



Recent Research on Co-Occurring Conditions Among Native Americans

A recent article presents data on the cluster of co-occurring alcohol abuse, depression, and diabetes among American Indians and Alaska Natives: **Tann, S.S., Yabiku, S.T., Okamoto, S.K., & Yanow, J. (2007). TRIADD: The risk for alcohol abuse, depression, and diabetes multimorbidity in the American Indian and Alaska Native population. *American Indian and Alaska Native Mental Health Research*, 14 (1), 1-23. Available online at [http://aianp.uchsc.edu/ncaianmhr/journal/pdf_files/14\(1\).pdf](http://aianp.uchsc.edu/ncaianmhr/journal/pdf_files/14(1).pdf)**

These authors analyzed data from the Centers for Disease Control and Prevention's (CDC) Behavioral Risk Factor Surveillance System (BRFSS) to look at the interrelationships among mental, substance-related, and physical disorders in the population of American Indians and Alaska Natives. In addition to the findings of this study described below, a significant contribution of this article is in its enlightening review of the research showing the elevated risk among this population for each disorder.

The BRFSS is a large (N=264,684 in 2003), nationally representative telephone study that is conducted in every State. It collects information on a variety of health conditions as well demographic data from adults age 18 or older. The BRFSS evaluates "risk for heavy drinking" by asking if respondents have had, on average, greater than 2 drinks per day for men or 1 drink per day for women in the past month. It screens for possible mental disorders by asking the number of days in the past month in which the respondent felt his or her mental health was "poor."

For the purposes of this study, the authors considered a report of 5 or more days of poor mental health as an indication of being at risk for depression, despite the fact that most researchers use 14 days or more of poor mental health as a measure of clinical depression. They chose this lower threshold, which might be considered a

subclinical level of depression, because of its potential for a significant health burden when combined with heavy drinking and diabetes. (See also COCE's discussion of definitions of co-occurring disorders and the role of subclinical levels of symptoms in defining a service definition of COD in **Center for Substance Abuse Treatment. *Definitions and Terms Relating to Co-Occurring Disorders*. COCE Overview Paper 1. DHHS Publication No. (SMA) 06-4163 Rockville, MD: Substance Abuse and Mental Health Services Administration, and Center for Mental Health Services, 2006.**)

The authors found that American Indians/Alaska Natives had the highest rate of diabetes, the second highest rates of heavy drinking (after Native Hawaiians/Pacific Islanders), and both the highest rate of 5 or more poor mental health days per month and the highest mean number of such days (5.3). The authors also found, although limited by a small sample size (N=91 for the total survey population identified with all three risk factors), that chances of having these three co-occurring conditions were highest among American Indians and Alaska Natives.

Readers interested in more detailed information on substance use, abuse, and dependence among American Indians and Alaska Natives can find data from the 2002 to 2005 National Surveys on Drug Use and Health in another recent publication:

Office of Applied Studies (2007). *Substance use and substance use disorders among American Indians and Alaska Natives* (The NSDUH Report, January 19, 2007). Available online at

<http://oas.samhsa.gov/2k7/AmIndians/AmIndians.pdf>

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COD Research

Epidemiology

Boydell, J., Dean, K., Dutta, R., Giouroukou, E., Fearon, P., & Murray, R. (2007). A comparison of symptoms and family history in schizophrenia with and without prior cannabis use: Implications for the concept of cannabis psychosis. *Schizophrenia Research*, 93 (1-3), 203–210.

The authors used case records from 757 patients with schizophrenia to investigate differences in symptomatology between those who had used cannabis and those who had not. They found no significant differences in types and amount of symptoms. The authors also found no significant differences in the proportion of people with a positive family history of schizophrenia between cannabis users and non-users.

Compton, W.M., Thomas, Y.F., Stinson, F.S., & Grant, B.F. (2007). Prevalence, correlates, disability, and comorbidity of DSM-IV drug abuse and dependence in the United States: Results from the National Epidemiologic Survey on Alcohol and Related Conditions. *Archives of General Psychiatry*, 64(5), 566-576.

The authors conducted face-to-face interviews with a representative sample of US adults (N=43,093) to acquire data on the correlates, prevalence, and comorbidity with Axis I and II disorders of drug use disorders. They found that prevalence rates of 12-month (1.4 percent) and lifetime (7.7 percent) drug abuse were higher than 12-month (0.6 percent) and lifetime (2.6 percent) rates of drug dependence. Rates of substance use disorders were higher among individuals with lower socioeconomic status; those who were never married, widowed, separated, or divorced; men; and American Indian/Alaska Native. They authors found strong associations between drug use disorders and alcohol use disorders and antisocial personality disorder, even after controlling for other psychiatric disorders. They also found significant associations between most mood disorders and drug dependence as well as between generalized anxiety disorder and dependence. Rates of treatment seeking were low in this population with only 8.1 percent of those with substance abuse and 37.9 percent of those with dependence having sought treatment during their lifetime.

Conner, K.R., Briton, P.C., Sworts, L.M., & Joiner, T.E. Suicide attempts among individuals with opiate dependence: The critical role of belonging. *Addictive Behaviors*, 32(7), 1395-1404.

The authors interviewed 131 methadone patients (69 of which were women) about perceived belonging, burdensomeness, and loneliness. They also investigated histories of unintentional overdose and attempted suicide. They determined that suicide attempters had a low sense of belonging but this was not true for those who had unintentional overdoses.

Cook, J.A., Grey, D.D., Burke-Miller, J.K., Cohen, M.H., Vlahov, D., Kapadia, F., Wilson, T.E., Cook, R., Schwartz, R.M., Golub, E.T., Anastos, K., Ponath, C., Goparaju, L., & Levine, A.M. (2007). Illicit drug use, depression and their association with highly active antiretroviral therapy in HIV-positive women. *Drug and Alcohol Dependence*, 89(1), 74-81.

The authors looked at the interaction of illicit drug use and depressive symptoms and their affect on the likelihood individuals will use highly active antiretroviral therapy (HAART). Subjects were a group of 1710 HIV-positive women from six major US urban areas. The authors found that illicit drug use and depression interacted to reduce use of HAART in this population.

el-Guebaly, N., Currie, S., Williams, J., Wang, J., Beck, C.A., Maxwell, C., & Patten, S.B. (2007). Association of mood, anxiety, and substance use disorders with occupational status and disability in a community sample. *Psychiatric Services*, 58(5), 659-667,

The authors used data from the Canadian Community Health Survey Cycle 1.2-Mental Health and Well-Being (CCHS-1.2) to examine connections between mood disorders, anxiety disorders, substance dependence or harmful alcohol use, and occupational status and disability in a general population sample. In a sample of 27,332 (ages of 18 and 64), 946 reported having only a mood disorder, 831 reported an anxiety disorder alone, 730 reported only substance dependence, and 966 had two or more co-occurring disorders. In the total sample, 23 percent reported they were unemployed or not able to work during the prior week. This group included 27 percent of those with mood disorder alone, 30 percent of those

with an anxiety disorder alone, 20 percent of those with substance dependence alone, and 34 percent of those with COD. Having any of the mental and substance-related disorders included in the evaluation was strongly associated with a greater chance of missing work during the previous week and with being a greater likelihood of losing work days because of disability.

Faraone, S. V., Wilens, T. E., Petty, C., Antshel, K., Spencer, T., & Biederman, J. (2007). Substance use among AD/HD adults: Implications of late onset and subthreshold diagnoses. *American Journal on Addictions, 16*(S1), 24-34.

The authors looked at four sets of people: (1) subjects with an AD/HD diagnosis who met all DSM-IV criteria for childhood onset AD/HD, (2) subjects with a late onset of AD/HD who met all criteria except age at onset, (3) subjects with a subclinical level of AD/HD symptoms who did not meet full criteria, and (4) subjects who did not meet any AD/HD criteria. They used the Drug Use Severity Index to ask about substance use and found that cigarette and marijuana use were significantly higher in all groups with AD/HD symptoms than in the control group. The authors conclude that adults with AD/HD symptoms have higher rates of substance use.

Kaufman, J., Yang, B.-Z., Douglas-Palumberi, H., Crouse-Artus, M., Lipschitz, D., Krystal, J.H., & Gelernter, J. (2007). Genetic and environmental predictors of early alcohol use. *Biological Psychiatry, 61* (11), 1228-1234.

The authors used 127 subjects—76 maltreated children and 51 demographically matched community controls—to examine predictors, both genetic and environmental, of early alcohol use, which is a potent predictor of later alcohol dependence. The authors conclude that maltreated children are at higher risk for psychiatric, alcohol, and substance abuse problems. In addition, they conclude that examinations of genetic and environmental risks and protective factors can help identify those who are most vulnerable while also helping guide prevention and intervention efforts.

Kessler, R. C., Berglund, P. A., Borges, G., Castilla-Puentes, R. C., Glantz, M. D., Jaeger, S. A., Merikangas, K. R., Nock, M. K., Russo, L. J., & Stang, P. E. (2007). Smoking and suicidal behaviors in the National Comorbidity Survey: Replication. *Journal of Nervous & Mental Disease, 195* (5), 369-377.

The authors reviewed data on 12-month smoking, suicidal behaviors, and DSM-IV disorders from the National Comorbidity Survey-Replication to investigate the connections between smoking and suicidal behavior (already established in other literature). They found significant odds ratios between 12-month smoking and 12-month suicidal behaviors. However, after controlling for mental disorders (according to DSM-IV criteria) the significance of the associations disappeared. The authors suggest that mental disorders are either common causes of, markers for, or mediators of smoking and suicidal behavior.

Kristensen, K. & Cadenhead, K. S. (2007). Cannabis abuse and risk for psychosis in a prodromal sample. *Psychiatry Research, 151* (1-2), 151-154.

The authors investigated cannabis use among individuals (N=48) who were enrolled in the Cognitive Assessment and Risk Evaluation (CARE) Program, which serves individuals who are considered “at risk” for developing a psychotic disorder based on the existence of subsyndromal symptoms and/or a family history of psychosis. They found that participants were significantly more likely to develop psychosis in the year following assessment if they met criteria for a lifetime cannabis use disorder (in remission at the time of assessment, since individuals with active substance use disorders were excluded from the study). The authors also found, however, that there was a significant association between nicotine use and the later development of psychosis.

McGirr, A., Paris, J., Lesage, A., Renaud, J., & Turecki, G. (2007). Risk factors for suicide completion in borderline personality disorder: A case-control study of Cluster B comorbidity and impulsive aggression. *Journal of Clinical Psychiatry, 68*(5), 721-729.

This study investigated 120 subjects who meet DSM-IV criteria for borderline personality disorder, 70 of whom who died by suicide between 2001 and 2005. They conducted proxy-interviews using structured diagnostic instruments and personality trait assessments to determine risk factors for suicide completion. The authors found suicide completion was more common among individuals with borderline personality disorder who had a co-occurring current and/or lifetime substance dependence disorder and among those who had cluster B Comorbidity. While impulsivity and aggression

appeared initially as suicide predictors, the effect was not significant after controlling for cluster B comorbidity. The authors conclude that lethal suicide attempts among those with borderline personality disorders results from an interaction between of violent-aggressive and impulsive features that are associated with cluster B comorbidity.

Mukamal, K., Kawachi, I., Miller, M., & Rimm, E. (2007). Drinking frequency and quantity and risk of suicide among men. *Social Psychiatry and Psychiatric Epidemiology*, 42(2), 153-160.

This authors followed 47,654 men who participated in the Health Professionals Follow-Up Study, and investigated their drinking habits between 1986 and 2002 to determine the impact of regular alcohol use as a risk factor for suicide. The authors found that 136 men had died from suicide prior to followup and that an increased amount drinking per day was associated with greater risk of death by suicide. The authors conclude that for men risk of death from suicide tends to be associated with quantity of alcohol consumed per day of drinking but not with frequency of drinking or overall amount of alcohol consumed.

Pagano, M.E., Rende, R., Rodriguez, B.F., Hargraves, E.L., Moskowitz, A.T., & Keller, M.B. (2007). Impact of parental history of substance use disorders on the clinical course of anxiety disorders. *Substance Abuse Treatment, Prevention, and Policy*, 2 (13). Available online at <http://www.substanceabusepolicy.com/content/pdf/1747-597X-2-13.pdf>.

The authors prospectively examined the relationship between parental substance use disorders and the course of anxiety disorders in adults over a 12-year period. The authors found that adults with a history of parental substance use disorders were markedly more likely to be divorced and that a history of parental substance use of disorder was a strong indicator of relapse of social phobia and panic disorders.

Sadek, J.R., Vigil, O., Grant, I., Heaton, R.K., & the HNRC Group. (2007). The impact of neuropsychological functioning and depressed mood on functional complaints in HIV-1 infection and methamphetamine dependence. *Journal of Clinical and Experimental Neuropsychology*, 29(3), 266-276.

This study examined how depression and neuropsychological impairment affected self-report of problems with everyday functioning in adults with HIV infection, methamphetamine dependence, or both (N=362). The authors found that co-occurring HIV and methamphetamine dependence did not increase complaints about everyday functioning over that which occurred for individuals with only one of the two conditions. For individuals in each of the comparison groups, depressive symptoms predicted a more significant decrease in daily living activities and increased cognitive complaints. The results of this study suggest that depressive symptoms should not be used to dismiss subjective complaints related to everyday functioning even though having depressive symptoms may account for a significant portion of those self-reported complaints.

Sartor, C.E., Lynskey, M.T., Bucholz, K.K., McCutcheon, V.V., Nelson, E.C., Waldron, M., & Heath, A.C. (2007). Childhood sexual abuse and the course of alcohol dependence development: Findings from a female twin sample. *Drug and Alcohol Dependence*, 89(2-3), 139-144.

The authors looked at the role of childhood sexual abuse plays in the initiation of drinking and its progression from first drink to alcohol dependence in a sample of female twins (N=3536). They found a significant association between experiences of childhood sexual abuse and increased rates of lifetime alcohol use and of alcohol dependence. However, the elevated risk associated with childhood sexual abuse was only apparent at ages 12 and 13. This study indicates that childhood sexual abuse and elevated risk for alcohol dependence may be linked via early age at first drink.

Warren, J.I., Stein, J.A., & Grella, C.E. (2007). Role of social support and self-efficacy in treatment outcomes among clients with co-occurring disorders. *Drug and Alcohol Dependence*, 89(2-3), 267-274.

The authors investigated social support and self-efficacy in a sample of 351 clients with COD who were attending residential substance abuse treatment programs. They also explored how ethnicity and age influenced self-efficacy and access to social support, as well as the relationships of self-efficacy and access to social support to substance abuse outcomes. The authors found that greater social support at a baseline assessment predicted better mental health and less use of heroin and cocaine. Higher self-ratings of self-efficacy predicted less alcohol and cocaine use. While African-

American ethnicity was associated with more cocaine use (at both baseline assessment and follow-up), African Americans also reported greater levels of self-efficacy, which acted to moderate cocaine use.

Infrastructure

Financing

Hermann, R.C., Rollins, C.K., & Chan, J.A. (2007). Risk-adjusting outcomes of mental health and substance-related care: A review of the literature. *Harvard Review of Psychiatry*, 15(2), 52-69.

The authors reviewed research on risk adjustment from peer-reviewed journal published between 1980 and 2002 that used one or more multivariate models to compare utilization, cost, or clinical outcomes of mental or substance use conditions across providers or provided a quantitative assessment of the role patient characteristics played in explaining the proportion of variance in a model. Through their analysis of the literature, the authors identified 72 utilization models, 74 models for expenditures, and 15 models concerning clinical outcomes. They conclude that models that use administrative data sets for information on diagnostic and sociodemographic factors can explain an average of 6.7 percent of variance, while those that have more detailed sources for information can explain 22.8 percent of variance.

Services & Service Systems

System Integration

Bennett, L. & O'Brien, P. (2007). Effects of coordinated services for drug-abusing women who are victims of intimate partner violence. *Violence Against Women*, 13(4), 395-411.

The authors describe a program to integrate the work of substance abuse treatment and domestic violence service agencies. They tracked the progress of 255 women who admitted to abusing substances as well as being victims of domestic violence to determine how the program affected their level of substance use, perceptions of harm from domestic violence, and feelings of self-efficacy in regards to domestic violence. Following participation in the program, women decreased their substance use and felt they had greater self-efficacy in regards to domestic violence. However, they also were more afraid of the potential consequences of domestic violence.

Quimette, P., Jemelka, R., Hall, J., Brimmer, K., Krupski, A., & Stark, K. (2007). Services to patients with dual diagnoses: Findings from Washington's mental health service system. *Substance Use & Misuse*, 2(1), 113-127.

The authors examine the mental health treatment service delivery system of the State of Washington and how it serves clients with COD at different stages of care. They interviewed informants from a range of geographic locales in 2004 and found that best practices are not being implemented consistently and that effective care is hindered by a number of administrative and service barriers.

Pincus, H.A., Page, A.E.K., Druss, B., Appelbaum, P.S., Gottlieb, G., & England, M.J. (2007). Can psychiatry cross the quality chasm? Improving the quality of health care for mental and substance use conditions. *American Journal of Psychiatry*, 164(5), 712-719.

This article summarizes the Institute of Medicine's *Improving the Quality of Health Care for Mental and Substance Use Conditions* report and its recommendations for mental health and substance abuse treatment providers.

Treatment Planning & Services

Gee, R., Springer, P., Bitar, G., Drew, F., & Graff, C. (2007). Keeping the music alive: Using the "grief and hope box" with adult offenders with co-occurring mental health and substance use issues. *Journal of Creativity in Mental Health*, 1(3-4), 185-204.

COD Research and Resources Monthly Review

This article suggests ways to help counselors and clients in criminal justice settings to creatively facilitate client self-disclosure about grief and loss, which can lead them to develop more coherent personal narratives, better social integration, and improved psychological and physical health.

Green, A.I., Drake, R.E., Brunette, M.F., & Noordsy, D.L. (2007). Pharmacotherapy for schizophrenia and co-occurring substance use disorders. *Neurotoxicity Research*, 11(1), 3-40.

Though various theories have been presented to explain the high rate of co-occurring substance use disorders in people with schizophrenia, the authors of this study suggest that the most rewarding avenue of research may revolve around the brain's reward circuit dysfunction model. Preliminary data suggest that the atypical antipsychotics, particularly clozapine, may be especially helpful for clients with co-occurring substance use disorders and schizophrenia. The authors conclude that further studies are needed to assess the value of new pharmacologic treatments as well as their integration into a program psychosocial treatment.

Jockers-Scherübl, M.C., Wolf, T., Radzei, N., Schlattmann, P., Rentzsch, J., Gómez-Carrillo de Castro, A., & Köhl, K.-P. (2007). Cannabis induces different cognitive changes in schizophrenic patients and in healthy controls. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, 31 (5), 1054-1063.

The authors performed a study on a small group of people with schizophrenia (n=39) and matched controls to investigate differences in cognitive performance between those with a history of cannabis use and those without such a history. They found, contrary to their expectations, that a history of prior cannabis abuse was associated with slightly better performance on a battery of cognitive tests for people with schizophrenia. On at least one test, the performance was significantly better. When the authors reanalyzed the data according to age of onset of cannabis abuse, they found that among people with schizophrenia who began abusing cannabis at or prior to the age of 16, the improvement in composite scores was clearly significant (at the same time, cannabis abuse prior to age 16 was significantly associated with poorer performance among members of the non-schizophrenic control group). The authors did control for higher nicotine use by those with histories of cannabis abuse in determining their findings. They also noted that the cannabis abusing group was less educated and that other measures did not show any better social skills among that group than among those who did not abuse cannabis. While the authors note that their findings are still preliminary (given the small sample size and the fact that testing was not repeated), they also find that cannabis abuse appears to have a different effect the cognitive functioning of people with schizophrenia than it does on those without schizophrenia and they suggest that that cannabis use/abuse prior to the development of schizophrenia may have a protective function on the cognitive abilities of those who later develop schizophrenia.

Kinnaman, J.E.S., Slade, E., Bennett, M.E., & Bellack, A.S. (2007). Examination of contingency payments to dually-diagnosed patients in a multi-faceted behavioral treatment. *Addictive Behaviors*, 32(7), 1480-1485.

The authors examined whether characteristics of patients with COD (N=59) were related to receiving contingency management payments received in a multimodal treatment program. They found that, generally, demographic characteristics were unrelated to receiving contingency management payments. However, a few clinical factors (e.g., having a diagnosis of schizophrenia, current substance dependence) were related to receiving payments.

Kollins, S.H. (2007). Abuse liability of medications used to treat attention-deficit/hyperactivity disorder (AD/HD). *American Journal on Addictions*, 16(S1), 35-44.

This article reviews and summarizes research concerning the extent to which psychostimulant methylphenidate has abuse potential. The article's emphasis is on explaining a number of related but independent issues that are often confused when exploring this topic. The review seeks to explain whether the use of such prescribed psychostimulants increases later risk for substance use disorders, the degree to which these medication have abuse potential, and the distinction between abuse of such medications and the misuse or diversion of them.

Loveland, D. & Boyle, M. (2007). Intensive case management as a jail diversion program for people with a serious mental illness: A review of the literature. *International Journal of Offender Therapy and Comparative Criminology*, 51(2), 130-150.

COD Research and Resources Monthly Review

The authors review research concerning the use of intensive case management programs as a jail diversion interventions for offenders with serious mental illness. They note that general intensive case management programs rarely led to reductions in jail or arrest rates over time. General intensive case management programs that include an integrated substance abuse treatment component have mixed results but tend to reduce rates of arrests and incarceration over time for those who have COD.

Petrakis, I., Ralevski, E., Nich, C., Levinson, C., Carroll, K., Poling, J., Rounsaville, B., & VA VISN I MIRECC Study Group (2007). Naltrexone and disulfiram in patients with alcohol dependence and current depression. *Journal of Clinical Psychopharmacology*, 27(2), 160-165.

In this 12-week outpatient medication study conducted at 3 Veterans Administration outpatient clinics, 254 patients with co-occurring major Axis I disorder and alcohol dependence were randomized into four groups: those receiving naltrexone alone, those receiving a placebo alone, those receiving disulfiram and naltrexone, and those receiving disulfiram and a placebo. Among subjects, 54.7 percent met criteria for a DSM-IV major depression diagnosis. There was, however, no relation between a depression diagnosis and the type of medication received in respect to alcohol use outcomes, psychiatric symptoms, or the reporting of side effects. There was, however, a significant relationship between diagnosis. For subjects with depression, however, disulfiram had a more significant effect on lowering craving (determined by self-report) than did naltrexone.

Randall, M. & Finkelstein, S.H. (2007). Integration of cognitive behavioral therapy into psychiatric rehabilitation day programming. *Psychiatric Rehabilitation Journal*, 30(3), 199-206.

This paper details an approach to the integration of Cognitive Behavioral Therapy into a psychiatric rehabilitation day program visited by people with severe and persistent mental illnesses and frequently co-occurring substance use disorders. The authors also discuss potential challenges involved in implementing cognitive-behavioral therapy in large groups.