Identifying Ecological Momentary Intervention Targets: Desire for Marijuana, Efforts to Avoid Use, and Episodes of Use
Lydia Shrier, MD, MPH; David Williams, PhD

2015 John Nelson Chappel - Best Research Award Winner

Opioid Overdose Prevention with Naloxone, an Adjunct to Basic Life Support Training for First Year Medical Students
Noah Berland, MS2; Babak Tofighi, MD; Kathleen Hanley, MD

2015 Best Abstract - Program and Curricula Award Winner

Directly Observed Varenicline Therapy Improves Adherence among Methadone Maintained Smokers in a Randomized Trial
Shadi Nahvi, MD, MS; Tangeria R. Adams, BA; Kate S. Segal, BA; Yuming Ning, PhD; Julia H. Arnsten, MD, MPH

2015 Best Abstract Semi-Finalist Award Winner

Medical Marijuana Diversion in Two Clinical Populations of Youth: Early Trends after Legalization
Sion Kim Harris, PhD; Sharon J. Levy, MD, MPH; Lydia A. Shrier, MD, MPH

Marijuana Use Pre- and Post- Legalization of Retail Marijuana in Emergency Department and Primary Care Patient Populations Participating in a Brief Screen and Intervention Initiative
Ana P. Nunes, PhD; Jim Mayfield, MA; Elizabeth Speaker, MS; Kerryann B. Broderick, MD, BSN; Kelly Marzano, MA; Melissa Richmond, PhD; Carolyn Swenson, MSPH, MSN, RN

“Bath Salts” Dependence and Relapse to Alpha-Pyrrolidinopentiophenone (A-PVP): A Case Report of Acute Toxicity and Withdrawal Treatment with Topiramate
Erik Gunderson, MD, FASAM; Christopher Holstege, MD
Using GPS and Continuous Ambulatory Monitoring to Assess Relationships between Heart Rate and Neighborhood Environment
Karran A. Phillips, MD, MSc; Matthew Tyburski, PhD; David H. Epstein, PhD; Kenzie L. Preston, PhD

Adverse Childhood Experiences and Alcohol Misuse among Racial/Ethnic Minorities
Mary Ann Priester, MSW; Nikki Wooten, PhD, LISW-CP

Mental Health and Substance Misuse 7 Years Following an Emergency Department Admission for Alcohol Intoxication
Angéline Adam, MD; Mohamed Faouzi, PhD; Bertrand Yersin, MD; Patrick Bodenmann, MD, MSc; Jean-Bernard Daeppen, MD; Nicolas Bertholet, MD, MSc

Is the Relationship between Age at First Alcohol Use and Adult Mental Health Status Moderated by Race, Ethnicity, and Gender? Results from the NSDUH, 2010-2013
Timothy B. Creedon, MA; Jay Kosegarten, PhD

Implementation of an Integrated, Multidisciplinary Clinic to Address Pain-Prescribed Opioid Misuse among Veterans
Ajay Manhapra, MD; Dana J. Cervone, APRN; John Sellinger, PhD; Brent A. Moore, PhD; Ellen L. Edens, MD, MPE; William C Becker MD

Treatment Outcomes for Veterans With PTSD and Substance Use: Impact of Specific Substances and Achievement of Abstinence
Ajay Manhapra, MD; Elina Stefanovics, PhD; Robert Rosenheck, MD

Homeless and Impaired: High-Risk Alcohol Use and Cognitive Impairment in a Population-Based Sample of Older Homeless Adults
Emily E. Hurstak, MD, MPH; Lina Tieu; David Guzman, MSPH; Claudia Ponath; Christine Weyer Jamora, PhD; Margot Kushel, MD

Screening, Brief Intervention, and Referral to Treatment (SBIRT) Program and Staff Attitudes and Knowledge in the Emergency Department: A 5-Year Comparison
Janetta L Iwanicki, MD; Matthew Taecker, MD; Bonnie L Kaplan, MD; Kerryann B. Broderick, MD, BSN
15 Computer Self-Administered Screening for Substance Use in a University Health Center: A Feasibility Pilot
Jennifer McNeely, MD, MS; Marcy Ferdschneider, DO; Allison Smith, MPH; Luke Sleiter, MPH; Carlo Ciotoli, MD; Noelle Leonard, PhD

16 Receipt of Alcohol Screening and Intervention by United States Adults
Richard L. Brown, MD, MPH; Joseph E. Glass, PhD, MSW; Kipling M. Bohnert, PhD

17 Validation of an Audio Computer Assisted Self-Administered Interview Version of the Alcohol, Smoking and Substance Involvement Screening Test (ACASI ASSIST) in Primary Care Patients
Pritika C. Kumar, PhD, MPH, MA; Charles M. Cleland, PhD; Marc N. Gourevitch, MD, MPH; John Rotrosen, MD; Shiela Strauss, PhD; Jennifer McNeely, MD, MS

18 What Value does the Group Visit Format in a Primary Care Setting offer Patients Struggling with Opioid Use Disorder? A Qualitative Study from the Patients' Perspective
Randi Sokol, MD, MPH, ME; Jess Early, MD; Fran Puopolo, RN; Grace Poirier, LPN; Ashley Duggan PhD; Allen Shaughnessy, PharmD, MMEd; Deviney Chaponis, MD; Caty Reyes, MD

19 Feasibility of Buprenorphine Group Visits for Individuals with Persistent Illicit Substance Use
Aaron D. Fox, MD, MS; Mariya Masyukova, MD, MS

20 Buprenorphine Initiation and Linkage to Outpatient Buprenorphine Do Not Reduce Frequency of Injection Drug Use for Hospitalized Patients Who Inject Opioids: Results of a Randomized Clinical Trial
Phoebe Cushman, MD; Michael Stein, MD; Bradley Anderson, PhD; Meredith Moreau, RN, MPH; Jane Liebschutz, MD, MPH

21 Psychopharmacotherapy for Patients in Primary Care Office Based Opioid Treatment (OBOT) with Buprenorphine
Zoe M. Weinstein, MD; Gabriela Gryczynski, MD, MPH; Emily Sission; Debbie M. Cheng, ScD; Colleen Labelle, RN; Jeffrey H. Samet, MD, MA, MPH

22 The Vicissitudes of Heroin: Change and Continuity in Heroin Forms and Markets in the United States
Sarah Mars, PhD; Jason Fessel, BA; Philippe Bourgois, PhD; Daniel Ciccarone, MPH, MD
Opioid "Push" Or Heroin "Pull": Regional Disparities in the Heroin Overdose Epidemic
Daniel Ciccarone, MD, MPH; George Jay Unick, PhD

The Medicaid Cost Burden of Opioid-Related Overdose Poisoning in the United States
Vladimir Zah PhD(c); Khemiri A, MSc; Kharitonova E, MSc; Ruby J, PhD; Aballea S, MSc

A Qualitative Study of Circumstances Surrounding Accidental and Intentional Opioid Overdoses
Scott Stumbo, MA; Bobbi Jo Yarborough, PsyD; Shannon L. Janoff, MPH; Micah T. Yarborough, MA; Dennis McCarty, PhD; Carla A. Green, PhD, MPH

Overdose Risk among Pregnant Women with Opioid Use Disorders
Sarah Bagley, MD; Howard Cabral, PhD; Kelley Saia, MD; Christine Llyod-Travaglini; Alexander Y. Walley, MD, MSc; Ruth Rose-Jacobs, ScD

Alcoholics Anonymous and Other Mutual Help Organizations: Impact of a 45-Minute Didactic for Internal Medicine Residents
David Marcovitz, MD; Julie Cristello, BA; John Kelly, PhD

Culturally Competent SBIRT: An Evidence-Informed Clinical Case Study
Jason Satterfield, PhD; Khanh Ly, BS; Derek Satre, PhD; Jennifer Manuel, PhD; Sandra Larios, PhD; Scott Steiger, MD

Integration of SBIRT into Undergraduate Nursing Curriculum
Fara Bowler, MS, APN, ANP-C; Mary Weber, PhD, PMHN, P-BC, FAANP; Laura D. Rosenthal, DNP, ACNP; Paul Cook, PhD; Laura Aagaard

Teaching Pediatric Residents a Skills-Based Screening, Brief Intervention and Referral to Treatment (SBIRT) Curriculum
Sheryl Ryan, MD; Deepa Camenga, MD, MS; Shara Martel, MPH; Michael Pantalon, PhD; Gail D’Onofrio, MD

Increasing Impact of Longitudinal Training on Residents’ Confidence and Performance of Alcohol Screening and Brief Intervention
J. Paul Seale, MD; J. Aaron Johnson, PhD; Sylvia Shellenberger, PhD

“Coach Vicky”: A Web-based, Self-Directed Brief Intervention Training Program
Michael V. Pantalon, PhD; Fuad Abujarad, PhD; Shara Martel, MPH; Kei-Hoi Cheung, PhD; Jeanette Tetrault, MD; Jenna Butner, MD; Gail D’Onofrio, MD
Dissemination and 8-year Evaluation of the Interdisciplinary Substance Abuse Research Education and Training (SARET) Program
Kathleen Hanley, MD; Sewit Bereket, MPH; Frederick More, DDS; Madeline Naegle, PhD; PMHCNS-BC, FAAN; Ellen Tuchman, PhD; Marc Gourevitch, MD

The Research in Addiction Medicine Scholars (RAMS) Program - Developing Researchers in Fellowship
Patrick G. O'Connor, MD, MPH; Jeffrey H. Samet, MD, MA, MPH; Judith Tsui, MD, MPH; Danna Gobel, MSW; Belle Brett, EdD; Carly Bridden, MA, MPH

Pain Action Consulting Team (PACT): A Mentorship-Based Strategy to Teach Responsible Opioid Prescribing
Edith Vargo, MD; Michael Clark, MD; Maura McGuire, MD

The Addiction Recovery Clinic: A Novel primary Care-Based Approach to Teaching Addiction Medicine
Stephen Holt, MD, MS; Nora Segar, MD; Sarita Soares, MD; Dana Cavallo, PhD; Jeanette Tetrault, MD

Follow-Up Evaluation of the Scaife Advanced Medical Student Fellowship in Alcohol and Other Drug Dependency
Dawn Lindsay, PhD; Holly Hagle, PhD; Piper Lincoln, MS; Jessica Williams, MPH; Peter Luongo, PhD

Diversity of Training Healthcare Providers in Addiction Medicine: Preliminary Qualitative Data
Jan Klimas, MSc, PhD; N. el-Guebaly; L. Rieb; E. Wood; W. Cullen

Common and Challenging Behaviors among Patients Taking Long-Term Opioid Therapy: Initial Results of a Delphi Study
Jessica S. Merlin, MD, MBA; Sarah Young, MSW; Payel Roy, MD; Soraya Azari, MD; Jamie Pomeranz, PhD; E. Jennifer Edelman, MD, MHS; William C. Becker, MD; Joanna Starrels, MD, MS; Jane M. Liebschutz, MD, MPH

Opioid Review Committees in Primary Care: What do Providers Want?
Soraya Azari, MD; Ghezal Saffi, BS; Claire Horton, MD; Paula Lum, MD

Community Pharmacy and Opioid Pain Medication: Screening Patients who Misuse or are at Risk for Misuse
Gerald Cochran, PhD; Thomas Ylioja, MSW; Jessica Rubinstein, MA, MSW; Ralph Tarter, PhD
42 A Continuum of Care Model for Opioid Misuse in Community Pharmacy
Gerald Cochran, PhD; Adam J. Gordon, MD; Craig Field, PhD; Jennifer Bacci, PharmD; Ranjita Dhital, MRPharmS; Thomas Ylioja, MSW; Maxine Stitzer, PhD; Thomas Kelly, PhD; Ralph Tarter, PhD

43 Empowering Residents to Address Chronic Pain and Prescription Opioid Misuse in Primary Care
Allison L. Ruff, MD; Daniel P. Alford, MD, MPH; Robert Butler; J. Harry Isaacson, MD

44 SCOPE of Pain: An Evaluation of an Opioid Risk Evaluation and Mitigation Strategy (REMS) Continuing Education Program
Daniel P. Alford, MD, MPH; Lara Zisblatt, EdD, MA; Pamela Ng, MSc; Sean M. Hayes, PsyD; Sophie Péloquin; Ilana Hardesty; Julie L. White, MS

45 Primary Care Patients with Drug use Identified by Screening Self-Medicate with Alcohol and other Drugs for Chronic Pain
Daniel P. Alford, MD, MPH; Jacqueline German, MPH; Jeffrey Samet, MD, MA, MPH; Debbie Cheng, ScD; Christine Lloyd-Travaglini, MPH; Richard Saitz, MD, MPH

46 Increasing Follow-up Outcomes of Patients at-Risk for Alcohol use using Motivational Interviewing
Rachael Garbers, BSCHE; Andy Wagner, RN, BSN; Ann Lang, RN, MS; Andrew J. Borgert, PhD; Mason Fisher, MD, FACS

47 Screening and Brief Intervention for Low Risk Drug Use in Primary Care: A Pilot Randomized Trial
Richard Saitz, MD, MPH; Seville M. Meli, MPH; Tibor P. Palfai, PhD; Debbie Cheng, ScD; Daniel P. Alford MD, MPH; Judith A. Bernstein, RN, PhD; Jeffrey H. Samet, MD, MA, MPH; Christine A. Lloyd-Travaglini, MA; Christine E. Chaisson, MA

48 Effect of Screening and Brief Intervention for Drug Use in Primary Care on Receipt of Substance Use Disorder Treatment
Theresa W. Kim, MD; Judith Bernstein, PhD, MSN; Debbie M. Cheng, ScD; Jeffrey H. Samet, MD, MA, MPH; Christine Lloyd-Travaglini, MPH; Tibor Palfai, PhD; Richard Saitz, MD, MPH

49 Qualitative Analysis of Risky Drinking Primary Care Patient Perceptions of Three Discrete Brief Interventions
Stephanie A. Cockrell, LMSW; Valerie A. Carrejo, MD; Bradley W. Samuel, PhD; Krystal L. Bradford; Elizabeth N. Weems; Jennifer Hettema, PhD
The Anexo in the United States: A Transnational Substance Abuse Disorder Treatment Modality for Latinos
Victor Garcia, PhD; Anna Pagano, PhD

Substance Use Disorder Treatment Staff Acceptance of Intensive Referral to Self-Help Groups: Adoption, Implementation, and Maintenance
Kathleen M. Grant, MD; Lance Brendan Young, PhD; R. Dario Pulido, PhD; Monica Meeks, BA; Cynthia Beaumont, CCRC; Jamie L. Simpson, PhD

XR-NTX for Opioid Use Disorder: In-Treatment Benefit Attenuates after Discontinuation
Peter Friedmann, MD; Donna Wilson, MS; Joshua Lee, MD; Timothy Kinlock, PhD; Edward Nunes, MD; Charles O'Brien, MD

Methadone Maintenance Therapy (MMT) Associated with Significant Decrease in Time above Viral Load Threshold in HIV Positive Illicit Drug Users
Christopher Fairgrieve, BMSc, MD, CCFP, ABAM; Evan Wood; Julio Montaner; Thomas Kerr; M-J Milloy, PhD

Access and Barriers to Opioid Agonist Therapy Among Persons with Problematic Opioid Use
Judith Tsui, MD, MPH; Anthony Floyd, PhD; Caleb Banta-Green PhD, MPH, MSW

Patient-Provider Communication Regarding Opioid Use Disorders during the First Obstetric Visit
Elizabeth E. Krans, MD, MSc; Cyndi Holland, MPH; Judy Chang, MD, MPH

Examining the Effectiveness of Culturally Adapted Substance Use Interventions for Latino Adolescents: A Systematic Review and Meta-analysis
Eden Hernandez Robles, MSW, PhD; Brandy Maynard, PhD; Chris Salas-Wright, PhD; Jelena Todic, MSW

Trajectories of Substance Use Frequency among Teens Seen in Primary Care
Scott E. Hadland, MD, MPH; Sarah H. Copelas, BA; Sion K. Harris, PhD

Does Patient or Clinician Gender Modify the Efficacy of a Primary Care Brief Intervention for Adolescent Alcohol Use?
Lilia D'Souza-Li, MD, PhD; John Rogers Knight Jr., MD; Lon Sherritt, MPH; Jesse Boggis, BA; Sion Kim Harris, PhD

Autism Spectrum Disorder and Substance Use in Youth
Luis Carcache, MD; Daniel Castellanos, MD; Raymond Estefania, LMHC, CAP; Ana Moreno, LMHC, CAP; Leonard Gralnik, MD
Enhanced Uptake of Hepatitis C Treatment in an Opioid Treatment Program in the Direct Acting Antiviral Era
Jenna Butner, MD; Jeanette Tetrault, MD

HCV Outcomes in a Primary Care Buprenorphine Clinic
Brianna Norton, DO, MPH; Anna Beitin, MD; Alain Litwin, MD, MS, MPH; Chinazo Cunningham, MD, MS

Hepatitis C Virus Testing and Treatment among Persons Receiving Buprenorphine in an Office-Based Program for Opioid Use Disorders
Judith Tsui, MD, MPH; Katelyn J. Carey, MPH; Wei Huang, MPH; Benjamin P. Linas, MD, MPH

Bringing Hepatitis C Treatment into the Medical Home: A Pilot Program for Drug Users
Joanna Eveland, MS, MD; Kristina Gunhouse-Vigil; Jennifer Huggans-Zapeta, NP; Eduardo Antonio; Jorge Villaroel, MFT

Knowledge and Attitudes Regarding Hepatitis C Virus Infection among Opioid Dependent Pregnant Women
Leah C. Klocke, BA; Shannon L. Dunn, MPH; Elizabeth E. Krans, MD, MSc

Internal Medicine Resident Knowledge, Attitudes and Barriers to Naloxone Prescription in Hospital and Clinic Settings
J. Deanna Wilson MD, MPH; Natalie Spicyn MD, MHS; Pamela Matson PhD; Anika Alvanzo MD; Leonard Feldman MD

Physician Attitudes Toward Prescribing Naloxone
Samuel McGowan, BA; P. Quincy Moore, MD; Pamela Vergara-Rodriguez, MD; Jeffrey Watts, MD; Joanne Routsolias, PharmD; Steven Aks, MD

Longitudinal Patterns of Buprenorphine-Naloxone Prescription-Filling among New York City Residents, 2011-2013
Ellenie Tuazon, MPH; Denise Paone EdD; Hillary Kunins, MD, MPH, MS

Naloxone for Life: Prescription to Fill Rates
Kerryann B. Broderick, BSN, MD; Kevin Kaucher, PharmD; Josh Blum, MD

Poster Presentations

Are Young Men who Overestimate Drinking by others More Likely to Respond to an Electronic Normative Feedback Brief Intervention?
Nicolas Bertholet, MD, MSc; Jean-Bernard Daeppen, MD; John A. Cunningham, PhD; Bernard Burnand, MD, MPH; Gerhard Gmel, PhD; Jacques Gaume, PhD
Psychiatric Symptoms and Pain Effects on Marijuana use and Drug use Consequences
Nicolas Bertholet, MD, MSc; Debbie M. Cheng, PhD; Tibor P. Palfai, PhD; Christine Lloyd-Travaglini, MPH; Jeffrey H. Samet, MD, MA, MPH; Richard Saitz, MD, MPH

Shaped by my Disease: Perspectives on Substance Use Shared by Youth with Chronic Medical Conditions
Elissa Weitzman, ScD, MSc; Parissa Salimian, BA; Lily Rabinow, MS; Sharon Levy, MD, MPH

Substance Use Patterns and Knowledge of Alcohol and Marijuana Use Harm among Adolescents with ADHD
Elizabeth Harstad, MD, MPH; Rosemary Ziemnik, BS; Qian Huang, BS, MPH; Parissa Salimian, BA; Elissa Weitzman, ScD, MSc; Sharon Levy, MD, MPH

Pediatrician Screening, Brief Intervention and Referral to Treatment (SBIRT) Practices: Results of a National Survey
Rosemary E. Ziemnik, BS; Sion K. Harris, PhD; Lucero Leon-Chi, MPH; Sharon Levy, MD, MPH

Alcohol Screening and Counseling Received by Youth in Subspecialty Medical Care
Additional Authors: Rosemary E. Ziemnik, BS; Elissa R. Weitzman, ScD, MSc; Julie Lunstead, MPH; Qian Huang, MPH; Sharon Levy, MD, MPH

Sexually Transmitted Infection Screening for Opioid-Dependent Pregnant Women
Elizabeth E. Krans, MD, MSc; Shannon L. Dunn, MPH

How are Private Health Plans Providing Drug and Alcohol Services in an Age of Parity and Health Reform?
M. Stewart, PhD; S. Reif, PhD; D.W. Garnick, ScD; D. Hodgkin, PhD; E.L. Merrick, PhD; A. Quinn, PhD; T.B. Creedon, MA; B. Evans; MSW; C. M. Horgan, ScD

Substance Screening and Brief Intervention in a University Student Health Clinic: Patients Share what's Most Effective for Them
Debra Sprague, MA; Martha Lerch; Dan Vinson, MD, MPH

Yale-SBIRT Medical Health Professional Training Programs
Gail D’Onofrio, MD, MS; Jeanette, Tetrault, MD; Jenna, Butner, MD; Shara, Martel, MPH; Joanne, Iennaco, PhD, PMNHNP-BC, APRN; Louisa Foss-Kelly, PhD; Uchenna, Nwachuku, Ed.D; Todd Rofuth DSW, MSW; Diane, Michaelsen, MSW; Jaak, Rakfeldt, Ph.D; William Rowe, DSW; Michael Pantalon, PhD
Comparison of Persistence, Resource Utilization, and Charges in Opioid Dependent Privately Insured Patients Treated with Suboxone Sublingual Film and Patients Treated with Buprenorphine Tablets
Vladimir Zah PhD(c); Khemiri A, MSc; Kharitonova E, MSc; Ruby J, PhD, Aballea S, MSc

Pre-Implementation Readiness for a Computer-Facilitated 5As Model in Primary Care
Anna Napoles, PhD; Sara Kalkhoran, MD; Soraya Azari, MD; Nicole Appelle, MD; Paula Lum, MD, MPH; Nicholas Alvarado, MPH; Jason Satterfield, PhD

Computer-Facilitated 5A's for Smoking Cessation
Catrina Chambers, PhD; Paula Lum, MD; Jason Satterfield, PhD

Is Employment Status in Adults Associated with Nonmedical Prescription Drug Use and Prescription Drug Use Disorders Secondary to Use?
Presenting Authors: Alexander Perlmutter, BA; Sarah Conner, MPH(c), BS; Mirko Savone, BA; June Kim, MHS, Silvia Martins, MD PhD; Luis Segura, MD

Medication Treatment for Addiction and Health Service Utilization among HIV-infected Adults with Substance Dependence
Kinna Thakrar, DO, MPH; Alexander Y Walley, MD, MSc; Timothy C Heeren, PhD; Michael R Winter, MPH; Alicia S Ventura, MPH; Margaret Sullivan, MD; Mari-Lynn Drainoni, PhD; Richard Saitz, MD, MPH

Integrating Program Evaluation in a Private Addictions Treatment Environment: Implications for Clinical Practice
Clare E. Campbell, BA; Brenda To, BA; Stephen A. Maisto, PhD; Gerard J. Connors, PhD

Evaluation of Patient and Collateral Post-Treatment Reports of Alcohol and Other Substance Use: Data from a Private Addictions Treatment System
Clare E. Campbell, BA; Brenda To, BA; Gerard J. Connors, PhD; Stephen A. Maisto, PhD

Evaluating a Smoke-Free Policy in a Housing-First Homeless Shelter
Anita M. Lowe, BA; Smita Das, MD, PhD, MPH; Judith P. Prochaska, PhD, MPH

Use of Risk Mitigation Practices by Family Nurse Practitioners Prescribing Opioids for the Management of Chronic Non-Malignant Pain: An Online Survey
Sahil Chaudhary, BS; Peggy Compton, RN, PhD, FAAN
A First Look at Quitting Characteristics among American Indian Tribal College Students
Babalola Faseru, MD, MPH; Niaman Nazir, MD, MPH; Christina M. Pacheco, JD; Julia White Bull, MA; Christi Nance, BS; Melissa K. Filippi, PhD, MPH; Christine M. Daley, PhD, SM, MA; Won S. Choi, PhD, MPH

Gabapentin Withdrawal, Somatic Symptom Syndrome and Anxiety: A Triad Cara Poland, MD, MEd; Carolyn King, MD; Eric Achtyes, MD

Self-Help Group Participation in Urban vs. Rural Treatment-Seeking Veterans
Kathleen M. Grant, MD; Lance Brendan Young, PhD; R. Dario Pulido, PhD; Monica Meeks, BA; Cynthia Beaumont, CCRC; Jamie L. Simpson, PhD

Screening, Brief Intervention and Referral to Treatment (SBIRT) Training across Multiple Health Professional Populations: Evaluation of Interprofessional Perceptions and Attitudes toward Individuals with Alcohol and other Drug Use
Ann Mitchell, PhD, RN; Irene Kane, PhD, RN; Kathyrn Puskar, PhD; Holly Hagle, PhD; Dawn Lindsay, PhD

Trends in Age and Gender of Physicians Certifying in Addiction Medicine
Lia Bennett, MPH, Kevin Kunz, MD, MPH; Deborah Bryant, MHA

Maintenance of Certification for Physicians Practicing Addiction Medicine: Evolution and Acceptability
Lia Bennett, MPH; Kevin Kunz, MD, MPH; Robert Sokol, MD, FACOG

Is it Time to Include Behavioral Addictions in the Curriculum?
Kathryn Johnson, DO; Lauren Lehmann, MD

Consistency of the Alcohol Use Disorders Identification Test Including Drugs Screening (AUDIT-ID) with Incarcerated Women
Audrey Begun, MSW, PhD; Susan Rose, MSW, PhD; Thomas LeBel, PhD

Prescription Monitoring Program Opioid Prescriptions in an Opioid Dependent Population
Kathryn Hawk, MD; Patrick G. O’Connor, MD, MPH; Michael V. Pantalon, PhD; Marek C. Chawarski, PhD; Susan H. Busch, PhD; Patricia H. Owens, MS; Steven L. Bernstein, MD; David A. Fiellin, MD; Gail D’Onofrio, MD, MS

Patient Selection for Extended-Release Naltrexone among Criminal Justice-Involved Persons with Opioid Use Disorders
Peter Friedmann, MD, MPH(1); Joshua Lee, MD; Edward Nunes, MD; Timothy Kinlock, PhD; Charles O’Brien, MD
98 SBIRT Practice: New York State Primary Care Providers' Knowledge, Attitudes, and Perceptions as Barriers and Facilitators
Brett R. Harris, DrPH; Jiang Yu, PhD; Shirley DeStafeno, MA; Megan O'Grady, PhD

99 School-Based Health Center Provider Rankings of Factors Influencing Practice Adoption, the Impacts of Substance Use on Adolescents, and how Implementing SBIRT can address the Impacts: Implications for Marketing
Brett R. Harris, DrPH; Benjamin A. Shaw, PhD; Hal A. Lawson, PhD; Barry R. Sherman, PhD

100 Evaluating Workforce Attitudes: Implementation of Evidence Based Practice (Medication Assisted Treatment) Into Standard Drug Treatment for Opioid Users
Anthony T. Estreet, PhD, LCSW-C, LCADC

101 Organizational Determinants of Recommended Drug Testing Practices in Methadone Maintenance Programs
Tae Woo Park, MD, MSc; Susan Ramsey, PhD; Donna Wilson, MD; Peter Friedmann, MD, MPH

102 Using Case Studies to Teach SBIRT in an Online Format
Cheri Barber, DNP, RN, CRNP; Heather Gotham, Sarah Knopf-Amelung

103 Transition from Prescription Opiate Use to Intravenous Heroin Use in Adolescents
Gabriella Barnett, MA; Hoa Vo, PhD

104 Expanding Buprenorphine Treatment and Residency Education in Response to an Opioid Abuse and Overdose Epidemic in Contra Costa County
Kenneth Saffier, MD; Lisa Rodelo, MD; Rohan Radhakrishna, MD, MPH; Stephen Merjavy, MD; Christy Martinez, MD

105 Performance in Practice Completion: its Impact on Physician Practice Improvements and Perceptions of Person-Centered Care
James Ford, PhD; Karen Oliver, PhD; Kathryn Cates-Wessel; Miriam Giles; Dean Krahn, MD; Frances Levin, MD

106 The Relationship between Intrinsic Motivation and Neurocognition in Individuals with Schizophrenia and Comorbid Substance Use Disorders
Amber L. Bahorik, PhD; Courtney Queen, MSW
Examining the Differences between Adults Over 50 and Younger Adults in Treatment for Co-Occurring Substance Abuse and Mental Health Disorders
Siobhan A Morse, MHSA, CRC, CAI, MAC; Susie Adams, PhD; Brian E. Bride, PhD, MPH; Samuel MacMaster, PhD; Cayce Watson, MSW

Treatment Satisfaction in the CTN Cocaine Use Reduction with Buprenorphine (CURB) Study
Dikla Shmueli-Blumberg, PhD; Abigail G. Matthews; Christie Thomas, MPH; Maureen Hillhouse, PhD; Alfonso Ang, PhD, and Walter Ling, MD

Preference for Buprenorphine/Naloxone Sublingual Tablet versus Sublingual Film in Opioid-Dependent Patients
Erik Gunderson, MD, FASAM; Michael Sumner, MB, BS, MRCP(UK)

Clinicians Understanding of Substance Use Disorders and Clinical Self-Efficacy
Karlynn BrintzenhofeSzoc, PhD, MSW; Petra Goodman, PhD, RN; Joseph Shields, PhD

Aerobic Kickboxing Training for Substance Abuse Rehabilitation in Hong Kong
KW Lai, MS, PT; YC So, MS, PT; F Chan, MBChB, FHKCPsyCh; YL To, MS, PT; KC Chow, MS, PT; WS Chung, MBChB, FHKCPsyCh; CY Man, MBChB, FHKCEM

Characteristics Associated with Trait Mindfulness among Marijuana-Using Youth
Meredith Kells, MSN, RN, CPNP; Beatrice Duvert, BA; Pamela Burke, PhD, RN; Matthew White, PhD; Vishnu Sarda, MS; Lydia A. Shrier, MPH, MD

Young People's Motivations for Reducing Marijuana Use: Are They Ready, Willing, and Able?
Pam Burke, PhD, RN; Meredith Kells, PhD(c), RN, CPNP; Beatrice Duvert, BA; Matthew White, PhD; Vishnu Sarda, MS; Lydia A. Shrier, MD, MPH

Mean Dose Distribution of Sublingual Buprenorphine/Naloxone Tablets in Opioid-Dependent Adults
Michael Sumner, MB, BS, MRCP(UK); Erik Gunderson, MD, FASAM

Enhanced Smoking Cessation Services via On-Site Nicotine Replacement Therapy (NRT) in an Opioid Treatment Program (OTP)
Melinda M. Katz, MD; Shomari M. Harris, MSW, EMPA, MA; Soteri Polydorou, MD; Markos D. Emmanouel, MD; Ellie Grossman, MD, MPH
Physicians Alcoholism & Other Addictions Training Course (PAAT)
Todd Whitmer, MS; Nicholas Pace, MD, FASAM; William Ciccaroni, MS, ACSW; Max Schwartzberg, MHC-LP, CASAC

Seaport Recovery Program: Tapering of Opioid Substitution Therapy using Group Support
Christina Holt, MD, MSc; Marybeth Leone Thomas, LCSW; David Loxterkamp, MD; Tim Hughes, MD

Exploring Adolescent, Parent, and Provider Perspectives of Social Media as a Support Tool for Parents of Teens in Substance Abuse Treatment
Marya Schulte, PhD; Annemarie Kelleghan, BA; Sean Young, PhD, MS

An Examination of Substance Misuse in an Urban Elderly Sample
Emily Loscalzo, PsyD; Robert C. Sterling, PhD; Stephen P. Weinstein, PhD; Brooke Salzman, MD

Service Utilization Predicts Early Treatment Outcome in Medication-Assisted Treatment
Emily Loscalzo, PsyD; Robert C. Sterling, PhD; Stephen P. Weinstein, PhD

Treatment of Opioid Addiction with Buprenorphine in a Department of Veterans Affairs Setting: Retention and Outcomes at 2 Years
Paul Donaher, MD; Samantha Brothers, BS; James Murphy, BS; Dianne MacNamera, RN; H. Kenney Basehore, PhD

Parenting Education Workshops for Pregnant Women in Substance Abuse Treatment for Opioid Dependence in an Ambulatory Clinic
Kyla Fallin, MSW; Whitney Mendel, MSW; Richard Blondell, MD; Thomas Nochajski, PhD

Key Content for Graduate Courses on Adolescent Substance Abuse Treatment: Examining Perspectives of Front Line Clinicians
Stella M. Resko, MSW, PhD; Suzanne Brown, PhD; Antonio Gonzalez-Prendes, PhD; Sean McGraw, MSW; Bryan Victor, MSW; Debra Patterson, PhD

Determinants of Alcohol Drinking and its Association with Sexual Practices among High School Students in Addis Ababa, Ethiopia: Cross Sectional Study
Dawit Teshome Gebregeorgise, B. Pharm, MSc; Dr Teferi Gedif, B. Pharm, MPH, PhD
Identifying Ecological Momentary Intervention Targets: Desire for Marijuana, Efforts to Avoid Use, and Episodes of Use
Lydia Shrier, MD, MPH; David Williams, PhD - Boston Children's Hospital

Background: Ecological Momentary Interventions (EMIs) are applied in the moments leading up to a potential drug use event, when drug desire and efforts to avoid use are occurring.

Objective: To examine temporal associations of momentary marijuana desire, avoidance efforts, and use episodes before, during, and 3 months after a motivational EMI to reduce marijuana use ("MOMENT").

Methods: Medical outpatients age 15-24 years who used marijuana frequently participated in the MOMENT pilot study (N=27 enrolled, 22 had data for these analyses; M = 20.9 years, 68% female). MOMENT combines 2 sessions of Motivational Enhancement Therapy with 2 weeks of mobile reporting of momentary marijuana desire, triggers for use, use, and efforts to avoid use 4-6 times/day followed by responsive motivational messages. Participants provided signal-prompted momentary data for 1 week at baseline, 2 weeks during the intervention, and 1 week at 3 months (N=1544 reports). Using age- and sex-adjusted GEE models, we examined desire to use marijuana (0-9), efforts to avoid use since last signal (yes/no), and use since last signal (yes/no) before, during, and 3 months after the intervention. We then explored associations of marijuana desire and avoidance efforts with use by the next report.

Results: Marijuana desire, avoidance efforts, and use all declined over the study. Compared to baseline, desire decreased by 1.3 units, on average, 3 months post-intervention (p < .0001). Probability of trying to avoid use was 69% lower during the intervention (p = .041) and 58% lower during follow-up (p = .09). Probability of a marijuana use event was 36% less during follow-up (p = .045). Momentary marijuana desire and avoidance efforts were independently associated with use. For each unit increase in desire, odds of subsequent use increased by 13% (p < .0001). With efforts to avoid use, odds of use decreased by 78% (p < .0001). Marijuana desire partially mediated the association between study phase and use. Avoidance efforts moderated the phase-use association.

Conclusions: The MOMENT EMI was associated with decreased momentary marijuana desire, which appeared to partially explain decrease in marijuana use episodes 3 months post-intervention. Efforts to avoid using marijuana may modify intervention effect.
Opioid Overdose Prevention with Naloxone, an Adjunct to Basic Life Support Training for First Year Medical Students
Noah Berland, MS2; Babak Tofighi, MD; Kathleen Hanley, MD - New York University School of Medicine

Background: Drug overdose deaths are the leading cause of accidental deaths ages 25-64. More than 38% of drug overdose deaths are attributed to prescription opioids. Healthcare professionals are unprepared to respond to this epidemic. Opioid overdose prevention programs have utilized naloxone training to reduce accidental opioid overdose deaths. Objective: To determine whether integrating opioid overdose prevention training (OOPT) into basic life support training (BLS) would improve participants' knowledge and preparedness to reverse an opioid overdose using naloxone, and change participants' attitudes towards substance use disorders. Methods: We incorporated OOPT into BLS training for first year medical students. A survey was created, based on validated instruments, to assess knowledge (35 items), attitudes (11 items) and perceived preparedness (18 items) relating to opioid overdose prevention. After IRB approval we performed a pilot with a group of 8 first year students. The revised survey was emailed to all first year medical students (pre-test). A paper survey was offered to students whom did not complete the pre-test in advance and for the post-test. Intergroup Pre-test and Post-test differences were assessed with independent sample t-tests; differences between pre- and post-training knowledge, attitudes, and preparedness were assessed using paired t-tests. All analyses were conducted in R, the statistical computing language, and only included students with both completed Pre and Post-Tests. Results: 125 students participated in the training and 73 completed both pre and post-tests. Prior to training, previously trained individuals (n=7) had significantly greater knowledge than individuals who had not received prior training (n=65) (p=.013) but after training, there was no difference in knowledge between the groups (p=.856). Both groups (individuals with prior training and those without) had significant increases in knowledge (p=.002 and p<.001 respectively) with large effect sizes (1.94 and >2 respectively) and preparedness (p=.044 and p <.001 respectively), with large effect sizes (.96 and >2). There was no observed change in attitudes (p= .345 and .359). Conclusions: Training was associated with a substantial increase in knowledge and preparedness. Integrating OOPT into BLS training was shown to be high yield. Based on these results we recommend inclusion of OOPT in BLS training to mitigate rising opioid overdose deaths.
Directly Observed Varenicline Therapy Improves Adherence among Methadone Maintained Smokers in a Randomized Trial
Shadi Nahvi, MD, MS; Tangeria R. Adams, BA; Kate S. Segal, BA; Yuming Ning, PhD; Julia H. Arnsten, MD, MPH - Albert Einstein College of Medicine/Montefiore Medical Center

**Background:** Despite the high burden of tobacco use among methadone maintenance patients, smoking cessation intervention efficacy in this group is markedly lower than seen among individuals without substance use disorders. This may be partially due to poor medication adherence rates. Interventions to improve tobacco cessation medication adherence for smokers with opioid use disorders have not yet been investigated. **Objective:** Our objective was to evaluate, in a parallel-design, randomized, controlled trial, the efficacy of methadone clinic-based varenicline modified directly observed therapy (DOT) versus self-administered treatment (SAT) on varenicline adherence and smoking cessation rates among smokers in methadone treatment. **Methods:** Methadone maintained smokers were randomly assigned to receive 12 weeks of varenicline, either directly observed with their daily dispensed methadone or self-administered. Outcomes were adherence, measured by pill count and analyzed as a continuous variable, and 7 day point prevalence tobacco abstinence, verified by expired CO < 8 p.p.m. Adherence was compared between groups using linear mixed effects models. Tobacco abstinence was compared between groups at the end of intervention (12 weeks). **Results:** 100 methadone maintained smokers were enrolled, and 50 were randomized each to the varenicline DOT and SAT groups. Participants had a mean age of 49, 56% were male, 45% Latino, 28% Black, and smoked a median of 10 cigarettes/day. There were no significant differences in baseline demographic, smoking or clinical factors between groups. Adherence in the DOT group was significantly higher than in SAT over the 12 week intervention period; the estimated overall adherence was 78% in the DOT group compared to 59% in SAT (p<.001). CO-verified abstinence at 12 weeks was 18.8% in the DOT group compared to 10.4% in SAT (p=.39). **Conclusions:** Methadone clinic-based varenicline directly observed therapy was associated with significantly increased varenicline adherence compared to self-administered treatment. Cessation rates with DOT were nearly double that of TAU and higher than the 4-10% cessation rates seen in prior varenicline trials among methadone maintained smokers. Methadone clinic-based DOT holds promise for promoting adherence and tobacco cessation and warrants investigation in a fully-powered clinical trial.
Medical Marijuana Diversion in Two Clinical Populations of Youth: Early Trends after Legalization
Sion Kim Harris, PhD; Sharon J. Levy, MD, MPH; Lydia A. Shrier, MD, MPH – Boston Children’s Hospital

Background: Marijuana is the most commonly used drug among youth and leading contributor to their entering substance abuse treatment. Massachusetts legalized MM in Nov. 2012, allowing possession of up to 10 ounces. As of May 2015, 8,763 patients were registered cardholders and the first dispensaries will open later in 2015. With Massachusetts legalization, we had an opportunity to study MM exposure among youth who use marijuana. **Objective:** To conduct an early post-legalization examination of MM diversion affecting marijuana-involved youth ages 13-24 presenting to an outpatient adolescent substance abuse program (ASAP) and an adolescent medicine clinic (AMC) in Massachusetts. **Methods:** Data collection began in June 2013 and is ongoing. Consecutive marijuana-using youth presenting to ASAP for evaluation and AMC patients enrolled in a marijuana intervention trial completed a single brief questionnaire about obtaining MM. **Results:** From June 2013 to April 2015, there were 149 respondents (ASAP=96, AMC=53; 2013=69, 2014=68, 2015=12). Mean age+SD was 18.9+2.6, 35% were female, 54% White non-Hispanic, and 73% were in school. Nearly all (89%) reported using marijuana at least weekly, with mean age of initiating any use at 14.5+2.0 years and weekly use at 15.5+2.3 years. Overall, 33/147 (22%) reported ever obtaining marijuana from a MM cardholder (2013=20%, 2014-2015=24%). Among those with lifetime MM use, over two-thirds (68%) reported MM use in the past 3 months. MM sources were usually Massachusetts cardholders (72%), but 41% reported sources from both neighboring (RI, ME, VT, CT) and other states (e.g., CA, CO) with legalized MM. Most MM sources were cardholders aged 25 or younger (76%). Compared to those reporting no MM use, users tended to be older (mean age 19.6+2.7 vs. 18.7+2.6, t-test p=0.097), and less likely to have parents that graduated college (50% vs. 74%, chi-square p=0.026). More respondents thought MM legalization would "increase" (17%) their marijuana access vs. "decrease" (3%), as with average THC potency (35% increase vs. 2% decrease). **Conclusions:** In this early post-legalization period in MA before dispensaries have opened, there is already notable MM diversion to marijuana-involved youth. In addition, there is considerable diversion across state lines, and by younger cardholders (aged <25 years).
Marijuana Use Pre- and Post- Legalization of Retail Marijuana in Emergency Department and Primary Care Patient Populations Participating in a Brief Screen and Intervention Initiative
Ana P. Nunes, PhD(1); Jim Mayfield, MA(2); Elizabeth Speaker, MS(2); Kerryann B. Broderick, MD, BSN(3); Kelly Marzano, MA(1); Melissa Richmond, PhD(1); Carolyn Swenson, MSPH, MSN, RN(4) - (1)OMNI Institute; (2) Washington State DSHS Research and Data Analysis Division; (3) Denver Health Medical Center; (4) Peer Assistance Services

Background: Recently, Colorado and Washington legalized the recreational use and purchase of marijuana. Each state has a screening, brief intervention, and referral to treatment (SBIRT) initiative. Examination of substance use screening data collected in healthcare settings provides a unique opportunity to examine changes in substance use pre- and post-retail access to marijuana. It is critical to understand the changing nature of marijuana users who are accessing healthcare in states with legal access. Objective: 1. To examine whether past 30 day marijuana use is higher post-retail shops for patients screened in an emergency department (ED) and primary care (PC) setting. 2. To examine whether past 30 day marijuana use is higher post-retail shops as a function of risky alcohol use. Methods: In Colorado, retail shops opened January 1, 2014. The study examined Colorado data from patients screened in the ED (n=4,702) and in PC (n=1,207) pre- (August-December 2013) and post-retail (August-December 2014) shops. Past 30 day marijuana use and alcohol risk were examined using the GPRA and ASSIST, respectively. Data were analyzed using ANOVAs. Results: 1. Past 30 day marijuana use was higher post-retail shops than pre (p<.0001). The increase in use was significantly higher in the ED (Pre Mean: 5.22; Post Mean: 7.14 days) than in PC (Pre Mean: 4.15; Post Mean: 4.56 days) (p = .022). 2. Past 30 day use was not significantly different pre- to post-retail shops as a function of alcohol-risk level. At both time points, greater alcohol risk was associated with higher frequency of marijuana use (p =.0001). Conclusions: Healthcare providers in states with legal access to recreational marijuana will likely face a growing population of marijuana users. This increase may be particularly pronounced for patients seeking care in an ED. Understanding patterns of co-occurring alcohol and marijuana use may also inform effective prevention. In this study population, patients engaged in risky alcohol use had higher past 30-day use, but level of usage did not appear to have increased as a function of legal access to marijuana. We anticipate similar data will be available from Washington State for comparison purposes at the time of this presentation.

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"Bath Salts" Dependence and Relapse to Alpha-Pyrrolidinopentiophenone (A-PVP): A Case Report of Acute Toxicity and Withdrawal Treatment with Topiramate
Erik Gunderson, MD, FASAM; Christopher Holstege, MD - University of Virginia

Background: Designer substituted cathinone stimulants ("bath salts") pose a public health problem with newly emerging chemical variants (e.g., alpha-PVP or "Flakka"). The case presentation describes acute toxicity, withdrawal syndrome, and impact of outpatient topiramate treatment for a patient with daily intranasal alpha-PVP use. The Cocaine Selective Severity Assessment (CSSA), an 18-item instrument assessing cocaine withdrawal signs/symptoms (0=none; 7=severe), was adapted to assess alpha-PVP withdrawal and monitor treatment response. The case report extends anecdotal clinical data, which is limited to acute toxicity characterization and management.

Learning Objectives: To understand how a-PVP fits within the emerging designer substituted cathinone "bath salts" trend
. To become familiar with a-PVP pharmacology, acute toxicity, and withdrawal syndrome
. To consider topiramate treatment potential for a-PVP withdrawal and relapse prevention

Case Presentation: A late-20s year-old woman met DSM-IV criteria for dependence on bath salts stimulants (early full remission, 8 months), opioids (early full remission on buprenorphine maintenance), and cocaine (sustained full remission). After four months of office-based treatment with 12-step participation, she presented with acute agitation following several weeks of daily intranasal alpha-PVP "research chemical" use. She was evaluated and monitored for ~5 hours in the emergency department before discharge. Routine blood tests were normal. Standard urine toxicology lacked non-prescribed substances. Expanded designer stimulant testing identified urine alpha-PVP (>200ng/mL). Two days later, and 36 hours after alpha-PVP use, she presented to the office with stimulant withdrawal (CSSA total score 82; craving intensity (5) and frequency (7)). She initiated topiramate 50mg BID without titration. Cravings dropped 90min after the initial dose (intensity, 2; frequency, 4). Next day CSSA total was 11 without cravings. She continued topiramate, 12 step, but not psychosocial treatment. Function improved, standard urine tests were normal, and CSSA scores remained low until she was lost to follow-up after 2 weeks. Discussion: Acute a-PVP toxicity overlaps with common "bath salts" substituted cathinones. Topiramate may mitigate a-PVP withdrawal and support short-term relapse prevention among patients with designer stimulant use disorder. No published studies have assessed pharmacologic treatment of withdrawal or for relapse prevention in such patients. Integrated pharmacologic and psychosocial treatment research is warranted.
Using GPS and Continuous Ambulatory Monitoring to Assess Relationships between Heart Rate and Neighborhood Environment

Karran A. Phillips, MD, MSc; Matthew Tyburski, PhD; David H. Epstein, PhD; Kenzie L. Preston, PhD - National Institute on Drug Abuse, Intramural Research Program, National Institutes of Health

Background: Environmental disorder leads to worse health outcomes. However, in a previous study we found that in self-reports opioid-dependent individuals noted decreased stress and negative affect in neighborhoods with higher disorder. Objective: We sought to use continuous ambulatory monitoring of heart rate to determine physiologic responses to environmental disorder and correlate these with self-reports of stress and affect. Methods: Forty-one individuals wore an AutoSense ambulatory biosensor that wirelessly transmits continuous data to a smartphone and GPS programmed to randomly ask them 4x per day about stress, mood, and drug use during waking hours for 4 one-week periods. Each entry was matched geographically with 77 established neighborhood disorder facets. In the 30 minutes prior to each prompt lagged by 5 minutes we determined the presence or absence of each disorder facet and the heart rate (HR) at each minute of non-activity. Ten disorder facets selected in a Principal Components Analysis (PCA) and 10 other disorder facets with kappas ≥ 0.60 were compared to HR in the presence and the absence of each facet. Results: The presence of the following disorder facets from the PCA corresponded with a significantly higher HR (all absence vs. presence, units=bpm): noise (81.4 vs. 83.3, p=0.034); structures with broken windows (83.0 vs. 84.3, p≤0.009); drug paraphernalia (82.1 vs. 83.5, p=0.01); rubber gloves (82.6 vs. 84.8, p < 0.001); cotton swabs (83.0 vs. 83.8, p=0.020); alcohol bottles (83.1 vs. 90.5, p=0.013). The following disorder facets corresponded with lower HR: youth in area (83.9 vs. 80.8, p < 0.0001); unsupervised youth in area (83.7 vs. 78.4, p < 0.0001); trash (84.2 vs. 83.0, p = 0.047); yelling (83.4 vs. 79.4, p < 0.001); baggies (83.2 vs. 79.6, p = 0.0007); vials (83.5 vs. 78.6, p < 0.0001). While the presence or absence of blunt guts/wrappers; adults doing yard work; and unboarded abandoned buildings had no significant impact on HR (p=ns). Conclusions: High-yield, high-quality ambulatory heart-rate data can be obtained from drug users in their natural environment. Objective HR variations might explain why individuals in high disorder neighborhoods experience worse health outcomes despite subjectively reporting less stress and negative affect.

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Adverse Childhood Experiences and Alcohol Misuse among Racial/Ethnic Minorities
Mary Ann Priester, MSW; Nikki Wooten, PhD, LISW-CP - University of South Carolina

Background: Adverse childhood experiences (ACE) are associated with alcohol misuse and other risk behaviors in adulthood. Extant literature examines ACE and risk behaviors, but most focus on ACE among whites. Objective: The principal objective of this study was to examine the association between ACE and alcohol misuse among racial/ethnic minorities. Methods: Secondary data analysis of the 2012 Behavioral Risk Factor Surveillance System (BRFSS) in a sample of non-White Wisconsin and Tennessee adults (n = 1337; Mage = 47.1, 54.6% Black, 20.6% Hispanic, 24.8% Other) who completed core BRFSS questions and an optional ACE module. ACE domains included: Household Dysfunction (mental illness, substance abuse, incarceration, violence, or divorce) and Child Abuse (physical, emotional, or sexual). Low (1-2 ACE) and high (> 3 ACE) categories were also examined. Alcohol misuse was measured as risky drinking (> 2 drinks daily for men; > 1 drink daily for women), binge drinking (> 5 drinks for men on one occasion; > 4 drinks for women on one occasion), and excessive drinking (both binge and risky drinking). Analyses were weighted and stratified using the BRFSS landline cellphone weight variable, stratification variable, and primary sampling unit variable. All analyses were conducted with SAS 9.4 using SURVEYFREQ, SURVEYMEANS, and SURVEYLOGISTIC. Results: Among Tennessee and Wisconsin racial/ethnic minorities, 65.4% (n = 811) reported ACE. Of those, 40.7% reported low ACE, 24.6% high ACE, 56.2% household dysfunction, and 38.3% child abuse. Overall, 18.7% reported alcohol misuse with 18.1% reporting binge drinking, 5.1% risky drinking, and 5.2% excessive drinking. After controlling for sex, age, income, marital status, health status, and depression, logistic regression revealed that being exposed to household violence was associated with higher odds of risky drinking (AOR=2.5, 95% CI 1.2-5.5) and excessive drinking (AOR=3.3, 95% CI 1.3-8.0) compared to those reporting no ACE. Reporting any exposure to household dysfunction (AOR = 4.0, 95% CI: 1.3-12.2) was associated with a 4-fold increase in odds of excessive drinking than those with no ACE. Conclusions: ACE increases risk for risky and excessive drinking in adulthood among racial/ethnic minorities. Brief screening and intervention may be a public health approach for early detection, health promotion, and alcohol problem prevention.
Mental Health and Substance Misuse 7 Years Following an Emergency Department Admission for Alcohol Intoxication
Angéline Adam, MD; Mohamed Faouzi, PhD; Bertrand Yersin, MD; Patrick Bodenmann, MD, MSc; Jean-Bernard Daeppen, MD; Nicolas Bertholet, MD, MSc - Lausanne University Hospital

Background: How young adults evolve at a distance of being admitted for alcohol intoxication in the Emergency Department (ED) is not well characterized. Objective: To assess the prevalence of alcohol use disorder (AUD), substance use and mental health status 7 years following an ED admission for alcohol intoxication. Methods: In 2006-2007, 631 patients aged 18-30 were admitted for alcohol intoxication at the ED of a tertiary hospital in Switzerland. In 2014, they were re- contacted and interviewed to complete: demographics, alcohol use disorders identification test-consumption (AUDIT-C), Mini International Neuropsychiatric interview (MINI) for AUD, SF12 mental and physical component summary scores (MCS, PCS), Patient Health Questionnaire (for depression and anxiety disorders), past year use of illegal drugs/tobacco, and if they remembered the admission and discussing their drinking while admitted. Results: In 2014, 318/631(50.4%) patients completed the questionnaire: 32.1% were women, 36.5% unemployed, 73.6% remembered the admission and 34.6% discussing their drinking; 65.1% had an AUDIT-C ≥4 (i.e. positive screen for AUD). According to the MINI, 15.1% had alcohol dependence and 13.2% harmful alcohol use. 18.6% had depression, and 15.4% an anxiety disorder. Mean (SD) PCS and MCS were 52.2(9.3) and 42.7(11.7). Prevalence of any use (past year) was 80.2% for tobacco, 53.1% for cannabis, 22.6% for cocaine, 13.5% for sedatives, 11.0% for stimulants, 7.2% for opioids, and 6.0% for hallucinogens. At least once a week use was 65.4% for tobacco, 25.5 % for cannabis, 3.8% for cocaine, 7.2% for sedatives, 0.9% for stimulants 3.8% for opioids and 0% for hallucinogens. No differences were found between those who completed the questionnaire and those who did not on 2006-2007 alcohol intoxication admission data (age, gender, blood alcohol concentration, and presence of disruptive behavior in the ED). Conclusions: Young patients admitted for alcohol intoxication in the ED are likely to develop substance misuse, mental health disorders, and social problems, suggesting they should be offered secondary prevention measures. Being admitted for alcohol intoxication appears a marker of health vulnerability.
Is the Relationship between Age at First Alcohol Use and Adult Mental Health Status Moderated by Race, Ethnicity, and Gender? Results from the NSDUH, 2010-2013
Timothy B. Creedon, MA; Jay Kosegarten, PhD - Brandeis University

Background: Preliminary research has revealed that earlier initiation of alcohol consumption is strongly associated with worse psychiatric health in later, adult life. Little is known about the underlying mechanisms that can account for this relationship, the direction in which it flows, and any contextual factors that may strengthen, attenuate, or even reverse it. Objective: To examine the extent to which socioeconomic and demographic factors moderate the link between age at first alcohol use (AFA) and the existence and severity of mental health problems later in adult life. Methods: We conducted secondary data analysis of the four most recent years of the National Survey on Drug Use and Health (2010-2013). Using a subsample of adults aged 18-64 with some history of drinking (N=124,954), we modeled the relationship between AFA and mental health status in the past 12 months, with measures including past-year scores on the K6 Screening Scale and the World Health Organization Disability Assessment Schedule (WHODAS), and experience of a major depressive episode (MDE). We constructed a series of logistic and negative binomial regression models to test the moderation effects of gender, race, and ethnicity on the association between AFA and adult mental health status. Results: Mean worst mental health status was mild: 6.2 (SD=6.04). 8.9% met criteria for a recent MDE; 16.0% met lifetime criteria. Mean AFA was 16.6 (SD=3.55); about one quarter reported drinking before age 15. Individuals who first drank before age 15 had about 40% higher odds of experiencing a past-year MDE than those who first drank between 15 and 17 (OR=1.41; SE=0.056). For women, there was a statistically significant increase above and beyond this effect (OR=1.12; SE=0.023). For blacks and Hispanics, however, the effect of earlier AFA did not differ significantly compared to white and non-Hispanics. Conclusions: Younger age at first alcohol use was strongly associated with worse adult mental health status. A small but significant moderation effect for gender was found but not for race or ethnicity. The findings of this study suggest that the link between AFA and adult mental health status is robust and remains consistent across multiple segments of the population.
Implementation of an Integrated, Multidisciplinary Clinic to Address Pain-Prescribed Opioid Misuse among Veterans
Ajay Manhapra, MD; Dana J. Cervone, APRN; John Sellinger, PhD; Brent A. Moore, PhD; Ellen L. Edens, MD, MPE; William C Becker MD - Yale School Of Medicine, VA Connecticut Health System

Background: Pain-prescribed opioid misuse is a common challenge. We developed the Opioid Reassessment Clinic (ORC), an integrated, multidisciplinary program, to improve assessment and treatment. Objective: The purpose of this study was to describe the ORC implementation and evaluate effectiveness. Methods: We used a facilitation model--academic detailing, audit-and-feedback and educational booster sessions--to implement ORC. Evaluation was guided by RE-AIM: we assessed reach by the proportion of PCPs who referred patients and the characteristics of the referred patients. Efficacy was measured by the proportion of patients assigned substance use disorder diagnoses and engaging in addiction treatment. We defined adoption as evidence of other sites using ORC-like care models. Implementation included wait time for an appointment and length of treatment time within ORC. Maintenance was defined as evidence of institutional commitment to the ORC. Results: Of 48 PCPs, 48% referred a patient. Of referred patients (N=87), 84% had a history of substance abuse and 70% had current pain-prescribed opioid misuse. The percent of patients with new substance use disorder diagnoses was 22%; each of whom engaged in addiction treatment. Wait time averaged 22.1 days while length of treatment averaged 137 days. Urine drug testing was performed on 91% of patients an average of 6.4 times, while querying the prescription monitoring database occurred universally. Maintenance-related findings included the recent hiring of a nurse case manager to help with care coordination. Conclusions: ORC was highly effective in the management of a small group of high-complexity patients exhibiting prescribed opioid misuse. Wide-scale adoption may require adapted care models.
Treatment Outcomes for Veterans with PTSD and Substance Use: Impact of Specific Substances and Achievement of Abstinence
Ajay Manhapra, MD; Elina Stefanovics, PhD; Robert Rosenheck, MD - Yale School Of Medicine, VA Connecticut Health System

Background: Scant longitudinal data exists about the interplay between specific substances of abuse, the achievement of abstinence, and clinical outcomes in the treatment of dually diagnosed veterans with post-traumatic stress disorder (PTSD). Objective: Explore differences in the PTSD and other clinical outcomes based on patterns of use of specific substances in the 30 days prior to intensive PTSD treatment and the difference in the impact of abstinence on each specific substance used, among Veterans with significant PTSD symptom burden. Methods: As part of a national program evaluation, veterans admitted from the community to specialized intensive PTSD programs were assessed at intake and 4 months after discharge. Seven mutually exclusive groups were identified from admission self-report data (N=22,948): no substance use, exclusive use of alcohol, opiates, sedatives, cocaine, marijuana, and use of three or more substances. Analysis of covariance, adjusting for potentially confounding baseline variables was used to compare change among these seven groups in non-substance use outcomes (PTSD symptoms, violent behavior, suicidality, medical problems, and employment). The effect of abstinence on specific groups was evaluated as the interaction of group membership by abstinence. Results: All outcome measures except for employment showed significant improvement, with few differences between the groups. Although rate of abstinence differed markedly between the groups, abstinence achievement was associated with greater improvement on all the outcomes except employment in every group. No significant differences in the effect of abstinence across the substance abuse groups were observed. Conclusions: The specific type of substance used prior to entry into treatment among dually diagnosed PTSD patients seems to have limited effect on treatment outcomes. However, attainment of abstinence at 4 months after treatment, irrespective of the substances abused, was strongly associated with improvement in PTSD symptoms, violence, suicidality and medical problems.
Homeless and Impaired: High-Risk Alcohol Use and Cognitive Impairment in a Population-Based Sample of Older Homeless Adults
Emily E. Hurstak, MD, MPH; Lina Tieu; David Guzman, MSPH; Claudia Ponath; Christine Weyer Jamora, PhD; Margot Kushel, MD - UCSF

Background: Homeless adults have high rates of cognitive impairment, but risk factors are not well understood. Objective: To assess the association between alcohol misuse and cognitive impairment in a sample of older homeless adults. Methods: We conducted a cross-sectional analysis of data from homeless individuals aged 50 and older recruited through population-based sampling in Oakland, CA (N= 350). We defined global cognitive impairment as performing 1.5 standard deviations (SD) below the age and education standardized mean on the Modified Mini-Mental Status (3Ms) Test. We defined impairment on the Trails Making Test A&B as performance 1.5 SD below the standardized mean. We evaluated current substance use with the Alcohol Use Disorder Identification Test (score>=16 or >4 for alcohol dependence) and Alcohol Smoking and Substance Involvement Screening Test (low vs. moderate to high risk). We used multivariate logistic regression to examine the association between substance use and cognitive impairment adjusting for sociodemographic variables and health conditions. We chose high-risk alcohol use as the primary predictor and utilized a change in coefficient selection method.

Results: Participants had a mean age of 58 years, 77% were men, and 80% African American. On the 3Ms test, 26% of individuals met criteria for impairment; 21% and 35% were impaired on Trails A and B. High-risk alcohol use was associated with global cognitive impairment (AOR 2.6, p=0.004) in a model adjusted for race, education, incarceration, HIV infection, and problematic use of opioids (AOR 0.38, p=0.02). Impairment on Trails A was associated with high-risk alcohol use (AOR 3.8, p=0.001) after adjustment for education and hypertension. On Trails B, high-risk alcohol use was associated with impairment (AOR 3.3, p=0.001) after adjustment for education, incarceration, HIV infection, hypertension, and problematic use of amphetamines (AOR 0.26, p=0.07). Conclusions: We describe rates of cognitive impairment 2-3 times higher than those in the general population. Impairment was strongly associated with high-risk alcohol use, but not other health conditions. A trend towards a protective effect for illicit drugs may reflect survivor bias. Screening for cognitive impairment in older homeless adults, particularly those with alcohol use disorders, may improve medical care and service delivery for an aging homeless population.
Screening, Brief Intervention, and Referral to Treatment (SBIRT) Program and Staff Attitudes and Knowledge in the Emergency Department: A 5-Year Comparison
Janetta L Iwanicki, MD; Matthew Taecker, MD; Bonnie L Kaplan, MD; Kerryann B. Broderick, MD, BSN - Denver Health Medical Center, Department of Emergency Medicine

Background: Alcohol and substance abuse are a source of huge numbers of deaths in the United States, as well as increasing costs to society both through health care needs and through loss of productivity. The screening, brief intervention, and referral to treatment (SBIRT) technique has been shown in the past to be a useful way to address the risky alcohol and substance abuse behavior of patients who present to health care. While SBIRT effectiveness has been well-studied in short-term interventions, little long-term data has been published regarding health care provider attitudes and practices regarding SBIRT. Objective: The aim of this study is to evaluate longitudinal changes in health care provider understanding of SBIRT, implementation of the technique, adherence to the brief screen questions, and any changes in attitudes toward the perceived importance of SBIRT during a 5-year time period after the implementation of the program in the emergency department at a single urban academic safety-net hospital. Methods: This was an observational, cross-sectional, self-administered survey study conducted using Survey Monkey®, which was delivered via email to emergency department physicians, physician assistants, residents, nurses, nurse practitioners at a single urban academic safety-net hospital. Results from the same survey from after the initial implementation of the SBIRT program and from five years after implementation were compared using descriptive statistics. Results: Participants 5 years after SBIRT implementation compared to providers immediately after implementation demonstrated a significantly higher level of perceived importance of SBIRT in their practice (77% to 57%) and to the health of their patient (87% to 71%). Significantly more providers felt that it was both easy to very easy to incorporate into their practice (61 to 40%) with 12% more (83% to 71%) feeling they should be incorporating SBIRT into their practice. Trends towards improvements in comfort with SBIRT, daily utilization of SBIRT, and perceptions of effect of SBIRT, but differences were not statistically significant. Conclusions: Five years after implementation of an SBIRT program, emergency department providers showed persistence of use of SBIRT in their practice and an appreciation for the importance of SBIRT in their practice.
Computer Self-Administered Screening for Substance Use in a University Health Center: A Feasibility Pilot
Jennifer McNeely, MD, MS; Marcy Ferdschneider, DO; Allison Smith, MPH; Luke Sleiter, MPH; Carlo Ciotoli, MD; Noelle Leonard, PhD - NYU School of Medicine

Background: Unhealthy use of alcohol and drugs poses a significant health problem on university campuses, and student health centers are an under-utilized resource for offering substance use screening and interventions. Objective: As a strategy for increasing screening rates, we tested the feasibility of incorporating tablet computer self-administered screening into routine care at one university health center primary care clinic. Methods: During the 3-week study period, all patients presenting for a visit with a participating primary care provider were asked by the receptionist to fill out a 'health screener' in the clinic waiting area. Screening tools were the 4-item Substance Use Brief Screen (SUBS), followed by the Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST) for assessment of those who screened positive. Patients gave informed consent and completed screening on a tablet computer, then viewed their results and were given the option of delivering this information to the medical provider. Results: Half of the patients presenting for an appointment received the tablet, of which 337 (90%) consented and completed screening. Participants were 64% female, and 60% were undergraduate students. Rates of past year unhealthy use were 73% for alcohol, 43% for illicit drugs, and 8% for prescription drugs. Thirty-one percent of participants reported current marijuana use, while 11% reported current use of another drug. Among participants who screened positive for alcohol, 45 (21%) had moderate-risk use, and 4 (2%) had high-risk use, based on ASSIST scores. Of those screening positive for drugs, 53 (35%) had moderate-risk use, and one had high-risk use. Overall, 49% of all participants elected to disclose results to their primary care provider. Rates of disclosure were significantly lower for those with moderate-high risk drug or alcohol use (31%) than in those with low-risk use (59%), (P<0.01). Conclusions: Our findings suggest that university health centers are a good venue for substance use screening and interventions, but there is also a need for interventions that can be delivered outside the health center, or that increase patient motivation to discuss substance use during the primary care visit.
Receipt of Alcohol Screening and Intervention by United States Adults
Richard L. Brown, MD, MPH; Joseph E. Glass, PhD, MSW; Kipling M. Bohnert, PhD - University of Wisconsin

Background: Universal alcohol screening and intervention has been recommended for all adult primary care patients since the mid-1990s. There is limited data on the extent to which these services are delivered in United States healthcare settings. A national survey found that 16% of adult Americans discussed alcohol with a healthcare professional in 2011. The survey did not assess whether respondents reporting no discussion received any healthcare nor whether discussions included interventions or referrals. Objective: To assess the extent to which American adults received alcohol screening, intervention and referral services in 2013 altogether and by drinking category. Methods: This study is a secondary analysis of the data provided by 37,424 adults, 72% of those invited, to the 2013 National Survey on Drug Use and Health, a cross-sectional, nationally representative survey of civilians in the non-institutionalized U.S. general population. The respondents reported whether they received healthcare in the prior year, whether they were asked about their drinking, and whether they received advice to reduce drinking or information about alcohol treatment. Other questions allowed categorization of each respondent's drinking pattern as low-risk drinking, high-risk drinking, DSM-IV alcohol abuse or DSM-IV alcohol dependence. Logistic regressions were performed to identify socio-demographic and clinical predictors of receipt of (1) screening or assessment and (2) advice to cut back or information about treatment. Results: Approximately 70% of healthcare users received alcohol screening or assessment. Significant predictors of screening or assessment were age 26 to 34 years, female gender, non-Asian race, healthcare insurance coverage, high-risk drinking and chronic medical conditions. Receipt of advice to cut back or information about treatment ranged from 5% for high-risk drinking to 26% for alcohol dependence. Significant predictors of advice or information were male gender, healthcare insurance coverage, high risk drinking, abuse, dependence, number of symptoms of disorders, and chronic medical conditions. Conclusions: Rates of alcohol screening and assessment were quite high, but most candidates for interventions and referrals did not receive them. Team approaches and stronger financial incentives might be needed to enhance delivery of intervention and referral.

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Validation of an Audio Computer Assisted Self-Administered Interview Version of the Alcohol, Smoking and Substance Involvement Screening Test (ACASI ASSIST) in Primary Care Patients

Pritika C. Kumar, PhD, MPH, MA; Charles M. Cleland, PhD; Marc N. Gourevitch, MD, MPH; John Rotrosen, MD; Shiela Strauss, PhD; Jennifer McNeely, MD, MS - NYU School of Medicine

Background: The Audio Computer-Assisted Self Interview (ACASI) version of the Alcohol, Smoking and Substance Involvement (ASSIST) was developed to address barriers to screening for unhealthy substance use in primary care settings. The ACASI ASSIST was demonstrated to generate results equivalent to the traditional interviewer-administered ASSIST, but it has not yet been validated against other reference standard measures. Objective: To validate the ACASI ASSIST for detection of unhealthy use and high-risk use of tobacco, alcohol, marijuana and cocaine, by comparison to reference standard measures. Methods: English speaking adult patients were consecutively recruited in the waiting area of a large urban safety-net primary care clinic. The 399 participants completed the ACASI ASSIST followed by reference standard measures including 30-day timeline follow-back, MINI International Neuropsychiatric Interview, and Fagerstrom Test for Nicotine Dependence (FTND). ACASI ASSIST substance-specific scores (SSIS) were calculated, and specificity and sensitivity was evaluated at each SSIS level to determine optimal cutoffs for identifying unhealthy and high-risk use. For tobacco and other drugs, ‘unhealthy use’ was defined as any use, while for alcohol it was defined as use above guideline-recommended levels. High-risk use was defined as a MINI score indicating abuse or dependence (DSM-IV criteria) for alcohol and drugs, and by the FTND for tobacco. Results: The table below presents the sensitivity, specificity, and area under the ROC curve at the optimal cutoffs derived from our validation analysis.

<table>
<thead>
<tr>
<th>Substance</th>
<th>Cutoff</th>
<th>Sensitivity</th>
<th>Specificity</th>
<th>AUC (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobacco</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unhealthy use</td>
<td>6</td>
<td>0.90</td>
<td>0.96</td>
<td>0.97 (0.95-0.98)</td>
</tr>
<tr>
<td>High-risk use</td>
<td>11</td>
<td>1.00</td>
<td>0.83</td>
<td>0.93 (0.90-0.95)</td>
</tr>
<tr>
<td>Alcohol</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unhealthy use</td>
<td>6</td>
<td>0.71</td>
<td>0.85</td>
<td>0.86 (0.82-0.90)</td>
</tr>
<tr>
<td>High-risk use</td>
<td>12</td>
<td>0.78</td>
<td>0.94</td>
<td>0.94 (0.91-0.97)</td>
</tr>
<tr>
<td>Marijuana</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unhealthy use</td>
<td>2</td>
<td>0.95</td>
<td>0.82</td>
<td>0.89 (0.85-0.92)</td>
</tr>
<tr>
<td>High-risk use</td>
<td>5</td>
<td>0.83</td>
<td>0.84</td>
<td>0.83 (0.76-0.91)</td>
</tr>
<tr>
<td>Cocaine</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unhealthy use</td>
<td>3</td>
<td>0.86</td>
<td>0.84</td>
<td>0.85 (0.79-0.91)</td>
</tr>
<tr>
<td>High-risk use</td>
<td>5</td>
<td>0.90</td>
<td>0.87</td>
<td>0.88 (0.82-0.94)</td>
</tr>
</tbody>
</table>

Conclusions: At these cutoffs, the ACASI ASSIST has good sensitivity and specificity for identifying unhealthy and high risk use, for substances commonly used by primary care patients.
What Value does the Group Visit Format in a Primary Care Setting offer Patients Struggling with Opioid use Disorder? A Qualitative Study from the Patients' Perspective
Randi Sokol, MD, MPH, ME; Jess Early, MD; Fran Puopolo, RN; Grace Poirier, LPN; Ashley Duggan PhD; Allen Shaughnessy, PharmD, MMedEd; Deviney Chaponis, MD; Caty Reyes, MD - Tufts Family Medicine Residency Program

Background: Opiate use disorder (OUD) has reached epidemic proportions in the U.S. Family physicians are well positioned to address this epidemic by prescribing buprenorphine/naloxone (Suboxone) in a primary care setting. However, research around patients' experience of care with Suboxone has largely focused on quantitative measures (such as medical effectiveness, cost, and patient satisfaction) in specialty settings using traditional one-to-one provider-patient treatment approaches. Few studies have examined the value of a group visit model in the primary care setting for treatment of OUD. **Objective:** To determine the qualitative value of a Suboxone group visit model (coupled with medication maintenance) in a primary care setting for patients struggling with OUD, from the patients' perspective. **Methods:** Twenty-five patients enrolled in a Suboxone group visit for various lengths of time at a family medicine clinic participated in two hour-long focus groups about their experience with the group and how it has changed them as a person. An interdisciplinary team of researchers with expertise in medical education, pharmacology, and health communication used qualitative thematic analysis to capture the value of this group from the patients' perspective. **Results:** Patients participating in a Suboxone group visit model describe an initial reluctance and skepticism about opening up and engaging with others in a group format. However, patients describe that overtime, being part of group encouraged them to be honest with themselves and with group, reconnect with their moral roots, share and explore previously latent emotions, and develop a sense of accountability and responsibility to group members, taking pride in helping each other grow. These themes are demonstrated through use of joking language, intentional probing about each others' personal lives, and direct expressions of gratitude toward each other. **Conclusions:** The shared experiences and support offered in a group visit model among patients with OUD promotes a genuine and selfless investment in others, cultivating relationships and nurturing a sense of accountability to themselves and each other. Coupling medication maintenance with a group visit model to treat OUD in the primary care setting thus offers great potential to support patients' recovery.

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Feasibility of Buprenorphine Group Visits for Individuals with Persistent Illicit Substance Use
Aaron D. Fox, MD, MS; Mariya Masyukova, MD, MS - Albert Einstein College of Medicine, Montefiore Medical Center

**Background:** Buprenorphine treatment is safe and effective, but physicians who perceive they cannot provide adequate psychosocial support to patients have reported reluctance to prescribe buprenorphine. Buprenorphine group visits are an emerging model where medical and behavioral specialists provide buprenorphine treatment and psychoeducation to multiple patients simultaneously. **Objective:** We conducted a pilot of buprenorphine group visits and report on treatment outcomes. **Methods:** This retrospective cohort study included buprenorphine group visit participants seen between Feb 2014 and Apr 2015 at a community health center. Primary care physicians referred buprenorphine patients with persistent illicit substance use (typically, opioids or cocaine) during individual buprenorphine treatment. Twice monthly groups were voluntary and conducted by an internist, social worker, and medical student. Key outcomes were acceptability (attended ≥2 visits), frequent participation (attended ≥50% visits possible based on time of referral), retention in treatment (quarterly visits for 12 months), and abstinence (≥4 consecutive urine drug tests negative for opioids and cocaine). **Results:** Of 42 buprenorphine patients referred to the group, 32 (76%) attended at least one visit. Participants were mostly middle age (median: 54, IQ range: 48-56), male (78%), and Hispanic (53%) or non-Hispanic Black (44%). Nearly all participants had co-morbid chronic mental health (81%) and medical (94%) conditions. Among 32 participants, the median number of visits attended, of a possible 31, was 3 (IQ range: 1 - 12); 11 (34%) attended group visits frequently, 11 (34%) attended temporarily or intermittently, and 10 (31%) attended only one visit. Of 16 participants with ≥12 months of potential follow-up, 7 (44%) were retained in group treatment. Of those retained in treatment, only 2 achieved abstinence. **Conclusions:** Group medical visits were feasible, appeared to be acceptable to the majority of those referred, and approximately one-third of participants frequently attended groups. Participants had multiple co-morbidities and most were unable to achieve abstinence; none-the-less, the long term retention in treatment was impressive. Attending voluntary groups suggests that participants derived benefits unrecognized by urine drug testing. Buprenorphine group visits should be studied in rigorous clinical trials to determine effectiveness, potential benefits (e.g., reductions in psychosocial distress), and necessary components of group visits.
Buprenorphine Initiation and Linkage to Outpatient Buprenorphine Do Not Reduce Frequency of Injection Drug Use for Hospitalized Patients Who Inject Opioids: Results of a Randomized Clinical Trial
Phoebe Cushman, MD; Michael Stein, MD; Bradley Anderson, PhD; Meredith Moreau, RN, MPH; Jane Liebschutz, MD, MPH - Boston University School of Medicine, Boston Medical Center, BU Dept. of General Internal Medicine

Background: Buprenorphine has established effectiveness for outpatient treatment of opioid substance use disorders. Our STOP (Suboxone Transition to Opiate Program) study showed that buprenorphine induction and linkage to outpatient treatment in opioid-dependent inpatients (injection and non-injection drug users) decreased illicit opioid use over 6 months. This study was a planned subgroup analysis of injection drug users from STOP. Objective: To determine if inpatient buprenorphine initiation and linkage to outpatient buprenorphine reduce injection drug users' frequency of injection drug use (IDU). Methods: Inpatient opioid-dependent injection drug users at a safety-net hospital were randomized to buprenorphine linkage (induction, bridge prescription, and facilitated referral to outpatient treatment) or detoxification (5-day inpatient taper). Primary outcome was prior 30-day IDU (self-report) at 1, 3, and 6 months, measured using 30-day timeline follow-back. Secondary outcome was linkage effectiveness, measured as % presenting to initial outpatient buprenorphine visits post-discharge.

Results: Of the 139 patients randomized, we limited analysis to those in detoxification (n = 62) and linkage (n = 51) who reported baseline IDU. There were no significant differences in age, ethnicity, or baseline IDU frequency between the groups. At follow-up, linkage patients (70.6%) were significantly more likely (p < .001) to present to initial buprenorphine visits than detoxification patients (9.7%). However, there was no significant difference in proportion of IDU days between linkage and detoxification based on treatment-by-time interaction (p = .415). Individual coefficients for treatment effects at 1- (p = .634), 3- (p = .288), and 6-months (p = .787) were not significant. Using person-day analysis, participants self-reported IDU on 5.8% of follow-up days in which they used prescription buprenorphine and 37.5% of non-buprenorphine days. Using a generalized estimating equation, odds of IDU was 4.57 times higher (p < .001) on non-buprenorphine days. Conclusions: Despite our protocol's success in linking patients to outpatient buprenorphine, the intervention did not significantly decrease their IDU frequency. The linkage group did show a non-significant trend of reduced IDU frequency. Injection drug users may require a more intensive buprenorphine protocol than do non-injectors. Further research is needed to determine how to engage these highly vulnerable patients in sustained addiction treatment.
Psychopharmacotherapy for Patients in Primary Care Office Based Opioid Treatment (OBOT) with Buprenorphine
Zoe M. Weinstein, MD; Gabriela Gryczynski MD, MPH; Emily Sissi; Debbie M. Cheng, ScD; Colleen Labelle, RN; Jeffrey H. Samet, MD, MA, MPH - Boston University

Background: Opioid substance use disorder (SUD) often can be effectively treated with buprenorphine. However, the success of this treatment can be compromised by poorly controlled psychiatric co-morbidities, as well as the use of psychoactive medications with overdose and abuse potential. Objective: The goal of this study is to describe the proportion of patients receiving psychoactive medications while enrolled in a large primary care Office Based Opioid Treatment (OBOT) Program over a 12-year period in an urban safety-net hospital.

Methods: This is a retrospective cohort study of adult patients treated with buprenorphine at the OBOT Program at Boston Medical Center from January 1, 2002 to February 28, 2014. Patient charts were reviewed including demographics, medical visits, nursing visits and prescription history. We characterized the patients and described the proportions receiving prescriptions for the following psychoactive medications: benzodiazepines, stimulants, gabapentin, as well as SSRIs and buproprion. Results: Over the 12 years, 1359 patients were treated in the OBOT program and had the following demographics: 61% male; 67% Caucasian; and the average age at treatment initiation being 38 years old. Over the study period, 845 (62%) of patients had a prescription for any of the noted psychoactive medications. The frequency and overall percentages of OBOT patients with these medications are detailed in the Table below.

Table: Psychopharmacotherapy among OBOT Patients over 12 Years (N= 1359)

<table>
<thead>
<tr>
<th>Medication</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSRIs</td>
<td>607 (45)</td>
</tr>
<tr>
<td>Gabapentin</td>
<td>389 (29)</td>
</tr>
<tr>
<td>Benzodiazepine</td>
<td>252 (19)</td>
</tr>
<tr>
<td>Buproprion</td>
<td>231 (17)</td>
</tr>
<tr>
<td>Stimulant</td>
<td>66 (5)</td>
</tr>
<tr>
<td>Barbiturate</td>
<td>33 (2)</td>
</tr>
</tbody>
</table>

Conclusions: Psychopharmacotherapy for patients in primary care Office Based Opioid Treatment (OBOT) with buprenorphine treatment is the norm. Physicians and nurses who treat these patients need to be well-versed with the management of psychoactive medications. Future research should elucidate these medications' influence on treatment outcomes.
The Vicissitudes of Heroin: Change and Continuity in Heroin Forms and Markets in the United States
Sarah Mars, PhD; Jason Fessel, BA; Philippe Bourgois, PhD; Daniel Ciccarone, MPH, MD - University of California, San Francisco

Background: The division of the US heroin market between Colombian-sourced powder heroin to the East and Mexican-sourced black ‘tar’ to the West, which has dominated in this new century, appears to be changing once again. Anecdotal accounts report new forms of heroin emerging in locations around the country, their sources of origin and the health risks they present uncertain. Local studies show changing sales models, with developments in cell phone delivery and other forms of distribution. There is evidence that different heroin retailing practices may be associated with particular health risks such as overdose. Objective: To find out what types of heroin are currently being sold across the United States, their methods of preparation for injecting and the way they are marketed, as well as continuities. Methods: A mixed methods survey of key individuals (long term heroin users, harm reduction workers and public health officials) has been carried out by phone in 26 Metropolitan Statistical Areas (MSA). Up to 3 individuals known for their knowledge of the local drug scene in each MSA were interviewed by telephone using a mixture of closed and open response questions. Results: Results show changes in the US heroin supply and the way it is being marketed, as well as continuities. For instance, cold water soluble powder heroin, thought to pose a greater risk for HIV transmission than heroin requiring heat to dissolve, is being reported in areas previously limited to black tar heroin. Conclusions: In depth research is needed in areas identified as having new heroin source-forms and retail strategies. Their health risks should be examined as they emerge to inform locally responsive public health and harm reduction strategies.
Opioid "Push" Or Heroin "Pull": Regional Disparities in the Heroin Overdose Epidemic
Daniel Ciccarone, MD, MPH(1); George Jay Unick, PhD – (1) University of California, San Francisco

Background: There is mounting concern regarding US heroin use and harms; intertwined with or stemming from the opioid pill epidemic.

Objective: This presentation aims to:
1. Report on trends in hospitalizations for opioid-pill-related overdose (OPOD) and heroin-related overdose (HOD)
2. Describe changes in the populations at risk for OPOD and HOD
3. Describe regional disparities in OPOD and HOD.

Methods: For years 2005-2012 HOD and OPOD hospitalizations were constructed from the Nationwide Inpatient Sample (NIS) data. National population estimates for hospitalizations were constructed incorporating complex survey design into the estimates. Descriptive findings are below; analytic findings will be presented.

Results: Following the dramatic rise in OPOD hospitalizations nationally between 2005 and 2010 an apogee is seen in 2011; 2012 represents the first year in our 20-year dataset that a decline in OPOD hospitalizations is seen. However, rates for HOD hospitalization have risen dramatically; averaging 8%/year. HOD rates have risen the greatest among 20-35 year olds; more than doubling from 2005 to 2012. While all regions show rises in HOD by 2012, the Midwest shows the earliest and most dramatic upswing: doubling from 1993-2005 and doubling again 2005-12. Compared with the Midwest we see intriguing regional differences: The Northeast, with the highest HOD rate, shows a more endemic situation; while the West and South have lower magnitude later upswings. In contrast, regional rises in OPOD are parallel over time.

Conclusions: The rise in heroin-related overdose, esp. among youth, underscores a nascent heroin epidemic in the US. Structural drivers of this epidemic include the over-supply of opioid pills (opioid "push" theory) and a rise in novel forms of Mexican-sourced heroin (heroin "pull"). Regional disparities in HOD highlight the need to better understand the heroin pull theory. More dangerous forms of heroin are in circulation, particularly fentanyl-laced heroin. Understanding use and consequences of novel forms of heroin and expanding access to naloxone are essential responses.
The Medicaid Cost Burden of Opioid-Related Overdose Poisoning in the United States
Vladimir Zah PhD(c); Khemiri A, MSc; Kharitonova E, MSc; Ruby J, PhD; Aballea S, MSc - ZRx Outcomes Research Inc.

Background: Opioid-Related overdose poisoning rates and related mortality have increased substantially over the past decade. Although previous studies measured the costs of overdose and related mortality in smaller geographic settings, this work studied opioid overdose in the national US Medicaid population. **Objective:** To assess the economic burden of opioid-related overdoses in a national public health insurance plan. **Methods:** A retrospective cohort analysis was performed using insurance claim records extracted from the Truven Marketscan Medicaid Database from January 01, 2009 to Dec 31, 2013. Direct cost analyses were performed for both inpatient and outpatient services, including ambulance. **Results:** From 24,788 opioid overdosed patients, 13,216 patients were hospitalized (53.32%). Out of those patients hospitalized, 4.43% of patients died. The duration of inpatient hospital stay was between 1 and 462 days (Mean 4.88 days, SD 8.18). The average total patient cost per inpatient services was $4,065 (SD 14,515.47), and per outpatient services was $9,284.73 (SD 24,920.35). Of the total overdoses, 1,462 (5.89%) were children under 10 years. The average total cost to Medicaid per opioid overdosed patient was $13,533.22 (SD 29,806 .36). **Conclusions:** This study demonstrated the high cost burden of opioid-related overdose for Medicaid plans. More than half of Medicaid opioid overdose patients utilized inpatient services and over 4% die. These findings indicate the need to advance technologies that reduce these costly rates of overdose and loss of life.
A Qualitative Study of Circumstances Surrounding Accidental and Intentional Opioid Overdoses
Scott Stumbo, MA; Bobbi Jo Yarborough, PsyD; Shannon L. Janoff, MPH; Micah T. Yarborough, MA; Dennis McCarty, PhD; Carla A. Green, PhD, MPH - Kaiser Permanente Northwest Center for Health Research

Background: Opioid misuse and overdose are significant public health issues. Health care providers need data to identify patients that require monitoring or risk reduction strategies to prevent opioid poisonings and death. While studies of opioid overdoses have reported important risk factors, these studies reveal little about specific circumstances surrounding opioid overdoses and poisonings that could alert clinicians to elevated risk. **Objective:** Increase our understanding of the circumstances that may have contributed to opioid overdose events experienced by members of a large integrated health system. **Methods:** We conducted 90 interviews with survivors (or family members of decedents) of opioid overdose or poisoning events, identified using ICD-9 codes from electronic medical records. Participants were sampled from five purposefully derived pools of individuals with and without active opioid prescriptions. Interviews explored lifestyle and physical/mental health at time of event, substance use/abuse history, and overdose event details (how overdoses occurred, who was involved, intentionality, and treatment following events). Interviews were recorded, transcribed, and coded using Atlas.ti. **Results:** Among 78 events for which we could determine intent, 53 were categorized as accidental and 25 as intentional events. Impaired cognition sometimes explained accidental events but more commonly these events were the result of misunderstanding medication instructions or abuse or misuse of opioids. Half of unintentional overdoses resulting in death involved heroin, often in combination with other substances; no intentional events were attributable to heroin. Intentional events were characterized by compounding family and social stressors that interacted with mental health problems and, frequently, chronic pain. Persons who experienced opioid overdoses and poisonings also reported having: access to multiple prescriptions and/or illicit drugs; current or past mental health and/or substance use conditions or medications; chronic pain; unstable resources or family/social support; and combinations of these risk factors. **Conclusions:** Improved patient-provider communication, particularly around opioid dose changes, patient education, screening for changes in psychosocial risks/supports, and screening for illicit drug use could help identify people at greater risk of opioid overdose or poisoning.
Overdose Risk among Pregnant Women with Opioid Use Disorders
Sarah Bagley, MD; Howard Cabral, PhD; Kelley Saia, MD; Christine Llyod-Travaglini; Alexander Y. Walley, MD, MSc; Ruth Rose-Jacobs, ScD - Boston University School of Medicine

Background: Recent studies have shown an increase in pregnant women who use opioids. During the same time, overdose has surpassed motor vehicle crashes as a leading cause of injury related death. Little is known about the overdose risk in pregnancy. Objective: We describe non-fatal overdose characteristics and frequencies among late-term pregnant women with opioid use disorders and identify factors known to be associated with worse pregnancy outcomes associated with past year non-fatal overdose. Methods: We used baseline data collected as part of a randomized controlled trial of a case management support intervention among patients with opioid use disorders at a specialty obstetrics addiction clinic. The baseline questionnaire was completed during the third trimester prior to randomization and included questions about history of overdose. Descriptive statistics were calculated for age, education, race, relationship status, housing stability, opioid use age of onset, and mental health diagnoses. To explore the association of these factors with past year overdose (yes vs. no) we constructed cross tabulations and calculated chi-square and Fischer's exact tests for candidate variables. Results: Sixty-two participants were included in the analysis. The mean age was 28 years. Ten participants (16%) reported past year overdose with a range of 1-7 overdoses per subject. Participants who reported an overdose in the past year compared to those not reporting in the past year had mean younger age (24 years; sd=3.5 v. 29 years; sd=4.7 p<0.01) and earlier age onset of opioid use (18 years; sd=1.9 v 21 years; sd=5.4, p=0.01). Among the 52 participants who had not overdosed in the last 12 months, 38% (20 additional women) had had an overdose in their lifetime. Other factors such as education, race, relationship status, housing stability, and mental health diagnosis were not associated with increased past year overdose. Conclusions: Pregnant women with opioid use disorders commonly experience nonfatal overdose during the year prior to delivery. Younger women and women who report earlier onset of opioid use may be at higher risk. Overdose prevention education is warranted among pregnant women who use opioids and naloxone rescue kits should be considered for patients and their social networks.
Alcoholics Anonymous and Other Mutual Help Organizations: Impact of a 45-Minute Didactic for Internal Medicine Residents
David Marcovitz, MD; Julie Cristello, BA; John Kelly, PhD - MGH/McLean Adult Psychiatry Residency

Background: Substance-use disorders (SUD) are highly prevalent among primary care patients yet internal medicine trainees are often unprepared to address these disorders effectively. One evidence-based, cost-effective referral option are ubiquitous mutual-help organizations (MHOs) like AA, NA and SMART Recovery, however, little is known about how to effectively increase trainee knowledge and skill with these referrals. Objective: The primary aim of this study was to evaluate whether a single 45-minute combined lecture and role play-based didactic for internal medicine residents could enhance knowledge, skill and confidence in referring patients with addictions to community MHOs. Methods: The authors developed a 45-minute lecture and role play addressing the evidence for MHOs, their respective background / content, and how to make effective referrals. Participants were administered a brief survey of their MHO-related knowledge and beliefs before and after the session to evaluate the didactic impact. Results: Participants were 55 internal medicine residents divided between PGY1 (27.3%), PGY2 (38.2%) and PGY3 (34.5%). They had a mean age of 29 (SD = 2.62); 49% were female, 69% were Caucasian, 78% reported some religious affiliation. Participants' subjective knowledge about MHOs increased significantly (p<.001) as did their confidence in making referrals (p<.001). Participants' ratings of the importance of MHOs in aiding successful addiction recovery approached significance (p=.058). The proportion of participants with correct responses to each of four knowledge-based questions increased substantially. Conclusions: Internal medicine residents reported variable baseline knowledge of MHOs and confidence in making referrals, both of which were improved in response to a 45-minute didactic. Role-play may be a useful supplementary tool in enhancing resident knowledge and skill in treating patients with SUD.
Culturally Competent SBIRT: An Evidence-Informed Clinical Case Study
Jason Satterfield, PhD; Khanh Ly, BS; Derek Satre, PhD; Jennifer Manuel, PhD; Sandra Larios, PhD; Scott Steiger, MD - University of California, San Francisco

Background: A substantial public health investment has been made to train practitioners and promote the implementation of Screening, Brief Intervention, and Referrals to Treatment (SBIRT). While evidence supports its use for alcohol, little research has addressed necessary adaptations to better account for cultural differences. This case example was developed to illustrate evidence-based adaptations of SBIRT for serving culturally diverse populations. In this example, we discuss the case of a Latino man in which SBIRT was used as an effective approach to motivate the patient to consider reduction in drinking.

Learning Objectives:
1. To understand how cultural considerations can impact SBIRT delivery in primary care.
2. To illustrate specific SBIRT adaptations to better serve diverse patients.
3. To explore cultural factors such as family and community values that may influence motivation to reduce substance use.

Case Presentation: Ronaldo, a 47 year-old Latino man, presented to primary care with back pain and low mood. He was screened for alcohol using the AUDIT and scored in the at-risk category. His physician then conducted a brief interview using the motivational interviewing framework. Ronaldo reported that his back pain started following an alcohol-related fall one evening. His work performance and other activities have been affected. Ronaldo's alcohol use started when he was young and became more problematic over time. He was ambivalent about cutting back due to social pressures to drink alcohol at family and other social events, and his decreased ability to provide for his family made him feel worthless. The physician was able to collaboratively develop options for Ronaldo to reduce his drinking, using motivational factors such as the patient's values and concerns for his wife and children, and developed a culturally-sensitive treatment plan to address low mood and back pain.

Discussion: Developed in conjunction with a comprehensive literature review, this case illustrates strategies to help providers adapt SBIRT for diverse patients. Cultural factors to consider include language, literacy, power, trust, and the importance of family, religion, and individual role or status within the community. Learning what plays an important role in each unique patient's life can help to maximize SBIRT effectiveness.
Integration of SBIRT into Undergraduate Nursing Curriculum
Fara Bowler, MS, APN, ANP-C; Mary Weber, PhD, PMHN, P-BC, FAANP;
Laura D. Rosenthal, DNP, ACNP; Paul Cook, PhD; Laura Aagaard - University of Colorado

Background: Screening, brief intervention and referral to treatment (SBIRT) have primarily lived in out-patient healthcare settings or behavioral health disciplines. However, nurses play a critical role in fully integrating SBIRT services into a variety of healthcare settings. Nurses are well positioned to deliver SBIRT because of their extended patient contact and existing skills in health promotion, communication, and patient education, but additional training is necessary to give them the knowledge, attitudes, and skills needed for SBIRT. Evaluation data at the end of the first year of training suggest successes as well as gaps and areas for improvement.

Objective: Curricular program objectives were to give nurses a voice for difficult conversations related to substance use, skills to connect with patients through Motivational Interviewing and a model to fit SBIRT into the care delivery model in bedside nursing. One main focus has been to incorporate concepts around SBIRT into the foundation development of a Registered Nurse focusing also on decreasing the stigma that is associated with substance use.

Methods: SBIRT training used a three-part approach, with didactic instruction threaded through BS clinical curriculum courses, simulation exercises linked to the course content, and supervised practicum experiences. Evaluation measures targeted each of these three components, and included trainee self-reports before and after training and behavioral observation measures of simulation exercises. Results: SBIRT content has been added to 80% of the clinical courses with the goal of content being added to 100% of the clinical courses by the end of academic year 2015. Barriers that have been recognized over the past year, for full integration of content into the BS program have been around workload for content development, expertise and training of those teaching the content and foundation skill set of the student to receive this new knowledge, specifically around communication. Conclusions: Evaluation data at the end of the first year of training suggest successes as well as gaps and areas for improvement. Although BS students have been very receptive to SBIRT training as part of their regular coursework for a nursing degree and are able to demonstrate SBIRT skills in simulated patient encounters, these skills are not being successfully implemented in practice settings. Next steps will be focused on carrying the knowledge, skills and attitudes of SBIRT into the practice setting.

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Teaching Pediatric Residents a Skills-Based Screening, Brief Intervention and Referral to Treatment (SBIRT) Curriculum
Sheryl Ryan, MD; Deepa Camenga, MD, MS; Shara Martel, MPH; Michael Pantalon, PhD; Gail D’Onofrio, MD - Yale University

Background: The use and misuse of alcohol and other drugs by adolescents is a significant public health problem with substantial morbidity, mortality, social and economic costs. Few pediatric residency programs have integrated structured didactic and skills based training programs in screening, intervention and referral for substance use. Objective: To describe the evaluation of the integration of a SAMSHA-funded SBIRT skills-based curricula into a Pediatric Residency Program in the Northeast. Methods: As part of a required 4-week rotation in Adolescent Medicine, all 2nd year pediatric (90) and 3rd year medicine-pediatric (8) residents completed a 2-hour Core workshop, taught by two trained pediatric faculty; instruction included didactic teaching, video examples, and role plays using pediatric cases, followed by feedback. Skills focused on performing the Brief Negotiation Interview (BNI). Residents completed knowledge, attitudes, and satisfaction surveys and an audiotaped interview with a standardized patient pre-training and 28 days post-training to assess skills and adherence with the BNI. Standardized interviews were graded using a 21 critical item adherence checklist, with two subscales (3-item Discussion of Change and 5-item Discussion of Problems subscales) for analysis. Pre and post test scores on knowledge and skills adherence were assessed with paired t-tests using SPSS. Results: Over a 45 month period, 98 residents were trained; 93 completed the pre- and post-training knowledge surveys and audiotaped interviews. Knowledge scores on the 30 item survey increased significantly from a mean of 20.9 at pretest to 24.0 at posttest (P <001). Satisfaction was high: Overall mean 1.4, with scale scored from 1(excellent) to 5 (not at all excellent), and Usefulness mean 1.45. Skill scores using the adherence scale increased significantly for the "Discussing Problems" and "Discussing Change" subscales from pretest means of .38 and .34, respectively to posttest means of 2.04 and 2.54 (P values <.001). Conclusions: A skills-based SBIRT curriculum was successfully integrated into a pediatric residency training program. Residents demonstrated satisfaction, increased knowledge and skills post training.

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Increasing Impact of Longitudinal Training on Residents’ Confidence and Performance of Alcohol Screening and Brief Intervention

J. Paul Seale, MD; J. Aaron Johnson, PhD; Sylvia Shellenberger, PhD - Mercer University School of Medicine & Navicent Health

Background: Many medical residents receive training in screening and brief intervention (SBI) for alcohol and drugs. Clinician attitudes have been shown to impact SBI-related behaviors. Earlier research by the current authors reported changes in resident confidence in and performance of SBI-related tasks 12 months after the initiation of SBI training.

Objective: To assess the impact of continuing longitudinal training on residents' confidence and self-reported performance of SBI activities after 24 months of SBI training.

Methods: Residents (n=117) participating in SBI training in 4 US primary care residency programs were surveyed prior to initiation of SBI training and again at 12 months and 24 months. The training intervention included 6 hours of motivational interviewing-based (MI) SBI curriculum each year as well as implementation of SBI protocols in residency clinics. Paired samples t-tests assessed changes over time in confidence in performing different BI components and self-reported performance of BI components. Results: A measure of global confidence in determining which patients were at-risk drinkers and confidence in helping patients cut down or quit using alcohol was significantly higher at both 12 (p<.001) and 24 months (p<.001). Resident responses to a question regarding having adequate training to address at-risk drinkers also improved significantly at both 12 months (p<.001) and 24 months (p<.001). Significant increases were observed at 12 months in confidence in performing 5 of 10 SBI components. At 24 months, after 12 additional months of training and clinical practice, 7 of 10 measures were significantly higher than at baseline. Residents were asked to report, on a scale of 1 to 5, how often they performed each of six BI components. At 12 months, only “using MI to motivate patients” showed a significant increase (p=.004). At 24 months, residents reported significant increases in performing 5 of 6 BI components. Conclusions: Longitudinal MI-based SBI training, accompanied by clinic implementation efforts, had a significant positive impact on resident confidence and self-reported performance of SBI behaviors at both 12 and 24 months. With ongoing training, gains achieved at 12 months were sustained, and additional positive changes accrued after 12 more months of training and practice.
“Coach Vicky”: A Web-based, Self-Directed Brief Intervention Training Program
Michael V. Pantalon, PhD; Fuad Abujarad, PhD; Shara Martel, MPH; Kei-Hoi Cheung, PhD; Jeanette Tetrault, MD; Jenna Butner, MD; Gail D'Onofrio, MD - Yale School of Medicine

Background: Screening, Brief Intervention and Referral to Treatment (SBIRT) is effective at reducing harmful/hazardous alcohol use. SBIRT training, however, is time and labor intensive, and its widespread adoption has not been achieved. Thus, we developed a web-based, self-directed Brief Negotiation Interview (BNI) training program, using a virtual preceptor, "Coach Vicky," employing diverse educational methodologies, dialogue-based interactions and highly individualized feedback. Objective: This pilot investigation compared web-based Coach Vicky trained medical students to a historical (i.e., non-randomized) control group of traditionally, in-person workshop trained medical residents on BNI adherence scores obtained during a standardized patient encounter. Methods: Twenty-nine 3rd year medical students and 36 Medicine residents participated. COACH VICKY trainees (medical students) received a 15-minute BNI training video via the program, a 4-step BNI script, and a case description of an injured high-risk alcohol use patient, "conversing" with the virtual patient by selecting statements from 3 different options. Coach Vicky provided real-time constructive feedback, remediation and personalized recommendations. Completion ratings included: Pass/no further feedback, Pass/feedback and additional practice suggestions, or Fail/feedback and a program repeat requirement. The TRADITIONAL TRAINING group (residents) received an in-person 90-minute BNI workshop including didactic instruction, viewing the same video as in Coach Vicky, and a role-play exercise. One week post training, all participants were audio recorded while conducting the BNI with a standardized patient. Single-blind independent trained raters scored the interaction using the psychometrically-validated BNI Adherence Scale (BAS).

Results: Coach Vicky trainees spent on average 15.7 minutes (SD=0.58) during each encounter. The percentage of this group passing on their first and second attempt was 77% and 100%, respectively. This group also scored significantly higher than the traditionally trained group on total BAS scores (p < .05) and the BAS subscale measuring patient-centered discussion of alcohol use (p < 0.001). Coach Vicky trainees also achieved higher scores on the other BAS subscale measuring motives and plans for change in drinking patterns (p = 0.055).

Conclusions: This pilot study suggests that a web-based training program, Coach Vicky, provides a promising teaching modality for BNI training. Future randomized, controlled studies are needed.
Dissemination and 8-year Evaluation of the Interdisciplinary Substance Abuse Research Education and Training (SARET) Program
Kathleen Hanley, MD; Sewit Bereket, MPH; Frederick More, DDS; Madeline Naegle, PhD; PMHCNS-BC, FAAN; Ellen Tuchman, PhD; Marc Gourevitch, MD – New York University

**Background:** There is a need for innovative initiatives to build the ranks of health professionals engaged in conducting substance abuse (SA) research. **Objective:** The fundamental goal of the NIDA-funded inter-professional Substance Abuse Research Education and Training (SARET) program is to stimulate dental, medical, nursing and social work students' interest and pursuit of careers in researching SA) through exposure to its two main components: stipend-supported research and an online curriculum, previously shown to increase students' interest in SA research. We evaluated our early dissemination of this curriculum, consisting of six, interactive, multi-media modules addressing core SA research topics, to health professional schools nationwide. We also tracked presentations, publications and the early career trajectories of our mentorship program participants. **Methods:** We identified early partner health professional schools and organizations dedicated to SA education to disseminate the modules. Using our online software, we assessed module completions at NYU, early partner schools and elsewhere. We also evaluated ongoing involvement of past mentorship participants in conducting SA research by tracking publications and conducting long-term follow-up surveys. **Results:** Five early partner schools (two medicine, two dental and one social work) have integrated at least one module into their curriculum. 4855 unique individuals have completed at least one web-module and there have been more than 10,000 module completions to date, over 1800 of which were outside of NYU. Since 2008, 64 students completed summer and eight completed year-long mentorships; 11 have published in SA related journals and eight have presented their work at national conferences. 2 past participants are currently actively engaged in SA-related research. Mentorship students reported positive impact on their vision of SA-related clinical care, more positive attitudes about research and interprofessional collaboration, and in some cases, change in career plans. **Conclusions:** The SARET program, which stimulated SA clinical and research interest among students of dentistry, medicine, nursing and social work, resulted in some early research success among mentorship participants. The modular curriculum can be disseminated in whole or in part. Longer term follow up will enable us to continue to assess the success of the program.
The Research in Addiction Medicine Scholars (RAMS) Program - Developing Researchers in Fellowship
Patrick G. O'Connor, MD, MPH; Jeffrey H. Samet, MD, MA, MPH; Judith Tsui, MD, MPH; Danna Gobel, MSW; Belle Brett, EdD; Carly Bridden, MA, MPH - Yale University School of Medicine

**Background:** The U.S. has a shortage of physicians with clinical training in Addiction Medicine, and this has recently been addressed by the creation of the American Board of Addiction Medicine (ABAM). Some of the newly forming Addiction Medicine fellowship programs need to include among their trainees physician researchers with research training so as to effectively advance the treatments for patients with substance use disorders. **Objective:** The Research in Addiction Medicine Scholars (RAMS) Program's goal is to provide a supportive infrastructure to supplement the training and mentoring of Addiction Medicine and Addiction Psychiatry fellows from North America to develop a cadre of physician investigators and training programs with clinical addiction research expertise. **Methods:** RAMS aims to develop skills in addiction research among physicians from addiction fellowship programs nationwide. RAMS began in 2012 with NIDA funding and has provided human resource development in the fields of Addiction Medicine and Addiction Psychiatry for 14 fellows (9 and 5, respectively) to date. The two-year program provides research support, both funds for research projects and mentoring, to facilitate the implementation of research projects and a possible research career. During the program, fellows participate in annual retreats with RAMS Program Directors and the National Advisory Committee (one in Boston and the other at the College on Problems of Drug Dependence [CPDD] conference), which include group seminars, one-on-one mentoring, and workshops on research methods and career development paths. The program supports attendance at CPPD so scholars can experience a rigorous scientific meeting in a mentored setting. The program also hosts monthly faculty-driven research or scholar research-in-progress webinars. **Results:** The four inaugural alum of the program have all accepted faculty positions. Altogether, scholars have published over 20 publications and are recipients of four grants and several awards. **Conclusions:** RAMS is positioned to make important contributions to the development of the next generation of physician researchers in order to provide better care for patients with and at risk for addictive diseases.
Pain Action Consulting Team (PACT): A Mentorship-Based Strategy to Teach Responsible Opioid Prescribing
Edith Vargo, MD; Michael Clark, MD; Maura McGuire, MD - Johns Hopkins Community Physicians

Background: Chronic non-cancer pain (CNCP) is a common problem in primary care, and opioids are frequently prescribed. Complications of opioid therapy, including overdose deaths, have increased at an alarming rate. Primary care physicians (PCPs) often manage CNCP, but may feel unprepared to manage opioid therapy. We developed a Pain Action Consulting Team (PACT) to provide education. Objective: Despite guideline-based training and availability of an EMR, performance audits in our organization showed persistent gaps in documentation. To address these gaps, we developed a program that combined on-line education with distance-mentoring and discussion groups. Our goals included: (1) Increase guideline-based management of CNCP; (2) Increase use of risk stratification tools; (3) Enhance PCPs' ability to manage opioids; (4) Standardize documentation; (5) Enhance interdisciplinary management

Methods: We recruited 26 PCP mentees from our group practice. Groups of 5 mentees were assigned to work with a nationally known pain expert mentor. Mentees and mentors joined 4 webinars and met in groups after each to discuss management issues. The study team performed a systematic audit (SA) of 6-10 patient charts for each mentee looking at visits completed in the 12 months prior to beginning PACT. The reviewing RN validated findings with each mentee. After completion of webinars and meetings a post-activity evaluation and assessment were completed. The impact of the PACT program was determined by performing a second SA and a chart-stimulated recall interview with focused evaluation of 2-3 charts chosen by the mentee; these occurred 6 months after the intervention. Results: On post-intervention evaluations, the PACT curriculum was well rated, webinars were rated as less useful than mentor meetings and the audit review. Chart stimulated recall demonstrated ongoing gaps in perceived vs. actual documentation. Univariate analysis of the SA showed significant improvement in documentation of pain score and alleviating factors and a significant decline in use of non-pharmacologic treatment, other analgesics, and referrals to specialists. Conclusions: A distance-learning curriculum and mentoring relationships were well received by PCPs. There was less than expected improvement in documentation. Our mentees attributed this to a need for enhanced documentation and decision support aids in our EMR; these are being developed.
The Addiction Recovery Clinic: A Novel primary Care-Based Approach to Teaching Addiction Medicine
Stephen Holt, MD, MS; Nora Segar, MD; Sarita Soares, MD; Dana Cavallo, PhD; Jeanette Tetrault, MD - Yale School of Medicine

Background: Substance use is prevalent in the U.S. resulting in major public health burdens. Despite this high prevalence, little curricular time is devoted to training Internal Medicine (IM) residents in Addiction Medicine (AM). Objective: We developed and launched the Yale Addiction Recovery Clinic (ARC), intended to meet this educational deficit while also providing an outpatient clinical service to patients with addictive disorders. The educational objectives of the ARC include providing IM residents with knowledge of the biologic basis for addiction, and educating residents about available pharmacologic and behavioral interventions.

Methods: The ARC is embedded within our Primary Care Residency Clinic and is staffed by three IM trainees per block, two AM certified attending physicians, one AM Fellow, one social worker and one licensed behavioral psychologist. During their ambulatory rotation, trainees spend ½ day per week for four consecutive weeks at the ARC seeing new and established patients. Services provided within the clinic include: treatment of opioid use disorder with buprenorphine, maintenance therapy, and behavioral counseling; treatment of alcohol use disorder with pharmacotherapy and behavioral counseling, outpatient management of alcohol withdrawal, consultative services for other drugs of abuse, and direct referral to local addiction treatment facilities as needed.

Results: We developed a multi-level evaluation system. Clinical practice is evaluated by visit numbers and patient satisfaction surveys. Between August 2014 and April 2015, a total of 268 visits were seen with an average of 3 new patients and 9 follow-up patients during each half-day session. 58% of patients were seen for opioid use disorder, 22% for alcohol use disorder and 20% for other substance use disorders. In patient satisfaction surveys, 100% of patients reported that the ARC probably or definitely helped them to cope with their addiction. Residents were evaluated using a novel Entrustable Professional Activity (EPA) based system specifically designed for this rotation. Overall, the rotation has been highly regarded by the residents as assessed by qualitative evaluation data.

Conclusions: The ARC offers a unique primary care-based approach to teaching IM residents the knowledge and skills to diagnose, treat and prevent addiction throughout the disease spectrum, in keeping with the chronic disease management model.
Follow-Up Evaluation of the Scaife Advanced Medical Student Fellowship in Alcohol and Other Drug Dependency
Dawn Lindsay, PhD; Holly Hagle, PhD; Piper Lincoln, MS; Jessica Williams, MPH; Peter Luongo, PhD - Institute for Research, Education and Training in Addictions

Background: Medical students receive little training in working with patients with alcohol and other drug use, despite the significant public health impact of addiction, the prevalence of these issues across medical settings and their interaction with many chronic health conditions. The Scaife Medical Student Fellowship in Alcohol and Other Drug Dependency provides a three-week intensive experience during the summer targeted to students who have completed their first year of medical school. Objective: The objective of this project was to evaluate the impact of the Scaife Fellowship on medical students' attitudes toward patients with alcohol and other drug involvement and career focus one to five years after completion of the program. Methods: Participants were students who participated in the Scaife Fellowship (n=47) and a comparison group of medical students who had applied for the program but did not attend, usually for scheduling reasons (n=35). Attitude measures that Scaife students had completed before and after the program were administered to all participants. Results: At the follow-up time point, Role Security around working with patients with alcohol and other drug use was at the same increased level (relative to baseline) as the post-Fellowship time point (e.g., for AAPPQ, F(2,74)=147.8, p<0.01). On the other hand, Therapeutic Commitment decreased significantly from post-Fellowship to the follow-up time point (F(1,37)=23.9, p<0.01) and this effect was more pronounced in the students who had graduated. Comparison students showed lower scores on all scales relative to the Scaife students at the follow-up time point. Conclusions: The Scaife Fellowship had a strong, lasting impact on students' sense of their role in working with patients who have alcohol and other drug use. The commitment to work with these patients did decrease, most notably in students who had graduated, pointing to the importance of continuing education and awareness. Overall, the Scaife Fellowship offers a rare opportunity for medical students to immerse themselves in learning how to work with patients who have alcohol and other drug related issues, and the positive effects reaped by these students seem to be sustained over time.
Diversity of Training Healthcare Providers in Addiction Medicine: Preliminary Qualitative Data
Jan Klimas, MSc, PhD; N. el-Guebaly; L. Rieb; E. Wood; W. Cullen - University of British Columbia

Background: The rapid rise of new structured educational programs for addiction medicine specialists isn't without problems. Objective: We describe a program of research that tries to understand mechanisms for scaling up and standardizing the addiction medicine education internationally.

Methods: The project has three phases:
1. Scoping review of literature and interviews with alumni of the Canadian addiction medicine fellowship.
2. Expert consultation in Ireland and Canada and educational needs assessment at both systems.
3. Development and implementation of a Novel Addiction Medicine Education (NAME) curriculum for medical students and family physicians in Ireland.

In the first phase, qualitative interviews were completed with learners (n = 8) and faculty (n = 4) to assess the experience of and attitudes towards training in addiction medicine and research. Transcripts of the interviews were analyzed thematically.

Results: Early findings from the interviews with faculty and alumni of the Canadian addiction medicine fellowship highlighted the key role of evidence-informed curricula and expansion of the current programs to include other, non-physician health professionals. Our scoping review of literature identified a high diversity in physician education on addiction that prevents comparative research and hinders advancement of education in addiction medicine.

Conclusions: Recognizing that diversity of the programs reflects the critical role of responding to the regional needs and context in the development and implementation of these programs, we call for standardized training programs in addiction medicine internationally.
Common and Challenging Behaviors among Patients Taking Long-Term Opioid Therapy: Initial Results of a Delphi Study
Jessica S. Merlin, MD, MBA; Sarah Young, MSW; Payel Roy, MD; Soraya Azari, MD; Jamie Pomeranz, PhD; E. Jennifer Edelman, MD, MHS; William C. Becker, MD; Joanna Starrels, MD, MS; Jane M. Liebschutz, MD, MPH - University of Alabama at Birmingham

Background: Among patients on long-term opioid therapy (LTOT) for chronic pain, development of problematic behaviors poses an important clinical challenge for prescribers. Current guidelines lack specificity about how best to respond. Objective: Our objective was to use the Delphi method to elicit expert opinion and develop consensus on which problematic behaviors are most common and challenging, and how these behaviors should be managed. Here, we present the results from the first round of this study. Methods: We recruited members of relevant professional societies and groups (American Academy of Pain Medicine, Society of General Internal Medicine, Veterans Affairs Pain Points of Contact, Safe and Competent Opioid Prescribing Education trainers) to participate in a web-based questionnaire. Eligible participants self-identified as opioid prescribing experts caring for adults with chronic pain on LTOT. Participants were prompted to list all behaviors and other concerning signs that they consider problematic among patients on LTOT. Participants then identified the two behaviors they believed to be most common and the two that are most challenging. These results were analyzed qualitatively using a thematic approach and two rounds of open coding by two independent coders to reach consensus and develop the codebook.

Results: Of 42 respondents, 76% were physicians, 17% nurse practitioners, 5% nurses, and 2% clinical pharmacists. Sixty-two percent were boarded in Internal Medicine, 19% in Pain Medicine, and 19% in Addiction Medicine. Unsanctioned dose escalation, early refill requests, running out of medication early, and use of illicit drugs were frequently listed as common behaviors. Anger/aggression, requests for dose escalation, taking opioids for symptoms besides pain, lost/stolen medication, and refusing or resisting non-pharmacologic therapies were frequently listed as challenging behaviors. Non-adherence to the treatment plan was frequently listed as both a common and challenging behavior. Conclusions: This expert panel of participants has identified common and challenging behaviors, which will lead to the development of algorithms to aid clinicians who care for patients on LTOT. In Round 2, we will ask how participants would manage these behaviors, and in Rounds 3 and 4, we will present participants with clinical scenarios and multiple choice management responses to build expert consensus.

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Opioid Review Committees in Primary Care: What do Providers Want?
Soraya Azari, MD; Ghezal Saffi, BS; Claire Horton, MD; Paula Lum, MD - University of California, San Francisco

**Background:** The prescribing of chronic opioid therapy for non-cancer pain can be challenging to primary care providers. Many clinics have implemented peer review committees to assist with this process despite limited evidence on the purpose or function of these committees. In addition, some health plans have begun to provide quality incentives for peer review of opioid cases suggesting there may be spread of this practice. **Objective:** To survey primary care providers in an urban, academic primary care clinic to understand perceived importance of an opioid review committee, the function it should have, and who should be member.

**Methods:** A short, voluntary, multiple-option on-line survey was disseminated to primary providers in an urban academic primary care clinic at San Francisco General Hospital. Survey results were collected and analyzed using basic descriptive statistics. **Results:** 76/85 providers responded to the online survey and the majority of respondents were residents (55%), followed by attendings (37%), and then nurse practitioners (7%). 38/76 respondents answered that the committee was a good idea because it "makes my job of managing patients with chronic pain less stressful," and 32/76 answered that it was a good idea "for patient safety." In terms of the desired function of the review committee, the following were most popular: Create clinic-wide policies for how all provider should respond to concerning behaviors (66/76), Provide guidance on opioid tapers (66/76), Make suggestions about alternative therapies for pain (62/76), and Provide guidance on monitoring of patients on chronic opioid therapy (65/76). In terms of provider opinion about who should be part of the committee, the most common responses were a chronic pain specialist (68/76), a behavioral health provider (66/76), and an addiction medicine specialist (60/76). **Conclusions:** In a survey at one urban, academic primary care clinic, nurse practitioner and doctors expressed broad support for having a multi-disciplinary opioid review committee. The function most desired by primary care providers is for the committee to create "policies" for responding to concerning behaviors, which is consistent with anecdotal accounts of providers wanting to blame the "policy" as opposed to the provider when opioids are denied. Providers are also seeking help with alternative treatment ideas and opioid tapers, likely reflecting inadequate training on these topics.
Community Pharmacy and Opioid Pain Medication: Screening Patients who Misuse or are at Risk for Misuse
Gerald Cochran, PhD; Thomas Ylioja, MSW; Jessica Rubinstein, MA, MSW; Ralph Tarter, PhD - University of Pittsburgh

Background: Misuse of prescription opioid pain medications is a serious concern for community pharmacies. Yet, the systematic screening of patients for misuse or risk of misuse has never heretofore been reported within the extant literature. Objective: We hypothesized opioid medication misuse and risk for misuse could be identified among adult non-cancer patients filling opioid pain medications in the community pharmacy setting. We also hypothesized patients would be amenable to behavioral health screening in the community pharmacy setting. Methods: We conducted a cross-sectional survey from October 2014-February 2015 with a convenience sample of adult non-cancer patients filling opioid pain medications in rural/urban community pharmacies. The survey included validated screening measures for opioid medication misuse, at-risk alcohol use, illicit drug use, physical health, depression, and post-traumatic stress disorder (PTSD). Acceptability of pharmacist screening/discussing opioid medication misuse was measured on a 5-point scale. Descriptive statistics were calculated to evaluate participant responses by location. Logistic regression assessed bivariate and multivariate associations between opioid medication misuse and demographic and health characteristics. Results: A total of 164 patients completed the survey (87% response rate). Positive screens were found for prescription opioid misuse (14.3%), at-risk alcohol use (21.4%), illicit drug use (7.3%), depression (25.8%), and post-traumatic stress (17.1%). Patients in the rural setting reported poorer overall health (p<0.001) and more pain (p<0.001). Patients were open and agreeable to pharmacists asking about opioid medication use (M=2, SD=1.1) and possibly discussing misuse (M=1.7, SD=0.8). Bivariate analyses showed a positive screen for illicit drug use in the previous year (OR=3.91, 95% CI=1.05-14.63) and a positive screen for PTSD (OR=6.7, 95% CI= 2.54-17.69) were associated with increased odds of opioid medication misuse. Multivariate analysis showed a positive screen for illicit drug use in the previous year (AOR=12.96, 95% CI= 2.18-76.9) and PTSD (AOR=13.3, 95% CI= 3.48-50.66) increased odds for opioid medication misuse. Conclusions: Findings confirmed community pharmacy patients report misuse, risk factors for misuse, and are open to screening/discussion about misuse with pharmacists. Future research should validate these findings as a foundation to intervention development.
A Continuum of Care Model for Opioid Misuse in Community Pharmacy
Gerald Cochran, PhD; Adam J. Gordon, MD; Craig Field, PhD; Jennifer Bacci, PharmD; Ranjita Dhital, MRPharmS; Thomas Ylioja, MSW; Maxine Stitzer, PhD; Thomas Kelly, PhD; Ralph Tarter, PhD - University of Pittsburgh

**Background:** Misuse of prescription opioids is a serious US public health issue. While community pharmacies are primary locations for distribution of opioids, few resources currently exist to assist pharmacists engage patients who are at-risk or misuse opioid medications.

**Objective:** This project aimed to develop a framework for a continuum of care to address opioid medication misuse in the community pharmacy setting. **Methods:** A one-day scientific meeting of pharmacy and substance use intervention experts was held to review and discuss scientific knowledge and methods to enhance/adapt the screening, brief intervention, and referral to treatment protocol for opioid medication misuse in community pharmacy. The scientific meeting was video-recorded, and two independent coders in a two-cycle process analyzed resulting qualitative data using objective coding schemes. Percent agreement and Cohen's Kappa were calculated to assess thematic coherence. Themes were then assembled into an intervention model that was reviewed by meeting attendees for consensus. **Results:** Four themes were identified in first-cycle coding, with excellent Kappa values (0.81-0.93) and coder agreement (93.5-99.6%). Themes were: i) patient identification, ii) intervention, iii) prevention, and iv) referral to care. Stemming from within the first cycle themes, second-cycle coding identified 10 sub-themes, with Kappa values ranging between 0.58-0.93 and coder agreement from 83-99.8%. Subthemes within patient identification were: i) employing electronic screening methods; ii) conducting multidimensional assessment; iii) identifying target behaviors within pharmacist expertise; and iv) pharmacists navigating the "policing" role. Subthemes within intervention were: v) building on pharmacy strengths and vi) focusing on patient-centered care. Subthemes within prevention encompassed both: vii) preventing substance use disorders and viii) overdose. Referral to care subthemes themes encompassed: ix) agonist therapy and x) integrated care concepts. **Conclusions:** A community pharmacy intervention model for opioid misuse is feasible and should build upon pharmacists' knowledge of medication management. Comprehensive health screening can facilitate patient-centered care, including overdose prevention and naloxone education, medication review, and adherence interventions in the pharmacy setting based upon the level of assessed risk of opioid misuse. Pharmacists have a key role in opioid misuse intervention that involves activating additional health providers to assist patients at-risk or involved in opioid misuse.
Empowering Residents to Address Chronic Pain and Prescription Opioid Misuse in Primary Care
Allison L. Ruff, MD(1); Daniel P. Alford, MD, MPH; Robert Butler; J. Harry Isaacson, MD – (1)Cleveland Clinic

Background: Residents care for patients with chronic pain on long-term opioid therapy; many who exhibit signs of prescription opioid misuse. They often feel unprepared and lack confidence in caring for these patients. Objective: Describe an educational intervention for Internal Medicine residents to improve knowledge and confidence in safe opioid prescribing for chronic pain. Methods: The intervention included 2 educational sessions for Internal Medicine senior residents during an ambulatory block. Session one (3 hours) included a lecture on opioid use disorders and chronic pain followed by a skills practice session on patient-centered communication skills, which included a discussion of clinical challenges using trigger tapes from www.scopeofpain.com, and a brief intervention role play. The residents were asked to use one of these skills over the next week. Session two (1.5 hours) occurred one week later with a debriefing of the patient encounters as well as an overview of prescription opioid monitoring strategies, treatment, and resources for opioid use disorders, and how to discontinue prescription opioids when appropriate. Pre and post assessments evaluating resident confidence and self-reported practices, including utilizing appropriate safe opioid prescribing monitoring strategies and knowledge of available resources, were performed prior to and following all residents completing the intervention. Results: 91 senior residents completed the intervention with 44 and 43 residents completing the pre- and post-assessments respectively. Utilizing a 4-point Likert scale (1= strongly disagree, 2= disagree, 3=agree, 4=strongly agree), residents reported improved confidence in skills managing patients with chronic pain (2.4 vs 3.0, p <0.0001) and understanding monitoring benefit vs harm in patients on chronic opioids (2.5 vs 3.0, p<0.0005). They also noted improved ability to identify additional patient resources. They did not report a significant increase in use of safe opioid prescribing monitoring strategies, including pill counts, urine drug screens, and prescription drug monitoring program checks. Conclusions: A brief and focused educational intervention can improve residents' knowledge and confidence in managing patients with chronic pain and safe opioid prescribing practices. How this change in confidence affects patient care requires further study. This model can be adapted to trainees in many areas.
SCOPE of Pain: An Evaluation of an Opioid Risk Evaluation and Mitigation Strategy (REMS) Continuing Education Program
Daniel P. Alford, MD, MPH; Lara Zisblatt, EdD, MA; Pamela Ng, MSc; Sean M. Hayes, PsyD; Sophie Péloquin; Ilana Hardesty; Julie L. White, MS - Boston University School of Medicine

Background: Due to the high prevalence of prescription opioid misuse, the US Food and Drug Administration (FDA) mandated a Risk Evaluation and Mitigation Strategy (REMS) requiring manufacturers of extended release/long acting (ER/LA) opioids to fund continuing education based on an FDA Blueprint. Objective: To describe the Safe and Competent Opioid Prescribing Education (SCOPE of Pain) program, an ER/LA opioid REMS program, and its impact on clinician knowledge, confidence, attitudes and self-reported clinical practice.

Methods: The primary target group (n=2,850), and a subset (n=476) who completed a 2-month post-assessment, consisted of clinicians licensed to prescribe ER/LA opioids, who care for patients with chronic pain and who completed the 3-hour SCOPE of Pain training between February 28, 2013 and June 13, 2014. Participants of the 3-hour SCOPE of Pain training completed pre-, immediate post- and 2-month post-assessments. Results: Immediately post-program, there was a significant increase in correct responses to knowledge questions (60% to 84%, p≤0.02) and 87% of participants planned to make practice changes. At 2-months post-program, there continued to be a significant increase in correct responses to knowledge questions (60% to 69%, p≤0.03), 67% reported increased confidence in applying safe opioid prescribing care and 86% reported implementing practice changes. When presented with 9 specific clinical practice changes: 68% had either partially or fully improved their opioid prescribing documentation in patient medical records, 67% reported having implemented or improved patient education and communication relating to opioid prescribing and 52% reported having implemented/improved urine drug testing for monitoring opioid adherence and misuse. Approximately 60% reported partially or fully implementing 4 or more changes in their practice with 35% implementing 7-9 changes. There was also an improvement in alignment of desired attitudes towards safe opioid prescribing. Conclusions: The SCOPE of Pain program improved knowledge, attitudes, confidence and self-reported clinical practice in safe opioid prescribing. This national REMS program holds potential to improve the safe use of opioids for the treatment of chronic pain.

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Primary Care Patients with Drug use Identified by Screening Self-Medicate with Alcohol and other Drugs for Chronic Pain
Daniel P. Alford, MD, MPH; Jacqueline German, MPH; Jeffrey Samet, MD, MA, MPH; Debbie Cheng, ScD; Christine Lloyd-Travaglini, MPH; Richard Saitz, MD, MPH - Boston University School of Medicine

Background: Chronic pain is common among patients with drug use disorders. The prevalence of chronic pain and its consequences in primary care patients who use drugs is unknown and deserves further study. Objective: To determine the prevalence of chronic pain and pain-related dysfunction among primary care patients who screen positive for drug use. To examine the prevalence of substance use to self-medicate chronic pain in this population. Methods: Cross-sectional analysis of 589 adult patients who screened positive for any illicit drug use or prescription drug misuse and were recruited from an urban, hospital-based primary care practice. Both pain and pain-related dysfunction were assessed by numeric rating scales, and grouped as: (0) none, (1-3) mild, (4-6) moderate, (7-10) severe. Questions were asked about the use of substances to treat pain. Results: Among 589 participants, chronic pain was reported by 87% (95% CI: 84%-90%) with 13% mild, 24% moderate and 50% severe. Pain-related dysfunction was reported by 74% (95%CI: 70%-78%) of participants, with 15% mild, 23% moderate, and 36% severe. Among those that used marijuana, cocaine, and/or heroin, 51% (296/576) reported using to treat pain (95%CI: 47%-56%). Of the 121 with prescription drug misuse, 81% (95%CI: 73%-88%) used to treat their pain. Of the 265 participants who reported drinking any alcohol, 38% (95%CI: 32%-44%) did so to treat pain compared to 61% (95%CI: 51%-70%) of the 114 with heavy alcohol use. Conclusions: Chronic pain and pain-related dysfunction were the norm for primary care patients who screened positive for drug use. Almost half of these patients reported severe pain and approximately a third reported both severe pain and severe pain-related dysfunction. Many patients using illicit drugs, misusing prescription drugs and using alcohol reported doing so in order to self-medicate their pain. Pain needs to be addressed when patients are counseled about their substance use.
Increasing Follow-up Outcomes of Patients at-Risk for Alcohol use using Motivational Interviewing
Rachael Garbers, BSCH; Andy Wagner, RN, BSN; Ann Lang, RN, MS; Andrew J. Borgert, PhD; Mason Fisher, MD, FACS - Gundersen Health System

**Background:** Gundersen Health System (GHS) is a 325-bed American College of Surgeons (ACS) verified Level II trauma center that implemented a Screening, Brief Intervention (BI) and Referral to Treatment (SBIRT) model in 2009. Additionally, an SBIRT program is a requirement of the ACS to maintain a Level II trauma center. **Objective:** Identify at-risk alcohol users, conduct a brief intervention (BI) and referral to treatment, if needed, to elicit a positive lifestyle change. GHS has successfully maintained a 90.8% screening rate of all inpatient admissions since 2011, using the Audit-C screening tool. Over 9% of inpatients, ages 12 and up, screened positive for at-risk alcohol use. A brief intervention (BI) is completed by a Wellness Specialist (WS) trained in Motivational Interviewing (MI) or Exercise Physiologist (EP) using traditional interviewing methods. Services are provided 365 day/year. **Methods:** Determine if MI is associated with higher rates of follow-up consent in at-risk alcohol users compared to traditional interviewing methods. Additionally, brief interventions are more effective if they include follow up to reinforce changes in alcohol intake (Field, Walters, Marti, Jun, Foreman, and Brown, 2014). **Results:** From February 2012 to June 2014, GHS had over 24,000 inpatient admissions with over 9% of patients screening positive for at-risk alcohol use. The WS and EP staff conducted a BI on 994 at-risk alcohol users. The WS trained in MI consulted on 509, or 51%, of the patients with the remainder being seen by EP staff. Nearly 52% (264/509) of patients consulted by WS trained in MI agreed to follow-up. Conversely, only 21%, or 90 of the 426 patients seen by non-MI trained staff, agreed to follow-up (p < 0.001). Failure to offer follow-up occurred in only 6% of patients (n=59). **Conclusions:** A review of techniques to counsel patients identified as at-risk alcohol users have shown a higher success rate in follow-up care utilizing motivational interviewing compared with other traditional methods.
Screening and Brief Intervention for Low Risk Drug Use in Primary Care: A Pilot Randomized Trial
Richard Saitz, MD, MPH; Seville M. Meli, MPH; Tibor P. Palfai, PhD; Debbie Cheng, ScD; Daniel P. Alford, MD, MPH; Judith A. Bernstein, RN, PhD; Jeffrey H. Samet, MD, MA, MPH; Christine A. Lloyd-Travaglini, MA; Christine E. Chaisson, MA - Boston University

Background: Universal screening and brief intervention (SBI) for drug use among primary care (PC) patients lacks efficacy but the efficacy of SBI for low risk drug use is unknown.

Objective: This 3-arm pilot study tested the efficacy of two brief interventions (BIs) for drug use compared to no BI in PC patients with low risk drug use identified by screening.

Methods: We randomly assigned participants identified by screening with Alcohol Smoking and Substance Involvement Screening Test (ASSIST) drug specific scores of 2 or 3 (consistent with low risk drug use) to: no BI, a brief negotiated interview (BNI), or an adaptation of motivational interviewing (MOTIV). BNI was a 10-15 minute structured interview conducted by health educators. MOTIV was ≤45 minutes with an optional booster conducted by trained master's-level counselors. Primary outcome was number of days use of self-identified main drug in the past 30 as determined by validated calendar method at 6 months. Analyses were performed using negative binomial regression adjusted for baseline use and main drug. Results: Of 142 eligible adults, 61 (43%) consented and were randomized. Participant characteristics were: mean age 41; 54% male; 77% black. Main drug was marijuana 70%, prescription opioid 10%, cocaine 15%; 7% reported injection drug use and mean days use of main drug (of 30) was 3.4. At 6 months, 93% completed follow-up and adjusted mean days use of main drug were 6.4 (no BI) vs 2.1 (BNI) (incidence rate ratio (IRR 0.33, 95% CI 0.15-0.74) and 2.3 (MOTIV) (IRR 0.36, 95% CI 0.15-0.85). Conclusions: BI (both BNI and MOTIV) appears to have efficacy for preventing an increase in drug use in primary care patients with low risk use identified by screening. These findings raise the potential that less severe patterns of drug use in PC may be uniquely amenable to brief intervention and warrant replication in a larger trial.
Effect of Screening and Brief Intervention for Drug Use in Primary Care on Receipt of Substance Use Disorder Treatment
Theresa W. Kim, MD; Judith Bernstein, PhD, MSN; Debbie M. Cheng, ScD; Jeffrey H. Samet, MD, MA, MPH; Christine Lloyd-Tradaglini, MPH; Tibor Palfai, PhD; Richard Saitz, MD, MPH - Boston University School of Medicine, Boston Medical Center

**Background:** Little is known about the efficacy of "RT" (referral to treatment) for increasing receipt of substance use disorder (SUD) treatment by patients with unhealthy drug use identified by screening. **Objective:** We compared receipt of SUD treatment between baseline and 6 months across three randomized groups: no intervention and two different types of brief interventions. **Methods:** Adults presenting to a hospital-based primary care clinic with recent drug use (Alcohol, Smoking and Substance Involvement Screening Test [ASSIST] drug specific scores of 4 or greater) were enrolled in a randomized clinical trial comparing: (1) a 10-15 minute structured interview conducted by health educators (BNI), (2) a 30-45 minute intervention based on motivational interviewing by Masters-level counselors (MOTIV), or 3) no brief intervention. All received information on treatment resources. We assessed receipt of any SUD treatment in a statewide database. Logistic regression analyses adjusted for main drug (self-identified), drug dependence, and past SUD treatment. **Results:** Among 528 participants the main drug was marijuana (63%), cocaine (19%), and opioids (17%); 46% met 12-month drug dependence criteria (Composite International Diagnostic Interview Short Form); 18% had ASSIST scores of 27 or greater, consistent with dependence (past 3-months). At 6 months, 14% (73/528) had received SUD treatment. There were no significant differences in SUD treatment receipt: BNI vs control (adjusted odds ratio [AOR] 1.16, 95% Confidence Interval [CI] 0.59, 2.30, Hochberg adjusted p-value = 0.66); MOTIV vs control (AOR 0.45, 95%CI: 0.21, 0.97, Hochberg adjusted p-value= 0.08). There were no significant interactions between intervention and main drug, severity (ASSIST), or prior SUD treatment. **Conclusions:** Brief intervention did not increase receipt of SUD treatment in primary care patients. Future research should address how to make referral to treatment successful among screen-identified patients who could benefit from it.
Qualitative Analysis of Risky Drinking Primary Care Patient Perceptions of Three Discrete Brief Interventions
Stephanie A. Cockrell, LMSW; Valerie A. Carrejo MD; Bradley W. Samuel, PhD; Krystal L. Bradford; Elizabeth N. Weems; Jennifer Hettema, PhD - The University of New Mexico

**Background:** Improving the efficacy and efficiency of brief intervention (BI) for risky alcohol use by defining key intervention components could have a profound public health impact. There is intense interest in conducting motivational interviewing (MI) informed brief interventions for risky alcohol use in medical settings, but little empirical information is available regarding which MI behavioral and interpersonal style components drive effectiveness. **Objective:** As a part of a series of studies designed to inform this issue, the aims of the current study were: 1) to determine the feasibility of designing and implementing BI protocols that noticeably and reliably differ in the dimension of MI consistency, and 2) to assess patient perceptions of the suitability and effectiveness of BI methods. **Methods:** Three discrete BI protocols were developed: brief advice (BA), NIAAA Clinician's Guide (NIAAA), and an MI-enhanced NIAAA Clinician's Guide (MI). The protocols varied in terms of their consistency with MI principles and the inclusion of specific MI tools and strategies. Two study therapists received extensive training in protocol delivery. Risky drinking primary care patients were randomly assigned to conditions. All sessions were rated using a fidelity checklist and the Motivational Interviewing Treatment Integrity (MITI) Code 3.1.1. Using Interpersonal Process Recall, patients then watched a video recording of their BI while participating in semi-structured, qualitative interview on the suitability and perceived effectiveness of BI components. Interviews were transcribed and analyzed using Consensual Qualitative Research techniques. **Results:** 45 risky drinking patients participated in the study and 84% returned for follow-up. Adherence to BI-specific protocol as measured by a fidelity checklist was 96% (BA), 94% (NIAAA), and 92% (MI). MITI global scores and behavior counts were differentiable across conditions and above competency levels for the MI condition. Overall, patient preference was highest for the MI condition. Specific themes will be discussed. **Conclusions:** It is feasible to design BI protocols that noticeably and reliably differ in the dimension of MI consistency. Qualitative participant interviews support the conceptualization that MI techniques and principles are important components of BI acceptability.
The Anexo in the United States: A Transnational Substance Abuse Disorder Treatment Modality for Latinos
Victor Garcia, PhD; Anna Pagano, PhD - Mid-Atlantic Addiction Research and Training Institute

Background: In many U.S. cities with large concentrations of Latino immigrants, the anexo, a variant of Alcoholics Anonymous (AA) with origins in Mexico, provides accessible and affordable treatment for immigrants with substance use disorders (SUDs). It is a self-sustaining residential recovery house with structured living and nightly AA meetings at the core of its treatment program. Despite their widespread use in Latino immigrant communities, little is known about anexos. To understand this understudied treatment, we are conducting a two-year NIDA-funded study on anexos in Northern California. Objective: The main objectives are to understand 1) the help-seeking pathways of Latino immigrants who access anexos; and 2) residents' perceptions of the benefits and drawbacks of this indigenous treatment modality.

Methods: Over 150 hours of participant observation were conducted at 3 anexos in urban Northern California. Using purposive sampling, semi-structured interviews were carried out with 36 anexo residents, 3 directors, and 3 assistant directors. Data analysis was informed by grounded theory. Field notes and interview transcripts were coded using Atlas.ti software.

Results: Among the emerging results, not presented at other forums, are the anexo's appeal to non-immigrant Latinos and its departure from the anexo in Mexico. Anexo residents are not limited to immigrants but also include U.S. born Latinos because of similar help-seeking problems. The treatment of the anexos in the study also differs from the treatment of the anexo in Mexico. Unlike its Mexican counterpart, the U.S. anexo is voluntary and centers around open-door residential living, where the residents hold outside jobs, and mandatory AA meetings that involve motivational cross-talk. More important, they do not involve corporal punishment or any other form of violence. Reported benefits of the anexos are cultural familiarity, Spanish language use, affordability, ability to work, and peer support. Drawbacks include long wait lists, proximity to high-crime areas, and periodic overcrowding. Conclusions: U.S.-based anexos are a transnational AA treatment modality that has undergone significant adaptations to fit the needs of Latino immigrants. As a bottom-up, culturally indigenous treatment modality that exists to fill a gap in services, anexos merit further attention by researchers and clinicians interested in culturally appropriate SUD treatments and health disparities.
Substance Use Disorder Treatment Staff Acceptance of Intensive Referral to Self-Help Groups: Adoption, Implementation, and Maintenance
Kathleen M. Grant, MD; Lance Brendan Young, PhD; R. Dario Pulido, PhD; Monica Meeks, BA; Cynthia Beaumont, CCRC; Jamie L. Simpson, PhD - VA Nebraska-Western Iowa Health Care System

Background: Patients receiving substance use disorder (SUD) treatment typically are encouraged to supplement efforts to attain recovery through affiliation with self-help groups. Evidence supports the effectiveness of self-help groups in sustaining recovery, but clinical referrals vary widely in substance and style of delivery. An Intensive Referral Intervention (IRI) standardizes the referral process and has proven effective in increasing abstinence rates at 6-months and 12-months post-treatment. This study investigates whether the intervention is acceptable to the staff charged with implementing it. Objective: The objective of this study was to determine whether the IRI is acceptable to the staff charged with implementing it.

Methods: We adapted the IRI by adding family outreach and tailoring it to accommodate rural veterans. We trained staff at six SUD treatment facilities within the Veterans Affairs Health Care System. Approximately six months following training, we conducted 29 structured qualitative interviews using the RE-AIM program evaluation approach as our conceptual framework. Interviews focused on the final three components: adoption, implementation, and maintenance. We sought to determine the barriers to implementation and the opportunities to further adapt the IRI to enhance both clinical effectiveness and staff acceptability. Results: Interviews with site leaders, addiction therapists, and peer support specialists were transcribed and thematically analyzed using QSR nVivo. Regarding adoption, participants approved of the training, but voiced some resistance to the unilateral imposition of the intervention. Implementation responses evaluated the overall intervention and its seven components. Participants praised the intervention, finding the brochures most helpful and the 12-Step meeting identification most satisfactory. Client follow-up and the self-help journal were least helpful and satisfactory, respectively. Maintenance responses noted the difficulty of rural veterans in finding meetings and suggested the IRI might be better delivered in a group setting rather than one-on-one. Participants also mentioned the intervention may be less effective with chronic relapsers than with those undergoing treatment for the first or second time. Conclusions: IRI receives adequate evaluations on adoption, implementation, and maintenance, but minor modifications could improve staff acceptance of this intervention. IRI is a feasible, low-cost option for standardizing and enhancing post-treatment referral to social networks supportive of sobriety.
XR-NTX for Opioid Use Disorder: In-Treatment Benefit Attenuates after Discontinuation
Peter Friedmann, MD; Donna Wilson, MS; Joshua Lee, MD; Timothy Kinlock, PhD; Edward Nunes, MD; Charles O'Brien, MD - Rhode Island Hospital, Brown University

Background: Extended-Release Naltrexone (XR-NTX) is increasingly considered a therapeutic option for opioid use disorders in criminal justice populations despite limited information about optimal treatment duration, long-term effectiveness and safety after discontinuation. Objective: To determine whether benefits of XR-NTX in reducing opioid relapse continue after its discontinuation, and whether discontinuation results in higher rates of overdose. Methods: This US 5-site open-label randomized effectiveness trial examined whether XR-NTX (Vivitrol®) reduced opioid relapse compared with treatment as usual (TAU) among adults with criminal justice involvement. Eligible subjects met DSM-IV criteria for lifetime or current opioid dependence, had criminal justice involvement in the prior 12 months, and opioid abstinence at randomization. A 6-month (27-week) treatment phase involved 6 monthly XR-NTX injections; both arms received referrals to community treatment. Prior analyses demonstrated reductions in opioid relapse during the 6-month treatment phase; the current analysis examines whether these improvement persist to 12-months post-randomization. A follow-up visit at month 12 documented the primary outcome of opioid relapse, defined as 10 days self-reported use in a 4 week period from week 27 to 52 on a calendar interview; or a positive or missing urine test at the month 12 follow-up. Results: XR-NTX and TAU groups did not differ at baseline: 87% had lifetime heroin use; 19% active opioid use; and 73% community correctional supervision. After XR-NTX discontinuation, 73 of 153 XR-NTX and 85 of 155 TAU subjects experienced an opioid relapse (48% vs. 55%, Fisher exact test P=0.25). Among those who had not relapsed during the treatment phase, 30 of 87 XR-NTX subjects relapsed during weeks 27 to 52, compared to 10 of 56 TAU subjects (34% vs. %18, P=0.036). Over the entire 12 months, 7 overdoses in the TAU group resulted in death or hospitalization, versus none in the XR-NTX group (P=0.015). Conclusions: Among criminal justice-involved patients with opioid use disorder, XR-NTX is safe and effective during its administration, and its discontinuation does not increase risk for subsequent overdose. A treatment duration limited to six-months of XR-NTX is insufficient to ensure lasting remission of opioid use after discontinuation. Like many chronic diseases, withdrawal of this effective medication for opioid use disorder is associated with recurrence of symptoms.
Methadone Maintenance Therapy (MMT) Associated with Significant Decrease in Time above Viral Load Threshold in HIV Positive Illicit Drug Users
Christopher Fairgrieve, BMSc, MD, CCFP, ABAM; Evan Wood; Julio Montaner; Thomas Kerr; M-J Milloy, PhD - St. Paul's Hospital

Background: Objective studies have demonstrated the central function of HIV viral load (VL) levels on determining the risk of HIV disease progression and transmission. Objective: We sought to examine whether methadone maintenance therapy (MMT) decreased the proportion of time with VL above 1500 copies/mL plasma among illicit drug users. Methods: Data were derived from the AIDS Care Cohort to evaluate Exposure to Survival Services (ACCESS), an ongoing prospective cohort of HIV-positive illicit drug users confidentially linked to comprehensive HIV clinical monitoring records in a setting of universal no-cost HIV/AIDS treatment and care. Using bivariable and multivariable generalized estimating equation (GEE) analyses, we studied the longitudinal relationship between engagement in MMT and the number of days with an HIV-1 RNA viral load (VL) > 1500 c/mL in the last six months. Results: From 2005 through 2013, 727 HIV-seropositive highly-active antiretroviral therapy (HAART)-exposed illicit drug users were recruited and contributed 2298 person-years of observation time. Among these patients, 330 (46%) reported involvement in an MMT program at least once during the study. In a multivariable model, periods of MMT were associated with 28% less time with viral loads above 1500 c/mL (Adjusted Rate Ratio = 0.72, 95% Confidence Interval: 0.61 - 0.85). Conclusions: We observed that involvement in an MMT program is associated with significantly less time with VL > 1500 copies/mL, lowering the risk of onward viral transmission and disease progression. These findings illuminate the important role played by treatment for opioid dependence on optimizing the individual and community-level impacts of antiretroviral therapy.
Access and Barriers to Opioid Agonist Therapy Among Persons with Problematic Opioid Use
Judith Tsui, MD, MPH; Anthony Floyd, PhD; Caleb Banta-Green PhD, MPH, MSW - University of Washington

Background: Heroin and prescription opioids deaths are increasing, despite the existence of effective treatment for opioid use disorders with opioid agonist therapy (OAT). Little is known about access to OAT, and patients' beliefs that may serve as barriers. Objective: 1) To describe the proportions reporting current or recent treatment with OAT (either methadone or buprenorphine) in a sample of persons with problematic opioid use (prescription opioids or heroin) recruited from acute care settings in an urban public hospital, and to explore whether treatment differs by gender or age; and 2) To identify patients' own beliefs about OAT that may serve as barriers to treatment. Methods: Cross-sectional analysis of baseline data from a study of an intervention for overdose prevention (Project OOPEN). Chi-square and t-tests/Kruskal-Wallis tests were conducted to assess for differences in treatment by gender and age. Multivariate logistic regression analysis is planned. Participants' open responses to a question of why they did not seek treatment with OAT were reviewed and coded for themes. Results: Of the 254 participants in the sample, 74 (29%) were female and the median age was 40 (range 19-65). 74/254 (29%) reported that they were currently in treatment with OAT; 13% reported it had been more than a year since they were on OAT; and 38% reported they had never been on OAT. Women appeared more likely to report being currently on OAT (38% v. 26%, p=0.05); no differences by age were observed. A recurrent theme among participants not on OAT was the perception that it is another form of addiction ("methadone is just as bad as heroin". "I don't want to be a slave to methadone"). Conclusions: In this sample of persons with opioid use disorders, less than a third reported currently receiving treatment OAT, and a slightly higher proportion reported never having been on OAT. Belief that OAT constituted another form of "addiction" emerged as an important patient-level barrier to treatment. Ample opportunity exists to expand OAT among persons with opioid use disorders, however, patient held negative beliefs must be addressed.
Patient-Provider Communication Regarding Opioid Use Disorders during the First Obstetric Visit
Elizabeth E. Krans, MD, MSc; Cyndi Holland, MPH; Judy Chang, MD, MPH - University of Pittsburgh; Magee-Womens Research Institute

Background: The initial obstetric visit may be the best or only opportunity to identify patients who may benefit from intervention and support services for opioid use disorder during pregnancy. **Objective:** To evaluate patient-provider communication regarding opioid use disorders during the first obstetric visit. **Methods:** As a part of a larger patient-provider obstetric communication study, audio-recorded first obstetric visits between pregnant patients and obstetric providers were reviewed to identify patients who disclosed a history of opioid dependence. Three investigators qualitatively analyzed and independently coded each transcript using Atlas-Ti software for discussions regarding opioid use during pregnancy. **Results:** Among 479 total study patients, 33 patients (6.9%) admitted a history of opioid dependence during their audio-recorded visit. Of these patients, 100% were Caucasian, 45% were single, 24% had less than a high school education and 69% made less than $10,000/year. Twenty-nine were on methadone and 4 used buprenorphine to manage their opioid dependence. Approximately 83% (24/29) of participants self-disclosed their opioid use to their obstetric care provider and 5 disclosed only after the provider asked about medication or drug use. Among providers, 76% were obstetricians/gynecologists, 7% were nurse practitioners and 17% were nurse midwives. Patient-provider discussions regarding opioid use primarily focused on the medical aspects of opioid use including the type, dose and duration of opioid maintenance therapy. Other topics discussed included: identification of participants' substance abuse treatment facility, recommendations against opioid withdrawal during pregnancy and physical side effects of methadone. Counseling from obstetric care providers predominantly focused on the neonatal implications of opioid use during pregnancy such as neonatal abstinence syndrome (NAS) and increased neonatal length of stay for NAS. Few providers discussed HIV and Hepatitis C (HCV) testing, risk factors for HIV/HCV transmission such as intravenous opioid use, or discussed important social issues for these patients such as safe housing, social support and available resources. **Conclusions:** Patient-provider discussions regarding opioid use during pregnancy largely focus on the medical aspects of opioid use and neonatal implications of use during pregnancy.
Examining the Effectiveness of Culturally Adapted Substance Use Interventions for Latino Adolescents: A Systematic Review and Meta-analysis
Eden Hernandez Robles, MSW, PhD; Brandy Maynard, PhD; Chris Salas-Wright, PhD; Jelena Todic, MSW - The University of Texas at Austin

Background: Cultural values and beliefs have been shown to have a moderating effect on substance use, thus an increasing number of substance use interventions with Latino adolescents seek to incorporate culture in an attempt to positively impact outcomes. Research on the effectiveness of culturally adapted substance use interventions, however, has produced a body of ambiguous evidence. Objective: The purpose of this review is to examine the characteristics and effects of culturally adapted substance use interventions with Latino adolescents on substance use outcomes. Methods: The present study used systematic review methods and meta-analytic procedures following Campbell Collaboration guidelines and an a priori protocol. A systematic search was undertaken to locate relevant randomized (RCT) or quasi-experimental (QED) studies conducted between 1990 and December 2014. Descriptive analysis was conducted to examine and describe characteristics of included studies. Meta-analysis, assuming random effects models using inverse variance weights, was used to quantitatively synthesize results across studies. Results: The search yielded 35,842 titles and abstracts, and the full texts of 108 articles were screened for inclusion. The final sample included 10 studies (7 RCT and 3 QED). The interventions were conducted in a community organization (n = 6) or school setting (n = 4). Program participants were comprised of 56.5% males; 74.2% were US born; their mean age was 13.2 years. Meta-analytic results suggest moderate significant effects on substance use outcomes (g = 0.51; CI, 0.012, 1.022). Homogeneity analysis revealed the effect size distribution was heterogeneous, indicating significant variance in magnitude of effects across studies. Moderator analysis revealed differences in mean effects on study and intervention characteristics. The risk of bias assessment revealed most studies were at high risk for performance bias and selection bias. Conclusions: Support for culturally adapted interventions continues to grow, but the specific components and mechanisms that contribute to the efficacy of these interventions for substance use remain unclear. While some culturally adapted substance use interventions demonstrated positive impacts on substance use, there was significant variability across studies. These findings contribute evidence to the ongoing development of policy and practice as legislators and practitioners debate the utility of culturally relevant services.
Trajectories of Substance Use Frequency among Teens Seen in Primary Care
Scott E. Hadland, MD, MPH; Sarah H. Copelas, BA; Sion K. Harris, PhD - Boston Children's Hospital

Background: Trajectories of substance use among adolescents in primary care have not been well characterized, and understanding them is critical for the clinician, who can counsel and refer to treatment. Objective: To identify substance use trajectories of adolescent primary care patients during the year following a routine clinic visit. Methods: Adolescents aged 12-18 years presenting for routine care were recruited at 9 primary care practices in New England in 2005-2008. Participants completed a modified timeline followback (TLFB) interview assessing past 90-day of use of alcohol and drugs at baseline and at 12-month follow-up. We used hierarchical clustering methods to identify trajectories of substance use frequency, and then examined their association with demographic factors and peer, sibling and parental substance use using multinomial logistic regression. Results: Of 860 adolescents (mean age, 15.4 years; 60.9% female; 65.6% white non-Hispanic), 198 (23.1%) reported past 90-day substance use at baseline (alcohol use, 91.4%; drug use, 39.4%), and 27.9% at 12 months. Six trajectories were identified: [A] those abstinent throughout (62.7%); [B] those with no past 90-day use at baseline but who initiated during follow-up (16.5%); [C] those that rapidly escalated from <monthly use to >weekly use (3.7%); [D] those that gradually escalated from <monthly use to >monthly but <weekly use (7.4%); and those whose use stayed stable, with either [E] <monthly use throughout (5.6%) or [F] >monthly use throughout (4.1%). Group C (rapid escalators) tended to be younger (46.9% were 12-14 years). Compared to all others, adolescents in Group A (stable non-users) were less likely to have substance-using siblings (odds ratio [OR], 0.55; 95% confidence interval [CI], 0.41-0.75) and peers (OR, 0.64; 95% CI, 0.44-0.93). Having substance-using parents increased the odds of being a rapid escalator (OR, 1.55; 95% CI, 1.09-2.20). Conclusions: While most adolescent primary care patients remain infrequent users or non-users over one year, some show a worrisome escalation of use, particularly those that are younger. Providers should ask about substance use of parents, siblings and peers to better understand the likely trajectory of adolescents' use.
Does Patient or Clinician Gender Modify the Efficacy of a Primary Care Brief Intervention for Adolescent Alcohol Use?
Lilia D’Souza-Li, MD, PhD; John Rogers Knight Jr., MD; Lon Sherritt, MPH; Jesse Boggis, BA; Sion Kim Harris, PhD - Boston Children’s Hospital Center for Adolescent Substance Abuse Research

**Background:** Previous multi-site trial showed that computer-facilitated screening and physician brief advice (cSBA) was an effective way to reduce adolescents’ alcohol use. What is unknown is whether the intervention effect varies by patients’ or physicians’ characteristics, such as gender. **Objective:** To assess whether patient and physician gender moderates cSBA effectiveness. **Methods:** We analyzed a subset of data from a quasi-experimental, asynchronous comparative effectiveness trial of 12-18 y/o patients at 9 New England primary care sites. An initial 18-month Treatment as Usual (TAU) phase was followed by a 1-hour physician training session and an 18-month cSBA phase. cSBA patients completed a computerized screener, received immediate feedback and information on the health risks of alcohol and other substances follow by physicians brief advice. Adolescent rated their visit and physician immediately post-visit. Only data for physicians that saw ≥5 patients in each study arm were included. We conducted stratified multiple logistic regression modeling with adjustment for known covariates and within-site clustering. Endpoints were past 3- and 12-month alcohol use at follow-ups. **Results:** Subjects: 20 physicians (11 females; 85% pediatricians) and 1158 patients, mean age 15.6±2.0 yrs. A computer-facilitated primary care intervention delivered by physicians was effective in reducing adolescent alcohol use out to 12-months follow up. The intervention appeared to be similarly effective when delivered by male or female physicians, regardless of patient gender. Using a computer program to standardize intervention delivery may improve effect consistency regardless of clinician or patient characteristics.

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<td>Male doctors (n=500)</td>
<td>0.40*</td>
<td>0.18-0.92</td>
</tr>
</tbody>
</table>

*p<0.05; 1 Number of patients

**Conclusion:** Computer-facilitated Screening and clinician Brief Advice (cSBA) is an effective primary care strategy for reducing adolescent alcohol use regardless of physician or patient gender. Strategies to sustain the effect over time are needed.
Autism Spectrum Disorder and Substance Use in Youth
Luis Carcache, MD; Daniel Castellanos, MD; Raymond Estefania, LMHC, CAP; Ana Moreno, LMHC, CAP; Leonard Gralnik, MD - Florida International University

Background: Little research exists regarding the co-occurrence of Autism Spectrum Disorder (ASD) with substance use disorders (SUDs). Our objective is to examine the association between the presence of ASD and substance use in adolescents and young adults.

Learning Objectives: To identify the common characteristics displayed by individuals with ASD and how these interact with substance abuse interventions and affect treatment outcome.

Case Presentation: Three males ages 15, 15 and 21 with ASD treated in an intensive outpatient substance abuse treatment program are reported. All reported their drug of choice was marijuana. One subject admitted to previous use of synthetic cannabinoids and the oldest subject also endorsed binge alcohol use. All subjects were using marijuana daily but minimized their use and displayed minimal insight into the consequences of their use. Each was socially awkward and reported feeling anxious and uncomfortable during group therapy, struggling specifically with being able to identify and relate to others' emotions. The size of the group seemed to be directly correlated level of discomfort. Clinicians and other patients noted difficulties interpreting each subject's emotions based on their facial expressions, body language, verbal and behavioral cues. All 3 subjects continued to use in spite of treatment and were ultimately referred to a higher level of care. Discussion: This is the first study addressing the relationship of youth with ASD and substance use. These 3 substance abusing youth with ASD displayed poorer substance abuse treatment outcomes. Traditional family or group counseling modalities rely on participating individuals to possess certain skills that individuals with ASD lack or have difficulties with. We suggest that the poorer outcomes are directly related to an incompatibility between program requirements and core autism characteristics. Individuals with ASD may be resistant to participation in conventional psychosocial interventions. Possible treatment barriers to effective substance use treatment include difficulties sustaining attention, social and adaptive-skill deficits, restricted interests, limited cognitive and communication abilities and limited insight. They may require additional interventions not necessary for the non-ASD population. Further research should evaluate modifications of traditional interventions, such as, using technology based interventions that may benefit ASD individuals requiring substance abuse treatment.
Enhanced Uptake of Hepatitis C Treatment in an Opioid Treatment Program in the Direct Acting Antiviral Era
Jenna Butner MD; Jeanette Tetrault MD - Yale University School of Medicine

Background: People who inject and inhale drugs are at risk for Hepatitis C Virus (HCV). All oral treatments present new opportunities for HCV care delivery in opioid treatment programs (OTP). Objective: To describe the demographic and clinical characteristics of HCV+ patients pursuing further work-up in an OTP, to compare treatment outcomes among patients treated in the Interferon (IFN) compared with Direct Acting Antiviral (DAA) eras, and describe elements of on-site treatment delivery in an OTP. Methods: Clinical characteristics of HCV+ patients electing to pursue further work-up was collected. HCV and OTP treatment data compared between the IFN (2009-2013) and the DAA (2013-present) eras. HCV treatment adherence was measured via clinic visits, medication refills, and achievement of early virologic suppression. OTP adherence throughout HCV treatment was monitored. Informal survey data was collected to evaluate elements of successful on-site treatment delivery. Results: The age ranges of those pursuing further HCV work up were: 20-34: 32%, age 35-49: 29%, and age >50 years old: 39%. 70% had genotype 1, 16% had genotype 3, and 13% had genotype 2 infection. A total of 10 patients were treated in the IFN era and 30 were treated in the DAA era. Retention in an opioid treatment program and HCV medication adherence was 88% in the IFN group vs. 100% in the DAA group (p=0.002). There were no differences between the groups in percentage of negative urine drug screens (p=0.4), or in achieving early virologic suppression (p=0.4). Elements of HCV treatment delivery include education on transmission, involvement of family members and partners, and utilization of specialty pharmacies. Conclusions: HCV care delivery is feasible within an OTP. Uptake of care has improved substantially since DAA regimens are more widely available. DAA's in combination with unique elements of on-site HCV treatment delivery in an OTP offer a unique approach to the care patients who have history of substance use disorder.
HCV Outcomes in a Primary Care Buprenorphine Clinic
Brianna Norton, DO, MPH; Anna Beitin, MD; Alain Litwin, MD, MS, MPH; Chinazo Cunningham, MD, MS - Montefiore Medical Center

Background: Injection drug users, most of whom are opioid dependent, comprise the majority of the HCV infected in the United States; yet little is known about HCV care in patients accessing opioid treatment through buprenorphine treatment programs. Objective: We sought to examine HCV care outcomes among patients accessing a primary care based buprenorphine program in the Bronx, NY. Methods: The buprenorphine treatment program is based in a community health center in the South Bronx, NY and consists of 7-10 prescribing physicians, a pharmacist, and social workers. We reviewed medical charts for all patients seen in the buprenorphine treatment program from Jan 2011 to July 2014. Among patients with HCV, we performed chi-square tests to examine association between retention in buprenorphine treatment and HCV outcomes. Results: Our study comprised of 288 patients. Nearly all patients (91.3%) were screened for HCV and, among those with antibody positivity, almost all (95.9%) had follow-up viral load testing. Of the patients screened, 55.6% were HCV antibody positive, of whom 65.5% (n=91) had chronic disease. The 91 patients with HCV were predominantly male (80.2%), median age 52 (IQR 42,61), and Latino (77%). One quarter (24.4%) were co-infected with HIV, 10% had cirrhosis, and the majority had a concurrent psychiatric illness (62.6%) and continued to drink alcohol (53.8%). Of those with chronic HCV, 53.8% were referred for HCV care, 44% were evaluated for HCV, 25.3% were offered treatment, and 11% initiated treatment. Retention in buprenorphine treatment (>6 mos) was associated with greater achievement of all HCV care outcomes (64% v. 31% for referral, p=0.004; 51% v. 27% for evaluation, p=0.04; 31% v. 8% for offering treatment, p=0.02; 12% v. 8% for treatment initiation, p=0.6). Conclusions: HCV prevalence is high among patients accessing a primary care buprenorphine treatment program. Patients received almost universal HCV screening and confirmatory testing, but improvement is still needed along more distal points of the HCV treatment cascade. Importantly, retaining patients in opioid addiction treatment was associated with better HCV outcomes, and may provide a unique opportunity to get high-risk patients into HCV medical care.
Hepatitis C Virus Testing and Treatment among Persons Receiving Buprenorphine in an Office-Based Program for Opioid Use Disorders
Judith Tsui, MD, MPH; Katelyn J. Carey, MPH; Wei Huang, MPH; Benjamin P. Linas, MD, MPH - University of Washington; Boston University School of Medicine

Background: More than 4 million people in the United States are infected with the hepatitis C virus (HCV). The population most at risk is people who inject drugs (PWID), and yet they are among those least likely to receive HCV treatment. Increasingly, PWID with opioid use disorders are treated in primary care office-based settings with buprenorphine. Given that primary care providers are on the front lines for HCV screening and may soon play a major role in HCV treatment, there is a unique opportunity to combine treatment for opioid use disorders and HCV in primary care settings. Objective: The purpose of our study was to determine the prevalence of the Hepatitis C Virus (HCV), characteristics of patients with HCV, and receipt of appropriate care (HCV viral load, HCV genotype, specialist referral, HCV anti-viral therapy, and treatment response) in a sample of patients treated with buprenorphine for their opioid use disorders in a primary care setting. Methods: This study used retrospective clinical data from the electronic medical record. The study population included patients receiving buprenorphine in the Office Based Opioid Treatment (OBOT) clinic within the adult primary medicine clinic at Boston Medical Center between October 2003 and August 2013 who received a conclusive HCV antibody (Ab) test within a year of clinic entry. We compared characteristics by HCV serostatus using Pearson's Chi-square and Student's t-test, and provide numbers/percentages receiving appropriate care. Results: The sample comprised 700 patients. Slightly less than half of all patients (n= 334, 47.7%) were HCV Ab positive, and were significantly more likely to be older, Hispanic or African American, have diagnoses of PTSD or bipolar disorder, have prior heroin or cocaine use, and be HIV-co-infected. Among the 334 HCV Ab positive patients, 226 (67.7%) had detectable HCV RNA indicating chronic HCV infection, however, only 5 patients (2.21%) with chronic HCV infection ever initiated treatment. Conclusions: Nearly half of patients (47.7%) receiving office-based treatment with buprenorphine for their opioid use disorder had a positive Hepatitis C Virus antibody screening test, however, initiation of anti-viral treatment was nearly non-existent (2.21%).
Bringing Hepatitis C Treatment into the Medical Home: A Pilot Program for Drug Users
Joanna Eveland, MS, MD; Kristina Gunhouse-Vigil; Jennifer Huggans-Zapeta, NP; Eduardo Antonio; Jorge Villaroel, MFT - MNHC, UCSF

Background: New treatments for Hepatitis C Virus (HCV) are brief, well tolerated and produce cure rates of over 90% in clinical trials. However only 5% of HCV+ individuals have been successfully cured. Treatment access is especially limited for those with active substance use.

Objective: The objective of this pilot was to provide community-based multidisciplinary HCV treatment, aiming to increase access while evaluating cost effectiveness, sustainability, patient experience and quality outcomes. A particular focus was to develop a model to successfully engage and cure HCV in active drug users.

Methods: We offered HCV treatment to patients of the Mission Neighborhood Health Center, a FQHC located in San Francisco, utilizing a multidisciplinary care team previously serving only HIV+ patients. Outreach, health education, case management, substance abuse counseling and adherence support were provided within the medical home. Data was collected to track patient demographics, engagement in care, and treatment response. Patient satisfaction was assessed through a phone survey.

Results: 52 patients were referred to the pilot. Of these, 67% had a substance use disorder, 40% were HIV co-infected, 50% were Latino, 40% were monolingual Spanish speakers, 38% were homeless or marginally housed, and 67% had a mental health diagnosis.

Results after 1 Year:
- 35 referred patients were successfully enrolled
- 35 participants received formal HCV Education
- 33 participants received a medical evaluation for HCV
- 30 enrolled participants received a psychosocial evaluation
- 21 patients initiated treatment
- 21 patients completed treatment with a successful end of treatment response

Patient satisfaction with the pilot was high. The program was financially sustainable for the clinic.

Conclusions: Successful HCV treatment for complex patients is achievable within the medical home.
- With support, active substance users can engage in care, adhere to treatment and make a plan to avoid reinfection.
- A multidisciplinary model facilitates treatment readiness.
- Obtaining access to HCV medications is time intensive.
- Even an internal referral was a barrier to accessing services. Treatment directly by the PCP may be more accessible.
- Some patients believed that HCV treatment was unnecessary, toxic or cost prohibitive. More education is needed.
Knowledge and Attitudes Regarding Hepatitis C Virus Infection among Opioid Dependent Pregnant Women
Leah C. Klocke, BA; Shannon L. Dunn, MPH; Elizabeth E. Krans, MD, MSc - University of Pittsburgh

Background: Intravenous drug use (IVDU) is the leading cause of new Hepatitis C virus (HCV) infections and is widespread among opioid dependent (OD) pregnant women.

Objective: To describe the knowledge and attitudes of OD pregnant women regarding HCV risk factors, testing and transmission during pregnancy.

Methods: During May 2015, a convenience sample of 38 OD pregnant women completed an in-person, self-administered survey at Magee-Women’s Hospital at the University of Pittsburgh. The survey consisted of 42 validated questions focused on attitudes regarding HCV diagnosis and treatment and knowledge of HCV risk factors, disease course and neonatal transmission.

Results: Of 38 OD pregnant women, 89.5% had heard of HCV, 89.5% had at least one HCV risk factor, and 76.3% were tested for HCV. Approximately 42% (16/38) of women were HCV positive with 31.3% (5/16) of these women diagnosed more than five years ago and 37.5% (6/16) diagnosed in pregnancy. Of 16 HCV positive women, 81.3% thought it was important to receive treatment, 50.0% were scared about what might happen to their baby because they were HCV positive, 78.8% thought that people may treat them differently if they knew they had HCV and 25.0% believed that an HCV vaccine exists. HCV positive women had misconceptions that HCV could be spread through toilet seats (25.0%), by playing with a child (6.3%), by sharing utensils (43.8%) and through food (12.5%). Regarding neonatal transmission, 87.5% thought it was unlikely to transmit HCV to the baby while pregnant, but 50.0% believed that HCV could be transmitted through breastmilk. When asked about measures to decrease liver damage, many patients were not aware of the importance of Hepatitis A vaccination (62.5%) and avoidance of excessive Tylenol use (31.3%). Finally, HCV positive pregnant women received information regarding HCV infection from their primary care provider (93.7%), hepatologists (37.5%), internet (43.8%), media (i.e. newspapers, brochures, TV) (37.5%) and friends/family (37.5%).

Conclusions: The majority of OD pregnant women are at high-risk for HCV transmission and have received HCV testing. However, HCV knowledge among OD pregnant women regarding ways to spread or transmit HCV and ways to further reduce liver damage is suboptimal.

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Background: The United States is facing an epidemic of opioid use and misuse leading to historically high rates of overdose. Community-based delivery of overdose education and naloxone distribution has been effective at training lay bystanders to recognize signs of overdose and administer naloxone for reversal. There has been a movement encouraging physicians to prescribe naloxone to all patients at-risk of overdose, however, the rate of physician prescribing remains low. Objective: To evaluate resident knowledge of overdose risk assessment and naloxone prescribing practices, attitudes related to lay administration of naloxone, and barriers related to opioid overdose prevention and naloxone prescription. Methods: The HOPE: Hospital-based Overdose Prevention and Education Initiative is a campaign to teach internal medicine residents to assess overdose risk, provide risk reduction counseling, and prescribe naloxone. As part of a needs assessment, internal medicine residents at an academic medical center in Baltimore, MD were surveyed in 2015 (N=147). The survey instrument utilized 4-point Likert scales and clinical vignettes collected anonymously using Qualtrics software. Results: Residents were overwhelmingly aware of naloxone (80%; N=78) and endorsed a willingness to prescribe (90%; N=72). Yet despite reporting a high prevalence of patients in their panels at increased overdose risk (79%; N=74), few prescribed naloxone (15%; N=15). Residents were willing to discuss overdose prevention strategies, although only a minority reported doing so previously (47%; N=44). The most common barriers to naloxone prescribing were related to knowledge gaps in assessing risk of overdose and identifying candidates for naloxone (52% reporting low confidence in ability to identify patients at risk; N=46). Residents underestimated risk of overdose in older adults on chronic prescription opioids; they were 1.41 times more willing to prescribe naloxone to younger adults prescribed high-dose oral opioids chronically compared to older adults (95% CI 0.95 to 2.11). Conclusions: Medicine residents are aware of naloxone and willing to prescribe it to at-risk patients, however, because of decreased applied knowledge and limited self-efficacy, few residents have prescribed in the past. In order to improve rates of physician-prescribing, initiatives must target interventions that help physicians better assess risk of overdose and also improve prescribing self-efficacy.
Physician Attitudes Toward Prescribing Naloxone
Samuel McGowan, BA; P. Quincy Moore, MD; Pamela Vergara-Rodriguez, MD; Jeffrey Watts, MD; Joanne Routsolias, PharmD; Steven Aks, MD - Rush Medical College

Background: Prescription naloxone programs (PNP) have empowered laypersons to prevent death from opioid-related overdose. Few PNPs exist in hospital settings. As such programs emerge, it is important to consider physician experience and attitude toward prescribing naloxone. Objective: Evaluate resident and attending knowledge and attitudes toward prescribing take-home naloxone to patients at risk for opioid overdose. Methods: Prior to introducing a PNP to the internal medicine department, we performed a self-administered, anonymous, voluntary survey of Internal Medicine (IM) residents and attendings at two consecutive orientations to the IM wards rotation. The survey contained 8 multiple-choice questions. Responses were analyzed using simple descriptive statistics. Results: 79 physicians completed the survey, including 14 attendings, 19 PGY-1’s, 6 PGY-2’s, 10 PGY-3’s, and 30 whose training level was not asked. 42 (53%) respondents screen at least 50% of their patients for opioid abuse. As routine practice, 76 (96%) physicians consult substance abuse counselors, 60 (76%) talk with patients individually, 13 (16%) refer to methadone/buprenorphine programs, and 13 (16%) provide information about harm reduction. 28 (37%) respondents had ordered naloxone in the inpatient or emergency setting, two (2.5%) had prescribed take-home naloxone, 10 (13%) had heard of PNPs. 41 (53%) people would consider prescribing naloxone to heroin users, 21 (28%) to non-prescription opioid users, and 29 (38%) to prescription opioid users. 49 (62%) physicians had concerns about prescribing naloxone, 30 (38%) did not. Of those who had concerns, the most common were: the patient would not seek medical care (63%), prescriber lack of knowledge (59%), safety of patient administration (57%), legal implications for provider (53%), and enabling further opioid use (49%). Conclusions: IM physicians have a range of experience using naloxone and attitudes toward prescribing naloxone. While almost all respondents routinely treated patients for opioid abuse, most had neither heard of PNPs, nor had personal experience with naloxone. This study highlights the importance of educating physicians about the efficacy and safety of prescription naloxone, as well as common concerns that should be addressed by institutions considering a PNP. Future research will focus on how attitudes change after training and experience participating in a PNP.

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Longitudinal Patterns of Buprenorphine-Naloxone Prescription-Filling among New York City Residents, 2011-2013
Ellenie Tuazon, MPH; Denise Paone EdD; Hillary Kunins, MD, MPH, MS - New York City Department of Health and Mental Hygiene

**Background:** The use of buprenorphine-naloxone (BUP-N) to treat opioid use disorders is effective, and longer treatment retention is associated with improved health outcomes. But, little is known about the patterns of BUP-N use at a population level. **Objective:** This study uses New York State Prescription Monitoring Program (PMP) data to examine BUP-N prescription-filling patterns among New York City (NYC) residents over a three-year period. **Methods:** We conducted a retrospective analysis of BUP-N prescriptions filled by NYC residents over three years (2011-2013) using New York State's PMP data. We created an inception cohort of patients newly prescribed BUP-N in 2011 (without a prior-year BUP-N prescription). We describe number of prescriptions filled, number of patients, patient characteristics (gender, age, most frequent payment method) and the median number of months of consecutive BUP-N prescriptions filled during the three-year period. To assess retention in care, we also describe the proportion of patients with <3, 3-6, 7-12, and >12 months of consecutive BUP-N prescriptions filled. **Results:** From 2011-2013, 267,779 buprenorphine prescriptions were filled by 24,943 NYC residents. Of these, 64,458 prescriptions were filled by 6,119 patients without a past-year BUP-N prescription. Patients were 74% male and median age 39 years. The most frequent payment was commercial insurance (50%), followed by public insurance (31%), and cash (9%). 10% of prescriptions had unspecified/missing payment. Worker's Compensation insurance was rarely reported (0.1%). The median months filled during the three-year period was 3 (range 1-36). 49% of patients filled <3 consecutive months of BUP-N; 22% filled 3-6 months; 14% filled 7-12 months; and 16% filled >12 months. **Conclusions:** NYC residents who newly fill buprenorphine-naloxone prescriptions have short durations of consecutive prescriptions, with nearly half for fewer than 3 months. This finding suggests that the benefits of buprenorphine to treat opioid use disorders and to reduce mortality may be incompletely realized because of short durations of treatment. Future research is needed to elucidate why treatment duration is so short. Extending length of time in treatment may help patients avoid adverse health consequences from opioid use disorders.
Naloxone for Life: Prescription to Fill Rates
Kerryann B. Broderick, BSN, MD; Kevin Kaucher, PharmD; Josh Blum, MD - Denver Health Hospital Authority

Case Presentation: Describe the prescription to fill rates of an Intranasal Naloxone Rescue Kits (INRKs) Program with-in a Safety-net Medical System, Denver Health Medical System.

Background: Overdose related deaths due to prescription and illicit opioids are a nationwide epidemic. Over 2.5 million emergency department visits were attributed to drug misuse and prescription drug abuse had a 153% increase from 2004-2010. We implemented a prescription intranasal naloxone program, targeted towards high-risk opioid users.

Learning Objectives:
1. Will providers uptake prescribing of intranasal naloxone?
2. Will patients fill the prescription?
3. Discuss alternatives to increasing product/naloxone dispensing.

Methods: We applied and successfully began to have intranasal naloxone on our System’s formulary. Pharmacy was able to assemble INRK’s with atomizers and a color instruction sheet enclosed. We partnered with the state Medicaid program to also cover intranasal naloxone. An educational program was implemented using pharmacy, SBIRT health educators, primary care physician champions. Outreach with letters to primary care physicians who had patients on over 200mg morphine equivalents per day were targeted as well as emergency physicians. Since Denver Health does not have a system wide EHR, each site educated was given a book to place patient stickers where INRK’s were prescribed. Data regarding prescription to fill rates was captured through a documentation tool, developed specifically for the program. Data regarding the total number of patient who filled prescriptions were identified from querying outpatient pharmacy records. This was compared to prescriber documentation of naloxone prescriptions.

Results: Eleven months after the Naloxone Program started, 150 prescriptions were documented and fifty prescriptions were filled, with a fill rate of only 33.3%.

Discussion: While intranasal naloxone can be prescribed from the emergency department or primary care offices the fill rates appear very low. Actual naloxone product dispensing may be a more acceptable alternative to reducing overdose risk. Follow-up study is underway which assessed program evaluation by patient telephone questionnaires. Learning the barriers to patients using these kits is very important towards quality improvement.
Poster Presentations

Are Young Men who Overestimate Drinking by others More Likely to Respond to an Electronic Normative Feedback Brief Intervention?
Nicolas Bertholet, MD, MSc; Jean-Bernard Daeppen, MD; John A. Cunningham, PhD; Bernard Burnand, MD, MPH; Gerhard Gmel, PhD; Jacques Gaume, PhD - Lausanne University Hospital

Background: Hypothesized mechanisms of action of normative feedback interventions include correcting overestimations of substance use by others. Objective: We tested whether participants in a randomized trial of an internet-based brief intervention including normative feedback on drinking were more likely to respond to the intervention according to their estimation of the drinking of others. Methods: Secondary analysis of a trial showing an effect of the intervention on weekly drinking among 737 Swiss hazardous male drinkers (mean[SD] age=20.8[1.1]) randomized to receive an internet-based intervention (n=367) or not (n=370). Before the trial, they were asked to estimate the percentage of people their age and gender who drink more than they do. Using their actual drinking data, the "perceived" percentage, and data from Swiss statistics, we classified participants as accurately (-10% to +10%), underestimating (<-10%) or overestimating drinking by others (>+10%). We tested the presence of an interaction between the intervention and perception of drinking by others using a negative binomial regression model including an intervention group by perception of drinking interaction, predicting weekly drinking at 6-months, controlling for baseline drinking. Effects were verified in the same analysis without interaction but stratified by overestimation. Results: Of the 734 participants with complete data, 427 overestimated, 205 accurately estimated and 102 underestimated drinking by others. The mean (SD) number of drinks per week was 9.8(7.9), mean AUDIT score was 10.6(4.2). In the negative binomial regression model predicting drinking at 6 months, and controlling for baseline weekly drinking, we found a significant intervention by perception of drinking interaction (p=0.04) indicating a moderating effect of perception. In stratified analyses, the intervention had no effect on the mean number of drinks per week at 6 months among participants underestimating (IRR[95%CI]=1.21[0.92;1.60]), or accurately estimating (IRR[95%CI]=0.83[0.66;1.03]) but was effective among those overestimating (IRR[95%CI]=0.86[0.74;0.98]) drinking by others. Conclusions: This strong moderating effect showed that an electronic feedback intervention was effective among hazardous drinkers who overestimated drinking by others while it had no effect among those accurately/underestimating drinking by others. This is consistent with the hypothesis that acting on overestimations of drinking by others is a potential mechanism of action of normative feedback.
Psychiatric Symptoms and Pain Effects on Marijuana use and Drug use Consequences
Nicolas Bertholet, MD, MSc(1); Debbie M. Cheng, PhD; Tibor P. Palfai, PhD; Christine Lloyd-Travaglini, MPH; Jeffrey H. Samet, MD, MA, MPH; Richard Saitz, MD, MPH – (1)Lausanne University Hospital

Background: Psychiatric symptoms and pain might influence the course of marijuana use.
Objective: To investigate the impact of psychiatric symptoms and pain on changes in marijuana use and drug use consequences among primary care patients. Methods: 331 adult patients with marijuana as the only unhealthy drug used followed for 6 months. The two independent variables were psychiatric symptoms (no/minimal symptoms; anxiety OR depression symptoms; both anxiety and depression symptoms) and pain (1-10 visual analog scale: none [0]; low [1-3]; medium [4-6]; high [7-10]). Anxiety symptoms were assessed with the Overall Anxiety Severity and Impairment Scale (>=8) and depression symptoms with the Patient Health Questionnaire-9 (>=10). Regression models assessed the association between independent variables at baseline, and changes from baseline to follow-up in 2 primary outcomes: i) marijuana use days (past 30 days) and ii) drug use consequences (15-item Short Inventory of Problems-drugs [SIP-D]). A secondary outcome was drug use risk (Alcohol, Smoking and Substance Involvement Screening Test [ASSIST] global score for drugs). Models were adjusted for age, gender, race/ethnicity.

Results: At baseline participants reported a mean(SD) of 16.4(11.6) marijuana use days. Mean SIP-D was 5.9(9.0), mean ASSIST was 12.5(7.8); 16% reported anxiety or depression, and 17% both; 14% reported no pain, and 16% low, 23% medium, and 47% high level of pain. No association was found between psychiatric symptoms and changes in marijuana use days. Having either anxiety or depression symptoms (vs. no/minimal symptoms) was associated with increases in SIP-D (adjusted mean difference [95%CI] +3.23 [1.17; 5.29], p=0.002) and a borderline significant increase in ASSIST (+3.25 [-0.14; 6.63], p=0.06). Having both anxiety and depression symptoms was associated with an increase in ASSIST (+5.67[2.31; 9.02], p=0.001) but not SIP-D (+1.86[-0.40; 4.11], p=0.11). There was no association between pain and marijuana use days or SIP-D. A high pain level (vs. none) was associated with an increase in ASSIST (+5.07 [1.26; 8.87], p=0.009). Conclusions: Psychiatric symptoms and high pain level appear to be associated with increases in indices of drug-related harm among primary care patients who report using marijuana. These findings suggest that clinicians need to consider these comorbid conditions when addressing marijuana use in primary care.
Shaped by my Disease: Perspectives on Substance Use Shared by Youth with Chronic Medical Conditions
Elissa Weitzman, ScD, MSc; Parissa Salimian, BA; Lily Rabinow, MS; Sharon Levy, MD, MPH
- Boston Children’s Hospital

Background: One out of four US youth have a chronic medical condition (CMC). Emerging research indicates these youth use alcohol and marijuana. While substance use may confer unique health risks for these youth, models of adolescent risk-taking and substance use prevention imperfectly apply to them. Objective: To deepen our understanding of youth with CMCs’ experiences and opinions of substance use and specify leverage points for preventive intervention grounded in their perspective and theory. Methods: Narrative interviews were conducted with a consented purposively selected sample of youth ages 16-19 years in subspecialty care for a CMC. Interviews were in English, audio-recorded, transcribed and thematically analyzed under IRB approval. Results: Of 21 youth, 11 had rheumatic diseases, including 2 with IBD-associated arthritis; 4 had type 1 diabetes; 5 had ADHD; 1 had chronic persistent asthma. 14 were female. Four themes emerged around the topic of contextualizing and capturing decision-making around substance use: 1) identity formation, wherein disease was a facet of identity that shaped outlook on and approach to life; 2) health and body consciousness, where youth were uniquely conscious of their health and physical self; 3) social influences, where attitudes toward and elements of the social sphere were persuasive risk and protective factors of substance use; and 4) informed choices, which were promoted by a credible patient-centered approach to health messaging. Conclusions: Chronic illness identity and awareness pervade nearly every domain of decision-making for youth with CMCs. Despite filtering health decision-making and goal setting through the lens of their disease, youth report lack of integration of substance use discussion with disease management in subspecialty care - an artificial divide. Potential for substance use to negatively interact with treatments and health monitoring comprise salient patient-centered harms and may motivate prevention. Health promoting messages that address these risks could ground interventions in youth concerns and body awareness, as may approaches that reinforce this group’s sense of maturity, autonomy and respect. Research is needed to build and test effective, tailored prevention models that target these youth, including interventions incorporated into subspecialty care. This work is supported by NIAAA R01AA021913.
Substance Use Patterns and Knowledge of Alcohol and Marijuana Use Harm among Adolescents with ADHD
Elizabeth Harstad, MD, MPH; Rosemary Ziemnik, BS; Qian Huang, BS, MPH; Parissa Salimian, BA; Elissa Weitzman, ScD, MSc; Sharon Levy, MD, MPH - Boston Children's Hospital

Background: Youth with ADHD are at increased risk for alcohol and marijuana use, which can worsen their already concerning academic and behavioral functioning outcomes

Objective: The objective is to describe substance use patterns and knowledge of alcohol and marijuana use harm. Methods: Consented youths with ADHD ages 12-18 years completed a self-administered online survey about substance use patterns, and knowledge of substance use harm related to ADHD. Prevalence and correlate risk behaviors for alcohol and marijuana use were estimated using descriptive statistics. Frequency of accurate knowledge about substances was reported, with 2 sample t-tests, Fisher's exact tests, and X2 analyses used to determine if age, gender, race, or past year drinking varied by knowledge. Results: Of 87 consented youth (75% response), 63% were male, 71% white, and average age was 15.6 years. Past year alcohol and marijuana use were reported by 23% and 15% of participants, respectively; average age of first use was 13.8 years and 15 years, respectively. Older age was associated with past year alcohol (16.6 vs. 15.3 years, p<.01) and marijuana (16.5 vs. 15.4 years, p<0.05) use. The majority of subjects (62%) said "no" or "don't know" when asked if alcohol can make ADHD symptoms worse, with older subjects (p=0.01) and males (p=0.05) more likely to know that alcohol can make ADHD symptoms worse, and race, past year drinking, and stimulant status not associated with knowledge. Of those on stimulant medication, 66% reported "no" or "don't know" when asked if alcohol can interfere or get in way of their medications, with older subjects more likely to report "yes" (p<0.01) and no other assessed factors associated with knowledge. Past-year drinking is strongly associated with past-year marijuana use (OR: 12.89, 95% CI: 3.37, 49.25). Of those with past year marijuana use (N=13), 7 reported using marijuana to make ADHD symptoms better or help with medication side effects. Conclusions: Youth with ADHD use substances and they do not know the risk of harm associated with alcohol and marijuana use related to ADHD. Some even think substance use can help with ADHD symptoms. Knowledge about substance use risks in ADHD should be included in ADHD care.
Pediatrician Screening, Brief Intervention and Referral to Treatment (SBIRT) Practices: Results of a National Survey
Rosemary E. Ziemnik, BS; Sion K. Harris, PhD; Lucero Leon-Chi, MPH; Sharon Levy, MD, MPH - Boston Children's Hospital

Background: The American Academy of Pediatrics (AAP) has published clinical recommendations for Screening, Brief Intervention and Referral to Treatment (SBIRT) in pediatric primary care, but the extent to which clinicians follow guidelines is unknown.

Objective: To assess physician implementation of adolescent substance use SBIRT.

Methods: A link to an electronic survey regarding SBIRT practices was embedded within an AAP newsletter that was sent to all AAP members in November 2013. The survey consisted of 16 forced-choice items on alcohol SBIRT practices and 5 demographic questions. We computed simple frequencies for all variables with non-responders eliminated from the denominator for each variable.

Results: A total of 361 surveys were received; 54 physicians saw fewer than 10 adolescents per week and were excluded, leaving a final analysis sample of 307. Eighty-nine percent of respondents listed their primary focus as pediatrics, 7% as adolescent medicine, and 3% as family medicine or medicine-pediatrics. Respondents were evenly distributed across broad geographic areas within the US; mean year of completing residency was 1995 (range: 1961-2016), and 68% were female. Screening: 89% of respondents reported screening annually or more often. Of these, 12% reported using a validated tool (as recommended), 75% use their own questions or rely on clinical impressions, and 14% use a combination. Brief Intervention: 92% of physicians reported providing anticipatory guidance or positive feedback when patients report no alcohol use (as recommended). When patients report alcohol use, 70% provide informal counseling, and 33% use "motivational interventions" (as recommended). Referral: 49% refer to a professional outside of their practice, 17% refer within their own practice, and 44% schedule a return visit.

Conclusions: Physician respondents to this survey reported high rates of performing annual alcohol use screens for their adolescent patients, although the majority do not follow clinical recommendations for best practice.
Alcohol Screening and Counseling Received by Youth in Subspecialty Medical Care
Rosemary E. Ziemnik, BS; Elissa R. Weitzman, ScD, MSc; Julie Lunstead, MPH; Qian Huang, MPH; Sharon Levy, MD, MPH - Boston Children's Hospital

Background: Alcohol is the substance used most frequently used by youth, and is associated with the leading causes of morbidity and mortality in this age group. For youth with a chronic medical condition (YCMC), alcohol use can exacerbate morbidity by interacting with medications and undermining adherence. Nonetheless, alcohol screening and counseling in specialty care is inconsistent. Objective: To measure the proportion of YCMC that report being screened and receiving counseling regarding alcohol during medical care. Methods: YCMC in high school or college, aged 13-18 (n=349, 53% female, 75% white) presenting to a specialty clinic for routine care for asthma, Type 1 diabetes, food allergies, or a rheumatic or gastroenterological condition completed a confidential, self-administered alcohol screen and assessment battery on an iPad. Questions included whether they had been asked about alcohol use and if they had received advice about alcohol from a provider. Results: In total, 68% of participants (65% of drinkers and 69% of non-drinkers) reported being screened for alcohol use within the past year. Fifty-three percent of past-year drinkers who were screened disclosed their use. Those who reported either > 12 days of past-year alcohol use or binge drinking within the past 3 months were more likely to tell their doctor about alcohol use than those who drank below these thresholds (82% vs. 28%, p<.001). Sixty-two percent of all participants (70% of drinkers and 58% of non-drinkers) received alcohol counseling. Messages included: alcohol is not healthy (46%), alcohol can interfere with medications (34%), alcohol can make a disease worse (29%), you should cut down on drinking (10%), and you should not drink (3%). Conclusions: The rate of alcohol screening in subspecialty medical care is low. YCMC with high consumption are more likely to disclose use, suggesting that universal screening could be effective for identifying high-risk alcohol use. The rates of alcohol counseling and education delivered to YCMC are low, and clear messages to avoid alcohol are almost entirely absent.
Sexually Transmitted Infection Screening for Opioid-Dependent Pregnant Women
Elizabeth E. Krans, MD, MSc; Shannon L. Dunn, MPH - University of Pittsburgh, Magee-Women’s Research Institute

Background: Opioid-dependent (OD) pregnant women are at increased risk of sexual transmitted infection (STI) acquisition due to prostitution and infrequent condom use. According to Center for Disease Control (CDC) recommendations, OD women should receive high-risk STI screening for gonorrhea and chlamydia (GC/CT) and Human Immunodeficiency Virus (HIV) during pregnancy. However, adherence to CDC STI screening guidelines has not been evaluated for OD women in pregnancy. Objective: To describe the prevalence of STIs in OD pregnant women and evaluate obstetric provider adherence to CDC high-risk STI screening guidelines.

Methods: STI screening information for 791 OD pregnant women and 791 non-OD pregnant matched controls from 2009-2012 at the University of Pittsburgh was extracted from the electronic medical record and compared. High-risk GC/CT screening and high-risk HIV screening were defined as screening during the initial obstetric visit and repeat screening in the third trimester. Chi-square analysis was used to compare cases and controls. Results: Only 56.8% of OD women received high-risk GC/CT screening, and only 53.4% received high-risk HIV screening. OD pregnant women were significantly more likely to receive a GC/CT screen at the initial obstetric visit (90.2% vs 83.4%; p<0.01), a GC/CT screen in the third trimester (56.7% vs. 33.6%; p<0.01), and high risk GC/CT screening (56.8% vs 33.5%; p<0.01) compared to controls. While OD pregnant women were not significantly more likely receive an HIV screen during the initial obstetric visit (83.5% vs 81.4%; p=0.31), OD pregnant women were significantly more likely to receive a HIV screen in the third trimester (47.5% vs 26.3%; p<0.01) and high risk HIV screening (53.4% vs 26.1%; p<0.01) compared to controls. There were no significant differences in prevalence of STIs (GC/CT, HIV, syphilis, genital herpes, trichomoniasis, condyloma) between OD pregnant women and controls (p=0.17).

Conclusions: Although OD women are more likely to receive GC/CT and HIV screening during pregnancy compared to controls, approximately half of OD pregnant women did not receive high-risk GC/CT screening or high-risk HIV screening. Due to suboptimal high-risk screening, the prevalence of STIs in OD women may be underestimated.
How are Private Health Plans Providing Drug and Alcohol Services in an Age of Parity and Health Reform?

M. Stewart, PhD; S. Reif, PhD; D.W. Garnick, ScD; D. Hodgkin, PhD; E.L. Merrick, PhD; A. Quinn, PhD; T.B. Creedon, MA; B. Evans; MSW; C. M. Horgan, ScD - Brandeis University

Background: Recent reforms in the U.S. healthcare system, particularly the 2008 federal parity law and the 2010 Affordable Care Act (ACA), require significant changes to health insurance for alcohol, drug and mental health services. These insurance policy changes are expected to directly influence patients’ access to care, as well as cost and quality. Objective: To explore key decisions health plans are making as they respond to health reform. Methods: Data are from the most recent rounds of a nationally representative, in-depth survey of private health plans’ coverage of alcohol, drug and mental health services. The 2010 survey preceded full implementation of parity and the ACA; the 2014 survey followed full implementation. We asked each health plan about its top three commercial products, and in 2014, each plan’s top silver plan available on the new insurance exchanges. Response rates were 89% (351 plans reporting on 939 products) in 2010 and 80% (275 plans; 1,005 products) in 2014. Results: Coverage of drug and alcohol treatment services was very high in 2010. Following initial parity implementation, only 5% of health plan products required prior authorization for outpatient treatment of substance use disorders, down from 14% in 2009. Plans reduced prior authorization for specialty medical care, while required re-authorization for continuing treatment increased. Very few reported that any purchasers dropped coverage for behavioral health services. The new exchange products were very similar to the commercial products. Health plans in 2014 are open to adopting new payment models for the delivery of behavioral health services. Conclusions: As parity and health reform are implemented, it is critical to examine and understand changes health plans are making. After parity, health plans showed a mixed response in their use of access limitations. They are considering new approaches to designing provider networks and are continuing with efforts to integrate behavioral health and primary care. These findings provide an important window into the delivery and management of drug and alcohol services before and after passage of parity legislation and at the beginning of federal health reform implementation.
Substance Screening and Brief Intervention in a University Student Health Clinic: Patients Share what's Most Effective for Them
Debra Sprague, MA; Martha Lerch; Dan Vinson, MD, MPH - Missouri Institute of Mental Health - University of Missouri

Background: Initiating conversations about alcohol and drug use is sometimes challenging for healthcare providers who provide screening and brief intervention (SBI) for substance misuse. Objective: To learn directly from patients how they think we might make these discussions more comfortable, engaging, and productive. Methods: Research staff conducted qualitative key informant interviews with 8 university students immediately following their visits with providers in the student health clinic. Results: Interviews were transcribed and content analysis was conducted using Dedoose. All patients, including 6 who reported drinking above the low-risk levels, reported feeling comfortable being asked about their substance use. Virtually all reported that drinking was "part of the college lifestyle." They also noted that long-term risks associated with risky drinking weren't motivating to college students. In intervening, students suggest that more emphasis be put on short-term risks that feel more "real" to them. All 6 who reported risky drinking indicated some likelihood of considering change; 3 of those reported a "6" on a scale of 1-10, suggesting they were already open to a brief intervention. All 6 women stated that drinking during pregnancy is potentially harmful to the baby. Patient recommendations for providers to facilitate easy conversation and open exchange of information included: be direct, non-judgmental, compassionate, understanding, take time to build rapport, assure confidentiality, and make sure the patient knows you're there for them and their overall health. Other suggestions were: provide education and resources on drinking guidelines, check in and affirm health behaviors at each visit, encourage patient-defined goals, offer advice, and, interestingly, share explicit information on the behavior change process as well as options and ideas that may facilitate the process. Feedback regarding our Patient Education Card showing low-risk guidelines and standard drink sizes across beverage types was positive and informative. Conclusions: College-age patients report openness to SBI and explicit education on low-risk drinking guidelines including best ways to stay within them. They also offer key suggestions for making these conversations most comfortable and ultimately productive.
Yale-SBIRT Medical Health Professional Training Programs
Gail D’Onofrio, MD, MS; Jeanette, Tetatult, MD; Jenna, Butner, MD; Shara, Martel, MPH; Joanne, Jennaco, PhD, PMNHNP-BC, APRN; Louisa Foss-Kelly, PhD; Uchenna, Nwachuku, Ed.D; Todd Rofuth DSW, MSW; Diane, Michaelsen, MSW; Jaak, Rakfeldt, Ph.D; William Rowe, DSW; Michael Pantalon, PhD – Yale University

**Background:** Alcohol and other drug use disorders cause significant morbidity and mortality. Although screening and intervention works, medical professionals often fail to detect patients with alcohol and other drug problems or initiate referral to treatment. **Objective:** As part of a SAMHSA Medical Professional training grant we sought to promote the adoption of SBIRT among students of medical professions including, Advance Practice Nursing at Yale School of Nursing, Social Work and Counseling at Southern Connecticut State University, and Medicine at Yale University School of Medicine to improve the health of patients with alcohol and drug use disorders and promote the Healthy People 2020 Initiative.

**Methods:** Project faculty in each medical professional program from both Yale and Southern Connecticut State Universities were trained in performing and teaching SBIRT, specifically the Brief Negotiation Interview and Brief Treatment. The faculty integrated the teaching and implementation strategies to enhance success in their practice areas. Training sessions included didactic and skill based workshops with web based resources available ([www.yale.edu/sbirt](http://www.yale.edu/sbirt)), including the use of a web-based BNI training program. From 9/1/14-5/11/15 we trained 294 students to competency (mean age 30 years [range 21-64]; 43 (15%) were male). Students were very satisfied with their training reporting a score of 1.76 on a scale of (1=very satisfied, to 5=very dissatisfied) and a usefulness score of 1.59 (1= very useful to 4= useless)

**Conclusions:** During the first year of training all targeted medical professional student programs have incorporated SBIRT into their respective curricula ensuring sustainability.

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Comparison of Persistence, Resource Utilization, and Charges in Opioid Dependent Privately Insured Patients Treated with Suboxone Sublingual Film and Patients Treated with Buprenorphine Tablets

Vladimir Zah PhD(c); Khemiri A, MSc; Kharitonova E, MSc; Ruby J, PhD, Aballea S, MSc - ZRx Outcomes Research Inc.

Background: Since September 2010, the Suboxone Sublingual Film has been available for the treatment of opioid dependence. **Objective:** Comparison of persistence, resource use and costs between opioid dependent patients treated with Suboxone Sublingual Film and all tablet formulations of buprenorphine using private payer charges. **Methods:** A retrospective cohort analysis was performed using Optum Clinformatics Data Mart Database claim records extracted from September 01, 2010 to June 31, 2014. Patients initiating Opioid Dependence (OD) treatment after the launch of Suboxone Sublingual Film (September 2010) were classified in two groups according to formulation of initial prescription: Suboxone Sublingual Film or Buprenorphine tablets. Time to treatment discontinuation and monthly healthcare charges by treatment phase (before treatment, initiation period, during treatment, discontinuation period, after discontinuation and reinitiation period) were compared between the two groups, adjusting on baseline characteristics (demographics, comorbidities, treatment, and resource utilization before treatment). **Results:** The analysis over the period from September 2010 to December 2013 included 8043 patients initially treated with Suboxone Sublingual Film and 2,606 with Buprenorphine tablets, followed over 12 months on average. The proportion of patients persistent at 6 months was significantly higher in the Suboxone Sublingual Film group than in the Buprenorphine tablets group (45.24% vs. 37.09; p=0.03). The hazard ratio for treatment discontinuation with Suboxone Sublingual Film vs. Buprenorphine tablets, adjusted on baseline characteristics, was 0.81 (p=0.03). Estimated total charges over 12 months after treatment initiation were $ 39,034 for patients treated with Buprenorphine tablets and lower by 14% for patients treated with Suboxone Sublingual Film after adjustment on baseline characteristics. OD patients switching from Buprenorphine tablets to Suboxone Sublingual Film stayed on treatment significantly longer than Buprenorphine tablets patients that did not switch. **Conclusions:** While patient characteristics at baseline, resource use, and healthcare charges before the index date were comparable between the groups, at 12 months after the index date, patients with Suboxone Sublingual Film treatment had lower private payer charges in every category except outpatient services.
Pre-Implementation Readiness for a Computer-Facilitated 5As Model in Primary Care
Anna Napoles, PhD; Sara Kalkhoran, MD; Soraya Azari, MD; Nicole Appelle, MD; Paula Lum, MD, MPH; Nicholas Alvarado, MPH; Jason Satterfield, PhD - University of California, San Francisco

Background: Consistent use of the 5As smoking cessation counseling model in primary care could reduce tobacco-related morbidity and mortality, but most clinicians do not utilize all 5As components with their patients who smoke. Computer-facilitated 5As (CF-5As) counseling could increase 5As adoption. Objective: Identify perceived barriers and facilitators of CF-5As

Methods: Prior to an RCT of a CF-5As intervention, semi-structured in-person interviews of 12 administrative and 10 clinical staff members, and 13 primary care providers (total=35) from 3 varied primary care clinics (academic health center, county hospital, and HIV/AIDS clinic) were conducted in May-July 2014. Content analysis of audiotape transcripts identified perceived barriers and facilitators of CF-5As, social norms that might affect adoption, and other potential CF-behavioral counseling uses. Results: Participants included 12 Whites, 9 Latinos, 8 Asians, 5 African Americans, and 1 American Indian; 12 from academic health center, 12 from county hospital, and 11 from HIV/AIDS clinic. Most were women (91%); mean age (SD) was 42.1 years (11.1). The most frequently cited barriers to CF-5As implementation in descending order were: lack of smoking cessation resources, lack of familiarity with the 5As, potential for interfering with clinic work flow, competing priorities due to very sick patients, time constraints, patient characteristics (e.g., low literacy), and threat of tablet theft. The most frequently cited facilitators were clinic personnel's and patients' positive attitudes toward tablets and smoking cessation counseling, and clinic processes to identify smokers (i.e., panel management). Prevailing norms regarding the "promise of technology and its untapped potential" were offset by its associated burden as "one more thing" to integrate into clinic work flow. Other potential CF-behavioral counseling uses identified were alcohol and other substance use, physical activity, nutrition, and weight management. Conclusions: CF-5As implementation needs to address perceived barriers and facilitators. Integration of the CF-5As model into clinics will require flexibility to accommodate work flow and perceptions of overload in dynamic environments. Identification of factors that promote and hinder CF-5As adoption could inform other efforts to implement CF behavioral health interventions in primary care. Next steps include a RCT of CF-5As to assess its impact on clinician behavior and clinic burden.
Computer-Facilitated 5A's for Smoking Cessation
Catrina Chambers, PhD; Paula Lum, MD; Jason Satterfield, PhD - University of California, San Francisco

Background: The 5A's for smoking cessation (Ask, Advise, Assess, Assist, and Arrange) is an evidence-based practice that facilitates primary care counseling of patients with tobacco use disorders. Although most patients receive the "ask" and "advise" steps, fidelity of the full model is low with time, knowledge, and counseling skills cited as obstacles. Alternative service delivery models are needed to improve fidelity. Objective: To examine baseline patterns of 5A's delivery by providers as reported by adult patients after a primary care visit; and to assess clinic provider and staff attitudes about smoking cessation counseling, use of technology in medical settings, and preferences for using behavioral change tools. Methods: 462 English and Spanish-speaking adult patients (18+) who self-identify as current smokers were interviewed at three primary care clinics in San Francisco following a primary care provider visit. 186 clinic staff and providers were asked to complete a web-based survey and 36 were asked to complete an in-person interview. Descriptive statistics were generated from baseline survey data. Thematic content analysis was conducted for the interviews among clinic staff, providers, and patients.

Results: Most patients were men (69%) and minorities (45% non-Hispanic Black and 18% Latino), and 50% reported a high school education or less. 50% of smokers reported being asked about smoking status, 47% were advised to quit, 40% were assessed for readiness, and less than 25% received any form of assistance. 5A's fidelity varied by race/ethnicity and gender for some clinics. The primary challenges cited by clinic staff and providers in delivering the 5A's was time and personnel costs, work flow issues, competing demands, and lack of coordinated or longitudinal care. Their attitudes toward smoking cessation counseling and the use of tablet technology for patient health behavior education and counseling was favorable.

Conclusions: Provider fidelity to the 5A's was low per patient self-report. Clinicians and staff were receptive to tablet technology for smoking cessation counseling and specifically supportive of computer-facilitation for smoking cessation counseling in their clinics. Next steps will include a randomized trial to assess the impact of computer-tablets on provider behavior and 5A's fidelity.

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Is Employment Status in Adults Associated with Nonmedical Prescription Drug Use and Prescription Drug Use Disorders Secondary to Use?
Alexander Perlmutter, BA; Sarah Conner, MPH(c), BS; Mirko Savone, BA; June Kim, MHS, Silvia Martins, MD PhD; Luis Segura, MD - Columbia University Mailman School of Public Health

Background: Evidence regarding the relationship between employment status and nonmedical prescription drug use and abuse is unclear. Nonmedical opioid and stimulant use/abuse/dependence have increased in recent years. **Objective:** Determine the relationship between current employment status and nonmedical opioid and stimulant use and dependence. **Methods:** We analyzed a cross-sectional, nationally-representative, weighted sample of 58,486 adults, ≥ 26 years, from the 2011-2013 National Survey on Drug Use and Health (NSDUH). After exploratory analyses, we fit multivariate logistic regression models to assess the relationship between our outcomes of interest: nonmedical use in preceding 12 months of 1) prescription opioids or 2) stimulants, as well as DSM-IV disorder of 3) prescription opioids or 4) prescription stimulants secondary to nonmedical use - and our exposure of interest: employment status, categorized as 1) full-time, 2) part-time, 3) unemployed and, 4) "other" (not in labor force), adjusted for sex, race, age, and psychological distress. **Results:** Prevalence of opioid use was higher than stimulant use (3.5% vs. 0.7%). The majority of our sample was employed full-time (52%), while the remainder comprised part-time (11.7%), unemployed (4.4%) and "other" (31.9%) participants. Those employed full-time had higher prevalence of stimulant use (0.3%) than part-time (0.1%), unemployed (0.07%), and "other" (0.2%). However, part-time, unemployed and "other" independently had increased odds of stimulant use (aORs: 1.7[1.2-2.5], 2.3[1.6-3.5], and 1.7[1.3-2.4]), respectively, than those employed full-time. Unemployed participants reported higher opioid use relative to full-time workers (aOR: 1.6[1.3-2.0]). "Others" reported higher opioid use disorder (aOR: 2.0[1.3-3.0]), given opioid use, than those employed full-time. Regardless of drug type, those unemployed were more likely to be users relative to full-time employees (aOR: 1.7[1.4-2.1]). **Conclusions:** There is a need for adult prevention and intervention programs to target nonmedical prescription drug use, especially among adults who are unemployed or not in the labor force.
Medication Treatment for Addiction and Health Service Utilization among HIV-infected Adults with Substance Dependence

Kinna Thakrarar, DO, MPH; Alexander Y Walley, MD, MSc; Timothy C Heeren, PhD; Michael R Winter, MPH; Alicia S Ventura, MPH; Margaret Sullivan, MD; Mari-Lynn Drainoni, PhD; Richard Saitz, MD, MPH – Boston Medical Center

**Background:** HIV-infected people are burdened by substance use and have high rates of acute care visits. Medication treatment for addiction (MTA) is underutilized but it could reduce the need for acute care utilization. **Objective:** Determine if HIV-infected people with substance dependence prescribed MTA have lower rates of acute health service utilization than those not on MTA. **Methods:** We used baseline data from adults in the Boston ARCH Cohort who had current alcohol or opioid dependence. We performed cross-sectional analyses to assess the association between MTA and acute health service utilization. MTA was defined as any current medication prescribed for alcohol or opioid dependence in the medical record or by self-report. Dependent variables were 1) any emergency department (ED) visit 2) any hospitalization and 3) any acute care visit (defined as ED visit or hospitalization) within the past 3 months. We analyzed the association between MTA and the dependent variables using logistic regression adjusted for HIV viral load, substance dependence (alcohol, opioid or both), comorbidity index score, and homelessness. **Results:** Participants (n=153) were 64% male; 51% black; mean age 47; 31% homeless; 34% had a detectable HIV viral load (>200 copies/ml); 60% had current alcohol dependence, 12% had current opioid dependence, and 29% had both alcohol and opioid dependence. In the past 3 months, 56% had an acute care visit; 29% an ED visit and 29% a hospitalization. Of the 48 (31%) participants prescribed MTA: 14 were prescribed methadone, 23 buprenorphine, and 8 naltrexone alone (3 participants were prescribed multiple medications). MTA was not significantly associated with an ED visit (adjusted odds ratio (AOR) 0.49, 95% CI 0.20-1.22), hospitalization (AOR 1.51, 95% CI 0.59-3.89), or an acute care visit (AOR 0.80, 95% CI 0.33-1.98). **Conclusions:** MTA was not significantly associated with an ED visit, hospitalization, or an acute care visit in this cohort of HIV-infected adults, though point estimates suggested favorable effects of MTA on ED visits. Power may have been a limitation due to small sample size; thus further study with a larger sample is warranted to determine the role MTA might play in reducing acute healthcare utilization in HIV-infected people with substance dependence.
Integrating Program Evaluation in a Private Addictions Treatment Environment: Implications for Clinical Practice
Clare E. Campbell, BA; Brenda To, BA; Stephen A. Maisto, PhD; Gerard J. Connors, PhD - Syracuse University

Background: Program evaluation is intended to determine the impact of treatment services and inform future treatment initiatives. Implementation of an evaluation component sometimes is viewed as distracting from the provision of clinical services. Objective: This program evaluation study was designed to seamlessly assess the status of patients at four private addictions treatment centers. Patients were assessed upon treatment entry and at 1, 3, and 6 months following treatment discharge. Methods: A structured interview was used to assess patients’ alcohol and other drug use and related variables. The first (baseline) assessment occurred in person, typically 3-5 days upon treatment entry, and assessed the 30 days pre-treatment. Three phone-based interviews then occurred at 1, 3, and 6 months following treatment discharge, each covering the preceding 30 days. Three primary outcomes were calculated: Percent Days Abstinent (PDA) from Alcohol and Other Drugs, PDA from Alcohol, and PDA from Drugs. Results: 280 patients across the four program sites were recruited into the project. Follow-up rates for the combined sample for the 1-, 3-, and 6-month assessments were 68%, 61%, and 60%, respectively. Analyses showed few baseline differences in demographics, physical and mental health, and substance use among participants who did or did not complete the follow-up assessments. The percentage of days abstinent for each outcome increased significantly from baseline to the 1-month assessment, and this change was maintained at the 3- and 6-month assessments. PDA from Alcohol and Other Drugs, for example, increased from 19% at baseline to 94% at 1 month, 89% at 3 months, and 85% at 6 months. Similar results were observed for PDA from Alcohol and PDA from Drugs. Secondary outcomes of patient ratings of urges/craving, depression, anxiety, and general life-functioning all indicated significant improvement from baseline over the course of the follow-up. Conclusions: The results suggest it is feasible to integrate program evaluation, including patient follow-up, within regular clinical procedures in free-standing addictions programs. Programs benefit from receiving ongoing feedback about patients’ responses to their services, and patients benefit from the contact and feedback about their post-treatment efforts at sustaining abstinence and improving their overall life-functioning.
Evaluation of Patient and Collateral Post-Treatment Reports of Alcohol and Other Substance Use: Data from a Private Addictions Treatment System
Clare E. Campbell, BA; Brenda To, BA; Gerard J. Connors, PhD; Stephen A. Maisto, PhD - Syracuse University

Background: Research shows that patients' self-reports of their substance use are typically accurate when compared to the reports of collateral informants. However, few studies of the consistency between patient and collateral reports have been done in the context of free-standing private addictions treatment programs. Objective: In this study, patient and collateral reports were compared as part of a program evaluation of four private addictions treatment centers.

Methods: Patients were assessed upon treatment entry and at 1, 3, and 6 months post-treatment. Data were collected using a structured interview to assess patients' use of alcohol and other substances and their functioning in a variety of domains. Patients were also asked to identify a significant other (collateral) to provide another perspective on the patient's progress post-treatment. Collaterals were contacted for each patient at the 1-, 3-, or 6-month follow-up assessment point as determined randomly for each patient. The questions asked of the collateral paralleled those asked of the patient. Primary outcomes were: Percent Days Abstinent from Alcohol and Other Drugs, Percent Days Abstinent from Alcohol, and Percent Days Abstinent from Drugs. Results: Of 280 patients, collateral data were collected for 55% (n=154). Collateral and patient reports were highly correlated and were not significantly different; the vast majority (greater than 75%) of reports were the same between collaterals and patients. When discrepancies did occur, there was no evidence of systematic patient under- or over-reporting. Most collaterals indicated high confidence in the accuracy of their reports; confidence was not associated with amount of discrepancy between patient and collateral reports. One caveat is that missing data primarily occurred due to collaterals' unwillingness to estimate patients' substance use or when significant changes had occurred in their relationship with the patient (e.g., recent marital separation). Thus, the data may reflect an over-estimate of the accuracy of patients' self-reports. Conclusions: The results of this study are consistent with the literature and suggest that patients from free-standing private treatment centers tend to give accurate self-reports of post-treatment substance use. These results also indicate that collateral informants are a good additional source of post-treatment substance use measures.
Evaluating a Smoke-Free Policy in a Housing-First Homeless Shelter
Anita M. Lowe, BA; Smita Das, MD, PhD, MPH; Judith P. Prochaska, PhD, MPH - Stanford School of Medicine

Background: Smoking is prevalent among unhoused individuals yet understudied in the housing-first setting. A potential barrier to smoking bans is concern that such policies will increase tobacco-related conflict and attrition from housing. Objective: Using a needs assessment survey and urine biomarkers, we established secondhand smoke (SHS) exposure and evaluated the effects of a smoke-free policy on smoking habits, support for smoke-free policies, tobacco-related conflict, and desire to retain residency. Methods: Non-smoking residents, staff, and drop-in day clients at a Bay Area housing-first community participated in a comprehensive needs-assessment survey before and after implementation of an indoor smoking ban. Educational seminars were held with implementation of the ban. The survey assessed self-reported smoking habits, support for smoking regulation in supportive housing, interpersonal conflict measures, and desire to retain residency. Urine cotinine was measured in non-smoking residents and staff. Results: Twenty non-smoking residents (age M±SD=43.7±16.3) and 9 staff completed pre and post smoking ban surveys and provided urine samples; 93% had detectible urine cotinine (mean 1.5±2.8 ng/ml) at baseline. 70 clients surveyed prior to the ban did not differ in baseline characteristics from 34 clients surveyed post ban (age 51.4±10.8; 65% male; 40% white; 78.3% smokers; 10.7 cigarettes per day among smokers). There was a non-significant increase in desire to quit among smokers (pre=53%, post=74%, p=0.10) following the ban. After the ban, support for smoke-free laws was significantly higher among non-smoking residents than drop-in day clients (Fisher's exact=6.0, p=0.045) but not different between other groups or in pre-post ban comparisons (residents pre=70%, post=87%; clients pre= 60%, post=49%; staff pre=63%, post=80%). Few verbal arguments regarding the smoking ban were reported. Desire to leave supportive housing was present (pre=30%, post=57% of residents, p>0.05), but unrelated to the smoking ban, except for one resident. Conclusions: Exposure to SHS was found to be prevalent in a housing-first community. The smoking ban did not increase tobacco-related conflict or desire to leave supportive housing. High levels of support for smoking bans among all groups but especially non-smoking residents and staff suggest that such policies may be successfully implemented in this setting.
Use of Risk Mitigation Practices by Family Nurse Practitioners Prescribing Opioids for the Management of Chronic Non-Malignant Pain: An Online Survey
Sahil Chaudhary, BS; Peggy Compton, RN, PhD, FAAN - Georgetown University

Background: Ongoing-opioid use in patients suffering from chronic non-malignant pain (CNMP) can be related to the development of opioid addiction or opioid abuse. To prevent these outcomes, family nurse practitioners (FNPs) often implement risk mitigation practices (RMPs).

Objective: This study assessed the extent to which FNPs are implementing the subsequent RMPs when prescribing opioids to CNMP patients: treatment contracts, addiction screening tools, state-prescription monitoring programs, urine toxicology analyses, and abuse-deterrent opioid formulations. This study also evaluated the correlates of these practices.

Methods: 856 FNPs, from across the United States, were invited to take part in an online survey that asked them about their utilization of RMPs. Results: 180 FNPs responded to the online survey (21% response rate). Of these respondents, 91 (50.6%) affirmed that they prescribe opioids for CNMP. The majority of prescribing-FNPs (66.3%) reported that less than 25.0% of their CNMP patients are given opioids on a regular basis. Opioids were most commonly prescribed for the treatment of central neuropathic pain (81.3%). The two most prescribed opioids were hydrocodone (79.1%) and oxycodone (59.3%). Many FNPs (58.9%) reported using treatment contracts with CNMP patients receiving opioids. However, few respondents (22.0%) used formal screening tools to gauge the risk of opioid dependence in their CNMP patients. To identify patients exhibiting opioid misuse behaviors, most opioid-prescribing FNPs (83.3%) reported using state-prescription monitoring programs; however, fewer FNPs (42.2%) reported using urine toxicology analyses. Over a quarter of respondents (27.5%) answered that they are not familiar with abuse-deterrent opioid formulations for the treatment of CNMP. Additional inferential analyses of the data are ongoing.

Conclusions: Although RMPs are recommended for use in all CNMP patients receiving ongoing-opioid-therapy, FNPs do not consistently implement them. This may raise the risk that CNMP patients develop problematic opioid use behaviors. In the midst of the current epidemic of unintentional opioid overdoses, FNPs must be vigilant about using the best opioid prescription practices.

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A First Look at Quitting Characteristics among American Indian Tribal College Students
Babalola Faseru, MD, MPH; Niaman Nazir, MD, MPH; Christina M. Pacheco, JD; Julia White Bull, MA; Christi Nance, BS; Melissa K. Filippi, PhD, MPH; Christine M. Daley, PhD, SM, MA; Won S. Choi, PhD, MPH - University of Kansas Medical Center

Background: American Indians (AI) use recreational tobacco more than all other racial/ethnic groups and have more difficulty quitting smoking. Objective: The aims of this study were to determine factors associated with quit attempts and intention to quit, and to examine the relationships between time to first cigarette (TTFC) and smoking relapse among a longitudinal cohort of AI tribal college students. Methods: Factors associated with quit attempts in the past 12 months and intention to quit in the next 6 months were identified using multivariate logistic regression models and the Kaplan-Meier method was used to generate relapse curves. Results: Of 1256 AI students, 436 (34.7%) self-identified as smokers. Majority (87.5%) smoked <=10 cigarettes per day (CPD) and 77% started smoking regularly <=18 years old. Over 1 in 4 (26%) smoked their first cigarette within 30 minutes of waking. Sixty-two percent attempted to quit in the past 12 months while 47% intended to quit in the next 6 months. On a scale of 1-10, average score for motivation was 6.2 and confidence to quit and remain quit was 7.5. Those who smoked for longer years (AOR 0.95, 95% CI 0.92-0.98), those who intended to quit in the next 6 months (AOR 0.36, 95% CI 0.19-0.70), and those with higher confidence to quit (AOR 0.78, 95% CI 0.68-0.88) were less likely to have made a quit attempt in the past 12 months, while those with a higher motivation score (AOR 1.36, 95% CI 1.18-1.57) were more likely to have made a quit attempt in the past 12 months. Those who were highly motivated to quit were more likely to intend to quit in the next 6 months (AOR 1.55, 95% CI 1.35-1.78) and those who have made a quit attempt in the past 12 months were less likely to intend to quit within the next 6 months (AOR 0.30, 95% CI 0.15-0.60). Those who smoked within 30 minutes of waking relapsed more rapidly compared to those who did not (p<0.001). Conclusions: Interventions directed at increasing motivation to quit smoking will enhance both quit attempts and intention to quit among AI tribal college students.
Gabapentin Withdrawal, Somatic Symptom Syndrome and Anxiety: A Triad
Cara Poland, MD, MEd; Carolyn King, MD; Eric Achtyes, MD - Pine Rest

**Background:** Gabapentin is used as a means to treat neurological complaints, including neuropathy. It is also used to treat alcohol withdrawal, including protracted withdrawal. There are occasional case reports in the literature of a gabapentin withdrawal syndrome that includes symptoms of prominent anxiety. In an acute psychiatric setting, such as a detoxification unit, gabapentin withdrawal may present with symptoms of increased anxiety. There may be important treatment implications to distinguish this phenomenon from an independent underlying anxiety disorder.

**Learning Objectives:**
1. Define gabapentin withdrawal, somatic symptom disorder and generalized anxiety disorder
2. Determine differentiating features of gabapentin withdrawal, anxiety and somatic symptoms disorder
3. Understand differences in the appropriate management of these disorders

**Case Presentation:** SMG is a 65 year old female who presented to an acute co-occurring psychiatric and substance use unit. The patient was on gabapentin for 7 years due to hip pain and was tapering off using ativan. Due to concern for ativan misuse, she was hospitalized. During the hospitalization, she had nausea, agitation, headaches, tearfulness, pain, mild autonomic instability and anxiety with pseudoseizures. Attempts to wean her off these medications using long-acting benzodiazepines were unsuccessful. Phenobarbital was contraindicated due to impaired liver function. Upon reinstating gabapentin, her symptoms improved. She continued to have multiple somatic complaints - making differentiation between somatization, anxiety and gabapentin withdrawal difficult. During the remainder of her hospitalization, a slow taper from gabapentin was initiated with discharge recommendations to continue tapering over the course of months to years. Hydroxyzin, clonidine, celebrex and risperidone were used in conjunction with gabapentin to alleviate her anxiety.

**Discussion:** Several case reports describe a benzodiazepine withdrawal syndrome that includes irritability, agitation, anxiety, autonomic instability, diaphoresis, confusion, disorientation, catatonia and status epilepticus all of which resolved with reinstition of gabapentin. In this case, the patient's somatic complaints improved with reinstitution of gabapentin. Differentiation between underlying anxiety and true gabapentin withdrawal is difficult. However, the importance of monitoring patients for withdrawal from gabapentin in the setting of anxiety and somatic symptom disorder needs to be addressed. Further research and education on the potential risks of gabapentin, including rebound anxiety and somatization, is important for all providers.
Self-Help Group Participation in Urban vs. Rural Treatment-Seeking Veterans
Kathleen M. Grant, MD; Lance Brendan Young, PhD; R. Dario Pulido, PhD; Monica Meeks, BA; Cynthia Beaumont, CCRC; Jamie L. Simpson, PhD - VA Nebraska-Western Iowa Health Care System

**Background:** Participation in self-help groups, particularly 12-step groups, is associated with significant increases in short-term and long-term abstinence. A primary "active ingredient" of the 12-Step approach is meeting attendance. People living in rural areas, however, may participate less (due to meeting accessibility) or may participate more (due to strong social ties). No research has yet established a connection between rural residence and self-help group participation. **Objective:** The objective was to test the hypothesis that rural residence is associated with self-help group activity. **Methods:** Veterans enrolled in the study as they entered one of three Nebraska Veterans Affairs substance use disorder (SUD) treatment centers. Participants' zip codes were used to assign a Rural-Urban Commuting Area (RUCA) code. Participants also completed the Alcoholics Anonymous Affiliation Scale (AAAS), modified to also include other 12-Step organizations. The first two questions ask about number of meetings attended (lifetime and past year), and the last seven questions elicit yes/no responses regarding specific perceptions and behaviors related to self-help groups. Associations between rural residence and self-help practices were measured using Pearson correlations and Student's t-tests. **Results:** Results showed substantial self-help group participation among all participants (N=196), averaging 45.1 meetings attended in the previous 12 months and more than 90 meetings in their lifetime. Specific self-help group perceptions and behaviors were high overall, but varied: read self-help literature in the past year (96.4%), considered themselves a part of a self-help group (71.9%), participated in service work within the past year (60.7%), called another member for help at some point (51.0%), experienced a spiritual awakening (47.2%), had a sponsor (32.1%), and had sponsored someone else (11.2%). The only significant association between rurality and self-help participation was that rural residents were more likely to have read self-help literature (p < 0.001). **Conclusions:** Among veterans seeking SUD treatment in a rural state, previous participation in 12-Step groups and activities was high, but was not significantly associated with rural residence. Treatment professionals should encourage self-help group participation among rural residents who are able to participate at rates similar to their urban counterparts.
Screening, Brief Intervention and Referral to Treatment (SBIRT) Training across Multiple Health Professional Populations: Evaluation of Interprofessional Perceptions and Attitudes toward Individuals with Alcohol and other Drug Use
Ann Mitchell, PhD, RN; Irene Kane, PhD, RN; Kathyrn Puskar, PhD; Holly Hagle, PhD; Dawn Lindsay, PhD - University of Pittsburgh

Background: Health care professionals will be confronted with patients with alcohol and other drug use frequently. Screening, Brief Intervention and Referral to Treatment (SBIRT) is a public health model to detect and address problematic use early using validated screening tools and components of motivational interviewing. The University of Pittsburgh has partnered with the Institute for Research, Education, and Training in Addictions (IRETA) on several projects to provide SBIRT training to students and working professionals in nursing and behavioral health.

Objective: This presentation will report evaluation data across several studies involving SBIRT training in students and working professionals in nursing and behavioral health.

Methods: Participants included nurses and behavioral health professionals in ED and other health care settings, and students in nurse anesthesia. Training modality was either in person or online and were approximately 1 hour in length. The Alcohol/Alcohol Problems Perception Questionnaire, Drug/Drug Problems Questionnaire, and Interprofessional Education Perception Scale were administered for evaluation.

Results: Alcohol/Alcohol Problems Perception questionnaire (AAPPQ): behavioral health scores were higher than nursing (Role Security, $F(1,346)=19.32, p<0.01$; Therapeutic Commitment, $F(1,345)=60.00, p<0.01$). Both increased significantly post-training (Role Security, $F(1,346)=69.98, p<0.01$; Therapeutic Commitment, $F(1,345)=31.20, p<0.01$). Drug/Drug Problems Perception questionnaire (DDPPQ): again behavioral health scores were higher than nursing scores (Role Security, $F(1,345)=19.21, p<0.01$; Therapeutic Commitment, $F(1,344)=63.61, p<0.01$). Both increased post-training (Role Security, $F(1,345)=56.8, p<0.01$; Therapeutic Commitment, $F(1,344)=19.06, p<0.01$).

Interprofessional Education Perception Questionnaire: baseline group differences were observed (e.g., $F(1,156)=29.9, p<0.01$). Scores increased following simulation experiences, enhancing skills. Conclusions: While behavioral health participants had higher baseline scores on the attitude scales, both groups improved substantially as a result of training exposure. Training in SBIRT from an interprofessional context has the potential to efficiently and effectively address alcohol and other drug use in healthcare settings. The use of simulation and interprofessional dialogue is value added in terms of improving attitudes toward addressing alcohol and other drug use and interprofessional competencies.
Trends in Age and Gender of Physicians Certifying in Addiction Medicine
Lia Bennett, MPH, Kevin Kunz, MD, MPH; Deborah Bryant, MHA - American Board of Addiction Medicine

Background: The American Board of Addiction Medicine (ABAM) provides certification and maintenance of certification activities to addiction medicine physicians across all medical specialties. Its diplomate database provides information on the demographic trends for cohorts of certified physicians. The ABAM certification examination is co-administered by ABAM and the National Board of Medical Examiners. Until 2014, the certifying exam was offered biennially, it is now offered annually. Objective: To determine if shifts have occurred in the age or gender of physicians who pass the initial certifying examination, from a baseline population of all ABAM diplomates in 2009. Methods: Age and gender of physicians certified by ABAM were analyzed for the total diplomate population in 2009, and for each new class of ABAM diplomates, in 2010, 2012 and 2014. Results: The average age of the first cohort of new ABAM diplomates, who were "grandfathered or grandmothered" into diplomate status based on previous certification by the American Society of Addiction Medicine (N=2020), was 55. In 2012 the average age of all U.S. physicians was 51 (N = 878,194) versus the 55 for all ABAM diplomates (N = 3075). The average age of those who successfully passed the credentialing exam in 2010, the first year ABAM administered the exam, was 48 (N = 515); this did not change in 2012 (N = 536) or in 2014 (N = 649). In 2009, 18.9% of all ABAM diplomates were female (N = 382). In 2010, 27.4% of newly certified physicians were female (N = 141). In 2012, this figure grew to 33.8% (N = 181), and in 2014, dipped slightly to 29.7% (N = 193). Conclusions: While ABAM diplomates' average age was above the national average in 2012 (55 versus 51), the average age of newly certified ABAM diplomates declined from 55 in 2009 to 48 currently. The percentage of newly certified diplomates who are female has increased from 19% to 30%, peaking at 34% in 2012. This is on par with all physicians across the U.S., 32% of whom are female.

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92
Maintenance of Certification for Physicians Practicing Addiction Medicine: Evolution and Acceptability
Lia Bennett, MPH; Kevin Kunz, MD, MPH; Robert Sokol, MD, FACOG - American Board of Addiction Medicine

Background: The American Board of Addiction Medicine (ABAM) is an independent medical specialty board that certifies physicians in the field of Addiction Medicine (ADM). The ABAM Maintenance of Certification (MOC) program was launched in 2011. The American Board of Medical Specialties (ABMS) promulgates MOC standards for its member boards. ABAM is not yet an ABMS member board, but adheres to these standards. This program is used as an educational tool for continuous professional development. Objective: The objective was to determine the level of MOC acceptance and compliance utilizing a web portal to fulfill Lifelong Learning and Self-Assessment (LLSA) CME requirements. Methods: There were 1,965 Time-Limited (TL) Diplomates enrolled in the MOC program during the study period (2013-2015). LLSA requirements for the two-year MOC cycle ending February 15, 2015 were: completing 12 Self-Assessment Modules (SAMs), and 26 addiction medicine related AMA PRA Category 1 Credits. SAMs were based on 32 peer reviewed journal articles selected by a committee of ADM experts. Diplomates could choose any 12 of 32 articles available. Via the web portal, diplomates fulfilled their LLSA CME requirements by selecting high quality CME and additional SAMs beyond the required 12. Diplomates chose from a listing of both SAMs and CME most applicable to their practice, and a passing score of at least 75% on the assessment for each SAM was required. The portal tracks the SAMs scores, and other CME activities. Results: 76.9% (1531) of TL diplomates (N = 1990) fully met requirements for completion of SAMs and CME credits. 80.4% of female versus 75.6% of male diplomates met the requirements. The average age of diplomates who met requirements (age 53, N=1531) was slightly lower than those who did not (age 55, N=459). Collectively, ABAM diplomates completed 18,372 SAMs and 31,806 additional AMA, totaling 58,178 AMA PRA Category 1 Credits in the field of Addiction Medicine. Conclusions: A significant number of ADM physicians are participating in a portal based, online MOC program in ADM. ADM physicians are motivated to achieve continuous ADM learning, although they are not required to do so for licensure or by their primary ABMS board.
Is it Time to Include Behavioral Addictions in the Curriculum?
Kathryn Johnson, DO; Lauren Lehmann, MD - Salem VAMC

Background: Addiction recently has been broadened to include such behaviors as gambling, the Internet, sex, and shopping. Research into the biological, psychological, and social aspects of process addictions lags behind that for chemical use disorders, and training in the behavioral addictions typically is not included in already crowded psychiatry residency curricula. However, in a patient survey at the training site for the substance abuse rotation in our psychiatry residency program, fifty per cent of the patients being treated for chemical addictions identified at least one co-occurring potential behavioral addiction. **Objective:** This project was designed to determine residents' and attendings' assessment of both their competence in and attitudes toward training in behavioral addictions given increased awareness of the prevalence of these disorders.

Methods: Ninety-two PGY-1 through PGY-5 psychiatry residents and attendings were sent a brief online Likert scale survey asking them to rate their familiarity with research in behavioral addictions and their competence in assessment and treatment. They also were asked whether training in behavioral addictions should be included in the curriculum, and, if so, at which level of training this should be done. The data were analyzed using weighted averages of the Likert responses. **Results:** Fifty-eight of the ninety-two (63 %) participants responded to the survey. Over half (55%) of the respondents were attendings, and the mean age of the respondents was 48 years. Using a Likert scale range of "not at all" (1) to "extremely (4)," respondents indicated that they were somewhat (2.28) familiar with research on behavioral addictions and believe themselves to be somewhat (2.42) competent to assess and treat them. Over half (56%) of the respondents said it is "extremely" important to include information on behavior addictions in the curriculum, and most (43%) believed that the best place for this is in the PGY-2 year.

Conclusions: Recognition of behavioral addictions is increasing among mental health workers and researchers. Faculty and residents in our training program, who may be representative of those in other programs in the country, think that instruction in these disorders should be included in the curriculum, ideally in the PGY-2 year.
Background: Measurement invariance is an important aspect of screening tests used in practice and research studies. Although literature supports the Alcohol Use Disorders Identification Test (AUDIT), there exists some question as to its test-retest reliability among incarcerated individuals. One difficulty is the necessity of retrospectively screening about a time prior to when individuals began living in these restricted environments, another involves inaccuracy due to fears that the information may impact their legal case or they may be substance impaired/in withdrawal if screened at intake. Because alcohol and drug use disorders often co-occur in this population, it is also important to have reliable screening instruments for both. The 12-item AUDIT-Including Drugs (AUDIT-ID) instrument has appeared in several studies, but its test-retest reliability with incarcerated populations has not yet been ascertained.

Objective: The purpose of this study was to assess consistency of the AUDIT-ID with a group of women in jail settings preparing for release back to the community. Methods: As part of two larger studies, randomly selected individuals were invited to participate in a retest screening interview 2-5 weeks after their first screening session. The AUDIT-ID was administered to 45 consenting women at both times, asking about their alcohol and drug use during the months prior to incarceration.

Results: Time 1 AUDIT-ID scores ranged from 0-44 (M=18.1, SD=12.60992) and at Time 2 ranged from 0-45 (M=17.6, SD=13.18313). Using 7 as a criterion cut-point, 71% had positive screen results at Time 1 compared with 69% at Time 2. Test-retest reliability between time 1 and time 2 was .960, split-half reliability for the 12 scale items was .81, and the coefficient alpha was .90. Individuals rarely moved in either direction between the negative and positive screening result groups between time 1 and time 2 (3 out of 45 women, difference scores non-significant on one-sample t-test), and time 1 sum scores correctly predicted time 2 positive or negative screening results 95.6% of the time (logistic regression).

Conclusions: The AUDIT-ID showed strong consistency across two administrations asking about the same pre-incarceration period. This offers practitioners and researchers a good degree of confidence in using the AUDIT-ID instrument under these circumstances.
Prescription Monitoring Program Opioid Prescriptions in an Opioid Dependent Population
Kathryn Hawk, MD; Patrick G. O’Connor, MD, MPH; Michael V. Pantalon, PhD; Marek C. Chawarski, PhD; Susan H. Busch, PhD; Patricia H. Owens, MS; Steven L. Bernstein, MD; David A. Fiellin, MD; Gail D’Onofrio, MD, MS – Yale University

Background: Prescription Monitoring Programs have been established in 49 out of 50 states, but little is known about the frequency of opioid prescriptions in these databases in opioid dependent populations. **Objective:** Using data from the PMP, we sought to describe reported opioid prescriptions for 329 opioid dependent patients enrolled in a clinical trial. **Methods:** 329 opioid dependent patients (+Mini-SCID, + UTox) were enrolled between April 2009 and June 2013 and past 30-day non-heroin opioid use was collected on enrollment. The number of opioid prescriptions in the year prior to study enrollment date was extracted from the PMP. Chi-square analysis was performed in STATA, version 13.1. **Results:** Of 329 opioid dependent enrollees, 211 of 329 (64%) had zero opioid prescriptions, 80 of 329 (24.3%) had between 1 and 3 opioid prescriptions, and 38 of 329 (11.6%) had 4 or more opioid prescriptions in the state PMP in the year prior to study enrollment. When stratifying by self-reported non-heroin opioid use in the past 30 days, we found a progressive increase in frequency of participants with 4 or more opioid prescriptions: no use (2/106, 1.8%), occasional use (2/32, 6.25%), 1-2 use/week (5/25, 20%), 3-4 use/week (3/20, 15%), most/everyday use (9/49, 18.3); p=.001.

<table>
<thead>
<tr>
<th>Self-reported Rx Opioid Use</th>
<th>No past year PMP Opioid Rx</th>
<th>4 or more Opioid Rx in past year</th>
</tr>
</thead>
<tbody>
<tr>
<td>No use</td>
<td>80/106 (75%)</td>
<td>2/106 (1.8%)</td>
</tr>
<tr>
<td>Occasional use</td>
<td>19/32 (59.4%)</td>
<td>2/32 (6.25%)</td>
</tr>
<tr>
<td>1-2 use/week</td>
<td>16/25 (64%)</td>
<td>5/25 (20%)</td>
</tr>
<tr>
<td>3-4 use/week</td>
<td>13/20 (65%)</td>
<td>3/20 (15%)</td>
</tr>
<tr>
<td>Most/every day use</td>
<td>31/49 (63%)</td>
<td>9/49 (18.3%)</td>
</tr>
</tbody>
</table>

Table. Number of opioid prescriptions in PMP for opioid dependent patients in year prior to study enrollment stratified by self-reported past 30-day non-heroin opioid use. Of past 30 days: Occasional=1-2 days; 1-2 use/week = 3-8 days; 3-4 use/week = 9-16 days; Most/every day= 17-30 days. Past 30-day use was available for 232 participants.

**Conclusion:** In a sample of patients with known opioid dependence, only a small minority of patients have >4 opioid prescriptions in the PMP. PMP opioid prescriptions do increase with increasing frequency of self-reported non-heroin opioid use. These results highlight the need to integrate other strategies with PMP utilization to detect opioid dependence.
Patient Selection for Extended-Release Naltrexone among Criminal Justice-Involved Persons with Opioid Use Disorders
Peter Friedmann, MD, MPH(1); Joshua Lee, MD; Edward Nunes, MD; Timothy Kinlock, PhD; Charles O’Brien, MD – (1) Rhode Island Hospital and Brown University

Background: Pharmacotherapy for opioid use disorders among criminal justice system (CJS) clients is effective, but has historically been unavailable or discouraged. Extended-Release Naltrexone (XR-NTX), an opioid antagonist, might be more acceptable than agonist therapies in CJS, but few data inform patient selection for XR-NTX in criminal justice settings.

Objective: Patient selection for extended-release naltrexone (XR-NTX) is dependent on participants being able to keep appointment and achieve opioid abstinence long enough to have a urine toxicology negative for all opioids. This secondary analysis examines predictors of study entry in a 5-site, open-label randomized-controlled effectiveness trial of XR-NTX versus treatment as usual (TAU) among criminal-justice involved opioid users.

Methods: Prior to randomization, potential subjects had to meet DSM-IV criteria for opioid dependence, have criminal justice involvement in the prior 12 months and achieve complete opioid abstinence, i.e. opioid-free urine toxicology, and keep study appointments. This secondary analysis examines which criminal-justice involved persons with opioid use disorders could fulfill criteria for study entry.

Results: Of 435 potential subjects, 308 met study criteria and were randomized: mean age 44, 85% male, 48% Black, 87% lifetime heroin use and 73% on probation or parole. Of 129 non-entrants, 60% had a positive urine or did not keep the appointment. In multivariate logistic regression analyses, independent correlates of study entry were taking buprenorphine (OR .19; 95% CI .08 to .48) or methadone (OR .38; CI .18 to .80); recovery group meeting attendance (OR 2.3; CI 1.1 to 4.6) or being insured (OR 2.1; CI 1.1 to 4.1).

Conclusions: Recent use of buprenorphine or methadone among criminal-justice involved opioid users reduces their likelihood of meeting selection criteria for XR-NTX. Such patients might be less able to achieve an opioid-free urine or more likely to seek agonist treatment. Attendance at recovery groups like AA/NA and having health insurance confer a greater likelihood of eligibility for XR-NTX.
Background: Screening, Brief Intervention, and Referral to Treatment (SBIRT) has been endorsed by the United States Preventive Services Task Force as an evidence-based strategy to address risky substance use. However, even generic screening rates remain low.

Objective: This pilot study identifies current practice among New York State primary care physicians, nurse practitioners, and physician assistants and assesses how knowledge, attitudes, and perceptions may facilitate or impede SBIRT practice. This information will be used to inform development of a statewide strategic plan. Methods: Between October and November 2013, electronic surveys were emailed to members of the Medical Society of the State of New York, the Nurse Practitioner Association of New York, and the New York State Society of Physician Assistants. Results: Few respondents reported practicing the SBIRT model; 38% reported screening, 31.4% brief intervention, and 32.6% referral to treatment. Less than 30% reported regularly using any standardized screening tool. Rather, a majority of respondents (54%) reported simply asking patients directly about their use, and 29.1% overestimated safe drinking limits. Less than half had received any training in substance use topics, and almost half (43%) did not feel they knew enough about substance use to address it with patients. Only 33% reported feeling effective in their current attempts to help patients reduce substance use. Attitudes and perceptions explored in this survey, including role-responsibility and self-efficacy for addressing substance use, were associated with frequency of SBIRT practice (p<.05).

Conclusions: Findings suggest a need for initial and continuing education and training targeting safe drinking limits, standardized screening tools, role responsibility, self-efficacy, and attitudes toward addressing substance use.
School-Based Health Center Provider Rankings of Factors Influencing Practice Adoption, the Impacts of Substance Use on Adolescents, and how Implementing SBIRT can address the Impacts: Implications for Marketing
Brett R. Harris, DrPH; Benjamin A. Shaw, PhD; Hal A. Lawson, PhD; Barry R. Sherman, PhD - University at Albany School of Public Health

**Background:** Screening, Brief Intervention, and Referral to Treatment (SBIRT) has been endorsed by the American Academy of Pediatrics as an evidence-based strategy addressing risky substance use among adolescents in primary care. However, there is little awareness of SBIRT, and less than half of pediatricians even screen adolescents for substance use. Efforts are needed which increase awareness and promote SBIRT adoption and implementation. **Objective:** This study identifies factors perceived to have the greatest impact on SBIRT adoption and implementation by school-based health center (SBHC) providers and suggests how to incorporate these factors in awareness-raising efforts targeting SBHC and other pediatric providers. **Methods:** Between May and June 2013, an electronic survey was distributed to all 162 New York State SBHC program directors and clinicians serving middle and high school students. Participants ranked two sets of statements based on their persuasiveness that SBIRT is needed and should be adopted in SBHCs. One set contained statements about adolescent substance use and the seriousness of its effects; the other about how SBIRT may address substance use in SBHCs. Program directors were also asked about factors influencing their decision to adopt new practices (40% response rate). **Results:** Program directors reported student need far more than any other factor when considering the adoption of new practices. Reimbursement, research support, and encouragement from the state health department and the American Academy of Pediatrics also had a strong impact. Association between substance use, risky behaviors, pregnancies, and sexually transmitted diseases (STDs) was perceived by program directors and clinicians as most persuasive that SBIRT is needed in SBHCs (M=7.52, SD=2.45). Regarding how SBIRT can address adolescent substance use, organizational cost savings realized by early intervention was most persuasive (M=6.22, SD=2.41) followed by research highlighting SBIRT effectiveness at decreasing alcohol use (M=5.84, SD=2.48). **Conclusions:** Findings from this study suggest SBIRT dissemination efforts and marketing strategies directed toward prospective adopters should highlight connections between substance use, risky behaviors, pregnancy, and STDs as well as research showing cost-effectiveness of SBIRT. State health departments should be active in communicating these messages, American Academy of Pediatrics guidelines, and the research-base to providers.
Evaluating Workforce Attitudes: Implementation of Evidence Based Practice (Medication Assisted Treatment) Into Standard Drug Treatment for Opioid Users
Anthony T. Estreet, PhD, LCSW-C, LCADC - Morgan State University

Background: The significant increase in prescription opioid use disorders has become a major public health problem. It is imperative that treatment professionals and programs understand the benefits of medication assisted treatment in helping to reduce continued use and relapse within standard treatment. Objective: The purpose of this study was to examine the clinical staff attitudes towards the implementation and utilization of medication assisted treatment, specifically (1) buprenorphine, (2) naltrexone, and (3) extended release naltrexone to treatment opioid use disorders. Methods: A mixed-methods approach was utilized to gather semi-structured and quantitative surveys from baseline assessment (n=60) and then again 3-months later at follow (n=52). Participants for this study were identified as staff that had direct interaction with patients at the treatment facility. Data was analyzed using SPSS and included descriptive statistics and analyses of variance. NVivo software was used to analyze codes in the qualitative data regarding attitudes about medication assisted treatment. Results: Analysis of variance suggests statistically significant differences in staff attitudes towards the use of MAT. Staff knowledge about the use of MAT increased in for each medication: buprenorphine (36% to 74%), naltrexone (38% to 62%), and extended release naltrexone (27% to 59%). There was also an increase among staff in recovery with regards to utilization of MAT (29% to 54%). Staff also indicated increasing support on MAT by coworkers (21% to 61%) and leadership (43% to 88%). Lastly, there was an overall increase in likelihood to be supportive of MAT for clients (38% to 79%) currently in treatment indicating an overall increase in supportiveness of MAT into standard drug treatment. Qualitative analysis of data indicated several themes of importance regarding the use of MAT and recovery: (1) ongoing clinical counseling in addition to MAT, (2) time-limited to avoid dependency, (3) peer recovery/12-step involvement. Conclusions: Findings from this study indicate the ongoing importance of staff education and "buy in" to effectively implement and utilize medically assisted treatments in standard clinical practice.

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Organizational Determinants of Recommended Drug Testing Practices in Methadone Maintenance Programs
Tae Woo Park, MD, MSc; Susan Ramsey, PhD; Donna Wilson, MD; Peter Friedmann, MD, MPH - Rhode Island Hospital and Brown University

Background: Regular and random drug testing is required in methadone maintenance programs by US federal regulations. Monitored testing is recommended either by direct observation, temperature testing or other methods. Objective: To examine methadone program characteristics associated with recommended drug testing practices in methadone maintenance programs. Methods: Program directors and clinical supervisors from a nationally representative panel of 164 methadone maintenance programs in the US were surveyed in 2013. The dichotomous outcome was whether the program followed all of the recommended drug testing practices: 1) at least 8 tests a year, 2) random tests, and 3) monitored tests by direct observation or temperature testing. We used multivariable regression to test associations between program characteristics and our outcome. Results: Among the 164 methadone maintenance programs surveyed in this study, 44 (27%) did not follow recommended drug testing practices. Having a higher proportion of unemployed patients was associated with decreased odds of following recommended testing practices (adjusted odds ratio [AOR]=0.94, 95% CI 0.91-0.98) and a higher proportion of patients with co-occurring substance use and psychiatric disorders was marginally associated with increased odds (AOR=1.02, 95% CI 1.00-1.05). Greater treatment intensity, measured by mean counseling hours per week, and programs managed by those with little or no belief in the effectiveness in 12-step programs were associated with increased odds of following recommended testing practices (AOR=1.02, 95% CI 1.01-1.03 and AOR=11.83, 95% CI 1.70-82.19, respectively). Conclusions: More than a quarter of methadone maintenance programs surveyed in this study did not follow recommended drug test practices. A combination of factors related to case mix, treatment intensity, and assessment of 12-step effectiveness among program managers may influence how closely programs follow official recommendations for drug testing in methadone maintenance programs.
Using Case Studies to Teach SBIRT in an Online Format
Cheri Barber, DNP, RN, CRNP; Heather Gotham, Sarah Knopf-Amelung - UMKC

Background:
- Each Student is given a scenario/case study for the part they will play
- The Groups are given a few minutes to go over their individual parts
- Information is given on an adolescent 13-19 years of age who may or may not have tried drugs and/or alcohol
- The practitioner then goes through the SBIRT adolescent algorithm
- A discussion will take place between the patient and practitioner utilizing the SBIRT information about drug and alcohol use

Learning Objectives:
- Students will utilize SBIRT screening methods
- Students will role play using brief intervention methods
- Students will understand when the need for referral for treatment is necessary
- Debriefing after each role play with questions

Case Presentation: Adolescent SBIRT Role Play
For the Practitioner: The Practitioner student is given a scenario about a female who presents for a well-check. Her mother is with her in the exam room. The practitioner will begin to administer the Adolescent SBIRT Opening Questions and proceeding through the algorithm.
For the Patient: The student/patient is given a scenario about a female who presents to the office for a well exam and her mother is sitting in the exam room with her. A description is given to the student/patient as to how to answer the questions with and without the parent in the room.
Role plays will be done so that each student is allowed to participate as the Practitioner and as the Patient.

Discussion:
- Students shared in their evaluations that the time allotted was sufficient
- Skills improved from one scenario to the next
- Students felt more comfortable with their ability to utilize SBIRT skills in primary care, after role playing
- Concerns arose with time allotted during a well/sick visit to integrate SBIRT skills
Primary Faculty/Pediatric Nurse Practitioner allowed time for further discussion on how she integrates SBIRT into her practice

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Transition from Prescription Opiate Use to Intravenous Heroin Use in Adolescents
Gabriella Barnett, MA; Hoa Vo, PhD - Mountain Manor Treatment Center

**Background:** Recent increase in prescription opioids (PO) use among adolescents leading to intravenous heroin use is concerning due to severe developmental and psychosocial consequences. **Objective:** The present pilot examines associations between gender and presence of romantic partner and WMI in relation to IV initiation. **Methods:** Participants were taken from a convenience sample of 76 youths admitted to inpatient opioid detox. Romantic Partner Presence was identified through a self-report questionnaire, Romantic Partner Questionnaire (RPQ) while WMI was assessed using subscales on the WAIS-IV (Digit Span and Arithmetic) and WISC-IV (Digit Span and Letter-Number Sequencing). Length of time from initial prescription use to initial injection heroin use was identified through a Drug History Matrix (DHM), with length of time measured in days between first uses. Both the RPQ and the DHM were created specifically for the purposes of this study. **Results:** Female adolescents (64.6%, n=31) are more likely than male adolescents (35.4%, n=17) to initiate opioid use in the presence of a romantic partner, $\chi^2(1, N=76) = 15.49, p <.05$). Despite gender impacting partner presence at the time of initiation, partner presence does not seem to have an impact on length of time from first prescription opioid use to first injection heroin use ($F=.565, p=.571$). In addition, WMI has a trending negative correlation with length of time from first prescription opioid use to first injection heroin use ($r=-.16, n=75, p=.16$). **Conclusions:** Romantic partner presence is a factor that influences female adolescents' initiation into opioid use, although neither romantic partner presence nor WMI is adequately associated with length of time from initiation of prescription opioids to initiation of injection heroin.
Expanding Buprenorphine Treatment and Residency Education in Response to an Opioid Abuse and Overdose Epidemic in Contra Costa County
Kenneth Saffier, MD; Lisa Rodelo, MD; Rohan Radhakrishna, MD, MPH; Stephen Merjavy, MD; Christy Martinez, MD - Contra Costa Health Center

Background: There is a U.S. public health opioid overdose emergency that claimed over 16,000 lives in 2013. Every week in 2014, nearly 2 people died of overdoses in Contra Costa County and the majority involved opioids. Since 2000, federal legislation (DATA 2000) allows DEA waivered physicians to prescribe buprenorphine, a partial opioid agonist that can eliminate opioid craving and can be offered in out-patient settings. However, only 3% of primary care physicians have DEA waivers to prescribe this medication. The challenge for residency programs is to develop educational and clinical opportunities to train a new generation of doctors and their faculty to prescribe buprenorphine/naloxone (bup/nx), an evidence-based medication assisted treatment (MAT). Objective: 1. To increase opioid addiction treatment by increasing DEA waivered MDs to meet increasing patient demand for medication assisted treatment (MAT) with bup/nx. 2. To increase resident education in opioid use disorders and prepare them for future practice. Methods: Target population: Patients with opioid use disorders who seek bup/nx treatment and their providers, family medicine residents, faculty and primary care physicians at Contra Costa Regional Medical Center and Health Centers. Services were progressively expanded to meet increasing demand: most patients seen in monthly group visits, increased to 3 clinics sites, DEA waiver courses offered on-site to increase capacity. Educational interventions included R-1 and R-2 residents spending 4 half day sessions in buprenorphine treatment clinics. They were surveyed to determine their plans to get DEA waivers. Results: Monthly patient volume increased approximately 60% over 3 years. 29 PCPs have DEA waivers from 3 annual trainings, and 74% of residents have or plan to get their waivers before graduation. Plans are being implemented to increase staff and clinics. Conclusions: By providing buprenorphine treatment for opioid addiction, we are educating residents, faculty, residency leadership and administration to expand opioid addiction services in response to our epidemic of opioid abuse and overdose deaths. Life-saving MAT with buprenorphine is invaluable to engage patients, residents and faculty, demonstrating how opioid use disorders can be successfully treated. Our program is one model for integrating primary care and buprenorphine treatment for opioid addiction.

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Performance in Practice Completion: its Impact on Physician Practice Improvements and Perceptions of Person-Centered Care
James Ford, PhD; Karen Oliver, PhD; Kathryn Cates-Wessel; Miriam Giles; Dean Krahn, MD; Frances Levin, MD - University of Wisconsin-Madison

Background: Physicians' board certified the American Board of Medical Specialties (ABMS) are expected to demonstrate commitment to improving the quality of patient care and meet ABMS standards. Once certified, physicians maintain medical specialty expertise by participating in a robust continuous professional development program. The ABMS Program for MOC, specifically the Part IV: Improvement in Medical Practice, utilizes the Performance-in-Practice (PIP) model that enables physicians to develop and maintain necessary skills and knowledge to effectively respond to patients' needs. Objective: This study evaluated the effectiveness of two PIPS (Smoking and Alcohol) on physician practice improvements and perception about patient centered care. Methods: AAAP members participated in a collaborative to evaluate the Smoking and Alcohol PIPs. Measures included an assessment of patient centered care (PCC), change competency, and satisfaction. A pre-post review of five charts utilizing a set of clinical measures allowed each physician to assess practice pattern changes. A paired sample T-test or Wilcoxon signed rank sum test evaluated the impact of PIP completion on these outcomes. Results: PIP completion improved physician’s perceptions about their own change competency and ability to conduct QI projects (Δ=0.371, t=3.16, p=0.005); and efforts to integrate patient family and friends into the care process (Δ=0.273, t=2.27, p=0.033). Physicians agreed that they would continue to use strategies learned and recommend the PIP to their peers. Smoking PIP results (n=44) indicate that physicians improved efforts to ask and/or document information for five of the six clinical measures. The exception was asking about tobacco use. Each physician selected one or more measures for the focus on their PIP efforts. Frequently mentioned measures were documentation of: (a) tobacco use in treatment plan; (b) motivation level and readiness for change; and (c) providing counseling/information. Examples of implemented practice changes will be discussed. Conclusions: Results suggest that PIP completion improves physician perceptions about person centered care, change competency and improves practice patterns. Further research is required to understand how the PIP process benefits patients and physicians and whether improvements spread within the practice. Findings could suggest how to tailor an approach to assist physician efforts to achieve quality clinical outcomes for their patients.
The Relationship between Intrinsic Motivation and Neurocognition in Individuals with Schizophrenia and Comorbid Substance Use Disorders  
Amber L. Bahorik, PhD; Courtney Queen, MSW - University of California, San Francisco

Background: Deficits in intrinsic motivation (IM) and neurocognition lead to functional consequences in schizophrenia. However, little is known about relations between IM and neurocognition for those with comorbid substance use disorders (SUDs) and schizophrenia.  

Objective: To examine whether IM predicts neurocognitive improvement in schizophrenia and comorbid SUDs, and whether this relationship varies by subgroups distinguished by SUD.  

Methods: Five hundred thirty five (n = 119 alcohol use disorder; n = 183 SUD; n = 233 alcohol/SUD) adults with schizophrenia and comorbid SUD completed a neuropsychological battery at baseline of the Clinical Antipsychotic Trials of Intervention Effectiveness. IM was measured by summing two items (purpose and motivation) of the Quality of Life Scale. Mixed-effects models examined relations between IM and neurocognition (composite/subdomains: vigilance, verbal/working memory, reasoning, and processing speed). Hochberg’s correction adjusted for multiple inference testing.  

Results: In the overall sample, a significant positive prediction of neurocognition composite scores was observed by IM scores (corrected, p < .001). This pattern of significant results was observed across all neurocognition scores by IM scores (all corrected, p < .004), except no significant positive prediction of reasoning scores was observed by IM scores (corrected, p = .219). Variability in this pattern of results was observed across SUD subgroups. No significant positive prediction of neurocognition composite or subdomain scores was observed by IM scores in the alcohol/SUD subgroup (all corrected, p > .090). Such a pattern of null results was also observed in the alcohol disorders subgroup for relations between IM and neurocognition composite/subdomain scores (all corrected, p > .143), except a significant positive prediction of processing speed scores was observed by IM scores (corrected, p = .020). Finally, in the SUD subgroup, all relations observed between neurocognition composite/subdomain scores and IM scores were statistically different from 0 (corrected, p < .021), except no significant positive prediction of reasoning scores was observed by IM scores (corrected, p = .475).  

Conclusions: IM is a salient predictor of neurocognitive improvement in schizophrenia and comorbid SUD, but neurocognitive outcomes tend to vary by SUD diagnosis such that the SUD subgroup largely accounted for the positive prediction of neurocognition composite/subdomain scores by IM scores.
Examining the Differences between Adults Over 50 and Younger Adults in Treatment for Co-Occurring Substance Abuse and Mental Health Disorders

Siobhan A Morse, MHSA, CRC, CAI, MAC(1); Susie Adams, PhD(2); Brian E. Bride, PhD, MPH; Samuel MacMaster, PhD; Cayce Watson, MSW - (1) Foundations Recovery Network (2)Vanderbilt University

**Background:** High rates of substance abuse have been identified among adults age 50 and older, a population that will increase to over 3 million by 2020. In addition to high rates of substance use disorders, older adults often present with mental health issues that further complicate the diagnosis, treatment, and referral process. Due to a paucity of research, little is known about how older and younger adults seeking treatment for co-occurring disorders may differ on important variables. **Objective:** The purpose of this study was to examine differences between older (50+) adults and younger adults in residential treatment for co-occurring disorders on demographic and baseline characteristics, as well as predictors of retention in treatment. **Methods:** The study included 1400 adults who received integrated substance abuse and mental health treatment services in two private residential facilities. Initial analyses consisted of basic descriptive and bivariate analyses. Next, we examined the influence of baseline characteristics on length of stay using ordinary least squares regression. Lastly, we compared subsamples of older opiate users to younger opiate users. **Results:** Older adults were found to have higher alcohol and problem severity in the medical and alcohol domains and less illicit drug use and fewer problems in the drug, legal, and family/social domains. Older adults remained in treatment for a shorter period of time than younger adults and LOS was predicted by a different pattern of variables in older adults and younger adults. Older adults’ LOS was predicted by internal factors while younger adults’ LOS was influenced primarily by external factors. These results were fairly consistent in the opiate using subpopulation as well. **Conclusions:** This study adds to the limited knowledge base regarding older adults receiving integrated treatment for co-occurring substance use and mental health disorders. As the potential number of older adults needing treatment increases, this information can provide valuable insight to support program planning those older adults seeking residential substance abuse and mental health treatment.

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Background: Cocaine dependence remains a serious problem throughout the United States and in many parts of the world. The National Drug Abuse Treatment Clinical Trials Network initiated the multi-site Cocaine Use Reduction with Buprenorphine study in cocaine-dependent opioid users. Participants received extended-release injectable naltrexone (XR-NTX) and were randomly assigned to 16mg/day buprenorphine/naloxone (BUP16), 4mg/day BUP (BUP4) or placebo (PLB) to assess the effect of BUP on cocaine use. Objective: Our aim is to examine results of a study treatment satisfaction survey and whether treatment satisfaction was associated with treatment retention or study outcomes. Methods: A 9-item treatment satisfaction survey was administered to participants at the end of the 8-week study. Items assessed psychological and pharmacological satisfaction with treatment, with responses on a 5-point Likert scale. Results: 278 participants (92%) completed the survey. Most (68%) reported being very satisfied with their overall experience in the study, and 84.9% reported they would definitely participate again if given the opportunity. Given the high rate of overall satisfaction reported, survey responses were dichotomized to examine the association between overall satisfaction, treatment outcome and retention. Overall satisfaction was not associated with retention, although it was associated with the number of cocaine-negative urine drug screens (UDS) during the evaluation period. Those who reported being "very satisfied" with their overall experience had higher number of cocaine-negative UDS than those satisfied, neither satisfied or dissatisfied, dissatisfied, or very dissatisfied, but those who found: 1) medications "very helpful", 2) counseling "very helpful" and 3) overall treatment "very helpful" also had significantly higher number of cocaine-negative UDS (all significant at P < .05). No difference in overall satisfaction was found between the BUP groups and the PLB group. Conclusions: Satisfaction with treatment provided is an important component in research. Including a satisfaction measure provides an unspoken message that participants' opinions are valued. Furthermore, examination of treatment satisfaction can shed light on study outcomes. In this trial participants who reported higher satisfaction had less substance use in the last 4 weeks of the study. These results not only elucidate study findings but may inform future research efforts as well.
Preference for Buprenorphine/Naloxone Sublingual Tablet versus Sublingual Film in Opioid-Dependent Patients
Erik Gunderson, MD, FASAM; Michael Sumner, MB, BS, MRCP(UK) - University of Virginia

Background: Characteristics of taste and mouthfeel with sublingual buprenorphine/naloxone (BNX) formulations may impact patient preference and treatment adherence.
Objective: To assess patient acceptability of a higher-bioavailability BNX sublingual tablet versus BNX sublingual film in opioid-dependent patients participating in a prospective, randomized, multicenter, parallel-group, active-controlled, noninferiority trial.
Methods: The study was designed to assess induction with BNX tablet versus generic buprenorphine (BUP), and stabilization versus BNX film. On days 1-2, patients received a blinded fixed-dose BNX tablet (5.7/1.4 mg and 5.7/1.4 or 11.4/2.8 mg, respectively) or BUP (8 mg and 8 or 16 mg, respectively). On days 3-14, patients induced with BNX tablet received open-label titrated doses of BNX tablet (maximum dose, 17.1/4.2 mg); patients induced with BUP switched to BNX film (maximum dose, 24/6 mg). On day 15, patients receiving BNX film switched to BNX tablet; patients taking BNX tablet switched to BNX film. Patients rated drug attributes of the BNX formulations after treatment on days 3 and 15, and before treatment on days 15 and 22. Formulation taste, mouthfeel, and overall acceptability were measured on a visual analog scale (VAS; 0=extremely unpleasant; 100=extremely pleasant). Ease of administration was measured using a VAS (0=extremely easy; 100=extremely difficult). Patients rated attribute preferences using a questionnaire and data were compared using McNemar's test.
Results: On day 22, more patients preferred the BNX tablet for taste, mouthfeel, and ease of administration (78%, 73%, and 72%, respectively; P<0.0001). Overall preference for the BNX tablet received significantly higher ratings vs BNX film (70% vs 30%, respectively; McNemar test rating = 40.32; P<0.0001). Conclusions: Regardless of initial therapy, opioid-dependent patients experienced with both BNX sublingual tablet and film preferred the higher-bioavailability BNX sublingual tablet. The impact of patient preference on patient compliance and long-term patient outcomes requires further study.
Background: Beliefs related to the etiology of substance use disorders are an important area of research because they may influence treatment staff decisions regarding appropriate interventions as well as their perceptions about the people receiving treatment. Moyers and Miller (1993) identified four belief models related to substance use. These include the disease, the psychosocial, the moral/spiritual, and the eclectic models. These models have been operationalized and used extensively in research. Another concept that has been examined in the literature is clinical self-efficacy or the belief that one can competently carry out a specified set of actions to achieve a goal. Objective: The purpose of this presentation is to explore the relationships between understanding of substance use disorders and changes in clinical self-efficacy among a sample of professional social workers and nurses. Methods: The data for this study are taken from an evaluation of a Screening, Brief Intervention and Referral to Treatment (SBIRT) program conducted jointly by social work and nursing faculty. Social workers and nurses were invited to participate in a survey that was completed prior to and immediately after attending an all day workshop on substance abuse issues. A total of 137 social workers and nurses completed the surveys. The instrument contained four measures on understanding substance abuse disorders: (1) disease; (2) psychosocial; (3) moral/spiritual and, (4) eclectic models and one measure of clinical self-efficacy. The analytic strategy was to first examine differences between pre and post test scores and secondly, to regress the difference in self-efficacy scores on the models to determine which models are predictive of change in self-efficacy. Results: The findings showed statistically significant differences on the pre-post comparisons on each of the major variables. The regression analysis showed that positive change in clinical self-efficacy was related to a decline in scores on the disease model and an increase in scores on the psychosocial model. Conclusions: It is important to take into consideration clinicians basic views of substance use in developing education programs for enhancing clinician skills.
Aerobic Kickboxing Training for Substance Abuse Rehabilitation in Hong Kong
KW Lai, MS, PT; YC So, MS, PT; F Chan, MBChB, FHKCPsych; YL To, MS, PT; KC Chow, MS, PT; WS Chung, MBChB, FHKCPsych; CY Man, MBChB, FHKCEM - North District Hospital

Background: Strong evidence had proven the positive effect of exercise therapy for illicit drug abusers. However, the effectiveness of well-structured exercise for substance abusers in Hong Kong was unknown. Objective: To evaluate the effect of exercise for physical fitness, cognitive function, mental health and relapse prevention for rehabilitees in Drug Treatment and Rehabilitation Centers in Hong Kong. Methods: After the baseline assessments of physical fitness, cognitive function, mental health and relapse risk, subjects were assigned into exercise or control group by convenience sampling. Exercise group received an 8-week aerobic kickboxing training (2 sessions/week) before the post-evaluation. For control group, re-assessment was conducted 8 weeks after the baseline assessment. Results: From September 2013 to March 2015, 100 female subjects (mean age = 22.7±3.6 years) were assigned into exercise (n=50) or control group (n=50). Poly-substance abusers accounted for 69%. Among all subjects, 75%, 39% and 33% were ketamine, cocaine and methamphetamine abusers respectively. For the demographic and baseline assessments, no significant difference between groups was found. In the post-evaluation, exercise group performed significantly better than control group in peak flow rate (p=0.032), cardiovascular fitness (p=0.042), push-up test (p=0.039), sit-and-reach flexibility test (p=0.005) and hexagon jump test (p=0.040). For subjects with central obesity, the post waist circumference was significantly lower in exercise group than control group (p=0.040). For overweight or obese subjects, there was no significant change in post body mass index and body weight in exercise group but significant increase in control group (p=0.002). For cognitive function, significant improvements in episodic memory (p=0.032), visual sustained attention (p=0.003), spatial planning and motor control (p=0.001) were shown in exercise group but not in control group. For mental health, the post Beck Depression Inventory (BDI) was significantly lower in exercise group (p=0.033) than control group for subjects with moderate or severe depression symptoms (baseline BDI>18). For relapse prevention, significant improvements in Stimulant Relapse Risk Scale and contemplation stage were illustrated in both groups. Conclusions: Aerobic kickboxing training was proven to be an effective adjunct therapy for female substance abusers under rehabilitation in terms of physical fitness, cognitive function and mental health in Hong Kong.
Characteristics Associated with Trait Mindfulness among Marijuana-Using Youth
Meredith Kells, MSN, RN, CPNP; Beatrice Duvert, BA; Pamela Burke, PhD, RN; Matthew White, PhD; Vishnu Sarda, MS; Lydia A. Shrier, MPH, MD - Northeastern University

Background: Mindfulness training is a growing area of focus in substance use interventions. Trait mindfulness, the dispositional tendency to be aware of present-moment experience, may also influence the effectiveness of momentary interventions, which assess and intervene on momentary experiences in the natural environment. Objective: To describe trait mindfulness in a sample of youth who use marijuana frequently and examine associations with demographic characteristics and marijuana use history. Methods: Youth who used marijuana at least three times per week, ages 15-24 years, enrolled in a pilot randomized trial of the Momentary Self-Monitoring and Feedback + Motivational Enhancement Therapy (MOMENT) intervention to reduce marijuana use (N= 53). Participants completed a computerized baseline assessment that included age, sex, marijuana use history, problems with use (Problem-Oriented Screening Instrument for Teenagers-substance use/abuse subscale, yes/no to 17 problems assessed specifically for marijuana), and the Mindful Attention Awareness Scale (frequency of 15 items representing trait mindfulness, each scored 1-6). Descriptive and bivariate statistics appropriate for the variable distributions were performed to examine associations with trait mindfulness score. Results: The sample had a mean age of 20.9±1.8 years, was 64% female, had been using marijuana for a mean of 5.6±2.5 years, and had a median of 3 problems with marijuana use. The mean age of using marijuana frequently (≥ 3x/week) was 17.15±2.44. More than half (55%) had attempted to quit marijuana at least once (range 0-24 times). Mean trait mindfulness score was 2.9±1.1 (range 1-5). Greater trait mindfulness was associated with more problems with marijuana use (ρ = .35, p = .01). None of the associations with other use or demographic characteristics were significant. Conclusions: Youth using marijuana frequently who had higher trait mindfulness reported more problems with marijuana use. This association may need to be accounted for in examining momentary intervention effects. Future research is needed to determine the temporal and causal nature of the observed associations, for example, whether the tendency to be mindful results in increased awareness of problems with use or if increased awareness of feelings or experiences that result in more problematic use.

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Young People's Motivations for Reducing Marijuana Use: Are They Ready, Willing, and Able?
Pam Burke, PhD, RN(1,2); Meredith Kells, PhD(c), RN, CPNP(1); Beatrice Duvert, BA(1);
Matthew White, PhD(1); Vishnu Sarda, MS(1); Lydia A. Shrier, MD, MPH(1) - (1)Boston
Children's Hospital; (2)Northeastern University

Background: Motivational interviewing (MI) for substance use frequently includes discussion of readiness, confidence, and importance of behavior change. Objective: To examine the associations between readiness to change marijuana use and the importance and confidence for making the change among youth who use frequently. Methods: Youth age 15-24 who used marijuana >3x/week enrolled in a pilot randomized trial of MOMENT, a motivational counseling plus mobile intervention to reduce marijuana use among primary care patients. Youth who completed the counseling sessions (n=34) rated their readiness to reduce/quit using marijuana (stage of change: precontemplation, contemplation, determination, action, maintenance; the latter 3 categories were combined for analysis), importance of change (0-9) and confidence to change (0-9). Associations of stage of readiness to reduce/quit use with importance and confidence, demographic characteristics, years of use, use frequency/week, and problems with use (0-17) were analyzed using parametric and non-parametric ANOVA with post-hoc pairwise comparisons. Results: Participants were a mean of 20.9+1.7 years old and 65% female, and had used marijuana for a mean of 5.2+2.1 years. Median use frequency was 9x/week and median number of problems with use was 3. Mean importance was 6.6+2.0, mean confidence was 7.4+1.4. Most were in precontemplation (n=12, 35%) or contemplation (n=13, 38%). Youth in precontemplation rated importance significantly lower than those in contemplation or further stages of change (5.2 vs. 7.0 and 7.8, respectively, p=.006). Youth in contemplation rated their confidence significantly lower than those in precontemplation or further stages (6.5 vs. 7.7 and 8.1, respectively, p=.008). Youth in contemplation reported significantly more problems associated with use than those in precontemplation (median 6 vs. 1, p=.01). Conclusions: Young frequent marijuana users contemplating reducing/ quitting use rated importance of change as higher, but their confidence to make change as lower, compared to those in precontemplation. Youth in contemplation vs. precontemplation also reported more problems with use. Understanding how problems with marijuana use and motivation to reduce use relate to stage of change can help to inform interventions.
Mean Dose Distribution of Sublingual Buprenorphine/Naloxone Tablets in Opioid-Dependent Adults
Michael Sumner, MB, BS, MRCP(UK)(1); Erik Gunderson, MD, FASAM – (1)Orexo US, Inc.

Background: A higher-bioavailability buprenorphine/naloxone (BNX) sublingual tablet was approved for maintenance treatment of opioid dependence in 2013. Objective: To evaluate buprenorphine dose distribution with sublingual BNX tablet and film formulations using data from the prospective, randomized, multicenter, parallel-group, active-controlled noninferiority Induction, Stabilization, Adherence and Retention Trial (ISTART). Methods: Induction was evaluated on days 1 and 2 with a fixed dose of BNX tablet (5.7/1.4 mg and 5.7/1.4 or 11.4/2.8 mg, respectively) versus generic buprenorphine (8 mg and 8 mg or 16 mg, respectively) in opioid-dependent adults. On stabilization days 3-14, patients induced with BNX tablet received open-label titrated doses of BNX tablet (maximum dose, 17.1/4.2 mg); patients induced with buprenorphine switched to BNX film (maximum dose, 24/6 mg). Co-primary efficacy endpoints were retention in treatment at days 3 and 15. On day 15, treatments were switched using a fixed conversion factor (5.7 equivalent to 8 mg) based on corresponding dosage strengths of BNX tablet and film. Results: A total of 758 patients were randomized to induction with BNX tablet (n=383) or buprenorphine (n=375). Noninferiority based on treatment retention rates was established at days 3 and 15. Mean buprenorphine doses on day 3 were 10.9 mg and 14.6 mg for patients receiving BNX tablet and BNX film, respectively. Mean buprenorphine doses on days 15, 22, and 29 in the BNX tablet and film groups were 10.8 mg and 15.9 mg, 11.3 mg and 16.0 mg, and 10.3 mg and 16.0 mg, respectively. A greater percentage of patients in the BNX film group required the maximum 24/6-mg dose on days 15, 22, and 29 (11.6%, 21.2% and 26.9%, respectively) versus patients in the BNX tablet group who required the 17.1/4.2-mg maximum dose (8.9%, 14.6%, and 9.3%, respectively). The mean buprenorphine dose for BNX tablets was 22%-36% lower than BNX film throughout the study. Conclusions: Comparable efficacy of BNX sublingual tablet with BNX sublingual film was achieved despite lower daily buprenorphine doses with the BNX tablet. This study provides practical evidence to guide clinical practice and ensure efficacious transition between BNX formulations.
Enhanced Smoking Cessation Services via On-Site Nicotine Replacement Therapy (NRT)
in an Opioid Treatment Program (OTP)
Melinda M. Katz, MD; Shomari M. Harris, MSW, EMPA, MA; Soteri Polydorou, MD; Markos
D. Emmanouel, MD; Ellie Grossman, MD, MPH - New York University

Background: Individuals with mental illness or substance abuse make up 22% of the US
population, yet account for 45% of tobacco-related deaths. Prevalence of smoking in substance
abuse treatment settings is 77%-93% nationally. The limited literature reveals that patients
enrolled in an opioid treatment program are motivated to quit smoking and are receptive to
interventions. Objective: 1. Promote interest in smoking cessation among patients and staff at
an opioid treatment program. 2. Provide patients with short-term access to free nicotine
replacement therapy. Methods: The program targets patients enrolled in an opioid treatment
program (N = 375) at an urban safety-net hospital. For this pilot initiative, a part-time staff
member approached patients, asked if they had smoked even a puff of a cigarette in the past 30
days, and if so, offered nicotine replacement therapy (NRT) patches on-site, provided
educational brochures about smoking cessation, and offered referral to the New York State
Smokers' Quitline. Results: Initial enrollment included 55 participants who received NRT. The
average number of cigarettes smoked per day was 14.5. Nine individuals (16%) used e-
cigarettes, 3 (6%) smoked hookah, and 6 (11%) used other forms of tobacco in the past 30 days.
Forty-eight (87%) previously attempted to quit smoking. Thirty participants were surveyed at
one-month follow-up. Twenty-one (72%) used the NRT patch from OTP, for an average of 11
days (range 0-28). Four patients used other quit-smoking medications (2 NRT gum, 2 unknown
medication). Patients reported smoking an average of 7 cigarettes per day (range 0-20), and a
majority (72%) reported a change in their smoking pattern. Many discussed quitting smoking in
the past month: 52% talked to their OTP counselor; 56% talked to family or loved ones; 44%
talked to other OTP patients; 33% talked to a health-care professional. Conclusions: Patients
enrolled in opioid treatment programs have high rates of tobacco use and are interested in
quitting smoking. Distribution of NRT on-site seems to correlate with a reduction in cigarette use
over a short-term time interval and was an effective means of engaging patients to work on
improving this health behavior.
Physicians Alcoholism & Other Addictions Training Course (PAAT)
Todd Whitmer, MS; Nicholas Pace, MD, FASAM; William Ciccaroni, MS, ACSW; Max Schwartzberg, MHC-LP, CASAC - Caron Treatment Center, NYU

Background: Many primary care physicians are not properly educated to recognize drug use disorders as a separate disease entity. They also do not recognize that it should be a part of their responsibility and that they should remain as case managers throughout the patient's treatment.

Objective: The program serves to train first-year medical residents to properly diagnose, treat, and refer chemical dependent patients. Methods: The target population is first-year primary care medical residents. The content includes volunteer AA members who serve as teaching buddies, overview of the medical and psychiatric complications, motivational interviewing techniques, and practice sessions. We evaluate the success of the program by utilizing the Wilcoxon Matched-Pairs Signed Ranks Pre-/Post-Test and analyzing the results.

Results: Pre/Post-Test Mean Value Analysis (N=175)
Recognize Common Signs of Addiction: Pre-Test Mean = 3.01, Post-Test Mean = 3.54, p-Value = <0.001
Recognize Common Physical Signs: Pre-Test Mean = 2.35, Post-Test Mean = 3.16, p-Value = <.001
Make Accurate Diagnosis of: Pre-Test Mean = 2.70, Post-Test Mean = 3.34, p-Value = <.001
Make an Effective Treatment Plan: Pre-Test Mean = 2.32, Post-Test Mean = 3.56, p-Value = <.001
I believe chemical dependency is a disease: Pre-Test Mean = 3.50, Post-Test Mean = 3.88, p-Value = <.001
I believe, in general, I would prefer not to work with the chemically dependent: Pre-Test Mean = 2.13, Post-Test Mean = 1.68, p-Value = <.000
Overall, how much of an impact do you believe, as a physician, you can have in helping people addressing their addictions: Pre-Test Mean = 3.03, Post-Test Mean = 3.46, p-Value = <.000

Conclusions: Most primary care physicians fail to understand that drug addiction is a separate disease entity that deserves to be a part of their responsibility to diagnose, treat, and properly refer, while remaining as case managers. The Physicians Alcoholism & Other Addictions Training Course (PAAT) encourages the outlook for successful long-term recovery from addictions by providing information, resources and beginning skills practice for effective screening, intervention, proper referral, counseling and medical treatment of drug use disorders. Wilcoxon Matched-Pairs Signed Ranks Test findings show that the PAAT changed the students' perception that rather than a deficiency in moral character, chemical dependency is a chronic relapsing medical disease. Students reported an increase in their ability to recognize common physical signs and symptoms of addiction, more confidence in assessing and accurately diagnosing chemical dependency, increased ability to make an accurate referral, and overall more willing to treat chemically dependent patients. PAAT is a method to improve medical physicians' skill sets and clinical abilities to better treat chemically dependent patients by altering negative perceptions. Acceptance of chemical dependency as a medical disease widens the physician students' responsibilities to provide proper case management and overall medical treatment.
Seaport Recovery Program: Tapering of Opioid Substitution Therapy using Group Support
Christina Holt, MD, MSc; Marybeth Leone Thomas, LCSW; David Loxterkamp, MD; Tim Hughes, MD - Maine Medical Center (Holt) and Seaport Family Practice

Background: In 2003, Seaport Family Practice treated their first patient with opioid addiction. Since then, this epidemic became rampant in Waldo County and the providers at SFP knew they needed to address this. Objective: To describe the strategy for recovery based treatment groups that this rural practice has developed and to discuss how implementation in treatment groups allows patients to heal from addiction in more than just the physical realm. Methods: SFP treats roughly one hundred individuals with opioid dependency in 8 support groups using buprenorphine and naloxone in combination to stabilize patients from their cycle of intoxication, withdrawal, and drug-seeking. Our clinical social worker provides behavioral health and serves as program director. All 9 primary care providers in the office have obtained the Suboxone waiver and actively participate in the Recovery Program. Two providers join each group of 8-12 patients for the 90-minute group, followed by individual sessions for those who need a prescription that evening. The program serves as the primary ambulatory treatment facility for a tri-county area.

Results: Five innovations make this program unique. We will discuss our approach and outcomes.
1. Group therapy that involves both clinicians and therapists, providing a peer group striving for sobriety and self-improvement.
2. Constant re-evaluation. We question the definition of addiction as a permanent, relapsing disease that requires lifelong treatment with a prescription drug.
3. Community support. We have added our support to a grassroots effort called WeCare that seeks to make recovery a visible and dignified presence in our community.
4. Self study and improvement. We will study the benefit of peer leaders in our recovery groups,
5. Mental health support. A psychiatrist works in our office 3 days a week.

Conclusions: Everything that an addict needs, we all need- self-respect, honest feedback, love, autonomy, purpose- and nowhere is it more painfully obvious, raw, and urgent. Ours is a fully integrated primary care addiction treatment program, something we are all proud to provide.

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117
Exploring Adolescent, Parent, and Provider Perspectives of Social Media as a Support Tool for Parents of Teens in Substance Abuse Treatment
Marya Schulte, PhD; Annemarie Kelleghan, BA; Sean Young, PhD, MS - University of California at Los Angeles

Background: Adolescent substance use disorder (SUD) contributes to numerous negative psychosocial and physical health outcomes in teens. Parents can better help their children address substance abuse problems and support treatment and recovery when they are equipped with adequate knowledge and skills. Empowering those parents who may need support themselves to overcome issues or barriers related to SUD may also help to improve adolescent outcomes. Online social media-based groups present a unique opportunity to reach parents in need that may not otherwise seek support due to either logistic (time, geography) or psychological (shame, guilt) barriers. Objective: This study investigates the perspectives of adolescents, parents, and substance abuse treatment providers in order to determine acceptability of such a modality (i.e., Facebook) and to identify key intervention components and preferred methods of content delivery. Methods: A total of 42 participants took part in separate focus groups, including one parent (n=11), one adolescent (n=12), and two provider (n=19) groups. All focus groups were audio taped and transcribed. Atlas.ti was used to analyze data. Results: Participants across groups expressed interest in a social media-based intervention/support group for parents. Although some providers questioned parental access to and use of such platforms, adolescents and parents reported parents' regular use of the internet and Facebook. In terms of content, all groups stated that teaching parent-child communication skills should be a primary intervention component. Providers identified emotional support and practical skill building through the use of real-life scenarios as key elements; parents and adolescents wanted methods for rebuilding trust. Specifically, teens wanted their parents to learn and practice better monitoring skills (e.g., praising accomplishments, "calling them out" for bad behavior). All groups believed that a variety of delivery formats would be useful to keep parents engaged, but providers cited group discussion as best. Conclusions: A social media-based intervention is likely to be well-received by parents as an additional resource and adjunct to their adolescent's treatment. Incorporating parent, provider, and teen perspectives into intervention design and implementation can help avoid gaps in information and skill-building needs.
An Examination of Substance Misuse in an Urban Elderly Sample
Emily Loscalzo, PsyD; Robert C. Sterling, PhD; Stephen P. Weinstein, PhD; Brooke Salzman,
MD - Thomas Jefferson University

Background: With the "Baby Boomer" generation now reaching older adulthood, substance abuse treatment providers find themselves needing to adapt to address the unique needs of this population (Gross, 2008). While light to moderate alcohol use is associated with positive factors such as lower incidence of non-insulin dependent diabetes in older adults (Djoussé, 2007), heavier drinking appears more problematic. Specifically, heavy drinking in adults ages 65 and over is strongly correlated with depression and anxiety, as well as decreased social support and subjective experience of poor health (Kirchner et al., 2007). However, while alcohol misuse has been shown to be predictive of a lower quality of life in older adults, the generalizability of these findings to urban dwelling, lower socioeconomic status individuals remains unclear.

Objective: To address this gap in research, and identify potential treatment needs of this population, a city-funded needs assessment was conducted. Methods: Subjects were 249 individuals (44% male) who voluntarily completed measures of quality of life (QOL), depression, and substance abuse. QOL was measured using the Psychological General Well-Being Schedule, while the Short Form of the Geriatric Depression Scale, which has high sensitivity and specificity with diagnostic criteria, was used to screen for depressive symptomatology (Sheikh & Yesavage, 1986). Questions probing for specific information regarding regularity of alcohol consumption from the Alcohol Use Disorders Identification Test (AUDIT) were used to identify heavy alcohol use (Bush et al., 1998). Results: Alcohol or substance abuse was reported by over 20% of respondents, with 3.4% of respondents engaged in potentially maladaptive alcohol use as evidenced by an AUDIT score of 7 or higher. An overall pattern of results suggesting that higher levels of alcohol use were predictive of psychological distress was observed. For example, scores on the AUDIT were predictive of increased depression ($r = -0.209, p = 0.01$), anxiety ($r = -0.201, p = 0.002$), and lower general well-being ($r = -0.154, p = 0.019$). Decreased self-control was also identified as an issue for this sample ($r = -0.157, p = 0.017$). Conclusions: This needs assessment reinforces findings from previous studies and addresses the added dimension of examining this urban, lower socioeconomic population.
Service Utilization Predicts Early Treatment Outcome in Medication-Assisted Treatment
Emily Loscalzo, PsyD; Robert C. Sterling, PhD; Stephen P. Weinstein, PhD - Thomas Jefferson University

Background: The behavioral health field in general, and the substance abuse treatment community in particular, have begun to embrace pay for performance (P4P) models, which financially incentivize clinical programs for engaging patients. A recent analysis found little support for such performance-based contracting for outpatient as well as intensive outpatient (IOP) services (Brucker and Stewart, 2011). Objective: In response to the city of Philadelphia's introduction of a P4P program, the present study was conducted to identify 1) whether factors predictive of early service utilization could be identified, and 2) if the intensity of early treatment experiences predicted early outcome. Methods: The data for these analyses were drawn from 31 opiate addicted individuals who met criteria as requiring IOP services. The majority of subjects were male (61.3%), Caucasian (60%), and unemployed (90.3%). The average admission age was 36.16+9.66 years. The IOP level of care carries an expectation of nine hours of attendance per week for a period of 16 weeks. Early service utilization (weekly attendance hours per month) was computed for each subject. The proportion of urine drug screens positive for opioids, cocaine, benzodiazepines, and marijuana was calculated and served as the primary outcome measure. Results: On average, participants utilized approximately 50% of assigned services with average weekly utilization equaling 4.97+1.87 hours. Regression analyses, while not reaching traditional levels of significance (p = .11, r2 = .21), point to the possible role of gender (p = .06) and PTSD CheckList - Civilian Version (PCL-C) assessed trauma history (p = .08) as predictors of early service utilization. Regarding the impact of service utilization intensity, it was observed that greater use of services was related to a decrease in the proportion of urine screens positive for opiates (r = -.34, p = .08) as well as cocaine (r = -.35, p = .07). Conclusions: While based on a limited sample, the present study represents one of the first attempts at evaluating the validity of P4P criteria on a medication assisted treatment population. Given the benefits of early treatment engagement (i.e., reductions in opiate and cocaine use), the need to identify factors predictive of poor attendance remains paramount.
Treatment of Opioid Addiction with Buprenorphine in a Department of Veterans Affairs Setting: Retention and Outcomes at 2 Years
Paul Donaher, MD; Samantha Brothers, BS; James Murphy, BS; Dianne MacNamera, RN; H. Kenney Basehore, PhD - Department of Veterans Affairs

Background: Opioid abuse is common in the military veteran population. We sought to examine factors associated with treatment retention and abstinence from opioid abuse in Veterans utilizing buprenorphine-assisted treatment at 3-, 6-, and 24-month time points. Objective: We recorded psychological and socio-demographic characteristics for Veterans initiating buprenorphine treatment at a single Department of Veterans Affairs (VA) Medical Center, and evaluated associations with treatment retention and remission of symptoms at three time points following buprenorphine induction. Methods: We utilized the VA computerized patient record system to perform retrospective record review of all patients initiating buprenorphine treatment for opioid abuse between 2008 and 2014. Demographic and psychosocial characteristics were evaluated for association with treatment retention and with remission of opioid abuse. We used logistic regression models to determine factors significantly associated with continuous retention in buprenorphine-assisted therapy and, separately, with clinical outcomes consistent with recovery objectives. Results: In retrospective analysis of the 334 patients enrolled in our buprenorphine treatment program from 2008-2014, psychosocial factors including depression and anxiety were associated with treatment retention and with the percentage of patients remaining in recovery. Patients residing in VA-supported housing located on a medical center campus, for which abstinence from illicit drug use was a mandatory requirement, were significantly more likely to remain in buprenorphine therapy and had improved remission rates. Treatment retention was defined as uninterrupted prescription of buprenorphine with no evidence of illicit opioid use by patient self-report or random urine drug screen, and recovery outcomes were indicated either by retention in buprenorphine therapy or having been successfully tapered off with no evidence of relapse. Conclusions: Rates of retention in buprenorphine treatment and remission rates of opioid addiction for Veterans treated at one VA medical center were comparable to rates published in literature from non-VA settings. Our finding that remission was associated with abstinence-contingent housing suggests the importance of further investigation on how incentives or drug-free environments impact treatment success.
Parenting Education Workshops for Pregnant Women in Substance Abuse Treatment for Opioid Dependence in an Ambulatory Clinic
Kyla Fallin, MSW; Whitney Mendel, MSW; Richard Blondell, MD; Thomas Nochajski, PhD - University at Buffalo

Background: In 2006, when a number of pregnant and parenting mothers struggling with opioid dependence and seeking treatment was on the rise, a team of physicians, and child welfare training professionals started to work collaboratively with the aim of educating case workers about opiate use, in addition to addressing the unique needs of this population. The collaboration has evolved to explore the feasibility and effectiveness of a combined medically-assisted substance abuse treatment, specifically the use of Buprenorphine, in addition to a psycho-educational parenting intervention as a legitimate option to abstinence-only treatment, which has the potential of defining an alternative treatment program to child welfare service plans.

Objective: The purpose of the study was to assess the effects of a brief parenting education workshop on parenting attitudes, knowledge, and self-efficacy, for women who were pregnant, or parenting children under the age of 5, and seeking substance abuse treatment for opioid-dependence at an ambulatory addiction medicine clinic. Methods: Quantitative baseline data included patient and paternal demographics, and childhood experiences of care and abuse, parenting self-efficacy and parenting beliefs. Qualitative measures included feelings toward pregnancy, community supports, and feedback from the parenting education group. Women who were pregnant reported on neonatal outcomes after delivery. Thirteen pregnant and/or parenting mothers raising children under the age of 5 participated. Results: A high number of women experienced physical abuse and/or unwanted sexual experiences prior to age 17. Results from pre and posttest measurements showed little change from baseline to post-test data for parenting self-efficacy and parenting beliefs. However, attendance in group was not consistent. Results indicated that travel distance and life circumstances influenced attendance. Furthermore, despite the lack of change in the measures, the women did find the group useful as a support mechanism for pregnancy and parenting. Conclusions: Findings imply that there were many barriers and challenges in implementing a multidisciplinary treatment model, adding a parent education group in an ambulatory addiction medicine clinic. Due to several limitations in this study, further research is warranted.
Key Content for Graduate Courses on Adolescent Substance Abuse Treatment: Examining Perspectives of Front Line Clinicians
Stella M. Resko, MSW, PhD; Suzanne Brown, PhD; Antonio Gonzalez-Prendes, PhD; Sean McGraw, MSW; Bryan Victor, MSW; Debra Patterson, PhD - Wayne State University

Background: Front-line clinicians deliver the majority of substance abuse treatment in the U.S. Research has shown that clinicians' can impact the adoption and implementation of evidence-based treatments as well as treatment outcomes. Understanding treatment providers' perspectives can provide key insights that differ from the views of clients, administrators, policymakers, educators and researchers. Objective: For this qualitative study, we conducted focus groups with front-line clinicians to address questions about the education needs of clinicians in the alcohol and drug abuse field who work with adolescents. Our goal was to identify critical elements to be included in graduate-level courses on substance use offered in Social Work and related fields. Methods: Semi-structured focus group interviews (Kruger & Casey, 2009) (3 groups, N=22, mean =74 minutes) were conducted with a purposefully selected sample of clinicians who worked directly with adolescents in substance use treatment. Participants were recruited from a statewide organization for substance abuse counselors and field instructors at an urban research university in the Midwest. Participants (ages 25-66, 15 female and 7 male) averaged seven years of direct practice experience (sd=3 years) and had training in social work, counseling, and public health (range from associate's to master's degree). For data analysis, we utilized a thematic approach that began by using deductive codes developed from prior research and theory. We then used Erickson's (1986) method of analytic induction, an iterative procedure for developing and testing empirical assertions in qualitative research. Results: Clinicians identified several key content areas they suggested to include in courses on adolescent substance abuse treatment. This content included an understanding of the unique characteristics of adolescent substance use (e.g. low levels of problem recognition, high levels of binge, role of peer influences), developmental needs of adolescents, knowledge and skills to work with families, and strategies to help engage adolescents in treatment (e.g. motivational approaches). Conclusions: Including the perspective of clinicians and service providers in curriculum development can help to ensure the coursework and instruction are based on current knowledge concerning the needs of a diverse society.

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Determinants of Alcohol Drinking and its Association with Sexual Practices among High School Students in Addis Ababa, Ethiopia: Cross Sectional Study
Dawit Teshome Gebregeorgise, B. Pharm, MSc; Dr Teferi Gedif, B. Pharm, MPH, PhD - Addis Ababa University

**Background:** Alcohol drinking and risky sexual practices have become serious public health problem among teenagers and young adults globally, including many developing countries. The available reports are sparse, especially there is a lack of recent and representative data for high school students in developing countries including Ethiopia. **Objective:** The aim of this study was to estimate the prevalence, identify determinants, and examine the association of alcohol drinking with sexual practices among high school students in Addis Ababa, capital city of Ethiopia. **Methods:** School based cross sectional study was conducted from November to December 2010. Multivariate logistic regression analysis was used to determine the association between students’ background characteristics and alcohol use, and alcohol use and sexual practices. **Results:** Among 2551 students surveyed, lifetime and current (past month) alcohol drinking was reported by 1166 (45.7%) and 676 (26.5%) students, respectively. Having sexual intercourse at least once in their lifetime was reported by 412 (16.2%) with 151 (5.9%) of them being sexually active during a month prior to the survey. Having multiple sexual partners (52.5%), drinking alcohol before sexual intercourse (26.4%), and having sexual intercourse without the use of condom (47.3%) were also common among sexually active students. In adjusted logistic regression model, age (18 and 19 and older), living with 2 parents, getting pocket money, having alcohol drinking friends and attending general secondary school (grade 9-10) were positive predictors of current alcohol drinking. Negative predictors of current alcohol drinking were being Protestant Christian and living with relatives or siblings. **Conclusions:** Alcohol drinking before sexual intercourse was a major problem among high school students in Addis Ababa, Ethiopia. Male gender, older age and higher school grade, friends influence, religious affiliation, living with parents and getting pocket money were significant predictors of current alcohol drinking. Educating about substance use and risky sexual behaviors, engaging students in extracurricular activities and restrict access to alcohol to high school students may help in solution of these problems on a local scale.