Alcohol, Other Drugs, and Health: Current Evidence

MARCH–APRIL 2010

INTERVENTIONS & ASSESSMENTS

Overdose in Patients Prescribed Opioids

The rate of overdose among patients with chronic noncancer pain treated with long-term opioids is unknown. To address this, researchers conducted surveillance for overdose events among 9940 patients receiving care from a single Health Maintenance Organization who had received 3 or more opioid prescriptions in the 90 days before study entry. The 90-day average daily dose in morphine equivalents was tracked through pharmacy files. Fatal and nonfatal opioid overdoses were identified by electronic medical record and death certificate review. Participants, 60% of whom were women (mean age, 54 years; mean opioid dose, 13 mg per day), were followed for a mean of 42 months.

- Of 51 identified opioid-related overdoses, 40 were serious (6 deaths and 34 serious nonfatal events), while 11 were not serious.
- The annual overdose rate increased as average daily dose, in morphine equivalents, increased:
  - 0.2% for 1 to <20 mg per day;
  - 0.3% for 20 to <50 mg per day;
  - 0.7% for 50 to <100 mg per day; and
  - 1.8% for ≥100 mg per day.
- Compared with those receiving the lowest opioid doses, patients receiving the highest doses were more likely to be men, to be current smokers, to have more comorbid conditions, and to have a history of depression or substance abuse treatment.

Comments: The rate of opioid-related overdose was greatest among patients receiving higher doses. Although the rate of overdose was low in patients receiving <50 mg per day, the absolute number of overdoses exceeded that of higher dose groups because more patients received lower doses. The results underscore the need to carefully monitor all patients who receive long-term opioid therapy for chronic noncancer pain.

Kevin L. Kraemer, MD, MSc

Reference: Dunn KM, Saunders KW, Rutter CM, et al. Opioid prescriptions for chronic pain and overdose: a cohort study. *Ann Intern Med.* 2010;152(2):85–92.

Severity of Unhealthy Alcohol Use in Hospitals and Implications for Brief Intervention

The severity of unhealthy alcohol use in general-hospital patients identified by screening may have implications for the suitability of brief intervention (BI) in these settings. Researchers in Germany screened an urban population-based sample and consecutive general hospital admissions from the same geographic area to determine the prevalence and severity of unhealthy alcohol use. In the population sample, unhealthy alcohol use and risky consumption were determined by diagnostic interviews. In the hospital sample, interviewees were selected by screening questionnaires.

- In the population-based sample, 7.6% had unhealthy alcohol use: 1.3% met criteria for alcohol dependence, 1.2% met criteria for abuse, and 5.1% drank risky amounts.*
- In the hospital sample, 14.5% had unhealthy alcohol use: 5.5% met criteria for dependence, 2.8% met criteria for abuse, and 6.2% drank risky amounts.

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*More than 30 g alcohol per day for men and more than 20 g per day for women.

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Severity of Alcohol Use: Implications for BI (continued from page 1)

Comments: Unhealthy alcohol use is more common in hospitalized patients than in the general population. As such, it would appear to be a place where screening and BI make sense. But these data also point out that most hospitalized patients identified with unhealthy alcohol use by screening have an alcohol use disorder, whereas the minority of those in the general population do. Perhaps more important, the efficacy of BI among patients with dependence and in this setting is unclear. At a minimum, if screening is implemented in hospitals, clinicians should be prepared to address dependence in a substantial number of patients.

Richard Saitz MD, MPH

Reference: Bischof G, Reinhardt S, Freyer-Adam J, et al. Severity of unhealthy alcohol consumption in medical inpatients and the general population: is the general hospital a suitable place for brief interventions? *Int J Public Health.* February 9, 2010 [Epub ahead of print].

Abstinence versus Controlled Drinking as a Treatment Goal

There is controversy regarding controlled drinking versus abstinence as a treatment goal for alcohol use disorders. Nevertheless, when stated by the patient, it may be a useful predictor of treatment outcome. Researchers compared treatment outcomes at 3 and 12 months among patients meeting DSM-IV criteria for alcohol abuse or dependence who, at baseline, preferred either abstinence or a treatment goal that did not include abstinence. A successful outcome was defined as abstinence or drinking without alcohol-related problems.*

- Patients whose initial goal was abstinence were more likely to have a successful outcome at 3 months (22% versus 13%). This difference was not statistically significant at 12 months (30% versus 23%, p=0.06).
- Among patients with a successful outcome (i.e., abstinence or drinking without problems at 12 months), the majority of patients who had stated a preference for abstinence as a treatment goal achieved it by abstaining (71%). A substantial number of those who preferred a goal that did not include abstinence also, in fact, achieved success by abstaining (44%).
- There were no differences in dependence severity between groups at 3 and 12 months.

*Score of 0 on the Alcohol Problems Questionnaire (APQ).

Comments: In this study, patients with a treatment goal of abstinence were more likely to have a successful outcome at 3 months than patients whose goal did not involve abstinence. We should not conclude, however, that abstinence is the preferred goal for everyone, since success rates were similar (and low) regardless of preference at 12 months. Interestingly, since many successful outcomes occurred that differed from the patient's initial treatment goal, such goals should be seen as dynamic and likely to evolve over the course of treatment without necessarily threatening a favorable outcome.

Nicolas Bertholet, MD, MSc

Reference: Adamson SJ, Heather N, Morton V, et al. Initial preference for drinking goal in the treatment of alcohol problems: II. Treatment outcomes. *Alcohol Alcohol.* 2010;45(2):136–42.

Home- versus Office-based Buprenorphine Induction: Impact on 30-Day Retention

In this observational study, the authors compared 30-day treatment retention between opioid-dependent patients who chose office-based buprenorphine induction and those who chose home-based induction. Over the 3-year study period, 115 of 298 opioid-dependent pa-

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Home- versus Office-based Buprenorphine Induction (continued from page 2)

tients presenting to an urban health center met eligibility criteria and were included in the sample. Office-based induction (n=64) consisted of a preparatory visit, an initial induction visit over 2–4 hours, a second 20-minute induction visit 1–2 days later, and transition into maintenance. Home-based induction (n=51) consisted of a preparatory visit, a return visit to collect a home induction kit (including detailed instructions, 3 days of buprenorphine/naloxone, ibuprofen, clonidine, and loperamide), and follow-up 1 week before transition into maintenance. The groups did not differ in baseline demographic and drug use characteristics.

- Thirty-day treatment retention was similar between groups (78.1% in the office-based group and 78.4% in the home-based group [p=0.97]).

Comments: Although this observational study was limited by its small sample size, lack of randomization, and reliance on medical-record review rather than research-based data collection, the results add to the growing literature demonstrating the feasibility of unobserved buprenorphine home inductions among opioid-dependent patients. Randomized controlled trials are needed to assess differences in adverse events, treatment retention, and abstinence.

Jeanette M. Tetrault, MD

Reference: Sohler NL, Li X, Kunins HV, et al. Home- versus office-based buprenorphine inductions for opioid-dependent patients. *J Subst Abuse Treat.* 2010;38(2): 153–9.

Treatment with SSRIs May Improve Depression in Patients with Substance Abuse Disorders

There is a high prevalence of comorbid depression and substance use disorders (SUDs), yet optimal depression treatment and response rates are not well-defined. This observational subgroup analysis of the Sequenced Treatment Alternatives to Relieve Depression (STAR*D) trial compared the treatment efficacy of 12 weeks of citalopram for major depressive disorder (MDD) among patients with and without SUDs. Eligible participants (those with inadequate prior response to depression treatment) were recruited from primary-care and psychiatric sites. Approximately 29% of the 2876 participants had SUDs (19% had an alcohol-use disorder, 5.5% had a drug-use disorder, and 5% had both disorders).

- Self-reported rates of remission were similar among participants with MDD only (33%) and those with a comorbid alcohol or drug use disorder (36% and 28%, respectively), but lower among participants with both SUDs (22.5%) (p=0.02). Time to remission was also longer in participants with both SUDs than in those with MDD only.
- Participants with SUDs were more likely to have a serious psychiatric event (5% of participants with 2 SUDS, 4.5% with drug use, 2.4% with alcohol use, and 1% with no SUD [p=0.002]) or to be hospitalized for psychiatric reasons (5.1% with 2 SUDS, 3.2% with drug use, 2.1% with alcohol use, and 1.2% with no SUD [p=0.001]).
- Three deaths occurred (none by suicide) among participants with SUDs, while none occurred among those with MDD only (p=0.02).

Comments: Although patients with SUDs respond to MDD treatment with SSRIs, those with both alcohol and drug use disorders may have a lower and slower response than those with only 1 SUD. Patients with SUDs were more likely to have psychiatric events or hospitalizations. However, since this study was a retrospective observational subgroup analysis and did not include a comparison arm, these results should be considered preliminary for this complex population.

Hillary Kunins, MD, MPH, MS

Reference: Davis LL, Wisniewski SR, Howland RH, et al. Does comorbid substance use disorder impair recovery from major depression with SSRI treatment? An analysis of the STAR*D level one treatment outcomes. *Drug Alcohol Depend.* 2010;107(2–3):161–70.

Community-based Screening and Brief Intervention Is Effective at Identifying and Treating Older Adults with Depression and Substance Misuse

The Florida Brief Intervention and Treatment for Elders (BRITE) project recruited adults age 60 and older through community outreach or referrals from primary care and social, aging, or other services to assess the need for substance-abuse treatment. Most referrals were due to concerns about depression (64%), followed by medication misuse (26%), alcohol misuse (10%), and illicit drug use (1%). Subjects were assessed with the Short Geriatric Depression Scale (SGDS) and the Short Michigan Alcoholism Screening Test, Geriatric Version (SMAST-G). Illicit drug use was assessed by a single-question screen, and prescription drug misuse was assessed with a 17-item questionnaire developed by the researchers. Of 3497 subjects screened, 1999 had evidence of depression or substance misuse, 731 of whom received 1–5 brief intervention sessions conducted by trained counselors at the subjects' home or other loca-

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SBI for Depression and Substance Misuse: The Florida BRITE Project (continued from page 3)

tion of choice. Three hundred twenty-three subjects completed follow-up assessments at 30 days post-intervention. A planned 90-day follow-up assessment was not done due to attrition.

- Although only 10% of initial referrals were for alcohol misuse, 26% of subjects had evidence of an alcohol use disorder. There was a positive correlation between depression scores and alcohol screening scores.
- Among those who completed follow-up assessments, there was a significant decline in SGDS and SMAST-G scores.
- Of the 187 subjects who screened positive for prescription drug misuse at entry, 60 (32%) showed no evidence at discharge; however, an additional 86 subjects screened positive at discharge who had not screened positive at entry.

Comments: This study suggests that community-based screening and brief intervention can be effective—at least in the short term—for identifying and treating older adults with depression and substance misuse, although the low rate of follow-up precludes definitive interpretation. The results also highlight the prevalence of alcohol and medication misuse among older adults.

Darius A. Rastegar, MD

Reference: Schonfeld L, King-Kallimanis BL, Duchene DM, et al. Screening and brief intervention for substance misuse among older adults: the Florida BRITE project. *Am J Public Health.* 2010;100(1):108–14.

HEALTH OUTCOMES

Isn't Alcohol Good for My Heart? Alcohol and Cardiovascular Risk in HIV-Infected and Uninfected Men

Current data suggest that unhealthy alcohol use increases cardiovascular disease (CVD) risk and mortality. Although these associations have been repeatedly demonstrated in adults without HIV infection, they have yet to be elucidated in HIV-infected patients, among whom both HIV disease progression and antiretroviral therapy (ART) have been linked with CVD. In this study, researchers sought to determine the association between alcohol consumption and CVD among HIV-infected men by examining cross-sectional data from 4743 participants in the Veterans Aging Cohort Study, a prospective study of HIV-infected men and race-, age-, and site-matched uninfected controls. Fifty-one percent of the sample had HIV infection. Results were adjusted for demographics, traditional cardiovascular risk factors, liver or kidney disease, hepatitis-C infection, cocaine use, exercise, adherence to ART, and CD4 count.

- Cardiovascular disease was common among HIV-infected and uninfected men (15% and 20%, respectively) as were hazardous drinking* (33% and 31%) and alcohol abuse and dependence (21% and 26%).
- Hazardous drinking, compared with moderate drinking, was associated with a higher prevalence of CVD (odds ratio [OR], 1.43) and alcohol abuse or dependence (OR, 1.55) among HIV-infected men.
- An interaction was noted between HIV status and alcohol consumption (p=0.001), suggesting that the association between unhealthy alcohol use and CVD was more pronounced among HIV-infected men compared with uninfected men.

*Defined in this study as consuming >14 drinks per week or ≥6 drinks on a single drinking occasion.

Comments: These results suggest that, compared with moderate use, unhealthy alcohol use is associated with a higher prevalence of CVD in HIV-infected individuals, and this association may be more pronounced in people with HIV infection than in those without. However, certain methodologic limitations are noted. Cross-sectional studies do not allow an assessment of causality and, in this study, exposure to antiretroviral medication is self-reported and lacking information on cumulative and type of exposure. This is important since antiretroviral medication has been associated with the development of traditional CVD risk factors (e.g., glucose intolerance and hyperlipidemia). Future longitudinal studies should investigate incident CVD events in HIV-infected individuals with unhealthy alcohol use, paying particular attention to antiretroviral treatment history.

Jeanette M. Tetrault, MD

Reference: Freiberg MS, McGinnis KA, Kraemer K, et al. The association between alcohol consumption and prevalent cardiovascular diseases among HIV-infected and HIV-uninfected men. *J Acquir Immune Defic Syndr.* 2010;53(2):247–53.

Increased Use of Opioids for Chronic Pain in Patients with Mental-Health and Substance-Use Disorders

As the use of opioids to treat noncancer chronic pain has risen, there has been a concurrent increase in the abuse of these drugs. Individuals with mental-health (MH) or substance-use disorders (SUD) may be particularly vulnerable to opioid misuse. In this study, investigators analyzed Arkansas Medicaid and commercial-insurance databases from 2000 and 2005 to assess changes in opioid prescribing to

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Opioids for Chronic Pain, Mental Health, and Substance Use Disorders (continued from page 4)

patients with noncancer pain conditions (NCPC) and to determine whether such changes were associated with MH and SUD.

- In 2005, Medicaid enrollees were more likely to have an NCPC diagnosis than commercial insurance enrollees (34% versus 24%, respectively) and were more likely to have received at least 1 opioid prescription (63% versus 35%, respectively).
- In the 2 cohorts combined, the percentage of patients with NCPC who received an opioid prescription increased from 30% to 37% between 2000 and 2005; the percentage who received a >90-day supply increased from 4.2% to 5.6%.
- The percentage of enrollees with an MH and/or SUD diagnosis increased by almost 50% in both cohorts.
- Those with an MH and/or SUD diagnosis were more likely to have received an opioid prescription and to have received a >90-day supply.

Comments: Although this study does not tell us much about prescription opioid abuse in the 2 cohorts, the strong association between an MH and/or SUD and opioid prescribing among individuals with chronic pain reinforces concerns about the increasing use of opioids. The increase in MH/SUD diagnoses may simply reflect an increase in diagnosis rather than prevalence, but it seems unlikely this would account for such a dramatic increase.

Darius A. Rastegar, MD

Reference: Edlund MJ, Martin BC, Devries A, et al. Trends in use of opioids for chronic noncancer pain among individuals with mental health and substance use disorders: the TROUP study. *Clin J Pain.* 2010;26(1):1–8.

Drug-Addicted Patients Vulnerable to Overdose Death in the 4 Weeks Following Medication-Free Treatment

People with drug addiction may be particularly vulnerable to overdose following a period of abstinence. In this prospective study from Norway, investigators examined mortality rates among 276 patients with drug addiction admitted to either medication-free inpatient treatment (MFIT) or therapeutic community (TC) programs. Deaths and causes of death were ascertained from Norway's National Death Register over a mean of 8 years. Mortality rates were calculated as deaths per 100 person-years at risk. Investigators compared rates in the first 4 weeks following MFIT/TC participation with the remainder of the observation period via rate ratio. Bivariate analyses were conducted to adjust for patient characteristics. Mean time in inpatient treatment was 54 weeks (range, 0–172 weeks) with 41% of patients completing treatment versus dropping out.

- Thirty-six deaths (13% of patients) occurred over the follow-up period (2.1 deaths per 100 person years): 24 by overdose, 7 by violent death (including traffic accidents), and 5 by unknown causes.
- Mortality rates were highest in the first 4 weeks after leaving treatment (rate ratio, 15.7). All 6 deaths in that period were due to opioid overdose.
- There was no association between mortality rate and length of time in MFIT/TC, drop-out from treatment, or history of overdose.

Comments: As previously documented among inmates with drug addiction following prison release, the 4-week window following treatment exit represents a particularly vulnerable period for potentially fatal overdose. Although substitution therapy is available in Norway (under stringent rules), the authors do not provide a comparison of overdose rates among these participants. Effective treatment and overdose-prevention programs (both for patients who complete treatment and for those who drop out) are needed to prevent premature mortality.

Hillary Kunins, MD, MPH, MS

Reference: Ravndal E, Amundsen EJ. Mortality among drug users after discharge from inpatient treatment: an 8-year prospective study. *Drug Alcohol Depend.* 2010;108(1–2):65–9.

Moderate Alcohol Consumption Might Worsen Nonalcoholic Steatohepatitis

Nonalcoholic steatohepatitis (NASH) has a widely variable prognosis and often occurs in people in whom moderate drinking has shown benefits in observational studies (e.g., those with diabetes or hyperlipidemia). The effects of moderate drinking on NASH are not known in humans. To gain a preliminary understanding of potential effects, investigators induced NASH in 20 rats via 6 weeks of high-fat diet, then continued that diet for 4 additional weeks in 10 of the rats and modified it in the remaining 10 by replacing 16% of calories from dextrin maltose with alcohol.

- After 4 weeks, the ratio of liver to body weight was significantly higher in the alcohol-fed rats. They also had more hepatic inflammatory foci and apoptotic hepatocytes.

Comments: Alcohol had a deleterious effect on NASH in rats in this study. Although the amount of alcohol given is described as the equivalent of moderate drinking in humans, it was closer to just over 3 drinks a day, which is considered excessive by US guidelines. No experiments in humans are

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Alcohol Consumption and Nonalcoholic Steatohepatitis (continued from page 5)

available to tell us the effect of more moderate use on NASH. Nonetheless, the findings raise the concern that alcohol may also be harmful for people with NASH.

Richard Saitz MD, MPH

Reference: Wang Y, Seitz HK, Wang XD. Moderate alcohol consumption aggravates high-fat diet induced steatohepatitis in rats. *Alcohol Clin Exp Res.* 2010;34(3): 567–73.

Factors Associated with Failure to Receive Outpatient Treatment among HIV Inpatients Who Use Crack Cocaine

Diagnosis of HIV infection late in the course of the disease leads to ongoing HIV transmission and has been associated with cocaine use. To help elucidate why patients do not present to outpatient HIV care, researchers in Atlanta and Miami studied baseline interview data collected between 2006 and 2009 as part of a behavioral intervention study involving 355 HIV-infected medical inpatients who used crack cocaine.

- Fifty-four percent had CD4 cell counts of <200 cells per µl.
- Twenty-one percent of subjects had never received outpatient care for HIV infection.
- Factors associated with never having received outpatient HIV care included annual income of $5,000 or less (odds ratio [OR], 8.17), never having received drug treatment (OR, 4.13), and not being helped into care by a health-care provider, social worker, or family member at the time of HIV diagnosis (OR, 2.83).

Comments: This study does not address why poorer HIV-infected inpatients are less likely to engage in outpatient care or the role of other factors such as depression, alcohol use, homelessness, insurance status, or lack of social support. It does highlight several potential "reachable" moments to engage such patients in outpatient treatment, namely, at the time of HIV diagnosis, during substance abuse treatment, and/or during inpatient hospitalization.

Alexander Y. Walley, MD, MSc

Reference: Bell C, Metsch LR, Vogenthaler N, et al. Never in care: characteristics of HIV-infected crack cocaine users in 2 US cities who have never been to outpatient HIV care. *J Acquir Immune Defic Syndr*. February 18, 2010 [Epub ahead of print].

Factors Associated with Mortality in Alcohol Withdrawal

Most patients with alcohol withdrawal syndrome do not require acute care or specific treatments. For the minority with syndromes severe enough to require hospitalization, mortality has decreased substantially since the introduction of benzodiazepines beginning 40 years ago. But, deaths still occur. To determine the risk factors, researchers in Spain reviewed 16 years of medical records at 1 hospital and identified 436 patients with alcohol withdrawal accounting for 539 hospitalizations. All patients had been treated with chlormethiazole, a non-benzodiazepine sedative with efficacy for alcohol withdrawal that is not approved for use in the US.

- Alcohol withdrawal was the reason for hospitalization in 62% of the 539 cases. Seventy-one percent had or developed delirium tremens (DTs) (236 and 147 cases, respectively), and 41% developed seizures. Seven percent of patients died during an episode of withdrawal.
- The following factors were associated with death in a multivariable analysis: hepatic steatosis, cirrhosis, DTs at the time of withdrawal diagnosis, comorbidity (hypertension, heart disease, bronchial pathology, diabetes, epilepsy), and the need for intensive care unit (ICU) admission and intubation, particularly in the presence of pneumonia.
- Laboratory test results were not retained as significant predictors.

Comments: Several issues limit the utility of these findings: the analysis did not account for multiple admissions of the same patient, patients were treated with a medication known to increase the risk for pneumonia and prolonged ICU stays, and case selection led to a severely ill population from the start. What we can glean from this report is obvious but still useful: people with more severe alcohol withdrawal and medical comorbidity are those most likely to die. Early recognition, prompt pharmacological management, and continued monitoring can likely reduce this risk.

Richard Saitz MD, MPH

Reference: Monte R, Rabuñal R, Casariego E, et al. Analysis of the factors determining survival of alcoholic withdrawal syndrome patients in a general hospital. *Alcohol Alcohol.* 2010;45(2):151–8.

Moderate Drinking Is Not Associated with Increased Weight Gain among Women

The literature on the relationship between alcohol consumption and weight gain is limited, and the results have been inconsistent. Researchers conducted a prospective cohort study among 19,220 US women aged 39 or older who had a baseline BMI within the normal range (18.5 to <25) and who were free of cardiovascular disease, cancer, and diabetes mellitus. Alcohol consumption was also assessed at baseline, and body weight was self-reported at baseline and on 8 annual follow-up questionnaires. Results were adjusted for age, baseline BMI, smoking status, nonalcohol energy intake, physical activity, and other lifestyle and dietary factors.

- Over 13 years of follow-up, 41% of women became overweight (BMI ≥25), and 3.8% became obese (BMI ≥30).
- There was an inverse association between baseline alcohol consumption and weight gain. The relative risks (RRs) of becoming overweight or obese across total alcohol intake were as follows:
  - 0 g per day, 1.00
  - 0–<5 g per day, 0.96
  - ≥5–<15 g per day, 0.86
  - ≥15–<30 g per day, 0.70
  - ≥30 g per day, 0.73
- The corresponding RR of becoming obese were as follows:
  - 0 g per day, 1.00
  - 0–<5 g per day, 0.75
  - ≥5–<15 g per day, 0.43
  - ≥15–<30 g per day, 0.39
  - ≥30 g per day, 0.29

Comments: In this well-done analysis, women who consumed between 5 and 30 g of alcohol per day (up to about 2½ typical US drinks) had a lower risk of becoming overweight or obese than women who abstained, with the risk about 30% lower for those averaging ≥15 g of alcohol per day. Moderate drinkers showed an even greater reduction in the risk of becoming obese. These findings support previous research suggesting that women who consume moderate amounts of alcohol are less likely to gain weight over time than nondrinkers. The mechanism for such an effect, and whether a similar inverse association occurs among men, remains unclear.

R. Curtis Ellison, MD

Reference: Wang L, Lee IM, Manson JE, et al. Alcohol consumption, weight gain, and risk of becoming overweight in middle-aged and older women. *Arch Intern Med.* 2010;170(5):453–61.

TRAINING OPPORTUNITY

National Mentoring Network Promotes Buprenorphine Treatment among Patients with Opioid Dependence

The Physician Clinical Support System for Buprenorphine (PCSS-B) is a cost-free educational resource to help practicing physicians incorporate office-based buprenorphine treatment for prescription-opioid and heroin dependence into their practices. Comprised of a national network of physician mentors with evidence-based expertise in buprenorphine treatment and clinical education, the PCSS-B provides training and support to primary care physicians, pain specialists, psychiatrists, and other non-addiction medical practitioners to increase access to buprenorphine treatment and improve care for the millions of opioid-dependent patients in all 50 states, Washington DC, and Puerto Rico. The PCSS-B and its sister program, the Physician Clinical Support System for Methadone (PCSS-M), are coordinated by the American Society of Addiction Medicine in conjunction with other leading medical associations.

For more information about the program or to find a PCSS-B clinician, visit www.pcssbuprenorphine.org or contact a PCSS-B representative by email at PCSSproject@asam.org.

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Many others periodically reviewed (see www.aodhealth.org).

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