

# SBIRT COLORADO

## Annotated Bibliography

### SBIRT ANNOTATED BIBLIOGRAPHY UPDATE

September 2010

#### SUMMARY

A literature review was conducted to identify articles related to SBIRT that were published or in press in recent years. These articles were summarized and accompany the SBIRT Colorado Literature Review Summary. Science Direct and PsychInfo databases were searched using terms to identify articles such as: SBIRT, substance use screening, and integrated care and substance use. In addition, articles of interest were identified by SBIRT stakeholders. The following criteria were used for inclusion: articles were published or in press in a peer reviewed journal in the last one to two years and pertained to the SBIRT model, or articles were published in the last five years and pertained to integrated care and substance use. As evidence for the general model of SBIRT has become well established and support for SBIRT has become more widely accepted, research has begun to focus on building the evidence base for specific components of SBIRT in a variety of settings. Additions to the SBIRT literature review this year targeted recent articles that attempt to fill in these gaps in the literature and that address issues closely related to SBIRT. Articles addressed topics such as implementation of SBIRT using a computerized tool or in non-healthcare settings, the relationship of specific components of SBIRT (e.g. topics covered during a brief intervention, participation in brief therapy, etc) to patient outcomes, the need for more research on SBIRT's use in screening for illicit drugs, the financial impact of substance use in the US, barriers to SBIRT implementation, and the need for integrated models of behavioral and primary healthcare in the US.

A notable theme that emerged from the literature was the need for research to support public policy in disseminating SBIRT in settings for which there is currently little evidence. For example, while strong support exists for SBIRT's effectiveness in screening for alcohol use in primary care, few controlled studies have assessed illicit substance use screening, and public policy and clinical practice are moving forward in the absence of these essential data. Another example is that BIs have been shown effective in patients who are non-dependent users, and little is known about SBIRT's effectiveness in getting patients into treatment when needed—one article highlighted in this addition provides preliminary evidence suggesting that BIs and brief therapy (BT) may facilitate patients' entry into substance use treatment. Future research is needed to further explore this finding.

Another theme in the SBIRT literature and in public dialogue has been the need to shift towards more integrated and comprehensive healthcare. Two recent articles reviewed explore the benefits and barriers of shifting toward integrated models of behavioral and primary healthcare. Given imminent changes due to national healthcare reform, these articles provide timely arguments in support of integrated models of care. SBIRT is uniquely positioned to bridge the gap between primary and behavioral healthcare.

The literature also provides strong evidence of the financial impact of substance use to the US. In challenging economic times, preventive programs such as SBIRT offer a possible avenue to reduce the burden to individuals and society. However, as SBIRT continues to gain support and become more widely adopted, further research should address gaps in our understanding of specific SBIRT implementation models in a wide range of settings.

# SBIRTCOLORADO

## Annotated Bibliography P2

*Boudreaux, E.D., Bedek, K.L., Gilles, D., Baumann, B.M., Hollenberg, S., Lord, S.A., & Grissom, G. (2009). The dynamic assessment and referral system for substance abuse (DARSSA): development, functionality, and end-user satisfaction. Drug and Alcohol Dependence, 99, 37-46.* This study provides preliminary data on the development and initial evaluation of a computerized substance use assessment and referral system called the Dynamic Assessment and Referral System for Substance Abuse (DARSSA). DARSSA was developed to facilitate effective universal SBIRT screening in healthcare settings by providing a convenient, quick, and easily implemented computerized tool. The system consists of three modules: a self-administered assessment module, a report generator, and a referral generator. Separate reports are generated for the patient, healthcare provider, and treatment provider, and a patient can choose to have his/her contact information automatically faxed to the best matched substance use treatment provider. Initial testing was conducted in an emergency department and an inpatient unit of an urban hospital. The average completion time for an assessment was 13 minutes. Roughly 42% of at-risk patients chose to have a referral automatically sent to a provider; of those who completed a follow-up interview, 8% of at-risk patients initiated substance use treatment within two weeks of their healthcare visit. Patient and provider satisfaction ratings regarding DARSSA were high, although some barriers to implementations were noted, including time, clinic demands, and patient literacy and/or computer literacy. Despite barriers, the DARSSA and other systems like it may be valuable tools for implementing sustainable, universal SBIRT screening in healthcare settings.

*CASA. (2009). Shoveling up II: The impact of substance abuse on federal, state and local budgets. <http://www.casacolumbia.org/articlefiles/380-ShovelingUpII.pdf>.* The Shoveling Up II report is a comprehensive report of federal, state, and local government spending related to the consequences of substance abuse. The report quantifies costs to society as related to healthcare, child and family assistance, public safety, justice, education, mental health/developmental disabilities, and the federal workforce. In 2005, federal, state and local governments conservatively spent at least \$467.7 billion or 10.7% of their entire budgets on the consequences of substance abuse. For every dollar spent, 95.6 cents went to shoveling up the wreckage of substance use and addiction. In contrast, only 1.9 cents were spent on prevention and treatment, 1.4 cents on taxation or regulation, 0.7 cents on interdictions, and 0.4 cents on research. Shoveling up II provides strong support for the need for increased spending on prevention models such as SBIRT as a means of reducing the overall costs related to substance abuse and addiction.

*Cummings, N.A., O'Donohue, W.T., & Cummings, J.L. (2009). The financial dimension of integrated behavioral/primary care. Journal of Clinical Psychology in Medical Settings, 16, 31-39.*

This study provides historical context and data to support shifting toward an integrated model of behavioral/primary healthcare in the US. Research suggests that 60-70% of visits to primary care reflect psychological issues and emotional distress, and by default, primary care providers address approximately 85% of psychological problems in the US. In the past 10 years referrals by physicians to psychotherapy have decreased by almost 50%. In 2005, only 10% of referrals to outpatient psychotherapy were from psychiatric hospitals. Medication has become the preferred method of treatment for behavioral health problems, and 80% of psychotropic medications are prescribed by non-psychiatric physicians. It is anticipated that medication will continue to replace behavioral interventions until psychologists become an integral presence in the healthcare system. The authors argue that 40-80% of specialty mental healthcare can be conducted in an integrated care setting. Further, studies suggest that in the traditional referral system, only 10% of referred patients enter treatment, while in comparison, integrated care results in 85-90% of patients entering treatment when a "hallway hand-off" or "warm referral" is employed. Numerous barriers to implementing integrated healthcare have been identified, such as limited data on ROI, cost savings resulting in decreased budgets the following year, and inability to bill Medicaid for medical and mental health on the same day. Despite these barriers, the shift towards integrated care is likely to enhance patients' quality of care, and may be financially necessary in order to incorporate behavioral treatment approaches.

# Annotated Bibliography P3

*Desy, P.M., Howard, P.K., Perhats, C., & Li, S. (in press). Alcohol screening, brief intervention and referral to treatment conducted by emergency nurses: an impact evaluation. Journal of Emergency Nursing.* Desy, Howard and Perhats conducted a quasi-experimental study testing the effectiveness of SBIRT screening and motivational interviewing in emergency department (ED) patients who were at-risk for unhealthy alcohol use. At-risk patients were randomly assigned to either receive a brief intervention and motivational interview (intervention group, n=26), or receive only referrals to community resources (control group, n=20). The authors measured two main outcomes at a follow-up interview 3 months later: changes in alcohol consumption and changes in alcohol-related incidents. At the time of initial screening, the intervention group reported significantly greater drinks per week than the control group, and at 3 months, both groups reported significantly fewer drinks per week and they no longer differed significantly from each other. Both groups also significantly reduced the number of occasions they drank at follow-up. Fewer patients in the intervention group had recurring emergency department visits compared to the control group, but this difference was not statistically significant. Additional research should be conducted that includes a larger sample size and a longer follow-up period, as the lack of significant findings in this study may have been due in part to these factors.

*Donald, M., Dower, J., & Kavanagh, D. (2005). Integrated versus non-integrated management and care for clients with co-occurring mental health and substance use disorder: a qualitative systematic review of randomized controlled trials. Social Science & Medicine, 60, 1371-1383.* Research indicates that co-occurrence of mental health and substance use disorders (MH/SU) is common—of patients with a lifetime history of a mental health disorder, 22.3% have a history of alcohol abuse or dependence and 14.7% have a lifetime history of drug use or dependence. Of those with alcohol abuse or dependence, 36.6% have a mental health disorder. And of those with drug abuse or dependence, 53.1% have a mental health disorder. This paper is a qualitative review of 10 randomized controlled trial studies comparing integrated and non-integrated treatment of co-occurring MH/SU. Integrated care was defined as the same provider treating a client for both disorders simultaneously and preferably by addressing the presence of comorbidity. Analyses did not demonstrate the benefit of integrated care in terms of improved MH and SU outcomes compared to either parallel treatment (treatment for both disorders occurring at the same time but in separate settings with separate providers) or standard care for only one of the presenting disorders. This may be due in part to several study limitations: studies included in the review had small sample sizes and varied considerably in the treatment methods use and the types of MH and SU disorders that clients exhibited. However, clients in integrated care did show limited evidence of two improved outcomes: higher treatment compliance and higher levels of social adjustment. The authors suggest future work with larger sample sizes aimed at better understanding details such as which patient profiles would most benefit from an integrated approach, and how to appropriately time specific interventions given the status of the co-morbid condition.

# SBIRTCOLORADO

## Annotated Bibliography P4

Holland, C. L., Pringle, J. L., & Barbetti, V. (2009). **Identification of physician barriers to the application of screening and brief intervention for problem alcohol and drug use.** *Alcoholism Treatment Quarterly*, 27(2), 174-183. Past research shows that the most effective experts to address alcohol and other drug (AOD) disorders are primary care physicians and providers because they encounter the individuals in high-volume healthcare settings where they can screen and influence their patients directly. However, screening patients for AOD use is under-practiced in primary care. Studies estimate that 50-90% of primary care physicians fail to recognize AOD abuse in their outpatient population. The purpose of this study was to ascertain practicing physicians' perceived barriers to identifying problem AOD use in their patients. Focus groups were conducted with physicians across the state of Pennsylvania as part of a Substance Abuse and Mental Health Services Administration (SAMHSA) funded SBIRT initiative (PA SBIRT). Physicians acknowledged key barriers to screening, including: lack of time, lack of awareness and access to treatment/resources, finance or reimbursement issues, and lack of knowledge. The authors suggest the following as critical areas to address in order to overcome these barriers: provide educational programs targeting physicians, medical students, and residents, aimed at increasing knowledge, capabilities, and motivation in the area of screening and identification of problem AOD use; find methods of obtaining reimbursement for the application of SBIRT services or activities; provide physicians and their patients with effective resources that facilitate access to AOD treatment and recovery support.

*InSight Project Research Group. (2009). SBIRT outcomes in Houston: final report on InSight, a hospital district-based program for patients at risk for alcohol or drug use problems.* *Alcoholism, Clinical and Experimental Research*, 33(8), 1374-1381. The InSight Project, a Substance Abuse and Mental Health Services Administration (SAMHSA) funded SBIRT initiative located in Houston, TX, presents data from 39 months of screening in a large, urban, publicly funded healthcare system. Brief screenings were conducted by healthcare generalists, and patients who scored positive were then further assessed by InSight specialists who were trained in brief motivational interviewing techniques. Patients were provided SBIRT services as needed and those who were eligible were enrolled into a 6 month follow-up study. Using intent-to-treat (ITT) methods, the authors conducted outcome analyses on all those enrolled into follow-up to assess changes in heavy drinking and/or illicit drug use. Patients of all severity levels reported significant reductions in heavy drinking and drug use, and those with the highest levels of severity reported the greatest reductions. This study is one of the few to examine the effect of SBIRT on illicit substance use. Further studies that control for potential regression-to-the-mean effects should be conducted.

Krupski, A., Sears, J.M., Joesch, J.M., Estee, S., He, L., Dunn, C., Huber, A., Roy-Byrne, P., & Ries, R. (2010). **Impact of brief interventions and brief treatment on admissions to chemical dependency treatment.** *Drug and Alcohol Dependence*, 110, 126-136. The efficacy of screening and brief interventions (BI) for substance use is well established for individuals who are not dependent substance users. However, little research exists exploring the relationship between BI and subsequent entry into specialized chemical dependency (CD) treatment for individuals with substance use disorders. This study explores the relationship between BI and entry into CD treatment. The authors compared a group of patients who received a BI and referral to treatment to a matched group of patients who did not receive SBIRT services but were likely to have substance use disorders based on their medical records. The group who received a BI was more likely to enter treatment than the matched comparison group, regardless of their history of CD treatment. In addition, among those who had no prior history of treatment, those who received a BI were more than two times more likely to enter treatment within 6 months of receiving SBIRT services than the comparison group. This effect diminished over time but was still significant a year later. In addition to these analyses, the authors examined whether participation in brief therapy (BT) facilitates entry into CD treatment. Patients who were referred to and participated in BT were compared to patients who were referred to but did not participate in BT. Again patients who participated in BT were more likely than those who did not to enter into CD treatment, regardless of treatment history. This effect was strongest within one month of SBIRT services and diminished over time. Research has demonstrated that CD treatment is associated with reduced future medical costs, higher employment rates, and fewer injuries and arrests. This study suggests that BI motivates individuals to seek admission into CD treatment, potentially earlier than they otherwise would have. This is likely to reduce the costs to the individual and society. Results from this study also suggest that BT may play an important role in facilitating individuals' entry into CD treatment. Further research into the BT treatment modality is recommended.

# Annotated Bibliography P5

Leontieva, L., Horn, K., Helmkamp, J., Furbee, M., Jarrett, T., & Williams, J. (2009). **Counselors' reflections on the administration of screening and brief intervention for alcohol problems in the emergency department and 3-month follow-up outcome.** *Journal of Critical Care, 24*(2), 273-279. Screening and brief intervention (SBI) has been shown effective in reducing risky alcohol use, but the literature does not indicate whether there is a relationship between various aspects of the SBI and alcohol-related outcomes. Leontieva and colleagues investigate this relationship in a study conducted in a university affiliated emergency department (ED). 729 patients received SBI and were interviewed 3 months later. Aspects of the initial SBI were analyzed to determine whether they discriminated between patients on various alcohol-related outcomes. Referrals made during the SBI discriminated between patients who reduced their alcohol intake at follow-up and patients who did not. Referrals made along with patient goal setting discriminated patients who endorsed fewer alcohol dependency questions at follow-up from those who did not. Finally, exploring and working on intention to quit during the SBI discriminated patients who endorsed fewer alcohol-related harm questions at follow-up from those who did not. The findings of this study indicate that certain aspects of the SBI may differentially impact alcohol-related outcomes 3 months later. The authors suggest that providers should be conscious of the importance of making suitable referrals and addressing the patient's intention to quit in order to maximize the effectiveness of the intervention.

Osilla, K.C., dela Cruz, E., Miles, J.N.V., Zellmer, S., Watkins, K., Larimer, M.E., & Marlatt, G.A. (2010). **Exploring productivity outcomes from a brief intervention for at-risk drinking in an employee assistance program.** *Addictive Behaviors, 35*, 194-200. This study examines the effectiveness of SBIRT in an employee assistance program (EAP) setting for reducing risky-alcohol use and increasing workplace productivity. EAP counselors were randomly assigned to provide patients who were at-risk for unhealthy alcohol use either brief interventions (BI) plus usual care (BI+UC; n=25), or usual care only (UC; n=19). Participants in the BI+UC group had significantly higher rates of presenteeism than the UC group at a 3 month follow-up. Changes in absenteeism were in the predicted direction but were not statistically significant. Cost savings from increased productivity were estimated to be \$1200 for each client that attended the EAP intervention session. The authors conclude that implementing SBIRT in EAP care may decrease risky alcohol use and improve worksite productivity. Future research should explore the effectiveness of SBIRT in an EAP using a larger sample size and randomizing at the patient level, rather than the counselor level.

Pomerantz, A., Cole, B.H., Watts, B.V., Weeks, W.B. (2008). **Improving efficiency and access to mental health care: combining integrated care and advanced access.** *General Hospital Psychiatry, 30*, 546-551. Due to limited resources and the complexity of the mental health system, primary care has become the "de facto" mental health system in the US. Research has shown that only 21.7% of individuals with major depressive disorder receive adequate treatment. The authors explored one example of integrated primary and mental healthcare where a comprehensive mental healthcare clinic called Primary Mental Health Care Clinic (PMHC) was integrated into a primary care clinic. PMHC was located entirely within the primary care clinic and staffed with two mental health clinicians. Patients referred to PMHC completed four validated assessments on an electronic touchpad, and a psychotherapist received a one page summary printout of the survey results to inform their initial patient evaluations. No appointments for follow-up care were given because all care was provided on a walk-in basis. The study found that compared to the traditional practice, in the PMHC wait times for new appointments were shortened from an average of 33 days to 19 minutes, clinical productivity and evaluation of new referrals more than doubled, backlogs of referrals were eliminated, and 10% of the PMHC staff were able to provide care for 75% of all patients needing mental health services. Improvements due to the integrated care model had been sustained for four years at the time of publication. In addition, 99% of patients reported excellent satisfaction with overall care. The integrated health service was better able to provide immediate mental healthcare to more patients. Future research is needed to further assess the effectiveness and generalizability of this model of care.

Saitz, R., Alford, D.P., Bernstein, J., Cheng, D.M., Samet, J., Palfai, T. (in press). **Screening and brief intervention for unhealthy drug use in primary care settings: randomized clinical trials are needed.** *Journal of Addiction Medicine*. Unhealthy drug use is prevalent in the US and results in heavy costs (estimated at \$181 billion per year) due to lost productivity, healthcare, and crime. Screening and brief intervention (SBI) for drug use in primary care settings has a limited evidence base, although a strong theoretical rationale exists for it. Despite lack of strong evidence, public policy is moving in the direction of disseminating SBI for drug use (e.g. Federal initiatives, billing and reimbursement codes). Saitz and colleagues present evidence to argue that randomized controlled trials on SBI for drug use in primary care are critical to inform and align research, policy, and clinical practice. If shown to be effective, SBI for drug use may be a significant way to reduce costs and consequences of drug use. If not shown to be effective, resources should be shifted appropriately towards other means of addressing the problem.

# Annotated Bibliography P6

*Smith, P. C., Schmidt, S. M., Allensworth-Davies, D., Saitz, R. (2009).*

**Primary care validation of a single-question alcohol screening test.** *Journal of General Internal Medicine*, 24(7), 783-788. This study sought to validate the National Institute on Alcohol Abuse and Alcoholism (NIAAA) recommended single-question screening test for unhealthy alcohol use. A total of 286 patients were asked, "How many times in the past year have you had X or more drinks in a day?" (where X is 5 for men and 4 for women and a response of at least 1 is considered positive). For validation purposes, patients were then given a series of assessments including the AUDIT-C, the Short Inventory of Problems (SIP) and the Composite International Diagnostic Interview (CIDI) Substance Abuse Module to assess whether they were unhealthy alcohol users or had a current alcohol use disorder. The single-question screen had a sensitivity of 81.8% (95% CI 72.5% to 88.5%) and specificity of 79.3% (95% CI 73.1% to 84.4%) for the detection of unhealthy alcohol use. For detection of a current alcohol use disorder, it was more sensitive (87.9%, 95% CI 72.7% to 95.2%) and less specific (66.8%, 95% CI 60.8% to 72.3%). The AUDIT-C was less sensitive than the single-question for unhealthy alcohol use (73.9%, 95% CI 63.8% to 81.9%) and more specific for an alcohol use disorder (82.8%, 95% CI 77.0% to 87.4%). The authors conclude that this single-question screen accurately identifies unhealthy alcohol use in this sample of primary care patients. The authors recommend validating the single-question screen in different languages and in more affluent and lower-risk populations, and they point out the difficulty clinicians will face in using this tool to distinguish between patients in need of a brief intervention and those in need of more intensive specialty treatment. Use of this question in combination with longer tools or a series of follow-up questions for those who screen positive may overcome this issue but needs to be validated.

*Smith, P.C., Schmidt, S.M., Allensworth-Davies, D., Saitz, R. (2010).*

**A single-question screening test for drug use in primary care.** *Archives of Internal Medicine*, 170(13), 1155-1160. Smith and colleagues published this companion study to their 2009 study validating a single-question screen for alcohol. In this study, they validate both a single-question screen for drug use and the DAST-10 in a primary care setting. Patients were asked, "How many times in the past year have you used an illegal drug or used a prescription medication for non-medical reasons?" (where a response of at least 1 is considered positive). They were also administered the DAST-10, and a series of assessments for validation purposes. The single-question screen was 100% sensitive (95% CI 90.6% to 100%) and 73.5% specific (95% CI 67.7% to 78.6%) at detecting patients with current drug use disorders. It was 92.9% sensitive (95% CI 86.1% to 96.5%) and 94.1% specific (95% CI 89.8% to 96.7%) at detecting patients with current drug use. When factoring in oral fluid drug tests, it was only 84.7% sensitive (95% CI 75.6% to 90.8%). The DAST-10 was also 100% sensitive (95% CI 90.6% to 100%) and 77% specific (95% CI 71.5% to 81.9%) for current drug use disorders. The authors conclude that this single-question screen and the DAST-10 accurately identify unhealthy drug use in this sample of primary care patients. This is the first published study to validate a single screening question for drug use in any setting. It is also the first study to validate the DAST-10 in primary care. The same recommendations for future validation studies are made as in their 2009 companion study described above.