

Brief article

Variation among state-level approaches to addressing alcohol abuse in opioid treatment programs

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Abstract

In view of their role in licensing opioid treatment programs (OTPs), state opioid treatment authorities (SOTAs) are in a unique position to influence how OTPs address their patients' alcohol abuse. Using data from a telephone survey of SOTAs from the District of Columbia and states that have at least one OTP ($n = 46$), this study examines the extent to which SOTAs address alcohol abuse in their respective state policies and guidelines for OTPs. Findings indicate that 27 states have overall measures on how to address patients' problematic alcohol use, 23 states require or recommend alcohol education to be provided to all patients, and 17 states have stipulations that address specific actions to be taken if patients present at daily dosing under the influence of alcohol. Although SOTAs generally rate alcohol of at least moderate importance in formulating regulations, many of their policies and guidelines do not deal with various alcohol-related services and issues. © 2010 Elsevier Inc. All rights reserved.

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1. Introduction

The detrimental interaction between alcohol and methadone suggests the importance of policies and guidelines at the state and federal levels to support alcohol reduction in opioid treatment program (OTP) patients. Notably, there are well-documented harmful synergistic effects between alcohol (a central nervous system depressant) and methadone (Kreek, 1990), particularly regarding cognitive impairment, respiratory depression, and an increase in methadone metabolism that can reduce the efficacy of methadone

treatment (Clark et al., 2006; Kreek, 1990). Despite these harmful effects, there remains a large proportion of OTP patients who drink alcohol excessively (Committee on Federal Regulation of Methadone Treatment, 1995; Hillebrand, Marsden, Finch, & Strang, 2001; Ottomanelli, 1999; Pacini, Mellini, Attilia, Ceccanti, & Maremanni, 2005; Rengade, Kahn, & Schwan, 2009), including those with HIV/AIDS and/or hepatitis C virus (HCV) infection. For individuals with these infectious diseases, heavy drinking can increase risky behaviors associated with disease transmission (Palepu et al., 2005; Parsons et al., 2004; Stein et al., 2005); accelerate morbidity, complications, symptoms, and disease progression (Conigliaro, Gordon, McGinnis, Rabeneck, & Justice, 2003; Conigliaro et al., 2004; Cook, 1998; Corrao & Arico, 1998; Donato et al., 2002; Harris et al., 2001; Kubo et al., 1997; Wiley,

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McCarthy, Breidi, McCarthy, & Layden, 1998); and result in poorer access, adherence, and response to treatment regimens (Braithwaite et al., 2005; Golin et al., 2002; Murphy, Marelich, Hoffman, & Steers, 2004; Samet, Horton, Traphagen, Lyon, & Freedberg, 2003, Samet, Horton, Meli, Freedberg, & Palepu, 2004). For all OTP patients, alcohol reduction or cessation may be among the most important strategies to best maintain their health. As these patients make regular and frequent OTP visits, OTPs are ideally situated to address the harmful effects of alcohol and support their patients' alcohol reduction (Gossop, Stewart, & Marsden, 2005). Rules, regulations, and guidance that address OTP patients' use of alcohol are thus sorely needed.

Because state opioid treatment authorities (SOTAs) share responsibility with the Center for Substance Abuse Treatment, the Drug Enforcement Administration, and other private certification agencies for setting standards for OTPs, they are in a strategic position to influence alcohol-related issues. This potential for influence was heightened because of the shift in 2001 from a federal Food and Drug Administration regulatory model for OTPs to a quality assurance model (Pelletier & Hoffman, 2001). As a result, SOTAs in the District of Columbia and in the 46 states that have at least one OTP have formulated a range of rules, regulations, and guidelines concerning patients' alcohol use that are intended to be consistent with (but may be more restrictive than) those at the federal level. However, there are no systematic data that document state-level approaches to address alcohol issues, many of which may provide optimal direction to individual OTPs within their states.

Therefore, this study is intended to fill the gap in knowledge about the range and variability of state-level policies and guidelines on OTPs' alcohol regulations and services. To do so, we report the results of brief interviews with SOTAs ($n = 46$), the first component in a study that is examining state and OTP policies and guidelines regarding OTP patients' alcohol use. These brief interviews not only clarify the number of state guidelines and policies endorsing specific alcohol-related approaches and services but also illuminate a discrepancy between the self-reported importance of addressing alcohol issues in OTPs and the extent to which they are actually addressed in the state regulations. This lack of congruence points to certain alcohol-related areas in need of further attention and standardization.

2. Materials and methods

2.1. The study sample

From October 2008 through May 2009, we attempted to contact the 47 SOTAs in the United States to solicit their participation in the research study. Introductory letters and e-mails outlining the project were sent to each SOTA. Follow-up telephone calls were then made approximately 1 week later to conduct or schedule interviews with the

SOTAs or deputies from their departments that they designated to participate. A total of 46 of these 47 SOTAs or their deputies (98%) participated in the research and constitute the study sample.

2.2. The telephone interview instrument

A brief 15-minute computer-assisted personal interview (CAPI) instrument for SOTAs was developed by the study's principal investigator and project consultants. Input was also provided from practitioners and experts in the research team's networks, including administrators of several OTPs and members of national associations, such as the American Association for the Treatment of Opioid Dependence and the National Association of State Alcohol and Drug Abuse Directors. The CAPI instrument was developed for use over the telephone and mostly contained focused questions with precoded answer options to ensure uniformity of responses. It also contained several open-ended questions that allowed for the entry of free-text, qualitative responses. After collecting some background information, such as the number of OTPs in the state, we asked each SOTA to "rate the importance that alcohol receives in composing guidelines and regulations for OTPs, relative to programs' other pressing issues." They used a scale from 1 to 10, with 1 indicating *no importance* and 10 indicating *great importance*. SOTAs were also asked to respond to questions concerning state guidelines and policies regarding general alcohol issues, alcohol education and treatment of alcohol abuse, and alcohol testing and actions to be taken in the event that a patient is intoxicated at the time of methadone dosing. In each of these areas, the interviewer asked respondents to distinguish between policies/requirements and guidelines/recommendations. The SOTAs were also asked whether they required their OTPs to measure and monitor alcohol abuse treatment outcomes on a regular basis for at least some patients, and whether or not they had consistent policies for different types of OTPs (e.g., not for profit vs. for profit, hospital vs. community-based).

Two interviewers conducted the CAPIs that had been programmed with Questionnaire Development System (QDS) software (QDS, 2006). They entered responses directly into the computer as interviews took place, with the software creating an instantaneous database that could be uploaded into the Statistical Package for the Social Sciences software, Version 15.0. To ensure data consistency, the project team met weekly to discuss any issues concerning appropriate coding and recording of interview responses, emphasizing the importance of probing interviewees for complete responses and asking follow-up questions. Because the SOTA was reporting state policies rather than answering questions about himself or herself, the New York University institutional review board (IRB) determined that the study did not concern human subjects and therefore did not require IRB approval. Nonetheless, we assured all SOTAs that we would not report results that would identify them or their states.

3. Results

On average, the 46 participating SOTAs rated the importance that alcohol receives in their requirements and recommendations for OTPs relative to the programs’ other pressing issues as 6.2 out of 10 (*SD* = 2.4, median = 6.5). Fig. 1 presents the SOTAs’ responses to the existence of their states’ policies and guidelines to some questions regarding general alcohol issues, alcohol education and treatment of alcohol abuse, and alcohol testing and specific actions to be taken in the event that a patient is intoxicated at the time of methadone dosing. Although the interview asked respondents to distinguish between policies/requirements and guidelines/recommendations in each of these areas, it became apparent that there was little consensus among the SOTAs regarding how they used and understood these terms. Within each area addressed in Fig. 1, we therefore report results having eliminated this distinction, combining policies/requirements and guidelines/recommendations. We note that the responses represented in Fig. 1 showed considerable variation among the states concerning the extent to which a variety of alcohol issues and services are explicitly addressed by state OTP regulations.

3.1. General alcohol issues

A total of 27 of the 46 SOTAs reported that they had policies and/or guidelines in place that required or

recommended overall measures to be taken by OTPs on how to address patients’ problematic use of alcohol (Fig. 1). In addition, through their policies and guidelines, approximately the same total number of SOTAs indicated that the “reduction or cessation of alcohol” is to be taken into account in the areas of OTP patients’ drug treatment planning (*n* = 27), medication management (*n* = 27), and assessment of drug treatment effectiveness (*n* = 29; Fig. 1).

3.2. Alcohol education/treatment

Twenty-three SOTAs indicated that they require or recommend that OTPs provide alcohol education to all patients, whereas 12 SOTAs indicated that they require or recommend that OTPs provide this education to some but not all patients (see Fig. 1). In particular, most of this latter group of SOTAs indicated that this education is to be provided to only those patients identified as currently exhibiting alcohol abuse or dependence. In addition, 2 SOTAs stated that they mandate targeting those patients that have either a history of alcohol abuse or a current problem, and 1 said that any patients that present with polysubstance disorders are required to be counseled for any disorder, including alcohol abuse. Twenty-nine of the SOTAs that require or recommend alcohol education for at least some patients categorized the approach that they endorse regarding alcohol reduction. Twenty-two of these 29 SOTAs stated that they emphasize an abstinence-based approach, 2 follow

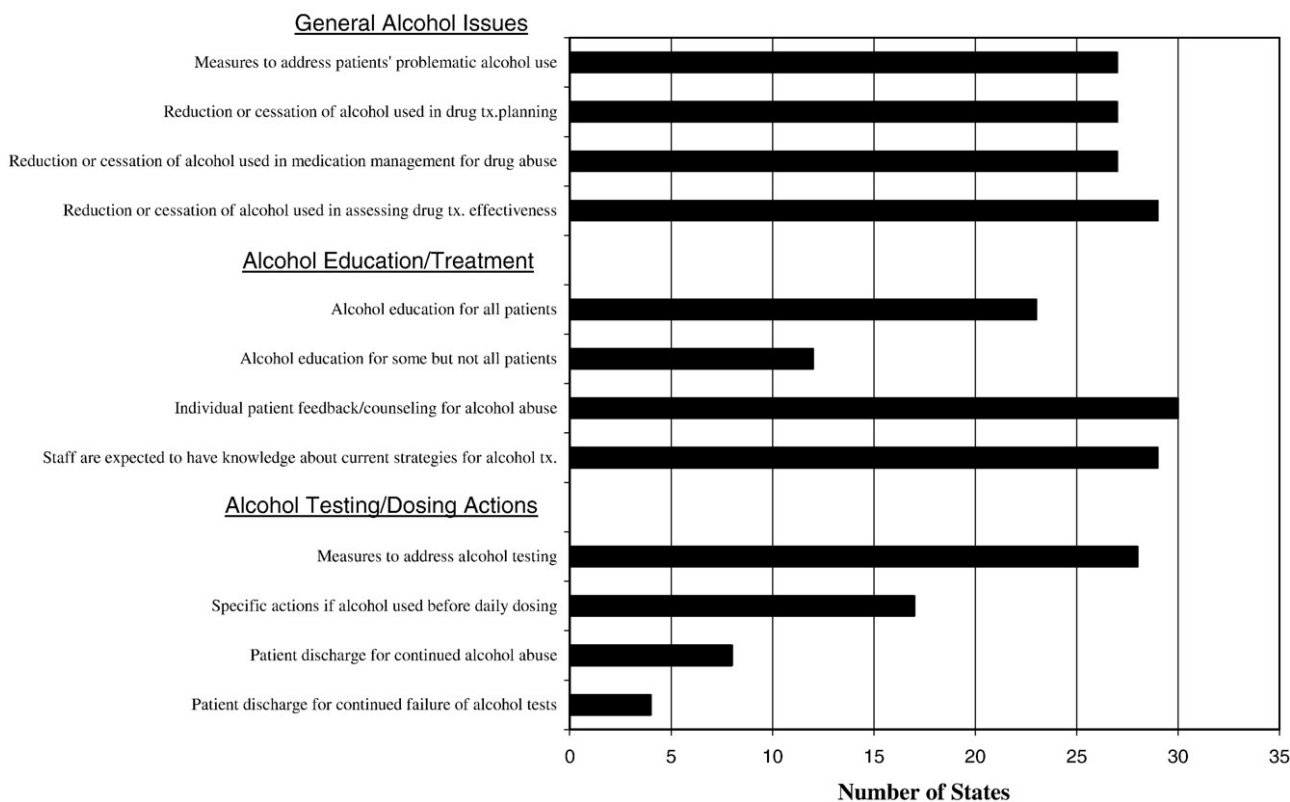


Fig. 1. Range of state policies and guidelines.

a harm reduction model, and the remaining 5 indicated that they do not emphasize any one approach, leaving it to the OTPs' discretion.

Thirty SOTAs stipulated the need for individual feedback or counseling for OTP patients' alcohol abuse (Fig. 1). Although 17 states require or recommend that alcohol abuse treatment be provided at the specific program providing opioid treatment, 4 states require or recommend that all OTP patients in need of having their alcohol abuse addressed be referred to another program, and 3 require or recommend this referral for only some patients that abuse alcohol. Twenty-one of the states indicated that they require their OTPs to measure and monitor alcohol abuse treatment outcomes on a regular basis for at least some patients. This state requirement for measuring and monitoring is significantly correlated ($r = .309, p = .037$) with having consistent state policies for different types of OTPs (e.g., not for profit vs. for profit, hospital vs. community based).

As shown in Fig. 1, in response to a question regarding OTP staff's knowledge of current strategies for the treatment of patients' alcohol abuse, 29 states responded that they have policies or guidelines that require or recommend treatment staff to have at least some knowledge of these strategies.

3.3. Alcohol testing and dosing actions

In terms of specifically addressing alcohol testing, 28 SOTAs reported having policies and/or guidelines (Fig. 1), with 12 stipulating the frequency of alcohol testing. Alcohol testing frequency in these policies and guidelines generally ranges from 8 to 12 alcohol tests or screens per year, with 4 states reporting that the frequency of testing above this minimum requirement may be modified as clinically indicated by a patient's treatment progress. Only 15 of the 46 SOTAs indicated that their state's policies and guidelines regarding testing in OTPs were determined by community drug use patterns.

With regard to specific actions to be taken by OTPs if patients present under the influence of alcohol at the time of daily dosing, only 17 SOTAs had policies or guidelines concerning these actions (see Fig. 1). They include further biological testing or toxicology screens, withholding methadone doses for those under the influence of alcohol, and especially emphasize increased alcohol monitoring by the medical practitioner. Only eight of the state policies or guidelines stipulate patients' discharge for continued alcohol abuse, and only four states mandate or recommend patient discharge for continued failure of alcohol tests (see Fig. 1).

SOTAs also identified policy differences at the state and federal levels regarding alcohol. These differences dealt mainly with regulations pertaining to take-home dosing requirements, especially the SOTAs' belief that these differences are manifested in many states' greater "stringency" in take-home dosing eligibility criteria. These criteria include greater frequency of toxicology screens, a longer length of stay in treatment during which negative drug

screens and tests are obtained, and a higher frequency of required counseling sessions.

4. Discussion

By examining state policies and guidelines regarding OTP patients' alcohol use, this study identified the considerable range, lack of uniformity, and varying priorities in state approaches to this issue. The examination undertaken in the current study takes on added importance in light of pending legislation to provide for increased oversight and standardization of methadone treatment, and this study highlights patients' alcohol abuse as an area in need of such standardization.

Overall, our research findings emphasize that although SOTAs gave a rating of 6.2 out of 10 to the importance of addressing OTP patients' alcohol issues, state policies and guidelines do not consistently reflect this level of importance. Despite the harmful effects of alcohol use among OTP patients, only 27 states reported having any measures in place that require or recommend measures to be taken by OTPs on how to address patients' alcohol abuse. In addition, only 21 of the states indicated that they require their OTPs to measure and monitor alcohol abuse treatment outcomes on a regular basis for at least some patients, with states significantly more likely to have this requirement if their OTP policies were consistent across different types of OTPs. Moreover, many alcohol issues are not addressed at all by a large number of state policies. For example, 11 states do not explicitly mandate or recommend alcohol education for even some OTP patients; neither do 16 states require or recommend individual patient counseling for alcohol abuse. Because many OTP patients have HCV infection or HIV/AIDS, alcohol education and individual counseling are essential to aid in maintaining their health, even if only through receipt of information (Joe, Simpson, & Broome, 1999). Notably, only 29 states require or recommend that OTP staff have knowledge of approaches to treat patients' alcohol abuse. This can severely limit the support that patients receive in addressing their alcohol abuse or dependence effectively. Overall, many OTPs across the country are not receiving much state guidance on practices for treating OTP patients that concurrently abuse alcohol.

Our analyses also demonstrate that a great degree of latitude is given to OTPs concerning actions to be taken if patients present under the influence of alcohol at the time of daily dosing. Only 17 states have guidelines or policies that address this. Numerous factors may account for the autonomy that is held by OTPs and their clinicians in this area. SOTAs may feel that frontline health care providers, experts in treating addictions, are best equipped to assess, manage, and develop treatment plans for patients. Building a provider–patient relationship, having frequent contact, and having in-depth knowledge of a patient's medical and substance abuse history contribute to the extensive knowl-

edge base from which health professionals at OTPs can make critical decisions, particularly for those concerning dosing and testing (Chatham, Rowan-Szal, Joe, Brown, & Simpson, 1995; Connors, Carroll, DiClemente, Longabaugh, & Donovan, 1997; Martin, Garske, & Davis, 2000; Meier, Barrowclough, & Donmall, 2005). Extensive regulatory oversight by SOTAs or the Federal Government in these matters might therefore limit the scope of clinical practice at OTPs. Last, many SOTAs highlighted the greater stringency of their policies relative to those at the federal level regarding take-home dosing regulations. Because methadone diversion is a serious concern, state policies are likely reflecting SOTAs' views on the importance of regulatory actions to limit this misappropriation of methadone from OTPs (DeMaria, Sterling, & Weinstein, 2000).

The Institute of Medicine (IOM, 2001) outlined a framework for high-quality health care that is safe, effective, patient centered, timely, efficient, and equitable. With the IOM framework in mind, results of this study draw attention to potential gaps and areas for improvement in state-level policies and guidelines for OTPs regarding their patients' alcohol use. In view of the potential for cognitive impairment, respiratory depression, relapse to illicit drug use, impaired quality of life, and poorer mental health status because of the concurrent use of alcohol and methadone (Mintzer & Stitzer, 2002; Stenbacka, Beck, Leifman, Romelsjo, & Helander, 2007; Senbanjo, Wolff K., & Marshall, 2006; Westreich, 2005), this guidance is especially important to support patient safety and effective care.

We recognize that these are early years in the shift in OTP oversight from a restrictive, regulatory process to the current accreditation model that emphasizes medical judgment in support of patients' needs (Fiellin & O'Connor, 2002). In addition to ensuring that state licensure requirements are met, accreditation status infers that programs are adhering to nationally accepted standards for patient care and safety while promoting person-focused care (Substance Abuse and Mental Health Services Administration [SAMHSA], 2008). In fact, there is demonstrated evidence that the OTP accreditation model is associated with achieving optimal methadone dosing practices (D'Aunno & Pollack, 2002), thereby improving quality care for OTP patients. It is hoped that our identification of gaps in state guidance regarding alcohol reduction will result in a more proactive stance in supporting effective alcohol reduction practices in OTPs.

We acknowledge several limitations to the research. First, as SOTAs were not provided with our queries in advance of the interview, they may not have been fully prepared to answer some of the specific questions related to their states' alcohol policies and guidelines. Similarly, because of turnover among SOTAs or their deputies, some may not have been as well versed in their state codes as others. However, the survey questions were not so detailed and complicated that they could not be answered without prior preparation or by SOTAs who were relatively new to

their positions. In addition, despite the recommendation in SAMHSA's Treatment Improvement Protocol (TIP) 43 regarding the importance of sometimes addressing OTP regulations involving the use of licit and illicit drugs differently (Batki, Kauffman, Marion, Parrino, & Woody, 2005), our interviews revealed that some SOTAs do not isolate alcohol-related regulations from those of other substances. Rather, some state regulations are intended to address all substances under a broad approach to treating addiction. This can sometimes be problematic. For example, as TIP 43 indicates, unlike the case with illicit drugs, it is difficult to require abstinence from alcohol use because it is a legal substance. Thus, when state regulations and guidelines do not distinguish between alcohol and other drugs, SOTAs may have had difficulty responding to interview questions specifically focused on alcohol. Nonetheless, in our review of the 24 written state policies to which we had access, we found a reasonable level of agreement between (a) the policies and guidelines that the SOTAs endorsed in their self-reports and (b) those addressed (often with reference to "substance abuse," in general) in the available documents. For example, 14 of the 24 SOTAs reported that their regulations expect staff to have knowledge about current alcohol treatment strategies, with 12 of the 14 written policies indicating that staff should have knowledge about current treatment of substance abuse. Similarly, 4 of the 24 SOTAs reported that patients may be discharged for continued alcohol abuse, and all but one of their state policies indicated that administrative discharge may occur for continued substance abuse. Finally, our interviews illuminated a diverse range of roles and duties held by SOTAs, with some SOTAs or their deputies reporting a high degree of autonomy in devising regulations, and others indicating that SOTAs had more limited authority and influence over policy development in their positions. Thus, there is not only a range in alcohol policies and guidelines at the state level, but also a diversity of SOTA roles in establishing those policies or guidelines.

Despite these limitations, our study establishes a foundation for the next component of our research: an examination of alcohol-related regulations in individual OTPs, including the extent to which state-level policies and guidelines influence individual OTP regulations. The current study also establishes a preliminary knowledge base to inform pending and future legislation and regulations regarding issues involving alcohol-abusing patients and alcohol reduction support in OTPs.

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References

- Batki S.L., Kauffman J.F., Marion I., Parrino M.W., & Woody G.E., (2005). Center for Substance Abuse Treatment (CSAT). Medication-assisted treatment for opioid addiction in opioid treatment programs. Rockville, MD: Substance Abuse and Mental Health Services Administration (SAMHSA); Treatment Improvement Protocol (TIP) 43.
- Braithwaite, R. S., McGinnis, K. A., Conigliaro, J., Maisto, S. A., Crystal, S., Day, N., et al. (2005). A temporal and dose–response association between alcohol consumption and medication adherence among veterans in care. *Alcoholism: Clinical and Experimental Research*, *29*, 1190–1197.
- Chatham, L. R., Rowan-Szal, G. A., Joe, G. W., Brown, B. S., & Simpson, D. D. (1995). Heavy drinking in a population of methadone-maintained clients. *Journal of Studies on Alcohol and Drugs*, *56*, 417–422.
- Clark, N. C., Dietze, P., Lenne, M. G., & Redman, J. R. (2006). Effect of opioid substitution therapy on alcohol metabolism. *Journal of Substance Abuse Treatment*, *30*, 191–196.
- Committee on Federal Regulation of Methadone Treatment. (1995). *Federal regulation of methadone treatment*. Washington, DC: National Academies Press.
- Conigliaro, J., Gordon, A. J., McGinnis, K. A., Rabeneck, L., & Justice, A. C. (2003). How harmful is hazardous alcohol use and abuse in HIV infection: Do health care providers know who is at risk? *Journal of Acquired Immune Deficiency Syndromes*, *33*, 521–525.
- Conigliaro, J., Madenwald, T., Bryant, K., Braithwaite, S., Gordon, A., Fultz, S., et al. (2004). The Veterans Aging Cohort Study: Observational studies of alcohol use, abuse, and outcomes among human immunodeficiency virus-infected veterans. *Alcoholism: Clinical and Experimental Research*, *28*, 313–321.
- Connors, G. J., Carroll, K. M., DiClemente, C. C., Longabaugh, R., & Donovan, D. M. (1997). The therapeutic alliance and its relationship to alcoholism treatment participation and outcome. *Journal of Consulting and Clinical Psychology*, *65*, 588–598.
- Cook, R. T. (1998). Alcohol abuse, alcoholism, and damage to the immune system: A review. *Alcoholism: Clinical and Experimental Research*, *22*, 1927–1942.
- Corrao, G., & Arico, S. (1998). Independent and combined action of hepatitis C virus infection and alcohol consumption on the risk of symptomatic liver cirrhosis. *Hepatology*, *27*, 914–919.
- D'Aunno, T., & Pollack, H. A. (2002). Changes in methadone treatment practices: Results from a national panel study, 1988–2000. *Journal of the American Medical Association*, *288*, 850–856.
- DeMaria, P., Sterling, R., & Weinstein, S. (2000). The effect of stimulant and sedative use on the treatment outcome of patients admitted to methadone maintenance treatment. *American Journal on Addictions*, *9*, 145–153.
- Donato, F., Tagger, A., Gelatti, U., Parrinello, G., Boffetta, P., Albertini, A., et al. (2002). Alcohol and hepatocellular carcinoma: The effect of lifetime intake and hepatitis virus infections in men and women. *American Journal of Epidemiology*, *155*, 323–331.
- Fiellin, D. A., & O'Connor, P. G. (2002). New federal initiatives to enhance the medical treatment of opioid dependence. *Annals of Internal Medicine*, *137*, 688–692.
- Golin, C. E., Liu, H., Hays, R. D., Miller, L. G., Beck, C. K., Ickovics, J., et al. (2002). A prospective study of predictors of adherence to combination antiretroviral medication. *Journal of General Internal Medicine*, *17*, 756–765.
- Gossop, M., Stewart, D., & Marsden, J. (2005). Effectiveness of drug and alcohol counseling during methadone treatment: Content, frequency, and duration of counseling and association with substance use outcomes. *Addiction*, *101*, 404–412.
- Harris, D. R., Gonin, R., Alter, H. J., Wright, E. C., Buskell, Z. J., Hollinger, F. B., et al. (2001). The relationship of acute transfusion-associated hepatitis to the development of cirrhosis in the presence of alcohol abuse. *Annals of Internal Medicine*, *134*, 120–124.
- Hillebrand, J., Marsden, J., Finch, E., & Strang, J. (2001). Excessive alcohol consumption and drinking expectations among clients in methadone maintenance. *Journal of Substance Abuse Treatment*, *21*, 155–160.
- Institute of Medicine. (2001). *Crossing the quality chasm: A new health system for the 21st century*. Washington, DC: National Academy Press.
- Joe, G. W., Simpson, D. D., & Broome, K. M. (1999). Retention and patient engagement models for different treatment modalities in DATOS. *Drug and Alcohol Dependence*, *57*, 113–125.
- Kreek, M. J. (1990). Drug interactions in humans related to drug abuse and its treatment. *Modern Methods in Pharmacology*, *6*, 265–282.
- Kubo, S., Kinoshita, H., Hirohashi, K., Tanaka, H., Tsukamoto, T., Shuto, T., et al. (1997). High malignancy of hepatocellular carcinoma in alcoholic patients with hepatitis C virus. *Surgery*, *121*, 425–429.
- Martin, D. J., Garske, J. P., & Davis, M. K. (2000). Relation of the therapeutic alliance with outcome and other related variables: A meta-analytic review. *Journal of Consulting and Clinical Psychology*, *68*, 438–450.
- Meier, P., Barrowclough, C., & Donmall, M. C. (2005). The role of the therapeutic alliance in the treatment of substance misuse: A critical review of the literature. *Addiction*, *100*, 304–316.
- Mintzer, M., & Stitzer, M. (2002). Cognitive impairment in methadone maintenance patients. *Drug and Alcohol Dependence*, *67*, 41–51.
- Murphy, D. A., Marelich, W. D., Hoffman, D., & Steers, W. N. (2004). Predictors of antiretroviral adherence. *AIDS Care*, *16*, 471–484.
- Ottomanelli, G. (1999). Methadone patients and alcohol abuse. *Journal of Substance Abuse Treatment*, *16*, 113–121.
- Pacini, M., Mellini, A., Attilia, M. L., Ceccanti, M., & Maremanni, I. (2005). Alcohol abuse in heroin addicts: An unfolding metabolic destiny. *Heroin Addiction & Related Clinical Problems*, *7*, 31–38.
- Palepu, A., Rajm, A., Horton, N. J., Tibbetts, N., Meli, S., & Samet, J. H. (2005). Substance abuse treatment and risk behaviors among HIV-infected persons with alcohol problems. *Journal of Substance Abuse Treatment*, *28*, 3–9.
- Parsons, J. T., Viciouso, K., Kutnick, A., Punzalan, J. C., Halkitis, P. N., & Velasquez, M. M. (2004). Alcohol use and stigmatized sexual practices of HIV seropositive gay and bisexual men. *Addictive Behaviors*, *29*, 1045–1051.
- Pelletier, L. R., & Hoffman, J. A. (2001). New federal regulations for improving quality in opioid treatment programs. *Journal for Healthcare Quality*, *23*, 29–33.
- Questionnaire Development System. (2006). NOVA Research Company, Bethesda, MD. Available online at <http://www.novaresearch.com/Products/qds/>.
- Rengade, C. E., Kahn, J. P., & Schwan, R. (2009). Misuse of alcohol among methadone patients. *American Journal on Addictions*, *18*, 162–166.
- Samet, J. H., Horton, N. J., Meli, S., Freedberg, K. A., & Palepu, A. (2004). Alcohol consumption and antiretroviral adherence among HIV-infected persons with alcohol problems. *Alcoholism: Clinical and Experimental Research*, *28*, 572–577.
- Samet, J. H., Horton, N. J., Traphagen, E. T., Lyon, S. M., & Freedberg, K. A. (2003). Alcohol consumption and HIV disease progression: Are they related? *Alcoholism: Clinical and Experimental Research*, *27*, 862–867.
- Senbanjo, J., Wolff, K., & Marshall, E. J. (2006). Excessive alcohol consumption is associated with reduced quality of life among methadone patients. *Addiction*, *102*, 257–263.
- Stein, M., Herman, D. S., Trisvan, E., Pirraglia, P., Engler, P., & Anderson, B. J. (2005). Alcohol use and sexual risk behavior among human immunodeficiency virus-positive persons. *Alcoholism: Clinical and Experimental Research*, *29*, 837–843.
- Stenbacka, M., Beck, O., Leifman, A., Romelsjo, A., & Helander, A. (2007). Problem drinking in relation to treatment outcome among opiate addicts

- in methadone maintenance treatment. *Drug and Alcohol Review*, 26, 55–63.
- Substance Abuse and Mental Health Services Administration SAMHSA. (2008). Opioid treatment program accreditation. Accessed on January 7, 2010 at <http://www.dpt.samhsa.gov/regulations/accreditation.aspx>.
- Westreich, L. M. (2005). Alcohol and mental illness: Clinical focus. *Primary Psychiatry*, 12, 41–46.
- Wiley, T. E., McCarthy, M., Breidi, L., McCarthy, M., & Layden, T. J. (1998). Impact of alcohol on the histological and clinical progression of hepatitis infection. *Hepatology*, 28, 805–809.