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Website for Unhealthy Alcohol Use: How to Make it Visible and for Whom?
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**Background:** Websites providing information and tailored feedback for unhealthy alcohol use are increasingly used to reach a large population that does not necessarily access primary care practices. Such websites need to target individuals with unhealthy alcohol use and to be visited. **Objective:** We developed a website offering general information on alcohol use, screening, and brief intervention with tailored feedback. The website is in French. To increase its visibility, we conducted a media campaign in the French part of Switzerland. We aimed to study the characteristics and satisfaction of the users as well as the impact of the media campaign. **Methods:** We assessed the characteristics and satisfaction of the users using the website screening questionnaire and a satisfaction survey. To qualify the impact of the media campaign, we recorded the geographical provenance of the users. **Results:** Between July 15 (official release) and January 31 2011, 15'633 new visitors accessed the website and 84% (13'160) completed the screening and received tailored feedback. General information pages represented 25% of the 28'986 visited pages. Most users were male (67%), mean age (SD) was 36.3 (13.6); 34% of men and 38% of women reported weekly risky use (>14 drinks for men, >7 for women), 54% of men and 30% of women reported binge drinking (>6 drinks/occasion) at least once a month. Of the 56% people with unhealthy alcohol use (i.e. any risky use), 66% envisioned change after receiving the feedback. Among those (n=1001) who completed the satisfaction survey, 88% said the website provided useful information. Most visits (83%) came from Switzerland. **Conclusions:** People may visit websites providing information and tailored feedback on alcohol use on their own, but a media campaign appear to increase largely the number of visitors. Our website targets the appropriate users since unhealthy alcohol use was overrepresented among users compared to the general population, and satisfaction was high. Most at-risk drinkers envisioned change after their visit.

Ecological Momentary Assessment of Self-Identified Reasons for Specific Instances of Drug use among Participants with and without Hepatitis C
Karran A. Phillips, MD, MSc; David H. Epstein, PhD; Kenzie L. Preston, PhD - NIDA-IRP, NIH

**Background:** Ecological Momentary Assessment (EMA) has been shown to be an effective tool for real-time in the field assessment of behavior. In this analysis, we examined the reasons given for specific instances of drug use, at the moment of drug use, in participants with and without hepatitis C (HCV). **Objective:** To utilize EMA to determine real-time, in-the-field, self-reported reasons for individual drug use.
episodes in participants with and without HCV. **Methods:** In a cohort design, a volunteer sample of 112 methadone-maintained cocaine- and heroin-abusing outpatients provided up to 25 weeks of ecological momentary assessment (EMA) data on handheld computers. Participants initiated an entry each time they used cocaine or heroin, and each such entry included yes/no responses to 13 questions beginning, "I think it happened because." (with response options based on a published taxonomy of relapse triggers). Responses to those questions were compared in individuals with and without HCV using Stata Generalized Estimating Equations for binary outcomes. **Results:** Participants with HCV (61%), compared to those without (39%), were more likely to report drug use as a result of feeling bored (z=2.09, p=0.036), frustrated (z=2.12, p=0.034), worried (z=2.53, p=0.012), sad (z=2.24, p=0.025), or feeling that others had been critical of them (z=2.21, p=0.027). HCV status was not associated with differences in drug use attributed to handling cash, being in a good mood, feeling uncomfortable, feeling tempted out of the blue, or several other response options. **Conclusions:** Participants with HCV were more likely to attribute their specific episodes of drug use to negative moods. The detailed EMA mood and drug use data reported here should help inform treatment interventions aimed at changing environmental triggers.

Contextual and Individual Predictors of Severity of Marijuana Use Events among Young Frequent Users
Lydia A. Shrier, MD, MPH; Courtney Walls, MPH; Amanda Rhoads, BA; Emily A. Blood, PhD - Children's Hospital Boston

**Background:** Because marijuana use is typically assessed by recall over days-to-months, it is difficult for frequently-using individuals to report details about discrete use events. **Objective:** This study used real-time sampling to characterize marijuana events among young frequent users. **Methods:** Outpatients aged 15-24 who used marijuana >2x/week completed a sociodemographic, psychological, and marijuana use assessment, then used a handheld computer to report marijuana use 4-6 signal-prompted times/day and before/after use for two weeks. Reports assessed event characteristics (when, with whom, where, how, why, how much, how high). Timestamps identified time, weekend, and duration. Generalized estimating equations, adjusting for within-individual clustering, tested associations of individual and event-specific contextual characteristics with hits/event, high, and duration. **Results:** Forty-one youth (56% female; M=18.7 years; 85% non-White; typical marijuana use M=9.9x/week) completed 3868 reports (M=94.3/participant), which included 432 marijuana events (M=10.5/participant). Marijuana was most commonly used with other people (boyfriend/girlfriend, 15%; friends, 46%; other, 13% vs. alone, 26%) and at home (58% vs. friend's house, 21%; other, 20%). Marijuana was usually administered via blunt (66% vs. pipe, 13%; bong, 12%; other, 9%). Marijuana was used most commonly for social or enhancement reasons (86%). Most events (62%) occurred on weekdays; use was least likely in the morning (8%). Most events involved a moderate number of hits (1-5, 19%; 6-10, 40%; 11-15, 23%, 16+, 18%).
Mean high was 5.2 (out of 8). Of events with start and end times (n=250), mean duration was 46.8 minutes. A pipe and weekday were associated with fewer hits/event, while morning and evening were associated with more hits/event. Younger age and lower anxiety predicted higher high. Female gender and lower negative affect were associated with greater event duration. **Conclusions:** Among youth who use frequently, marijuana is used in a variety of contexts, with diversity in method, dose, and duration. Contextual factors appear to predict marijuana dose for a given event, while individual characteristics may be more predictive of high and duration.

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**Stress and Length of Stay in Therapeutic Community Treatment for Adolescents with Substance Use Disorders**

Marianne Marcus, EdD, RN, FAAN(1); Deidra D. Carroll, BS(1); Gerald Moeller, MD(1); Joy Schmitz, PhD(1); Stanley Cron, MSPH(1); Paul Swank, PhD(1); Patricia R. Liehr, PhD, RN(2) - (1)University of Texas-Houston Health Science Center; (2)Florida Atlantic University

**Background:** Approximately 10% of substance dependent adolescents receive treatment in long-term residential programs, 25% percent of which are therapeutic communities (TCs), highly-structured social learning environments with significant drop-out rates. In general, adolescents have higher treatment dropout and relapse rates than their adult counterparts and time in treatment is consistently associated with successful outcomes. In a previous study of adults in a TC we found that baseline stress scores were strongly predictive of early dropout. **Objective:** The aim of this cross-sectional pilot study was to explore the relationship between stress and length of stay in a TC for adolescents. **Methods:** All thirty-one residents of an adolescent TC completed the Symptoms of Stress Inventory (SOSI) and the Adolescent Stress Questionnaire (ASQ). Pearson's correlation coefficient was used to test associations between length of stay and stress instrument scores, including ASQ and SOSI total mean and subscale scores. **Results:** The average length of stay for study participants was 3.2 months, with the maximum time being 8 months. Correlation analysis indicated a significant inverse relationship between length of stay and the Habitual Patterns subscale of the SOSI (r=-.39, p = .04) and similar non-significant associations between the total SOSI mean and the Depression, Anxiety/Fear, and Emotional Irritability subscales. Neither the ASQ nor any of its subscales were found to be significantly correlated with length of stay. The ASQ and SOSI means were found to be moderately correlated (r=.35, p = .05). **Conclusions:** The results suggest that there is a relationship between stress and length of stay in this facility, a finding that reached significance in the Habitual Patterns subscale which measures restlessness. The findings are consistent with an earlier study of adults in TC treatment and suggest the need for further study of this phenomenon and for interventions that may reduce stress in adolescents TCs.

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**Does Marijuana Use Trajectory Predict Self-Reported Depressive Symptoms in a Longitudinal Community-Based Cohort, Followed for 20 Years (the CARDIA Study)?**
Yulia Khodneva, MD(1); Mark Pletcher(2); Monika Safford(2); Joseph Schumacher (2); Jalie Tucker(1); Stefan Kertesz(1,3) – (1)University of Alabama -Birmingham; (2)University of California, San Francisco; (3)Birmingham VAMC

**Background:** 16 percent of US adults report life-time depression. Identifying risk factors for depression is important. Marijuana use is common, with 23-34% of 21-30-year olds reporting past year use. Cross-sectional reports suggest that depressive symptoms and marijuana use often co-occur. Prospective studies of adolescents demonstrate that marijuana use predicts adjustment problems and depression in young adulthood. Marijuana use-depression associations are less clear among middle-aged adults. **Objective:** To test if distinct marijuana use trajectories from early to middle adulthood are associated with depressive symptoms at 20 years’ follow-up in a diverse community sample. **Methods:** Repeated measures of marijuana use were collected in the Coronary Artery Risk Development in Young Adults (CARDIA) Study, a cohort of young adults balanced for race, gender, and education, recruited in 1985-6 (ages 18-30) and followed for 20 years. SAS PROC TRAJ was used to iterate marijuana use trajectories based on repeated queries of recent (last 30 days) marijuana use. We assessed whether different marijuana use trajectories were associated with depressive symptoms (>16 on the CES-D Scale) at year 20, controlling for age, race, sex, education, partnered status, economic difficulty, life stress, childhood environment and baseline depressive symptoms. **Results:** Five marijuana trajectory groups emerged among 4803 participants: Non-Users (n=2935), Occasional Users (OU) (n=996), Persistent Users (PU) (n=202), Increasing Users (IU) (n=238) and Decreasing Users (DU) (n=432). Compared to Nonusers, three trajectory groups (Persistent, Increasing and Decreasing Users) had significantly higher mean CES-D scores and proportions of persons with CES-D>16 at four study examinations (from 1990/01 to 2005/06). Adjusting only for demographics and economic difficulty, the Odds Ratio (OR) for significant depressive symptoms remained elevated, compared to nonusers: for PU 2.1[95% CI, 1.3-3.3]; IU 1.8[1.2-2.7]; DU 1.8 [1.3-2.4]. However, these associations became non-significant after controlling for life stress, childhood environment and social support. **Conclusions:** Marijuana drug use trajectory was not independently associated with later depressive symptoms in the middle aged adults.

**Spice and K2 Designer Drugs: Synthetic Cannabinoid Consumption among Marijuana and Tobacco Users**
Erik Gunderson, MD(1,2); Heather Haughey, PhD(1); Nassima Ait-Daoud, MD(1); Amruta Joshi, MS(1); Carl Hart, PhD(2,3) – (1) University of Virginia; (2) Columbia University; (3) NYS Psychiatric Institute
**Background:** Despite increasing concern about synthetic cannabinoid (SC) exposure via smoked "Spice" and "K2" herbal mixtures, published data on SC products are limited. **Objective:** To examine SC product prevalence and effects among a cohort of marijuana and tobacco users. **Methods:** Cross-sectional 2-page phone survey administered January-May 2011 to individuals who screened for a cannabis/nicotine dependence medication development study (NCT01204723). **Results:** Of 42/48 (88%) respondents, the mean age was 29 years, 81% were male, 48% white, 45% black, and 71% high school graduates. 95% currently smoked tobacco. Of 41 (98%) current cannabis users, 61% smoked daily and 76% reported irritability with marijuana abstinence. The 38 (91%) familiar with SC products learned about them through a friend (95%) or Internet (18%). Twenty-one (50%) had smoked SC products previously with 10 (24%) in the past month spending a mean $16/week. Of 27 surveyed after Federal SC ban implementation 3/1/11, 22% smoked SC products after ban enactment. Methods of use included: blunt (76%), joint (33%), pipe (19%), bong (19%), vaporizer (14%). Reasons for use included: try a new high (67%), avoid a positive drug test (57%), a friend was using it (52%), could not get marijuana (48%), similar marijuana high (33%), and decreased irritability if lacked marijuana (19%). Reported side effects included: trouble thinking clearly (38%), headache (24%), dry mouth (19%), anxiety (14%), palpitations (14%), diaphoresis (14%), panic attack (10%), cough (5%) and fatigue (5%). Although 22/42 (54%) screened positive for cannabis dependence on the Severity of Dependence Scale, only 1/10 (10%) with current SC use screened positive for SC dependence. No significant difference existed between SC product users (ever or current) and non-users by demographics or other characteristics. **Conclusions:** Among current marijuana and tobacco users, SC product consumption is common due to psychotropic effects that may in part serve as a cannabis substitute and despite adverse effects. (Support: DA027131)

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**Opiate Withdrawal: Use of a Standardized Patient Scenario**

Patricia Wathen MD; Rushit Kanakia, MD - University of Texas Health Science Center San Antonio

**Background:** Internal Medicine residents often manage narcotic-dependent inpatients whose needs can challenge their professionalism and clinical skills. Objective assessment of these skills can help identify areas for improvement. **Objective:** We developed a Standardized Patient (SP) Scenario to assess IM resident skills in four areas, corresponding to four ACGME-defined competencies: 1. Recognizing and managing opiate withdrawal (OW) symptoms (Medical Knowledge) 2. Maintaining privacy when discussing patient’s condition (Systems-based practice, Professionalism) 3. Managing pain in opiate dependent patients (Medical Knowledge) 4. Communication with patients and family (Interpersonal/Communication skills, Professionalism) **Methods:** IML-2 residents participated in a Difficult Patient SP scenario written by a chief resident who attended the NIDA-funded Chief Resident Immersion Training in Addiction Medicine. The patient was a 25 year old female heroin user admitted for vertebral osteomyelitis. The residents were informed about
the diagnosis and heroin use history. Vital signs and PE consistent with early OW were provided. The resident was instructed to assess the patient, explain the plan, and write admission orders. The patient’s mother was in the room. She was unaware of her daughter’s heroin use. The SPs evaluated residents’ interpersonal skills and documented whether OW was identified. The written orders were evaluated for medications used to alleviate withdrawal symptoms and manage pain. Each resident received immediate verbal feedback from the SPs. **Results:** Twenty-five IML-2 participated with the following results:

1. **OW recognition:** 24/25 residents
2. **OW management:**
   a. 11/25 ordered methadone; 3/25 ordered clonidine;
   b. Methadone dosing range: 45 mg/day to 10 mg/day. Three 3 doses unspecified.
   c. 11/25 residents ordered short-acting morphine and/or vicodin/norco.
3. **Pain management:** 25/25 ordered opioid pain relief.
4. **Interpersonal/Communication skills:** High ratings given

**Conclusions:** SP scenarios can identify gaps in learner knowledge and skills needed for inpatient OW management. SPs identified resident strengths in OW recognition, communication, and pain management. Deficits included knowledge of management of OW, and sensitivity to privacy issues with relatives. Use of SPs allows for immediate feedback to learners and can identify curricular needs.

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**Changes in Medical Student Beliefs about Addiction Following Participation in an Addiction Medicine Rotation**

Lisa J. Merlo, PhD, MPE; Melissa Ruffalo, BS; Robert Averbuch, MD - University of Florida

**Background:** Curricula related to substance use disorders (SUDs) are frequently limited and disjointed. Thus, many medical students do not achieve competency in assessment or treatment of patients with SUDs and retain stigmatized beliefs toward these patients. **Objective:** To evaluate the educational consequences of participation in a 2-week addiction medicine rotation as part of the psychiatry clerkship.

**Methods:** Students completing their psychiatry clerkship were required to participate in a 2-week rotation in addiction medicine, including: 2-week clinical experience on an addiction treatment service; lectures on alcohol use, neurobiology of addiction and its treatment, SBIRT, and toxicology; and attendance at a 12-step meeting. Students (n = 78) were surveyed on the first and last days of their clerkship to assess change in knowledge and attitudes related to patients with SUDs. **Results:** From pre-post testing, students reported significant increases in confidence regarding talking to patients about mental illness (t = 10.01, p < .001), alcohol use (t = 5.72, p < .001), and other substance use (t = 7.43, p < .001), but not chronic disease prevention (t = 1.24, ns). They reported significantly-decreased beliefs that patients cannot recover from
addiction (t = 3.14, p = .003), and significantly-improved views related to the helpfulness of referring patients to 12-step programs (t = 2.68, p = .01). Students also endorsed significantly-increased likelihood of: discussing substance abuse treatment options with SUD patients (t = 5.25, p < .001), referring SUD patients to an addiction specialist (t = 4.45, p < .001), and giving SUD patients a 12-step program meeting list (t = 4.58, p < .001) during future encounters. **Conclusions:** Participation in a two-week "clerkship" in addiction medicine, as part of the medical students' required clerkship in psychiatry, may decrease stigmatized beliefs toward patients with SUDs, increase students' knowledge of SUDs and SUD treatment, and encourage students to focus efforts toward treatment of SUDs in their patients.

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**Training Medical Students to Conduct Motivational Interviewing: A Randomized Controlled Trial**

J.B. Daeppen; C. Fortini; N. Bertholet; R. Bonvin; A. Berney; P.A. Michaud; C. Layat; J. Gaume - Alcohol Treatment Center, Lausanne University

**Background:** Motivational interviewing (MI) is increasingly used to address health behaviors. Teaching MI to medical students may help them acquire specific communication skills. **Objective:** To examine the effectiveness of MI training among medical students when they begin counseling patients to change certain health behaviors, including alcohol use. **Methods:** All students (n=131) in year 5 of a 6-year curriculum at Lausanne University Medical School Switzerland were randomized into an experimental (n=66) or a control group (n=65). After a training in basic communication skills in years 2 and 3 (control condition), an 8-hour MI training workshop was completed by students in the experimental group. One week after the training, students in both the experimental (trained) and the control (untrained) groups were invited to meet for 15 minutes with 2 standardized patients. MI skills were coded by 4 blinded research assistants using the Motivational Interviewing Treatment Integrity 3.0 (MITI). **Results:** Superior performance was shown for trained vs control students, as demonstrated by higher mean (SD) scores (range: 1-5) for "Empathy" [4.0(0.6) vs 3.4(0.7), p<.001] and "MI Spirit" [4.0(0.6) vs 3.3(0.6), p<0.001]. Mean scores were similar between groups for "Direction", indicating that students in both groups invited the patient to talk about behavior change. Behavior counts assessment demonstrated better performance in MI in trained vs control students regarding occurrences of MI-adherent behavior [mean (SD) 5.6(2.5) vs 3.7(1.7), p<.001], MI non-adherent behavior [1.9(2.3) vs 5.1(3.7), p<.001], Closed questions [15.5(5.3) vs 21.3(6.9), p<.001], Open questions [7.8(2.9) vs 5.6(2.1), p=.001], Simple reflections [13.2 (5.1) vs 11.1 (5.3), p=.03], and Complex reflections [4.3(2.1) vs 2.7(2.0), p<.001]. Occurrences were similar between groups regarding "Giving information". **Conclusions:** An 8-hour training workshop was associated with improved MI performance, lending support for the implementation of MI training in medical schools.
Skills, Attitudes, and Training Experiences Regarding Chronic Pain Management among Internal Medicine Residents
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Background: Although there has been recent national focus on optimizing pain management in primary care, there is little literature assessing trainees' skills and education regarding chronic pain management. **Objective:** To describe the skills, attitudes, and training experiences of internal medicine (IM) residents regarding management of chronic pain. **Methods:** We conducted a multi-site needs-assessment survey of residents at three academic medical centers in the United States. We developed a 41-item survey using elements from previously validated instruments with questions on a Likert scale. Two sites surveyed IM residents in all three years of training, and a third site surveyed residents in IM, surgery, pediatrics, and emergency medicine. The current analysis includes data from the two sites that surveyed IM residents only. **Results:** 147 out of 244 residents surveyed completed the survey (response rate = 60%). 27% (38 of 139 responses) reported spending ≥ 50% of their clinic time addressing chronic pain. 53% (73/137) said that managing chronic pain negatively or very negatively affected their overall continuity clinic experience, and 59% (82/140) said that their clinic experience managing chronic pain negatively or very negatively affected their desire to pursue a career in primary care. 28% of responding residents felt 'hardly any consistency' or 'no consistency at all' among their preceptors for this topic, and only 10% felt there was 'a lot of consistency.' Treating chronic pain in patients with a history of substance abuse and starting controlled substance agreements were identified as areas of particular weakness in residents' confidence. **Conclusions:** There is a need for more effective and consistent education in the treatment of chronic pain for IM residents. Challenging and inconsistently supported clinical experiences in this area may be yet another factor driving trainees away from careers in primary care.

Teaching Safe and Effective Opioid Prescribing to Internal Medicine Faculty Preceptors
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**Background:** Opioid prescriptions for chronic pain and opioid misuse (addiction, overdose, diversion) are increasing, yet medical education about safe and effective opioid prescribing is inadequate. **Objective:** Improve internal medicine (IM) faculty preceptors' knowledge, attitudes, confidence, clinical practice and resident teaching of safe and effective opioid prescribing for chronic pain. **Methods:** Nineteen faculty preceptors participated in an education intervention including a 90 minute lecture
followed by a 4-station Objective Structured Clinical Exams (OSCE) focused on communication skills using standardized patients and immediate faculty observer feedback. The lecture and OSCE covered essential opioid prescribing skills including assessing and monitoring for opioid misuse risk; addressing aberrant medication taking behaviors and conducting a brief intervention for unhealthy substance use. The evaluation compared results of a pre-, and 3-month post-intervention survey. Both surveys assessed knowledge, attitudes, confidence, clinical practice and resident teaching of safe and effective opioid prescribing. **Results:** The 19 faculty preceptors had a mean of 8.3 years precepting residents in continuity clinic. During the 3 months post-intervention faculty treated a mean of 17 patients on long-term opioids and precepted a mean of 6 residents caring for patients with chronic pain on long-term opioids. Preceptors had significant increases in knowledge (6 items) (p=.03), confidence in practices related to using long-term-opioids (8 items, 5 point Likert scale) (p=.003), and positive attitudes about patients on long-term opioids (6 items, 5 point Likert scale) (p=.02). They had non-significant increases in frequency of effective practices related to caring for patients on long-term opioids (4 items, 5-point frequency scale) (p=.43) and frequency of teaching residents about the safe and effective use of opioids (7 items, 5-point frequency scale) (p=.19). **Conclusions:** A didactic session and related OSCE can improve faculty preceptor knowledge, confidence in skills and attitudes on safe and effective opioid prescribing for chronic pain. Clinical practice and frequency of teaching seemed to increase but the ability to detect significant changes may require longer term follow-up.

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**Web-Based Addictions Curriculum for Undergraduate Nursing Education**  
Charon Burda, MS, PMHNP-BC; Katherine Fornili, MPH, RN, CARN - University of Maryland School of Nursing

**Background:** This presentation will describe the development of a web-based addictions elective for undergraduate nurses at a large, urban, state-funded university. The course integrates the addictions competencies model developed by the National Curriculum Committee sponsored by the Substance Abuse and Mental Health Services (SAMHSA), and the *Scope and Standards of Addictions Nursing Practice* developed by the International Nurses Society on Addictions (IntNSA) and the American Nurses Association (ANA). Students link to current and evidence-based learning resources on the web through the course’s online modules. Course content includes knowledge, skills, abilities, and competencies needed for nurses to identify individuals with substance use disorders, assess their condition, intervene on their behalf, and/or refer them to treatment. **Objective:** A main objective of this course was to help all nurses, regardless of practice setting, provide evidence-based care for their patients affected by addictions. Of primary importance is student acknowledgement of attitudinal transformations in the clinical setting that demonstrate cultural competence, facilitate therapeutic alliances, are supportive of recovery, and promote patient empowerment. **Methods:** The presenter will describe the course’s main content areas, teaching strategies and assignments utilized to
promote student learning, an analysis of the course’s strengths and weaknesses, relate content to *The Essentials of Baccalaureate Education for Professional Nursing Practice* (AACN, 2008) and explain how various learning theories may have contributed to the course’s success in engaging students. **Results:** Course evaluations indicated that students believed that instructional materials contributed to learning, assignments reflected course content, and information learned was useful. Informal evaluation of the students’ final reflection papers indicated that students expressed transformative views about addiction, relative to their baseline reflection papers, which contained stigmatizing and stereotypical language. **Conclusions:** “Addictions, Society, and the Role of the Nurse” has been enthusiastically endorsed by students and faculty alike.

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**National Survey of Adherence to Evidence-Based Tobacco Treatment Guidelines in U.S. Substance Abuse Facilities**

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(1)University of Kansas Medical Center; (2)Department of Medicine, Rhode Island Hospital; (3)University of Kansas

**Background:** Even though smoking prevalence among clients in U.S. drug treatment settings range from 77- 93%, few facilities treat tobacco dependence. Some drug treatment facilities are beginning to treat tobacco. It is important to develop a set of measures that capture how tobacco services are delivered, evaluate these practices, and ultimately disseminate effective practices throughout the treatment community. **Objectives:** To understand what and how tobacco treatment services are currently being delivered in drug treatment. **Methods:** A cross-sectional survey was conducted within a nationally representative sample of 405 outpatient facilities. One person in a leadership position was surveyed by phone, fax, email, or mail, according to responder preference. **Results:** Many facilities (87%) routinely screened clients' smoking status. However, few facilities routinely assessed clients' readiness to stop using tobacco (38%), advised clients to stop smoking (48%). Counseling: Few facilities routinely provided counseling or brief intervention to motivated clients to quit (23%), or provided individual or group counseling to help clients quit (23%). Very few facilities provided referrals for tobacco treatment: 11% to self-help groups, 18% to tobacco quitline, and 9% to online resources. Quit Smoking Medications: Very few facilities provided varenicline/bupropion (<15%) or nicotine replacement therapy (<25%). Few facilities (18%) routinely recommended quit smoking medications by staff in this facility but only 7% of facilities routinely referred clients to an off-site provider - like a doctor or social services to obtain quit smoking medications. Only 3% of facilities routinely provided and/or prescribed quit smoking medications to clients. **Conclusions:** Few drug treatment facilities offer key components of evidence-based tobacco treatment to a majority of their clients. Although pharmacotherapy is recommended in the treatment of all smokers unless contraindicated, pharmacotherapy was not routinely recommended or provided. Our findings confirm and augment the findings of other studies.
Development and Factorial Validation of the Tobacco Treatment Commitment Scale (TTCS)
Babalola Faseru, MD, MPH(1); Jamie Hunt, PhD(1); Byron Gajewski, PhD(1); Yu Jiang(2); Ana P. Cupertino, PhD(1); Janet Marquis, PhD(2); Peter D. Friedman, MD, MPH, FASAM(3); Kimber P. Richter PhD, MPH(1) - (1)University of Kansas Medical Center; (2) University of Kansas Medical Center, Kansas City; (3) Department of Medicine, Rhode Island Hospital

Background: Even though smoking prevalence among clients in U.S. drug treatment settings range from 77-93%, few facilities treat tobacco dependence. Staff commitment to treating tobacco may determine whether facilities provide these services. Objective: To develop and validate a scale of commitment to treating tobacco dependence. Methods: A multi-staged approach was employed. Study staff conducted literature searches for relevant items and qualitative interviews among facility staff, and developed a list of candidate scale items. Nine content experts rated items, and those deemed fit were grouped into 4 conceptual domains and included in an initial scale. The survey was administered to a stratified sample of 404 U.S. drug treatment facilities. We conducted several levels of confirmatory factor analyses (CFAs) to arrive at a final scale with optimal item number and fit. At each phase we identified goodness of fit of the CFAs using Comparative Fit Index (CFI) and Root Mean Square Error of Approximation (RMSEA), dropped insignificant items, and calculated Cronbach's alpha for each domain. Initial confirmatory factor analysis 1 (CFA1) was conducted. Then a principal component factor analysis with promax rotation was fitted. Items with poor loadings were thrown out, and a second stage confirmatory factor analysis (CFA2) emerged that included twenty one items in three domains. The top four items per component (12 items) informed a third confirmatory factor analysis (CFA3). Results: For CFA1, CFI=0.782, RMSEA=0.069, correlations among factors ranged from 0.575-0.906 and overall alpha ranged from 0.245-0.801. For CFA2, CFI=0.9222, RMSEA=0.054, correlations among factors ranged from 0.774-0.830 and overall alpha ranged from 0.563-0.768. For CFA3, CFI=0.972, RMSEA=0.047, correlations among factors ranged from 0.770-0.929 and the overall alpha ranged from 0.669-0.756. Conclusions: Confirmatory factor analysis and reliability estimates revealed that the 12-item version of the TTCS is reliable and valid. The scale will further be validated against a measure of tobacco treatment services, to test how well the scale discriminates between facilities that do and do not provide services.
Directly Observed Antiretroviral Therapy Eliminates Negative Impact of Active Drug Use on Adherence in Methadone Patients
Shadi Nahvi, MD, MS(1); Alain H. Litwin, MD, MPH(1); Moonseong Heo, PhD(1); Karina M. Berg, MD, MS(2); Julia H. Arnsten, MD, MPH(1) – (1)Albert Einstein College of Medicine; (2)Yale University School of Medicine

Background: The adherence effects of active drug use, and the impact of adherence enhancing interventions on the relationship between active drug use and adherence is largely unknown. Objectives: To 1) examine the impact of active drug use on antiretroviral adherence, and 2) determine the effect of directly observed therapy (DOT) on the association between drug use and adherence. Methods: A 24-week prospective observational study among HIV-infected opiate dependent methadone patients enrolled in a randomized trial of DOT versus treatment as usual (TAU). Our outcome measure was antiretroviral adherence, measured using pill counts. Major independent variables were treatment arm (DOT v. TAU) and active drug use (opiates, cocaine, or both opiates and cocaine), measured using urine toxicology assays. We defined any drug use as $\geq$ one positive test, and frequent drug use as $\geq$50% tested urines positive. We evaluated the associations between drug use and adherence using mixed-effect linear models, and used a treatment arm-by-drug use interaction term to evaluate the impact of DOT on the association between drug use and adherence. Results: 39 participants were randomized to DOT and 38 to TAU. We observed significant associations between active drug use and adherence, but these were limited to TAU arm participants. Among TAU participants, adherence was worse among those with any opiate use than without (75% v 63%, $p < 0.01$); and among those with any polysubstance (both opiates and cocaine) use than those without (73% v 60%, $p=0.01$). A similar pattern was seen among TAU participants with either frequent opiate or frequent polysubstance use. Among DOT arm participants, active drug use was not associated with worse adherence. Conclusions: Active opiate use, or polysubstance use, by HIV-infected, methadone-maintained patients decreases antiretroviral adherence. However, the negative impact of drug use on adherence is eliminated by directly observed antiretroviral therapy.

Global ASSIST Score and Active Cocaine Use are Associated with Low Antiretroviral Adherence and Viremia in a Public Urban HIV/AIDS Clinic
P.J. Lum; E. Kamitani; S. Eng; C. Dawson-Rose - University of California, San Francisco

Background: Alcohol and other drug use are common in HIV-infected persons and associated with poorer health outcomes. Objective: To examine the relationship between HIV health outcomes, Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) scores, and drug-positive urines in an urban HIV/AIDS primary care clinic. Methods: We administered the ASSIST to a convenience sample of HIV-infected patients recruited for a feasibility study of screening, brief intervention, and referral to treatment. Participants were asked about sociodemographics, exposure category, depression, antiretroviral therapy (ART)
adherence and provided urine specimens for toxicology. We obtained CD4 and HIV viral load (VL) results from medical records. We calculated the Global Continuum of Substance Risk (GCSR) score as the sum of response weights to ASSIST Questions 1-8 across substance classes and Specific Substance Involvement (SSI) scores for nine substance classes. Participants with moderate SSI scores received brief interventions, and high SSI-scoring patients were referred to treatment. We used descriptive statistics, Chi-square, ANOVA and multiple linear regression to examine factors associated with 30-day ART adherence and detectable VL>40 copies/mL. **Results:** 209 patients participated (median age 45.5 years; 68% male; 41% black). Median CD4 and HIV VL were 465 and 3,637 copies/mL; 38% had detectable virus. Moderate-high SSI risk scores were common for tobacco (55%-11%), cannabis (46%-8%), cocaine (34%-8%), amphetamine (33%-7%), and alcohol (28%-11%) and not uncommon for sedatives (20%-3%) and opioids (16%-6%). Urines tested positive for tetrahydrocannabinol (50.5%), opioids (32.5%), cocaine (30.3%), benzodiazepines (23.4%), and amphetamine (18.2%). GCSR scores were inversely associated with ART adherence (p=0.001) and after controlling for age, race, gender, and exposure category (p<0.005). Only cocaine-positive urines were associated with detectable virus (p=0.038). Among viremic patients, higher GCSR scores predicted higher VL (p=0.024). **Conclusions:** Substance use screening and assessment in our HIV/AIDS clinic detects significant and problematic polysubstance use associated with ongoing HIV replication. Whether brief interventions for moderate risk users can increase viral suppression should be tested.

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**Is Implementation of Bystander Overdose Education and Naloxone Distribution Associated with Lower Opioid-Related Overdose Rates in Massachusetts?**

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**Background:** Since 2006, the Massachusetts Department of Public Health (MA DPH) has supported overdose education and intranasal naloxone distribution (OEND) efforts in several community-based organizations, training potential bystanders to prevent and manage opioid overdose with intranasal naloxone. **Objective:** To determine whether OEND implementation is associated with decreased fatal or non-fatal opioid overdoses in Massachusetts. **Methods:** For the 18 Massachusetts towns with the highest number of fatal overdoses, we compared fatal and non-fatal opioid overdose rates from town-year strata with high versus low rates of OEND implementation. We measured implementation by two methods: cumulative OEND enrollment per town population or annual overdose reversals reported per town population. We defined high (respectively low) implementation for each of these measures as above (below) the state-wide median. Using Poisson regression models, we estimated rate ratios of overdose associated with high implementation adjusted for age, gender, race/ethnicity, poverty, year and access to addiction treatment services within each town. **Results:** From 2006 through 2008, the MA OEND trained 2351
potential overdose bystanders. Town-year strata with high OEND enrollment had a 
crude opioid-related fatality rate of 12.7 per 100,000 versus 14.0 per 100,000 for 
town-year strata with low OEND enrollment (p=0.42). Using cumulative OEND 
enrollments to measure implementation, the adjusted rate ratio for fatal opioid 
overdose was 0.90 (95% CI: 0.73-1.12) for high versus low town-year strata. Using 
annual overdose reversals to measure implementation, the adjusted rate ratio for fatal 
overdose was 0.70 (95% CI: 0.53-0.92). No significant association was found for 
non-fatal overdose rates. Conclusions: Fatal opioid overdose rates were lower in 
town-year strata with high implementation, as measured by overdose reversals by 
OEND participants, though we found no statistically significant association for non-
fatal overdose rates or fatal overdose rates measured by cumulative enrollment. While 
more data are required, our results suggest that OEND programs decrease fatal opioid 
overdose rates in communities where OEND participants reverse overdoses.

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**Psychostimulant-Related Deaths in the United States**

Susan Calcaterra MD; Ingrid Binswanger MD, MPH - University of Colorado

**Background:** Methamphetamines and other highly addictive psychostimulants have 
increased in use during the last decade. Little is understood about the burden of 
mortality related to methamphetamines and factors associated with death.

**Objective:** This study assessed trends in rates of psychostimulant-related death in the 
U.S. from 1999-2006 by gender, race/ethnicity and region. We hypothesized that 
mortality increased throughout the country based on prior survey usage data.

**Methods:** We reviewed all psychostimulant-related deaths among those aged 15-64 
years in the U.S. from 1999-2006 using data from the CDC Wonder Database. We 
calculated age-adjusted death rates (number of deaths/100,000 person years [p-y] and 
95% confidence interval [CI]) for those who died with the ICD-10 code T43.6 
(psychostimulants with abuse potential) among their causes of death. We calculated 
death rate ratios by age, gender, race/ethnicity, and the death rate by state upon death. 
Analyses are separated from 1999-2004 and 2005-2006 because of large differences 
in death rates. **Results:** Psychostimulant-related death rates increased from 
0.38/100,000 p-y (95% CI 0.35-0.40) in 1999 to 1.03/100,000 p-y (95% CI 0.98-1.07) 
in 2005, and decreased to 0.92/100,000 p-y (95% CI 0.88-0.97) in 2006. In 2005-
2006, men aged 45-54 years had the highest overall death rate (2.02/ 100,000 p-y, 
95% CI 1.88-2.16). In contrast, women aged 35-44 years had the highest death rate 
among women (0.82/100,000 p-y, 95% CI 0.73-0.90). The psychostimulant-related 
death rate among men (1.42/100,000 p-y, 95% CI 1.36-1.47) was approximately 3X 
higher than women (0.54/100,000, 95% CI 0.50-0.57). American Indians/Alaska 
Natives had the highest death rate (2.37/100,000 p-y, 95% CI 1.87-2.97) compared to 
non-Hispanic whites (1.10/100,000 p-y, 95% CI 1.06-1.14). Psychostimulant-related 
deaths clustered in the Western U.S.; Nevada’s death rate was 5.46/100,000 p-y 
during 2005-2006. **Conclusions:** Psychostimulant-related deaths increased from 
1999-2005, especially in the Western U.S. Men and Alaska Natives/American Indians 
are disproportionately over-represented in psychostimulant-related deaths. 
Limitations relate to ICD-10 coding for psychostimulants which are not sufficiently
sensitive to determine whether deaths were related to methamphetamine versus pharmaceutical psychostimulants. Interventions are needed to reduce psychostimulant-related death.

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**Identifying Substance Misuse in Practice: Teaching Screening, Brief Intervention, Referral and Treatment to Social Work Students**

Victoria A. Osborne, PhD, MSW; Kalea Benner, PhD, LCSW; Carol Snively, PhD, MSW, MA; Bruce Horwitz, PhD; Dan Vinson, MD - University of Missouri

**Background:** Although social workers encounter many clients with substance use problems, social work curricula rarely require education on etiology, assessment or treatment of addictions. The Screening, Brief Intervention, Referral, and Treatment model (SBIRT) model, originally developed for use in primary medical care, shows promise across disciplines to empower practitioners to screen for substance misuse. **Objective:** SBIRT training was initially directed to practicing physicians. Recently, training has evolved to include medical students. This is the first known application of SBIRT training to social work students. The goal was to assess social work students' knowledge and attitudes of substance misuse before and after basic SBIRT training. **Methods:** Social work students were given a 13 question Likert scaled questionnaire assessing their attitudes, knowledge and perceived skills with regard to substance misuse. A five-module computerized training session focused on symptoms of at-risk drinking and implementing the SBIRT model. Descriptive statistics explained overall knowledge, attitudes and perceived screening and intervention skills. T-tests compared changes pre- to post-test. **Results:** 74 social work students (n=33 undergraduate, 41 graduate) completed the training modules and pre and post tests. Significant differences were found in seven of the 13 questions. Social work students reported more confidence in their ability to assess for substance misuse and successfully intervene with clients' substance use behaviors. Likewise, they reported feeling more strongly that routine screening and brief intervention were crucial parts of clinical social work practice. **Conclusions:** Incorporating substance misuse screening and brief intervention techniques into social work practice is an important aspect of effective treatment. Teaching students how to screen and intervene is critical to improving substance misuse treatment skills. Teaching SBIRT is a simple and effective way to implement addictions education in social work curricula. It appears effective in increasing students' perceptions of their ability to change client behaviors and to reduce clients' substance misuse.

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Screening, Brief Intervention and Referral to Treatment (SBIRT) for Alcohol and Other Drug Use among Adolescents: Evaluation of a Pediatric Residency Curriculum

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**Background:** Alcohol and other drug use and misuse are increasing over the past year in pediatric populations. **Objective:** As part of a Substance Abuse and Mental Health Services Administration resident training grant we sought to demonstrate the feasibility and effectiveness of initiating a screening, brief intervention and referral to treatment (SBIRT) in a pediatric residency program. **Methods:** Design, Setting and Participants: Evaluation of a training program for all 2nd and 3rd year pediatric and/or medicine/pediatric residents in an adolescent medicine rotation located in a large urban teaching hospital. Main outcome measures: Pre-post knowledge scores, performance of the Brief Negotiation Interview (BNI) as measured by the BNI adherence scale in pre-post standardized patient encounters (SPE), training satisfaction, and tracking of BNI performance. **Results:** 34 residents were trained: 30 in Pediatrics and 4 in Medicine/Pediatric programs. The mean age was 28 years (range 25-35 years), and 26 (76%) were female. Fifty percent reported 0 to 5 hours of didactic training in medical school and residency. Thirty five percent report that they never had formal or informal teaching regarding alcohol and drug problems in their residency. There was a significant improvement in knowledge scores pre-post training (20.5 versus 23.4 P<0.001); and a significant improvement in BNI adherence scores pre-post SPE (3.1 versus 8.4, p<0.001). Residents were very satisfied with their training reporting a score of 1.6 on a scale of (1=very satisfied, to 5=very dissatisfied). **Conclusions:** Integrating a SBIRT curriculum into a Pediatric residency program is feasible and effective in increasing resident’s knowledge and skills in performing screening and brief interventions in adolescents and young adults.

Implementing Adolescent SBIRT Education in Pediatric Residency Curricula

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**Background:** Medical students and residents receive little instruction in managing adolescent substance use, even though it is associated with the top 4 causes of morbidity and mortality in this age group. We developed an adolescent SBIRT training curriculum and have been administering it to pediatric residents in the Boston Combined Residency Training Program and child psychiatry residents training at Children's Hospital Boston since June 24, 2009. **Objective:** To describe satisfaction, knowledge, and practice outcomes of the residency training curriculum in adolescent SBIRT. **Methods:** A faculty member administered each of 5 core training modules as an interactive lecture separately to pediatrics and child psychiatry trainees. A 6th
module on opioid replacement therapy was presented only to child psychiatry residents. Measures: 1) 16-item training satisfaction assessment with Likert-type response scale administered 30 days after the overview module; 2) forced-choice response knowledge assessments administered immediately after each training and at end of year; 3) perceived confidence assessment administered immediately before and after motivational-interviewing training and at end of year; 4) SBIRT implementation tracking form completed immediately after each patient encounter during the adolescent medicine rotation. Results: Satisfaction: Residents reported high levels of satisfaction with >90% agreeing that SBIRT trainings were relevant, enhanced skills and allowed them to serve patients better. Knowledge: We found moderate to high percent-correct (72-91%) scores on post-tests with only mild attenuation (70%) by the annual assessment. Confidence: Residents reported significant improvements in confidence on pre- and post-test measures. Confidence measures were sustained on the end-of-year assessment for screening and administering a brief intervention, though confidence in motivational skills fell to nearly pre-test levels. Practice Measures: 44 residents completed 206 tracking forms, and reported very high compliance with screening and administering brief interventions. Conclusions: Our curriculum was well received by residents and seemed to result in widespread use of recommended practices immediately following the training.

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Investigating a Team-Based Approach to Addressing Substance Misuse in Primary Care
John Muench, MD, MPH(1); Kelly Jarvis, PhD(2); Meg Hayes, MD(1); Jim Winkle, MPH(1) – (1) Oregon Health and Science University; (2) RMC Research Corporation

Background: Despite the demonstrated clinical and cost effectiveness of Screening, Brief Intervention, and Referral to Treatment (SBIRT), integrating SBIRT into primary care remains challenging. Using the Medical Home Model of care, seven clinics integrated SBIRT into routine practice by assigning front desk staff and medical assistants the task of carrying out a two-step screening process. Objective: This study aimed to identify barriers and facilitators to front desk staff and medical assistants conducting screening with patients. Methods: Two focus groups were conducted with staff from five clinics-one with front desk staff and one with medical assistants. Participants described their role in the process, their experiences implementing SBIRT, and their attitudes about screening patients for substance use. Resulting qualitative data were coded and summarized. Results: Participants agreed that substance use screening is important and they were willing to integrate these new responsibilities into their existing heavy workloads. Participants underscored the critical influence of physicians, whose attitudes largely dictate clinic staff's prioritization of SBIRT among multiple, competing tasks. Effective and efficient means of documentation and tracking, particularly adaptations to the electronic health record, were cited as key to success, as was clear communication between staff responsible for contingent steps in the overall process. Participants noted the importance of sufficient training and continual reinforcement regarding their
performance. Time constraints, competing screening demands, and the presence of patients' other urgent medical issues were mentioned as consistent barriers. **Conclusions:** A team-based approach to SBIRT implementation is viable. Thorough training, efficient means of documentation, effective communication among staff, and physician buy-in can increase the rate at which clinic staff perform an important step of the SBIRT process.

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**Universal Screening for Drug Use in Urban Primary Care**

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**Background:** Few published data examine universal drug use screening in primary care. **Objective:** To describe universal screening in a large urban hospital-based primary care practice. **Methods:** Trained staff screened adult patients presenting for primary care visits 7/2010-2/2011. Screening included 3 items about past 3-month: 1) frequency of heavy drinking (>3 standard drinks for women, >4 for men, in a day); 2) any use of prescription sedatives, opioids or amphetamines without a prescription or in greater amounts than prescribed; 3) any use of illicit drugs. A sample of those who screened positive for drug use were evaluated for eligibility to be in a study of brief counseling efficacy; enrollment resulted in further research assessment. **Results:** During 6 months, 15,818 patients arrived for primary care appointments; of these, 5549 (35%) were screened, 539 (10%) of whom reported heavy drinking (321, 5.9% of those screened) or drug use (338, 6.2% of those screened). Of the 539, 41% reported drug use only, 38% heavy drinking only and 21% both. Of patients eligible for the efficacy study (i.e., drug use, not pregnant, able to provide 2 contacts for follow-up), 14% had lower risk scores (2 or 3) on the Alcohol Smoking and Substance Involvement Screening Test (ASSIST). Of those with scores of 4 or more (moderate risk), marijuana was the drug of most concern for 61%, cocaine for 19%, and opioids for 18%; 21% reported prescription drug misuse, 31% used more than 1 drug, 20% had high risk ASSIST scores (27+), and 48% met criteria for drug dependence. **Conclusions:** In-person universal screening in busy urban primary care settings can miss many. Drug use prevalence was 6.2%, most of which was marijuana, and many had drug dependence. Most drug use would have been missed if drug screening had been done only for those who screened positive for heavy drinking.

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Background: Physician’s adoption of buprenorphine/naloxone treatment is hindered by concerns over feasibility, cost, and lack of comfort treating patients with addiction. We examined the use of buprenorphine/naloxone in a community practice by two generalist physicians without addiction training, employing a retrospective chart review. Objective: We examined the efficacy of a buprenorphine/naloxone protocol in a community practice by two generalist physicians without addiction training, who employ a home-based, patient-driven induction model. Methods: The practice serves mainly an urban poor, multi-ethnic community. Retrospective chart review was performed for all patients from 2006-2010. Demographic data, including co-morbid conditions addressed, complications, and payer mix was extracted. Clinical efficacy was determined by prevalence of non-contaminated urine toxicology testing. Results: 228 patients with opiate abuse/dependence were treated with buprenorphine/naloxone using a home-induction protocol. Multiple co-morbidities including diabetes (23% of patients), hypertension (36%), Hepatitis C (43%), and depression (74%) were concurrently managed. In this diverse sample, 1/228 experienced precipitated withdrawal during induction. Of the convenience subsample analyzed (n=28), 82% (+/- 10%) had negative urine drug tests for opioids; 92% (+/-11%) were negative for cocaine; 88% (+/-12%) were positive for buprenorphine. Conclusions: This case series demonstrated feasibility and safety of a low-cost buprenorphine/naloxone home induction protocol employed by generalists. Concurrent treatment of multiple comorbidities conforms with the patient-centered medical home ideal. Randomized trials of this promising approach are needed.
**Background:** Motor vehicle crashes are the leading cause of death among adolescents worldwide, and substance use is often involved. Primary care provider guidance might reduce this risk. **Objective:** To test the effects of a computer-facilitated Screening and Brief Advice (cSBA) protocol on adolescents' driving while impaired (DWI)/riding with an impaired driver (RWID) in the USA and Czech Republic (CZR). **Methods:** Quasi-experimental, asynchronous design: 12-18 yr olds at 9 New England (N=2096) and 10 Prague (N=589) medical offices completed measurements only during an 18-month Treatment As Usual (TAU) phase. We then conducted 1-hour provider trainings, initiated the cSBA protocol, and recruited patients during the subsequent 18-month cSBA phase. Before seeing the provider, cSBA participants completed a computerized CRAFFT screen and then viewed screening results, scientific information, and true-life stories illustrating the harmful effects of substance use and DWI/RWID. Providers received screening results and “talking points” prompting 2-3 minutes of brief advice. We assessed past-90-day DWI/RWID pre-visit, 3- and 12-months post-visit. We used GEE logistic regression to analyze the intervention effect at follow-up, controlling for baseline DWI/RWID, substance use, demographics, peer/family substance use, site/provider/visit characteristics, and multi-site sampling. **Results:** Participation, 3- and 12-month retention rates were: USA 87%, 72%, 74%; CZR 100%, 91%, 90%. Baseline past-90-day DWI/RWID rates were 31% (5% DWI, 31% RWID) in the USA and 22% (1% DWI, 22% RWID) in CZR. cSBA showed reduced DWI/RWID at 3 months in both countries, but the effect had dissipated by 12 months.

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*p<.05

**Conclusion:** Computer-facilitated screening with physician brief advice shows promise for reducing adolescents' risk of injury from substance-related car crashes. Strategies for extending the effect are needed.
What is a Faith-Based Substance Abuse Treatment Program?
Margot Trotter Davis, LICSW, PhD - Brandeis University

**Background:** Government support of faith-based programs raises issues of how to balance treatment utilizing “inherently religious activities” with public need for effective services. By many measures, faith-based groups are uniquely positioned to offer substance abuse services given the dominant recovery-based interventions where spiritual transformation is fundamental to recovery, but the theoretical and practical questions regarding the role of religion in faith-based interventions need to be addressed. **Objective:** This study compares traditional secular and faith-based programs to investigate how religion is integrated into their treatment. The aim is to describe how the two models compare on two dimensions: the role of religion in program design, and staff requirements needed to implement the program model. **Methods:** This study employed a qualitative research design. Wave 1 included site visits to a convenience sample of twelve faith-based programs in three geographic areas. A matched sample of eleven secular programs was selected to reflect similar programs features. Semi-structured interviews were held with administrative and direct care staff. Documents were examined including policies and procedures, mission statements, workbooks, and intake forms. Wave 2 included telephone interview with twenty-six faith-based and twenty-six secular programs. Grounded theory methods of analysis were used. Conceptual patterns that emerged were corroborated with stakeholders from previous interviews and researchers in the field. **Results:** The comparison yielded major differences. Secular programs allow religious practices but consider them voluntary. Faith-based programs adopt one of two strategies. Some selectively introduce religious practices but separate them from other treatment activities. Others regard religious practices as essential to recovery and mandate observance. Staff qualifications differ in each model. **Conclusions:** In practice, a subset of faith-based programs does not separate “inherently religious activities.” Faith-based programs that take the approach that religious expression is essential to recovery find that separation of content undermines programmatic integrity. Abiding by government standards would mean a fundamental reorientation of services they provide and most faith-based programs in the current study reject public funding in order to maintain their independence.
Emergency Department Use for Substance Use Conditions among Ex-Prisoners
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Background: More than half a million individuals are released from prisons in the United States each year. Many re-enter the community with substance use disorders. Despite the high prevalence of substance use disorders among this population, little is known about the extent to which ex-prisoners visit the Emergency Department (ED) due to these conditions. Objective: To examine whether there is an association between recent release from prison and a primary diagnosis of a substance use disorder during an ED visit. Methods: Data on all ED visits occurring at the major provider of emergency medical services in the state of Rhode Island (RI) between 2007-2009 were linked with data from the RI Department of Corrections to identify ED visits by individuals within 1 year of release from prison. These data were compared with ED utilization data obtained from the RI Department of Health. The final sample included 333,369 ED visits including 5,147 visits by ex-prisoners. A dichotomous variable indicated whether each ED visit had a primary ICD-9 diagnosis of a substance use disorder. Analysis included Satterwaite-corrected t-tests and random effects logistic regression. Results: Ex-prisoners were more than three times as likely to have an ED visit attributed to a primary substance use diagnosis than the Rhode Island general population (15.7% versus 4.2%, p < 0.001). When controlling for patient and community level factors, recent ex-prisoners’ ED visits remained significantly associated with a primary diagnosis of a substance use disorder (OR 1.88, 95% CI 1.73,2.05). Conclusions: Recent ex-prisoners are more likely than comparable community controls to seek emergency medical services related to substance use disorders. Interventions to improve access to ambulatory services for substance use disorders after release from prison may decrease ex-prisoners’ use of emergency services.
Poster Presentations

Opioid Overdose Prevention with Intranasal Naloxone among People Who Use Methadone
Alexander Y. Walley, MD, MSc(1); Maya Doe-Simkins, MPH(1); Emily Quinn, MA (2); Courtney Pierce, MPH(1); Alexander Ozonoff, PhD(3); Ziming Xuan, ScD, SM (2) – (1) Boston University School of Medicine; (2) Boston University School of Public Health; (3) Harvard Medical School

Background: Methadone has been associated with increased rates of fatal and non-fatal overdose. Overdose education and naloxone distribution (OEND) is an intervention that addresses overdose, but has not been studied among methadone users. Objective: To describe the implementation of overdose education and intranasal naloxone distribution (OEND) among people taking methadone in Massachusetts. Methods: Descriptive study using data from the Massachusetts Department of Public Health Opioid Overdose Prevention Pilot Program implemented at community-based agencies providing HIV/AIDS education and addiction treatment. Subjects were potential overdose bystanders who reported using methadone in the previous 30 days and enrolled in the program between September 28, 2008 and December 31, 2010. At enrollment, participants provided information about demographics, enrollment setting, overdose history, 30 day substance use history, and 12 month addiction treatment. We categorized methadone-using enrollees based on the enrollment setting. When participants refilled naloxone rescue kits, they reported on overdose reversals using naloxone. Results: Of 1553 methadone-using enrollees receiving OEND, 17% were MMTP patients enrolled at methadone clinics, 47% were enrolled through detoxification programs, 25% were enrolled at HIV prevention programs, and 11% were enrolled in other settings. These participants reported 92 overdose reversals. Previous overdose, intermittent methadone use, polysubstance use, recent detox and recent incarceration were overdose risks factors common among all groups of methadone users. Conclusions: In the midst of increasing methadone-related overdose deaths in many communities, OEND programs are a public health intervention that addresses overdose risk among methadone users and their social networks and can be successfully implemented in many settings, including methadone maintenance programs, detoxification programs, and HIV prevention programs.

Communications for Advocacy: Using the Concept of a Policy Image to Change Attitudes and Policies related to Addiction Treatment
Laura S. Lorenz, PhD; Mary Brolin, PhD; Mary Jo Larson, PhD - Institute for Behavioral Health, Heller School

Background: Negative attitudes on the part of the general public, policymakers, and even family members toward substance abuse, substance abuse treatment, and the potential for recovery can inhibit access to services and adherence to treatment for individuals facing substance abuse issues. Medical education, research, and substance
abuse professionals have an important role to play in conveying the efficacy of substance abuse treatment and the societal returns related to ensuring funding for treatment and access for those who need it. **Objective:** To describe seven basic characteristics of an effective policy image and analyze examples of policy images for substance abuse treatment for a recent program evaluation. **Methods:** This presentation synthesizes literature on basic characteristics of an effective policy image; it uses narrative analysis and case study material to analyze examples of policy images for substance abuse treatment. The materials analyzed are from an evaluation of the communication-advocacy campaigns of grantees of the Open Societies Foundations' Closing the Addiction Treatment Gap (CATG) project (2008-2011). **Results:** CATG sites used a variety of media and techniques to argue that addiction, similar to mental illness, is a health condition that is chronic and treatable, and rooted in avoidable causes; further that providing addiction treatment services saves lives and money. Community response and actions appears linked to the features of these communication campaigns. **Conclusions:** Medical educators, researchers, and substance abuse professionals can utilize the policy image framework to strengthen their communications for advocacy work with policymakers, family members, and the general public.

Pre-Deployment Behavioral Health History and Post-Deployment Mental Health Referrals of Army Service Members

Mary Jo Larson, PhD, MPA(1); Wendy Funk, MS(2); Beth A. Mohr, MS(1); Rachel Sayko Adams, MPH(1); Elizabeth Merrick, PhD, MSW(1); Alex Harris, PhD(3); Nikki Wooten, PhD, MSW(4) - (1)Institute for Behavioral Health, Heller School; (2)Kennell & Associates; (3)Palo Alto VA; (4)Boston University School of Social Work

**Background:** More than 25% of Army members report health concerns other than wounds or injury upon return from deployment in 2010; 9.3% endorse 2 or more post-traumatic stress symptoms, 30.4% screen positive for depression, yet only 7.2% had a provider record a mental health referral was indicated (Defense Medical Surveillance System, AFHSC, Feb 2, 2011). Little has been reported on the psychological conditions for which deployed service members are treated before deployment. **Objective:** Describe the behavioral health-related (BH) care and conditions present in the year prior to deployment among Army soldiers. Examine relationship of post-deployment referral for mental health care with pre-deployment BH status. **Methods:** Military health system (MHS) data will be analyzed for more than 200,000 soldiers returning in 2010. Mental health/substance abuse (MHSA) conditions are identified using the AHRQ Clinical Classification Software. BH service use is inclusive of visits with a MHSA diagnosis, BH specialist, or use of a psychotropic medication; referrals are retrieved from an electronic system and from post-deployment health assessments. Using MHS data prior to deployment, prevalence rates of conditions, number of visits, and prevalence and utilization rates of BH pharmacologic and non-pharmacologic services will be analyzed separately for active duty (AD) and National Guard/Reserve (NGR) components (40% of all AD
deployed and 33% of all NGR deployed in 2009) adjusting for months of MHS eligibility and deployment history. **Results:** We will present the prior year prevalence and volume of BH service use and post-deployment MH referral rates and compare the groups with and without prior BH care for both NGR and AD. **Conclusions:** BH service use prior to deployment is not uncommon but referral to MH care is low. Strategies to engage service members early after deployment in continued care for psychological conditions are warranted.

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**An Unusual Complication of Crack Abuse**
Melissa Stein, MD - Albert Einstein College of Medicine

**Background:** Crack cocaine abuse is highly prevalent in the United States. Cocaine abuse can lead to a variety of medical and psychiatric sequelae. Though physical withdrawal occurs rarely, the compulsion to smoke crack is powerful. **Learning Objectives:** 1. Become familiar with technique and paraphernalia used to smoke crack cocaine. 2. Understand risks associated with crack cocaine use. 3. Recognize severity of compulsion to smoke crack cocaine. **Case Presentation:** A 50 year-old woman presented to the Emergency Department (ED) complaining of dyspnea for two hours. She had a history of laryngeal cancer and tracheostomy. Additionally, she had a history of polysubstance abuse and was enrolled in a drug treatment program. In the ED she reported that an object had fallen into her tracheostomy. On physical examination the patient was tachypneic and agitated. Her lungs were clear to auscultation. Her oxygen saturation was 78% on room air. Chest radiography revealed a tubular radiodensity overlying the region of the carina and right mainstem bronchus. Bronchoscopy was performed and a glass tube 3.2 cm in length was removed from the right mainstem bronchus. The glass tube was the size and shape of a pipe used to smoke crack cocaine. The patient recovered uneventfully. **Discussion:** Cocaine, including crack, is the second most commonly abused non-prescription illicit drug. Cocaine abuse can lead dysfunction of multiple organ systems. For example, injecting cocaine can lead to skin and soft tissue infections as well as transmission of viral hepatitis and HIV. Smoking crack increases risk of pulmonary infections and chronic pulmonary disease. By any route, cocaine can cause myocardial infarction, cardiac arrhythmia and seizure. Amongst poor urban populations, cocaine is most frequently smoked in the form of crack, the least expensive form of cocaine. Crack is commonly smoked from a glass pipe ("stem") with a steel wool filter. Oral injuries such as burns and lacerations are common among crack abusers. Tracheal and esophageal aspiration of smoking paraphernalia are rare sequelae of crack abuse. This unusual case graphically illustrates the tremendous compulsion to smoke crack, even in the face of extreme risk.
Teaching Residents about Caring for Patients with Substance Use Disorders: An Experiential Approach
Melissa Stein, MD(1); Alda M. Osinaga, MD(2); Hillary V. Kunins, MD(1,2); Robert J. Roose, MD, MPH(1) – (1)Albert Einstein College of Medicine; (2)Montefiore Medical Center

**Background:** It is widely acknowledged that primary care residency programs provide insufficient curricula on the identification and treatment of substance use disorders (SUD). One potentially effective approach in teaching residents is to have them learn from experts providing care for patients in substance abuse treatment programs. **Objective:** To provide an experiential learning program for primary care residents (in family medicine and internal medicine) in a methadone maintenance treatment program. **Methods:** The Division of Substance Abuse (DoSA) operates methadone maintenance treatment programs in an urban area with a high prevalence of opioid dependence. Each clinic is staffed with physicians trained in family or internal medicine who provide substance abuse treatment and primary medical care. Through collaboration with Montefiore's Residency Program in Social Medicine, we developed elective rotations for residents in their PGY2 and PGY3 years. Family medicine residents can participate in a 2-week outpatient Substance Abuse rotation or a 2-week elective on the care of marginalized populations which includes a substance abuse component. Internal medicine residents can participate in a year-long longitudinal "track" in which they spend approximately 12 half-day sessions providing patient care. All residents see patients with their preceptor initially and then independently with close supervision. Residents perform comprehensive assessments of new patients, methadone and buprenorphine management, and medical visits with a specific focus on the integration of primary care and substance abuse treatment. **Results:** Thus far, 11 family medicine and 8 internal medicine residents have participated in these elective rotations. Qualitative evaluations indicate that the participating residents developed new skills and knowledge regarding substance abuse disorders. They appreciated learning about diagnoses and treatment options which they have not seen commonly in other outpatient settings and the opportunity to discuss and assess risky behaviors. **Conclusions:** This experience enabled family and internal medicine residents to develop the knowledge and skills to care for patients with SUD, learn about recovery, and have role models who provide high quality care to patients with SUD. Implementation required appropriate clinical settings. Future changes will include increasing residents' experiences with methadone and buprenorphine management and their involvement in HIV and Hepatitis C treatment.

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Undergraduate Nursing Students' Attitudes towards Alcohol Issues Related: Analysis of the Influence of Sociodemographic and Training Variables
Divane Vargas, PhD, RN - Nursing School São Paulo University

**Background:** A number of international studies have reported on negative attitudes of nurses and nursing students towards substance misusers and have found that this
issue receives little attention in the professional education of nurses. **Objective:** This research examined attitudes towards alcohol, alcoholism and alcoholics in a sample of Brazilian nursing students and analyzed associations between these attitudes and the sociodemographic characteristics of participants. **Methods:** Study participants comprised 144 last-year undergraduate students from two private colleges. A scale of attitudes towards alcohol, alcoholism and alcoholics was used for data collection. **Results:** The results showed that most participants presented positive attitudes towards alcohol, alcoholism and alcohol addicts. In addition, gender, age, and the number of hours that the participants spent in lectures on alcohol and other drugs during their education were associated with positive attitudes towards their work and interpersonal relationships with alcoholics. This association was strongest in females (OR = 3.42), younger participants (OR = 2.18) and in those that received more lecture hours on alcohol and other drugs during their education (OR = 3.53). **Conclusions:** In conclusion, the authors suggest that education and preparation in coping with drug problems increase nurses' abilities at work and support more positive attitudes towards clientele with drug problems. In addition, these studies demonstrated that a significant percentage of students presented negative attitudes towards alcohol, alcoholism and alcohol addicts despite the fact that positive attitudes prevailed in their schools. These results reflect the lack of importance attributed to drug issues in undergraduate nursing curricula in Brazil.

Nursing Students’ Attitudes towards Alcohol, Alcoholism and Alcoholics: A Study in a Brazilian Sample
Divane Vargas, PhD, RN; Marcia Aparecida Ferreira De Oliveria, PhD, RN; Sonia Barros, PhD, RN - Nursing School São Paulo University

**Background:** Various international studies have reported on nurses and nursing students' negative attitudes towards substance misusers and that this issue has received little attention in these professionals' education. **Objective:** This research aimed to examine attitudes towards alcohol, alcoholism and alcoholics in a sample of Brazilian nursing students. **Methods:** Study participants were 144 last-year undergraduate students from two private colleges. The Scale of attitudes towards alcohol, alcoholism and alcoholics was used for data collection. **Results:** The results evidenced that most participants presented positive attitudes towards alcohol and alcoholism. Attitudes towards alcoholics were more negative than those reported in literature though, as most participants considered alcoholics are guilty of their health problems and prefer not to work with this kind of patients. In line with previous studies, students' lack of preparation and adaptation to act on the problem of alcohol and other drugs was evidenced. **Conclusions:** In conclusion, students' attitudes towards issues related to alcohol and alcoholism tend towards ambivalence and negativeness, which can be attributed to the lack of preparation during undergraduate studies and the fact that, despite specialists' recommendations in Brazil, little has been invested in nursing education with regard to alcohol and other drugs, particularly in private schools.
Evaluation of SBIRT Curricula in Ten Medical Departments in South Texas
Janet F. Williams, MD; Danielle Dunlap, MS; Sandra K. Burge, PhD; Kyle Kozlovsky, MS; Suyen Schneegans, MA; Nancy Amodei, PhD; and the S-START team - University of Texas Health Science Center at San Antonio

**Background:** Screening, Brief Intervention, and Referral to Treatment (SBIRT) is an evidence-based approach to the delivery of early interventions for persons at risk for substance use disorders. SBIRT can reduce substance use and decrease healthcare utilization and costs. Few physicians routinely incorporate SBIRT into clinical practice. Therefore, we initiated a training program, the SBIRT-South Texas Area Residency Training (S-START), to promote SBIRT in clinical practice.

**Objective:** Project S-START aims to improve knowledge, attitudes, and SBIRT practices in 539 resident physicians in multiple medical specialties over four years, with sustained curricular and clinical practices thereafter. **Method:** Departments representing Pediatrics, Family Medicine, Internal Medicine, Psychiatry, and OB/GYN in south Texas have incorporated SBIRT curricula into their residency training programs. Training modules include but are not limited to cultural competency, medical consequences, and pharmacotherapy. Curricula has been implemented using diverse methods, including skill-building workshops, clinical pocket card assignments, web-based repository of SBIRT resources, and objective structured clinical examinations. Residents’ SBIRT knowledge, attitudes, and current practice are evaluated at pre-test and annually thereafter. Curriculum effectiveness is assessed using repeated measures ANOVAs. **Results:** Of 103 residents who completed the 12-month survey, 29% were male, 31% were Hispanic, and 40% were white. Residents increased their SBIRT knowledge (35% to 43%; \(p<.001\)), confidence to provide SBIRT to patients (64/100 to 70/100; \(p<.001\)), and self-reported SBIRT practices (64/100 to 76/100; \(p<.001\)). Residents’ readiness to do SBIRT did not significantly change, but remained high from pre-test (85.3/100) to follow-up (84.1/100). **Conclusions:** After one year of SBIRT training in the respective residency programs, medical residents showed significant improvements in knowledge, confidence, and practice with regard to their patients. Results suggest that the introduction of the SBIRT curriculum has been successful, although training has been implemented across different medical specialties using varied training methods. In future research, we will focus on the curriculum success by department.

Trends in Detection Rates in Healthcare Settings of Risky Marijuana Use in Colorado
Melissa Richmond, PhD(1); Laura Rivera, PhD(1); Brie Reimann, MPA(2); Leigh Fischer, MPH(2) - (1)OMNI Institute; (2)Peer Assistance Services, Inc.

**Background:** Recent changes in marijuana laws and regulations have led to concerns that access to marijuana will increase and perceptions of harm from its use will decrease, leading to increased marijuana abuse and associated negative health
consequences. Colorado is a medical marijuana state and in the last few years has seen a dramatic change in the marijuana landscape, including the proliferation of dispensaries. **Objective:** To examine changes in rates of patients screening positive for risky marijuana use in healthcare settings in Colorado through screening, brief intervention, and referral to treatment (SBIRT) service provision; and 2) to assess whether there were trends in severity of use at screening among marijuana users. **Method:** Over a 39 month period, from January 2008 to March 2011, health educators screened 100,585 unduplicated patients in 12 healthcare settings in Colorado in urban, rural, and frontier locations as part of a Substance Abuse and Mental Health Services Administration funded initiative. When patients pre-screened positive for alcohol or drug use, health educators administered the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) to assess the degree of risky use across multiple substances. Trends in rates of positive marijuana screens were examined using regression techniques. **Results:** 7.9% of patients (7,958) screened positive for risky marijuana use (4+ on the ASSIST). Trend analyses suggest that the association between time and rates of a positive screen was not linear, but rather decreased and then increased (See Figure 1). For individuals that screened positive for marijuana use, average severity of use (scores on the ASSIST marijuana scale) was similar over time. **Conclusions:** Physicians in Colorado may be seeing an increasing number of risky marijuana users, but additional data are needed to determine whether this pattern will continue or whether it reflects normal variation over time. There was no evidence that severity among users was increasing.

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**Pilot Study on a New Brief Screen for Substance Abuse**

Kerry B. Broderick, BSN, MD(1); Melissa Richmond, PhD(2) - (1)Denver Health Medical Center; (2)OMNI Institute

**Background:** Busy hospital centers need sensitive and specific brief substance screening questions to open the conversation around substance use with patients. Screening Brief Intervention and Referral to Treatment (SBIRT) is a public health approach to preventing risky substance use behavior. In order to gain widespread acceptance of health providers universally screening patients for risky substance use behavior there is a need for a brief single item screening tool with acceptable sensitivity and specificity. We developed a four item brief substance screen (FIBSS) tool. **Objective:** The goal of the current study was to provide pilot data assessing the sensitivity and specificity of the FIBSS in detecting risky substance use compared to a validated screening tool. **Methods:** Design: Prospective observational cohort Setting and Population: Adult patients seen at an emergency department and an adult urgent care clinic in a large community urban safety net medical center. Data collection: At intake, nurses administered the four brief screen questions to patients. Health educators then approached patients blinded to the results of the intake brief screen and administered the ASSIST tool Outcomes: To assess sensitivity and specificity (and their 95% confidence intervals) of the FIBSS for detection of risky substance use, using the ASSIST scores as the reference standard for risky use.
Results: Between August 25th, 2010 and October 31st, 2010, health educators approached 2,529 patients. The final sample size for analysis was 1,692 (67% of those approached by health educators). According to the ASSIST, 44% of participating patients were engaging in risky tobacco use, 14% were engaging in risky alcohol use, 14% were engaging in risky marijuana use, and 9% were engaging in risky illicit, non-marijuana, drug use. Sensitivity values for the tobacco, alcohol, marijuana, and street drug questions were 88% (95% Confidence Interval [CI], 85%-90%), 76% (95%CI, 71%-81%), 72% (95%CI, 67%-78%), and 40% (95%CI, 32%-48%), respectively. Specificity values for the tobacco, alcohol, marijuana, and street drug questions were 96% (95%CI, 94%-97%), 87% (95%CI, 85%-89%), 96% (95%CI, 95%-97%), and 99% (95%CI, 98%-99%), respectively. Values differed minimally as a function of patient gender, ethnicity, and setting (ED, AUC).

Conclusions: Using the ASSIST as the reference standard, there was support for the use of the single item tobacco question, limited support for the alcohol and marijuana questions, and no support for the street drug question.

Emergency Physician Utilization of Alcohol/Substance Screening and Discharge Tools
Bonnie Kaplan, MD; Kerry B. Broderick, BSN, MD - Denver Health Medical Center

Background: Alcohol and substance abuse have cost the United States millions in lives and money. Over 20 years, there has been much work demonstrating the efficacy of Screening, Brief Intervention, and Referral to Treatment (SBIRT) in the Emergency Department (ED). Studies have shown that SBI provided by a physician can increase the likelihood of a patient following up for further treatment and significantly decreasing future abuse. Objective: By comparing results from a 1999 survey to a 2010 survey, we hypothesized that more emergency practitioners (EPs) are currently; using a screening tool for alcohol/substance abuse (A/SA), more frequently intervening in patients with high-risk A/SA behavior, and utilizing specific discharge instructions. Methods: Design: Cross-sectional self-administered surveys completed in 1999 and 2010. Setting and Population: USPS mailing to randomly selected American College of Emergency Physician (ACEP) members. Survey: A closed-response self-administered anonymous survey Outcomes: Utilization of validated A/SA screening tools; addressing A/SA with patients; clinician access and use of discharge instructions A/SA. Results: Of the 516 responses, 480 (93%) included completed surveys. The two longitudinal survey results were similar with respect to age, location, number of years practicing and gender of respondents. There was no significant difference between the median percentage of A/SA screened patients in 1999 versus 2010 (20% vs. 15%, p = 0.3). More EPs indicated that they use specific A/SA tool in the 2010 survey compared to the 1999 survey (26% vs. 19%, p = 0.03). In both surveys, the most commonly reported tool was the cage tool. There was no significant difference between the proportion of EPs who reported that they would always use discharge instructions that were specific for A/SA, if available (129/280 (46%) in 1999, and 238/480 (50%) in 2010, p = 0.4). Conclusions: While there was no difference between the two surveys for most responses, in 2010 more
EPs indicated that they use a specific tool for A/SA than in what was reported in 1999. In both surveys 90% of respondents reported that they have means of referral for A/SA; however, the screening median was only between 15-20%. With more education and social awareness of the repercussions of A/SA, it is extremely surprising to see no change in the implementation of screening and discharge instructions.

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Baylor SBIRT Medical Residency Training Program
Alicia Kowalchuk, DO; James H. Bray, PhD; Vicki Waters, MS, PA-C; Larry Laufman, EdD; Elizabeth H. Shilling - Baylor College of Medicine

Background: Screening, brief intervention, and referral to treatment (SBIRT) has demonstrated positive, cost effective outcomes for patients who engage in risky or unhealthy alcohol use but do not yet meet abuse or dependence criteria. However, incorporating SBIRT into residency training across decentralized clinical settings is challenging. Objective: The Baylor SBIRT Medical Residency Training Program is funded by the Substance Abuse and Mental Health Services Administration (SAMHSA) to train primary care medical residents to use SBIRT with all patients. Methods: Level 1 training (8 hours) includes presentations and interactive skill building exercises integrating SBIRT, the Transtheoretical Model of Change and Motivational Interviewing techniques, with booster sessions 3-6 months after training. Level 2 training (24 hours over 3 days) provides in-depth, train-the-trainer experience for selected resident and faculty champions from participating departments. SAMHSA Baseline and Follow-up surveys are administered immediately after training and 30 days later. Monthly automated Web-surveys assess implementation of SBIRT in clinical practice. Results: Seventy-three residents and faculty in Family & Community Medicine, Internal Medicine, and Psychiatry were trained. Cronbach's Alpha for Baseline and Follow-up surveys was .93 and .94, with response rates of 88.0% and 65.9%, respectively. Mean response rate for monthly implementation surveys was 85.6%. Baseline ratings of 93.2% (N=69) to 98.6% (N=73) showed agreement/strong agreement that the training was well prepared, well organized, and useful in dealing with substance abuse. After one month, most respondents indicated they applied the training (83.9%, N=47) and shared training information (54.4%, N=31). Mean satisfaction ratings dropped .31-.36 of a point. Though still "Satisfied," this was statistically significant (p=.001). Respondents reported using SBIRT with 26.4%-46.5% of their patients. Conclusions: Baylor's Medical Residency SBIRT Training Program is successful in immediate terms and addresses its intended objective. After training, residents need continued reinforcement to integrate SBIRT into their clinical responsibilities. The Project Team is revising and enhancing training materials with Web-support. By 2014, all residents in participating departments will be trained.

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Predictive Value of Readiness, Importance, and Confidence in Ability to Change Drinking and Smoking
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**Background:** Visual analog scales (VAS) are used to assess readiness to change constructs, which are often considered critical for change. **Objective:** We studied whether 3 constructs -readiness to change, importance of changing and confidence in ability to change- predict risk status 6 months later in 20 year-old men with either or both of two behaviors: risky drinking and smoking. **Methods:** 577 participants in a brief intervention randomized trial were assessed at baseline and 6 months later on alcohol and tobacco consumption and with three 1-10 VAS (readiness, importance, confidence) for each behavior. For each behavior, we used one regression model for each constructs. Models controlled for receipt of a brief intervention and used the lowest level (1-4) in each construct as the reference group (vs medium (5-7) and high (8-10) levels). **Results:** Among the 475 risky drinkers, mean (SD) readiness, importance and confidence to change drinking were 4.0 (3.1), 2.8 (2.2) and 7.2 (3.0). Readiness was not associated with being alcohol-risk free 6 months later (OR 1.3 [0.7; 2.2] and 1.4 [0.8; 2.6] for medium and high readiness). High importance and high confidence were associated with being risk free (OR 0.9 [0.5; 1.8] and 2.9 [1.2; 7.5] for medium and high importance; 2.1 [1.0;4.8] and 2.8 [1.5;5.6] for medium and high confidence). Among the 320 smokers, mean readiness, importance and confidence to change smoking were 4.6 (2.6), 5.3 (2.6) and 5.9 (2.6). Neither readiness nor importance were associated with being smoking free (OR 2.1 [0.9; 4.7] and 2.1 [0.8; 5.8] for medium and high readiness; 1.4 [0.6; 3.4] and 2.1 [0.8; 5.4] for medium and high importance). High confidence was associated with being smoking free (OR 2.2 [0.8;6.6] and 3.4 [1.2;9.8] for medium and high confidence). **Conclusions:** For drinking and smoking, high confidence in ability to change was associated -with similar magnitude- with a favorable outcome. This points to the value of confidence as an important predictor of successful change.

Reinventing the Reel: An Innovative Approach to Resident Skill-Building in Motivational Interviewing for Brief Intervention
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**Background:** To train primary care residents to address substance misuse, residency Screening, Brief Intervention & Referral to Treatment (SBIRT) training programs offering Motivational Interviewing (MI) training seldom include feedback and coaching, which research indicates enhances clinician skills and client commitment to change. An SBIRT residency training initiative developed an innovative approach supplementing three hours of MI training with feedback and coaching using an OSCE (Objective Structured Clinical Exam) format. **Objective:** This innovative "Virginia
Reel" trained and coached Family Medicine residents to use MI skills while providing ongoing medical care. **Methods:** To enhance teaching of recommended MI-based components of SBIRT-related clinic visits, eight SBIRT/MI-competent MDs and behavioral scientists trained and coached eight second-year Family Medicine residents in a two-hour session. Residents rotated through eight OSCE stations addressing 17 MI-based microskills. At each station a trainer played the roles of actor and coach. For each segment of the interview, residents received skills-instruction, practiced, received feedback, and then rotated to the next station in "Virginia Reel" fashion. To simulate practical use of MI in continuity of care, residents completed two consecutive Reel rounds, addressing the patient's unhealthy alcohol use and then addressing diabetes control improvement. Faculty utilized an OSCE to evaluate station-specific MI skills and gave an overall competency score. Residents self-evaluated using an OSCE checklist for all stations and overall, the entire activity, case relevance, faculty coaching and feedback, and quality of materials. **Results:** Three residents showed improvement between rounds. Resident evaluations were strongly positive, identifying the opportunity to practice MI skills and receipt of coaching and feedback from multiple MI experts as particularly valuable. **Conclusions:** Further study is needed to confirm the effectiveness of the approach and explore the impact of fewer OSCE stations of longer duration. Changes in residents' performance from the first to second case varied. Results may be useful in curriculum development.

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Survey of Addiction and Chronic Noncancer Pain Curriculum in Family Medicine Programs
Geoffrey Carden, MD - CMMC Family Medicine Residency

**Background:** The prevalence of chronic noncancer pain is 15% in the American population, and pain is a diagnosis in up to 80% of all visits to primary care. Addiction is also common in the American population, present in at least 15%, and is often comorbid with chronic noncancer pain. **Objective:** This study evaluates the training family medicine residents receive in the assessment and treatment of chronic noncancer pain and addiction. Additionally, we plan to identify areas for improvement and programs of excellence to serve as models for education. **Methods:** We contacted all family medicine residencies in the United States using a mixed-modal survey methodology to identify faculty responsible for resident training in addiction medicine; 132 programs agreed to participate. We emailed an anonymous web-based survey to all participating providers. **Results:** Fifty-two percent of programs finished the survey. Residencies averaged 6-10 hours of curricular time devoted to addiction education, usually as lectures or preceptorship. Faculty in charge of addiction curricula were usually family physicians or behavioralists without specialized training in addiction. Most training occurs in an outpatient setting, with only a small percentage of residents either exposed to patients in addiction treatment or involved in their care. **Conclusions:** Though addiction and chronic noncancer pain are common diagnoses, there is little curricular time dedicated to their instruction. Residents are not regularly exposed to validated tools for
addiction screening, evaluation tools of ongoing medication efficacy, common side effects, or signs of misuse/abuse requiring cessation of medications. Didactic is the most common form of education, though less useful than small group or experiential education in teaching skills and changing attitudes. Program-identified barriers to training residents in competent addiction care include lack of dedicated curricular time, faculty expertise, and resources for referral. Few programs formally assess resident competency in treatment of addiction or chronic noncancer pain. Further research is needed to identify ideal models of addiction training and to formulate standards for addiction training in family medicine residencies.

Initiating Research in a Research Naïve Neonatal Intensive Care Unit
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Background: Conducting research in the neonatal intensive care unit (NICU) with the most vulnerable patients is a challenge. Initiating research with staff who had never participated in research makes it even more challenging. We were faced with an important practice question: What is the best way to safely wean infants with neonatal abstinence syndrome (NAS) off pharmacotherapy? Objectives: Discuss the knowledge necessary for nursing staff to participate in unit based research and the impact of participation in research on nursing staff. Methods: A literature reviewed revealed a paucity of data on methods to wean infants off methadone. Our interdisciplinary team designed a research study comparing methods of weaning methadone (10% versus 20% daily), in the newborn infant. The research relied heavily on nursing participation, but many nurses had no experience with research. What did we need to do to get the staff up-to-date? Was it possible to implement this study successfully? Education included generalized research information, information specific to the neonatal opioid withdrawal study, and updates on study changes. Results: NICU staff participated in the research by scoring each infant’s level of withdrawal using the Finnegan Score, a standard measure of neonatal withdrawal. Interrater reliability was critical to assure consistent data. Staff members worked with an expert scorer each time it was the nurses’ first time to score a particular infant. Expert scorers participated 73% of the time. The scores of the expert and staff nurses had to be in agreement within two items to assure reliability, and were 92.3% of the time. Conclusions: Nurses discovered the importance of nursing in successful research. Staff also realized that infants in withdrawal who were not in the study did not receive the same level of care, and a protocol was developed so that care for the infant with opioid withdrawal in the NICU was standardized.
Training Health Professional Students on Minimizing the Risks of Prescription Opioids
Bradley Tanner, MD; Mary P. Metcalf, PhD, MPH; Susan E. Wilhelm, PhD; Karen M Rossie, PhD, DMD - Clinical Tools, Inc.

**Background:** Using NIH/NIDA SBIR funds we are developing a curriculum for health professional students, including medical students, to improve competence and clinical skills performance in treating pain with opioids and minimizing patients' risk of opioid misuse. **Objective:** We tested the usability of a web-based prototype of the curriculum containing various interactive features meant to accomplish skills training, and engage the learner, such as online, chat-based standardized patient (SP) interviews. **Methods:** In two rounds of online usability testing, 13 (n=6, n=7) medical students were recruited via convenience sampling to navigate through the website and provide qualitative and quantitative feedback on module features and architecture. We evaluated 1) SPs as a learning tool; 2) overall presentation of clinical skills; 3) animated videos to teach clinical skills; and 4) different styles of quiz questions. **Results:** Based on the first round of usability testing, we added a mix of case presentations, more instruction to the SP encounter, and a new quiz type (Choose Your Own Adventure). In the second round, students overwhelmingly thought that clinical skills in the demo module were appropriate for preclinical (100%) and clinical (86%) students. All medical students (n=7) agreed or strongly agreed that the case presentation styles used throughout the module were valuable and held their attention. All students also agreed that online chat would be an effective, interesting way to learn new clinical skills and to practice those skills. Animated video had low preference (17%). A majority of students (86%) agreed that the electronic health record effectively simulated a clinical experience and that documenting a patient note would confer clinical skills. **Conclusions:** Medical students responded positively to the novel method of assessing mastery of clinical skills via a variety of interactive features including an SP available via Internet chat. The curriculum has created engaging and interactive experiences to confer skills and meet ACGME and medical student competencies.

A Captive Audience: Perinatal Addictions Prevention Education
Suzanne Alumni- Kinkle BS, RN, CARN; Helen Hannigan, MGA - Southern New Jersey Perinatal Cooperative

**Background:** Southern New Jersey Perinatal Cooperative (SNJPC) is one of six regional Maternal Child Health Consortia (MCHC) licensed by the New Jersey Department of Health and Senior Services (NJDHSS). In 2002, the NJDHSS awarded funding to the MCHC to implement the Perinatal Addictions Prevention Project (PAPP). The project’s goal is to implement uniform statewide prenatal screenings and provide education about prenatal substance abuse. **Objective:** SNJPC’s PAPP goal is to raise awareness about the effects of alcohol, tobacco and drug use during pregnancy and decrease fetal exposure to these substances. **Method:** Estimates suggest over 50% incarcerations are related to drug offenses. SNJPC began outreach
education in local county jails, targeting individuals that would benefit from education on substance use and pregnancy. SNJPC is providing educational interventions in five county jails using a program that is divided into three sessions: The Effects of Alcohol on Pregnant Women; Substance Use and Pregnancy; and a game show style activity with incentives for participation. A pre and post survey tool was developed to measure the increase in knowledge about the dangers and effects of substance use during pregnancy. **Results:** The pre/post survey showed an increase in knowledge of the inmates following the educational intervention. For example, the survey showed an increase of 40% in correct knowledge about the effects of alcohol on the brain. The poster presentation will highlight findings of the survey. **Conclusion:** Incarcerated people are typically ignored by many community providers. The county jails welcomed SNJPC staff into their settings as a way to both serve their inmates and comply with the requirement they coordinate with community agencies. SNJPC staff found both male and female population interested in this topic. The sessions opened up discussion with the inmates about substance use when pregnant and cleared up many misconceptions. Male populations are usually not provided education of this type; however, research has shown males have an impact on whether pregnant women use substances so providing education to them also benefits their partners.

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**Curriculum Infusion of SBIRT into a Baccalaureate Nursing School**

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**Background:** The purpose of this educational project is to discuss the preliminary results of a three-year curriculum infusion of Screening, Brief Intervention, and Referral to Treatment (SBIRT) into the University of Pittsburgh School Of Nursing’s junior and senior level courses. **Objective:** The educational objectives of this project are to integrate a sustainable and replicable educational component on substance use, assessment, and intervention into the curriculum and add 140 nurses annually into the workforce who are able to identify and provide services to patients with substance use, abuse, or dependence within the context of numerous healthcare settings. **Methods:** The target population is undergraduate baccalaureate nursing students and faculty. The curriculum is an 11-module training (junior year) introducing the concept of SBIRT. The in-class sessions are followed by practice of SBIRT in real-life clinical settings and a simulation laboratory; followed by an in-class refresher booster session in the senior year. A mixed-method evaluation design is used to access student satisfaction, knowledge, and competency through survey data, student focus groups, and key informant interviews with clinical faculty. **Results:** The
results of survey data (n = 290) suggest high student satisfaction with training instruction (94%). Student perceptions of their role with regard to working with alcohol or drug-using patients increased following training. Students also perceived themselves as more prepared to work with patients who use alcohol and drugs.

Thirty faculty, clinical instructors and preceptors have been trained in addition to 390 BSN (traditional and 2nd degree students). **Conclusion:** A curriculum infusion of SBIRT can be successfully integrated into an undergraduate curriculum and can increase student’s knowledge, motivation and satisfaction in using SBIRT in various healthcare settings.

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**Patient Self-Administered Screening for Substance Use in Primary Care: Pilot Study of an Audio Guided Computer Assisted Self Interview (ACASI) Approach**

Jennifer McNeely, MD, MS(1); Brian Gilberti, BA(1); Rubina Khan, PAC, MPA(1); John Rotrosen, MD(1); Shiela M. Strauss, PhD(2); Marc N. Gourevitch, MD, MPH (1) - (1) New York University School of Medicine; (2) New York University College of Nursing

**Background:** Lack of a brief, accurate and validated screening and assessment tool to identify problematic drug and alcohol use is a significant barrier to integrating screening, brief intervention and referral to treatment (SBIRT) services into primary care settings. **Objective:** Because patient self-administered screening is potentially more efficient than the traditional face-to-face approach, we undertook a pilot study examining the feasibility and acceptability of an audio guided computer assisted self interview (ACASI) instrument to identify substance use. **Methods:** We adapted the WHO Alcohol and Substance Involvement Screening Test (ASSIST) to ACASI format and administered it on touch-screen tablet computers. English and Spanish speaking patients were recruited from the waiting area of a large urban primary care clinic. Participants completed the ACASI ASSIST in the waiting area, and received a $4.50 transit card. **Results:** Of 47 eligible patients approached, 35 (74%) agreed to participate. Participants were 57% male, mean age 49 years (range 28-72 years, SD=11). The majority (54%) were foreign born and 50% were Hispanic, 29% African American. 25 completed the ASSIST in English, 10 in Spanish. 30 participants (86%) screened positive for lifetime use of alcohol and/or other drugs (excluding tobacco), and 22 participants (63%) had current (past 3 months) use. Based on ASSIST scores, 13 (37%) had moderate or high risk use of alcohol and/or other drugs (6 alcohol, 11 other drugs, 4 both). Mean time to complete the ACASI ASSIST was 5.6 minutes (range 1.5-17.2 min, SD=3.2), and responses were 100% complete. All but one participant felt comfortable answering these questions on the computer. Most either preferred the computer to an interviewer (50%) or had no preference (38%). **Conclusions:** This pilot study indicates that computer-assisted substance use screening may be feasible and acceptable among a culturally diverse primary care patient population. Our next step will be to evaluate the validity of the ACASI-administered ASSIST.

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Use of an Alcohol Mini-CEX to Assess Interns' Skills in Alcohol Screening and Detection
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Background: Screening for and detection of alcohol use disorders (AUDs) is suboptimal in primary care settings. Medicine house staff are inconsistently trained in using recommended NIAAA guidelines, outlined in Helping Patients Who Drink to Much: A Clinician's Guide (www.niaaa.nih.gov/guide). Even with focused training, residents often execute screening procedures incompletely and/or ineffectively.

Objective: To assess the effectiveness of our didactic and skills-based training in Step 1 of the Clinician's Guide recommended approach to screening and detection of alcohol use disorders. Methods: During an ambulatory block rotation, interns participated 2 hours of training on Step 1 in the Clinician's Guide, which addresses how to Ask About Alcohol Use. In Step 1 clinicians are instructed to prescreen about alcohol use; ask a screening question about heavy drinking days; for positive screens, determine a weekly average; and for negative screens, advice staying within maximum limits. Our interns received a 30 minute lecture on the Step's components. Then they participated in a 90 minute group simulated patient exercise during which they practiced Step 1.

During a PGY2 ambulatory block month, one to six months after participating as interns in this training session, primary care faculty with expertise in substance abuse conducted Alcohol Screening and Detection Mini-CEX evaluations. House staff were asked to perform an alcohol screening interview, utilizing the recommended NIAA guidelines, while faculty observed and rated their performance, using a checklist derived from Step 1 components. Results: During 2010-2011, 21 PGY2s participated in the Alcohol Mini-CEX. All residents asked if patients used alcohol; but no residents' prescreening delineated between beer, wine, or other alcoholic beverages. Most residents asked alcohol users about quantity; but none determined a weekly average in high risk users, nor did they advise low risk users about the maximum drinking limits. Conclusions: Medicine house staff who participated in a skills-based training on the Step 1 of NIAA guidelines on how to Ask About Alcohol Use did not effectively implement these recommendations when observed during a live patient encounter. Trainees may require more intensive hands-on training, including direct observation and feedback, to improve their skills in alcohol screening and detection.

The Empirical Development of Feedback in a SBIRT Curriculum
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Background: A major barrier to actualizing the public health impact potential of screening, brief intervention, and referral to treatment (SBIRT) is the development and implementation of evidence-based training curricula for healthcare providers. Performance feedback has been identified as an important component of medical education, but little formal evaluation in SBIRT has taken place. **Objective:** At San Francisco General Hospital (SFGH), we developed an intensive SBIRT curriculum for PGY 2 and 3 residents. We report here on the evidence-based development, implementation, and learner response to a SBIRT Proficiency Checklist and Feedback Protocol designed to address residents’ perceived barriers to and confidence in their skills conducting SBIRT. **Methods:** As part of a federal grant to develop and implement SBIRT training in medical residency programs, we assessed 95 internal medicine residents before they received SBIRT training to identify characteristics and behaviors that would inform curriculum development. Resident self-reported SBIRT practices, confidence, and perceived barriers were addressed. Results of this assessment were used to inform the development an empirically informed curriculum that was then implemented and qualitatively assessed. **Results:** Assessment revealed that resident confidence in their SBIRT skills significantly predicted SBIRT practice ($\beta = .24, t(94) = 2.41, p < .01$). Lack of experience dealing with alcohol or drug problems and discomfort in dealing with these issues were significantly associated with low confidence, accounting for 15.9% of the variance in this variable. **Conclusions:** To target these barriers, we revised our SBIRT curriculum to increase resident confidence in their skills and developed an innovative SBIRT Proficiency Checklist and Feedback Protocol for skills practice observations. Qualitative feedback suggests that residents find the observation and corresponding tools helpful, despite the discomfort they experience in being observed.

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**Completion and Follow-up in Outpatient Detoxification Patients**
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**Background:** Research has looked for predictors of treatment outcome in opiate or alcohol withdrawal based on demographic data, severity of addiction and withdrawal, and medication used for detoxification. **Objective:** The purpose of this study was to see if there is a difference in the number of people who complete outpatient detoxification and follow-up with aftercare based on the drug of abuse. **Methods:** We performed a retrospective chart review of patients who attended the Ambulatory Detoxification Program in 2010. The numbers of patients who presented for detoxification, completed detoxification, and attended an aftercare appointment were totaled based on the drug from which the patient was withdrawing. Chi square analyses were performed to test for differences between groups. **Results:** In 2010, 949 people were referred to the Ambulatory Detoxification Program and of this number, 629 (66.3%) came to their first medication check. Of the patients who
attended their first medication check, 238 (37.8%) were withdrawing from opiates, 215 (34.1%) were withdrawing from alcohol, 56 (8.9%) were withdrawing from benzodiazepines, and 120 (19.1%) were withdrawing from more than one substance. A significantly higher percentage of patients withdrawing from alcohol or benzodiazepines completed detoxification (79.5% and 80.4%, respectively), than did patients withdrawing from opiates (65.1%) or more than one substance (60.8%). A significantly greater percentage of the patients withdrawing from alcohol (63.7%) or benzodiazepines (82.2%) attended an aftercare appointment than those who completed detoxification from opiates (49%). Similar to patients withdrawing from opiates, 60.8% of patients who detoxed from multiple substances at once completed detoxification and about 57.5% of those patients followed up with aftercare. Fifty-eight patients went through detoxification more than once. Patients withdrawing from benzodiazepines or multiple substances had a higher rate of repeat detoxification episodes. **Conclusions:** Attrition in follow-up care for patients referred to the Ambulatory Detoxification program starts as soon as patients leave the emergency department, and proceeds throughout the detoxification process. This is especially evident in patients withdrawing from opiates or multiple substances. Steps to retain patients withdrawing from opiates in treatment, such as use of buprenorphine/naloxone rather than clonidine for detoxification, should be considered.

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**Prevalence of Opioid and Other Drug use in Traumatic, Pregnancy-Associated Deaths of Florida Mothers**

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**Background:** In 2009, 1000 newborns in Florida hospitals were treated for a withdrawal syndrome. Florida has been referred to as an 'epicenter' of drug abuse with some of the highest rates of prescribing of painkillers, not to mention the 'pill mill' phenomenon. Unintentional overdoses have been on the rise within the United States, with deaths involving opioids increasing by almost 300% from 1999 to 2007. The State Pregnancy Associated Mortality Review (PAMR) Team systematically reviews deaths of women within one year of pregnancy or birth after chart abstraction. However, traumatic and drug-related deaths (due to suicide, homicide, or accidents) are not reviewed. Little has been reported about drug-related, pregnancy-associated deaths (i.e., death of pregnant women or women who delivered within a year of death). **Objective:** To review the prevalence of drug use in traumatic, pregnancy-associated deaths of Florida mothers. **Methods:** The state PAMR Team reviewed medical examiner and vital records from 1999 - 2006. Stage of pregnancy, BMI, and toxicology information were compiled. **Results:** A total of 645 pregnancy-associated deaths occurred during the study period, 381 of which were of traumatic nature. Within the traumatic deaths, the group was 78% white, 18% black, and 4% other with 42% aged 25-34. Drugs were involved in 66% of suicides, 34% of motor vehicle accidents, and 31% of homicides. The most common identified drugs among
decedents were alcohol, opioids, cocaine, and benzodiazepines. Opioids, benzodiazepines, and cocaine were the top drugs specifically contributing to accidental drug overdoses. **Conclusions:** Some of these deaths could have been prevented through changes in medical practice. Prescription opioids are distributed most often via primary care offices and emergency departments. Provider-level interventions that include education, prescription monitoring, and enforcement of legal consequences may be helpful in ensuring providers make the most responsible choices in the clinical management of pain and related conditions. Healthcare providers have a professional responsibility to warn pregnant women and women of reproductive age of the consequences of prescription drug use to their infant. If a prescription drug is necessary for a woman of childbearing age, it may be helpful to prescribe birth control to be used concurrently.

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**Implications of Substance Abuse for Primary Care Quality of Homeless Patients**

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**Background:** Patient-centered medical homes should address the priorities of the people they wish to help. We interviewed homeless patients (n=36) and providers (n=22) to: (a) identify aspects of quality relevant to homeless primary care; (b) develop a patient-reported quality survey for homeless primary care settings.

**Methods:** Interviews were audiotaped, transcribed and subject to thematic analysis to guide survey design. **Results:** Substance Abuse emerged as a key construct for homeless primary care, and it also influenced themes under constructs of Control and Trust/Respect.

**Examples:**

- Patients tied substance abuse to clinician judgments about whether they deserved care ("They all...cause you’re homeless, they all consider you as a drunk and a dope addict...so you’re down on your luck, they kick you good in the butt a little farther.")
- One participant described using fire stations but avoiding health facilities "Cause they just want to sober you up."
- Under Patient Control, patients embraced some control (e.g. choice of provider) but also asserted limits on control ("I’m an addict!.. if I had total control of what my doctor did...I [would go out] and relapse and it would be ugly").
- Under Trust/Respect, patients and providers spoke about interpersonal comfort, and the damage done by instances of disrespect "The doctor called me a crack head, called me a fucking junkie."

The resulting survey addresses these themes with patient-rated items like:

- *My primary care provider treats me as worthy of care no matter what my problem.*
- *My primary care provider would continue to work with me even if I make unhealthy choices.*
- *I help make important decisions about my primary care.*
- *Staff at this place treat some patients worse if they think that they have addiction issues.*
Conclusion: Patients and providers familiar with homelessness offer nuanced understandings of substance abuse, respect and control. These will influence how we measure quality for this population and guide the design of their patient-centered medical home.

Utilizing State-Funded Technical Support Model to Facilitate Transition of Displaced Buprenorphine Patients when Practices Close

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Background: Nationally there are 21,136 physicians waivered to prescribe buprenorphine under DATA 2000, this accounts for less then 2% of licensed physicians. In Massachusetts there are 999 waivered prescribers and since the beginning of DATA 2000, 73 have surrendered their waiver. Massachusetts Department of Public Health Bureau of Substance Abuse Services funded a collaborative care model to expand buprenorphine across the State and a technical support component for implementation. An unforeseen result of this model has been the seamless transition of patients that have been displaced due to practice closures and inability to continue treatment for their opioid dependence with buprenorphine.

Objective: Expand and disseminate access to treatment for patients when providers surrender their DATA 2000 waiver. Improving access includes facilitating seamless transitions into treatment for patients maintained on buprenorphine to prevent negative outcomes associated with inability to obtain buprenorphine to manage their chronic disease. Methods: We receive calls from BSAS, DEA, AG and the Board of Medicine when a practice is closing requesting our assistance in placing patients. When this occurs we notify funded sites as well as community providers in the area to assist in placement of patients. Results: Utilizing a state funded technical support initiative to provide seamless care to patients when licensed prescribers abruptly discontinue, this technical component has supported 14 practices to transition buprenorphine patients who otherwise would have had treatment disruptions. It has given us the ability to mobilize resources at funded sites, and transition patients quickly following practice disruptions. Also because the program is an extension of the state, providers are willing to support the needs of the Commonwealth and assist in fast tracking patients. Having a state funded/supported initiative has allowed Massachusetts to better facilitate patient's treatment and prevent lapse in care, further enhancing access to care when practices close unexpectedly. Conclusions: Closure of buprenorphine practices creates a dilemma for patients engaged in medication assisted treatment; they cannot simply begin seeing another physician to obtain a valid prescription. It is unlike treatment for any other disease entity in that the provider has to obtain a special license to prescribe the approved medications for opioid dependence and have the capacity under their waiver to do so.
More Alike than Different: Nursing and Dental Students' Attitudes on Substance Abuse Research
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Background: This study explores responses to one part of NYU's interprofessional project, Substance Abuse Research (SAR), Education, and Training. A 30 minute, web-based "activation module" was designed to pique learners’ interest in SAR, featuring 4 recognized, NIDA-funded researchers discussing cutting edge research. Objective: Engage students in substance abuse research careers. Methods: Online surveys went to 1,082 nursing (undergraduate and graduate) and 545 dental students who completed the assigned activation module. 1061 students returned the survey (65% response rate) assessing interest in SAR before and after the module, prior exposure to substance abuse (SA), perceived adequacy of SA education, research experience, and attitudes toward SA and research (10 items, 4-pt agreement scale). Results: For 32% of nursing and 38% of dental students module completion was associated with increased interest in SAR (moved from being only a little or not at all interested before the module to somewhat or very interested after). Nursing and dental students did not differ in reported adequacy of education but more dental (47%) than nursing students (38%; \( \chi^2=8.11, p=.02 \)) reported prior research experience and only 21% of dental (vs. 52% of nursing) students reported prior exposure to SA (\( \chi^2=29.3, p=.002 \)). For nurses, those with increased SAR interest did not significantly differ by level, research experience, or reported adequacy of SA education. However, significantly more nursing students with no or little prior exposure to SA (37%) became interested in SAR compared to those with prior exposure (26%; \( \chi^2=9.82, p=.002 \)). Conversely, more dental students research experience (47% vs. 31% with no experience; \( \chi^2=9.0, p=.01 \)) became interested in SAR as did those reporting SA education as adequate (42% vs. 33% with inadequate education; \( \chi^2=2.89, p=.09 \)). Attitudes toward research predicted more variance in SAR than did attitudes toward SA. Conclusions: A web-based module appears to "activate" nursing and dental students' interest in SAR. Differences may reflect discipline specific experiences.

Knowledge, Skills and Attitudes of Identification and Management of Substance Use Disorders among Internal Medicine Residents
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Background: While alcohol and other drug use is common, there is limited training in the identification and management of unhealthy substance use in graduate medical education curricula. Objective: To identify the knowledge, skills, and attitudes of
Methods: We conducted a multi-site needs assessment of residents in three internal medicine training programs in the U.S. The 41-item instrument was adapted from a provider survey on unhealthy substance use designed by the National Center on Addiction and Substance Abuse at Columbia University. We added questions investigating respondents' perceived gaps in knowledge and preferred learning methods. This analysis includes data from the two sites that surveyed IM residents only. Results: 147 residents out of 244 invited completed the survey (response rate=60%). 52% of respondents were male; 33% PGY-1, 25% PGY-2, and 28% PGY-3 with the remainder having completed residency. Over 90% of residents felt "well prepared" (on a 4-point Likert scale) to diagnose diabetes or hypertension, compared with 55%, 54% and 31% feeling well prepared to identify alcoholism, illegal drug use or misuse of prescription drugs, respectively. 89% of residents reported using screening instruments. Less than 25% of residents felt "very comfortable" treating illegal drug use or misuse of prescription drug use, while 34% felt similarly treating alcoholism. In contrast, over 85% felt very comfortable treating diabetes and hypertension. Brief interventions were reported to be used by 35.9, 45.9 and 35.2% of residents with patients with alcohol, smoking, or other unhealthy substance use. Residents were not comfortable discussing unhealthy substance use problems with patients, with 21% reporting avoidance of the topic because of discomfort. Conclusions: Curricula for identification and treatment of unhealthy substance use should be enhanced with special focus on prescription drug misuse, screening and brief intervention.

Personality and Interpersonal Predictors of Substance Use Disorder Treatment Outcome: A Pilot Study
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Background: The literature on substance use disorders (SUD) has identified various in-treatment process variables (e.g., alliance, perceptions of the treatment environment, and relations with peer clients) that are associated with post-treatment outcomes among individuals receiving SUD treatment. To date, examination of personality-based predictors of these process variables is limited to disorders of personality rather than dimensions from structural models. Objective: In preparation for a large-scale study that will address this issue in veterans, we conducted a pilot study (N=9) to obtain descriptive data on the personality, interpersonal and psychosocial profiles of individuals from three Veteran's Administration SUD programs. Methods: Measures included an omnibus measure of personality - the Multidimensional Personality Questionnaire (MPQ; Tellegen & Waller, 2008); the Inventory of Interpersonal Problems (IIP-64; Horowitz, Alden, Wiggins & Pincus, 2000); and a number of other self report measures. Results: Key personality findings showed MPQ mean scale scores to be similar to other SUD populations such that veterans scored lower in well-being; social closeness; harm-avoidance; positive
emotionality; and constraint; and scored higher in stress reaction; alienation; and negative emotionality. Also, the variance in scale scores in this sample was comparable to the MPQ normative sample. Key interpersonal findings showed veterans scored higher in coldness/ distance; social inhibition; self-sacrifice; and intrusiveness/neediness. **Conclusions:** These preliminary findings suggest the MPQ will be an acceptable measure for the larger scale study aimed at identifying individual differences of personality in veterans entering SUD treatment that are predictive of treatment processes, retention, and outcome. Additionally, the IIP-64 appeared to discriminate veterans with SUDs from the normative sample in terms of interpersonal difficulties.

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**At-Risk Alcohol Use Criteria: Prevalence, Correlates, and Utility for Predicting Problems in College Students**
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**Background:** Targeted prevention efforts for college students at-risk of alcohol-related problems (ARP) require that students are properly identified as at-risk. Various at-risk criteria are used for screening/inclusion into programs/studies, and results are compared with little knowledge regarding potential criterion-dependent variation in samples. **Objective:** This study analyzed at-risk criteria regarding: prevalences, predictors, and utility for predicting ARP. **Methods:** Randomly selected undergraduates (n=602) provided in-person information on: alcohol and marijuana use, ARP, the AUDIT, and demographics. Participants were coded as "at-risk" (0, 1) under 6 common and/or recommended at-risk criteria: (1) NIAAA weekly drink limits (>7[f]/>14[m]); (2) AUDIT score ≥ 8; and 4 variants of binge drinking: (3) 5 drinks for both males and females (5/5) in the past 14 days; (4) 5/5 past 30 days; (5) 5/4 past 14 days; and (6) 5/4 past 30 days. Criterion prevalences were calculated. For each criterion, logistic regression analyses regressed at-risk status on: age, school year, GPA, gender, sexual orientation (heterosexual/LGBT), race, and current marijuana use. Finally, separate linear regression analyses regressed a total ARP score on the above variables. **Results:** Criterion prevalences ranged from 49% to 71%. At p<.05, marijuana use, and being White increased the odds of classification on all criteria. LGBT identity decreased the odds of being classified on 5 of 7 criteria. Being a junior (vs. freshmen) increased odds on 6 criteria. Gender differences existed for two criteria. Sophomores had increased odds on one criterion. In linear regression analyses, each criterion, and marijuana use positively predicted APR, as did being White for most models. **Conclusions:** All criteria predicted past ARP, but variation in predictors and prevalences suggest that receipt of prevention may depend on employed criteria(on/a). Further investigations should examine: the implications of divergent criteria for classifying prevention need, classification across school years, cannabis' role in alcohol use and ARP, and LGBT identification as a protective factor against at-risk classification, but not ARP.
Screening, Brief Intervention, Referral, and Treatment (SBIRT): The Physician Alcoholism and other Addictions Training Program (PAAT)
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Background: The Physician Alcoholism and other Addictions Training Program (PAAT) is a unique method of integrating a Screening, Brief Intervention, Referral, and Treatment (SBIRT) curricula into standard residency instruction. Objective: To enhance the ability of resident physicians to properly identify and treat addiction patients. Methods: Addiction training for resident physicians providing didactic and experiential sessions, skills practice with simulated patients, and brings education in addiction to life by pairing residents with alcoholics/addicts in recovery. Pre and post tests are used to measure program impact on the resident's skills and attitudes in treating the addiction patient. Results: Statistical results provide validation for using the principals of SBIRT within physician training. Conclusions: PAAT demonstrates that brief addiction training in medical residency can shape the attitudes of physicians, and fortifies their ability to implement SBIRT in their future practice. PAAT is a well-delineated educational addiction course that can be readily duplicated and exported for use as part of any medical residency core training program.

Residents' and Others' Attitudes about SBIRT
Daniel C. Vinson, MD; Bruce Horwitz, PhD; Debra Sprague, MA - University of Missouri

Background: In training residents and others, negative attitudes about alcohol and drug problems and about physicians' abilities to address them effectively may be barriers. Objective: To measure learners' attitudes at baseline and to explore changes among residents after training in SBIRT skills. Methods: At the beginning of standardized online training, we administered a survey of attitudes about SBIRT to all learners, including residents in 6 specialties and students in medicine and nursing. Now at the end of the first full academic year of implementation of our training, we are collecting follow-up data using the same instrument from all residents. Results: We have baseline data from 794 learners, including 134 medical students, 296 nursing students, and 170 residents. On a 1 "strongly agree" to 5 "strongly disagree" scale, 65.6% strongly agreed or agreed with the statement "I have a good understanding of substance use and abuse," 29.5% answered 1 or 2 to "I am confident in my ability to screen patients," and 35.4% answered 1 or 2 to "There are many physicians I work with who address alcohol and drug problems skillfully and
effectively." The 13 questionnaire items mapped to 3 factors which we label "confidence," "value," and "negative" impact on patients (e.g., provoking anger). Residents had significantly higher scores on "confidence" than medical and nursing students, and residents and medical students both scored significantly higher on "value" than nursing students. We have baseline and follow-up data from 20 residents (19 in Family Medicine, 1 in Ob-Gyn) in whom the score on "confidence" improved significantly (from 2.76 to 2.14, toward "Agree"), and the score on "negative" improved though not statistically significantly (from 3.925 to 4.2).

**Conclusions:** At baseline, residents expressed more confidence in their SBIRT skills than students in the two professions, and valued them more highly than nursing students. Even with only 20 respondents to date (data collection in process), significant improvements were seen in residents' expressed confidence in their SBIRT skills.

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**What do Our Patients think about Talking about Drug and Alcohol Concerns?**

Bruce Horwitz, PhD; Daniel C. Vinson, MD; Debra Sprague, MA - University of Missouri

**Background:** Hazardous use of alcohol and illicit drugs and substance abuse and dependence are common, serious, and hidden. They can be identified by screening, but screening isn't routine. Objections include the concern that patients might object. **Objective:** Determine the prevalence of alcohol and drug problems, how often patients report their physician has discussed it with them, and whether they "would have liked" such a discussion. **Methods:** Patients were asked to complete anonymous questionnaires immediately after seeing their physician, which included screening questions for alcohol and drug use problems, whether those issues have been discussed "today" or at any visit in the past 12 months, whether the patient has any concerns about these issues, and whether they wanted their doctor to talk with them about these issues. The questionnaire did not identify the physician. **Results:** We have collected questionnaires from 139 patients of family medicine residents. (Data collection is ongoing.) Of those, 29% smoke, 31% screened positive for alcohol problems with the AUDIT-C, and 10% screened positive for illicit drug use or prescription drug misuse. Of the 49 who screened positive for alcohol, drugs, or both, 21 were women, 27% of the women who responded. Eight (16%) of the 43 hazardous drinkers endorsed "would have liked your doctor to talk with you" about their drinking. Of those 8, two reported discussing it "today" and two others reported discussing it sometime in the past 12 months. Two (14%) of the 14 who screened positive for drug problems would have liked to discuss it. One of those 2 reported discussing it sometime in the past 12 months, and neither reported discussing it "today." **Conclusions:** Positive screens for alcohol and drug problems are common among our patients. About 15% of them "would have liked" to talk about them, but few have. In addition to those, a substantially bigger number may be willing to have the physician bring it up.
HIV Risk Behavior among Dominican Youth: The Role of Alcohol and Other Drugs  
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**Background:** Alcohol consumption and HIV disproportionately affect youth in Dominican Republic. Limited research has focused on the unique role of tourism areas as distinct ecologies facilitative of youth's early transition to chronic alcohol use, and on the related HIV vulnerability. **Objective:** The study examines the relationship between adolescent chronic alcohol use, youths' affective states and their satisfaction with parent-adolescent relationships in the context of massive exposure of adolescents to alcohol in a tourism-dominated area in the DR. **Methods:** A total sample of 213 adolescents aged 11 to 14 was recruited. Data were collected via self-administered questionnaires. Primary measures included self-esteem, sexual behavior, alcohol use and drug use, and parent-adolescent relationship satisfaction. The analytical method relied on structural equation modeling. **Results:** Several interesting results emerged. Chronic alcohol use in adolescents was shown to have substantial relational and affective consequences, and to impact sexual risk behavior. Our data analysis suggests a path from adolescent chronic alcohol use to the worsening of parent-adolescent relationships to the decrease of adolescents' self-esteem. Most importantly, this decrease of self-esteem was found to be associated with the growth of intention to have sexual intercourse, but only in girls, not in boys, suggesting gender differences in mechanisms by which chronic alcohol use impacts sexual risk behavior. **Conclusions:** Our findings highlight gender dissimilarities in the relational and affective paths from chronic alcohol consumption to sexual risk behavior and reinforce the importance of gender as an essential segmentation variable in the development of HIV prevention interventions. Also, the present study reinforces the role of Dominican parents in preventing chronic alcohol use and sexual risk taking in DR adolescents. The study established the peak age for chronic alcohol use in the observed population at 14 years old, implying that interventions should start in early adolescence, preferably before youth turn 14 years of age.

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Dual Diagnosis and Integrated Treatment of Mental Illness and Substance Abuse Disorders  
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**Background:** Working and helping clients who have several Mental Health problems and are Chronic Substance Abusers gain and maintain stability with their Mental Health and developing positive coping skills to deal with life problems without seeking to use Mind Altering Substances. **Learning Objectives:** What does effective integrated treatment entail and how to provide it; how to use Motivational Interviewing to help client. **Case Presentation:** The content will show how dual
Diagnosis services are treatments for people who suffer from co-occurring disorders such as mental illness and substance abuse. Also how research has strongly indicated that to recover fully, a person with a co-occurring disorder needs treatment for both problems. Dual diagnosis services integrate assistance for each condition, helping people recover from both in one setting, at the same time. **Discussion:** The discussion will include the following information: How Dual diagnosis services different types of assistance that goes beyond standard therapy or medication: assertive outreach, job and housing assistance, family counseling, and money and relationship management. Also how personalized treatment is viewed as long-term and can be begun at whatever stage of recovery the person is in. Providing each person with positivity, hope and optimism are at the foundation of integrated treatment.

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