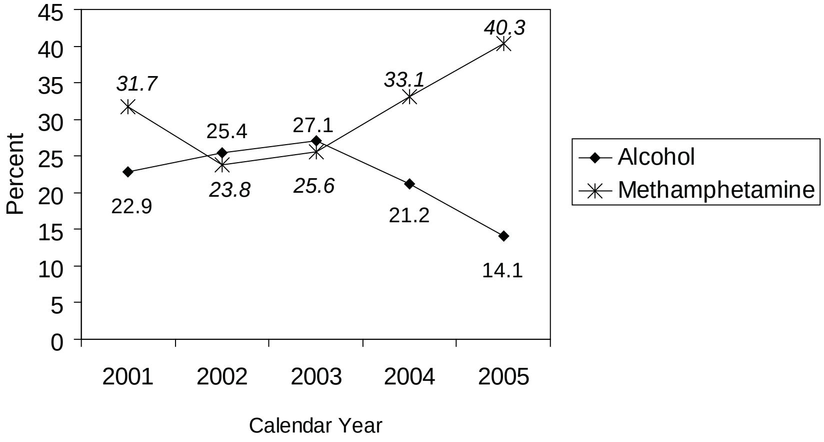
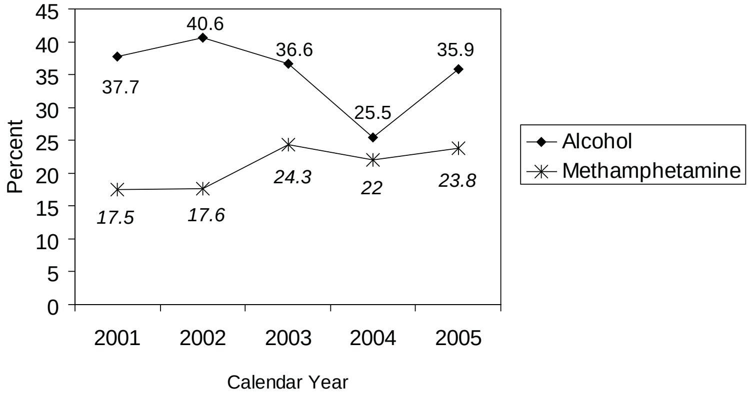


Figure 3
Primary Drug Admissions for Male AI/AN Treatment Participants in Los Angeles County (N = 1,315)



Characteristics of the MA and non-MA groups

Table 1 summarizes the sample characteristics for the MA and non-MA groups. There were significantly more females in the MA group (53.2%) compared to the non-MA group (38.8%). Participants in the MA group were younger than their counterparts in the non-MA group (M = 33.6, SD = 8.8; M = 37.5, SD = 10.8, respectively; t [1989] = -8.059, p < .001). There was also a difference in mean age by gender for the MA group, where females, on average, were younger (M = 31.6, SD = 8.3) than males (M = 35.9, SD = 8.9), t (496) = 5.520, p < .001. There was a significant difference in disability (e.g., cognitive, hearing, visual, speech, mental, mobility, or developmental) in that 17.9% of the MA group reported a disability as compared to 23.7% of the non-MA group, $\chi 2$ (1) = 8.46, p < .01. The most common type of disability reported by both groups was mental impairment (8.3% for the MA group and 10.3% for the non-MA group). The rates for other types of disabilities were in the 2-4% range, with visual and mobility impairments being the next most common. The rates for the non-MA group were slightly higher for both visual and mobility impairments.

Approximately one-third of participants in each group reported being homeless (31.9% of MA, 29.8% of non-MA). It is worth noting that the rates of homelessness and reported disability among American Indian MA users are higher than what we have observed for non-American Indian MA users in the LACPRS database (see Crèvecoeur et al., 2006, for a review of treatment participant data). Based on a review of all MA users in the LACPRS sample, we found that approximately 32% of American Indian MA users reported being homeless, compared to 23.5% for non-American Indian MA users. Similarly, more American Indian MA users reported having a disability than did non-American Indian MA users, 17.9% and 9.5%, respectively. While the LACPRS system collects information on homelessness, mental illness, and other disabilities, data on the types of interventions that AI/ANs may have received as part of their treatment are unavailable.

Table 1
Sample Characteristics for AI/ANs Admitted for Primary MA Use and Those Admitted for Use of Another Primary Drug

Characteristic	American Indian Group: MA (n = 587)	American Indian Group: Non-MA (n = 1,698)	All American Indians (n = 2,285)
Female (%)**	53.2	38.8	42.5
High school education or higher (%)	50.4	58.7	56.5
Employment (full- or part-time) (%)	12.1	10.0	10.5
Disability (%)*	17.9	23.7	22.2
Homeless (%)	31.9	29.8	30.3

* Significant difference between groups at *p* < .05 level.
**Significant difference between groups at *p* < .001 level.

Days of Use at treatment admission and discharge for MA and non-MA groups

Table 2 provides a summary of primary drug use for all participants who reported at least 1 day of drug use in the 30 days prior to treatment admission. Overall, MA users used a mean of 12 days (SD = 10.5) in the prior 30 days and non-MA users used a mean of 15 days (SD = 11.3), t (666) = -3.322, $p < .01$. Primary MA users who entered residential treatment reported significantly more use in the prior 30 days (M = 14.8, SD = 10.3) compared to MA users who entered outpatient treatment (M = 8.5, SD = 9.4), t (169) = - 4.172, p<.001. There were no significant differences in drug use during the prior 30 days between non-MA users entering residential and outpatient treatment.

Discharge information on those drugs included in the non-MA group were also examined to determine if there were any differences in reported use by treatment modality. Treatment participants reporting primary alcohol and primary cocaine use fared significantly better in residential treatment, as measured by the number of days used at discharge. Among alcohol users, participants in residential treatment reported fewer days used at discharge ($M = 3.3$, $SD = 7.7$) than did participants in outpatient treatment ($M = 6.9$, $SD = 10.9$), $t\,(126) = 2.068$, $p<.05$. Similarly, cocaine users in residential treatment reported fewer days of use ($M = 1.8$, $SD = 5.1$) at discharge compared to their counterparts in outpatient treatment ($M = 7$, $SD = 11$), $t\,(71) = 2.760$, $p<.05$. There were no significant differences in reported use at discharge by treatment modality found for the MA and other primary drugs included in the non-MA group.

Table 2
Mean Days of Primary Drug Use in the Prior 30 Days for AI/ANs Who Reported at Least 1 Day of Use

		Mean Days of Primary Drug Use			
Primary Drug	***N***	**Admission**	***SD***	**Discharge**	***SD***
Alcohol	210	14.1	11	5.4	9.6
Cocaine	98	13.1	10.7	3.7	8.1
Heroin	103	19.1	12.1	10.9	13.1
Marijuana	68	14.8	10.2	6.7	9.8
Methamphetamine (MA)	189	12	10.5	3.8	8.1
Non-MA	479	15.1*	11.3	6.2*	10.3

* Significant difference between groups at $p < .01$ level.

When examining days of use from admission to discharge, the MA group reduced their use of MA by about 68% to 3.8 days ($SD = 8.1$) in the past 30 days. By comparison, the non-MA group reduced their drug use by about 59% to 6.2 days ($SD = 10.3$), $t\,(666) = -2.526$, $p < .05$. It is interesting to note that the MA group and cocaine users in the non-MA group had similar rates of use at both treatment admission and discharge. In addition, participants in the MA group remained in treatment for a mean of 95.9 days ($SD = 112$), which was similar to the primary cocaine users who stayed in treatment for a mean of 92.8 days ($SD = 147$), $t\,(724) = 0.324$, $p = .746$.

Discussion

Substance use data among urban AI/AN populations are scarce. The purpose of the present study was to explore the rates of MA use among AI/AN adults seeking treatment in Los Angeles County. Since 2001, the percentage of AI/AN individuals entering treatment in Los Angeles County for primary MA use has increased. The pattern appears to be more pronounced among AI/AN females. This finding of more MA use among females is consistent with studies of non-AI/AN populations (Brecht, O'Brien, von Mayrhauser, & Anglin, 2004).

Positive treatment outcomes were observed for AI/AN individuals in both the MA and non-MA groups. Both groups reported fewer days of use at treatment discharge than at admission. While participants entering residential treatment for primary MA use reported more days of use than did participants entering outpatient treatment for MA, there was no significant difference in reported use at discharge between participants completing residential and outpatient treatment. Given the scope of MA use in Los Angeles County and on the West Coast in general, it is encouraging to discover signs of improvement for AI/AN individuals receiving standard substance abuse treatment in Los Angeles County. The current findings correspond well with the California-based treatment outcome study, documented by Evans et al. (2006), which found that AI/AN primary alcohol users fared well in mainstream treatment and, in some areas, showed greater progress than the non-AI/AN comparison group.

There are several limitations to this study. First, there is the potential for underreporting AI/ANs in the LACPRS database. Misidentification of AI/ANs has been reported in studies of death records in California (Epstein, Moreno, & Bacchetti, 1997). In addition, Frith-Smith and Singleton (2000) found that underreporting of AI/ANs in a variety of health systems is problematic in Los Angeles County. A significant number of AI/ANs in California are multiracial, and it is possible that some AI/ANs noted "mixed race" at treatment admission or were misclassified by the admission counselors administering the LACPRS questionnaire. The authors did not have access to data for individuals who self-identified as mixed race and could not determine whether any of those individuals were from AI/AN backgrounds.

Second, the data for this study were treatment admission data for publicly funded treatment programs. As such, individuals who sought treatment through private sources are not included in these data. Additionally, because these are treatment data, they do not indicate or measure the actual impact of MA within AI/AN communities. Many people with substance abuse problems do not seek treatment or cannot access treatment. Access to specialty treatment and health care services in general is a serious challenge for many AI/ANs (Jones, 2006; Frith-Smith & Singleton, 2000). A national study conducted by Zuckerman, Haley, Roubideaux, and Lilli-Blanton (2004) found that in comparison to Whites in the U.S., AI/ANs were significantly less likely to have health insurance and had less access to health services.

Increasingly, MA use in AI/AN communities has been a cause for concern, given the individual and social costs associated with MA abuse and production. National studies by the Substance Abuse and Mental Health Services Administration illustrate the rise in illicit drug use among AI/AN populations and, in particular, the increasing numbers of AI/ANs entering treatment for MA addiction (Office of Applied Studies 2005a, 2005b). The rise in MA use among AI/AN populations is particularly troubling given conditions of poverty, poor health, low education levels, and low employment rates commonly found in AI/AN communities, including those situated in urban areas such as Los Angeles.

In 2006, the Indian Health Service increased its efforts to prevent the production and use of MA and supported a variety of local initiatives, including conferences, clinical training efforts, leadership development, promotion of both mainstream and traditional health practices, and community mobilization efforts. The National Congress of American Indians has recently convened meetings and launched outreach efforts to deal with the problem of MA use (see NCAI, 2007 for information about the "methamphetamine tool kit"). The increase in MA-related problems in AI/AN communities has created an urgent need for additional resources for treatment, social services, law enforcement, and environmental protection.

Conclusion

The present study provides a window into the prevalence of MA use among AI/ANs in Los Angeles County. The findings from this study raise additional questions that could be explored in future research. Now that we have data on MA use among AI/AN individuals seeking treatment, it is important to understand the various pathways to MA use among AI/AN males and females and to describe the social, cultural, and economic contexts within which MA use occurs.

Some research suggests that substance use by AI/AN populations may be associated with acculturation stress; that is, the response to the pressures of assimilation within the dominant culture (LaFromboise, Berman, & Sohi, 1994). Urban AI/ANs may be particularly vulnerable to acculturation stress due to their greater level of interaction with majority cultures through work, school, and other social settings. AI/ANs in Los Angeles County are geographically dispersed and live among diverse ethnic groups, including African Americans, Asian Americans, and Latinos (Clark, 2006). Given the extent of MA use among the broader White and Latino populations in Los Angeles County (Crèvecoeur, Snow, & Rawson, 2006), one could hypothesize that MA use among urban AI/ANs may be associated with greater levels of assimilation into the majority culture.

Future research may also include an examination of the health-related impacts of MA use, particularly the incidence of HIV and other sexually transmitted diseases. The relationship between MA use and high-risk sexual behaviors is a serious public health concern (Mansergh et al., 2006). In 2005, Los Angeles County ADPA added questions about medical status and infectious diseases to the LACPRS questionnaire. Subsequent analyses of the LACPRS data may focus on the overall health and medical status of AI/ANs in treatment and, in particular, the rate of infectious diseases among AI/AN primary MA users.

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Footnotes

[1] Carise and McLellan (1999) adapted the Addiction Severity Index for use with American Indians in North Dakota. We are unaware of the extent to which the adapted version is used by service providers outside North Dakota.

[2] When examining mean days of drug use, only data from 2003-2005 were used. No data on days of drug use were available prior to 2003.

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Appendix

Appendix Table A
AI/AN Primary MA Users in Treatment
2001-2005 (*n* = 587)

Year	Male (%)	Female (%)
2001	57 (42.9)	76 (57.1)
2001	45 (50.6)	44 (49.4)
2003	49 (59.8)	33 (40.2)
2004	31 (44.3)	39 (55.7)
2005	93 (43.7)	120 (56.3)

SCREENING FOR DEPRESSION AND THOUGHTS OF SUICIDE: A TOOL FOR USE IN ALASKA'S VILLAGE CLINICS

Julie A. Niven, LCSW, DCSW, MAC

Abstract: Depression occurs at a significant rate in the U.S. population. Untreated depressive symptoms are a primary risk factor for suicide. Studies show that a significant percentage of individuals who commit suicide had visited their health care providers in the months before their deaths. Alaska ranks number one in the nation for suicide. Routine screening for depression and risk of suicide in Alaska village clinics could lead to reduced depressive illness and death statewide.

Introduction

On average, almost 10% of American adults suffer from depressive symptoms annually (National Institute of Mental Health, 2000). Research shows that 90% of individuals who commit suicide were found to suffer from some type of untreated mental disorder prior to their deaths (Moscicki, 2001; Alaska Suicide Prevention Plan, 2001; Conwell & Brent, 1995; Goldsmith, Pellmar, Kleinman, & Bunney, 2002). These studies and statistics point to the need for early, accurate identification and referral of individuals who may have an undisclosed mental illness and subsequently are at increased risk for self-harm. The *National Strategy for Suicide Prevention* (U.S. Department of Health and Human Services, 2001) and the *Alaska Suicide Prevention Plan* (Statewide Suicide Prevention Council, 2001) outline viable goals aimed at reducing suffering from mental illness and loss of life by suicide. Goal 7 of the *National Strategy* is to "Develop and promote effective clinical and professional practices" and one of the objectives within this goal is "Incorporating suicide-risk screening in primary care." Goal 7 of the *Alaska Suicide Prevention Plan* recommends that "People who work in institutions and groups that serve or work with high risk populations are able to identify warning signs and respond appropriately." Research shows that more than 80% of people who commit suicide have seen their health care provider within 12 months of their death and more than 65% have visited a health clinic within the last 30 days (Luoma, Martin, & Pearson, 2002). Routine screening to assess for the presence of depressive symptomology and suicide risk, coupled with immediate referral to mental health staff when such symptoms and evidence of risk are present, has the potential to alleviate unnecessary suffering of those in psychological pain and prevent untimely and unnecessary loss of life.

The High Rate and Cost of Suicide

It is estimated that in the United States, there is a completed suicide every 18 minutes and a suicide attempt every minute. According to the most recent data, more than 31,000 people died as the result of suicide in 2003 (American Foundation for Suicide Prevention, 2006). Nationwide, suicide is the 11th leading cause of death while Alaska ranks number one for suicide in the U.S. (National Association of Suicidology, 2004). On average, 125 Alaskans die by suicide annually. Statewide, suicide is the number one cause of death for those under 50 years of age, and Alaska Natives are 4 times as likely to die by suicide as non-Natives (Statewide Suicide Prevention Council, 2006). Alaska Native children as young as 10 have been seen in the emergency rooms of village clinics because of suicide attempts, and Alaska Native children as young as 7 have been reported to experience suicidal ideation (personal experience and observation). Financially, the economic burden of suicide within Alaska is enormous: The average medical cost per hospitalization for attempted suicide is $15,209 (Education Development Center, Inc., 2003-2005) and the total annual hospital costs are estimated to be in excess of $5.5 million dollars (Statewide Suicide Prevention Council, 2006).

Information written for layperson and professional alike stresses the importance of inquiring directly about suicidal ideation when such thoughts are suspected. Prevention training programs emphasize that asking about suicidal thoughts does not make suicide more likely, but instead opens the door to exploration of thoughts that an individual might otherwise be reluctant to voice on his or her own (The QPR Institute, 1999; Clark, Thompson & Welzant, 2003). Studies show that screening for suicide in primary care settings can increase identification of people experiencing depressive disorders and suicidal ideation (Pfaff, Acres, & McKelvey, 2001), reduce suicidal ideation in those identified

(Bruce et al., 2004), and decrease suicide attempts overall (Asarnow et al., 2005). Screening in primary care has the potential to ease suffering and save lives in all age groups (Mann et al., 2005).

The Health Care Provider's Unique Opportunity to Intervene

Despite the fact that almost one-tenth of Americans suffer with a depressive illness annually, many delay seeking treatment––or decide not to seek treatment at all––for their symptoms (National Institute of Mental Health, 2000). Only a small percentage of patients experiencing suicidal ideation verbalize their thoughts to their health care providers, despite the fact that a high percentage of individuals who commit suicide have visited their health clinic in the months prior to their deaths. Instead, most individuals choose to share their symptoms with a spouse, friend, or even coworker––who is often at a loss as to how to deal with such information (Fawcett, 2006). Recognizing that patients are rarely forthcoming about their depressive symptoms, health care workers have the unique opportunity and, indeed, the responsibility to take a proactive stance in asking directly about matters that patients are otherwise reluctant to bring up. Straightforward questions aimed at screening for depressive symptoms and suicide risk are perhaps the simplest and most effective way to uncover these serious problems.

Overview of the Rural Alaska Health Care System

Alaska's health care system is unique compared to any other in the United States. The Community Health Aide Program (CHAP) is the foundation for the majority of rural health care in Alaska. The CHAP originated in the 1950s as a result of the nationwide tuberculosis epidemic, and continues today as the primary health care system in the rural areas of the state. Alaska is a vast, predominantly roadless state where harsh weather and isolated conditions are the rule rather than the exception. Transportation between villages and regional hubs is costly and occurs primarily by all-terrain vehicle, snowmobile, small plane, and boat. The CHAP trains local people from each village to work in their respective village clinics managing acute and chronic illnesses, as well as providing preventive care. Usually these Community Health Aides/Practitioners (CHA/Ps) work without a physician assistant, nurse practitioner, or physician on site. In the Norton Sound region of western Alaska, for example, there are no physicians stationed in any of the 15 village clinics served by the hub hospital in Nome. In a couple of the larger villages of 700 people or more, there is a resident physician assistant (PA). In the remaining villages, a PA rotates through on a monthly basis to provide training and work alongside the CHA/Ps. CHA/Ps staff the village clinics during regular business hours and maintain an on-call schedule around the clock to cover emergencies, with supervision provided via phone or telemedicine by a licensed physician at the regional hub hospital. What falls beyond the CHA/Ps' direct scope of practice is attended to in regional hub hospitals. What falls beyond the hub hospitals' scope is attended to in the closest metropolitan area––which can be more than 500 miles away.

The Community Health Aide/Practitioner Manual and Community Health Aide/Practitioner Manual Patient Encounter Form

The Alaska Community Health Aide/Practitioner Manual (CHAM) is the guidebook used in all village clinics throughout rural Alaska (Alaska Native Health Board and Alaska Native Tribal Health Consortium, 2006a). CHA/Ps of all certification levels refer to the manual for protocol on how to treat every medical problem within their scope of practice. The standard form on which all patient visits are recorded is the Community Health Aide/Practitioner Manual Patient Encounter Form (CHAM PEF; Alaska Native Health Board and Alaska Native Tribal Health Consortium, 2006b). The CHAM PEF was designed to closely follow the "New Problem or Complaint" outline designed as the standard guide for all patient visits. However, as is common with most standardized forms, the CHAM PEF has been customized throughout Alaska's various regions to better fit the particular needs of each region. For example, the CHAM PEF and modified CHAM PEF used in the Norton Sound region of western Alaska include screening questions regarding patients' alcohol use (alcohol is known to be used as a means of self-medication by those with depressive symptoms); however, neither form includes questions aimed at detecting depressive symptoms or risk of suicide. The rationale for not including such questions is that screening for these problems is not part of the standard interview for new problems or complaints.

Suicide Prevention Efforts Already Occurring in Alaska

Suicide prevention is a work in progress in Alaska. As of 2006, the overarching goal of the Statewide Suicide Prevention Council is to reduce the current 3-year average of 21 deaths by suicide per 100,000 to

15 deaths per 100,000 within a 7-year period ending in 2013. Following are a few of the specific ways Alaska is currently working to prevent suicide.

State Efforts

Over the last few years, the State of Alaska Department of Health and Social Services, Division of Behavioral Health (2007) joined with other key stakeholders to develop the Alaska Screening Tool (AST) and the Client Status Review (CSR). Both the AST and CSR are mandated for use by all Alaska mental health and substance abuse programs receiving grant monies from DBH, and are intended to enhance earlier intervention and accurate diagnosis of mental health problems (State of Alaska Department of Health and Social Services, 2006). Both forms assess the presence of depressive symptomology by asking directly about sadness, suicidal ideation, and disruptions in daily activities due to mental or emotional problems. Other statewide suicide prevention activities include monthly State Suicide Prevention Council reports to the legislature; a 24-hour, 7-day-a-week staffed suicide hotline (Suicide Prevention Careline); and print, radio, and television announcements aimed at reducing the stigma surrounding mental illness as well as providing information about services available in various regions. The Alaska Mental Health Consumer Web site is a recovery-oriented resource for consumers as well as friends and family of consumers.

Regional Efforts

Regional prevention efforts occur during annual wellness conferences, health fairs, and dance festivals which take place at regional hubs and in individual villages. A portion of programming time at these events is devoted to mental health issues, including segments aimed at preventive mental health care. Almost every community mental health center within Alaska accepts collect calls or offers a 24-hour toll-free crisis helpline. Telemedicine is also beginning to take hold in many remote villages, offering more immediate help to those who might otherwise have to wait days or weeks to see a mental health provider.

Staff Efforts

Behavioral Health Service (BHS) workers are trained to use the AST and CSR to screen clients at risk for self-harm. Services for those found to be at risk are delivered at the regional hub or, in the case of a traveling itinerant clinician, within the client's village. Throughout the state, Village-Based Counselors (VBCs) and Behavioral Health Aides (BHAs) work in concert with supervising mental health and/or substance abuse staff. VBCs and BHAs are most often local Alaska Native residents who are trained to provide basic mental health and substance abuse treatment, and who parallel the CHA/Ps in that they act as first responders for mental health or substance abuse problems that arise in their villages. VBCs, BHAs, traveling itinerant clinicians, and counselors make suicide prevention presentations within village communities and schools by invitation. They also debrief the residents of a village after a suicide has occurred. Mental health and substance abuse staff are provided ongoing instruction in suicide prevention and intervention through in-house trainings as well as annual statewide trainings. These trainings coincide with Goal 6 of the *National Strategy for Suicide Prevention*: "Implement training for recognition of at-risk Behavior and delivery of effective treatment" and Goal 7 of the *Alaska Suicide Prevention Plan*: "People who work in institutions and groups that serve or work with high risk populations are able to identify warning signs and respond appropriately."

Grants

Alaska has access to state and Federal government grant opportunities targeting suicide prevention. One such grant (now lapsed) funded Community-Based Suicide Prevention Coordinators, who were charged with initiating healthful activities at the village level to promote mental wellness especially in youth. In the Norton Sound region, a multiagency, multidisciplinary Suicide Prevention Council was formed in 2006 to seek a Substance Abuse and Mental Health Services Administration grant. These monies would ultimately reestablish lapsed suicide prevention programs as well as create new ones throughout the region.

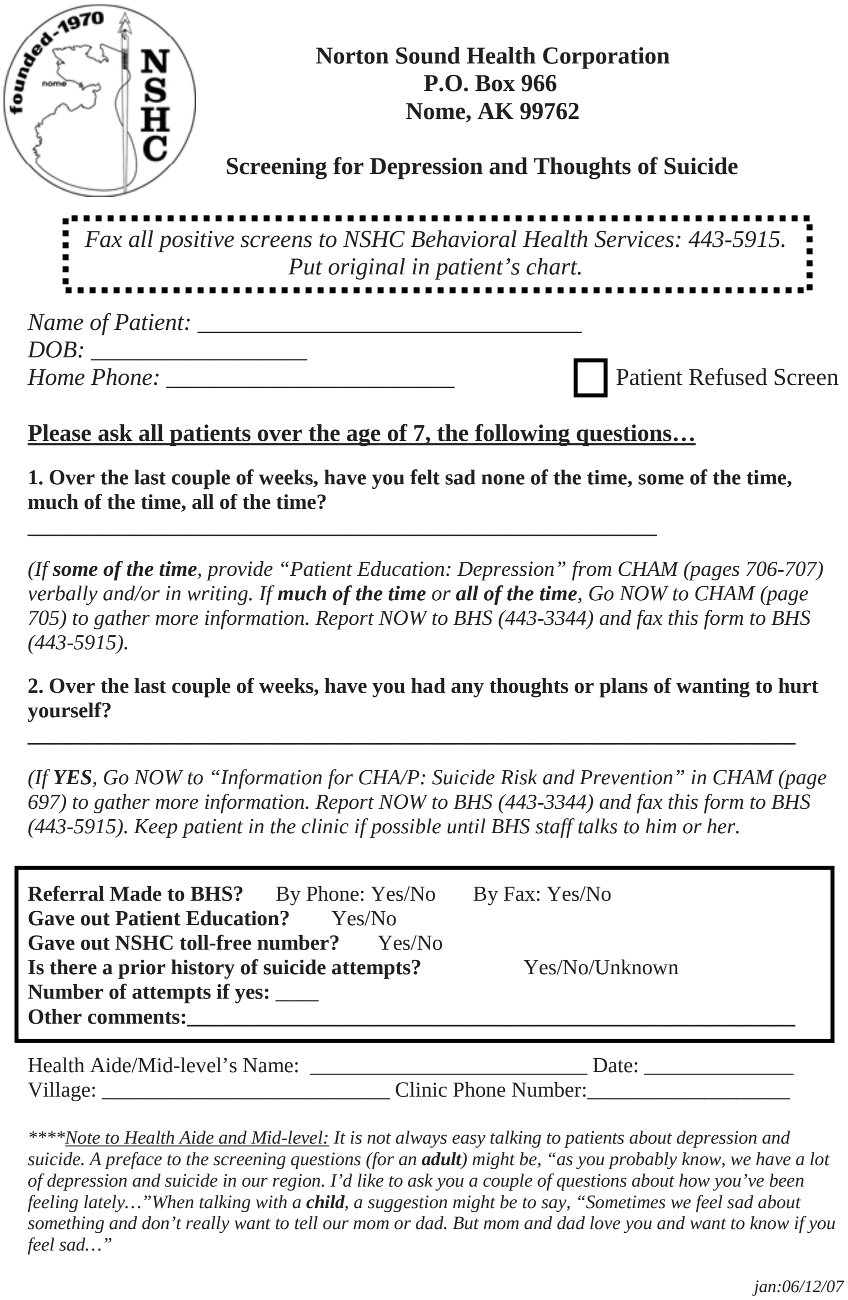
The "Screening for Depression and Thoughts of Suicide" Form

In the Norton Sound region of Alaska (the region with the highest rate of suicide overall) a social worker who had a great deal of experience working with suicidal clients and the aftermath of completed suicide spearheaded the creation of the "Screening for Depression and Thoughts of Suicide" form. This one-page paper-and-pencil form was intended to become a permanent part of each patient's chart that would (1) provide rich research data, (2) help prevent premature death from untreated mental illness, (3) work to destigmatize mental illness by directly asking about symptomatology, and (4) complement the AST and CSR currently in use in the mental health and substance abuse fields. To the author's knowledge, no such form had ever been used in the Norton Sound Regional clinics. The form also would be an adjunct to the standard CHAM PEF. Brevity, simplicity, and ease of use were primary concerns as the author drew from the *Beck Depression Inventory BDI-II (*Beck, 1996), the *Diagnostic and Statistical Manual IV-TR (*American Psychiatric Association, 2000), the CHAM, and her personal experience working in the Alaska bush in creating it. In January 2007, the first draft of the form (along with a paper outlining research in support of screening in primary care settings) was presented to Norton Sound Health Corporation's department heads and staff for feedback and assurance of cultural sensitivity. (Alaska Natives make up 90 to 95% of the Norton Sound region villages' population.) A few small changes were made prior to March 2007, when the first teleconference was held with CHA/Ps, mid-levels, departmental supervisors, quality assurance staff, and the hospital's medical director. During the meeting, it was decided that the form would be faxed to all clinics to be used in a two-week trial, after which a second teleconference would be held to review the results. The form has been minimally revised twice since then as feedback has been solicited from the various clinics and staff members during follow-up teleconferences. (Illustration)

Factors that May Facilitate or Hinder Change

The widely recognized need to fight the serious public health problem of suicide is facilitating use of the "Screening for Depression and Thoughts of Suicide" form in the Norton Sound region. There is no question among health care staff, corporation board members, and community members alike that suicide is an enormous problem in the region and statewide. Although the form increases overall paperwork,

Illustration



Norton Sound Health Corporation
P.O. Box 966
Nome, AK 99762

Screening for Depression and Thoughts of Suicide

Fax all positive screens to NSHC Behavioral Health Services: 443-5915.
Put original in patient's chart.

Name of Patient: _________________________________
DOB: ___________________
Home Phone: _________________________ ☐ Patient Refused Screen

<u>Please ask all patients over the age of 7, the following questions…</u>

1. Over the last couple of weeks, have you felt sad none of the time, some of the time, much of the time, all of the time?
____

*(If **some of the time**, provide "Patient Education: Depression" from CHAM (pages 706-707) verbally and/or in writing. If **much of the time** or **all of the time**, Go NOW to CHAM (page 705) to gather more information. Report NOW to BHS (443-3344) and fax this form to BHS (443-5915).*

2. Over the last couple of weeks, have you had any thoughts or plans of wanting to hurt yourself?
____

*(If **YES**, Go NOW to "Information for CHA/P: Suicide Risk and Prevention" in CHAM (page 697) to gather more information. Report NOW to BHS (443-3344) and fax this form to BHS (443-5915). Keep patient in the clinic if possible until BHS staff talks to him or her.*

Referral Made to BHS? By Phone: Yes/No By Fax: Yes/No
Gave out Patient Education? Yes/No
Gave out NSHC toll-free number? Yes/No
Is there a prior history of suicide attempts? Yes/No/Unknown
Number of attempts if yes: ____
Other comments:____

Health Aide/Mid-level's Name: __________________________ Date: ______________
Village: ___________________________ Clinic Phone Number:___________________

****<u>Note to Health Aide and Mid-level:</u> *It is not always easy talking to patients about depression and suicide. A preface to the screening questions (for an **adult**) might be, "as you probably know, we have a lot of depression and suicide in our region. I'd like to ask you a couple of questions about how you've been feeling lately…"When talking with a **child**, a suggestion might be to say, "Sometimes we feel sad about something and don't really want to tell our mom or dad. But mom and dad love you and want to know if you feel sad…"*

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its use ultimately aims to decrease staff burnout as mortal wounds and death potentially will be encountered less frequently. Reports coming back from the field indicate that the form is simple to use and takes very little time to administer ("about 30 seconds"), and that the response from patients has been positive overall ("I'm glad we're talking about this."). The form is adaptable and the author encourages its use in other regions of Alaska and nationwide, thus eliminating the need to create a similar form from scratch. Lastly, because the wording of the form intermeshes with the CHAM, it is more likely that the form will be used systematically by the village CHA/Ps.

Factors that may hinder the use of the form include human resistance to change, departmental turf wars, staff personalities and idiosyncrasies, reluctance of staff to take on additional work, and staff turnover. Some specific concerns have been voiced regarding the use of the form. For example, field staff have expressed discomfort at asking young children the question about self-harm, and have asked whether parental/guardian consent will be needed when interviewing children, whether enough BHS staff will be available to respond to the referrals generated, and even exactly what is meant by the word "sad."

To encourage the consistent use of the form, staff questions have been addressed individually by e-mail, by phone, and in the regularly scheduled monthly teleconference meetings. Everyone continues to be given the opportunity to voice concerns and questions, as the form is presented as a work in progress. BHS support staff were initially trained in a face-to-face meeting on how incoming referrals should be triaged. Verbal training of all staff is followed up via group e-mails, and periodic updates and retraining occur as needed. BHS management encourages its staff to support the use of the form in the villages in their frequent conversations with health care coworkers (again, weighing the extra work created by the form with the extra benefit it will provide over the long run).

In addition, CHAP training for new health care providers entering the certification program will need to be modified to include instruction in using the form. The CHAP director's input on the form has been included since the beginning to increase buy-in and willingness to modify the training program to fully integrate the form's use.

Quality assurance is ongoing, and revisions have been made to increase the form's ease of use as well as the comfort of staff using it. Both the corporation compliance officer in charge of performance improvement and the quality assurance staff of the village health services department (which oversees all village staff) have been involved from the beginning. Discussions are underway about gathering statistics from the more than 200 forms completed as of June 2007; these statistics will provide rich research information to further improve the form and the service behind it.

Implications for Future Work

It is important to recognize that all aspects of health and treatment (e.g., physical health, mental health, substance abuse treatment) are inextricably intertwined and should be treated together to provide the most efficacious outcome. It is essential that BHS regional field workers familiar with Alaska's villages be included in future revisions of the CHAM and CHAM PEF. BHS staff are well-suited to provide ongoing education to medical team members, assist with the destigmatization of language regarding mental health and substance abuse treatment (coinciding with Goal 3 of the *National Strategy for Suicide Prevention*: "Develop and implement strategies to reduce the stigma associated with being a consumer of mental health, substance abuse, and suicide prevention services"), and show how BHS referrals can more seamlessly fit into the routine clinic visit.

Routine administration of screening and referral for depression and suicide risk can provide invaluable statistics throughout the state that can be used to improve services in each region and to assist with grant applications. Organized and accurate recording of the information gathered coincides with *Alaska Suicide Prevention Plan* Goal 12: "Alaska suicide prevention and intervention research is supported and on-going" and Goal 13: "Alaska has a suicide surveillance system that provides data necessary for planning services, targeting interventions, and evaluating progress" as well as Goal 10 of the *National Strategy*: "[to] Promote and Support Research on Suicide and Suicide Prevention."

Conclusion

Health care professionals will always spend the bulk of their time being reactive to the needs of their patients and/or clients who come to clinic for services. However, it is time and money well spent when health care staff are proactive in patient care. In the case of depressive illness (and suicide in particular), prevention not only saves time and money, but more importantly invaluable human life. The public health problem of suicide looms ugly in the great state of Alaska. Speaking from my own experience as a health care provider serving Alaska Natives and their families, there is nothing more important than stemming the suffering and death of those I serve. May we all as health care providers remain open to every potentially life-affirming, lifesaving measure we can employ towards this end.

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EVIDENCE-BASED PRACTICE KNOWLEDGE, USE, AND FACTORS THAT INFLUENCE DECISIONS: RESULTS FROM AN EVIDENCE-BASED PRACTICE SURVEY OF PROVIDERS IN AMERICAN INDIAN/ ALASKA NATIVE COMMUNITIES

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Sylvia Fisher, Ph.D., Shannon Crossbear, B.A., and Joseph Walker, M.A.

Abstract: Data from the Evidence-based Treatment Survey were used to compare providers serving families in American Indian and Alaska Native communities to their counterparts in non-American Indian/Alaska Native communities on provider characteristics and factors that influence their decision to use evidence-based practices (N = 467). The findings suggest that providers affiliated with American Indian/Alaska Native communities are similar to their non-AI/AN community-affiliated counterparts in terms of familiarity, knowledge and use of evidence-based practices, and only differ slightly on the factors considered when deciding to use an evidence-based practice with a child and family.

With increased pressure to provide efficient and cost-effective mental health services to all children, the use of evidence-based practices (EBP) to serve children with emotional and behavioral problems has gained increased attention in recent years (Burns, 1999). In recent years, governments and communities have struggled to meet the diverse needs of children with emotional and behavioral problems and their families, resulting in an increasing call for the implementation of practices with proven outcomes (Burns, 1999; Hoge, 2002; Hoge, Jacobs, Belitsky, & Migdole, 2002; Sleek, 1997). However, many challenges exist for communities attempting to adopt EBP, and a unique set of challenges appear to be associated with the adoption of EBP in American Indian and Alaska Native (AI/AN) communities, including a dearth of information related to the mental health needs of AI/AN children, a dearth of information on effective treatments to meet those needs, and the discontinuity between typical children's mental health service approaches and AI/AN culture (Coll, Mohatt & LeMaster, 2004; Hyde, Falls, Morris, & Schoenwald, 2003; U.S. Department of Health and Human Services [DHHS], 2001; Costello, Farmer, Angold, Burns & Erkanli, 1997).

In 1990, an assessment conducted by the U.S. Congress, Office of Technology Assessment found scarce evidence of existing data regarding the mental health needs of AI/AN children (U.S. Congress, 1995). Although Federal initiatives such as the National Evaluation of the Comprehensive Community Mental Health Service for Children and Their Families Program (Center for Mental Health Services [CMHS], 1999) and the Circles of Care Initiative (Freeman, Iron Cloud-Two Dogs, Novins, & LeMaster, 2004) have increased the amount of available data on AI/AN children and their mental health needs, still little information exists. However, what data do exist suggest that certain mental health issues are more common among AI/AN children compared to non-AI/AN children (e.g., Bains, 2005; Cross, Fox, Becker-Green, Smith, & Willeto, 2004; Freeman et.al., 2004; Mezzich et al., 1999; Indian Health Service, 1998-1999; Costello et al., 1997; Beals et al., 1997; Sack, Beiser, Baker-Brown, & Redshirt, 1994). Similarly, research related to AI/AN mental health care provision has also been limited, and what evidence does exist shows that many mental health needs of AI/AN children go unmet (DHHS, 2001, Costello, et al., 1997). Given the limited availability of information about whether AI/AN children receive needed mental health treatment, the lack of information about specific types of treatment––including the use of EBP in AI/AN communities––is also not surprising (Burns, Hoagwood & Mrazek, 1999). However, there is a growing body of literature calling for cultural considerations in the treatment of AI/AN children, which is often at odds with literature calling for the use of EBP (Huang, Hepburn & Espiritu, 2003). This increasing call presents unique challenges for AI/AN communities, such as whether practices developed and studied in Western cultures are appropriate for AI/AN children (Bains, 2005). Much of the research conducted on treatments for children with mental health issues does not include racially diverse populations, which brings into question whether research results are generalizable to AI/AN populations, in addition to whether cultural adaptations of those practices will result in the same outcomes (Huang et al., 2003; Bains, 2005).

Given these distinctive challenges, it is important and useful to investigate treatment practices of mental health providers serving AI/AN children with emotional and behavioral problems and of those serving children in non-AI/AN communities. Because so many questions exist regarding the appropriateness of EBP use in AI/AN communities, it is important to explore whether mental health providers serving children in AI/AN communities differ from those serving children in non-AI/AN communities in terms of their knowledge, use and approach to EBP. The current study was designed in part to gain a better understanding of these issues. Better understanding the context in which EBP is implemented in AI/AN communities will assist in more appropriately framing the issues at the policy and program level. Accordingly, this study of providers in Federally funded system-of-care communities working with children with emotional and behavioral problems explored relationships between these provider groups (i.e., those working in AI/AN communities and those working in non-AI/AN communities) and:

- provider demographic and employment characteristics;
- factors that influence providers' decisions to use an EBP with a child and family; and
- provider knowledge, perceived effectiveness, and use of specific EBP.

Some have suggested in the literature that the use of EBP developed in Western cultures may be at odds with AI/AN culture, as EBP has not been studied in AI/AN communities (Huang, et al., 2003) and protocol-drive EBP is counter to more traditional holistic approaches (Bains, 2005). As such, it was hypothesized that providers working with children in AI/AN communities would differ from those working with children in non-AI/AN communities in their knowledge and use of EBP, as well as their considerations when deciding to use an EBP.

Methods

Data Source: The Evidence-based Treatment Survey

The Evidence-based Treatment Survey (EBT Survey; Walrath, Sheehan, Holden, & Blau, 2006) was conducted as part of the congressionally mandated national evaluation of the Comprehensive Community Mental Health Services for Children and Their Families Program (Comprehensive Community Program; CMHS, 1999). In short, the Comprehensive Community Program, initiated in 1993, provides Federal funding to support communities in their efforts to develop and implement coordinated community-based cross-agency networks of services to children with emotional and behavioral problems and their families, and to ensure that these services are culturally appropriate and family driven. The national evaluation of this initiative was designed, in part, to gather data on the descriptive characteristics and outcomes associated with children and families served, the services received by children and families, and the practices of providers serving these children. Holden, Friedman, and Santiago (2001) provide additional detail about the Comprehensive Community Program and the purpose and protocol of the national evaluation.

The EBT Survey was a 65-item Web-based survey (with paper copy available) of direct mental health service providers. As described in more detail by Walrath and colleagues (2006), the survey was developed in conjunction with academic consultants and included a list of 33 evidence-based treatments compiled through a comprehensive review of the literature on evidence-based treatments in community settings (Burns & Hoagwood, 2002). The compiled list was then reviewed by multiple independent expert consultants who provided feedback. In addition, several widely used promising practices with a growing evidence base (e.g., wraparound) were also included in the survey list. Given the obvious prevalence of use, these practices were included in the current study. The survey also included questions about providers' knowledge and use of evidence-based treatments, as well as factors that influence providers' use of EBP. Early in the EBT Survey––prior to the items described in subsequent sections––respondents were instructed to consider the following definition of evidence-based treatment when responding to the survey:

> *A treatment that has been developed through research protocol, is supported by the results of controlled treatment studies, and has guidelines and procedures for its implementation.*

Variables included in the current study, and their associated survey items, are described later in this section.

Potential provider respondents for the EBT Survey were selected through a modified snowball approach. Project directors of those communities funded in 1997 and 1998 were contacted to obtain a comprehensive list of provider agencies affiliated with the funded community. Of the 23 grants awarded in 1997 and 1998, 4 were awarded to AI/AN tribal entities/sovereign nations and 19 were awarded to non-tribal communities. In addition, 2 non-funded communities (neither of which were AI/AN) that participated in the national evaluation as comparison sites were also contacted to provide potential respondents. Contacts yielded a list of local agencies serving children with mental health issues, each of which was subsequently contacted. These agency contacts resulted in the compilation of a contact list of direct children's mental health service providers that served as the respondent list for this study.

A five-stage mailing process (Dillman et al., 2001) was used to recruit selected potential respondents (N = 1,402) for the EBT Survey. Survey data were collected during an approximately five-month period (September 2003 through January 2004), resulting in a response rate of 44% (n = 616/1,402), which is comparable to similar Web-based response rates (Dillman et al., 2001; Fraze, Hardin, Brashears, Smith, & Lockaby, 2002; Ladner, Wingenbach, & Raven, 2004). Twenty-seven percent of respondents completed a paper copy of the EBT Survey, while 73% completed the survey online via a Web-based administration. On average, respondents completed the EBT Survey in approximately 20 minutes. Additional detail on the survey sampling, respondent recruitment and survey administration is described elsewhere (Walrath, Sheehan, Holden, & Blau, 2006).

Participant Rights and Confidentiality

The survey instrument and procedure were reviewed and approved by a Federally registered institutional review board. Potential respondents were informed of the mechanisms to ensure confidentiality and informed of their rights as participants. They were also informed that completion and submission of the survey implied voluntary study consent.

Provider demographic characteristics

Race, education level, and primary field categories were collapsed due to underrepresentation of respondents within categories provided on the survey. Similarly, highest degree earned was dichotomized into advanced degree (i.e., graduate-level) vs. less than advanced degree (i.e., undergraduate or associate degree). Primary field of degree was collapsed into four categories (i.e., psychology, social work, counseling, and other) and race was collapsed into three categories (i.e., White, American Indian or Alaska Native, and other).

Provider workforce characteristics

Primary position and primary employer were collapsed due to underrepresentation of respondents within categories provided on the survey. Primary position was collapsed into three categories (i.e., clinician or therapist, clinical social worker, other) and primary employer into three categories (i.e., mental health agency, residential treatment facility, and other). Other workforce characteristics included years in the current service system, years as a mental health service provider, and years as a children's mental health service provider.

Factors that influence decision to use EBP

Respondents were asked about the extent that certain factors influence their decision to use an EBP, based on a 5-point Likert scale (i.e., 1 = *never*; 2 = *almost never*; 3 = *sometimes*; 4 = *almost always*; 5 = *always*). These factors included child's age, gender, race, cultural background, caretaker, diagnosis, home situation, and treatment setting. For the purposes of this question, respondents were asked whether each factor was considered when making a general decision about whether to use an EBP (not necessarily a particular EBP). Questions around use of particular EBP for specific diagnoses were asked on the survey, results of which are beyond the scope of the current study. For the purposes of this study, a 3-point Likert scale was created for each factor (i.e., 1 = *always/almost always*, 2 = *sometimes*, 3 = *never/almost never*).

Familiarity and Perceived Effectiveness Factors

As described earlier, the EBT Survey included a list of 33 existing EBTs and promising practices, for each of which respondents were asked to indicate whether they believed the treatment resulted in positive outcomes for children and families. Response options included *yes* (1), *no* (2), *familiar with the treatment but do not know if it is effective* (3), and *not familiar with the treatment* (4). Provider knowledge of EBT was assessed by a two-category variable "familiar with EBT" (response options 1, 2, and 3) vs. "unfamiliar" (response option 4). Perception of EBT effectiveness variable was assessed with a three-category variable of "effectiveness" (response option 1), "not effective" (response option 2), and "unknown" (response option 3 and 4). Respondents also completed an open-ended item in which they identified up to three evidence-based treatments, other than medication, that they used in the course of their work. Open-ended responses for EBT used in the course of work were collapsed into one of 33 EBTs (not including medication).

Participants

Of the total group of 616 providers who responded to the survey, 76 or 12% were affiliated with the four AI/AN communities funded as part of the Comprehensive Community Program. Respondents affiliated with the AI/AN communities were providers who worked directly for, or were contracted by, the funded program to serve AI/AN children as part of the program. As such, these respondents were not necessarily of AI/AN background, but provided services to AI/AN children and their families. The response rate was 42.0% for providers in AI/AN communities and 44.2% for providers in non-AI/AN communities. Ninety percent (n = 556) of the total group of respondents identified themselves as direct mental health service providers and 76% (n = 467) of these providers indicated they use EBP in the course of their work. Of the 76 providers in AI/AN communities, 67 (88%) were direct service providers and 59 (78%) indicated they used an EBP in the course of their work. The current study was limited to those providers who indicated using EBP in the course of their work. The reason for excluding providers who did not use EBP from the analyses was twofold. First, the purpose of the current study was to explore whether differences exist between provider groups in what factors they consider when using EBP, as well as their familiarity and use of specific EBP. Second, an overwhelming majority of respondents utilized EBP, making comparisons between providers who used EBP and providers who did not use EBP difficult. In addition, the focus of this particular study was on providers in AI/AN communities and only 8 providers serving children in AI/AN communities reported no use of EBP, making any comparisons by provider group difficult. Although only a small percentage of providers in AI/AN communities indicated not using EBP, analyses indicated that this non-use of EBP was similar among providers in other communities (n = 556) ($x^2(1)=2.81$, $p=.09$).

The current study sample, accordingly, was comprised of the 467 direct service providers that indicated they used an EBP in the course of their work. Analyses indicated that the study sample of direct service providers did not differ from the full set of respondents with regard to any of the following variables: age ($t_{(461)}=.332$, $p=.74$); gender ($x^2_{(1)}=1.1$, $p=.29$); race ($x^2_{(7)}=6.2$, $p=.51$); level of education ($x^2(3)=1.2$, $p=.80$); field in which degree was received ($x^2_{(7)}$=4.8, p=.68); number of years worked as a mental health service provider ($t_{(457)}$=1.13, p=.26); and current position ($x^2_{(7)}$=3.9, p=.79).

Table 1 summarizes the demographic and workforce characteristics of the current study sample. The majority of respondents were female (67.9%), White (83.7%), and had an average age of 42.2 (SD=10.8) years. Fields of study were concentrated in social work (28.5%), psychology (29.8%) and counseling (19.3%), and the majority had completed a graduate degree (71.7% had a master's and 17.5% had a doctoral degree). The majority were licensed mental health providers (76.2%), employed by a mental health agency (57.7%), worked an average of 6.0 (SD=5.7) years in their current service system, 9.1 years (SD=7.4) serving children, and 11.3 years (SD=8.4) as mental health providers.

Table 1
Demographic and Workforce Characteristics of Current Study Sample (N = 467)

Characteristic	Percent
Female (n = 424)	67.9%
Education Level (n = 428)	
Doctoral	17.5%
Master's Degree	71.7%
Bachelor's Degree	10.0%
Less than Bachelor's Degree	0.7%
Field of Study (n = 393)	
Social Work	28.5%
Psychology	29.8%
Counseling	19.3%
Education	2.5%
Psychiatry	3.8%
Other Social Sciences Degree	5.1%
Nursing	1.0%
More than one degree with mental health	9.9%
Licensed Mental Health Provider (n = 428)	76.2%
Employer (n = 426)	
Mental health agency	57.7%
Private mental health practice	17.8%
Hospital	5.9%
Education or schools	4.5%
Child welfare or social services	4.9%
Juvenile justice	1.4%
Residential treatment	3.1%
Other	4.7%
Characteristic	**Mean (SD)**
Age (n = 425)	42.2 (10.8) years
Years with Current Employer (n = 408)	6.03 (5.7) years
Years as Mental Health Provider (n = 423)	11.3 (8.4) years
Years as Mental Health Provider for Children (n = 420)	9.1 (7.4) years

Data Analysis

Using data available from the current study sample, bivariate analyses were conducted to explore the nature of relationships between providers' community affiliation, their demographic and workforce related characteristics, and factors influencing their decision to use an EBP with a child and family, including the child's age, gender, race, cultural background, caregiver, diagnosis, home situation, and treatment setting. Next, factors that resulted in a significant bivariate relationship ($p < .05$) with community affiliation were entered into a logistic regression model to generate a parsimonious model of factors and characteristics significantly related to provider community affiliation. Finally, bivariate analyses were conducted to explore the relationships, if any, between providers' knowledge, perceived effectiveness, and use of EBP and their community affiliation.

Results

Bivariate Analyses

Table 2 summarizes results from the bivariate analyses of demographic and workforce characteristics for EBP Survey respondents and factors considered when deciding to use an EBP. Providers in AI/AN communities differed significantly from providers in non-AI/AN communities on the variables of gender and race. Females accounted for a smaller percentage of providers in AI/AN communities compared to their counterparts and, not surprisingly, a higher percentage of providers in AI/AN communities were of AI/AN backgrounds. The provider groups differed significantly by primary employer, with more providers in AI/AN communities employed by Residential Treatment Facilities. However, the provider groups did not differ significantly by age, education level, field of discipline, and primary position; the majority in both groups was highly educated, possessed degrees in psychology or social work, and served as clinicians or therapists. Table 2 indicates that providers in AI/AN communities had significantly more years as mental health providers, were licensed as mental health providers at a significantly higher rate, but were required by their agency to provide EBP compared at a significantly lower rate.

Interestingly, providers in AI/AN communities did not significantly differ from their provider counterparts regarding the extent to which child factors (i.e., child's age, gender, race, cultural background, caretaker, diagnosis, home situation, and treatment setting) were considered when deciding when to use an EBP, with the exception of home situation and treatment setting (see Table 2). Although it would be reasonable to hypothesize that providers in AI/AN communities would consider the child's race or cultural background to a greater extent than their counterparts, neither comparison yielded a statistically significant difference. However, significant differences were found related to consideration of the child's home situation and treatment setting, with just over 73% and 71%, respectively, of providers always/almost always considering the child's home situation and treatment setting compared to 55% and 50%, respectively, of their counterparts.

Table 2
Comparison of Demographic and Workforce Characteristics Related to Provider Affiliation with AI/AN and non-AI/AN Communities

	Providers Serving AI/AN Communities	Providers Serving non-AI/AN Communities	Statistical Tests
Provider Characteristics			
Race (n = 425)			
White	82.40%	85.60%	$X^2 = 8.550$ (2)*
American Indian or Alaska Native	3.90%	0.30%	
Other or Not Specified	13.70%	14.20%	
Gender (n = 424)			
Female	54.90%	69.70%	$X^2 = 4.513$ (1)*
Male	45.10%	30.30%	
Primary Employer (n = 426)			
Mental Health Agency	58.80%	57.60%	$X^2 = 15.841$ (2)***
Residential Treatment	11.80%	1.90%	
Other	29.40%	40.50%	
Advanced Degree (n = 428)			
Yes	88.50%	89.40%	ns
Primary Field of Discipline (n = 393)			
Psychology	36.70%	28.80%	ns
Social Work	15.20%	27.60%	
Counseling	10.20%	20.60%	
Other	18.40%	23.00%	
Primary Position (n = 370)			
Clinician/Therapist	57.50%	50.90%	ns
Clinical Social Worker	17.50%	13.00%	
Other	25.00%	36.10%	
Agency Requirements (n = 376)			
Yes	23.10%	40.20%	$X^2 = 5.653$ (1)*
Licensed Mental Health Provider (n = 376)			
Yes	94.20%	73.70%	$X^2 = 10.639$ (1)***
Age (n = 425)	44.8 (9.2)	41.8 (11.0)	ns
Years as a mental health service provider (n = 423)	14.2 (8.4)	10.9 (8.3)	F = 3.3 SE = 1.17**
Years as a mental health service provider for children (n = 420)	10.9 (8.3)	14.2 (8.5)	ns
Years in the current delivery system (n = 408)	7.4 (7.0)	5.8 (5.5)	ns

Table 2, continued

Factors Considered when Deciding to Use an EBP			
Child's Age (n = 432)			ns
Always / almost always	56.90%	60.60%	
Never / almost never	13.70%	15.20%	
Child's Gender (n = 429)			ns
Always / almost always	16.00%	17.70%	
Never / almost never	58.00%	59.60%	
Child's Race (n = 430)			ns
Always / almost always	23.50%	19.50%	
Never / almost never	41.20%	52.50%	
Child's Cultural Background (n = 430)			ns
Always / almost always	23.50%	23.50%	
Never / almost never	33.30%	37.70%	
Child's Caregiver (n = 431)			ns
Always / almost always	54.90%	47.40%	
Never / almost never	15.70%	18.20%	
Child's diagnosis (n = 432)			ns
Always / almost always	76.50%	68.50%	
Never / almost never	7.80%	13.10%	
Child's home situation (n = 431)			X^2 = 6.072 (2)*
Always / almost always	72.50%	55.30%	
Never / almost never	5.90%	15.00%	
Child's treatment setting (n = 428)			X^2 = 8.295 (2)*
Always / almost always	71.40%	49.60%	
Never / almost never	10.20%	19.00%	

*p < .05, **p<.01, ***p< .001

To further identify whether provider affiliation was associated with a unique set of demographic characteristics, employment characteristics, and factors that influence their EBP use, a backward stepwise logistic regression analysis was performed. Only cases with complete data (n = 381) and the variables and characteristics that resulted in a significant bivariate relationship between provider groups (at the p <.05 level) were entered into the regression model. These variables included age, gender, race, primary employer, agency requirements, licensed mental health, years as a mental health provider and consideration of the child's home situation and treatment setting when deciding whether to use an EBP (see Table 2).

As shown in Table 3, providers who were AI/AN were 18% more likely to be affiliated with AI/AN communities when White was used as the reference category (SE = 1.30, p < .05). In addition, providers working in residential treatment facilities were more than 5 times as likely to be affiliated with AI/AN communities when mental health agency was used as the reference category, and licensed mental health providers were more than 4 times as likely to be AI/AN affiliated. Providers in AI/AN communities also had more years as mental health service providers than providers in non-AI/AN communities. Finally, as shown in Table 3, providers who always/almost always considered the child's treatment setting when deciding to use an EBP were 3 times as likely to be affiliated with an AI/AN community compared to a non-AI/AN community, using never/almost never considering the treatment setting as the reference category.

Table 3
Logistic Regression Model of Demographic and Workforce Characteristics Significantly Associated with Community Affiliation (n = 381)

	B (SE)	Odds Ratio[a]	*p*
Provider Characteristics			
Race			
White	Reference		
American Indian or Alaska Native	2.914 (1.30)	18.44	< .05
Other or Not Specified	0.097 (0.53)	1.10	ns
Primary Employer			
Mental Health Agency	Reference		
Residential Treatment	1.679 (.71)	5.36	< .05
Other	-.485 (.393)	0.62	ns
Licensed Mental Health Provider			
Yes	1.533 (.76)	4.63	< .05
Years as a mental health service provider	.040 (.021)	1.04	0.054
Factors Considered when Deciding to Use an EBP			
Child's treatment setting			
Always / almost always	Reference		
Sometimes	1.135 (.592)	3.11	ns
Never / almost never	.277 (.671)	1.32	0.055

[a] All estimates are adjusted by variables included in the model. 95% CI.

Bivariate differences between providers working in AI/AN communities versus those working in non-AI/AN communities in terms of knowledge and perceived effectiveness and use of EBP were explored. The results indicate that respondents exhibited a high level of familiarity with the listed EBP and a high level of perceived effectiveness, which did not differ greatly between groups (with a few exceptions). Significant differences between provider groups in treatment familiarity were found with 4 of the 33 listed EBP: Providers in AI/AN communities indicated less familiarity with brief strategic family therapy (81.1% vs. 91.8%) (x^2= 6.22 (1), p < .05), Webster Stratton's parent-child series (5.7% vs. 19.8%) (x^2=6.31 (1), p < .05), systematic desensitization (85.2% vs. 93.3%) (x^2 = 4.06 (1), p < .05), and functional family therapy (62.3% vs. 75.3%) (x^2=4.06 (1), p < .05).

Significant differences between provider groups in perception of effectiveness were obtained for wraparound and stimulant medication for ADHD, with a smaller percentage of providers in AI/AN communities endorsing the treatments' effectiveness. Specifically, 64.2% of providers in AI/AN communities reported wraparound to be effective compared to 77.5% of providers in non-AI/AN communities (x^{2}=4.5 (1), $p < .05$), and 81.5% of providers in AI/AN communities reported stimulant medication for ADHD to be effective compared to 86.8% of their counterparts (x^{2}=6.53 (2), $p < .05$). However, neither provider group reported wraparound to be ineffective; rather, a higher percentage of providers in AI/AN communities indicated not knowing the treatment's effectiveness (35.8%). Also, while 18.5% of providers in AI/AN communities indicated not knowing the effectiveness of stimulant medication compared to 9.1% of their counterparts, 0% of providers in non-AI/AN communities found it to be ineffective compared to 4.1% of providers in AI/AN communities. No other significant differences between provider groups were found.

Finally, only a few significant differences between provider groups were found related to EBP use. For example, a higher percentage of providers in AI/AN communities reported using assertiveness training (8.5% vs. 2.9%) (x^{2}=4.50 (1), $p < .05$) and exposure therapy (6.8% vs. 1.5%) compared to providers in non-AI/AN communities (x^{2}=4.5 (1), $p < .01$). In addition, a significantly higher percentage of providers in AI/AN communities reported using solution-focused therapy (13.6% vs. 5.4%) (x^{2}=5.72 (1), $p < .05$) and respite compared to their counterparts (3.4% vs. 0.5%) (x^{2}=5.10 (1), $p < .05$). Conversely, a higher percentage of providers in non-AI/AN communities reported using wraparound (19.1%) compared to providers in AI/AN communities (6.8%) (x^{2}=5.42, (1), $p <.05$).

Discussion

The minimal availability of information related to the mental health needs of AI/AN children, the services available to meet those needs, and the utilization of EBP, underscores the importance of continued research into the mental health services and practices delivered to this population. Few studies documenting mental health issues among AI/AN children have been done; the studies that do exist have limited sample sizes, do not fully represent the diversity of the AI/AN population, and have been questioned in terms of cultural appropriateness (DHHS, 2001; Bains, 2005).

This study examined differences between providers serving children in AI/AN communities and providers in non-AI/AN communities in terms of demographic and workforce characteristics, but also in terms of their knowledge and use of EBP and factors they consider when making decisions about using EBP. It was hypothesized, given calls in the literature for cultural considerations in children's mental health treatment and the lack of research in racially diverse populations, that provider knowledge and use would differ by whether the provider was treating AI/AN children versus non-AI/AN children. Study results indicated some demographic differences between provider groups, but few differences in terms of the factors providers consider when making decisions about EBP use and provider knowledge and use of EBP. The lack of differences in these areas was somewhat surprising given the uncertainty about what role EBP has in AI/AN culture and whether EBP developed in Western cultures are even appropriate for AI/AN children (Bains, 2005). It has been argued that the adoption of EBP in AI/AN communities usually necessitates that traditional holistic healing approaches be abandoned in favor of fragmented Western approaches to health care (Bains, 2005). As such, the similarities found in the current study around the use of EBP by providers in AI/AN communities compared to providers in non-AI/AN communities were somewhat surprising, with a few notable exceptions. For example, providers in AI/AN communities indicated at significantly higher rates than their counterparts uncertainty about whether wraparound and medication for Attention Deficit Hyperactivity Disorder (ADHD) were effective. A significantly higher percentage of providers in non-AI/AN communities (19%) reported wraparound use compared to providers in AI/AN communities (7%). These findings suggest that providers in AI/AN communities may be more skeptical of medication and, not surprisingly, given the greater uncertainty about the effectiveness of wraparound, tend to use it less. Even with these few exceptions, familiarity and use across most of the 33 EBP listed on the survey did not differ between provider groups. It should also be noted, however, that the low response rate of 44%, although similar to other Web-based surveys, was a potential confounding factor. These findings suggest incongruity between the wishes of AI/AN communities to implement EBP in a culturally appropriate manner and the reality of provider perception and use in the AI/AN communities in the study sample (Bains, 2005).

Study Limitations

Several limitations must be considered when interpreting these study findings, including how well the survey sample represents providers affiliated with Native American communities. The reader should be reminded that the providers working in Native American communities were identified through their affiliation with the Federally-funded system of care program in those communities. In short, this provider group represents those professionals who provide mental health treatment to children being served in systems of care in Native American communities. In addition, the extent to which the characteristics of children being served within a given community (e.g., diagnoses, age) influenced the use of specific EBP. This factor may have affected the selection of EBP that was endorsed by providers. It should also be noted that the factors considered when selecting an EBP in the current study refer to selection of any EBP – not a specific EBP. This is a limitation given that certain practices are inextricably linked to certain factors (such as diagnosis) that may be relevant to certain practices but not others. However, better understanding the factors considered when choosing to use any EBP is still useful when assessing the context in which providers work.

A modified snowball sample is certainly an appropriate choice of sampling technique for this type of survey study. However, it should be noted that snowball samples typically rely on relationships between people who know each other (or at least know of each other). This type of referral process presents a small potential problem: People who refer others to the investigator may be quite likely to refer people who are very similar to themselves and/or who hold similar opinions. Although the effect of this issue is difficult to assess when using snowball samples, it is a potential limitation of the design. Finally, certain question structures should be considered when interpreting results. For example, the high levels of knowledge and use of EBP among survey respondents may have been biased by an attempt on the part of the respondent to demonstrate a desired knowledge and/or use of EBP. In addition, the questions related to considerations when deciding to use an EBP were general and not specific to one particular practice. As such, certain considerations may be appropriate for certain practices but the respondent was only asked to respond in general.

Study Implications

Allowing for study limitations, there are several substantive and interesting study results that have broad implications. The similarities between both groups of providers in EBP familiarity, perceived effectiveness, and use have broad implications for the importance of culture in AI/AN service settings. The low rate of providers considering race and ethnicity in their decisions to use EBP with a particular child, as stated earlier, was somewhat surprising, particularly given the emphasis on cultural competency in public mental health treatment (Holden et al., 2001). This finding suggests that a potential cultural disconnect exists between providers and the AI/AN children and families they serve, which is inconsistent with the call for cultural considerations in the treatment of AI/AN children (Bains, 2005). Perhaps the relative appropriateness of implementing specific treatments with families of different races or ethnicities needs to be more clearly defined for mental health providers.

Although the differences in provider groups that were expected were not found (i.e., in familiarity and use of EBP and factors considered when making a decision about using an EBP), the differences that did emerge between groups also have interesting implications. For example, it was somewhat surprising that so few AI/AN-affiliated providers reported using wraparound – a holistic treatment approach that focuses on flexibility and individualized care. Again, this may be due to a number of factors, such as the higher representation of providers in AI/AN communities employed by residential treatment facilities that may require a more structured treatment approach, or the fact that a higher percentage of these providers did not know whether wraparound was effective, which may indicate they would be less willing to accept it as a treatment approach. In addition, the higher percentage of assertiveness training use among providers in AI/AN communities was somewhat surprising considering that assertiveness is generally not a highly emphasized attribute within AI/AN cultures. Similarly, the higher use of solution-focused therapy among these providers is somewhat surprising given that AI/AN cultures are somewhat more non-linear in approach, whereas solution-focused therapy emphasizes short, direct interventions. Such findings may indicate that providers in AI/AN communities must be educated in practices that have an evidence base or are promising, but must also be educated about the cultural implications of these practices.

Overall, the similarities between provider groups are encouraging in terms of treatment consistency and EBP use for both AI/AN children and non-AI/AN children, but less encouraging when considering AI/AN cultural implications. Retraditionalization, defined by LaFromboise, Trimble, & Mohatt (1990) as the reliance on cultural beliefs and customs to overcome problems and achieve self-determination, has been identified as essential to the revitalization of AI/AN communities (Morris, Crowley, & Morris, 2002). Similarly, in the practice of transcultural psychiatry, modification of treatments in accordance with cultural variation is promoted (Bains, 2005). The small percentage of providers in both groups (23%) who considered the cultural background of the child and family when deciding to use an EBP is contrary to the premises of retraditionalization and transcultural psychiatry. The implications of these findings are far-reaching for service agencies attempting to implement EBP in AI/AN communities. When serving AI/AN children and families, it is critical to achieve a proper balance between cultural values and implementation of proven, effective treatments.

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THE NATIVE TELEHEALTH OUTREACH AND TECHNICAL ASSISTANCE PROGRAM: A COMMUNITY-BASED APPROACH TO THE DEVELOPMENT OF MULTIMEDIA-FOCUSED HEALTH CARE INFORMATION

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Abstract: The development and dissemination of culturally relevant health care information has traditionally taken a "top-down" approach. Governmental funding agencies and research institutions have too often dictated the importance and focus of health-related research and information dissemination. In addition, the digital divide has affected rural communities in such a way that their members often do not possess the knowledge or experience necessary to use technological resources. And, even when they do, their skills may be limited, adequate only for implementing applications and programs designed by others who live and work outside of these communities. This need became the driving force in the creation of the Native Telehealth Outreach and Technical Assistance Program. The goal of the program is to equip Native community members, at both the lay and professional levels, with the means to use technology to address tribal health care needs. The transfer of relevant technical knowledge and skills enables participants to develop projects which enhance the community-wide dissemination of health care information.

Nine community health advocates and professionals participated in the initial cohort. Eight of the participants successfully developed multimedia-based projects including Web sites, interactive CD-ROMs, and video focusing on a variety of health concerns. At the conclusion of the 18-month program period, projects were disseminated throughout rural communities. The NTOTAP staff continues to evaluate the use of these projects and their benefits within the rural communities.

More than most others in the United States, the American Indian population is distributed widely across the lower 48 states, with a significant number residing in rural, isolated, and impoverished areas (U.S. Census Bureau, 2000). The scattered nature of many of these communities increases the likelihood that American Indian residents lack access to timely and relevant health education materials. The power that health information can instill is a key component to successful management of personal health issues, with both published and technology-based educational materials contributing in positive ways to prevention, early identification, and treatment in health care (Detmer, 2003).

Telecommunication technology promises to bridge the large gaps in geography and culture that impede tribal communities' access to necessary heath care, especially as the "digital divide" narrows and even broadband and wireless technologies become available in rural America (Luger, Stewart, & Traxler, 2002). Yet local community members often do not possess the technical knowledge or experience to effectively use such resources, or they have limited skills that are adequate only for implementing applications and programs designed by others who live and work outside of these communities. Hence, Native people often have yet to fully use their creative energies to adapt these evolving technologies to meet tribal needs and priorities. The goal of this project was to equip Native community members and local health professionals with the means to do so.

Research organizations such as the American Indian and Alaska Native Programs (AIANP) at the University of Colorado at Denver and Health Sciences Center have implemented many projects to address health issues. Such projects, however, often reflect Federal funding priorities rather than local needs. As a result, local priorities are undervalued, and the projects' abilities to address local health care concerns are dramatically reduced. As explained next, the AIANP recently sought to remedy this relative lack of focus on local concerns and lack of capacity to address such issues by providing community members with the technical training to develop multimedia-based projects of local relevance.

Native TeleHealth Outreach and Technical Assistance Program

The Native TeleHealth Outreach and Technical Assistance Program (NTOTAP) resides within the AIANP's Center for Native American TeleHealth and TeleEducation (CNATT) and focuses on the transfer of technical knowledge to community health advocates and professionals.

This program promotes the development of multimedia-based products that address local health care priorities. The NTOTAP was designed to accomplish three goals: a) increase community members' access to health care resources, b) provide the technical training to develop health care resources, and c) promote capacity building and sustainability at the local level. Here, we describe the process, structure, and outcomes of the NTOTAP during its initial 18 months of implementation.

Given the rapid evolution of technologies applicable to the health sciences and the uneven distribution of services in American Indian communities, many providers, planners, and administrators working with this special population are unaware of the potential of these new technologies or lack the skills needed to use them. The NTOTAP offers two instructional tracks designed to increase local communities' access and ability to use the resources available through distance health and education. The first track focuses on increasing the number and competence of local community health advocates. It focuses specifically on members of tribal communities who have a paraprofessional-level of interest in technology and possible applications for outreach, health education, and prevention activities. Here, we emphasize the general principles behind the technologies, provide experience with the operational aspects of both independent and integrated applications, and share examples of how other communities have employed these technologies to address local health concerns.

The program's second instructional track focuses on increasing the number and competence of health professionals from American Indian communities using technological resources. This program enables community health professionals to conceptualize, design, implement, and evaluate applications of their own invention. Projects developed by the first group of participants included a video providing descriptive information on Hepatitis C, an interactive CD-ROM for elementary school students focusing on the effects of alcohol and other drugs on the body, and a Web site and brochure campaign sharing a variety of birth control methods available to a particular community.

Planning and Structure

The initial planning year began in June 2003, at which time a core program team composed of Denver-based AIANP staff was created. The team first focused on the development of the participant application process and related materials (described in more detail below). The team agreed that a comprehensive application which gathered information on professional experience and education would be necessary. In addition, applicants' writing skills and health topic experiences were ascertained through a required 500-word essay. Once these materials were in place, the team shifted its energies to the development of the training curriculum that was scheduled for implementation in January 2004.

Application Process

Application materials were developed in two phases. First, the team created a brochure that included general information about the CNATT and NTOTAP. CNATT's four components – distance education, research, clinical care, and training – were briefly described; the majority of the brochure specifically focused on the training component of NTOTAP, with detailed information provided regarding the structure and expectations of the program. The brochure also included a perforated form that the reader could complete, remove, and mail to request more information and an official application packet.

AIANP staff distributed brochures and logo-imprinted ballpoint pens during the fall 2004 student registration process at various tribal colleges and universities in the western U.S. In addition, staff hand-delivered application packets and brochures to local community health organizations. This information dissemination process was highly successful and encountered few, if any, issues. Students welcomed receiving the pens, which helped them complete the school registration process. In a few cases, applications received were directly related to the student finding the pen post-registration and viewing the Web site for more information.

In the early fall of 2004, general meetings were scheduled at four locations near the communities in which the brochures were distributed. These meetings promoted the program to interested participants. Directors of the AIANP field offices in these communities, accompanied by several Denver-based staff, led the meetings and reviewed the NTOTAP program. Sufficient time was reserved at the end of each meeting for a question-and-answer session.

By the application deadline (October 1, 2004), 12 individuals had completed application packets. Table 1 describes the backgrounds and interests of the applicants. The NTOTAP team met to discuss and prioritize the applicants for follow up and possible interviews. Applicants identified as having a clear, identified interest and relevant community experience focusing on a local health priority, as well as basic computing skills were interviewed by all Denver-based NTOTAP staff. The purpose of the interviews was to gain a better knowledge of the individuals' experiences in their areas of interest, assess their computing skills, query their ideas on how their projects could affect local communities, and assess their competence to carry out a project over an extended period of time working with a mentor located at a distance. After NTOTAP staff discussed these interviews in a subsequent team meeting, the candidates were notified of their acceptance status by the end of October. Ultimately, nine recruits were identified for the initial cohort – three community health advocates and six community health professionals, representing two geographic regions (South Dakota and Washington state).

Table 1
Range of Backgrounds and Interests for Initial Cohort Applicants

Applicant	Profession	Education	Health Interest
1 (Female)	Tribal University Bookstore Billing Clerk	Associate's Degree	Teen Pregnancy Prevention
2 (Female)	HIV Counselor and Educator	High School Diploma	HIV
3 (Male)	Special Project Liaison - Seattle Indian Health Board	High School Diploma	Physical Fitness for Elementary-age students
4 (Female)	Clinic Registered Nurse	Bachelor's Degree (Nursing)	Hepatitis C
5 (Female)	Registered Nurse	Bachelor's Degree (Nursing)	Drug Use Prevention - Elementary-age students
6 (Female)	Elementary School Teacher	Bachelor's Degree (Education)	Behavior Management - Elementary-age students
7 (Female)	Research Coordinator	Bachelor's Degree	Healthy Lifestyles
8 (Female)	CNM/CFNP	Master's Degree	Stress Reduction, Exercise, Nutrition
9 (Female)	Program Manager	Master's Degree	Informatics
10 (Male)	Community Health Representative	Associate's Degree	Diabetes
11 (Female)	Teacher	Associate's Degree	Alcohol Abuse
12 (Female)	Unemployed	High School Diploma	Healthy Lifestyle - Nutrition focused

Structure of Program

The program goal for each participant was to develop a multimedia-based project focusing on a local health priority. NTOTAP supported this goal by providing fiscal resources, mentorship, technological resources, and technical training.

Fiscal Resources

Financial support was available to each participant and included: a) regular, monthly compensation; b) resources to cover all travel-related expenses for Denver-based trainings; and c) a generous project development and dissemination budget. Examples of items purchased with project funds included hardware, software, subscriptions, project participation incentives, travel related to community evaluation and project dissemination, and consultant payments for work related to project completion but outside the realm of the NTOTAP program expertise (e.g., artwork created for CD-ROM cover).

Mentorship

Operational and technical mentors were assigned to each participant. The operational mentors' role was to oversee the project management and budgetary aspects for each participant. In addition, the operational mentors provided guidance, advice, and answers to non-technical questions throughout the program. Technical mentors, in contrast, had specific experience with different technologies and provided all instruction during training and project development. In addition, technical mentors worked closely with participants, monitoring project status, answering technical questions, and providing guidance on all topics related to project development (including those that were initially outside the technical expertise of the NTOTAP staff).

Technology Resources

In August 2002, the AIANP moved into a new home – the Nighthorse Campbell Native Health Building (NCNHB) – on the Fitzsimons Campus of the University of Colorado at Denver and Health Sciences Center. The NCNHB, a $13.3 million, 48,000-square-foot facility, brings the most recent advances in Internet-based store-and-forward technology – as well as real-time, interactive videoconferencing methods – to bear on AIANP program objectives. In addition to office and conference space, the NCNHB includes state-of-the-art clinical, educational, and media production studios to support telehealth/tele-education activities, which are coordinated through the CNATT. The NCNHB houses a 1,863-square-foot Multimedia Production Suite on the second floor, including a multimedia production lab, authoring/training room, two video editing rooms, a sound recording studio, and a video recording studio. It is central to all multimedia development, audiovisual support, media production/transmission, computer support, World Wide Web technical assistance, CD-ROM distribution, and digital archiving activities. The suite supports a variety of activities: a) digital video editing, which includes adding titles, voice-overs, and still images; b) scanning of slides, flat art, and x-rays, as well as manipulation/enhancement of these images; c) PowerPoint production, which includes adding music, pictures, and videos to PowerPoint files; d) creating slides of x-rays, scans, books, flat art, and photocopies; e) creating video, audio, and graphic files for Internet, CD-ROM, or DVD applications; f) DVD production; g) QuickTime VR 360-degree photography; h) assistance with presentations, publications, grant proposals, community outreach projects, and research documentation; i) Web site development; j) computer-based training, including interactive courses and CD-ROM workshops to facilitate distance learning opportunities; and k) data archiving.

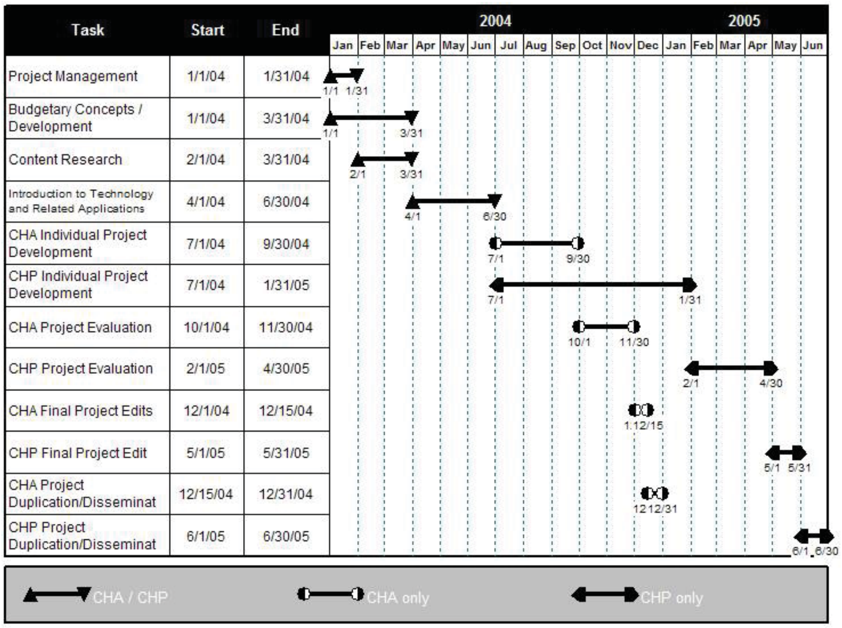
In addition to use of this state-of-the-art facility, each NTOTAP participant was loaned the following equipment for the duration of the program: a) Windows-based Dell Latitude D500 1.3Ghz laptop, b) Canon GL-2 MiniDV camcorder with accessories, c) Marantz PMD-222 Professional Mono Portable Cassette Recorder, d) Sony MVC-FD200 digital still camera and accessories, and e) HP Deskjet 5150 printer.

Technical Training

The development of the training curriculum was completed during the planning year. An integrated approach was used during the first four months of the program – all nine participants attended training in Denver at the same time. This approach allowed the NTOTAP staff to cover general concepts that were applicable to all participants regardless of the technology used for their projects. This early stage was followed by a series of trainings that brought subsets of participants to Denver to focus on different technologies and, ultimately, each individual project. Figure 1 represents the program timeline developed to provide sufficient time for project development, a thorough project evaluation, and revisions based on evaluation feedback, duplication, and dissemination by the end of the program in June 2005.

The initial training began in January 2004 and introduced the community health advocates and professionals to project management ideas and budgetary concepts. In addition, during this meeting the aforementioned laptop computers were assigned to all individuals. These computers facilitated project completion and e-mail communication with NTOTAP staff (which participants accessed through local community Internet service providers). Introductory sessions with each participant's operational mentor rounded out the first month's training.

Figure 1
Project Development Timeline for CHAs and CHPs



Task	Start	End
Project Management	1/1/04	1/31/04
Budgetary Concepts / Development	1/1/04	3/31/04
Content Research	2/1/04	3/31/04
Introduction to Technology and Related Applications	4/1/04	6/30/04
CHA Individual Project Development	7/1/04	9/30/04
CHP Individual Project Development	7/1/04	1/31/05
CHA Project Evaluation	10/1/04	11/30/04
CHP Project Evaluation	2/1/05	4/30/05
CHA Final Project Edits	12/1/04	12/15/04
CHP Final Project Edit	5/1/05	5/31/05
CHA Project Duplication/Disseminat	12/15/04	12/31/04
CHP Project Duplication/Disseminat	6/1/05	6/30/05

During these initial trainings, each participant spent time in discussions with NTOTAP staff and local community stakeholders regarding the appropriateness of their chosen health topic. One Community Health Professional (CHP) came to the program intending to focus on domestic violence. However, as her research and discussions with the local community stakeholder progressed over the first few months of the program, this CHP determined that information focused on Hepatitis C was in greater demand in her community. Upon closer review, the CHP was able to identify a lack of Hepatitis C-specific content within her community and she altered the focus of her project accordingly.

All participants returned to Denver monthly through March and completed training in the identification of health-related materials for content development, an introduction to still photography and digital cameras, and a beginner's look at the Macromedia Fireworks and Inspiration applications. NTOTAP staff determined that still photographs would most likely be used in each project regardless of technology; thus, at this training, a digital still camera was checked out to each participant for use throughout the program. The second training concluded with work time to develop project storyboards using the Inspiration application. (Storyboards are a sequential series of illustrations, stills, rough sketches, and/or captions – sometimes resembling a comic or cartoon strip – of events that outline the various shots or provide a synopsis for a proposed story.) Inspiration is a software application in which the user can visually map each segment of an entire project with its action, characters, and script. Participants were also assigned homework that was due by the beginning of the following training. The goal of the homework was to review the concepts introduced at the training, encourage participant interaction, and promote further investigation of topics presented at the training. WebCT, a distance education platform, provided the participants with an asynchronous method to complete homework, discuss training topics, and share relevant information throughout the program.

During the third month of training, the participants worked closely with project staff to solidify the technology they intended to use for their project. As their ideas became more concrete, they were assigned to one of two NTOTAP staff for technical mentorship. Both technical mentors had significant experience in one or more technologies, including Web development, video production, and interactive CD-ROM development. The overall group training during the third month focused on the ability to share information with communities and stakeholders using Microsoft PowerPoint and Publisher software.

Beginning in April 2004, the participants were scheduled for training based on their project technology. Three separate two-day training sessions were scheduled throughout the month focusing on Web design, video production, or interactive CD-ROM development. During these trainings, participants met individually with their technical and operational mentors to ensure that all aspects of their projects were on target (e.g., content, budget, storyboard). Training continued in this manner through June 2004 in order to provide a solid foundation for the development of projects.

Finally, in July 2004, individual training sessions were scheduled; these continued throughout the remainder of the program. The focus of this work time was specific to each project and allowed the technical mentors to assist with the continued development of new content and the editing of existing material, as well as to provide feedback and instruction. Table 2 provides a list of tasks that were completed during these training sessions specific to each technology. These individual sessions allowed the technical mentors to provide training on different aspects of the technology that focused specifically on the needs of the individual project.

Table 2
Tasks Related to Project Development

Interactive CD-ROM	Content development Determine architecture – flow of activities, navigation Create color schemes, fonts, buttons, logo Software training – Macromedia's Fireworks, Macromedia's Authorware Develop main user interface – table of contents Develop subpage formats Development of interactive activities including puzzles, games, word searches, etc.
Video	Story Development – script writing, interview process, question development Camera Overview Camera and Shooting Techniques Equipment Setup Media Management Software Training – Macromedia's Fireworks and Final Cut Pro
Web site	Content development Determine architecture – flow of activities, navigation Create color schemes, fonts, buttons, logo Software training – Macromedia's Fireworks, Macromedia's Dreamweaver Develop main user interface – table of contents Develop subpage formats Development of interactive activities including puzzles, games, word searches, etc.

The outcome of these meetings was a draft of the project ready for internal review and the community evaluation phase of the program.

Project Evaluation

Draft projects were reviewed and evaluated using three different methods. NTOTAP staff and an outside medical consultant provided individual reviews for each project. These reviews were detailed and thorough; each included feedback regarding aesthetics, content, grammar, and technical problems. Appendix 1 shares an example of both the internal review and medical consultant review of the Hepatitis C video project. The technical mentor for each project gathered all feedback and, after discussions with the project team, identified which revisions were required and which were optional/recommended, allowing the CHA to determine whether the optional/recommended changes would contribute to the project. Participants made revisions to their projects based on this feedback. At the completion of this step, participants developed evaluation materials to gather similar feedback at a community-wide level. This four- to six-week community project evaluation phase included the use of focus groups, community meetings, one-on-one interviews, and direct observation. No two methods of gathering this information were identical for any of the projects. Information gathered was more general in nature and focused on the cultural relevance of the project and how successfully the developer was able to share the content (see Appendix 2 for evaluation example). At the conclusion of the community evaluation phase, each participant returned to Denver to complete final revisions based on the feedback. In general, the majority of revisions covered aspects such as terminology clarification and inclusion of more resources that could be used for further research.

Project Duplication and Dissemination Plans

The final phase of development consisted of media duplication, production of final marketing materials, and creation of community-wide dissemination plans. Video-based projects were duplicated in either the VHS and DVD formats, depending on the authors' preferences and the perceived availability of technology within their communities. Based upon the number of copies needed, duplication was either done in-house using a CD-ROM label-making kit or was outsourced to a local media duplication company. The process to duplicate CD-ROMs was identical to that used for the video-based projects.

Dissemination efforts varied among the participants. As an example, 25 copies of the Hepatitis C video described in this manuscript have so far been distributed to local community organizations for staff and patient education. Recipients of the video include Public Health Nursing, the Indian Health Service Hepatitis Program, the Hepatitis C Screening Study, the General Health Clinic, the local police department, and the juvenile detention center. In addition, the participant planned to distribute the video at local school health fairs in the winter of 2006.

Results / Lessons Learned

Eight of the nine participants successfully completed projects in one of three technology areas – Web site , interactive CD-ROM, or video. (The unsuccessful participant was terminated mid-way through the program due to lack of performance.) Projects included the following:

- Interactive CD-ROM for elementary school students focusing on the effects of alcohol and other drugs on the body;
- Video providing preventive and descriptive information on Hepatitis C;

- Web site and brochure campaign focused on a variety of birth control methods available in the local community;
- Interactive CD-ROM sharing Native insights and information on diabetes;
- Video presentation on stress management packaged with a journal, pedometer, and nutritionally and culturally appropriate cookbook;
- Information and tracking Web site for students participating in an after-school Native running program;
- Video describing interventions for teachers dealing with student behavior management in the classroom setting;
- Interactive Web site focusing on an epidemiological data collection and its importance in determining the effectiveness of health delivery services and medical interventions for American Indians in an urban setting.

Although the majority of the participants successfully completed a multimedia-based project using technologies and information new to them, as with any first-time program there were lessons learned and areas identified for change. These issues are outlined below, and changes are being implemented for future cohorts.

- Require all participants to sign a copy of the NTOTAP Frequently Asked Questions (FAQ) list verifying that the list was read completely. The FAQ provided information related to travel, monetary compensation, supervision, evaluation, project copyright, and meeting attendance. This list was continuously revised throughout the program as issues arose.
- Identify back-up trainers for all internal and outsourced trainings. At the initial program meeting, an NTOTAP staff member became very ill and was unable to conduct her training. Fortunately, the project director had reviewed the training protocol and was able to fill the vacancy, but less formally than the team would have liked.
- Increase the timeframe of the program for community health advocates to 18 months. The 12-month instructional track for the community health advocates was inadequate to develop the caliber of project expected in this program. Because the first cohort had little to no experience with the technologies shared in the program, bringing them to a point where they could work with only a moderate amount of technical support was nearly impossible. The additional time needed to bring participants up to speed in their technologies cut into the program evaluation phase, leaving time for only a moderate number of revisions.

- Increase the number of outsourced trainings to allow internal NTOTAP staff time to provide individual assistance to each participant between trainings, rather than using this time to develop future training material.
- Conduct participant performance evaluations every three months and provide a one-month grace period within which to resolve any issues. At the end of the grace period, if performance issues remain, the person will be terminated from the program. Without a formal evaluation and termination timeline in place, a participant could be given many opportunities to rectify poor performance all while being paid a consistent monthly compensation.
- Require that a local community stakeholder sign an agreement to participate in a mentorship role, as well as to review project development on a regular basis. Without a formal agreement in place, NTOTAP staff is unable to verify that the project content and medium are appropriate and will meet the needs of the community, or that project dissemination will be supported.
- Purchase Mac-based laptops so that participants developing videos can work on their projects at their convenience either at home or during the training time in Denver. Without this equipment, participants developing videos can only work on their projects during the scheduled trainings in Denver.
- Pay compensation at the completion of identified project development milestones, rather than on a monthly basis. This structure – as opposed to consistent monthly compensation – would greatly improve compliance with homework and project deadlines, .
- Allow for each technical mentor to make at least one trip to each participant's community (most important for those producing videos). Participants developing videos frequently voiced the need for assistance when they were shooting their video footage. In reality, it takes multiple individuals to address the many elements of video production, including the camera, lighting, sound and aspects of the interview process.
- Include sufficient time to evaluate the effects of the completed projects on the participants' communities. Due to the program's time constraints, NTOTAP staff was not able to fully evaluate the impact of the projects – a major factor in determining the program's overall success. For the second cohort, sufficient evaluation time has been built into the project, and methods are being developed so that the effects of the projects can be assessed and compared.

Summary

The Native Telehealth Outreach and Technical Assistance Program is a unique opportunity for local Native community members to use their creative energies in the development of appropriate and culturally relevant projects to disseminate health care information. The majority of participants from the initial year's cohort successfully completed multimedia-based projects focusing on a wide range of health topics.

Ultimately, the acquisition of this relevant and culturally appropriate health information will benefit local communities and it is our hope that the first cohort of community health advocates and professionals will use their newly acquired technical skills to develop additional health-related projects, as well as share their knowledge with other community members.

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Appendix 1
Internal Review of a Video Educating Viewers about Hepatitis C

General Comments

I am totally impressed! What a wonderful job this CHA has done!

Considering this was this CHA's first video production, I think the video looks good, over all. It's somewhat informative. I think it may need more scare tactics, maybe talk to some folks who would be willing to share their personal experiences living with or knowing someone with Hep C. And maybe edit some of the Dr. Interview – it lost me a couple of times.

Looked really good and was easy to understand.

I like the Doctor. I thought he was very warm and well-spoken. The images really helped to punch up the information.

The information was very helpful…almost to a fault. I found it to be oddly reassuring. I didn't get much of a sense of alarm regarding the disease. I wonder if this was intentional or if more "drama" might make Hep C like a bigger issue.

Required Changes

1. "There is no vaccine…" text is hard to read toward the end because the text is blue on a black background.
2. "Can you get Hep C from a blood transfusion" is the text, however it is READ as "Can I get Hep C…"
3. "Can I get….From Tattoos…." - need to be consistent in capitalization across all text messages.
4. Is there another tattoo and piercing picture that can be used the second time these images are shown?
5. Where did This CHA get the reference to 4 million Americans? Can she include it in her credits at the end of the video?
6. Can This CHA contact Dr. Milliard and clarify what he means by a 100% cure rate? If she does get this information, she could include it on a separate slide using her own voice.
7. Can This CHA contact Dr. Milliard to get his references regarding Vietnam Veterans and excessive alcohol use?
8. I guess I would like to know a little more about why it is of concern to the population you are addressing. Are there stats that say it is on the rise? Is it difficult for Native Americans to get appropriate treatment and it is, therefore, more deadly?
9. Aside from getting additional tape from Dr. Milliard (which I would like This CHA to pursue – at least audio information) I'm not sure how to include other categories of people who need to be screened such as hemodialysis patients and children who are born to mothers infected with Hep C. I believe, and this could be argued, that the other categories are covered in some fashion by the video
10. Photos.com credits should read as requested by the site license: "Certain images and/or photos on this page are the copyrighted property of JupiterImages and are being used with permission under license. These images and/or photos may not be copied or downloaded without permission from JupiterImages"

Recommended Changes

1. I like this project a lot. This CHA did a great job. My only qualm is that I think it might benefit from a few more alarming stats or some drama to heighten its appeal and importance.
2. Also, was the gray space on the photos of the nail clippers and toothbrush intentional? I didn't mind it, but I am wondering.
3. Does This CHA want more information about herself at the end? I want to make sure people know who she is because she had done such a wonderful job!

Medical Consultant Review

I. According to a 2005 report by Kelleher and Afdahl, there are approximately 2.7 million Americans with active Hepatitis C. (Kelleher TB, Afdhal N. Maintenance therapy for chronic hepatitis C. Curr Gastroenterol Rep. 2005 Feb;7(1):50-3.)

II. According to Kelleher and Afdahl, current optimal therapy (with pegylated interferon alfa (PEG-IFN) and ribavirin) results in sustained virologic response rates of just over 50%. (Kelleher TB, Afdhal N. Maintenance therapy for chronic hepatitis C. Curr Gastroenterol Rep. 2005 Feb;7(1):50-3) You may want to clarify with Dr. Mailliard what he means by a 100% cure rate.

Appendix 1, continued

III. The US Preventive Services Taskforce (USPSTF) was convened by the Public Health Service to rigorously evaluate clinical research in order to assess the merits of preventive measures, including screening tests, counseling, immunizations, and preventive medications. The USPSTF is an independent panel of experts in primary care and prevention that systematically reviews the evidence of effectiveness and develops recommendations for clinical preventive services.

According to USPSTF March, 2004, Screening for Hepatitis C Recommendations:

- The USPSTF recommends against routine screening for hepatitis C virus (HCV) infection in asymptomatic adults who are not at increased risk (general population) for infection.
- The USPSTF found insufficient evidence to recommend for or against routine screening for HCV infection in adults at high risk for infection.

However, the Centers for Disease Control and Prevention (CDC) and National Institutes of Health (NIH) both recommend screening for users of injection drugs, hemodialysis patients, and recipients of transfusions or organs (CDC recommendations cover the years before 1992, and NIH recommendations cover the years before 1990). In addition, the NIH panel recommends screening for individuals with multiple sexual partners, spouses or household contacts of HCV-infected patients, and those who share instruments for intranasal cocaine use. The CDC recommends screening for children born to mothers infected with HCV, those who received clotting factor concentrates before 1987, those with occupational exposure to HCV-positive blood, and patients with persistently abnormal alanine aminotransferase levels. Nowhere in the literature could I find where Vietnam Veterans and individuals who abuse alcohol should be screened. Based on these findings you may consider the following categories of people who should be screened:

- Injection drug users
- Hemodialysis patients
- Recipents of transfusions or organs before 1990
- Cocaine users who share instruments for intranasal cocaine use
- Children born to mothers infected with hepatitis C

The National Hepatitis Screening Survey found that intravenous drug use was the strongest risk factor for HCV infection (adjusted odds ratio [OR], 23), followed by hemodialysis, sex with an intravenous drug user, a history of blood transfusion, and male gender.[6] In cross-sectional studies of intravenous drug users, 65 percent of those who reported injecting drugs for 1 year or less and 50 percent to 90 percent of all intravenous drug users are infected with HCV.[1-7]

Below, find NIH and CDC guidelines on Hepatitis C screening.

ftp://ftp.cdc.gov/pub/Publications/mmwr/rr/rr4719.pdf

http://consensus.nih.gov/cons/116/091202116cdc_statement.htm

References

1. Kaur S, Rybicki L, Bacon BR, et al. Performance characteristics and results of a large-scale screening program for viral hepatitis and risk factors associated with exposure to viral hepatitis B and C: results of the National Hepatitis Screening Survey. National Hepatitis Surveillance Group. Hepatology 1996;24:(5):979-86.
2. Garfein RS, Vlahov D, Galai N, et al. Viral infection in short-term injection drug users: the prevalence of the hepatitis C, hepatitis B, human immunodeficiency, and human t-lymphotropic viruses. Am J Public Health 1996;86:655-61.
3. Alter MJ. Epidemiology of hepatitis C. Hepatology 1997;26:(3 Suppl 1):62S-5S.
4. Patrick DM, Tyndall MW, Cornelisse PG, et al. Incidence of hepatitis C virus infection among injection drug users during an outbreak of HIV infection. Can Med Assoc J 2001;165:(7):889-95.
5. Villano SA, Vlahov D, Nelson KE, et al. Incidence and risk factors for hepatitis C among injection drug users in Baltimore, Maryland. J Clin Microbiol 1997;35:(12):3274-7.
6. Bell J, Batey RG, Farrell GC, et al. Hepatitis C virus in intravenous drug users. Med J Aust 1990;153:(5):274-6.
7. Alter MJ, Hadler SC, Judson FN, et al. Risk factors for acute non-A, non-B hepatitis in the United States and association with hepatitis C virus infection. JAMA 1990;264:(17):2231-5.

Appendix 2
NTOTAP Project Evaluation – Video

1. Was watching this video an enjoyable experience? Was the information provided understandable?
2. Did you find the information in this video to be helpful? Was it well-presented, easy to understand, and up-to-date? Provide examples.
3. Was the information presented in a way that was appealing, interesting, or compelling? Please explain.
4. Do you need more information to fully understand the subject? If so, did you learn where to get more information from this video?
5. Please provide any feedback that might be helpful to this project's author that might improve the project.