Association for Medical Education and Research in Substance Abuse

BOOK OF ABSTRACTS

TABLE OF CONTENTS

Research, Clinical, Programmatic and Curricular Presentations

Page(s)  
1 Cultural Based Intervention to Affect Substance Abuse among a Native American Adolescent Population  
John Lowe, RN, PhD  
2014 John Nelson Chappel - Best Research Award Winner

2 Application of the SCORe Methodology to Assess the Effect of SBIRT Program Adherence on Binge-Drinking Outcomes  
Bonnie McRee, PhD; Janice Vendetti, MPH  
2014 Best Abstract - Program and Curricula Award Winner

3 ED-Initiated Buprenorphine/Naloxone Treatment for Opioid Dependence versus Standard and Facilitated Referrals: A Randomized, Controlled Trial  
Gail D’Onofrio, MD, MS; Patrick O’Connor, MD, MPH; Steven Bernstein, MD; Marek Chawarski, PhD; Michael Pantalon, PhD; Patricia Owens, MS; Susan Busch, PhD; David Fiellin, MD  
2014 Best Abstract Semi-Finalist Award Winner

4 Mobile Phone Messaging for Office-Based Buprenorphine Patients  
Babak Tofighi, MD

4-5 Computer-Facilitated Screening and Physician Brief Advice: Effects on Heavy Episodic Drinking among Adolescents  
Kateryna Kuzubova, MA, PC-CR; J.R. Knight; L. Csemy; L. Sherritt; S.K. Harris

5-6 Internet-Based Brief Intervention for Young Men with Unhealthy Alcohol Use: A Randomized Trial in a General Population Sample  
Nicolas Bertholet, MD, MSc; J.A. Cunningham; M. Faouzi; J. Gaume; G. Gmel; B. Burnand; J.B. Daeppen

6 Not Ready for Prime Time? An Internet-Based SBIRT Intervention in an Urban, Safety-Net HIV Clinic  
Carol Dawson Rose, PhD, RN; Yvette Cuca, PhD; Roland Zepf, MS, RN, ACRN; Jessica Draughon, RN, PhD; Paula Lum, MD, MPH
Patterns of Methadone Use on Antiretroviral Therapy Discontinuation
Paxton Bach, MSc, MD; M-J Milloy, PhD; Huiru Dong, MSc; Silvia Guillemi, MD; Thomas Kerr, PhD; Julio Montaner, MD; Evan Wood, MD, PhD

From Risk Networks to Care Institutions: Shifts in Social Capital from HIV+ Drug Users' Perspectives on Engagement in HIV Treatment
Yohansa Fernández, LMSW; Diana Hernández, PhD; Pedro C. Castellon, MPH; Gabriel Cardenas, MPH; Lauren Gooden, PhD; Carlos Del Rio, MD; Lisa Metsch, PhD

Ready or Not? HIV Provider Acceptability of Extended-Release Naltrexone
P. Todd Korthuis, MD, MPH; P.J. Lum; A. Buti; L. Kunkel; J. Sorensen; R. Mandler; R. Lindblad; D. McCarty

A Complex Interplay between Social Isolation, Stigma and Substance Use: Results from a Qualitative Study of MSM with and without HIV
E. Jennifer Edelman, MD, MHS; Christopher A. Cole, MAT; Wanda Richardson, BS; Nicholas Boshnack, MSW; Heidi Jenkins, BS; Marjorie S. Rosenthal, MD, MHS

Validation of Self-Administered Single Item Screening Questions (SISQs) for Unhealthy Alcohol and other Drug Use in Primary Care Patients at Two Sites
Jennifer McNeely, MD, MS; Charles M. Cleland, PhD; Shiela M. Strauss, PhD; Joseph J. Palamar, PhD, MPH; John Rotrosen, MD; Marc N. Gourevitch, MD, MPH; Richard Saitz, MD, MPH

Physician Performance of Screening and Brief Intervention after Residency Graduation
J. Paul Seale, MD; Kristy Le, MD; Hunter Woodall, MD; J. Aaron Johnson, PhD; Jason Dhabliwala, BS

A Brief Self-Administered Substance Use Screening Tool for Primary Care: Two-Site Validation Study of the Substance Use Brief Screen (SUBS)
Jennifer McNeely, MD, MS; Shiela M. Strauss, PhD; Charles M. Cleland, PhD; Richard Saitz, MD, MPH; Joseph J. Palamar, PhD, MPH; John Rotrosen, MD; Marc N. Gourevitch, MD, MPH

Screening for Alcohol Use among Adolescents with Chronic Medical Conditions
Sharon Levy, MD; Elissa R. Weitzman, ScD, MSc; Rosemary Ziemnik, BS

Teaching Residents SBIRT Skills for Alcohol Use: Using Chart-Stimulated Recall to Assess Curricular Impact
Maria Wamsley, MD; Nathaniel Gleason, MD; Katherine Julian, MD; Scott Steiger, MD; Patricia O'Sullivan, EdD; Jason Satterfield, PhD
SBIRT Education for Both the Mind and the Heart? Assessing Changes in Medical Residents' Attitudes to Working with Drinkers
M. Mitchell, MA; L.M. Broyles; J. Pringle; K. Kraemer; J. Childers; R. Buranosky; A.J. Gordon

WAM! Week of Addiction Medicine: An Intensive Curriculum for Internal Medicine-Primary Care Interns
Elenore Patterson, MD, MPH; Sienna Kurland; Laura Van Metre, MD; Andrew Chang, MD, MPH; Jessica Taff, MD; Jaclyn Fox; Mack Lipkin, MD; Kathleen Hanley, MD

Implications for Training in Adolescent Screening, Brief Intervention, and Referral to Treatment: Knowledge, Attitudes, and Perceptions of School-Based Health Center Providers
Brett R. Harris, DrPH; Benjamin A. Shaw, PhD; Barry R. Sherman, PhD

The Role of Opiate Dose in Adherence and Illicit Drug Use
Diana Coffa, MD; Elisabeth Powelson, MD, MSc; Kara Lynch, PhD; Brad Shapiro, MD; Scott Novak, PhD; Alex Kral, PhD

Opiate Substitution: An Opportunity to Adequately Treat Tuberculosis in People who Inject Drugs
Claire Élise Burdet, MD; Erika Castro, MD

Factors Associated with Opioid Relapse Following Release from Jail
Karen L. Cropsey, PsyD; Parvathy Nair, MD; C. Brendan Clark, PhD; Lindsay R. Trent, MA; Erin N. Stevens, MA; Ingrid A. Binswanger, MD

National Trends in Heroin-Related Skin and Soft Tissue Infections and Associations with Heroin Market Characteristics
George Jay Unick, PhD, MSW; Daniel Rosenblum, PhD; Sara Mars, MA; Daniel Ciccarone, MD, MPH

Access to and Payment for Office Based Buprenorphine Treatment in Ohio
Theodore V. Parran, MD, FACP; Joseph Muller, MS4

Treatment and Self-Help Availability in Disadvantaged and Minority Neighborhoods
Katherine J. Karriker-Jaffe, PhD; Deidre L. Patterson, MPH; Lee Ann Kaskutas, DrPH

Housing Associated with Achieving Abstinence after Detoxification in Adults with Addiction
Tae Woo Park, MD; Christine Maynié-François, MD; Richard Saitz, MD, MPH
Income Variability by Race in Tobacco Outlet Density in Maryland
Renee M. Johnson, PhD; David Fakunle, BA; Adam Milam, PhD; C. Debra Furr-Holden, PhD; Thomas LaVeist, PhD; James Butler III, DrPH, MEd

Barriers to Engaging in Addiction Treatment Following Release from Incarceration
Audrey Begun, PhD, MSW; Theresa Early, MSW, PhD

Current Chronic Prescription of Opioids and Muscle Relaxants by Era of HIV Diagnosis
Jessica Merlin, MD, MBA; Parvathy Nair; Joanna Starrels; Stefan Kertesz; Michael Saag; Karen Cropsey

Typologies of Opioid Analgesic Initiates and Patterns of Prescribing in New York City: A Qualitative Analysis
Alexandra Harocopos, MS; Bennett Allen, MA

The Role of the Hospital-Based Physician in Long Term Opioid Use
Susan Calcaterra, MD; T.E. Yamashita, MS; A. Keniston, MSPH; I.A. Binswanger, MD, MPH

Hunting for the Happy Medium - Management of a Patient Stable on Suboxone Needing Emergent Opioid Analgesia for Pain - A Case of Tolosa Hunt Syndrome
Mitika Kanabar, MD; Anna Lembke, MD

Prescription Opioid Use is Associated with Increased Mortality in the Reasons for Geographic and Racial Differences in Stroke (REGARDS) Study
Yulia Khodneva, MD, PhD; Paul Muntner; Stefan Kertesz; Monika M. Safford

Adolescent SBIRT Implementation in Pediatric Primary Care: Results from a Randomized Trial in an Integrated Health Care Delivery System
Stacy Sterling, MSW, MPH; Andrea Kline-Simon, MS; Ashley Jones, PsyD; Derek Satre, PhD; Constance Weisner, DrPH, LCSW

Sexual Violence in the Context of Drug Use among Young Adult Nonmedical Users of Prescription Opioids in New York City
Lauren M. Jessell, MSW, LSW; Pedro Mateu-Gelabert, PhD; Honoria Guarino, PhD; Elizabeth Goodbody; Sheila P. Vakharia, PhD, LMSW; Anastasia Teper, MA

Bere Responsabile: Hazardous Alcohol Use and Cultural Adjustment among U.S. College Students Abroad in Italy
Michael Mitchell, MA; S. Poyrazli; L.M. Broyles
References to Marijuana in Popular Music, 2009-2011
Renee M. Johnson, PhD

Effectiveness of Extended-Release Naltrexone (XR-NTX) among Criminal Justice-Involved, Persons with Opioid Use Disorders
Peter D. Friedmann, MD, MPH; D. Wilson; J.D. Lee; E. Nunes; T.W. Kinlock; C.P. O'Brien

Provision of Intranasal Naloxone to Patients Taking Chronic Opioids at San Francisco General Hospital: Implementation and Challenges
Soraya Azari, MD; Fanny Xu, BS; Claire Horton, MD; Philip Coffin, MD; Emily Behar, MS; Steve Echaves, PharmD

Naloxone Administration in Veterans for Overdose Rescue Therapy (NAVORT)
Cassandra Clement, PharmD; Christopher Stock, PharmD

Factors Associated with Opioid Overdose Resuscitation
Gerald Cochran, PhD, MSW; Bethany Brodie, MSW; Alice Bell, MSW, LCSW; Alex Bennett, PhD

The Use of Simulated Patients in the Education of Mental Health Professionals in a Graduate Substance Abuse Program
Marianne Saint-Jacques, PhD; Maryse Paré, MSc; Mathieu Goyette, PhD

Screening, Brief Intervention, and Referral to Treatment: Pre-Service Interprofessional Education of Undergraduate and Graduate Nursing Students
Ann M. Mitchell, PhD, RN, FAAN; H. Hagle, PhD; D. Lindsay, PhD; M.W. Neft, DNP, MHA, CRNA; J.M. O'Donnell, DrPH, MSN, CRNA; K.R. Puskar, DrPH, RN, FAAN; K.S. Talcott, MPA

Teaching Screening, Brief Intervention, and Referral to Treatment (SBIRT) to Social Work Students: Results from a Combined Online Training and Simulated Client Experience
Victoria A. Osborne, PhD, MSW; Ivy Cleveland, MPH; Brittany Berry, BSW

Paraprofessional-Administered SBIRT Reduces Medicaid Costs Over Subsequent Two Years
Richard L. Brown, MD, MPH; Jason Paltzer, PhD; John Mullahy, PhD; D. Paul Moberg, PhD; David Weimer, PhD; Marguerite Burns, PhD; Ajay Sethi, PhD
34-35 Predictors of Engagement in Post-Discharge Quitline Counseling among Hospitalized Smokers
Taneisha Scheuermann, PhD; Kimber P. Richter, PhD, MPH; Laura Mussulman, MA, MPH; Edward F. Ellerbeck, MD, MPH; Niaman Nazir, MBBS, MPH; Babalola Faseru, MD, MPH; Terry Bush, PhD; Beatriz H. Carlini, PhD, MPH; Kristopher J. Preacher, PhD; Brooke Magnusson

35-36 Prevalence of E-Cigarette use and Associations between E-Cigarettes use and Cigarette Cessation Attempt and Abstinence among Kansas Adults
Trevor Christensen, MPH; Babalola Faseru MD, MPH; Ericka Welsh, PhD, MPH

36 E-Cigarette Use among Smokers with Serious Mental Illness
Judith J. Prochaska, PhD, MPH; Rachel A. Grana, PhD, MPH

36-37 Telephone Counseling versus Text Messaging for Supporting Post-Discharge Quit Attempts among Hospitalized Smokers in Brazil: A Feasibility Study
Erica Cruvinel, PhD Student; Kimber Richter, PhD; Fernando Colugnati, PhD; Rafaela Russi; Juliana Oliveira; Taynara Formagini; Denislaine Honorato; Ana Lúcia Vargas, MD; Ligia Amaral, MD; Telmo Mota Ronzani, PhD

37-38 Quitting Smoking in the Face of Co-occurring Acute Psychiatric and Addictive Disorders: What is Possible?
Smita Das, MD, PhD, MPH; Norval Hickman, PhD, MPH; Judith J. Prochaska, PhD, MPH

38 “Everybody Says Weed is Good for the Baby”: Beliefs and Attitudes Regarding Perinatal Marijuana Use from the Perspectives of Pregnant Women Who Report Continued Use
Judy Chang, MD, MPH; Jill A. Tarr, LCSW; Cynthia L. Holland, MPH; Keri Rodriguez, PhD; Jeanelle Sheeder, PhD; Kevin Kraemer, MD, MSc; Doris Rubio, PhD; Nancy Day, PhD; Robert Arnold, MD, MPH

39 Opiate Overdose Death in San Francisco in 2010 and 2011: An Emergence of a Citywide Prescription Opiate Overdose Epidemic
Adam Visconti, MD, MPH; Phillip Coffin, MD

39-40 Non-Fatal Overdoses as a Risk Factor for Subsequent Fatal Overdose among Injection Drug Users
Alexander Caudarella, MDCM; Kanna Hayashi; Huiru Dong; Thomas Kerr; Evan Wood

40-41 Fatal and Non-Fatal Overdose after Narcology Hospital Discharge among HIV-Infected Russians
Alexander Y. Walley, MD, MSc; E. Krupitsky, MD; D.M. Cheng, ScD; E.K. Quinn, MPH; L. Wulach, MPH; P.O. Coffin, MD; J.H. Samet, MD, MPH, MA
<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>41</td>
<td>Development of Case Criteria to Define Pharmaceutical Opioid and Heroin Overdoses in Clinical Records</td>
<td>Ingrid Binswanger, MD, MPH, MS; Edward M. Gardner, MD; Barbara Gabella, MSPH; Kerry Broderick, BSN, MD; Jason M. Glanz, PhD</td>
</tr>
<tr>
<td>42</td>
<td>“Closing in on Death”: Explaining Geographical Patterns of Heroin Overdose in the United States</td>
<td>Sarah G. Mars, PhD; Jason Fessel, BA; Philippe Bourgois, PhD; Richard Perry; Fernando Montero, BA; George Karandinos, BA; Daniel Ciccarone, MD, MPH</td>
</tr>
<tr>
<td>42-43</td>
<td>Overdose Education and Naloxone for Patients on Chronic Opioids: A Qualitative Study of Medical Staff</td>
<td>Ingrid Binswanger, MD, MPH, MS; Steve Koester, PhD; Shane Mueller, MSW; Edward M. Gardner, MD; Kristin Goddard, MPH; Jason M. Glanz, PhD</td>
</tr>
<tr>
<td>43-44</td>
<td>Marked Variation in US States’ Policies on Opioid Prescribing</td>
<td>Joanna L. Starrels, MD, MS; Marcus Bachhuber; Pooja Shah; Lorlette Haughton; Chinazo O. Cunningham</td>
</tr>
<tr>
<td>44</td>
<td>Planning for Health Care Reform in an Integrated Health System: Anticipated Impact on Addiction Treatment and HIV Care</td>
<td>Cynthia Campbell, PhD; Derek Satre, PhD; Andrea Altschuler, PhD; Alison Truman, MPA; Sujaya Parthasarathy, PhD</td>
</tr>
<tr>
<td>45</td>
<td>Defining Non-Medical Use of Prescription Opioids within Health Insurance Claims Data: A Systematic Review</td>
<td>Gerald Cochran, PhD, MSW; Bongki Woo, MSW; Julie Donohue, PhD; Adam Gordon, MD, MPH; Wei-Hsuan (Jenny) Lo-Ciganic, PhD, MS, MSPharm; Walid Gellad, MD, MPH</td>
</tr>
<tr>
<td>45-46</td>
<td>Strategies to Increase the Sustainability of Medication Assisted Treatment</td>
<td>James H. Ford II, PhD; Raina Croff, PhD; Kelly Alanis-Hirsch, PhD; Laura Schmidt, PhD; Kim Johnson, MS, MBA; Mady Chalk, PhD; Dennis McCarty, PhD</td>
</tr>
<tr>
<td>46-47</td>
<td>Developing Prescription Monitoring Program Predictors for Drug Overdose Death</td>
<td>Christina Holt, MD, MSc; Kenneth McCall, PharmD; Gary Cattabriga, BS; Elenna Kuhn, BA</td>
</tr>
<tr>
<td>47-48</td>
<td>“I Feel Safe Here”: The Group Medical Visit Model for Buprenorphine Maintenance Treatment</td>
<td>Mariya Masyukova, ScB; Aaron Fox, MD, MS</td>
</tr>
<tr>
<td>48</td>
<td>HIV Risk Reduction with Buprenorphine-Naloxone or Methadone: Findings from a Randomized Trial</td>
<td>George Woody, MD</td>
</tr>
</tbody>
</table>
Buprenorphine Plus Clonidine Increases Time to Lapse and Reduces Heroin Craving at Low-to-Moderate Stress Levels
Karran A. Phillips, MD, MSc; William J. Kowalczyk, PhD; Ashley Kennedy, PhD; Michelle Jobes, PhD; Udi Ghitza, PhD; David H. Epstein, PhD; Kenzie L. Preston, PhD

Unobserved 'Home' Induction onto Buprenorphine: Outcomes at Year 7
Elenore Patterson, MD, MPH; Babak Tofighi, MD; Ellie Grossman, MD, MPH; Jennifer McNeely, MD, MS; Danae DiRocco, MPH; Joshua D. Lee, MD, MSc

Injection Drug Users Prefer Harm Reduction Agencies to other Potential Sites for Buprenorphine Treatment
Aaron Fox, MD, MS; Adam Chamberlain; Taeko Frost; Chinazo Cunningham, MD, MS

Effects of Brief Intervention on Subclasses of Injured Patients Who Drink at Risk Levels
Gerald Cochran, PhD, MSW; Craig Field, PhD, MPH; Michael Foreman, MD; Carlos V.R. Brown, MD

Treatment Dismantling Study to Identify the Active Ingredients in Personalized Feedback Interventions for Hazardous Alcohol Use: Randomized Controlled Trial
John Cunningham, PhD; Michelle Murphy, BSc; Christian S. Hendershot, PhD

Implementation of Screening, Brief Intervention, and Referral to Treatment in New York City Primary Care Practices as a Public Health Strategy to Address Unhealthy Alcohol Use
John McAteer, LCSW-R; Louis Cuoco, DSW, ACSW, LCSW-R; Jessica Kattan, MD, MPH; Rachel Moscicki, MPH; Alex Kingsepp; Hillary Kunins, MD, MPH

Internet-Based Primary Prevention Intervention for Alcohol Use: A Randomized Trial
Nicolas Bertholet, MD, MSc; J.A. Cunningham; M. Faouzi; J. Gaume; G. Gmel; B. Burnand; J.B. Daeppen

Effectiveness of Screening and Brief Intervention in Reducing Risky Drinking: Results from an Implementation Study in Primary Care Setting
Felicia W. Chi, MPH; C. Weisner, DrPH, MSW; J. Mertens, PhD; S. Sterling, MPH, MSW; D. Satre, PhD; T.B. Ross, PsyD; W. Lu, MP
Poster Presentations

55  The Development of Addiction Medicine Fellowships
    Shannon Carlin-Menter, PhD; Anne Neumann, PhD; Rachel Rizzo, MS, MPH, CHES; Richard Blondell, MD

55-56  Patient Insights on Screening and Brief Intervention for Substance Misuse and How to Make these Conversations Work: A Qualitative Study
    Debra J. Sprague, MA; Daniel C. Vinson, MD; Jackie Herzberg; Martha Lerch

56-57  Variability of Buprenorphine Exposure after Sublingual Administration of Buprenorphine/Naloxone Tablet
    Michael Sumner, MB, BS, MRCP; Dory Solomon; Christopher Welsh, PharmD, MBA

57  Integration of the Substance Abuse Research Education and Training (SARET) in an MSW Program
    Ellen Tuchman, PhD; Kathleen Hanley, MD; Sewit Bereket, MPH; Frederick More, DDS; Madeline Naegle, PhD; Marc N. Gourevitch, MD, MPH

58  Chronic Pain in Substance Abusing Homeless Veterans: Treatment Implications
    Michelle Skinner, PhD; Max Kubota, BA; Rachael Guerra, PhD

58-59  Veteran Reasons for Leaving Inpatient Substance Abuse Treatment
    Maximilian Kubota, MA; Michelle Skinner, PhD; Timothy Ramsey, PhD; Rachael Guerra, PhD

59  What’s Homelessness Got to Do with It?: Injection Drug Use and Homelessness Among Women in New York City
    Kevin V. Lotz, LCSW, CASAC, ACSW, PhD Candidate; Ellen Tuchman, PhD

60  Buprenorphine Group Treatment Promotes Residents’ Addiction Medicine Education and Future Practice
    Kenneth Saffier, MD; Rohan Radhakrishna, MD; Mena Ramos, MD

60-61  Women’s Beliefs about Marijuana Use during Pregnancy: Survey Results from Colorado and Pennsylvania
    Jill A. Tarr, LCSW; Jeanelle Sheeder, PhD; Cynthia L. Holland, MPH; N. Ayari; Alson Burke, MD; Doris Rubio, PhD; Kevin Kraemer, MD, MSc; Nancy Day, PhD; Robert Arnold, MD, MPH; Keri Rodriguez, PhD; Judy C. Chang, MD, MPH
61-62  Lifetime Comorbidity of Major Depression and Alcohol Use Disorders in Peru: Results from the World Mental Health Study
Alanna Mozena, MD, MPH Candidate; Javier Ponce-Terashima; Kim Hoffman; Dennis McCarty; Fabian Fiestas; Marina Piazza-Ferrand

62  Hospital Readmissions in Patients Admitted for Alcohol Intoxication at the Emergency Department: A 6-Year Cohort Study
Angéline Adam, MD; M. Faouzi, PhD; D. Clerc, MD; B. Yersin, MD; J.B. Daeppen, MD; N. Bertholet, MD, MSc

63  Zubsolv®: A Novel Sublingual Tablet with Improved Bioavailability of Buprenorphine for Treatment of Opioid Dependence
Andreas Fischer, MSc; Karl Johansson, MSc; Stefan Grudén, MScPharm

63-64  The Effects of Comorbid Substance Use Disorder on Psychiatric Symptom Expression in Patients with Psychotic Spectrum Disorders on Admission to an Inpatient Hospital
Doug Cort, PhD; Travis White, MA; Cherise Abel, BA; David Sugarbaker, MPH; Graham Danzer, MSW

64  Importance of Screening for Marijuana and Other Substance Use, by Healthcare Setting
Jennifer Shepherd, PhD; Kelly Marzano, MA; Laura Rivera, PhD; Melissa Richmond, PhD; Leigh Fischer, MPH; Brie Reimann, MPA

65  Key Correlates of Readiness for Technology-based Interventions in Substance Abuse Services
Alex Ramsey, PhD; David Patterson, PhD

65-66  Motivational Interviewing to Reduce Alcohol and Drug Use among Adults in Treatment for Depression: 6-Month Outcomes
Derek Satre, PhD; Stacy A. Sterling, MSW, MPH; Amy Leibowitz, PsyD; Wendy Lu, MPH; Adam Travis, MD, PhD; Constance Weisner, DrPH

66-67  HIV Risk Reduction among Out-of-Treatment Substance Users: Contextual Factors
Jo Brocato, PhD; Dennis Fisher, PhD; Grace L. Reynolds, DPA; Kristen Hess, PhD

67  Treatment with an Advanced Formulation of Sublingual Buprenorphine/Naloxone Tablets Improves Quality-of-Life Measures in Opioid-Dependent Adults
Lynn R. Webster, MD, FACPM, FASAM; Peter Hjelmström, MD, PhD; Michael Sumner, MB, BS, MRCP
Women's Attitudes toward Pharmacotherapy Options Following Release from Jail
Audrey Begun, PhD, MSW; Susan Rose, PhD, MSW; Thomas LeBel, PhD

Interprofessional Workplace Instruction: Social Workers as SBIRT Instructors for Emergency Medicine Residents
David Duong, MD, MS; Phillipa Soskin, MD, MPP; Derek Satre, PhD; Patricia O'Sullivan, EdD; Jason M. Satterfield, PhD

Lighting the Ember of Hope: Integrating Field Experience and Narrative Techniques into Addiction Medicine Fellowship Training
Launette Rieb, MD, MSc, CCFP; Nitasha Puri, MD, CCFP; Marcia Thompson, MSc; Evan Wood, MD, PhD, ABIM, FRCPC

The Addiction Leadership Workshop - Transitioning Residents from "Accidental" Leaders to "Intentional" Leaders
Donna LaPaglia, PsyD; Ellen Edens, MD, MPE

Outcomes among Opioid/Heroin Addicts in Bellevue Methadone Program after Hurricane Sandy
Michelle Perna, BA; Ellie Grossman, MD, MPH; Babak Tofighi, MD; Joshua D. Lee, MD, MSc

Alcohol use before and During Unwanted Pregnancy
Sarah C.M. Roberts, DrPH; Sharon C. Wilsnack, PhD; Diana Greene Foster, PhD; Kevin L. Delucchi, PhD

A Systematic Review of Research on Tobacco Use and Public, Structural, and Self-Stigma
Nathalia Munck Machado, BS; Kimber Richter, PhD; Telmo Ronzani, PhD

Substance Use in Women of Reproductive Age
Jackie L. Herzberg, BS, CPH; Debra J. Sprague, MA; Daniel Vinson, MD; Breton Barrier, MD

Development of Life without Tobacco: An Open Source Web-Assisted Tobacco Intervention for Brazilians
Henrique Gomide, MA; Leonardo Martins, MA; Heder Soares Bernardino, PhD; Kimber Richter, PhD; Telmo Mota Ronzani, PhD

Substance Use-Related Stigma and Shame Pre- and Post-Hepatitis C Rapid Testing
Deena Peyser, BA; Abigail Batchelder, MA, MPH; Christopher Tenore, BA; Alain Litwin, MD, MPH, MS
Treatment Outcomes of Treatment for Opioid Addiction in Young Adults
Hoa Vo, PhD; Erika Robbins, BA; Meghan Westwood, MSW; Marc Fishman, MD

Motivational Incentives among Cannabis using Youths in an Urban Intensive Outpatient Treatment Program
Hoa Vo, PhD; Marc Fishman, MD; Erika Robbins, BA; Maxine Stitzer, PhD

Impact of Exercise on Depression and Anxiety Symptoms among Abstinent Methamphetamine-Dependent Individuals
Bilal Salem, MD; Richard Rawson, PhD

“Two Pains Together”: Patient Perspectives on Psychological Aspects of Chronic Pain while Living with HIV
Jessica Merlin, MD, MBA; Melonie Walcott; Christine Ritchie; Ivan Herbey; Stefan G. Kertesz; Eric Chamot; Michael Saag; Janet M. Turan

Demographic and Clinical Features of Amphetamine-Type Stimulants (ATS) Use Disorder Among Treatment Seeking Patients in Singapore
Yang Yi, MBBS; Andrew Ng, NAMS; P.K. Koh, NAMS; S. Guo, PhD, MD, NAMS; G. Kandasami, MBBS; K.E. Wong, MBBS, NAMS

12-Step Related Beliefs Correlated with Higher Alcoholics Anonymous Affiliation and Longer Length of Sobriety
David Sugarbaker, MPH

Problem Drug Use in Patients on Chronic Opioid Therapy: Results of a Primary Care Clinic Intervention
Lucinda Grande, MD

Veterans-Focused Treatment Program Evaluation within a County System
Kakoli Banerjee, PhD; Renee Marquett, PhD, MBA

Symptoms and Treatment Compliance of Patients Receiving Treatment in Therapeutic Communities: A Longitudinal Study
Laisa Marcorela Andreoli Sartes, PhD; Tatiana S. Madalena, MS; Bianca A. R. Singulane; Nayara B. Silva

Treatment Access Disparities among Individuals with Co-occurring Mental Health and Substance Use Disorders: An Integrative Literature Review
Mary Ann Priester, MSW, PhD Student; Teri Browne, PhD, MSW, NSW-C; Dana DeHart, PhD; Stephanie Clone, MSW; Aidyn Iachini, PhD, MSW, LSW; Robert Hock, PhD, LMSW
“Real Play" Based Curriculum is Effective in Motivating Students to Learn Motivational Interviewing
Jyothsna Karlapalem, MBBS; Susan Whitley, MD; Monica Broderick, MD; Helen Ryu, MD; Natasha Wallace, MD; Subhash Chandra, MD; Sarah Stokes, MD

University Students' Levels of Stress, Depression, Alcohol and Drug Use, and GPA in Relation to Time Use Patterns
S. Maggie Maloney, PhD, OTR/L; Amanda Fonner, MOTS

Developing Marijuana Guidance for Screening and Brief Intervention in Colorado
Carolyn J. Swenson, MSPH, MSN, FNP; Brie Reimann, MPA; Christopher E. Knoepke, MSW, LSW, ABD; Leigh Fischer, MPH

Gender Effects on Retention in Dually Diagnosed Individuals in Private Residential Treatment
Susie Adams, PhD, RN; Siobhan Morse, MHSA, CRC, CAI, MAC

Buprenorphine to Treat Opioid Use Disorder in Patients with Co-occurring Chronic Pain: a Clinical Case Series
Matt Tierney, MS, APRN

Use of Mentored Residency Teams to Enhance Addiction Medicine Education
Kenneth Saffier, MD; Julie Nyquist, PhD; Maureen Strohm, MD; Steven Eickelberg, MD

Assessment of Interpersonal and Alliance Related Competencies Training in a Graduate Substance Abuse Program: A Pilot Study
Mathieu Goyette, PhD; Maryse Paré, MPs; Marianne Saint-Jacques, PhD

Expansion of an Emergency Department SBIRT Program with Prescription Naloxone: A Pilot Program
P. Quincy Moore, MD; Pamela Vergara-Rodriguez, MD; Jeffrey Watts, MD; Steven Aks, DO

Merging the Silos: A Training Consortium for Addiction Treatment
David E. Smith, MD, FASAM; Khashayar Farhadi Langroudi, MA; Christina Bradley, BS; Akhil Mehra, MD; Michael Wachter, MD; Elizabeth Reed, PhD

Contingency Management (CM) a Behavioral Therapy for Patients with Stimulant Use Disorders
Lindsey Neuman, LCSW, CADC; Stephanie Renno, LCSW
Interdisciplinary Peer Assisted Learning for the Screening, Brief Intervention and Referral to Treatment (SBIRT) model for Alcohol Use Disorder
Monique James, MD; Erick Hung, MD; Demian Rose, MD, PhD; Maria Wamsley, MD; Jason Satterfield, PhD; Patrick Yuan; Patricia O'Sullivan, EdD

Correlates of Public Support toward Harm Reduction Strategies for Intravenous Drug Use
Magdalena Kulesza, PhD; Kristen Lindgren, PhD; Alexandra Wentz; Melissa Gasser; Bethany Teachman, PhD

Modeling Chronic Pain Risk Management
Del Morris, MD; Marlene Cresci Cohen, PhD; Michael Gorman, MD

Overdose Education and Naloxone Rescue Kits for Family Members of Opioid Users: Characteristics, Motivations and Naloxone use
Sarah M. Bagley, MD; Joanne Peterson; Debbie M. Cheng, ScD; Charles Jose, MPH; Emily Sisson; Patrick G. O'Connor, MPH, MD; Alexander Y. Walley MSc, MD

Change in Medical Student Attitudes Toward Addiction Following Participation in a Required Clerkship
Robert Averbuch, MD; Mark S. Gold, MD; Lisa J. Merlo, PhD, MPE

Pilot Study to Describe the Substance Use Experiences of HIV-Positive Young Black Men who Have Sex with Men (MSM) between the Ages of 18-29 in San Francisco
Austin Nation, RN, PHN, MSN; Howard Pinderhughes, PhD
Cultural Based Intervention to Affect Substance Abuse among a Native American Adolescent Population
John Lowe, RN, PhD - Florida Atlantic University, College of Nursing

Background: According to the Indian Health Services, the rate of alcoholism among American Indians and Alaska Natives (AI/AN) is six times the United States (U.S.) average. One in 10 AI/AN deaths is alcohol-related (12% of AI/AN’s vs. 3.3% of the non-AI/AN population). Moreover, compared with youth of other races/ethnicities, AI/AN youth report the highest rates of past month binge drinking, illicit drug use, and cigarette use. Despite unequivocal documentation of greatly elevated risk for alcohol and drug use problems among AI/AN populations, researchers have done a poor job in attempts to understand and address this profound health disparity. Recently, socio-cultural, non-disease theories have gained momentum, and from these theories, innovative culturally relevant and competent alcohol and drug use interventions are being developed and tested. Culturally relevant socio-cultural, non-disease models of AI/AN's alcohol and drug use problems are remarkable for (a) their recognition of the post-colonial legacy of trauma and grief and (b) building on individual, community, and cultural strengths. Objectives: This study used a community-based participatory research (CBPR) approach to develop and evaluate an innovative school-based cultural intervention targeting substance abuse among a Native American adolescent population.

Methods: A two-condition quasi-experimental study design was used to compare the "Cherokee Talking Circle" (CTC) cultural-based intervention condition (n = 92) with the "Be A Winner Standard Education" (SE) condition (n = 87). Data were collected at pre-intervention, immediate post-intervention, and 90-day post-intervention using the Cherokee Self-Reliance Questionnaire, Global Assessment of Individual Needs - Quick, and Written Stories of Stress measures.

Results: Significant improvements were found among all measurement outcomes for the CTC cultural-based intervention. For example, the substance use scores were significantly different between the CTC and SE groups (F ¼ 10.38, p ¼ .002). The within subjects effect of time was significant between post intervention and 3-month follow-up (F ¼ 4.31, p ¼ .04). There was an interaction effect between time and group (F ¼ 14.64, p < .001). The substance use score was not significantly different between the CTC and SE groups at baseline (t ¼ .41, p ¼ .69). The difference in substance use between the CTC and SE groups became significant at post intervention (t ¼ 3.89, p < .001) and 3-month follow-up, (t ¼ 4.69, p ¼ .001). The results revealed that the substance use difference between the two groups had a significant increase from baseline to post-intervention and the difference kept increasing at the 3-month follow-up.

Conclusions: The results provide evidence that an AI/AN adolescent cultural-based intervention was significantly more effective for the reduction of substance abuse and related problems than a non-cultural based intervention. The study findings suggest that cultural considerations may enhance the degree to which specific interventions address substance abuse problems among AI/AN adolescents.
**2014 Best Abstract - Program and Curricula Award Winner**

**Application of the SCORe Methodology to Assess the Effect of SBIRT Program Adherence on Binge-Drinking Outcomes**

Bonnie McRee, PhD(1); Janice Vendetti, MPH(2) - (1)University of Connecticut Health Center; (2)The CT SBIRT Program

**Background:** In response to a large and growing evidence base, Screening, Brief Intervention and Referral to Treatment (SBIRT) programs are being widely implemented in medical settings. Unfortunately, there has been little attention to the assessment of how well health care professionals in "real world" (non-research) settings adhere to evidence-based SBIRT service delivery models or how adherence impacts patient outcomes. **Objective:** Using the SBIRT Checklist for Observation in Real-time (SCORe) methodology, this evaluation describes the level of adherence observed in 12 Health Educators (HEs) conducting SBIRT services in 9 community health centers for the CT SBIRT Program, and the relationship between adherence and patient binge drinking outcomes. **Methods:** The SCORe methodology, developed as part of an independent evaluation of federally-funded SBIRT grant programs, measures both explicit content items for screening and brief intervention (asks questions as written, provides personalized feedback) as well as Motivational Interviewing (MI) elements (empathetic interviewing style) found to be effective in SBIRT service delivery. While shadowing HEs during live patient interactions, SBIRT monitors recorded whether SCORe screening and brief intervention content and MI elements were present (N=92 observations). Percent adherence was averaged across monitoring visits for each HE, and measures of high (>80%) and low (<80%) were computed. Services Accountability Improvement System data were used to calculate change in binge drinking for patients followed at 6-months (N=93). **Results:** Across HEs, mean adherence was 85% for screening components utilized (range 47%-99%), 88% for brief intervention content components (range 15%-100%), and 85% for the brief intervention MI elements (range 19%-100%). High adherence to brief intervention content components had a significant effect on reduction in the number of days of binge drinking at 6 months (p<.05). No effects on binge drinking were found for adherence to MI elements for brief intervention or adherence to screening components. **Conclusions:** Evaluation of adherence to evidence-based models provides a first step in understanding key SBIRT service delivery ingredients.
2014 Best Abstract Semi-Finalist Award Winner

ED-Initiated Buprenorphine/Naloxone Treatment for Opioid Dependence versus Standard and Facilitated Referrals: A Randomized, Controlled Trial
Gail D'Onofrio, MD, MS; Patrick O'Connor, MD, MPH; Steven Bernstein, MD; Marek Chawarski, PhD; Michael Pantalon, PhD; Patricia Owens, MS; Susan Busch, PhD; David Fiellin, MD - Yale University

Background: There are no evidence-based ED-initiated treatment protocols for the management of opioid dependence in ED settings. Objective: To determine the efficacy of 3 treatment protocols for opioid dependence: Screening, Referral to Treatment (SRT); Screening, Brief Intervention and facilitated Referral to Treatment (SBIRT); and SBI with ED-initiated buprenorphine/naloxone and primary care (PC) follow-up for continued drug treatment (SBI+BupPC). Methods: Adults with heroin or prescription opioid dependence were enrolled in a Randomized Controlled Trial in an urban ED from 4/7/09-6/25/13 to receive SRT, SBIRT or SBI+BupPC. The Brief Negotiation Interview was performed by RAs, audio-taped to assure fidelity. The SBI+BupPC group received 1-3 days of ED-initiated Bup with 13 weeks of PC medical management. The primary outcome measures were (1) engagement in treatment (verified) at 30 days and (2) past 7-days opioid use using TLFB methods at 30 days with urine testing. Results: 329 were randomized: SRT (n=104), SBIRT (n=111), or SBI+BupPC (n=114). Mean age was 31.4, 76% male, 75% white, 80% insured, and 75% used heroin. Many, 62%, were seeking treatment, 22% identified via screening and 9% overdosed. Outcomes did not differ by type of opioid used or reason for ED visit.

<table>
<thead>
<tr>
<th>30 day Treatment Engagement</th>
<th>30 days, No. Engaged (%), 95% CI</th>
<th>Treatment Effect</th>
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<tbody>
<tr>
<td>(SBI+BupPC) (SBIRT) (SRT)</td>
<td>90/114 (79, 71-87) 50/111 (45, 36-54) 38/102 (37, 28-47)</td>
<td>p&lt;0.001</td>
</tr>
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</table>

Mean # days: illicit opioid use

<table>
<thead>
<tr>
<th>(SBI+BupPC) (SBIRT) (SRT)</th>
<th>Baseline, Mean (95% CI)</th>
<th>30 days, Mean (95% CI)</th>
<th>Treatment Effect</th>
<th>Treatment by Time Interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.4 (5.06-5.72) 5.6 (5.31-5.89) 5.4 (5.05-5.72)</td>
<td>0.9 (0.53-1.27) 2.4 (1.79-3.02) 2.3 (1.66-2.98)</td>
<td>P&lt;0.001</td>
<td>P&lt;0.01</td>
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</table>

Conclusion: ED-initiated buprenorphine treatment with follow-up medical management in primary care is superior compared with SRT and SBIRT in engaging opioid dependent ED patients in treatment and reducing days of illicit opioid use. NIDA #5R01DA025991-05

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Mobile Phone Messaging for Office-Based Buprenorphine Patients
Babak Tofighi, MD - New York University School of Medicine

**Background:** Despite the surge in mobile phone (MP) and text message (TM) based health interventions, no studies have evaluated the acceptability and feasibility of a TM intervention for opioid dependent adults in a safety net, outpatient treatment setting. **Objective:** The study assessed for: 1) MP and TM use patterns and preferences; 2) user-generated content for supportive, informational, and relapse prevention TM; and 3) acceptability and feasibility of a TM appointment reminder (TMR) intervention. **Methods:** A 52-item survey was administered to 100 patients in an urban, public sector, office-based buprenorphine program between June 2013 and March 2014. Survey domains included: demographic characteristics, communication patterns, and content preferences for supportive, informational, and relapse prevention TM interventions. A TMR was then sent 7, 4, 1 day prior to the patients' upcoming appointment followed by a 16 item survey that assessed satisfaction and feedback for the TM reminders (n=72). **Results:** Respondents were predominately African-American (42%), unemployed or reliant on public assistance (68%), and lacked permanent housing (52%). MP ownership was common (93%) with the caveat of a high turnover of phones (2) and phone numbers (2) in the past year. Most reported TM use (93%) and comfort with sending TM (79%). Older respondents received less TM compared to younger age groups but if at risk of relapse, were as interested in MP (96%) and TM (78%) contact with their buprenorphine providers. Some reported regular contact with peers and support networks to facilitate their recovery (13%). User-generated content for supportive TM included messages enhancing self-efficacy and spirituality; informational TM content preferences consisted of information about buprenorphine home induction and potential adverse events; relapse prevention TM focused on enhancing linkage with counselors, 12-step group sponsors, and buprenorphine providers. The feasibility survey demonstrated satisfaction with the TMR (100%) and most preferred receiving text reminders (88%). **Conclusions:** TM based interventions are acceptable and feasible strategies for enhancing the delivery of care in a safety net, office-based buprenorphine program.

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Computer-Facilitated Screening and Physician Brief Advice: Effects on Heavy Episodic Drinking among Adolescents
Kateryna Kuzubova, MA, PC-CR(1,2); J.R. Knight(2); L. Csemy(3); L. Sherritt(2); S.K. Harris(2) - (1)The University of Toledo; (2)Boston Children's Hospital; (3)Prague Psychiatric Centre

**Background:** Heavy episodic drinking (HED) (>5 drinks for males; >4 for females on an occasion) is a common pattern of alcohol consumption among adolescents worldwide which is associated with increased risk for developmental, legal, and health problems. A computer-facilitated Screening and clinician Brief Advice (cSBA) intervention was previously shown to reduce drinking rates among US adolescents, but not among youth in the Czech Republic, where adolescent drinking is more normative. However, cSBA may help to reduce hazardous drinking patterns such as HED. **Objective:** To determine the effect of cSBA on HED rates among adolescent primary care patients in the US and Czech Republic (CZR).
Methods: Quasi-experimental, asynchronous design: 12- to 18-yr-olds at 9 New England (N=2096) and 10 Prague (N=589) clinics completed measurements only during an 18-month Treatment As Usual (TAU) phase. We then conducted 1-hour clinician trainings, initiated the cSBA protocol, and recruited patients during the subsequent 18-month cSBA phase. Before seeing the clinician, cSBA participants completed a computerized CRAFFT screen and then viewed screening results, scientific information, and true-life stories illustrating the harmful effects of substance use. Clinicians received screening results and “talking points” designed to prompt 2-3 minutes of brief advice. We used GEE logistic regression to analyze the intervention effect at follow-up, controlling for baseline HED, demographics, peer/family substance use, site/provider/visit characteristics, and multi-site sampling.

Results: Participation, 3- and 12-month retention rates were: USA 87%, 72%, 74%; CZR 100%, 91%, 90%. Baseline past-90-day HED rates were 11% in the USA and 28% in CZR. cSBA showed reduced HED at 3 months in both countries, but the effect had dissipated by 12 months.

<table>
<thead>
<tr>
<th></th>
<th>3 MONTHS</th>
<th>12 MONTHS</th>
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<tbody>
<tr>
<td></td>
<td>aRRR</td>
<td>95% CI</td>
</tr>
<tr>
<td>USA</td>
<td>0.68¥</td>
<td>0.45-1.03</td>
</tr>
<tr>
<td>CZR</td>
<td>0.57*</td>
<td>0.39-0.84</td>
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</table>

¥ p<.10; *p<.05

Conclusion: cSBA shows promise for reducing HED rates among adolescents. Strategies for extending the effect are needed.

Internet-Based Brief Intervention for Young Men with Unhealthy Alcohol Use: A Randomized Trial in a General Population Sample
Nicolas Bertholet, MD, MSc(1); J.A. Cunningham; M. Faouzi; J. Gaume; G. Gmel; B. Burnand; J.B. Daeppen - (1)Alcohol Treatment Center, Lausanne University Hospital

Background: Unhealthy alcohol use is a major health concern among young men.

Objective: To test the efficacy of an Internet-based alcohol brief intervention (IBI) to decrease unhealthy alcohol use among young men from the general population.

Methods: Parallel-group randomized controlled trial. Of the 4365 19 year old men attending the Swiss mandatory army recruitment process invited to participate, 1633 (37%) did so: 737 reported unhealthy alcohol use (>=6 drinks/occasion at least monthly or >14 drinks/week or Alcohol Use Disorders Identification Test (AUDIT) score >8) and were included. Intervention group (IG) participants (n=367) completed an assessment on alcohol use and received the IBI. Control group (CG) participants (n=370) completed the assessment only. Follow-up took place at 1 and 6 months. Primary outcomes were: binge drinking prevalence and number of drinks/week at 1 and 6 months. AUDIT score and number of alcohol related consequences at 6 months were secondary
outcomes. The intervention efficacy was assessed using: 1. random-effects logit model (binge drinking prevalence), 2. random-effects negative binomial model (drinks/week), 3. negative binomial regression model (AUDIT score, number of consequences). **Results:** The follow-up rate was 92% and 91% at 1 and 6 months. Over time, there was a significant decrease in binge drinking prevalence [IG: 85.6% (baseline), 69.8% (6mo); CG: 84.3%, 71.1%], mean (SD) number of drinks/week [IG: 10.1(7.9), 8.5(8.5); CG: 9.5(7.8), 9.1(8.9)] and mean AUDIT (SD) score [IG: 10.7(4.3), 8.8(4.3); CG: 10.5(4.0), 9.3(4.5)]. There was no intervention effect on binge drinking at 1 and 6 months. At 6 months, there was an beneficial intervention effect on the number of drinks/week (p=0.03) and on AUDIT score (p=0.01). There was no effect on the number of reported consequences. **Conclusions:** We found no intervention effect on binge drinking prevalence but effects on the number of drinks/week and AUDIT score at 6 months, following an IBI for unhealthy alcohol use among young men in the general population.

**Not Ready for Prime Time? An Internet-Based SBIRT Intervention in an Urban, Safety-Net HIV Clinic**

Carol Dawson Rose, PhD, RN; Yvette Cuca, PhD; Roland Zepf, MS, RN, ACRN; Jessica Draughon, RN, PhD; Paula Lum, MD, MPH - University of California, San Francisco

**Background:** Unhealthy substance use among people living with HIV (PLWH) is common and is associated with lower ART adherence, lower viral suppression and increased mortality. Screening, brief intervention, and referral to treatment (SBIRT) may help health care providers identify and intervene on those with, or at risk of, substance-related harms. However, the most feasible modality for delivering SBIRT to safety-net patients in a busy, urban HIV primary care clinic is unknown. We conducted a trial comparing an HIV-tailored web-based versus HIV clinician-delivered SBIRT intervention in this real world HIV clinic setting.

**Objective:** This analysis reports on patient participation by modality and explores in particular the differences between those who completed versus did not complete the web-based modality.

**Methods:** We recruited and enrolled 209 patients from the clinic waiting room. After collecting survey data on baseline demographic, health and substance use characteristics, we randomized subjects into one of two SBIRT delivery modes: an interactive SBIRT program embedded in the patient's electronic personal health record (ePHR) or a clinic-based encounter with an SBIRT-trained nurse or health attendant. We measured the proportions and characteristics of participants completing the ePHR intervention and compared them to those that did not complete the intervention.

**Results:** There were no significant differences between the randomized groups. Of the 96 participants who were randomized to the web-based SBIRT intervention, fewer than half, 39 (40.6%) completed the intervention. Higher severity of of tobacco (p=0.03) and amphetamine (p=0.04) use was associated with ePHR SBIRT intervention completion in this sample. **Conclusions:** An interactive, internet-based SBIRT intervention embedded in the ePHR of patients at an urban, safety net HIV clinic was not a successful delivery modality for all substance users in this randomized trial. Less than half of the participants assigned to the web-based arm completed the intervention. Participants with higher severity use of tobacco and amphetamines did use the ePHR to address substance use, however, our study did not demonstrate similar use of ePHR SBIRT among all current substance users.
Patterns of Methadone Use on Antiretroviral Therapy Discontinuation
Paxton Bach, MSc, MD; M-J Milloy, PhD; Huiru Dong, MSc; Silvia Guillemi, MD; Thomas Kerr, PhD; Julio Montaner, MD; Evan Wood, MD, PhD - British Columbia Centre for Excellence in HIV/AIDS

Background: Methadone maintenance therapy (MMT) is a proven treatment strategy for opioid dependent patients. In HIV-positive injection drug users (IDU), studies have demonstrated that MMT increases contact with the medical system, improves enrolment and adherence into antiretroviral therapy (ART) programs, and improves overall treatment outcomes. While the evidence strongly supports MMT as a part of successful HIV treatment programs, the effect of MMT discontinuation on ART discontinuation has not been previously described.

Objective: To determine the impact of continuous MMT use, MMT non-use, and MMT discontinuation on the time to ART discontinuation.

Methods: The study was performed using data from a community-recruited cohort of IDU followed between 1996 and 2013. Multivariate Cox proportional hazards regression was used to examine the association between MMT use patterns and time to ART discontinuation while adjusting for socio-demographic confounders.

Results: A total of 794 HIV-positive IDU were included during the study period. In an adjusted analysis, in comparison to those who were continuously on MMT, MMT non-use (Adjusted Hazard Ratio [AHR] = 1.44, 95% Confidence Interval [CI]: 1.19 - 1.73) as well as discontinuing MMT (AHR = 1.82, 95% CI: 1.27 - 2.60) were both found to be independently associated with time to ART discontinuation.

Conclusions: This study reinforces the known benefits of MMT use on ART adherence and demonstrates how discontinuation of MMT is independently associated with an increased risk of ART cessation. These data offer further support for MMT as an important component of comprehensive HIV treatment programs, and highlight the importance of retaining IDU on MMT.

From Risk Networks to Care Institutions: Shifts in Social Capital from HIV+ Drug Users' Perspectives on Engagement in HIV Treatment
Yohansa Fernández, LMSW(1); Diana Hernández, PhD(1); Pedro C. Castellon, MPH(1); Gabriel Cardenas, MPH(2); Lauren Gooden, PhD(1); Carlos Del Rio, MD(3); Lisa Metsch, PhD(1) - (1)Columbia University; (2)University of Miami; (3)Emory University

Background: In recent years, social capital in the form of institutional ties and personal networks has been shown to have positive impacts on health though literature on engagement in HIV care has yielded mixed results. Objective: To explore role of social capital in engagement in HIV treatment and to understand its function as a risk and protective factor.

Methods: Designed within the context of a larger, randomized controlled trial of HIV-positive, crack cocaine users not engaged in care that were recruited during a hospitalization at two inner-city hospitals in Atlanta and Miami, 25 qualitative interviews were conducted with participants after they completed the last (12-month) follow-up visit. The interview questions which were audiotaped and transcribed focused on life experiences with drug use, support systems, and engagement in HIV health care and treatment. Two independent coders with high agreement in
ratings assessed the responses using thematic analysis and an adapted social capital framework. **Results:** Our results suggest that a person's social capital can serve as both a risk and protective factor for engagement in HIV treatment as operationalized by self-report of currently taking any HIV medication. Factors such as housing instability, marginalized experiences with medical providers and lack of HIV related health information were associated with sub-optimal engagement in HIV treatment. Integrated mental health, substance abuse and HIV care services, as well as transportation to facilitate access to services were among the factors correlated with optimal engagement in treatment. **Conclusions:** Our results underscore the multifaceted and often complex relationship between social capital and engagement (or lack thereof) in HIV treatment. Understanding and considering the significance of social capital networks on engagement in HIV treatment can be used to inform current and future treatment and prevention strategies and is supportive of a patient centered care model.

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**Ready or Not? HIV Provider Acceptability of Extended-Release Naltrexone**

P. Todd Korthuis, MD, MPH(1); P.J. Lum; A. Buti; L. Kunkel; J. Sorensen; R. Mandler; R. Lindblad; D. McCarty - (1)Oregon Health and Science University

**Background:** Extended-release naltrexone (XR-NTX) is efficacious for opioid (OUD) and alcohol use disorders (AUD) treatment, but acceptability among HIV providers is unknown. **Objective:** Assess HIV provider views and intentions to recommend medications for OUD and AUD treatment. **Methods:** A web-based survey of 244 HIV providers practicing in 12 HIV clinics applying for NIDA XR-NTX trial participation assessed provider attitudes, beliefs, perceived social norms (“People who are important to me think I should recommend...”), and intent to recommend XR-NTX, methadone, buprenorphine, and disulfiram using a 7-point Likert scale (1=Unlikely, 7=Likely). Responses were dichotomized by highest tertile in multivariable logistic regression models of intent to recommend. **Results:** Most of 107 respondents (response rate 44%) were female (55%), white (62%), physicians (76%), and cared for ≥ 50 patients living with HIV (66%); 22% were certified to prescribe buprenorphine. XR-NTX acceptability was lower than agonist treatment for OUD (Table). XR-NTX acceptability was higher than disulfiram for AUD. Favorable social norms were strongly associated with intent to recommend XR-NTX for OUD (aOR=75.1, 95% CI 17.6-321) and AUD (aOR=25.1, 95% CI 5.9-107). The probability of high-intent to recommend was >90%, regardless of treatment type if providers perceived high social norms.
Table.

<table>
<thead>
<tr>
<th></th>
<th>Methadone Mean (SD)</th>
<th>Buprenorphine Mean (SD)</th>
<th>XR-NTX Mean (SD)</th>
<th>p</th>
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<tbody>
<tr>
<td><strong>Attitude</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Beneficial for patients</td>
<td>5.69 (1.28)</td>
<td>6.16 (1.06)</td>
<td>5.01 (1.34)</td>
<td>&lt;0.001</td>
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<tr>
<td><strong>Belief it...</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blocks craving</td>
<td>5.70 (1.29)</td>
<td>5.99 (1.03)</td>
<td>4.69 (1.72)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Is effective</td>
<td>5.68 (1.31)</td>
<td>6.05 (1.03)</td>
<td>4.95 (1.19)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Is long-lasting</td>
<td>5.70 (1.46)</td>
<td>5.42 (1.39)</td>
<td>6.06 (1.25)</td>
<td>0.004</td>
</tr>
<tr>
<td>Reduces withdrawal symptoms</td>
<td>6.13 (1.20)</td>
<td>5.83 (1.29)</td>
<td>3.79 (1.98)</td>
<td>0.001</td>
</tr>
<tr>
<td><strong>Social norm</strong></td>
<td>5.28 (1.48)</td>
<td>5.48 (1.54)</td>
<td>3.63 (1.55)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><strong>Intent to recommend</strong></td>
<td>5.08 (1.63)</td>
<td>4.94 (2.00)</td>
<td>3.71 (1.77)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Conclusions: HIV provider perceptions of XR-NTX support the need for education about XR-NTX efficacy and XR-NTX comparative effectiveness trials in HIV care. Interventions focusing on local opinion leaders are likely to improve uptake of antagonist treatment.

A Complex Interplay between Social Isolation, Stigma and Substance Use: Results from a Qualitative Study of MSM with and without HIV
E. Jennifer Edelman, MD, MHS(1); Christopher A. Cole, MAT(2); Wanda Richardson, BS(3); Nicholas Boshnack, MSW(2); Heidi Jenkins, BS(3); Marjorie S. Rosenthal, MD, MHS(1,4) - (1)Yale University School of Medicine; (2)AIDS Project New Haven and Center for Interdisciplinary Research on AIDS, Yale University; (3)STD Control Program, Connecticut State Department of Public Health; (4)Robert Wood Johnson Foundation Clinical Scholars Program

Background: Substance use is common among HIV-infected and uninfected men who have sex with men (MSM) and associated with a range of negative health outcomes. Understanding how Medical case managers (case managers) and Disease Intervention Specialists (public health authorities who provide partner services) and MSM perceive substance use among MSM may help improve interventions. Objective: To better understand factors motivating and impacting treatment of substance use, we examined perspectives and experiences among medical case managers, DIS, and MSM with and without HIV. Methods: In collaboration with an AIDS Service Organization and the Connecticut State Department of Public Health, we conducted a focus group of case managers (n=14) and in-depth interviews with DIS (n=7) and MSM (n=24) between September 2011 and March 2012. These were audiotaped, professionally transcribed and analyzed using the constant comparative method and organized using AtlasTi software. Results: We identified three main themes: 1) despite the advances in both HIV treatment and societal acceptance of MSM, social isolation and stigma remain in a complex interaction with substance use; 2) there are varying levels of understanding among case managers, DIS and MSM regarding the impact of these complex factors on a MSM's readiness to change his substance use;
and 3) grounded by the Stages of Change model, there are actionable opportunities to increase MSM readiness to change their substance use. **Conclusions:** The relationships between social isolation, stigma and substance use may be important factors for case managers, DIS, and MSM to consider when addressing MSM readiness to change their substance use.

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**Validation of Self-Administered Single Item Screening Questions (SISQs) for Unhealthy Alcohol and other Drug Use in Primary Care Patients at Two Sites**

Jennifer McNeely, MD, MS(1); Charles M. Cleland, PhD(2); Shiela M. Strauss, PhD(2); Joseph J. Palamar, PhD, MPH(1); John Rotrosen, MD(1); Marc N. Gourevitch, MD, MPH(1); Richard Saitz, MD, MPH(3) - (1)NYU School of Medicine; (2)NYU College of Nursing; (3)Boston University

**Background:** Single item screening questions (SISQs) for alcohol and other drug use ease barriers to implementation of substance use screening in healthcare settings, but are not widely used. Barriers could be further reduced by having patients self-administer the SISQs.

**Objective:** We sought to validate the SISQs for self-administration in primary care patients.

**Methods:** Adult patients were consecutively enrolled from the waiting areas of two urban safety-net primary care clinics. The SISQs for alcohol and drugs (illicit and prescription misuse) were self-administered on touchscreen tablet computers, and reference standard measures of unhealthy substance use and substance use disorders were then collected. The SISQs were compared against reference standards to determine sensitivity, specificity, and area under the receiver operating characteristic curve (AUC) for alcohol and drugs. **Results:** Based on reference standard measures, among the 461 participants the prevalence of unhealthy use was 22% for alcohol and 25% for drugs, while prevalence of substance use disorders was 13% for alcohol and 16% for drugs. The SISQ-alcohol had sensitivity of 85%(CI 77-91%), specificity 81%(CI 76-85%), and AUC 0.83(CI 0.78-0.88) for detecting unhealthy alcohol use, and sensitivity of 87%(CI 75-94%), specificity 74%(CI 70-79%), and AUC 0.81(CI 0.75-0.86) for alcohol use disorder. The SISQ-drug had sensitivity of 74%(CI 65-82%), specificity 93%(CI 90-96%), and AUC 0.84(CI 0.79-0.89) for detecting unhealthy drug use, and sensitivity of 85%(CI 75-92%), specificity 89%(CI 85-92%), and AUC 0.87(CI 0.82-0.91) for drug use disorder. **Conclusions:** The self-administered SISQs had adequate sensitivity and specificity for detecting unhealthy alcohol and other drug use in primary care patients. Although the self-administered SISQs may be less accurate than the previously validated interviewer-administered versions, they have the potential benefits of being more easily implemented and better retaining their fidelity in real-world practice settings.

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**Physician Performance of Screening and Brief Intervention after Residency Graduation**

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**Background:** Many US residency programs are providing alcohol and drug screening, brief
intervention and referral to treatment (SBIRT) training with hope of impacting residents' future practices, however little is known about use of these skills after graduation.

**Objective:** To assess trained residency graduates' use of SBIRT skills after graduation.

**Methods:** Over a three-year period, graduating residents who participated in an 18-hour multi-year SBIRT training in three residency programs within the Southeast Consortium on Substance Abuse Training were recruited for subsequent follow-up. Participants received a request to complete a paper or online 29-item questionnaire 6-9 months after graduation, and completers received $20 gift cards. **Results:** 46/91 enrolled graduates (51%) completed questionnaires. Graduates reported a mean of 9 interventions for alcohol misuse and 7 for drug misuse in their past 50 patients. Screening approaches included quantity-frequency measures (54%), CAGE (46%), single drug screening question (44%), and single alcohol screening question (37%). Interventions for alcohol and drugs, respectively, typically included feedback (96%/87%), advice to cut back or quit (96%/87%), affirming patients' strengths (83%/85%), and negotiating plans (76%/83%). Clinician motivation was dampened by poor reimbursement (37%/31%), low likelihood of success (29%/29%), lack of time (26%/23%), and perceived danger (22%/22%), and was increased by the belief that intervention can reduce risky use (98%/93%), improve patients' health (98%/94%), prevent future health problems (96%/96%), and improve interpersonal relationships (91%/87%). Graduates were more likely to refer to AA/NA (72%) than prescribe alcohol medications (33%). Few residents felt alcohol/drug discussions were uncomfortable (22%/18%) or threatened doctor-patient relationships (15%/18%), while most felt motivational interviewing techniques created stronger doctor-patient relationships (72%/71%). 20% reported influencing others in their new practice sites to increase SBIRT activities. **Conclusions:** SBIRT trainees report high levels of SBIRT activity 6-9 months after graduation and increase SBIRT activities by their colleagues. Residency SBIRT training appears to be a promising approach for disseminating SBIRT into clinical practice.

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**A Brief Self-Administered Substance Use Screening Tool for Primary Care: Two-Site Validation Study of the Substance Use Brief Screen (SUBS)**

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**Background:** Implementation of substance use screening in general medical settings has been hindered by the lack of a brief but accurate and comprehensive screening tool that is compatible with clinical workflows. **Objective:** To address this, we developed the Substance Use Brief Screen (SUBS), a 4-item screener for tobacco, alcohol, and other drug use (illicit and prescription misuse) that is self-administered and could be easily integrated with electronic health records. **Methods:** Adult patients were consecutively enrolled from the waiting areas of two urban safety-net primary care clinics. The SUBS was self-administered in English on touchscreen tablet computers. Reference standard measures of unhealthy substance use and substance use disorders were then collected. The SUBS was compared against reference standards to determine sensitivity, specificity, and area under the receiver operating characteristic curve (AUC) for each substance class. **Results:** Among the 586 participants, rates
of unhealthy use on the reference standard measures were 31% tobacco, 20% alcohol, 24% illicit drugs, and 5% non-medical use of prescription drugs. Sensitivity and specificity of the SUBS for detecting past year unhealthy use were: tobacco 99% and 91% (AUC=0.95); alcohol 92% and 69% (AUC=0.81); drugs (illicit or prescription) 86% and 89% (AUC=0.88). Sensitivity was lower for prescription drugs (57%) than for illicit drugs (82%). For detecting a substance use disorder, sensitivity and specificity were: tobacco 100% and 72% (AUC=0.86); alcohol 94% and 65% (AUC=0.79); drugs 86% and 82% (AUC=0.84). **Conclusions:** The SUBS accurately identified unhealthy tobacco, alcohol, and drug use in primary care patients at two sites, and had high sensitivity but lower specificity for identifying substance use disorders. The SUBS performed well in identifying any drug use, but may need to be paired with additional tools to screen and assess specifically for misuse of prescription drugs.

**Screening for Alcohol use among Adolescents with Chronic Medical Conditions**

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**Background:** At least 12% of youth globally and 20% of U.S. youth have a chronic medical condition (CMC). Screening and addressing alcohol use with this group is rare though vital because alcohol can interact with medications, invalidate diagnostic tests, and undermine treatment adherence and self-care. **Objective:** Test an alcohol-screening tool for adolescents with CMC and assess their understanding of alcohol's impacts on health to advance tailored screening and brief interventions with this population. **Methods:** Cross-sectional assessment of a consented convenience sample of adolescents ages 9 -18 years receiving specialty care for asthma, Type 1 diabetes, a rheumatic, or gastroenterological condition or attention deficit hyperactivity disorder, using a self-administered online tool adapted from the NIAAA youth alcohol screen. **Results:** Of 217 participants, 53% were female, mean age was 14.97 years (+2.35 years). Nearly one third (29%) reported past year alcohol consumption; of these, 33.9% reported past 4-week use. Some 42.6% of past 3-month drinkers reported binge drinking. Older age was associated with past-year consumption (p<.001). Of 153 youth in grade 9 or higher, 57% report their friends drink-a risk factor for personal use-and 34% report their friends binge drink. When asked if alcohol could interfere with their medications, 56.8% of all participants answered "no" (incorrect) or "I don't know"; 60.2% answered thus when asked if alcohol could interfere with their lab tests. In all, 48.8% reported their care team asked in the past year about their alcohol use. Being asked about alcohol use was not associated with past year consumption. **Conclusions:** Alcohol use is prevalent among adolescents with a CMC. Knowledge about possible negative interactions between alcohol consumption, medications, and lab tests is poor. Screening in specialty care is inconsistent and not reflective of use patterns. Establishing a practical protocol that addresses the needs of these youth is warranted.
Teaching Residents SBIRT Skills for Alcohol Use: Using Chart-Stimulated Recall to assess Curricular Impact
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Background: There is a need for more SBIRT for alcohol use disorders (AUDs) in primary care. Barriers include inadequate provider skills and systems-related factors. One potential solution to systems-related issues is to support SBIRT for AUDs using electronic health record (EHR) tools. Objective: We implemented a SBIRT curriculum for internal medicine (IM) residents and developed EHR tools. The objective of our study was to evaluate the impact of the curriculum and EHR tools on resident SBIRT skills as measured by chart review and chart-stimulated recall (CSR). Methods: Twenty IM residents participated in a 3-hour SBIRT curriculum. We developed EHR charting tools to serve as a scaffold for curricular content, facilitate documentation, and provide patient resources. Six months after completion, residents received a list of their patients drinking above recommended limits and selected 3 patients for review. Faculty reviewed these charts using a 25-item checklist to assess SBIRT/charting tool use. Faculty performed individual chart-stimulated recall (CSR) sessions and provided feedback. Results: 16 residents participated in the CSR; 39 charts met criteria for our study. Chart review revealed documentation of alcohol use (79%), quantity/frequency of use (64%), assessment for an AUD (28%), use of motivational interviewing (5%), correct diagnosis of alcohol use (44%), recommendation to cut down (59%), an appropriate plan (46%) and appropriate follow-up (51%). Four residents used an SBIRT EHR tool with 5 patients. CSR interview findings included barriers to SBIRT (time, competing issues, resident discomfort and perceived patient willingness), and to use of EHR tools (limited awareness of the tools, limited baseline use of charting tools). Resident satisfaction with CSR was high. Conclusions: Use of CSR allowed us to recognize aspects of curriculum and support tools being used and provided an opportunity to reinforce curriculum and provide feedback. While intended as a facilitator, adoption of EHR tools was low. Future curriculum needs to focus on incorporating tools into workflow to overcome perceived barriers; simulation may be useful.

SBIRT Education for Both the Mind and the Heart? Assessing Changes in Medical Residents' Attitudes to Working with Drinkers
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Background: Most medical residents receive only cursory training in screening, brief intervention, and/or referral to treatment (SBIRT) for alcohol use disorders. The goal of the Pennsylvania SBIRT Medical Residency Training Program (SMaRT) is to improve residents' professional readiness to work with patients who use alcohol. Objective: To assess changes in professional readiness to work with drinkers among internal medicine physicians who participated in SMaRT during their first year of residency training. Methods: Eighty internal medicine residents at a large teaching hospital in Western PA participated in SMaRT during the
first year of residency between 2011 and 2013. SMaRT features didactics, web-based learning
modules, and clinical observations. Professional readiness to work with drinkers was assessed at
the onset and end of the residency year using the Alcohol and Alcohol Problems Perception
Questionnaire (AAPPQ). Six AAPPQ subscales assess individuals' Role Adequacy, Role
Legitimacy, Role Support, Motivation, Task Specific Self-Esteem, and Satisfaction for working
with drinkers. Wilcoxon Signed-Rank tests were used to evaluate changes in six AAPPQ
subscale scores over time. **Results:** Residents were 53% female, and 71% White/Caucasian,
with an average age of 27. At the end of the residency year, residents demonstrated significant
increases in perceived Role Adequacy (alcohol-related knowledge/skills), Mdn=34 (Pre),
Mdn=39.5 (Post); Z = 4.713, p <.05, and perceived Role Support (professional support for
working with drinkers), Mdn=16 (Pre), Mdn=18 (Post); Z = 2.782, p <.05. No significant
differences in the remaining AAPPQ subscales were detected. **Conclusions:** Residents
participating in SMaRT demonstrated improvements in perceived alcohol-related knowledge and
skills, but not in motivation, self-efficacy, and satisfaction for working with drinkers. These
components of professional readiness comprise "therapeutic commitment" and may play a
substantial role in sustained practice change. Future SBIRT training curricula should consider the
inclusion and evaluation of activities and strategies that explicitly target these intrinsic aspects of
professional readiness to work with drinkers.

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**WAM! Week of Addiction Medicine: An Intensive Curriculum for Internal Medicine-
Primary Care Interns**
Elenore Patterson, MD, MPH; Sienna Kurland; Laura Van Metre, MD; Andrew Chang, MD,
MPH; Jessica Taff, MD; Jaclyn Fox; Mack Lipkin, MD; Kathleen Hanley, MD -
(1)NYU School of Medicine

**Background:** Medical residencies inadequately address substance use (SU) disorders despite
their significant contribution to disability, death, and healthcare costs. Physicians avoid
counseling and treating patients with SU disorders because of discomfort discussing SU with
patients, poor baseline knowledge and clinical skills, and negative attitudes towards SU. We
undertook to improve SU education in a primary care residency. **Objective:** To design and
implement an intensive weeklong addiction medicine curriculum for interns in a primary care
residency; to assess impact on knowledge, skills, and attitudes. **Methods:** The curriculum
utilized a learner-centered, experiential education model. Sessions included lectures, guided
discussions, patient interviews, journal club, and treatment site visits. Content included
neurobiology of addiction, opiates, alcohol, motivational interviewing (MI), brief interventions,
harm reduction, and policy. MI training included theory, skills based practice, and coaching
sessions. Knowledge and attitudes were assessed by pre- and post-test: eighteen questions tested
clinical knowledge; eight assessed confidence and attitudes using a Likert scale from (1) strongly
disagree to (5) strongly agree. For the four questions pertaining to confidence, a composite
"confidence score" was computed (Cronbach's alphas >0.85 for both pre- and post-tests). The
intern cohorts were similar and analyzed together. **Results:** The curriculum was implemented in
March 2013 (n=9) and March 2014 (n=8). 15 pre-tests and 17 post-tests were completed. The
clinical knowledge mean test score improved from 50% to 70% (p<0.0005). The mean
certainty score increased from 2.7 to 4.2 (p<0.0005). Post-test, 94% of participants somewhat
or strongly agreed that treating SU is rewarding, vs. 69% baseline. 88% somewhat or strongly believed they could make a difference in their addicted patients, compared to 57% baseline. Participant feedback was strongly positive. **Conclusions:** Baseline knowledge and confidence were poor. Knowledge, confidence, and attitudes towards SU improved after WAM. Further assessment is needed to determine if the effects are durable and translate into improved provider satisfaction, patient counseling and treatment, and health outcomes.

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**Implications for Training in Adolescent Screening, Brief Intervention, and Referral to Treatment: Knowledge, Attitudes, and Perceptions of School-Based Health Center Providers**

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**Background:** Screening, Brief Intervention, and Referral to Treatment (SBIRT) has been endorsed by the American Academy of Pediatrics as an evidence-based strategy to address risky alcohol and drug (AOD) use among adolescents in primary care settings. However, less than half of pediatricians even screen adolescents for AOD use and even fewer provide intervention.

**Objective:** This study identifies knowledge, attitudes, and perceptions of school-based health center (SBHC) providers which facilitate or impede delivery of SBIRT and provides recommendations for future training of SBHC and possibly other pediatric primary care providers.

**Methods:** Between May and June of 2013, an electronic survey was distributed to the total population of 162 New York State SBHC program directors and clinicians who serve middle and/or high school students (40% response rate).

**Results:** Survey participants perceived that students were using and experiencing negative consequences from using AODs. However, only 45% of SBHC clinicians had received any form of training on addressing AOD use, almost 40% did not perceive it was their role to use a standardized screening tool, 20-30% did not feel confident in their ability to perform specific aspects of intervention and management, and less than 30% felt they could be effective at helping students reduce their AOD use. A majority of clinicians were unaware of SBIRT (63%), and, throughout the network of SBHCs, components of the SBIRT model were not being conducted routinely or in combination as intended.

Knowledge, perceived role responsibility and self-efficacy, and perceived effectiveness at helping students reduce AOD use were associated with frequency of AOD screening and intervention practice (p<.05). **Conclusions:** Findings from this study suggest that SBHC and possibly other pediatric providers intending to deliver SBIRT receive (1) education on a full spectrum of AOD issues and (2) training which targets role responsibility; self-efficacy; perceived effectiveness; and how, by delivering SBIRT, they can effectively help students reduce their AOD use.

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**The Role of Opiate Dose in Adherence and Illicit Drug Use**

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Background: Chronic pain management is a problem of increasing concern both because of its prevalence and because of the complexity of treating pain with opioid pain medications. Some insurance systems, both private and public, have begun to impose dose limits on opioid prescriptions. The typical dose limit imposed by insurers ranges from 100mg daily morphine equivalent dose (MED) to 400mg daily morphine equivalent dose. There are little data to support these dose limits, and as a result they are very controversial.  

Objective: Using retrospective data we aimed to correlate patients’ morphine equivalent dose (MED) with data about medication adherence and illicit drug use obtained from urine toxicology.  

Methods: Data was collected from 5 clinics within the San Francisco Department of Public Health Network. All patients who had a urine toxicology screen ordered by their medical provider and sent to the San Francisco General Hospital Clinical Laboratory during a six month time period (3/1/2012 - 8/31/2012) and who were being treated for chronic pain were included in the study. We did a detailed analysis of urines using immunoassay and confirmatory mass spectrometry along with a chart review for patients who were being treated for chronic pain. We calculated the MED for each subject and did Poulsen's distributions to examine correlations with adherence and illicit drug use.

Results: We found that adherence to all opiate medications, without the use of any additional illicit drugs (full compliance) decreases with increasing opiate doses. There is an inflection point on the graph at 300mg MED. This graph appears to be very similar for patients on methadone maintenance treatment as well.  

Conclusions: This finding may suggest that increasing opiate doses do not necessarily improve compliance and may help to provide guidance for clinicians about the efficacy of increasing opiate doses.

Opiate Substitution: An Opportunity to Adequately Treat Tuberculosis in People Who Inject Drugs

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Background: People who inject drugs (PWID) are at risk for contracting HIV and HCV. In addition, drug criminalization in many countries leads to incarceration of PWID and exposure to TB. This case report discusses the pertinence of integrating TB screening to the infectious diseases check-up in drug users with history of incarceration followed at addiction clinics.  

Objectives: Healthcare workers must pay particular attention to possible TB-infection in patients who have migrated from countries with a repressive approach to drug addiction. Moreover, opiate substitution therapy in PWID establishes a therapeutic relationship, which allows caring for underlying medical conditions such as blood-borne viruses and TB.  

Case Presentation: Mr. P.T. - The patient is a 36-year-old Georgian, native of war-torn Abkhazia. Started consuming opium at age 16 with multiple incarcerations due to drug addiction penalization. He suffered considerable physical and psychological abuse as an inmate. During his last incarceration in Georgia (2008-2013) he received a 6-month treatment for TB. Upon his release from jail he migrates to Switzerland and presents to Lausanne’s University Hospital in October 2014 with a 2-week history of cough, sweats, and asthenia. Sputum smears are negative for acid-fast bacilli, but molecular methods (GeneXpert) show presence of Mycobacterium tuberculosis resistant to rifampicin. The patient is diagnosed with likely Multi Drug Resistant TB.
(MDR-TB), and started on treatment (amikacin-isoniazid-moxifloxacin-ethambutol-cicloserin-prothionamide). In addition the patient suffers from alcohol abuse, PTSD, and HCV. Both TB DOT-treatment and opiate substitution (methadone-HCL) are currently delivered and surveyed at the Addiction Clinic by an interdisciplinary medical team. **Discussion:** Opiate substitution therapy at Addiction Clinics enables a trust relationship between health workers and PWID, thus laying the framework for an integrated health approach aiming towards harm reduction, diagnosis and treatment of underlying transmissible diseases. In this patient case report, opiate substitution sets the basis to ensure adequate MDR-TB DOT, thus preventing the development of further resistance profiles in this patient and further TB transmission.

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**Factors Associated with Opioid Relapse Following Release from Jail**
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**Background:** The period following release from incarceration has been shown to be a time of high risk for drug relapse and associated social, legal, and medical consequences. Relapse to opioids, in particular, has been demonstrated to be a leading cause of death among newly released inmates. However, few studies have directly examined the factors associated with relapse to opioids after release from jail. **Objective:** The purpose of this study was to characterize individuals who relapsed back to opioid use following release from jail. **Methods:** 7,243 inmates released from county jail in Alabama and under legal supervision in the community from 2007-2012 were administered a baseline assessment and provided random urine drug screens during their time under community supervision. Cox Proportional Hazard model analysis was used to examine the factors associated with time to relapse to opioids. **Results:** Over a quarter of the sample (26%) relapsed to opioids after release from jail, with 28.7% of those with a positive urine drug screen within the 72 hours after release. African American women older than age 28 who had a history of a medical problem were at the highest risk of relapse relative to other demographic groups. **Conclusions:** Older, African American women with a prior medical condition may be the highest risk group for relapse to opioids. This study highlights the need for targeted behavioral and pharmacotherapy interventions at the time of release to prevent resumption of opioid use after jail release.

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**National Trends in Heroin-Related Skin and Soft Tissue Infections and Associations with Heroin Market Characteristics**
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**Background:** Despite increasing heroin use, little is known about national rates of skin and soft tissue infections (SSTI) and their relationship to heroin quality and type. Use of “Black Tar” heroin (BTH), predominant in western US states, may have greater risk for SSTI compared with
eastern US powder heroin (PH) due to its association with subcutaneous injection practices or possible contamination. **Objective:** This study focuses on national trends in heroin-related SSTIs and quantifying community risk associated with heroin market characteristics (price, purity, heroin type). **Methods:** For years 1992-2009 price, purity, and heroin type series were estimated from the DEA data; heroin-related SSTI hospitalizations were constructed from the Nationwide Inpatient Sample (NIS) data; and confounding variables were constructed from multiple data sources. Multi-level models with random hospital intercepts were used to estimate the effect of price, purity, and heroin type on yearly hospital counts of SSTIs. **Results:** Rates of heroin-related SSTI doubled from 0.5 to 1 per 100,000 nationally between 2000 and 2010. The rates of SSTI among 30-39 year olds increased from 9.9 to 22.9/100,000 per between 2000 and 2010. Heroin market features were strongly associated with changes in the rate of SSTI. Adjusting for covariates, each $100 decrease in yearly MSA heroin price-per-pure gram was associated with a 2% increase in in the rate of heroin-related SSTI hospital admissions. BTH-dominant cities had a 40% higher rate of SSTI hospital admissions compared to PH-dominant cities. **Conclusions:** Heroin-related SSTIs are increasing and structural factors, including heroin market conditions, are associated with higher rates of SSTI hospital admissions. Clinical and harm reduction efforts should educate heroin IDUs on local risk factors (eg heroin type), promote vein health and provide culturally sensitive treatment services for SSTI. Public health efforts should improve access to safer injection equipment and drug treatment services.

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### Access to and Payment for Office Based Buprenorphine Treatment in Ohio

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**Background:** Since OBT's introduction the number of eligible prescribers has increased from 9,000 in 2006 to over 20,000 in 2012 and total sales of buprenorphine-naloxone have increased ten-fold. Nationally there is increasing concern that buprenorphine misuse and abuse is on the rise. Universal access to OBT is still far from realized. Policymakers and oversight agencies are challenged with the need to expand access to effective treatment while curtailing diversion. **Objective:** Our study sought to characterize physicians who participate in office based therapy (OBT) in order to assess patient access to OBT in Ohio 10 years after its introduction. **Methods:** This study is a cross-sectional telephone survey to characterize buprenorphine prescribers in the state of Ohio and the forms of payment that they accept. The study-addressed issues of access by determining what proportion of publicly listed OBT-eligible physicians are currently engaged in OBT (>1 patient in treatment) and what forms of payment they accept. It also investigates the prevalence of factors that have been hypothesized to be associated with increased buprenorphine doses or diversion: cash-only practices; practices that accept insurance for non-OBT services but require cash for buprenorphine; and physicians with a history of previous medical board action. **Results:** Almost one fifth (19.3%) of the providers contacted who were eligible to prescribe buprenorphine were not active in OBT. Only 52.7% of the survey respondents who were active OBT providers accepted insurance for OBT services. 26.5% of active OBT providers were cash-only providers for all clinical services. 20.8% of OBT providers required cash for OBT services but accepted insurance payments for all other clinical services (OBT-exception providers). **Conclusions:** Access is far more limited in reality than the 466
publicly listed physicians suggest. Only 80% currently provide OBT, and of those only slightly more than half accept insurance payments. "Cash only” practices were strongly associated with free standing dedicated addiction practices or so called "Suboxone Clinics”. OBT-exception practices were more likely in urban locations, were not with dedicated addiction practices, typically consisted of individual offices that provided multiple medical services, for which OBT was the only one where insurance coverage was not accepted. This "OBT-exception” practice is inconsistent with typical insurance contracts and has been found to be fraudulent in some legal cases. Addressing the high percentage of cash related OBT services should be a major issue for Addiction Organizations, Federal and State oversight agencies, and all those advocating raising the patient OBT limit above 100 patients per provider.

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Treatment and Self-Help Availability in Disadvantaged and Minority Neighborhoods
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Background: Recovery-oriented systems of care emphasize neighborhood-based service delivery and support systems to provide ongoing, integrated services to prevent relapse after alcohol or drug treatment. Relatively little is known about geographic availability of substance abuse treatment and self-help resources (such as Alcoholics Anonymous, AA) that may support recovery. Objective: Describe distributions of treatment and self-help relative to neighborhood characteristics including socioeconomic status (SES) and racial/ethnic composition.

Methods: Using spatially adjusted regression models and data from 4 northern California counties (862 neighborhoods defined by Census tract boundaries), we examined neighborhood availability of recovery resources for 2 samples: A 3-county area including urban, suburban and rural communities (661 neighborhoods); and a single large, urban city/county (195 neighborhoods). Results: In 2010, treatment programs clustered in just 14% of neighborhoods and AA meetings were held in 31% of neighborhoods. The most consistent predictors of treatment program density were indicators of low SES, particularly property values in the urban county (inversely associated) and the proportion of residents below poverty in the 3-county area (positively associated). The most consistent predictor of self-help meeting density was the proportion of White residents. In the urban county, both Spanish-language treatment services and Spanish AA meetings were significantly more likely to be found in neighborhoods with a high proportion of Latino residents. In the 3-county area, density of Latino residents was associated with Spanish AA meetings, but not with Spanish-language treatment services. Another correlate of self-help meeting density was outpatient treatment program density.

Conclusions: Disadvantaged areas had greater access to treatment, which may make some people more likely (and others less likely) to attend treatment. There also are possible risks associated with being in disadvantaged areas early in recovery. With the exception of meetings in Spanish, AA meetings were located in areas with predominantly White residents, which has implications for AA as a recovery resource.

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Housing Associated with Achieving Abstinence after Detoxification in Adults with Addiction
Tae Woo Park, MD; Christine Maynié-François, MD; Richard Saitz, MD, MPH - Boston University, Boston Medical Center

Background: Homelessness is associated with a worse prognosis among those with addiction. The impact of housing on achieving abstinence among adults with addiction after detoxification is less clear, and the results of studies of Housing First efforts have been mixed.

Objective: To study the prospective association between housing and later abstinence in a cohort of adults enrolled during detoxification in a randomized trial that compared integrated addiction, medical and mental health care with usual separate care.

Methods: Participants were adults with alcohol or other drug dependence recruited from an inpatient detoxification unit. The outcome was 30-day abstinence from heavy drinking, stimulants and opioids at 12 months assessed by the Addiction Severity Index. Homelessness was defined as any night on the street or in a shelter in the past 3 months. The main independent variable was housing categorized as 1) continuously (at baseline and 6 months) homeless, 2) continuously housed, 3) homeless to housed (homeless at baseline, housed at 6 months), and 4) housed to homeless. A logistic regression model adjusting for socio-demographics, physical and mental health measures, and addiction severity examined the longitudinal association between housing and abstinence.

Results: Of 416 participants, 343 provided housing information at baseline and 6 months, and substance use information at 12 months; 28% were continuously homeless, 34% were continuously housed, 6% went from housed to homeless, and 33% went from homeless to housed. At 12 months, 47% were abstinent. Compared to those continuously homeless, transitioning from homeless to housed was associated with achieving abstinence (adjusted odds ratio: 1.85, 95% CI 1.04-3.30, p=0.04). There was no significant association between continuous housing or transitioning from housed to homeless and achieving abstinence.

Conclusions: Among adults with substance dependence undergoing detoxification, those who transitioned from homelessness to being housed were more likely to achieve abstinence 12 months later. These results are consistent with the view that provision of housing can improve addiction outcomes.

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Income Variability by Race in Tobacco Outlet Density in Maryland
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Background: Little of the research on tobacco outlet density has focused on its relationship with population demographics. Studies have shown that higher concentrations of minorities and lower-income individuals correlate with greater presence of tobacco outlets. Recent work considered their interaction and concluded that income level was the strongest predictor.

Objective: This study continued investigation into the relationship between income and tobacco outlet density by analyzing Maryland geopolitical areas with similar racial concentrations yet differing income levels.

Methods: Population data for census tracts were obtained from the 2010 Decennial Census. Demographic data were obtained from the 2007-2011 American Community Survey.
Community Survey. Tobacco outlet data from 2013 were obtained from the MD Judiciary Business License database. Data were geocoded in ArcMap; spatial join tool was used to determine the number of tobacco outlets per residential census tract. Analyses contrasted tobacco outlet density in predominantly White and Black geopolitical areas. **Results:** Baltimore City: population of 620,961, 65.3% Black, median household income of $43,571.20, 200 residential census tracts, and average of 7.92 tobacco outlets per tract. Prince George's County: population of 863,420, 67.5% Black, median household income of $77,190.01, 218 residential census tracts, and average of 3.94 tobacco outlets per tract. Baltimore County: population of 805,029, 69.4% White, median household income of $71,021.06, 214 residential census tracts, and average of 4.10 tobacco outlets per tract. Montgomery County: population of 971,777, 62.5% White, median household income of $106,485.56, 215 residential census tracts, and average of 3.2 tobacco outlets per tract. T-test results showed statistically significant differences in median household income, percentage of incomes below poverty level, and average tobacco outlets per residential census tract for Baltimore City vs. Prince George's County, Baltimore County vs. Montgomery County, Baltimore City vs. Baltimore County, and Prince George's County vs. Montgomery County. **Conclusions:** The results of analyses were consistent with hypothesis: geopolitical areas with higher income level, despite similar racial concentration, had lower tobacco outlet density. White geopolitical areas, when compared to comparable Black geopolitical areas, consistently had much higher socioeconomic status (higher median household income, lower percentage of incomes below poverty level) and lower tobacco outlet density. This study further suggests that the link between socioeconomic status and tobacco outlet density is substantiated.

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**Barriers to Engaging in Addiction Treatment Following Release from Incarceration**

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**Background:** For many individuals reentering the community following release from incarceration, engaging in addiction treatment has significant implications for recidivism and quality of life. **Objective:** The goals of this quantitative, exploratory study were to: (1) explore discrepancies between needed and utilized addiction treatment services during community reentry; (2) identify barriers to meeting these needs; (3) compare experiences with reentry treatment barriers by sex; and, (4) compare experiences and barriers by release from jail, prison, or community based correctional facility (CBCF). **Methods:** Part of a larger, longitudinal service utilization study, in-person interviews were conducted with 137 men (55%) and women (45%) in Ohio two weeks prior to release and three months following release from incarceration. Brief screening for a substance use disorder was conducted; self-assessed addiction treatment needs, ratings of 30 potential service barriers, and sociodemographic characteristics also were addressed. **Results:** Participants ranged in age from 20-59 years (M=35), and were released from jails (15%), prisons (53%) and CBCFs (31%). Post-release, 44% needed services to address a substance use problem; only 21% received formal treatment and 28% engaged with self-help or 12-step groups. By sex, no significant differences appeared regarding number of post-release treatment barriers endorsed, but barriers were significantly greater for individuals released from jail compared to prison or CBCF (ANOVA p<.01). Access/ability to pay for treatment and self-
efficacy/motivation barriers were significantly related to substance use during reentry (logistic regression). **Conclusions:** Persons who have been incarcerated have a high need for substance-related services during community reentry. They encounter many barriers to receiving these needed services, particularly if they were released from jail rather than prison or CBCF. Local criminal justice and substance use treatment providers should collaborate and advocate to improve substance-related treatment access and to increase motivation for change among individuals being released from incarceration.

Current Chronic Prescription of Opioids and Muscle Relaxants by Era of HIV Diagnosis
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**Background:** Early in the HIV epidemic, treatment focused on palliating individuals' pain and symptoms. With the advent of protease inhibitors in 1996, and increasingly effective regimens including a one-pill-a-day combination in 2006, HIV has become a chronic disease. Symptom-directed medications are often prescribed chronically, but have limited efficacy and risks including abuse. **Objective:** Our objective was to describe current chronic prescription of opioids and muscle relaxants in individuals with HIV, and compare by era of diagnosis. **Methods:** Individuals followed in an academic HIV clinic between 4/2008 - 7/2012 were categorized into 3 eras of initial HIV diagnosis (pre-1996; 1997-2006; 2007-present) based on self-report. Current chronic prescription was defined as continuous opioids for >3 months as of the end of the observation period. Chi-squared tests were used to compare values between eras. **Results:** Among 2116 participants, 1646 (79%) were male, median CD4 count was 549 cells/mm3, and 1560 (75%) had an undetectable viral load. Six hundred forty-eight participants (31%) were diagnosed pre-1996; 879 (42%) from 1997-2006; and 588 (28%) from 2007-present. Individuals diagnosed with HIV during earlier eras were more likely to be prescribed opioids (32% vs 26% vs 19%, p<0.001) and muscle relaxants (12% vs 10% vs 7%, p=0.03). Individuals diagnosed during earlier eras were more likely to be older (median age 51 vs 36 vs 38 years, p<0.005), have higher rates of cancer (14% vs 5% vs 0%, p<0.005), have painful symptoms (neuropathy 28% vs 19% vs 12%, p<0.005; joint pains/muscle aches 34% vs 31% vs 21%, p<0.005); and die during the study (8% vs 5% vs 3%, p=0.001). Similar rates of illicit substance use (cocaine, opioids) were observed across eras. **Conclusions:** Chronic prescription of opioids and muscle relaxants are common in HIV-infected patients, especially in individuals diagnosed in earlier eras. Older age and higher rates of comorbidities/mortality may explain these differences. Providers may also perceive individuals diagnosed earlier as having pain directly related to HIV and lower abuse potential. Additional investigations are needed to explore these relationships and develop interventions to address prescribing practices.
'Typologies of Opioid Analgesic Initiates and Patterns of Prescribing in New York City: A Qualitative Analysis'
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**Background:** Non-medical use of opioid analgesics (OAs) has increased in the US over the past decade, yet there has been little in-depth exploration into circumstances of initiation of OA misuse, or the prescribing patterns that might facilitate or minimize diversion from medical to non-medical use. **Objective:** This qualitative study characterized patterns of initiation into misuse of OAs and typologies of prescribing patterns of opioid prescriptions. **Methods:** Five focus groups were conducted with a total of 19 individuals recruited via syringe exchange and drug treatment programs. The interview guide focused on three themes: the initiation of OA misuse, methods of OA diversion and acquisition, and the intersection of illicit and prescription drug use. Focus groups were audio-recorded and transcribed. Transcripts were coded independently by the two investigators and differences resolved by consensus. Codes were organized into typologies of initiates and prescribers. **Results:** Participants were aged between 20 and 46 years. The majority were male (n=14), and non-Hispanic white (n=12). Three initiate groups were identified: recreational initiates who typically began to misuse in their teen years; medical initiates who began to misuse OAs following an illness or injury; and, a third group of experienced opioid users whose OA initiation followed a history of illicit heroin use. Levels of prescriber oversight reported by participants who received an OA prescription from a doctor varied widely. Four typologies emerged to describe a continuum of prescribing patterns: judicious, routine, loose, and aberrant. While initial prescriptions for OAs often originated from routine or judicious prescribers, sources of OAs for misuse tended to come from loose and aberrant prescribers. **Conclusions:** Our data show heterogeneous patterns of initiation, indicating the need for interventions tailored to particular user groups. Participants described highly variable levels of prescribing by physicians; aberrant and loose prescribing facilitated diversion and OA misuse, suggesting that strategies to enhance prescriber oversight could reduce overdose and dependence.

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**The Role of the Hospital-Based Physician in Long Term Opioid Use**
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**Background:** Hospital-based physicians care for the majority of hospitalized patients in the United States. Hospital-based physicians are encouraged to facilitate patient discharges to accommodate high patient volumes while meeting patient satisfaction metrics, including pain control. **Objective:** Determine if receipt of a new opioid prescription at hospital discharge in opioid naïve patients increased long-term opioid use, as compared to patients who did not receive a new opioid prescription at hospital discharge and quantify the risk. **Methods:** This was a retrospective cohort study of all patients presenting to a safety-net medical center that utilized electronic medical records. Baseline characteristics included age, gender, race/ethnicity, insurance, substance use, mental health, and chronic disease. The first hospital discharge during the 2011 calendar year was categorized as the index discharge. Long-term
opioid use was opioid use lasting ≥90 days with 10+ prescriptions filled or 120+ days supply of opioids dispensed. Patients who filled an opioid prescription 12 months prior to their index discharge were excluded. Remaining patients were categorized into two groups, patients who did or did not receive a new opioid at hospital discharge. Logistic regression modeling assessed the risk of long-term opioid use while controlling for alcohol use, mental health disorder, history of malignancy or chronic and medical comorbidities. **Results:** Of the 6,913 index discharges, 25.3% (n=1,748) of patients were prescribed a new opioid at hospital discharge. Hydrocodone-acetaminophen comprised 50% (n=949) of the opioids prescribed. Opioid naïve patients who received a new opioid prescription at discharge were at increased risk of becoming long-term opioid users (OR=4.26, 95% CI 2.94-6.17, p<0.0001) than patients who did not receive a new opioid. **Conclusions:** Receipt of a new opioid at hospital discharge increased the risk of long-term opioid use by four-fold. Limitations included the absence of information regarding opioid prescriptions filled at pharmacies outside of our safety-net institution. This likely resulted in under ascertainment. Involving the patient's primary care physician before opioid initiation, avoiding opioids for chronic, non-cancer pain, and ensuring reliable patient follow up with a health care provider may reduce long-term opioid use.

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**Hunting for the Happy Medium - Management of a Patient Stable on Suboxone Needing Emergent Opioid Analgesia for Pain - A Case of Tolosa Hunt Syndrome**

Mitika Kanabar, MD; Anna Lembke, MD - Stanford Addiction Medicine Program

**Background:** Current guidelines for treatment of opioid use disorders with Suboxone recommend discontinuing Suboxone prior to surgery or for emergent hospitalization needing opioid analgesia. Little is known however, about the risk of relapse to addictive behaviors when Suboxone is discontinued in these contexts, or the risks and benefits of continuing Suboxone through the acute hospitalization/peri-operative period. We will describe a case where Suboxone was discontinued during hospitalization and short-acting opioids initiated for pain control, which may have contributed to relapse to opioid and alcohol abuse after discharge.

**Objectives:** We will discuss the current and emerging principles regarding the care of Suboxone stable patients when requiring emergent or peri-operative analgesia with opioid medications. We will compare guidelines for management of patients on Suboxone and Methadone maintenance in similar circumstances. **Case Presentation:** A 60 year old man with opioid and alcohol use disorders stable on Suboxone was admitted with a one week history of painful left eye ophthalmoplegia, diplopia and ptosis. His imaging studies were negative for aneurysms. No evidence of infectious process was found. MRI showed soft tissue enhancement adjacent to the cavernous sinus around cranial nerve III. A diagnosis of exclusion, Tolosa Hunt syndrome was presumed and intravenous steroid therapy was started. He needed oral and intravenous opioid medication for pain. Suboxone was stopped due to concerns about inadequate analgesia. He was discharged with several medications including oxycodone for pain. Unfortunately he was not able to adhere to the suggested close follow up with addiction medicine and did not contact his community based sponsor. He relapsed to prescription opioids, as well as to alcohol use, after over a decade of abstinence from alcohol. Nearly 4 weeks after his relapse, he sought help for his addiction and Tolosa Hunt syndrome. **Discussion:** This case highlights the need for in-house
protocols for patients on Suboxone needing emergent or peri-operative analgesia. We will review current evidence for both.

Prescription Opioid Use is Associated with Increased Mortality in the Reasons for Geographic and Racial Differences in Stroke (REGARDS) Study
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Objectives: Prescription opioid use (POU) for chronic non-malignant pain has increased in the US over the last decade. Previous research has demonstrated increased mortality related to POU overdose or abuse but population-based studies have not examined the relationship between POU and all cause mortality (ACM). Objective: To study the relationship between POU and all cause mortality (ACM), adjusting for a variety of underlying chronic conditions as well as levels of physiological functioning, including chronic pain. Methods: POU was examined in 30,239 participants of the REGARDS study, a national cohort of community-dwelling black and white adults aged ≥ 45 years recruited between 2003 and 2007. Persons receiving cancer treatment were not eligible. Baseline data were collected through a telephone survey and an in-home study visit. POU was ascertained at baseline via pill bottle review. Telephone follow-up was conducted every 6 months, and deaths were expert-adjudicated based on review of medical records, interviews with family members, death certificates and autopsy reports. Sequentially adjusted Cox proportional hazards models examined associations of POU with ACM, overall and stratified by gender, controlling for socio-demographics, behaviors, physiological measures, self-reported health status, chronic diseases and chronic pain at baseline.

Results: Compared to the 27,174 non-users, 1,851 (6.4%) participants using POUs did not differ in mean age (64.9±9.4 vs. 64.7±9.4, p=0.34) but included fewer men (33.6% vs. 45.9%, p <.001) and more blacks (45.2% vs. 40.7%, p < .001). Over a median follow up of 5.3 years, there were 288 and 2,484 deaths in those using and not using POUs. In the fully adjusted analysis, POU was associated with an increased risk for ACM (hazard ratio [HR]=1.23, 95%CI: 1.08-1.41). POU had increased mortality from cardiovascular causes and cancer (table 1.) In the sex-stratified models ACM was increased among women (HR=1.35, 95%CI: 1.12-1.64) but not men (HR=1.09 95%CI: 0.89-1.33; p for interaction 0.09). Conclusion: POU in this community sample was independently associated with increased mortality, especially among women.
**Adolescent SBIRT Implementation in Pediatric Primary Care: Results from a Randomized Trial in an Integrated Health Care Delivery System**

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**Background:** Alcohol and other drug (AOD) problems can be devastating in youth, and pediatric Primary Care Providers (PCPs) are ideally placed to identify AOD problems before they become more serious. **Objective:** To compare implementation of two modalities of adolescent Screening, Brief Intervention and Referral to Treatment (SBIRT) during pediatric well visits. **Methods:** We randomized pediatricians (n=52) in an integrated health system clinic to three arms: PCP, where pediatricians were trained to deliver SBIRT; BMS, where adolescents endorsing AOD use or mood symptoms were referred to a behavioral clinician for SBIRT; and Usual Care, where providers had access to assessment tools in the electronic health record (EHR), and referral resources, but were not trained. We used EHR data to examine screening, BI and referral rates. Interventions could focus on AODs, mental health (MH), or both. **Results:** During the study 8,981 well visits occurred. Screening rates differed significantly across the arms (p<.001). A higher percentage of patients endorsed mood symptoms in the PCP arm (16.4%, BMS=12.6%, UC=13.7%; p<.001); endorsement of AOD use did not significantly differ. Approximately 30% of teens in each arm were candidates for assessment, having endorsed at least 1 of the 5 AOD or mood items (ns). The percentage of patients endorsing mood symptoms who were assessed per the protocol, was significantly higher in the BMS than in the PCP arm (p<.001); assessment among those with AOD use was significantly higher in the PCP arm (p<.001). Among those eligible, 26.5% in the BMS, 16.7% in the PCP, and 2.2% in the UC arm received a BI (p<.05). The intervention arms did not differ significantly in the percent of BIs delivered with any AOD content; the BMS arm delivered more BIs with any MH focus (p<.001). **Conclusions:** The two intervention arms demonstrated better implementation of different facets of SBIRT. Findings illustrate the challenges inherent in the different models.

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**Sexual Violence in the Context of Drug Use among Young Adult Nonmedical Users of Prescription Opioids in New York City**

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**Background:** Sexual violence among young people is receiving increased national attention, with many States pushing for new legislation. Prevention efforts are often aimed at reducing drug-use at an individual level. A better understanding of the drug use contexts in which sexual violence frequently occurs could inform the development of new prevention efforts. **Objective:** This qualitative study seeks to explore the effects of drug-use contexts on sexual interactions and sexual violence. **Methods:** A sample of 46 New York City young adults who reported engaging in nonmedical prescription opioid use within the past 30 days completed in-depth, semi-structured interviews, with the issue of sexual violence emerging as an unanticipated, yet salient, theme. Informed by grounded theory, all portions of the interviews related to sexual violence were inductively coded for key themes. **Results:** Drug use often
occurred in social settings (e.g., parties) that facilitated sexual interactions among users. In some instances, such interactions led to sexual violence, which ranged from harassment to rape. Participants also described the negative social characteristics ascribed to them as drug users and their internalization of these attitudes. Such views contributed to complex power dynamics related to gender, income, and stereotypes about drug users that were conducive to sexual violence. Most participants did not report sexually violent incidents to police.

**Conclusions:** A better understanding of the social settings in which drugs are used could facilitate the development of prevention efforts to reduce sexual violence. Our research indicates a need to address this context, reduce social stigmatization of drug users and encourage supportive reporting of such incidents.

**Bere Responsabile:** Hazardous Alcohol Use and Cultural Adjustment among U.S. College Students Abroad in Italy
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**Background:** Italy is one of the top destinations for U.S. college students studying abroad. Hazardous alcohol consumption abroad, such as binge drinking, poses both social-level as well as individual-level consequences, such as physical or psychological safety risks. Several recent high-profile instances of alcohol-related deaths in this group have been reported in the international media. Additionally, local news reports describe conflicts around students' drinking behaviors and Italian cultural norms. **Objective:** Our primary objective was to assess the prevalence of hazardous alcohol consumption and recent binge drinking behavior in a sample of college students abroad in Italy. Secondary objectives were to determine associations between alcohol use and sociocultural adjustment. **Methods:** We surveyed U.S. students (n = 111) studying abroad in Italy. Hazardous alcohol use was measured with the Alcohol Use Disorders Identification Test (AUDIT). Recent binge drinking was assessed by a gender-specific item (>5 drinks/male or >4 drinks/female). Sociocultural adjustment (positive and negative acculturation) was measured with the Sojourn Adjustment Measure. Descriptive analyses were used to report frequency of hazardous alcohol use (AUDIT score >8) and binge drinking. Bivariate analyses were used to determine associations between hazardous alcohol use and cultural adjustment.

**Results:** The average AUDIT score was 8.02 (SD = 4.85) with approximately half of the respondents (45%) identified as hazardous drinkers. More than half (63%) reported binge drinking at least once within the past two weeks. Hazardous alcohol use was positively associated with binge drinking (r = .62, p < .001). Binge drinking was positively associated with interacting socially with American peers (r = .42, p < .001) and to a lesser extent, interacting socially with Italians (r = .21, p < .05). Hazardous alcohol use was positively related to interacting socially with American peers (r = .30, p = .002). **Conclusions:** Study abroad advisors, instructors, and staff should consider alcohol misuse prevention strategies that are tailored to student values and interests as well as Italian cultural norms.

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References to Marijuana in Popular Music, 2009-2011
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Background: Nationally, one-fifth of high school students report past-month use of marijuana. Marijuana use is associated with adverse outcomes in late adolescence and emerging adulthood, including substance use disorders and poor school performance. In popular culture, the majority of Americans report that marijuana use has minimal negative effects and support its legalization. Understanding how the mass media portrays marijuana use could provide knowledge to inform novel prevention strategies. Adolescents are enthusiastic consumers of music, and their consumption is linked to identify formation, moral development, and their sense of self. The themes and topics in popular music may impact adolescents' risk behaviors and perceptions. Specifically, references to marijuana in music may inform young people's impressions about what it feels like to use marijuana and the circumstances under which use is considered socially acceptable. Objective: The aims of this study were to: (1) assess the frequency of references to marijuana in 4 different genres of popular music, and (2) to qualitatively summarize the nature of those references. Methods: Billboard Magazine year-end charts from 2009-2011 were used to identify the most popular songs in four genres: Urban, Pop, Country, and Rock (n=719 songs). We counted references to marijuana overall and by genre; listed the terms used to refer to marijuana; and identified and counted themes surrounding mentions of marijuana. Results: Sixty-four (9%) of the songs referenced marijuana. Most (n=57) were in the Urban genre, which includes Hip-hop, Rap, and R&B. In fact, 22% of the Urban songs referenced marijuana. In Urban songs that referenced marijuana, the drug was most commonly called "weed", and 26% (15 of 57) made reference to price, quality/potency, or quantity. Six songs referenced blunt use. The most common themes surrounding marijuana use were boasting about wealth (23 songs) and partying (18 songs). No songs referenced adverse impacts of marijuana. Conclusions: References to marijuana are somewhat common in Urban songs. While the themes surrounding use vary, there were no references to any adverse impacts of use and several references to positive effects. Given that adolescents listen to 2.5 hours of music per day on average, and that urban music is one of the most popular genres of music among adolescents, young people are highly exposed to descriptions of marijuana use. This exposure may normalize use of the drug, and make young people more amenable to initiation and continued use. Teaching young people to be critical consumers of media, including music, may be an important strategy for marijuana use prevention.

Effectiveness of Extended-Release Naltrexone (XR-NTX) among Criminal Justice-Involved, Persons with Opioid Use Disorders
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Background: XR-NTX is increasingly considered as a therapeutic option for opioid use disorders in criminal justice settings despite limited evidence for its effectiveness in this population. Objective: This 5-site open-label randomized effectiveness trial examines whether
XR-NTX reduces relapse compared with treatment as usual (TAU) among criminal justice involved persons with opioid use disorders. **Methods:** Eligible subjects meet DSM-IV criteria for opioid dependence, have criminal justice involvement in the prior 12 months and a baseline urine test negative for all opioids. The XR-NTX group receives 6 monthly injections of 380 mg and a nurse visit; the TAU group receives referral to available treatment options in the community. Calendar interviews and urine tests occur at baseline and every 2 weeks over a 24 week treatment period. The primary outcome of relapse is defined as 5 or more days of self-reported opioid use, or 2 or more self-reported days of opioid use plus a positive urine for opioids in a two week period (i.e. fortnight). This preliminary analysis treats missing urine results conservatively as negative pending full data cleaning. **Results:** The 153 subjects randomized to XR-NTX and 155 to TAU did not differ at baseline: mean age is 44, 85% are male, 48% Black, 87% report lifetime heroin use, and 73% are on probation or parole. So far, 282 have completed the treatment period. Relapse has been detected in 44 TAU (32%) and 19 XR-NTX (13%) subjects (P<.0001). The TAU group has experienced a relapse in 16% of fortnights compared to only 5% for NTX (repeated-measures mixed model, risk ratio, 3.18; P<.0001). The median time-to-relapse is 3 fortnights for TAU subjects and 6 fortnights for XR-NTX (Hazard ratio .36; P=.0002). **Conclusions:** XR-NTX reduces and delays relapse among criminal justice-involved persons with opioid use disorders.

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**Provision of Intranasal Naloxone to Patients Taking Chronic Opioids at San Francisco General Hospital: Implementation and Challenges**

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**Background:** According to the Centers for Disease Control, in the past decade, unintentional overdose from prescription opioids has increased 400% in women and 265% in men. More people die from prescription opioid overdose than heroin and cocaine combined. Given this trend, there is increasing interest in safe opioid prescribing, which includes careful risk assessment, close observation of patients receiving opioids, and education about risks, including unintentional death. A novel program to decrease harm includes the provision of naloxone to all patients taking chronic opioids. **Objective:** To implement a program offering intra-nasal naloxone to all patients receiving chronic opioids for non-cancer pain. **Methods:** The program began in January of 2013 and included various tasks including ordering of supplies and creation of a work-flow for clinic, a robust educational campaign, use of a chronic disease registry to quantify and characterize eligible patients, and individual outreach to providers to encourage prescribing. The program was led by a physician champion and a pre-medical student volunteer. The actual prescribing and training for naloxone was done by the patient’s primary care provider. **Results:** In General Medical Clinic, there are 308 patients with chronic, non-cancer pain who receive monthly opioid prescriptions and are included in our disease registry. The mean, daily morphine equivalent dosage is 229mg. The naloxone program was launched in January 2013. By March 2014, 106 patients were prescribed naloxone. 78/106 patients were members of the chronic opioid disease registry, indicating that 25% (78/308) of eligible patients have received the medication. **Conclusions:** The General Medicine Clinic was able to successfully initiate a program of naloxone prescription for patients taking chronic opioids, but
uptake has been gradual. Barriers to prescription of naloxone include provider- and patient-specific factors such as inadequate time and lack of perceived risk. Next steps will include expansion of the program to include members of the behavioral health team and prescription via group visits.

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Naloxone Administration in Veterans for Overdose Rescue Therapy (NAVORT)
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Background: Opioid related overdoses are an increasing problem throughout the United States. Veterans are at greater risk of overdose deaths versus the general population. Few details about veterans' overdoses are published. Identifying risk factors among veterans who overdose could help tailor preventative efforts. Objective: Identify risk factors among veterans receiving naloxone for opioid overdose. Methods: A retrospective review of opioid overdoses treated with naloxone 2009-2012 at the Salt Lake City Veterans Affairs Medical Center Emergency Department (ED) was performed. Date of naloxone administration, demographic information, diagnoses, prescription information, and laboratory data were queried. Diagnoses (ICD-9 codes) previously correlated with increased risk of overdose death were tallied. Prescribed opioids (OPs) and benzodiazepines (BZs) available within 120 days of and on the day of the overdose were tallied. Doses were converted into morphine equivalents (MED) and lorazepam equivalents (LED). Urine drug screens (UDS) obtained in the 120-day time period were reviewed. Results: Naloxone was used for opioid overdose in 92 ED visits during the study period. Veterans prescribed both OP and BZ had higher MED (mean=183mg) available on the overdose date than those prescribed only OPs (mean=126mg). This trend held for the 120-day timeframe also. Among veterans who had UDS performed, 42% were reflective of prescribed medications. These veterans were also younger (average age =62) than those with no or non-reflective UDSs. Conclusions: Overdose victims in this study of veterans were younger than generally reported as "at risk" individuals. The VA's opioid safety guidelines target >200mg MED as "high risk" however most veterans in this study were prescribed lower than the target MED. Many veterans in this study were prescribed OPs and BZs concurrently, a combination noted in many overdose deaths reported by the CDC. Because only 42% of UDS reflected prescribed medications, possible aberrant behaviors may be occurring, which further increases the risk of overdose. Risk factors identified in this study do not correlate with risk factors reported in other literature; further investigation is warranted in this high-risk population.

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Factors Associated with Opioid Overdose Resuscitation
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Background: Opioid overdose deaths are a serious concern for public health in the US. Naloxone is an opioid antagonist shown to safely reverse opioid overdose respiratory depression. Little research is available regarding patient characteristics and administration factors associated with naloxone resuscitation. Objective: This exploratory retrospective data analysis examined factors associated with: (a) naloxone administration for an opioid overdose and (b) factors associated with auxiliary life-saving efforts (rescue breathing/calling 911) in connection with naloxone administration. Methods: Naloxone resuscitation incident information collected by a Pittsburgh-based overdose prevention program that provides naloxone training/prescriptions/dispensing was used in this analysis. Data examined were reported by program participants from 2005-2013 who were trained/received naloxone, used the medication, and returned for a refill. Descriptive and logistic regression analyses were used to identify factors associated with naloxone use and auxiliary life-saving efforts. Results: A total of 260 individuals reported 872 total overdose resuscitations. The mode number of resuscitations per participant was 1; the mean was 3.4 (SD=4.5), and the maximum was 42. The average dose per resuscitation was 1.86 mg (SD=1.3). Four resuscitation attempts (0.46%) reported deaths. Victims being unconscious or in a "coma-like condition" were the strongest physical indicators preceding naloxone administration (OR=3.9; 95% CI=1.6-9.6). The factors most associated with initiation of additional auxiliary life-saving efforts were victims having depressed respiration (OR=3.0; 95% CI=1.9-4.8) or blue lips (OR=2.6; 95% CI=1.5-4.5). Victims accompanied by those who had previously witnessed overdoses taken to the hospital were more likely to receive auxiliary life-saving efforts (OR=2.6; 95% CI=1.6-4.3). Victims accompanied by those who prior to the current event had witnessed overdose deaths were less likely to receive auxiliary life-saving efforts (OR=0.68; 95% CI=0.5-0.9). Conclusions: Naloxone administration most likely occurs when victims become unconscious, and auxiliary life-saving efforts in conjunction with naloxone administration are initiated when a combination of physical symptoms occurs and when those accompanying victims have previous experience with overdoses that were non-lethal and/or needed medical attention. These data suggest the potential importance of equipping those at-risk for overdose or in a risky context with the skills and knowledge to successfully reverse an opioid related overdose.

The Use of Simulated Patients in the Education of Mental Health Professionals in a Graduate Substance Abuse Program
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Background: Simulated patients (SP) have seldom been used in the training of mental health professionals in the substance abuse field. Challenges concerning SP use for complex interpersonal processes such as diagnosing concurrent disorders or learning psychotherapy have been documented. These concerns mostly focus on the authenticity of the SP.
Objective: To document: 1) students' and supervisors' assessment of the authenticity of role plays using SP for assessment interviews and counselling of substance abusing patients; 2) students perceptions of SP as a learning tools in a graduate substance abuse program. Methods: As part of a quality improvement process evaluation, the Maastricht Assessment of Simulated Patients (MaSP) was administered to students and supervisors following 438 role plays using professionally trained actors as SP. Three focus groups were conducted documenting students' perceptions of SP as a learning tool in the program. Results: The MaSP indicates that supervisors and students rate SP use in complex clinical situations as highly authentic. Feedback delivered by the SP is rated as constructive and appropriately delivered. In focus groups, students reported SP use and their video recording as necessary learning tools in spite of the emotionally demanding nature of this methodology. They felt SP use augmented self-confidence and competence compared to traditional teaching methods and offered: a safe and realistic environment for testing new skills; access to rare populations; clear presentation of complex symptomatology. Challenges included: difficulty in teasing out the quality of performance from the actor's task and inability for some students to project themselves in a simulation when observed by other students regardless of performance of the SP. Students' perception was that SP use as the sole or main educational strategy may lead to a sense of weariness overtime.

Conclusions: Results indicate that the use of SP and video recording for complex clinical situations is indicated in the education of mental health professionals in a graduate substance abuse program.

Screening, Brief Intervention, and Referral to Treatment: Pre-Service Interprofessional Education of Undergraduate and Graduate Nursing Students
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Background: Nursing professionals routinely encounter patients with alcohol and drug issues in their daily clinical practice, yet often receive minimal pre-service training in this area. Screening, Brief Intervention and Referral to Treatment (SBIRT) is a public health model for identifying and assisting patients with risky drinking and other drug use, and relates to nursing practice. Objective: We describe three projects that imbedded an SBIRT curriculum into pre-service nursing education programs at the undergraduate and graduate levels. The objective of this program is to improve perceptions and attitudes around alcohol and drug issues, and to increase the number of nursing professionals who are equipped to perform SBIRT in clinical practice. Methods: The Addiction Training for Nurses project (N=500) infused the SBIRT curriculum into undergraduate nursing courses, and included simulation, real-life practice and extensive faculty training. The Nurse Practitioner pilot project (N=150) extended the curriculum into the graduate Nurse Practitioner program. Finally, the SBIRT for Interprofessional Groups of Anesthesia Students project (N=250) focused on both graduate nurse anesthesia students and dental anesthesia students. A mixed-method evaluation assessed attitudes, perceptions, and knowledge of SBIRT through survey data (Alcohol and Alcohol Problems Perceptions Questionnaire, Drug and Drug Problems Perceptions Questionnaire), competency ratings of simulation practice, and student focus groups. Results: The survey data indicated that SBIRT
training and practice improved students' attitudes and perceptions toward working with patients who have alcohol and drug issues. Competency rating results demonstrated that students are able to apply SBIRT principles in practice. Student focus groups indicated students recognized the value of SBIRT training. **Conclusions:** This program has demonstrated that SBIRT can be integrated into nursing curricula at undergraduate and graduate levels, with high significant impact on public health.

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**Teaching Screening, Brief Intervention, and Referral to Treatment (SBIRT) to Social Work Students: Results from a Combined Online Training and Simulated Client Experience**

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**Background:** Although social workers encounter many clients with substance use problems, social work curricula rarely require education on etiology, assessment or treatment of addictions. The SBIRT model has been shown to change learners' attitudes, knowledge and perceived skills when working with substance use issues in practice. **Objective:** The current study assessed social work students' knowledge and attitudes of substance misuse as well as their perceived skills. SBIRT training was done via didactic learning as well as experiential learning with actors portraying standardized clients. **Methods:** Social work students were given a 13-question Likert scaled questionnaire assessing attitudes, knowledge and perceived skills with regard to substance misuse. Next, they completed a computerized training session focusing on symptoms of at-risk drinking and learning the SBIRT model. Students completed the same questionnaire twice more: once, after finishing the training modules, but before participating in simulations with standardized clients (Time 2); and then after completing both the online training and the simulations (Time 3). **Results:** 61 social work students completed the training modules and pre and posttests. Significant differences were found in three of the 13 questions after all training was completed (Time 1 to Time 3): social work students reported more confidence in their ability to screen, assess for substance misuse and successfully refer clients to formal treatment. One question was significant from pre-training to post-online training (Time 1 to Time 2): students felt more strongly that substance use was an appropriate topic to discuss with clients. **Conclusions:** Dual-component SBIRT appears effective in increasing students' perceptions of their ability to change client behaviors and to reduce clients' substance misuse. Adding an experiential learning component to didactic training appears to have benefits over just online didactic training.

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**Paraprofessional-Administered SBIRT Reduces Medicaid Costs Over Subsequent Two Years**

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Background: From 2007 to 2011, 31 diverse primary care clinics and two hospital-based sites in Wisconsin expanded delivery of alcohol and drug screening, brief intervention and referral to treatment (SBIRT) services with trained, dedicated, protocol-guided paraprofessionals. Site staff attempted to administer annual written screens to all adult patients. Of 166,647 eligible patients, 113,642 completed a screening questionnaire. Paraprofessionals administered validated assessment questionnaires to 23,407 of the 37,335 patients who screened positive. Of the 18,834 patients who assessed positive and received interventions or referrals, 675 were pseudo-randomly selected to participate in a follow-up telephone interview approximately six months after screening. They manifested 20% reductions in risky drinking, mean number of drinks per drinking day, and maximal number of drinks in the prior three months (p<.05), and a 15% decline in marijuana use (p<.001). Objective: This study investigated whether paraprofessional-administered SBIRT at the primary care sites was associated with changes in hospital admissions, inpatient days, emergency department visits, and outpatient visits among Wisconsin Medicaid patients at the participating sites who completed screening relative to such patients who did not. Methods: SBIRT program data and Medicaid claims data were merged to identify patients who did or did not complete SBIRT screens at the primary care sites. Healthcare utilization data were examined from one year prior to two years after patients’ initial screens. Multivariate regression analyses for each utilization variable obtained from claims data controlled for age, gender, and several clinical variables. Average costs of healthcare services were estimated from Medicaid reimbursement records. Results: Over the 24-month follow-up period, the 7,367 Medicaid patients who completed screens had .337 greater outpatient visits per patient per month (PPPM) (p<.001), .004 fewer hospital admissions PPPM (p<.05), .009 fewer emergency department visits, and .045 fewer inpatient days PPPM than the 6,751 patients who did not. Patients who completed screens generated, on average, $340 lower costs per year for inpatient days, emergency department visits, and outpatient visits. Based on Monte Carlo results, the probability of realizing annual net fiscal cost savings is 77 percent. Conclusions: SBIRT screening and paraprofessional-administered assessment, intervention and referral were associated with substantial net reductions in healthcare utilization and Medicaid costs over the subsequent two years.

Predictors of Engagement in Post-Discharge Quitline Counseling among Hospitalized Smokers
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Background: Quitline counseling is a low-cost, evidence-based method for providing post-discharge tobacco treatment for hospitalized smokers. However, many smokers referred to the quitline do not enroll and rates of adherence vary widely. Objective: To identify factors associated with quitline enrollment and adherence among smokers referred during hospitalization. Methods: Smokers (n=1054) were administered a baseline survey and
randomized to either immediate connection (warm hand-off) or fax referral to the quitline. Call completion data were obtained from the quitline provider, Alere. We examined the association between enrollment and number of calls with demographic variables, tobacco use characteristics, and treatment related variables (e.g., smoking cessation medications). **Results:** 839 participants (79.6%) enrolled in the quitline and participants completed a mean of 1.75 out of 5 proactive calls. Using a multiple logistic regression, only receiving warm hand-off was associated with enrollment (OR= 0.006, [95% CI 0.001-0.024], p < 0.001). In an overdispersed Poisson regression model, age (RR= 1.008, [95% CI 1.002-1.013), being female (1.180, [1.035 - 1.345]), and receiving warm hand-off (0.580, [0.512-0.658]) were associated with number of quitline calls completed (p<0.05). **Conclusions:** Warm hand-off was an important predictor of enrollment and number of calls completed showing promise for connecting participants to the quitline. Individual characteristics (being older and female) appear to be more influential than tobacco use and other treatment variables in explaining quitline adherence.

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**Prevalence of E-Cigarette use and Associations between E-Cigarettes use and Cigarette Cessation Attempt and Abstinence among Kansas Adults**

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**Background:** Electronic cigarettes (e-cigarettes) are battery powered nicotine delivery devices with an emerging epidemiologic profile. Recent surveillance at the national level has demonstrated a rising prevalence of e-cigarette awareness and use among both children and adults. **Objective:** The aim of this study is to describe the profile of electronic cigarette use and examine associations between e-cigarette and conventional cigarettes use, quit attempts and cessation in Kansas using the Kansas Adult Tobacco Survey (ATS). **Methods:** The Kansas Adult Tobacco Survey is a phone survey of non-institutionalized Kansas adults. The ATS was analyzed to create a profile of cigarette and e-cigarette users, sub-population prevalence estimates and demonstrate associations between e-cigarette use and cigarette cessation attempts and cigarette abstinence. **Results:** In 2013, 45% of adult cigarette smokers had tried e-cigarettes and 14% used e-cigarettes in the past month. The prevalence of current cigarette smoking was 76.5% among past month e-cigarette users. Among adults who have tried e-cigarettes, 30% are 18-24 years old and 42% have an annual household income of $50,000 or more, while only 12% of current smokers are 18-24 years old and 26% have an annual household income of $50,000 or more. The prevalence of past-month e-cigarette use among smokers who made a quit attempt in the past year (22.1%, 95% CI: 6.7%-11.8%) is more than double that of smokers who did not make a quit attempt (9.2%, 95% CI: 17.7%-26.5%). However e-cigarette use is negatively associated with recent cigarette abstinence. While ever e-cigarette use was negatively associated with past-month (POR = 0.22, 95% CI: 0.12-0.40) and past-year cigarette abstinence (POR = 0.15, 95% CI: 0.10-0.22); past-month e-cigarette use was also negatively associated with past-month (POR = 0.09, 95% CI: 0.04-0.20) and past-year cigarette abstinence (POR = 0.12, 95% CI: 0.06-0.26). **Conclusions:** E-cigarette use is common among cigarette smokers. Adults who only use e-cigarettes are younger and more affluent than adults who only smoke cigarettes. E-cigarette use is more common among smokers who made a recent quit attempt and many
smokers report using smokeless tobacco or e-cigarettes to help quit. Recent cigarette abstinence, however, is negatively associated with e-cigarette use.

E-Cigarette Use among Smokers with Serious Mental Illness
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**Background:** Electronic cigarettes (EC) are battery-powered devices that generate an aerosol for inhalation typically containing nicotine. Vigorous debate in the public sphere and scientific literature concerns the potential for EC as a safer alternative to tobacco cigarettes for smokers unable or unwilling to quit or for use as a smoking cessation aid. **Objective:** We examined electronic cigarette (EC) use, correlates of use, and associated changes in smoking behavior among smokers with serious mental illness in a clinical trial. **Methods:** Adult smokers were recruited during acute psychiatric hospitalization (N=956, 73% recruitment) in the San Francisco Bay Area between 2009-2013. At baseline, participants averaged 17 (SD=10) cigarettes per day for 19 (SD=14) years; 24% intended to quit smoking in the next month. Analyses examined frequency and correlates of EC use reported over the 18-month trial and changes in smoking behavior by EC use status. **Results:** By year of enrollment, EC use increased from 0% in 2009 to 22% in 2013. In multiple logistic regression, the likelihood of EC use was significantly greater with each additional year of recruitment, for those aged 18-26, and for those in the preparation versus precontemplation stage of change, and unlikely among Hispanic participants. EC use was unrelated to gender, psychiatric diagnosis, and measures of tobacco dependence at baseline. Further, over the 18-month trial, EC use was not associated with changes in smoking status or, among continued smokers, with reductions in cigarettes per day. **Conclusions:** Within a clinical trial with smokers with serious mental illness, EC use increased over time, particularly among younger adults and those intending to quit tobacco. EC use was unrelated to changes in smoking. The findings are of clinical interest and warrant further study.

Telephone Counseling versus Text Messaging for Supporting Post-Discharge Quit Attempts among Hospitalized Smokers in Brazil: A Feasibility Study
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**Background:** Hospitalized smokers must receive inpatient treatment and post-discharge follow up for at least 1 month to successfully quit. Little research exists regarding the best way to support patients post-discharge in the Brazilian health care system. **Objective:** We conducted a pilot study comparing the effectiveness of two ways of providing outpatient support versus a control condition. **Methods:** All patients admitted to the University Hospital of Juiz de Fora (HU/UFJF) in Minas Gerais were screened for past 30-day tobacco use. Smokers who met inclusion criteria and agreed to participate in the trial
received brief inpatient intervention and nicotine replacement therapy. After discharge, participants were allocated to one of three arms: the COUNSELING arm received 4 weekly telephone counseling sessions using a motivational interviewing approach; the TEXT message arm received 4 tailored mobile phone texts per week; and the CONTROL arm received the usual care available from the hospital. The main outcome was cessation at 1-month post-randomization; participants with missing data were counted as smokers.

**Results:** Three hundred and twenty-nine patients were screened and 16.4% (54) were smokers; of these, 33 met inclusion criteria and agreed to participate in the study. Among participants, 54.5% in the COUNSELING arm participated in at least one session; the average number of calls completed was 3.1. Over half (58.3%) in TEXT reported receiving at least one text message. One month after hospital discharge, 18.2% in COUNSELING, 8.3% in TEXT, and 10% in CONTROL reported quitting smoking. **Conclusions:** Half of participants assigned to the intervention arms received intervention. Numerous project strengths and barriers to implementation were identified during the pilot. The treatment context, barriers to implementation, and pilot study findings informed the design of a definitive trial. **Acknowledgments:** CNPQ, CAPES, FAPEMIG

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**Quitting Smoking in the Face of Co-occurring Acute Psychiatric and Addictive Disorders: What is Possible?**

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**Background:** Tobacco addiction is prevalent yet under-addressed and cessation is sometimes discouraged in individuals with mental health and substance use disorders (SUD). A barrier to treatment has been concerns that quitting smoking may compromise recovery.

**Objective:** In a randomized controlled trial, relative to usual care, we evaluated the efficacy of a tobacco intervention among smokers with serious mental illness and co-occurring SUD.

**Methods:** Recruited in-hospital from two 100% smoke-free locked acute psychiatry units in the SF Bay Area and randomized to intervention or usual care, participants met criteria for SUD based on screening measures (AUDIT and DAST). Intention to quit smoking was not required to participate as the intervention was tailored to readiness to quit smoking and included a computer program, counseling, and nicotine replacement therapy (NRT). The usual care condition received NRT during hospitalization only and brief advice to quit. The outcomes of interest were verified 7-day point prevalence abstinence over 12-months post baseline and past 30-day reports of alcohol and illicit drug use. **Results:** Sample (N=216, 34% female, 36% Caucasian, mean 19 cigarettes/day) characteristics did not differ between intervention and usual care groups. At 12 months, 22% of intervention versus 11% of usual care participants were tobacco abstinent (RR=2.01, 95%CI=[1.05, 3.83], p=0.03), and 22% of respondents reported total abstinence from alcohol/drugs in the last 30 days (group difference NS). At 12 months, those who quit smoking were more likely to not be drinking (78%) compared to 42% not drinking among continued smokers ($\chi^2=10.02, p=0.002$). **Conclusions:** A tobacco treatment intervention among smokers with co-occurring mental illness and SUD was successful in aiding smoking cessation and did not adversely impact alcohol and illicit drug use. Notably, those who quit smoking were more
likely to quit alcohol. The findings support efforts to address alcohol, tobacco, and drugs (ATOD) in one integrated intervention.

“Everybody says Weed is Good for the Baby”: Beliefs and Attitudes Regarding Perinatal Marijuana Use from the Perspectives of Pregnant Women Who Report Continued Use

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Background: Marijuana is the most commonly used illicit drug during pregnancy in the United States. With the increasingly permissive legal environments regarding marijuana, it is important to understand pregnant women's beliefs, attitudes, and concerns regarding perinatal marijuana use. Objective: To describe pregnancy perspectives regarding perinatal marijuana, reasons for use, and concerns for potential consequences from the perspective of pregnant women who report using marijuana. Methods: We conducted semi-structured interviews with pregnant women who used marijuana to explore (1) marijuana use history compared to use during pregnancy (2) attitudes smoking marijuana while pregnant versus non-pregnant, and (3) thoughts about using marijuana while pregnant. Results: We interviewed 30 pregnant women who admitted using marijuana during their pregnancy. Our main themes were that women: 1) admitted to higher amounts of marijuana use prior to pregnancy and attempted to reduce use once they realized they were pregnant 2) described marijuana as "natural" and "safe" compared to other substances such as alcohol, tobacco, other drugs and prescribed medications 3) described marijuana helping with nausea and appetite changes during pregnancy 4) noted limited information regarding risks of perinatal marijuana use on pregnancies and babies 5) identified the primary risk with perinatal marijuana was the threat of child protective services involvement in their care. Conclusions: Pregnant women justify their continued perinatal marijuana use due to lack of information regarding risk of use and believe that marijuana is more natural and safe compared to prescribed medications and other substances. Women described being more concerned about legal and child custody issues related to perinatal marijuana use than any health or pregnancy consequences. Practice Implications: Pregnant women and obstetric providers need more education and information regarding risks of perinatal marijuana use. Obstetric care discussions regarding perinatal marijuana use need to include medical and health information, resources, rather than relying on threats of legal or child custody concerns.
Opiate Overdose Death in San Francisco in 2010 and 2011: An Emergence of a Citywide Prescription Opiate Overdose Epidemic
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Background: Drug overdose is now the leading cause of unintentional death nationwide, driven by increased prescription opioid analgesic overdoses, but few urban settings have documented this transition. Objective: To characterize opioid-rated overdoses in San Francisco and investigate geospatial, demographic, and medical risk factors associated with overdose.

Methods: We analyzed a database of all opioid overdose decedents for 2010 and 2011 in San Francisco supplemented with substance use treatment and local electronic medical record data. We analyzed geospatial, demographic, and medical history data to evaluate differences between decedents based on poverty and causative opioid. Results: During the two-year study period, 237 individuals died from accidental overdose involving opioids (221 involving prescription opioid analgesics and 22 involving heroin), with at a citywide rate of 16.9 opioid overdose deaths per 100,000 person years. Deaths most commonly involved methadone (44.3%), morphine (24.9%), oxycodone (24.9%) and hydrocodone (16.5%). Most deaths involved multiple substances (79.1%), most commonly cocaine (36.3%), benzodiazepines (30.8%), alcohol (21.8%), and antidepressants (21.1%). Deaths were concentrated in a small, high poverty central area of the city and largely occurred in private residences and single-room occupancy hotels. Decedents in high poverty areas were significantly more likely to have methadone, cocaine, and amphetamines on death toxicology, whereas individuals from more affluent areas were more likely have hydrocodone and benzodiazepines present. A subset analysis of individuals regularly engaged in public health clinics noted high medical co-morbidities including pulmonary, liver, and psychiatric issues. Conclusions: While heroin overdose death is uncommon in San Francisco, prescription opioid analgesic death has emerged as a major concern, particularly among individuals in high poverty areas and among racial minorities. Deaths in more affluent areas exhibit clear differences in causative opiate agents and co-existing substances that increase risk of overdose. Broad application of opioid overdose prevention initiatives, including agonist maintenance therapy and prescription of naloxone for lay overdose reversal, should be seriously considered among all patients receiving opioid prescriptions.

Non-Fatal Overdoses as a Risk Factor for Subsequent Fatal Overdose among Injection Drug Users
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Background: Drug overdose has emerged as a leading cause of death in North America. While considerable research has been dedicated to studying non-fatal overdoses, the relationship between reports of non-fatal and risk of subsequent fatal overdoses has not been well studied. Objective: We assessed risk factors for overdose death among a prospective cohort of persons who inject drugs (PWID) from Vancouver, Canada. Methods: Cox proportional hazards regression was used to examine if reports of non-fatal overdose were associated with fatal overdose while adjusting for other behavioral and socio-demographic
Results: Between May 1996 and December 2011, 2313 individuals were followed for a median of 60 months. Overall, 319 (13.8%) individuals reported non-fatal overdose at baseline and 880 further reports of non-fatal overdose were documented throughout the study period. There were 134 fatal overdoses for a fatal overdose rate of 0.895 (95% Confidence Interval [CI] 0.76 – 1.06) per 100 person years. In a multivariate model that adjusted for potential confounders, recent non-fatal overdose was independently associated with the time to overdose mortality (adjusted hazard ratio [AHR] = 1.95 [95% CI: 1.17 - 3.27] p = 0.011). In comparison to individuals who did not report non-fatal overdose, there was a dose response effect of increasing cumulative reports of non-fatal overdose on subsequent fatal overdose [2-3 overdoses (AHR = 1.81; p = 0.006), 4-7 overdoses (AHR = 2.12; p = 0.022) and 8-11 overdoses (AHR = 5.24; p = 0.006)].

Conclusions: Reports of recent non-fatal overdose were independently associated with subsequent overdose mortality in this setting. These findings suggest that individuals reporting recent non-fatal overdose should be targeted with overdose prevention interventions.

Fatal and Non-Fatal Overdose after Narcology Hospital Discharge among HIV-Infected Russians
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Background: The estimated incidence of fatal overdose among Russians who use drugs is 0.22 per 100 person-months. In Russia, medically managed withdrawal (detox) is provided by state-supported narcology hospitals, where 40% of patients are HIV-infected and relapse rates are as high as 90%. Detox initiates opioid abstinence, decreases tolerance, and thus increases overdose risk when relapse occurs. In this study, we estimate fatal and non-fatal overdose probabilities following discharge from narcology hospital among Russians with HIV infection and injection drug use (IDU). Objective: In this study, we estimate fatal and non-fatal overdose probabilities following discharge from narcology hospital among Russians with HIV infection and injection drug use (IDU). Methods: We prospectively followed narcology patients with HIV and IDU after discharge. Fatal overdose was determined based on emergency contact reports to study staff. Non-fatal overdose was self-reported at the 3-month assessment. We used the Kaplan-Meier method to estimate the cumulative probabilities of any overdose and a fatal overdose. Results: Of 263 narcology patients with HIV infection and IDU, 26% were female, median age was 33.7 years, and any previous non-fatal overdose was reported at baseline by 30%; the median follow-up time was 3.3 months. During follow-up, 21 subjects experienced any overdose, 7 of which were fatal resulting in estimated probabilities of 15.3% (95%CI: 8.7-26.3) for any overdose (fatal or non-fatal) and 3.7% (95%CI: 1.5-8.6) for a fatal overdose. Among 14 individuals with non-fatal overdose, 33 overdose events were reported. Five of the 7 overdose deaths occurred prior to the 3-month assessment. The fatal overdose incidence was 0.62 per 100 person-months (95%CI 0.29-1.30). Conclusions: Overdose among patients with HIV and IDU is common after narcology hospital discharge. The incidence of fatal overdose appears greater...
than the overall high incidence of overdose deaths among Russians with IDU. Overdose prevention interventions are warranted among Russian narcology patients with HIV infection.

Development of Case Criteria to Define Pharmaceutical Opioid and Heroin Overdoses in Clinical Records
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**Background:** Fatal poisonings (overdoses) from pharmaceutical opioids have increased nearly four-fold in the last decade and there is evidence that poisonings from heroin are also rising. While opioid overdoses are often easily recognizable in clinical practice, there is no consensus on a case definition, clear criteria, or a scoring system to define an overdose for research purposes. **Objective:** We sought to define discrete clinical criteria to identify pharmaceutical opioid and heroin overdoses in medical records. **Methods:** Our multidisciplinary team included public health experts and practitioners in internal medicine, emergency medicine, and infectious diseases. We examined prior studies of overdose and used our clinical, research and public health expertise to identify potential case criteria to define an overdose. Criteria had to be commonly available items in medical records, including paramedic reports, emergency department notes, hospital admission history and physicals, laboratory records, and medication lists. **Results:** We developed an instrument and pilot tested it in 26 potential clinical cases of overdose in a managed care organization and a safety net hospital system. After pilot testing, we discussed our findings and refined the instrument. We identified three major categories of criteria, which support a diagnosis of overdose and one minor category of supporting documentation. In each category were individual criteria, which, if any were present, would support a diagnosis of overdose. The categories included 1) signs of respiratory depression (1 of 2 criteria); 2) altered mental status (1 of 3 criteria); and 3) responds to opioid antagonist treatment (1 of 4 criteria). In addition, there were 8 items within the supporting documentation category. We considered an overdose definite if at least one criterion within each of the three major categories was met, or two out of three plus at least supporting item. **Conclusions:** Consensus on clinical criteria to define an overdose in medical records is needed in order to define outcomes for future interventions aimed at reducing the incidence of overdose. Further efforts will assess these objective criteria by comparing them to overall clinical judgment and billing codes.
“Closing in on Death”: Explaining Geographical Patterns of Heroin Overdose in the United States
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Background: Heroin sold on the West Coast is predominantly Mexican-sourced “black tar” and “gunpowder”, while the East Coast’s supply is chiefly Colombian-sourced powder heroin. Recent quantitative research from our Heroin Price and Purity Outcomes Study found contrasting relationships between heroin overdose incidence and market conditions: each $100 decrease in the price per gram pure of “black tar” heroin resulted in a 3.7% increase in the number of heroin overdoses reported in hospitals while the same price drop in powder heroin resulted in a 5.7% overdose increase. Objective: To explore possible reasons for the contrasting patterns of heroin overdose found on the East and West Coasts of the United States. Methods: This complementary qualitative study used ethnography and in-depth semi-structured interviews in the cities of San Francisco (black tar/gunpowder heroin) and Philadelphia (powder heroin). Heroin injectors were recruited either in the street where dealing was highly prevalent or through syringe exchanges. Results: We found that there were important differences between the two cities in the way heroin was distributed, marketed and prepared for injection, which may explain the varying likelihood of overdose. In Philadelphia’s open street market, competition though heroin branding and free samples allowed information sharing among users regarding the highest purity heroin available on a given day. Brands implicated in overdose were sought out by users as a sign of high purity. Heroin retailing using personal contacts and beeper/cell phones, more commonly used in San Francisco, may limit information-sharing, reducing overdose risk. The amount of water required to dissolve the different heroin source-types and therefore the number of injections required for an equivalent dose may also influence overdose risk. Conclusions: Harm reduction strategies to reduce heroin overdose need to reflect local conditions, including drug retail practices and variations in injecting preparation arising from different heroin source-types.

Overdose Education and Naloxone for Patients on Chronic Opioids: A Qualitative Study of Medical Staff
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Background: Fatal unintentional poisonings from pharmaceutical opioids have increased nearly four-fold in the last decade. Naloxone is an opioid antidote, which can be prescribed to patients for use by a bystander in the event of an overdose. Patients on chronic opioids for pain could benefit from overdose education and naloxone prescription, but there are significant barriers to these practices in routine clinical care. Objective: This qualitative study assessed the knowledge, attitudes and beliefs about overdose prevention and naloxone among medical staff in large health systems. Methods: We conducted seven focus groups in primary care and
infectious disease/HIV clinics in three Colorado health systems: a network of safety-net community health centers, a managed care organization, and an academic medical center. The focus group guide was developed using the Theory of Planned Behavior and the Health Belief Model. Focus groups were recorded and transcribed, and transcripts were coded using ATLAS.ti and analyzed using a team-based constant comparative approach. Results: We enrolled 42 participants (20 physicians, 6 nurses, 4 pharmacists, 4 nurse practitioners, 2 administrators, 2 counselors and a physician's assistant). Results emerged in three constructs: knowledge, perceived benefits, and barriers (practical, attitudinal and contextual). Medical staff had limited knowledge about naloxone and its use, and concerns about serious adverse events. Participants did not know who to target and identified a range of potential patients who could benefit. Direct benefits, such as preventing death, and indirect benefits, such as enhancing opioid use safety, were identified. Practical barriers included busy clinical schedules, confidentiality and training. Attitudinal barriers included giving patients mixed messages about opioid use for pain, giving permission for riskier use, and offending patients. Importantly, medical staff reported that identifying patients who could benefit from naloxone may make them reconsider opioid prescribing to those patients. Conclusions: This qualitative study was designed to identify the breadth of issues rather than provide representative data. Implementation of overdose education and naloxone in diverse health systems will require addressing both practical and attitudinal/contextual barriers to the intervention.

Marked Variation in US States’ Policies on Opioid Prescribing
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Background: US states have enacted a broad range of policies to mitigate the risks of opioid analgesics prescribed by physicians to manage pain. Understanding these evolving policies is necessary for provider adherence to the policies and to assess their effectiveness. Objective: To systematically examine US state policies regarding opioid prescribing by physicians. Methods: We conducted a web-based search and contacted state officials to identify states' policies (laws, regulations, and medical board policies or guidelines) aimed at physician practice regarding opioid prescribing. We extracted text about seven provisions: 1) mandated prescriber training; 2) prescribers' responsibilities if problematic opioid use occurs (e.g., referral to an addiction specialist); 3) use of written treatment agreements; 4) use of prescription monitoring programs; 5) drug testing; 6) opioid dosing limits; and 7) periodic patient review. Two reviewers determined the presence and strength of each provision (no mention; weak, moderate, or strong recommendation; or mandate), and identified provision specifications such as how often and for which patients. Provisions that were strong recommendations or mandates were considered "strong provisions." Results: Few of the 50 states had strong provisions about mandated prescriber training (9 states), prescribers' responsibilities if problematic opioid use occurs (8 states), use of written treatment agreements (17 states), use of prescription monitoring programs (7 states), drug testing (6 states), and opioid dosing limits (2 states). Forty-five states had strong provisions about periodic patient review. Of the 50 states, 3 had no strong provisions, 22 had only one
strong provision (periodic review), and only 6 states had four or five strong provisions. Most (43) states revised their policies between January 2010 and May 2014.

**Conclusions:** State policies that govern physician opioid prescribing practices are markedly variable, rapidly evolving, and difficult to find. Variations in policies provide research opportunities to understand the impact of these policies. However, standardization of policies across states may clarify and promote expectations nationally.

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**Planning for Health Care Reform in an Integrated Health System: Anticipated Impact on Addiction Treatment and HIV Care**

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**Background:** Health care reform has important implications for patients with substance use disorders (SUDs), and those with HIV. Expansion of Medicaid eligibility, mandated coverage of SUD treatment, and removal of coverage limits and pre-existing conditions criteria have the potential to improve treatment. **Objective:** This study examines how an integrated health care delivery system planned for health reform, particularly for these patient populations, and examines new members from the ACA exchange with an SUD. **Methods:** The study is set in Kaiser Permanente Northern California (KPNC). It uses a mixed-methods approach, including qualitative interviews with 28 clinical and operational leaders, and quantitative analyses with EHR and cost data. This analysis presents the initial qualitative findings, as well as demographics of new SUD members who enrolled through the state health exchange. **Results:** Early initial findings suggest that the delivery system anticipated ACA-related changes in membership composition, but there was a lot of uncertainty. Interview themes include enhancing the ability to respond quickly to changes in membership needs, improving "customer service" aspects of care to compete in a rapidly changing marketplace, modest increases in staffing for HIV and SUD care; and changes in benefit structure. KPNC has a range of strategies to communicate with members and staff about key aspects of ACA adaptation. The first new members with an SUD to enroll through the exchange appear to look similar to the existing SUD membership. **Conclusions:** Qualitative interviews reveal very active planning for ACA-related changes in member enrollment, membership composition and benefit plans. There was considerable uncertainty about the effect of the ACA on membership, and leaders emphasize the importance of flexibility in the initial stages of implementation. Much is still unknown, and the next two years will be critical in determining the impact of health reform on SUD and HIV populations.

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Defining Non-Medical Use of Prescription Opioids within Health Insurance Claims Data: A Systematic Review
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Background: Patients engaged in the non-medical use of prescription opioids (NMPO) have many comorbid physical, behavioral, and mental health conditions that necessitate healthcare. Health systems can play an important role in monitoring NMPO and targeting resources for prevention if the systems have reliable and valid methods for identifying NMPO. Despite the benefit health systems can bring to addressing NMPO, little research is available that has attempted to define NMPO within systems of care databases, including health insurance claims data. Objective: The purpose of this study was to systematically review refereed research publications that defined and measured NMPO within health insurance claims databases in order to describe and contrast existing definitions and concomitant findings. Methods: We searched 8 electronic databases for scholarly work that included various terms related possible NMPO (e.g., opioid abuse, dependence, misuse, etc.) and payers (e.g., benefits, claims, insurance, etc.). Titles, abstracts, and article full texts were screened according to predetermined inclusion/exclusion criteria (e.g., publications must have included claims data, quantitative analyses, opioid medication, etc.). After selection, we extracted general information, conceptual and operational definitions of NMPO, methods used to validate operational definitions of NMPO, analytical strategies relative to the NMPO indicators, and rates of NMPO. Results: Our search method initially yielded 2,619 studies. A total of 7 studies met all inclusion criteria. A continuum of conceptual NMPO definitions emerged, from concretely stated to less definite or qualified conceptualizations of NMPO. Operational definitions also varied, ranging from diagnostically-centered (e.g., opioid use disorders/poisonings) to medication/behaviorally-centered (e.g., days supplied, dose, numbers of prescribers/pharmacies per patient). In validating operational definitions of NMPO, 3 studies reported quantitative validation (e.g., ROC curves or logistic regression), with each study indicating adequate validity; 3 studies reported qualitative validations, using face and content validity, and 1 study reported no validation efforts. Rates of NMPO among the studies' populations ranged from 0.75-10.32% of patients. Conclusions: We found various definitions of NMPO with limited consistency in conceptualization and operationalization. Validation approaches of operational definitions were also limited, and rates of NMPO varied across studies. Future research should build on definitions presented herein and work to prospectively validate a construct of NMPO.

Strategies to Increase the Sustainability of Medication Assisted Treatment
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Background: A multi-organizational quality improvement collaborative is a proven strategy for implementing organizational change. Failure to sustain improvements wastes invested resources, has costs associated with missed opportunities, and may affect an organization's ability to
implement change in the future. While researchers have begun to explore facilitators and barriers related to organizational capacity to sustain change, little is known about if and how substance abuse clinics successfully sustain change after the termination of supports (e.g., learning sessions, interest circle calls, coaching) provided within a quality improvement collaborative.

**Objective:** This research explored the sustainability of changes designed to support adoption of medication-assisted treatment for opioid and alcohol dependent patients. **Methods:** The study involved nine treatment centers and a large commercial health plan. Each organization formed change teams to increase access to medication. Sites received coaching for 3 six-month change cycles. A process evaluation used telephone interviews every 7 months to capture sustainability strategies and to identify environmental and organizational attributes associated with efforts to sustain the adoption of medication-assisted treatment for opioid and alcohol dependent patients.

**Results:** Facilitators to sustain the use of medication assisted treatment included: tracking and reporting on key outcome measures; improving inter-agency collaboration and payer relationships; enhancing staff involvement and engagement; dedicating resources (e.g., staff) to support the change; integrating changes into policies and procedures; leadership support; conveying the impact and benefits to clients; and integrating MAT into the organizational mission. Sustainability barriers included: concerns about the impact and uncertainty of ongoing funding support; uncertainty about changes in the external environment; staff resistance to change; and burdens associated with external data reporting. Case examples provide insights into the facilitators and barriers to sustainability. **Conclusions:** Organizational strategies utilized to sustain medication-assisted treatment support the literature on sustainability of organizational change. Findings address how the sustainability of a complex change is affected by external environmental attributes.

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**Developing Prescription Monitoring Program Predictors for Drug Overdose Death**
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**Background:** Prescription Monitoring Program (PMP) data have been readily accessible via web-based interfaces for several years in Maine clinical settings. Prescription overdose deaths have remained Maine's highest cause of accidental deaths since 2004, exceeding MVAs and all other accidents. Most involve opioids alone, or with alcohol or other controlled substances, usually prescribed by primary care practitioners. PMPs to date have had little capacity to flag risky drug receipt patterns, because few evaluations of extensive PMP and outcome data (prescription overdose deaths) have been done. Current high-risk flags were based on concern about multiple prescribers and pharmacies. Little is known about the pre-mortem controlled substance prescription receipt trends among people who die of a pharmaceutical overdose, so we aimed to assess these patterns to find risk factors. **Objective:** To determine if information from the data in the state level Prescription Monitoring Programs (PMPs) records of drug overdose victims could identify prescription receipt patterns putting ordinary patients at risk of overdose death. **Methods:** Retrospective case-controlled secondary database analysis of de-identified Maine PMP data from 2006-2010 linked to Maine Medical Examiner's office forensic data. **Subjects:** All individuals whose deaths were due to prescription drug overdose per the medical
examiner, who appeared in the Maine PMP between 2006-2010, compared to matched controls at a rate of 50:1 by age, gender, county and prescription receipt. **Measures:** Prescription receipt patterns for the decedents and controls were calculated using descriptive statistics. Odds ratios determined the strength of association for the predictive patterns noted among the cases and controls. **Results:** We included 690 cases (mean 4.86 rxs/90d) and 34,500 unique controls (mean 1.36 rxs/90d). 52% of decedents were dispensed a controlled substance < 15d before their overdose death. Four+ overlapping opioid prescriptions within 90 days of overdose were dispensed for 25.2% of decedents but only 0.2% controls, or an OR = 92.3 (95% CI 64.4-132.5 (p<0.001), compared to those with just one prescription at any given time in 90 days. Average daily opioid dosage of greater than 100 morphine-mg-equivalents (MME) within 90 days of the index date was seen in 15.6% of decedents compared with 0.6% of peers; this had an OR of 30.2 (CI 23.6 - 38.6). When these patterns were applied to the entire Maine PMP database, only 0.52% of patients recipients had received four or more overlapping prescriptions within 90 days, (OR = 64.8, 95% CI 54.1-77.7 compared to decedents). **Conclusions:** State's PMP data can supply predictive markers of higher risk of overdose death from currently available prescription receipt patterns. These predictors do not have a high rate in the general population and, thus can be useful in alerting prescribers to potential risk situations in clinical settings. We are working with the PMP to include these new predictors on the interface screens to allow the use of the PMP at point of care to discuss overdose risk in a direct patient encounter, potentially saving lives.

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**I Feel Safe Here: "The Group Medical Visit Model for Buprenorphine Maintenance Treatment**
Mariya Masyukova, ScB; Aaron Fox, MD, MS - Albert Einstein College of Medicine

**Background:** Buprenorphine maintenance treatment (BMT) is effective in primary care, but some BMT patients may need additional structure to achieve optimal outcomes. Group (or shared) medical visits offer a structured model for care delivery where physicians see multiple patients simultaneously, collaborate with a behavioral specialist, and capitalize upon peer support, which may be superior to medical management alone. **Objective:** To evaluate the feasibility of a group medical visit model for BMT in primary care. **Methods:** We have implemented a preliminary model of group medical visits at an urban community health center and examined process measures (group attendance, patient engagement, retention in care) and clinical outcomes (substance use by self-report and urine toxicology results). Sessions included medical management and group-based trauma-informed cognitive behavioral interventions that are facilitated by a multidisciplinary team (physician, medical student, social worker, and clinical pharmacist). Attendance was voluntary. Process measures were collected from session materials and clinical outcomes were extracted from electronic health records. **Results:** We have held six 90-minute group medical visits with an average census of six (range: 4-10) patients per session. Six primary care physicians at the health center referred a total of 24 patients to the group, typically because of ongoing opioid or cocaine abuse and perceived need for enhanced psychosocial support. Sixteen unique patients have attended at least one session. Of these 16 patients, nine (56%) attended more than one visit. Urine drug testing at baseline was positive for illicit opioids in five (31%), cocaine in three (19%), benzodiazepines in one (6%), and at least
one of these substances in eight patients (50%). The attendance at the group increased at each of the first five sessions. **Conclusions:** Group medical visits for buprenorphine treatment are feasible in primary care. BMT patients are willing to attend voluntary group sessions. This model may be ideal for BMT patients with ongoing illicit substance use, and randomized studies are warranted to assess efficacy.

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**HIV Risk Reduction with Buprenorphine-Naloxone or Methadone: Findings from a Randomized Trial**

George Woody, MD - University of Pennsylvania

**Background:** Research over the past 20 years has shown that methadone maintenance reduces opioid use and is an effective HIV risk reduction intervention. This finding has been observed when methadone patients are compared to their community counterparts who are not in treatment and when opioid use during treatment is compared to pre- and post-treatment use. Further, significantly lower rates of opioid use have been observed when patients with regular methadone program attendance are compared to those with poor attendance, and when patients receiving minimal ancillary services are compared to those receiving more intensive services. **Objective:** Compare HIV injecting and sex risk in patients being treated with methadone (MET) or buprenorphine-naloxone (BUP). **Methods:** Secondary analysis from a study of liver enzyme changes in patients randomized to MET or BUP who completed 24-weeks of treatment and had 4 or more blood draws. The initial 1:1 randomization was changed to 2:1 (BUP: MET) after 18 months due to higher dropout in BUP. The Risk Behavior Survey (RBS) measured past 30-day HIV risk at baseline and weeks 12 and 24. **Results:** Among 529 patients randomized to MET, 391 (74%) were completers; among 740 randomized to BUP, 340 (46%) were completers; 700 completed the RBS. There were significant reductions in injecting risk (p<0.0008) with no differences between groups in mean number of times reported injecting heroin, speedball, other opiates, and number of injections; or percent who shared needles, did not clean shared needles with bleach, shared cookers, or engaged in front/back loading of syringes. The percent having multiple sex partners decreased equally in both groups (p<0.03). For males on BUP the sex risk composite increased; for males on MET, the sex risk decreased resulting in significant group differences over time (p<0.03). For females, there was a significant reduction in sex risk (p<0.02) with no group differences. **Conclusions:** Among MET and BUP patients that remained in treatment, HIV injecting risk was equally and markedly reduced, however MET retained more patients. Sex risk was equally and significantly reduced among females in both treatment conditions, but increased for males on BUP, and decreased for males on MET.

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**Buprenorphine Plus Clonidine Increases Time to Lapse and Reduces Heroin Craving at Low-to-Moderate Stress Levels**

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**Background:** Opioid-agonist treatment is effective for opioid dependence but relapses and lapses still occur. One reason may be that buprenorphine blocks drug-induced relapse but not stress-induced relapse. Rodent models have suggested that alpha-noradrenergic agonists such as clonidine may block stress-induced relapse. **Objective:** By adding clonidine to buprenorphine treatment, we sought to increase time to relapse and abstinence duration.

**Methods:** In a randomized, placebo-controlled 36-week trial, outpatients received buprenorphine + clonidine (BUP+CL) or buprenorphine + placebo (BUP+PL). All participants underwent contingency management to help induce abstinence during an 8 week baseline phase; clonidine or placebo was then administered with buprenorphine during the 12-week intervention phase, followed by an 8-week buprenorphine-only maintenance phase, and an optional 8-week taper phase. Urine drug screens were conducted 3x/week. Lapse was defined as a positive or missed urine, relapse as 2 consecutive lapses. From week 9-28, participants carried smartphones on which they gave real-time, in-the-field ratings on stress, coping, triggers, and environment. Analyses included independent samples t-test, Cox regression survival analysis, and generalized linear mixed models.

**Results:** Time to relapse was not different between the two groups (hazard ratio 1.20, 95% CI 0.78-1.84, p=0.411). Participants in the BUP+CL group had an increased time to lapse when controlling for baseline cocaine use (hazard ratio 0.51, 95% CI 0.32-0.83, p=0.007) and achieved more continuous days of opiate abstinence than those taking placebo (mean (SE): 34.8 (3.7) vs. 25.5 (2.7), p = .04). Compared to the BUP+PL group, the BUP+CL group had a lesser likelihood of smartphone-reported heroin craving at low stress levels and similar likelihood at the highest stress level (F = 25.8, p < .0001). **Conclusions:** Clonidine maintenance may reduce opiate use when given in addition to buprenorphine and the mechanism may be through reduction of heroin craving associated with low to moderate stress levels. This work was supported by the Intramural Research Program/NIDA/NIH.

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**Unobserved 'Home' Induction onto Buprenorphine: Outcomes at Year 7**

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**Background:** Buprenorphine was approved for the treatment of opioid disorders in 2002, but uptake in public sector and safety net settings has lagged. Early documented barriers to prescriber adoption included CSAT and VA guidelines and buprenorphine labels, which recommended only observed, in-clinic induction. **Objective:** Bellevue Hospital Center (BHC) has offered primary care office-based buprenorphine treatment using an unobserved, or "home", induction model since 2006. This study prospectively analyzed induction and long-term treatment outcomes following unobserved induction, which potentially spares time and resources
compared to observed induction. **Methods:** A prospective observational buprenorphine patient registry cohort consisted of all new patients given a prescription for induction from 2006 to 2013. Unobserved induction followed a diagnosis of opioid dependence and consisted of a 1-week prescription, an instructional handout, and as needed physician telephone support. Follow-up Medical Management visits occurred weekly and then less frequently. Primary outcomes were rates of induction-related adverse events (AEs), specifically precipitated and protracted opioid withdrawal, 1-week and total treatment retention. Regression and Cox proportional hazard models identified predictors of AEs and long-term retention. **Results:** 306 adult patients were offered buprenorphine induction. Demographics were: mean age 47 years (24-71); 83% Male; 35% Black, 13% Hispanic, 25% White, 28% Other/Unknown; 64% Medicaid, 22% Uninsured, 94% lifetime heroin use, 57% lifetime prescription opiate use, 42% IV use; 21% homeless. Post-induction 1-week retention was 83%. The rate of any observed induction-related adverse event was 12% (n=38): serious adverse event (SAE) (0%), precipitated withdrawal (n=11, 3%), protracted withdrawal symptoms (n=14, 5%) other induction-related complaints (n=14, 4%). Median retention was 38 weeks (0-347), at a median dose of 16mg (1-32). Younger age, prior buprenorphine experience, and baseline heroin abstinence were significant predictors of longer retention. **Conclusions:** Unobserved buprenorphine induction in a public sector primary care setting appeared feasible, safe, and associated with robust long-term treatment retention. A typical unobserved induction patient began treatment uneventfully and remained on maintenance for nine months, which is comparable to published outcomes following observed induction.

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**Injection Drug Users Prefer Harm Reduction Agencies to other Potential Sites for Buprenorphine Treatment**

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**Background:** Harm reduction agencies complement addiction treatment by providing services, such as syringe exchange and HIV-risk reduction education, which improve the health of drug users who may not be ready for treatment. Buprenorphine maintenance treatment (BMT) effectively treats opioid dependence and may be prescribed from diverse settings – potentially including harm reduction agencies. **Objective:** To examine whether potentially offering BMT at harm reduction agencies would be preferable to other settings. We also explored factors associated with harm reduction agency preference. **Methods:** Opioid users were recruited from a New York City harm reduction agency. Computer-based interviews assessed demographic information, substance use, addiction treatment, and attitudes toward BMT. Treatment readiness was assessed by adapting the SOCRATES instrument. Interviews ascertained a preferred site for BMT (drug treatment program, general medical clinic, harm reduction agency, or not interested in treatment). We used logistic regression with harm reduction agency preference as the dependent variable; independent variables were treatment readiness (dichotomous, yes/no) and factors associated with harm reduction agency preference in bivariate testing (p ≤ 0.15). **Results:** Of 102 opioid users, median age was 47, most were male (72%), unstably housed (65%), and had current heroin use (80%). Fifty-two participants (51%) preferred harm reductions agencies. Forty-six (45%) appeared treatment ready. In bivariate analyses, injection
drug use (IDU), current illicit buprenorphine use, current heroin use, and current methadone treatment were associated with harm reduction agency preference, while treatment readiness was not. In the multivariable model, only IDU remained associated with harm reduction agency preference (OR = 3.02, 95% CI: 1.12 – 8.11). **Conclusions:** The majority of opioid users recruited from a harm reduction agency preferred harm reduction agencies as a potential site for BMT with IDUs having the strongest preference. Half of those preferring harm reduction agencies appeared treatment ready. Harm reduction agencies are a preferable site for BMT; this presents an opportunity to engage out-of-treatment IDUs who may not be comfortable in traditional treatment settings.

Effects of Brief Intervention on Subclasses of Injured Patients Who Drink at Risk Levels
Gerald Cochran, PhD, MSW(1); Craig Field, PhD, MPH(2); Michael Foreman, MD(3); Carlos V.R. Brown, MD(4) - (1)University of Pittsburgh; (2)University of Texas, El Paso; (3)Baylor University Medical Center; (4)University Medical Center at Brackenridge

**Background:** The leading cause of injury in the US is at-risk alcohol use. It is not clear from the literature that all injured patients respond equally well to screening and brief intervention. **Objective:** This study examines the effectiveness of brief intervention among injury-related risk behavior subclasses of patients. **Methods:** Patients (N=552) admitted to two Level-1 trauma centers were screened for at-risk alcohol use. Participants were randomized to receive brief advice, brief intervention (BI), or brief intervention plus booster (BIB). Patients were asked regarding their alcohol consumption and injury-related risk behaviors at baseline, 3-, 6-, and 12-months. Latent class analysis was used to identify patient profiles based on eight injury-related risk behavior items from the Short Inventory of Problems + 6 (which asks about behaviors such as drinking-related: driving, injuries, "accidents," fighting, etc.). Mixed models were developed to test the treatment effects of BI or BIB on drinking among patient profiles following discharge. **Results:** A five-class model best fit the data (model fit criteria/tests: AIC= 3939.2, ABIC=3989.4, BLRT=0.00). Classes were labeled: multiple risks (n= 54, 9.8%), fighting and foolish risk (n=44, 8.0%), drinking/driving and foolish risk (n=151, 27.3%), accidents and drinking/driving (n=80, 14.5%), and minimal risks (n=223, 40.4%). Consistent improvements were reported by patients in the multiple risks class for days abstinent (BIB: 6months B=0.22, SE=0.11, p=0.048; 12months B=0.40, SE=0.11, p<0.001), maximum amount consumed (BIB: 12 months B= -0.56, SE=0.18, p=0.002), and average number of drinks (BIB: 6months B= -0.88, SE=0.20, p<0.001). Consistent improvements were also reported by patients in the accidents and drinking/driving class for heavy drinking (BI: 3 months B= -1.26, SE=0.52, p=0.02), days abstinent (BIB: 6months B= -0.54, SE=0.20, p=0.01; 12 months B= -0.88, SE=0.20, p<0.001). Consistent improvements were also reported by patients in the accidents and drinking/driving class for heavy drinking (BI: 3 months B= -1.26, SE=0.52, p=0.02), days abstinent (BIB: 6months B= -0.54, SE=0.20, p=0.01; 12 months B= -0.88, SE=0.20, p<0.001). Consistent improvements were also reported by patients in the accidents and drinking/driving class for heavy drinking (BI: 3 months B= -1.26, SE=0.52, p=0.02), days abstinent (BIB: 6months B= -0.54, SE=0.20, p=0.01; 12 months B= -0.88, SE=0.20, p<0.001). Classifying patients according to injury-related risk behaviors may prove to be effective for identifying injured patients who will make the greatest reductions in drinking following brief intervention. Future research should prospectively examine the utility of patient classification to enhance the effectiveness of screening and brief intervention.

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Treatment Dismantling Study to Identify the Active Ingredients in Personalized Feedback Interventions for Hazardous Alcohol Use: Randomized Controlled Trial
John Cunningham, PhD(1); Michelle Murphy, BSc; Christian S. Hendershot, PhD -
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Background: There is a considerable body of evidence supporting the effectiveness of personalized feedback interventions for hazardous alcohol use - whether delivered face-to-face, by postal mail, or over the Internet (probably now the primary mode of delivery). The Check Your Drinking intervention (CYD; see www.CheckYourDrinking.net) is one such intervention.

Objective: The current treatment dismantling study assessed what components of personalized feedback interventions were effective in motivating change in drinking. Specifically, the major objective of this project was to conduct a randomized controlled trial comparing the impact of the normative feedback and other personalized feedback components of the CYD intervention in the general population.

Methods: Participants were recruited to take part in a randomized controlled trial and received the complete CYD final report, just the normative feedback sections of the CYD, just the personalized feedback components of the CYD, or were assigned to a no intervention control group. Participants were followed-up at three months to assess changes in alcohol consumption.

Results: A total of 741 hazardous drinking participants were recruited for the trial, of which 73% provided follow-up data. Analyses using an intent-to-treat approach found some evidence for the impact of the personalized feedback components of the CYD (p < .05) but no significant evidence of the impact of the normative feedback components.

Conclusions: Within the limitations discussed for this trial, it was concluded that personalized feedback elements alone could provide an active intervention for hazardous drinkers, particularly in situations where normative feedback information was not available.

Implementation of Screening, Brief Intervention, and Referral to Treatment in New York City Primary Care Practices as a Public Health Strategy to Address Unhealthy Alcohol Use
John McAteer, LCSW-R; Louis Cuoco, DSW, ACSW, LCSW-R; Jessica Kattan, MD, MPH; Rachel Moscicki, MPH; Alex Kingsepp; Hillary Kunins, MD, MPH - New York City Department of Mental Hygiene

Background: Eighteen percent of adult New Yorkers binge drink and 5% drink heavily. Nonetheless, only one in four New Yorkers report being asked by a health professional about alcohol use in the past year. Screening, Brief Intervention, and Referral to Treatment (SBIRT) is an evidence-based approach that reduces unhealthy drinking and health care utilization in primary care settings. Since 2012, the New York City (NYC) Department of Health and Mental Hygiene (DOHMH) implemented an SBIRT promotion initiative, employing training and technical assistance for NYC primary care practices.

Objective: To assess feasibility and impact of DOHMH's SBIRT initiative in NYC primary care practices.

Methods: DOHMH established its SBIRT initiative with one full-time director, and two part-time trainers/clinical experts. Staff conducted outreach to practices to stimulate interest in SBIRT via in-person presentations, phone calls, and email. DOHMH offered all interested practices: 1) SBIRT training for licensed and non-licensed staff; 2) technical assistance entailing incorporation of SBIRT into practice workflow, including electronic health record integration, and instruction in
billing for SBIRT services. Successful impact of the initiative was measured by initiation of routine patient screening with SBIRT. **Results:** As of May, 2014, DOHMH reached out to 300 practices. Of these, 43 practices received training, 17 received technical assistance, and 15 practices with 87 sites and a patient reach of 275,000 initiated screening with SBIRT. **Conclusions:** DOHMH staff successfully implemented an SBIRT promotion initiative in NYC primary care practices with substantial patient reach using a model that included training and technical assistance. This was accomplished without adding staff or paying for resources at the practices. Promotion of SBIRT in primary care practices can be used as a practical public health strategy to address unhealthy alcohol use. Analysis of SBIRT screening frequency and surveillance data on alcohol-related morbidity and mortality are planned to further assess the initiative's impact.

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**Internet-Based Primary Prevention Intervention for Alcohol Use: A Randomized Trial**

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**Background:** Preventing unhealthy alcohol use is of interest in regards of its consequences, especially among young men. **Objective:** To test the efficacy of a primary prevention internet-based brief intervention (PPIBI) to prevent binge drinking or an increase in alcohol use. **Methods:** Parallel-group randomized controlled trial of a PPIBI targeting young men with low-risk drinking. Of the 4365 men invited to participate, 1633 did so; 896 reported low-risk drinking and were included (those reporting unhealthy use participated in another trial). Intervention group (IG) participants (n=451) completed an assessment on alcohol use and received the PPIBI (-normative feedback -indication that the reported consumption is associated with no or limited risks -that no change is necessary -encouragement not to increase their use). Control group (CG) participants (n=445) completed the assessment only. Follow-up took place at 1 and 6 months. Primary outcomes were: binge drinking and number of drinks/week at 1 and 6 months. AUDIT score and number of alcohol-related consequences at 6 months were secondary outcomes. The intervention impact was assessed with chi-square tests and negative binomial regression models. **Results:** The follow up rate was 94% and 93% at 1 and 6 months. Binge drinking, absent at baseline, was reported by 14.4% (IG) and 19.0% (CG) at 1 month and by 13.3% (IG) and 13.0% (CG) at 6 months. Over time, the mean (SD) number of drinks/week was 2.4(2.2), 2.3(2.6), 2.5(3.0) for IG, and 2.4(2.3), 2.8(3.7), 2.7(3.9) for CG. AUDIT score was 2.8(1.6) (baseline) and 2.8(1.8) (6mo) for IG and 2.8(1.6), 2.9(2.0) for CG. Number of consequences was 1.1(1.1) (baseline) and 0.7(1.0) (6mo) for IG and 1.0(1.0) and 0.8(1.2) for CG. At 1 month, beneficial intervention effects were observed on the number of drinks/week (p=0.06) and on binge drinking (p=0.07). There was an intervention effect on consequences at 6 months (p=0.008). No other differences were observed at 6 months. **Conclusions:** Among young men, immediate effects following a PPIBI are plausible. No differences on drinking were observed at 6 months.

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Effectiveness of Screening and Brief Intervention in Reducing Risky Drinking: Results from an Implementation Study in Primary Care Setting
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Background: Alcohol Screening, Brief Intervention and Referral to Treatment (SBIRT) in adult primary care has been found efficacious and recommended by national guidelines but not widely adopted. The ADVISe study is a three-arm clustered randomized controlled trial (54 clinics, 639613 patients) to examine SBIRT implementation by non-physician providers (NPP) or primary care providers (PCP) versus Control arm in a large private, integrated health care system. Findings suggested a hybrid model - medical assistants screening and physician intervention - may have the highest odds of implementation. Objective: This follow-up study evaluated whether documented brief intervention or referral (BI/RT) was associated with subsequent drinking outcomes. Methods: This observational, prospective cohort study examined electronic health record data during a two-year follow-up on 19821 adult primary care patients who screened positive for past-year risky drinking at baseline, 4416 of them had a follow-up screening 13-24 months later (22%). Logistic regression analyses examined the associations between subsequent drinking outcomes and documented BI/RT, while adjusting for treatment arm, demographics, baseline severity, comorbidity, time between intervention and follow-up, facility and clinics. Results: Out of the 4416, 265 (6%) had documented BI/RT within 45 days after being screened positive for past-year risky drinking at baseline; 1290 (29%) reported risky drinking when being screened in the following 13-24 months. Patients in the NPP arm were more likely to have follow-up screening than those in PCP and Control arms (25% vs. 12% and 17%, respectively; p<0.0001). Neither treatment arm nor documented BI/RT was significantly associated with no risky drinking after adjusting for other covariates. However, findings suggested that frequency of screening was associated with lower odds of risky drinking during 13-36 months follow-up (OR=0.84, p<0.0001). Conclusions: Although we did not find associations between documented BI/RT and subsequent drinking outcomes, findings provide initial evidence that more frequent screening might be beneficial.
Poster Presentations

The Development of Addiction Medicine Fellowships
Shannon Carlin-Menter, PhD; Anne Neumann, PhD; Rachel Rizzo, MS, MPH, CHES; Richard Blondell, MD - University at Buffalo

**Background:** The increasing prevalence of prescription drug addiction requires a sustainable workforce of physicians who treat these patients, as well as teach other providers how to diagnose, treat, and refer patients with addiction, particularly within the contexts of adult primary care and pediatrics. Training in addiction medicine (ADM) is rarely incorporated into medical education of specialties other than psychiatry. To address the estimated need for 7,000 addiction medicine physicians by 2020, the National Institute on Alcohol Abuse and Alcoholism funded the American Board of Addiction Medicine Foundation (ABAMF) to help support establishment of 8 model fellowship programs based on national standards that could serve as the foundation for an expanding training infrastructure. **Objective:** The purpose of this evaluation is to report the characteristics, strengths, weaknesses, and progress of the 8 model fellowship programs developed with national standards from ABAMF. **Methods:** We conducted a mixed-method study between January 2012 and December 2013. We collected qualitative and quantitative data from 8 fellowship programs, including data from program directors and fellows trained in these fellowship programs. **Results:** None of the programs reported meeting all of the general program requirements set forth by ABAMF; however, 4 programs (50%) reported at least partially meeting all requirements and 8 programs (100%) reported exceeding one or more requirements. Programs identified several areas in need of assistance, including annual evaluation of program curriculum (50%), continuous quality improvement (CQI) of the curriculum (50%), resident involvement in CQI (50%), published policies and procedures (50%), involvement in scholarly activity (37.5%), and translating research into clinical practice (25%). The greatest barrier to meeting all of the general program requirements was funding. **Conclusions:** Half of the programs were able to partially meet all of the requirements, but several opportunities for improvement exist. Responses confirm the value of technical and financial assistance to promote the expansion of an addiction medicine workforce trained under national standards.

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Patient Insights on Screening and Brief Intervention for Substance Misuse and How to Make these Conversations Work: A Qualitative Study
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**Background:** We are training clinicians in our healthcare system in screening and brief intervention (SBI) to address misuse of alcohol and other substances. Motivational interviewing, at the center of our training, embraces partnering with patients to encourage autonomy in planning and decision-making, with exchange of key information between provider and patient, to discover and develop patients' intrinsic motivation for change. **Objective:** To learn about patients' feelings about being asked about substance use, and their ideas for making these
conversations more comfortable and engaging for the shared goal of improving health. **Methods:** We conducted semi-structured qualitative interviews with 30 women of childbearing age who presented for clinic visits in one Ob-Gyn clinic. **Results:** Patients viewed discussions about substance use as appropriate and important for the health of mother and child. Most who used alcohol or drugs previously reported that being pregnant changed their thinking and led them to cut down or quit during pregnancy. Notably, many patients who told us that SBI is appropriate also told us they would likely feel different if they had substance use issues. Patients expressed concerns that amount to barriers to open communication with providers. Their suggestions for increasing the likelihood that they would be honest and forthcoming when asked included having the provider take more time, show genuine interest, and establish a more personal relationship and rapport with them; be non-judgmental about their use of alcohol and other substances; discuss and educate rather than lecture; and importantly, assure confidentiality. **Conclusions:** Patients in this study express what is most important to them in approaching these sensitive conversations and ensuring honest, productive interactions. Clinicians seeking to integrate SBI into routine care may benefit from patient suggestions on best ways to engage and motivate them towards healthy behavior change.

Variability of Buprenorphine Exposure after Sublingual Administration of Buprenorphine/Naloxone Tablet
Michael Sumner, MB, BS, MRCP; Dory Solomon; Christopher Welsh, PharmD, MBA - Orexo US Inc.

**Background:** Patients receiving comparable doses of sublingual buprenorphine/naloxone treatment for opioid dependence may experience differences in clinical effect. The cause of these differences is likely multifactorial, and may include pharmacokinetic, pharmacodynamic, and psychological factors. **Objective:** To quantify between-patient variability in buprenorphine exposure after sublingual administration of Suboxone® (buprenorphine/naloxone) sublingual tablets. **Methods:** Information on between-subject coefficient of variability for the pharmacokinetic parameters of area under the curve (AUC) from zero to a given time point \( \text{AUC}_{0-t} \), from zero to infinity \( \text{AUC}_{0-\infty} \), and time to maximum plasma concentration \( C_{\text{max}} \) of sublingual buprenorphine was collected from literature, www.clinicaltrials.gov, and publicly available regulatory documents. Studies including \( \geq 12 \) patients and between-patient variability data with a minimum of two significant figures were included in the results. Suboxone sublingual tablets were chosen for this analysis because it was the first buprenorphine/naloxone combination product approved by the US Food and Drug Administration for the treatment of opioid dependence, and it is used as a reference product for subsequent approvals of new buprenorphine/naloxone formulations. **Results:** Coefficients of variability were collected from 12 different treatment periods in 8 individual studies. Data included buprenorphine sublingual tablet dose levels ranging from 2 to 24 mg. Overall mean coefficients of variability ± SD were 36.2±3.5%, 35.5±3.2%, and 38.5±4.4% for \( \text{AUC}_{0-t} \), \( \text{AUC}_{0-\infty} \), and \( C_{\text{max}} \), respectively. **Conclusions:** Individual patients treated with the same formulation and dose of buprenorphine/naloxone have wide variability in their exposure to buprenorphine. This may contribute to overall differences in clinical effect observed in patients treated with buprenorphine/naloxone for opioid dependence. The effects of pharmacokinetic variability may
be more relevant at lower buprenorphine doses (eg, ≤8 mg), where opioid receptors are not saturated. When treating opioid-dependent patients, physicians should individualize the dose of sublingual buprenorphine/naloxone and titrate to the desired effect based on clinical signs and symptoms.

Integration of the Substance Abuse Research Education and Training (SARET) in an MSW Program

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Background: Approximately 12.5% of the US population struggles with addiction, yet, it is dramatically under-researched. There is a pressing need to increase the number of health professionals, including social workers, conducting substance abuse research (SAR). The SARET Program is an innovative initiative to educate and spur interest in SAR early in the careers of graduate students through participation in a web-based curriculum.

Objective: Students in NYU Schools of Medicine, College of Dentistry, and College of Nursing participated in SARET for five years and demonstrated increased interest in SAR. The School of Social Work joined in year six. We describe SARET's web-based curriculum, its integration into a MSW program, and its impact on student's attitudes towards SAR and treatment.

Methods: SARET's curriculum consists of six interactive modules addressing SAR and treatment. We tracked module completion rates, conducted focus groups and tested for improvement in SA attitudes on pre- and post-module embedded surveys using the sign test.

Results: 118 students completed at least one module and 42 completed all six. Completion rates ranged from 0.6% to 100% and were significantly higher when students received credit for completion. The neurobiology module (n=49) showed improved attitudes in all four areas: SAR, conducting research, treatment, and importance of SAR to health. (p<=0.001). Epidemiology (n=67) enhanced interest in SAR (p=0.021), conducting research and importance to healthcare (p<0.01). Exploring SAR (n=36) increased SAR interest (p=0.002), research (p<0.001) and treatment (p=0.039) attitudes. Screening (n=91) improved attitudes about treatment (p=0.0031) and importance to health (p=0.006). Treatment (n=45) only changed interest in research (p=0.039). Personal Impact (n=33) showed no significant changes. In focus groups, students reported the neurobiology module most useful for social work.

Conclusions: The SARET program stimulates SA clinical and research interest among social work students. Results were enhanced when credit was given for completion.
Chronic Pain in Substance Abusing Homeless Veterans: Treatment Implications
Michelle Skinner, PhD; Max Kubota, BA; Rachael Guerra, PhD - Palo Alto VA Health Care System

Background: Homeless individuals present with complex issues including substance use, mental health and medical conditions that contribute to continued substance use and reduced well-being (Alford et al., 2004; Hwang et al. 2011; Turnbull et al., 2007). Comorbidity is especially pervasive in veterans (Frayne et al., 2011; Petrakis et al., 2011) and chronic pain (CP) is associated with marked difficulty with depression, anxiety (Gatchel et al., 2011), and divided attention (Moore et al., 2011) that influence treatment outcomes. Although work demonstrates that homeless individuals have CP, there is little information regarding impact of CP on treatment outcomes for this complex population. Objective: The current study examined CP in veterans undergoing homeless rehabilitation and unique effects of CP on end-treatment depression, anxiety, and goal focused behavior.

Methods: Participants were 164 veterans admitted to the Homeless Veterans Rehabilitation Program; a 180-day, inpatient program housed within the Palo Alto VA Health Care System that addresses psychosocial factors contributing to homelessness (e.g. substance use). Depression, anxiety and goal-focused behavior were assessed at pre and end-treatment on self-report measures. Record review determined presence of CP conditions. Regression analysis was conducted on a subset of individuals.

Results: Over half (52%) of HVRP residents had CP. Residents with CP had lower physical quality of life (t=-2.9, p < .004) and higher anxiety (t=2.4, p < .02) at pre-treatment. Regression analysis revealed no effect of CP on depression. CP predicted higher anxiety(β =1.14, p < .05) and greater difficulty with goal focused behavior (β =1.24, p < .04). An interaction showed that the strength of the association between pre-treatment scores and end-treatment scores on difficulty in goal focused behavior was stronger for individuals with CP (β =.30, p<.05).

Conclusions: CP was common and influenced end-treatment scores on anxiety and goal-focused behavior. CP appears to affect arousal and ability to attend to goals, which, in turn, may influence treatment improvement and risk for continued substance use. Concurrent treatment for CP within homeless rehabilitation may be indicated.

Veteran Reasons for Leaving Inpatient Substance Abuse Treatment
Maximilian Kubota, MA; Michelle Skinner, PhD; Timothy Ramsey, PhD; Rachael Guerra, PhD - Palo Alto VA Healthcare System

Background: Early discharge from substance abuse treatment (SAT) is common (Harris, 1998; Simpson et al, 1997). The majority of literature has focused on length of stay and understanding predictors of early attrition (Finney & Moos, 1998; Hawkins et al., 2007; Wallace & Weeks, 2004). Less work has examined patient perceived reasons for discharge in inpatient SATs (Laudet et al., 2009; Palmer et al., 2009). Discharge can be viewed as an opportunity to provide support even when client decisions are not congruent with program expectations. Negative emotionality may impact perceived reasons for leaving and confidence in remaining abstinence.

Objective: We examined qualitative and quantitative reasons for leaving SAT, how negative emotions at discharge are related to reasons for leaving, and confidence in remaining abstinent.

Methods: Twenty-two veterans admitted to a 90-day inpatient SAT housed at a large VA
hospital were surveyed. Questions included reason for leaving treatment, primary emotion, and confidence in remaining abstinent, what the program could have done better, and the reasons for leaving treatment questionnaire (RLTQ; Ball et al., 2006). **Results:** Qualitative analysis revealed that decisions to leave were primarily patient driven (63.6%). Veteran reasons were: not ready for treatment (14%), disliked program aspects (18%), relapse/behavior problems (18%), did not need more treatment (23%), or had personal issues (e.g. family responsibilities; 27%). Confidence in ability to remain abstinent was greater for those with positive primary emotion (t=2.5, p < .03). Veterans with negative primary emotion were more likely to endorse individual level factors on the RLTQ (t=-2.5, p < .02) such as lower hope in change, lower motivation, and higher regrets. Qualitative analysis revealed that staff trust and attention (88%) would have helped treatment retention. **Conclusions:** Reasons for discharge are varied and most commonly involve personal obligations/issues. Veterans leaving with negative feelings may be at higher risk due to negative self-attributions and lower confidence in remaining abstinent. Staff interactions may play a role in helping veterans feel more positive at discharge.

What's Homelessness Got to Do with It?: Injection Drug Use and Homelessness among Women in New York City
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**Background:** New York City (NYC) has the largest population of injection drug users (IDUs) in the US, estimated between 40,000 -120,000. Women injection drug users (WIDUs) have higher mortality, faster progression to drug dependence, higher HIV rates, and higher risk injection practices compared to male IDUs. Additionally, the US has the highest number of homeless women among the world's industrialized countries. During 2009-2010, women constituted 38% of homeless individuals in the US. Yet few studies have investigated homelessness among WIDUs. **Objective:** This study addresses this gap by examining differences in IDU practices (e.g. self vs. assisted injection) and IDU health risks (e.g. sharing needles) among homeless and non-homeless WIDUs. We hypothesized homeless WIDUs would have higher rates of assisted injection and needle sharing compared to WIDUs with secure housing. **Methods:** This study employs secondary data analysis of a cross-sectional quantitative survey from 8/2012 - 2/2013 of 85 WIDUs from a syringe exchange program in NYC's Lower East Side. **Results:** The mean age was 40 years. Forty percent were white, 30% Latina, 27% African American and 1% were either Asian or multiethnic. Twelve percent were married while 45% were never married/single. 52% earned a high school GED and 41% were homeless. In the prior six months, 32% reported living in their own or partner's housing while 65% reported living with friends, in shelters, streets or parks suggesting high levels of housing insecurity. Initial findings suggest that homeless WIDUs are less likely to self-inject (42%) and with sterile needles (41%) than non-homeless WIDUs (58% & 59%). **Conclusions:** These data suggest that homelessness potentially exacerbates WIDU infectious disease risk. The implications of this study include advancing research of women at the understudied intersection of IDU and homelessness. This study can inform the development of future interventions to address and prevent homelessness among WIDUs.
Buprenorphine Group Treatment Promotes Residents' Addiction Medicine Education and Future Practice
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Background: Residents at Contra Costa Regional Family Medicine Residency have a unique opportunity to learn about the chronic disease of opioid addiction and its treatment by participating in buprenorphine group treatment clinics during their first and second years of training.

Objective: Participation in buprenorphine treatment groups will demonstrate to residents how:
1. Buprenorphine is part of an effective treatment for opioid addiction.
2. Opioid addiction is a chronic disease.
3. With a DEA waiver, residents can successfully treat opioid addicted patients.

Methods: With increasing referrals for buprenorphine treatment, patients are seen in-group visits in which residents actively participate as a required part of their training. Groups are composed of 6 -10 patients, a first or second year resident and a family physician trained in addiction medicine and motivational interviewing (MI). With experience, faculty guidance and role modeling, residents learn how to co-facilitate group interactions in a MI consistent style. After one year, first year and second year residents (n=28) were surveyed with an online tool to determine if learning objectives were met, what was valuable about their experience, and changes in their practice including if they obtained or intended to get their DEA buprenorphine waiver before graduation.

Results: 64% of first year and 79% of second year residents completed the survey. In addition to witnessing the value of buprenorphine treatment for opioid addiction, all residents learned how addiction is a chronic disease. 74% of residents plan to or already have taken the DEA buprenorphine waiver training. Of significance were residents' descriptions of not only how patients' lives were improved by this treatment, but how these clinical experiences were formative to better understand opioid addiction and motivated them to treat this chronic disease.

Conclusions: Participation in buprenorphine group treatment can effectively educate residents how the chronic disease of opioid addiction can be successfully and compassionately treated with buprenorphine and motivational interviewing.

Women's Beliefs about Marijuana Use During Pregnancy: Survey Results from Colorado and Pennsylvania
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**Background:** Marijuana is the most commonly used illicit drug. However since the recent legalization of recreational use of marijuana in Colorado and Washington, little is known about women's beliefs and attitudes regarding marijuana use prior to or during pregnancy.

**Objective:** To describe women's attitudes and beliefs regarding perinatal marijuana use.

**Methods:** A 32-question anonymous survey asked about women's opinions and beliefs on the use of marijuana. Items were scored on a 5-point Likert scale. The anonymous survey did not assess behaviors, experiences, or use of marijuana. Demographic information (age, race, education status, parity) was also collected. The survey was conducted at the University of Colorado Hospital (a state where marijuana is legal) and at the University of Pittsburgh Medical Center's Magee-Womens Hospital Outpatient clinic (where it is not). **Results:** We collected surveys from 20 women in Pittsburgh and 28 women in Colorado. Among Pittsburgh participants, 64% viewed marijuana as a natural herb, 50% agreed that marijuana use in pregnancy can make the baby addicted in the future, 63% agreed that marijuana during pregnancy can affect the brain of the baby, and 28% agreed that marijuana use is ok during pregnancy. In Colorado, 68% viewed marijuana as a natural herb, 25% agreed that marijuana use in pregnancy can make the baby addicted in the future, 54% agreed that marijuana during pregnancy can affect the brain of the baby, and 18% agreed that marijuana use is ok during pregnancy. **Conclusions:** While the majority of women viewed marijuana to be a natural herb, they also perceived negative consequences to babies when marijuana is used during pregnancy and only a minority supported perinatal marijuana use. Despite differences in legal and cultural environments regarding marijuana use, results from the two sites were similar with the exception that more women from Pittsburgh believed marijuana use during pregnancy can cause addiction in exposed infants.

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**Lifetime Comorbidity of Major Depression and Alcohol Use Disorders in Peru: Results from the World Mental Health Study**

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**Background:** Major depression (MDD) and alcohol use disorders (AUDs) are among the most prevalent mental health disorders worldwide and result in significant individual and public health consequences. Existing literature shows that comorbid MDD and AUDs are associated with poor health outcomes but the epidemiological features of these conditions are unknown in low- and middle-income countries. **Objective:** To estimate lifetime prevalence and comorbidity of depression and alcohol use disorders based on DSM-IV criteria in Peru. **Methods:** We used the World Mental Health Survey data to estimate the lifetime prevalence of MDD and AUDs. Data are based on face-to-face interviews in the community using the WHO Composite International Diagnostic Interview (WHO-CIDI). Using a probabilistic multistage sampling design, a total of 3930 adults (age 18-65) were surveyed in five Peruvian cities (Arequipa, Chiclayo, Huancayo, Iquitos and Lima). **Results:** Lifetime prevalence of MDD and AUDs were 6.9% and 5.6%, respectively. Of those with lifetime MDD, 10.9% had alcohol abuse and 3.2% had alcohol dependence in their lifetime. Lifetime prevalence of MDD in those with AUDs was 13.4%. Of women who have had alcohol abuse or dependence in their lifetime, 33.3% have also had MDD, while only 3.5% of women who have had MDD in their lifetime have also had an AUD. In
comparison, 10.2% of men with lifetime alcohol abuse or dependence have had MDD, while 21% of men who have had MDD in their lifetime have also had an AUD.

**Conclusions:** Understanding the epidemiology of comorbid MDD and AUDs in Peru is important in guiding future research and public health interventions designed to mitigate the devastating health, social and economic impact of these conditions.

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**Hospital Readmissions in Patients Admitted for Alcohol Intoxication at the Emergency Department: A 6-Year Cohort Study**

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**Background:** Among young adults, alcohol intoxication is a leading cause of morbidity/mortality and is a common reason for Emergency Department (ED) admission.

**Objective:** To evaluate hospital readmissions among patients admitted for alcohol intoxication.

**Methods:** Patients aged 18-30 admitted for alcohol intoxication in the ED of a tertiary referral hospital in 2006-2007 were included in a closed cohort study. Using administrative and medical records data, we documented characteristics of patients at inclusion [age, gender, level of alcohol intoxication (blood alcohol content, BAC), disruptive behavior in the ED (aggressiveness, violence), alcohol intoxication admission before inclusion] and hospital readmissions from inclusion time to 2013. Using logistic and negative binomial regression models, we assessed the association between characteristics at inclusion and the presence of any readmission and number of readmissions over the study period.

**Results:** Of the 205 included patients, 122 (59.51%) were readmitted over the study period. The mean (SD) number of readmissions/patient was 2.86 (7.05) (range 0-76, total of 553 readmissions); 43 patients were readmitted for alcohol intoxication (range 0-16, total of 95 readmissions). At inclusion, 139 (67.80%) were male, mean BAC was 44.04 (16.10) mmol/l of ethanol, 45 (21.95%) presented a disruptive behavior in the ED, and 48 (23.41%) had a previous admission in the ED for alcohol intoxication. The presence of disruptive behavior in the ED was associated with being readmitted [OR(95%CI)=2.53 (1.20;5.34)]. Age [OR=1.01 (0.94;1.10)], being male [OR=0.64(0.35;1.18)], BAC [OR=0.99(0.98;1.01)], presence of an alcohol intoxication admission before inclusion [OR=0.75(0.39;1.44)] were not significantly associated with being readmitted. Age [IRR=1.11(1.04;1.17)], and the presence of disruptive behavior [IRR=1.73(1.01;2.97)] were associated with the number of readmissions. Being male [IRR=0.76(0.47;1.24], BAC [IRR=0.99(0.98;1.00], and an alcohol intoxication ED admission before inclusion [IRR=1.59(0.94;2.71)] were not significantly associated with the number of readmissions.

**Conclusions:** More than half of patients admitted for alcohol intoxication were readmitted, and more than a third for a new alcohol intoxication. Presenting a disruptive behavior in the ED while intoxicated is a strong predictor of hospital readmission.

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Background: Zubsolv® (buprenorphine/naloxone 5.7/1.4 mg) is a rapidly dissolving sublingual tablet for treatment of opioid dependence. In a comparative study in healthy volunteers, Zubsolv demonstrated higher bioavailability versus Suboxone® (buprenorphine/naloxone 8/2 mg). This improved bioavailability allows Zubsolv to generate the same plasma concentration and buprenorphine effect as Suboxone with a lower drug load. We evaluated the formulation characteristics of Zubsolv to explain its increased bioavailability versus Suboxone.

Methods: Zubsolv is manufactured using a dry formulation technology and direct tablet compression of micronized buprenorphine in associative admixture with a citric acid buffer system, naloxone, and other functional excipients. We conducted an in vitro study to further characterize Zubsolv following disintegration in an artificial sublingual environment. One tablet each of Zubsolv or Suboxone was placed on a filter and a pH 6.8 buffer was dripped onto each tablet at a rate of 2 mL/minute to mimic the pH, buffering capacity, and salivary rate of the sublingual environment.2 The pH and concentration of buprenorphine was measured over time in the artificial saliva after it traversed the tablet and filter. Results: Zubsolv displayed an immediate decrease in pH of approximately 1 unit, returning to initial pH after approximately 1.5 minutes. Suboxone had a slower, shallower, and more extended reduction in pH. The release of dissolved buprenorphine was much faster from Zubsolv versus Suboxone, with >50% of buprenorphine released from Zubsolv during the first 2 minutes versus <20% from Suboxone.

Conclusions: The advanced formulation of Zubsolv, comprising micronized buprenorphine in associative admixture with a citric acid buffer system, demonstrated rapid disintegration, an immediate but temporary reduction in pH, and synchronized buprenorphine release. These properties contribute to the increased dissolution rate and improved bioavailability of Zubsolv versus Suboxone.

The Effects of Comorbid Substance Use Disorder on Psychiatric Symptom Expression in Patients with Psychotic Spectrum Disorders on Admission to an Inpatient Hospital
Doug Cort, PhD; Travis White, MA; Cherise Abel, BA; David Sugarbaker, MPH; Graham Danzer, MSW - John George Psychiatric Hospital

Background: Research suggests a range of negative outcomes associated with the presence of a comorbid substance use disorder (SUD) on the course of psychotic spectrum disorders. However, the specific psychiatric symptoms associated with comorbid SUD are not well understood.

Objective: The aim of this study was to compare the psychiatric symptom profile of patients with psychotic spectrum disorders with and without SUD on admission to an inpatient psychiatric hospital.

Methods: Participants were administered the Brief Psychiatric Rating Scale (BPRS) within three days of admission to the hospital. The presence of SUD was retrieved from medical records. Ninety-seven inpatients with psychotic spectrum diagnoses were assigned to either the SUD group (N = 42) or no SUD group (N = 55). A cross-sectional statistical analysis was performed to investigate differences between groups on severity of psychiatric symptoms.

Results: Forty-two of the 97 subjects (43.3%) had SUD diagnoses. Gender was the
only demographic that significantly differed between patients with and without SUD, with SUD being more common in men, X² (1, N = 97) = 7.34, p = .007. Comparison of mean psychiatric symptom severity between the groups on the 24 BPRS items showed the SUD group expressing higher severity of guilt (M = 3.05, SD = 1.79) compared to those without SUD (M = 2.29, SD = 1.72); t (95) = -2.11, p = .038. No significant differences were found for each of the other 23 BPRS symptom scales or BPRS total score. **Conclusions:** Our results suggest that patients with psychotic spectrum disorders who also have a comorbid SUD express higher severity of guilt on inpatient admission compared to patients without a comorbid SUD. Therefore, guilt may be an important target of psychotherapeutic treatment interventions for inpatients with comorbid SUD and psychotic spectrum disorders.

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**Importance of Screening for Marijuana and Other Substance Use, by Healthcare Setting**

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**Background:** Screening and brief intervention (SBI) is an effective strategy to prevent and reduce harm from substance abuse. Research strongly supports SBI for alcohol, but there is little published evidence to support SBI for illicit drugs. Lack of time is a perceived barrier to SBI implementation, so it is important to understand what substance use would be undetected with alcohol-only screening. **Objective:** 1) Compare substance use rates in primary care vs. emergency department (ED) settings; and 2) Identify patient needs that would be overlooked if SBI only includes alcohol. **Methods:** 13,339 patients in 6 primary care clinics and 7,657 patients in an ED were screened using the ASSIST (developed by the World Health Organization). Patients who scored at moderate risk or higher ("positive") received a brief intervention and reported past 30-day substance use. **Results:** 15.3% screened positive in primary care vs. 59.2% in the ED. At-risk patients most commonly reported using alcohol or marijuana, but not usually both. In primary care, 6.4% of patients positive for illicit substances (5.5% marijuana/illicit, 0.9% other illicit only) would have been missed by an alcohol-only screen; in the ED: 17.8% (13.4% marijuana/illicit, 4.4% other illicit only). The marijuana positive rate was higher in the ED, but for those positive, frequency of marijuana use in the past 30 days was identical in both settings (mean days used = 18, median = 20, mode = 30). **Conclusions:** Most patients in primary care weren't using substances at a risky level, but more than half of ED patients were at risk. At-risk marijuana users were not the same patients as at-risk alcohol users, and frequency of marijuana use was high among those who use it. In balancing time to implement SBI, ED providers may benefit from screening for all illicit drugs whereas screening for marijuana may be important in primary care; all settings should screen for alcohol.

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Key Correlates of Readiness for Technology-based Interventions in Substance Abuse Services
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Background: Technology has the potential to enhance substance abuse services across the continuum of care, including prevention, brief intervention, treatment, and long-term recovery management. Readiness for new technology-based approaches has been identified as a potentially critical component in the adoption and successful implementation of these tools, but little is known about the construct of readiness, who possesses it, why it is important, and how it may be augmented. Objective: This study sought to better understand how provider-level and organization-level readiness for using technology-based substance abuse interventions relates to organizational climate, provider attitudes, and other relevant contextual factors.

Methods: A sample of 244 behavioral health providers from 6 agencies providing substance abuse services in a large Midwestern metropolitan responded to paper-based surveys. The survey included measures of evidence-based practice attitudes (e.g., openness, appeal), organizational climate (e.g., learning climate, work morale), demographic factors (e.g., service settings, education level), and provider-level (e.g., I would use a smartphone to communicate with my clients) and organizational-level (e.g., Leadership at this agency supports the use of technology to improve care delivery) readiness for technology-based interventions.

Results: Readiness for technology-based interventions (both provider and organizational) differed significantly by service setting, position level, and recovery status. Hierarchical linear regression analyses indicated that provider readiness for technology-based interventions was uniquely predicted by evidence-based practice attitudes and education level. Reflecting a somewhat different pattern, organizational readiness for technology was uniquely predicted by evidence-based practice attitudes and work morale. Conclusions: This research yields clarity around the multi-level factor of readiness for technology, identifies typologies of providers and organizations that possess enhanced readiness, and informs potential leverage points that may augment readiness for technology-based interventions. Education and dissemination efforts may serve to reduce misconceptions and promote the appropriate use of technology-based approaches to substance abuse care. Enhancing readiness for technology may enable service agencies to harness the benefits of technology-based interventions for the access, quality, and cost-effectiveness of substance abuse services.

Motivational Interviewing to Reduce Alcohol and Drug Use among Adults in Treatment for Depression: 6-Month Outcomes
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Background: Hazardous drinking can adversely impact individuals with depression. Objective: This randomized trial examined the effectiveness of Motivational Interviewing (MI) to reduce hazardous drinking among patients in treatment for depression. Methods: The sample consisted of 307 participants ages 18 and over in depression treatment in Kaiser Permanente outpatient psychiatry who reported hazardous drinking, illegal drug use or misuse of prescription
drugs in the prior 30 days, and who scored ≥ 5 on the Patient Health Questionnaire (PHQ-9) depression scale. Participants were randomized to receive either 3 sessions of MI or printed literature about alcohol and drug use risks, as an adjunct to usual outpatient depression care. Telephone follow up interviews were conducted at 3 and 6 months, with over 96% of the sample interviewed at each time point. **Results:** Both groups showed reduction in hazardous drinking, cannabis use and depression score over time. At 6 months, rate of any prior-30-day hazardous drinking days (4+ for women or 5+ for men) was 29% in the MI group vs. 40% in the literature group (p=.060), and cannabis use was 25% in the MI group vs. 36% in the literature group (p=.036). This study examined outcome data regarding the efficacy of MI versus printed literature on alcohol use risks among depression patients in a clinical setting as a supplement to usual care in psychiatry. **Conclusions:** Findings indicate that both groups reduced hazardous drinking and drug use over time. Additional implications include improvement in patterns of use, reduction in psychiatric severity, initiation with specialty alcohol and drug treatment, and cost effectiveness, to inform treatment for this important clinical population.

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**HIV Risk Reduction among out-of-Treatment Substance Users: Contextual Factors**

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**Background:** Research regarding HIV and drug use has focused primarily on risky substance use associated with impaired judgment resulting in risky sex and unsafe injection drug practices. These individual-level behaviors have led to an increase in HIV among subgroups of the population however, multiple studies suggest that underlying social structural and contextual conditions inextricably constrain and enable individual agency in HIV transmission and HIV prevention. Identifying the contributions of social-structural and contextual conditions on HIV transmission will clarify the importance of these factors for prevention, inform policy and help to set priorities for achieving reduction in the disparities of the HIV burden. **Objective:** This study's objective was to employ a socio-ecological approach to examine longitudinally the factors that contributed to changes in drug and sexual HIV-risk behaviors among out-of-treatment substance users. **Methods:** Data were collected at two time points from a cohort of 537 out-of-treatment substance users with NIDA's Risk Behavior Assessment at baseline and the Risk Behavior Follow-up assessment at 3-11 months. Scales were developed using conceptual indices of HIV risk behavior for the 30 days prior to first interview and 30 days prior to their last interview. Social and ecological factors included housing, income, employment, cohabiting, treatment, sexual partners, drugs and sexual activity, and jail time. Factors significant at the bivariate level were entered into two regression models; a Poisson model for drug risks and a Zero-inflated Negative Binomial model for sex risks. **Results:** Two variables significantly predicted reduced sex-risk behaviors: income and not living with a sexual partner. Four variables were found to significantly reduce HIV drug risk at follow up: income, employment, housing, and prior treatment. **Conclusions:** To achieve prevention goals, we need multilevel interventions through direct service practitioners, policy reform, individual behaviors, and community planning. These findings replicate prior research regarding the influence of income, employment, shelter, and drug treatment experience being associated with a reduction of HIV related risks among drug users. Cumulative environmental disadvantage may influence HIV risk
behaviors and further research is needed. Interventions aimed at reducing sexual risk behaviors must address the contextual factors of economic vulnerability, as well as those of individual agency.

Treatment with an Advanced Formulation of Sublingual Buprenorphine/Naloxone Tablets Improves Quality-of-Life Measures in Opioid-Dependent Adults
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Background: Opioid dependence is an epidemic associated with substantial societal costs. Long-term treatment with buprenorphine/naloxone (BUP/NLX) can substantially improve quality of life (QOL) and reduce psychosocial impairments in opioid-dependent patients.

Objective: To assess QOL in opioid-dependent patients following treatment with Zubsolv™ (advanced formulation of BUP/NLX class III sublingual tablet). Methods: This prospective, randomized, multicenter, blinded, parallel-group, active-controlled study assessed the efficacy of BUP/NLX sublingual tablets vs generic buprenorphine (BUP) for induction of opioid maintenance therapy in opioid-dependent adult patients. Patients received a blinded fixed dose of BUP/NLX or BUP on days 1 and 2, then all patients received open-label BUP/NLX on day 3 (5.7/1.4 or 11.4/2.8 mg), and individually titrated doses of BUP/NLX on days 4 through 28 (5.7/1.4-17.1/4.2 mg). QOL was evaluated in the full analysis population using change from baseline to day 29/study discontinuation in T-score for the mental component summary (MCS [social functioning]) and physical component summary (PCS [physical functioning]) of the Short-Form Health Survey (SF-36) questionnaire. Changes from baseline were statistically significant if 95% confidence intervals (CI) did not contain zero. Results: A total of 310 patients received treatment with BUP/NLX or BUP (full analysis population); 283 (91%) completed the double-blind phase. Patients induced and maintained on BUP/NLX had a mean change from baseline in MCS T-scores of 9.56±15.86 (95% CI=6.63-12.49); patients induced on BUP and maintained on BUP/NLX had a mean change from baseline in MCS T-scores of 7.72±12.56 (95% CI=5.51-9.93). Mean change from baseline in PCS T-scores was 3.96±8.28 (95% CI=2.43-5.49) and 3.40±8.20 (95% CI=1.95-4.84) in the two treatment groups, respectively. Statistically significant improvements in all 11 components of the SF-36 were observed in both treatment groups. Conclusions: Improvements in QOL measures were observed early in treatment with BUP/NLX in adult patients with opioid dependence. Treatment with BUP/NLX may help opioid-dependent patients achieve normal functioning.

Women's Attitudes toward Pharmacotherapy Options Following Release from Jail
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Background: Women with substance use problems who are leaving jail might benefit from pharmacotherapy, including slow-release injectable formulations that assist in medication regimen compliance. However, negative attitudes toward medication may interfere with pharmacotherapy for women at high risk of relapse. Objective: This study addressed women's
opinions about medication options for reducing craving, dulling the high, and administering a monthly injection during community reentry following release from jail. **Methods:** As part of a larger intervention study, 158 women with positive substance use histories (AUDIT-ID brief screening) participated in interviews two months following release. Interviewers administered AUDIT-ID and TCU substance screening and asked about interest in taking medication that reduces craving, dulls the high, or is administered by monthly injection. **Results:** In addition to univariate analyses, bivariate analyses related categorical responses to three TCU items: past treatment attempts, seriousness of the problem, and importance of treatment now. Women were significantly more likely to say yes about medication to reduce craving, and about equally distributed (yes and no) to taking medication that dulls the high or a monthly injectable medication. "Yes" responses to medication that reduces craving were significantly related to higher ratings of problem severity and importance of getting treatment now (one-way ANOVAs). "Yes" responses to medication to dull the high were significantly related to importance of treatment now, as well as screening scores. Interest in a monthly injectable was significantly related to seriousness of the problem, importance of treatment, and screening scores. Number of past treatment efforts was not related to medication questions. **Conclusions:** Women leaving jail expressed mixed opinions about pharmacotherapy options. Women more receptive to pharmacotherapy had higher screening scores, and recognized the seriousness of their problems and/or importance of getting treatment now. Interventions addressing medication concerns and ambivalence might contribute to acceptance of pharmacotherapy as a specific treatment plan component.

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**Interprofessional Workplace Instruction: Social Workers as SBIRT Instructors for Emergency Medicine Residents**

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**Background:** Implementing a successful SBIRT curriculum for emergency medicine (EM) residents is challenged by shortage of personnel and time. Many EM social workers have alcohol and drug intervention training and are well placed to teach SBIRT in the workplace.

**Objective:** We describe success of social workers as trainers of EM residents in SBIRT during clinical shifts. **Methods:** We trained 8 social workers as SBIRT superusers, using a checklist to evaluate the provider's ability perform SBIRT. 31 out of 48 residents completed training from June 2013 to May 2014, 17 residents are in the process of completing training. After an introductory lecture, each resident employed SBIRT with ER patients during their usual shifts with a paired superuser stepping in to guide and model SBIRT. Residents repeated these rounds until they met the success standard: completion of checklist steps and receiving an entrustment decision of capable of doing SBIRT with minimal supervision for two patients. Success of the intervention was indicated by number of rounds to meet SBIRT competence and residents' satisfaction collected through CSAT surveys using ratings from 1 (high) to 5 (low). Authors reviewed residents' comments to identify specific aspects of training indicating success.

**Results:** It took 114 rounds averaging 8.8 minutes with 5 of the 8 social workers participating to successfully train 31 residents. These residents averaged 3.13 rounds to complete training. 24 (77%) completed the CSAT giving 1.58 for the quality of teaching, 2.33 to recommending this
training to a colleague, 1.38 to super-users’ knowledge, 1.88 for usefulness of instruction. A score of 1.54 was given to preferring learning in the workplace over role play exercises and 1.58 for valuing learning from social workers. The majority of residents felt that it is best to learn SBIRT during the PGY1 and PGY2 years and in the workplace. **Conclusions:** Training EM residents SBIRT through interprofessional workplace learning methods is effective and acceptable by the learners.

Lighting the Ember of Hope: Integrating Field Experience and Narrative Techniques into Addiction Medicine Fellowship Training  
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**Background:** Treating marginalized and stigmatized individuals struggling with substance use disorders can be challenging to learners and seasoned clinicians alike when unfamiliar with the life histories and culture of those being cared for. Thus it is important to include effective strategies to inspire hope and build compassionate cultural competency within Addiction Medicine training programs. **Objective:** We undertook to assess the perceived impact of field experience in a community with high rates of recovery on Addiction Medicine Fellows and staff. **Methods:** At the beginning of a one-year program we took 5 Addiction Medicine fellows and 3 preceptors to a remote First Nations (i.e. American Indian) community to hear stories of recovery and participate in traditional healing techniques including sweat lodge. We also integrated a Fellow-lead session on narrative medicine into our monthly journal club. Toward the end of the fellowship, participants were asked to write a paragraph about the impact of their experience. A graduate researcher performed theme extraction. **Results:** All 5 fellows and 3 staff expressed benefit from, and gratitude for the experience. Four themes emerged from the narratives: Theme I - Vision, inspiration, and hope; Theme II - Emotional human connection key to learning; Theme III - Beyond "cultural sensitivity" to compassion and empathy; Theme IV - Addiction and recovery are multifaceted. **Conclusions:** Field experience with a community in recovery was highly valued among fellows and staff in an Addiction Medicine Fellowship program. Participation provided a source of hope, increased empathy, underscored the importance of connection, and built cultural understanding of a bio-psycho-social-spiritual approach to Addiction Medicine. Other programs may benefit from adopting a similar approach in their own community.
The Addiction Leadership Workshop - Transitioning Residents from "Accidental" Leaders to "Intentional" Leaders
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Background: In today's rapidly evolving health care system competency in addiction medicine is critical to improving public health. There is a call for integration of addiction competencies with leadership principles to effectively lead integrated healthcare teams and to better serve patients with substance use disorders. A leadership curriculum was created to address the leadership-training gap in one Addiction Fellowship program. Objective: Training the residents to (1) articulate principles of effective leadership, (2) to increase self-reflective capacity around personal leadership style. Methods: A novel Addiction Leadership Curriculum was implemented in the Addiction Fellowship at Yale University School of Medicine. The experiential workshop utilized the following teaching strategies: "learner driven class"; "safe" learning environment; reflection journaling; reflection review; student driven case examples; peer interaction and peer feedback. Results: Leadership training integrated into the Addictions Fellowship can increase a resident's view of personal leadership capacity in the areas of identity formation; clarity of leadership values; awareness of the complexity of leading teams; leadership approach; giving feedback; and planning career goals. Other positive outcomes can include: higher level of confidence with job interviewing; higher level of confidence in negotiating life/career decisions; and the creation of stronger peer networks. Conclusions: Both residents and training directors feel there is a need for leadership education during postgraduate training. This curriculum can provide residents with the necessary leadership tools to lead healthcare teams in the effective delivery of care to patients with substance use disorders.

Outcomes among Opioid/Heroin Addicts in Bellevue Methadone Program after Hurricane Sandy
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Background: Approximately 20% of the American population was affected by Hurricane Sandy with costs ranging from $10-20 billion. In its aftermath, substance treatment programs in NYC were significantly affected, including Bellevue Hospital Center’s (BHC) methadone treatment program (MTP). Methadone, a full μ-receptor opioid agonist, is an established and widely utilized treatment for opiate-dependence. While research has studied the impact of disasters on substance use patterns in the general population, few studies have evaluated outcomes among patients enrolled in substance treatment programs. A broader understanding of Sandy’s impact on treatment outcomes among opioid dependent patients enrolled in the BHC-MTP is critical to prepare for future disruptions. Objective: This study aims to explore the self-reported rates of treatment continuity, medication adherence, coping strategies, and maladaptive drug/alcohol use post-Sandy among Bellevue MTP patients using a cross-sectional survey. Methods: A 24-item survey was administered in-person to a cross-section of 29 patients
enrolled in the BHC-MTP between June and July 2013. Survey domains included housing and employment disruptions, social and economic support (disaster relief), treatment outcomes (methadone adherence, missed medication doses, and ability to get care), and tobacco, alcohol and drug use. **Results:** 46 patients were assessed for eligibility; 17 were excluded (2 refused participation). 29 patients were surveyed; one discontinued the survey; thus, 28 were analyzed (64% male). 50% were black non-Hispanic; 20% were white non-Hispanic (29% were Hispanic). 79% were on Medicaid; 18% were on Medicare (only 3% had other coverage). Drug use 3 months prior to Sandy and up to 3 months post-Sandy was comparable (82% cigarettes, 22-25% alcohol, 18-25% heroin, 0-5% prescription opioid, 14% crack/cocaine, 9% benzodiazepines, and 5% marijuana). Findings indicate although the majority of MTP patients experienced disruption in treatment following Sandy, most patients endured withdrawal symptoms or utilized alternate MTP’s suggested by other opiate-dependent peers (not MTP workers) rather than revert to illicit opioid, drug, or alcohol use. **Conclusion:** Despite experiencing interruptions in methadone treatment post-Sandy, most BHC-MTP patients did not revert to illicit opioid, drug, or alcohol use. Planned future methods include comparing self-reported rates of treatment continuity, medication adherence, coping strategies, and maladaptive drug/alcohol use post-Sandy to Bellevue Primary Care Buprenorphine and Chemical Dependency Outpatient Program patients.

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Alcohol use before and During Unwanted Pregnancy
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**Background:** There is little information about pregnancy-related changes in alcohol use and factors contributing to changes among women with unwanted pregnancies. **Objective:** This study describes changes in alcohol use from before to during pregnancy and identifies important predictors of alcohol use severity among women with unwanted pregnancies. **Methods:** Data are from the Turnaway Study of 956 women seeking pregnancy termination at 30 U.S. clinics between 2008 and 2010, some of whom were denied care because they were past the gestational limit of the facility where they were recruited and were still pregnant at the baseline interview, one week after termination-seeking. Predictors of alcohol use severity (a latent variable) were identified. **Results:** 56% of the total sample reported any alcohol use the month before pregnancy recognition, with 23% reporting six or more drinks on an occasion. Among the total sample, 35% of those drinking prior to pregnancy recognition had quit and 20% reduced one week after termination seeking. Among those denied terminations and still pregnant, 71% had quit and 14% had reduced. In a multivariate model predicting severity, younger age, still pregnant, one or more previous births, later gestation, childhood physical abuse, and marijuana and other drug use were associated with lower severity; having completed college, tobacco use, and recent physical violence were associated with higher severity. **Conclusions:** The proportion of the total sample drinking prior to pregnancy recognition is similar to national samples of women of childbearing age while the proportion binge drinking is about one and a half times higher. Of women denied terminations who were still pregnant, the proportion having quit is similar to other populations of pregnant women. More research is needed to examine whether pregnant women may be substituting alcohol for marijuana and other
drugs. Interventions focusing on alcohol use severity during pregnancy may need to also focus on tobacco.

A Systematic Review of Research on Tobacco Use and Public, Structural, and Self-Stigma
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Background: Relatively little attention has been given to the potential negative impact of tobacco control strategies. Data have shown that people have increasingly viewed smoking as socially reprehensible. Although the denormalization of smoking behavior may have led to some benefits for public health, if it has led to stigmatization of smokers, it could reinforce or aggravate tobacco use. Objective: Understand definitions of stigma and the health impact of stigma related to other mental illnesses; describe how the study of stigma can be adapted for tobacco control; review existing studies of stigma and tobacco and identify areas for future research. Methods: Studies were identified via PubMed, PsychInfo, SciELO and Pepsic. Key search terms included [social stigma, experienced stigma, self stigma, prejudice, social discrimination, denormalization, stereotype] and [tobacco, smoking, tobacco use disorder, tobacco products] Articles within each domain were pooled, and the two domains were merged to identify all candidate studies. Reference lists and queries to listserves yielded additional articles. Selection criteria for the review included 1) having stigma and tobacco as main topics of the article, and 2) having original data. Initially 142 studies were identified; 23 articles met inclusion criteria for review. Results: Study designs included qualitative (1) and quantitative (21) data collection; 1 included both. Definitions of stigma varied widely across studies. Most (16) studies focused on stigma held by the public toward tobacco users (public stigma). Of these, 7 studies found that the public stigmatized smokers. Two articles found that tobacco control campaigns may exacerbate stigmatization. Five studies examined structural stigma-institutional discrimination that intentionally restricts opportunities for tobacco users. Two studies found that policies to increase the social unacceptability of smoking was effective in reducing consumption. One study found that tobacco control legislation increased public stigma and another reported important negative consequences arising from the stigmatization. No studies examined self stigma-the prejudice that smokers might turn against themselves. Conclusions: The results of this systematic review showed that stigma have been highly related with smoking. Studies found that tobacco control campaigns may be exacerbating the stigmatization. Important negative consequences arising from the stigmatization were found, one of them was the internalization of discrimination.
Substance Use in Women of Reproductive Age
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**Background:** Risky substance use is common and of concern with women who are or might become pregnant. Screening is efficient, and brief interventions help some to reduce or quit drinking. **Objective:** Determine prevalence of hazardous drinking and drug use, changes in use during a current pregnancy and, in non-pregnant women, likelihood of pregnancy and thoughts about changing alcohol use if they became pregnant. **Methods:** Anonymous exit questionnaires were completed by women in a university OB/GYN clinic. Two versions of the questionnaire, for pregnant and non-pregnant women, were given to each patient with instructions to complete the appropriate version. **Results:** Reporting on drinking before pregnancy, 43 of 165 pregnant women (27%) screened positive for hazardous or harmful drinking. The screen (AUDIT-C) was positive in 71 of 193 non-pregnant women (37%). Of the 43 pregnant women with a positive alcohol screen, 20 had not intended to get pregnant, but 40 had quit drinking during this pregnancy and 22 planned not to restart. Of non-pregnant women, 107 (55%) were either using no contraception or using one with a failure rate of 9% or greater, including 36 of the 71 with a positive alcohol screen, 30 of whom thought pregnancy was "not at all likely" or "unlikely." Asked if they would change their drinking if they became pregnant, 64 of 71 with a positive alcohol screen indicated they would quit. Use of illicit drugs more often than once a month was reported by 2 non-pregnant women and, before pregnancy, 9 (5.5%) pregnant women. **Conclusions:** Hazardous or harmful drinking was commonly reported by women in both samples. All pregnant women who reported heavy drinking prior to pregnancy said they had cut down or, more commonly, stopped. Among non-pregnant women with a positive alcohol screen, about half were more likely to become pregnant than they thought. These findings support routine screening and brief intervention, at least for hazardous drinking, and suggest that patients might be open to change.

Development of Life without Tobacco: An Open Source Web-Assisted Tobacco Intervention for Brazilians
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**Background:** Web-assisted tobacco interventions (WATI) currently available in Portuguese do not adhere to evidence-based treatment guidelines. They also fail to employ interactivity and other features of effective internet interventions. All existing web-assisted tobacco interventions are built on proprietryal platforms, which developing countries often cannot afford. **Objective:** To describe a development methodology of an open-source WATI (Live Without Tobacco; Viva Sem Tabaco) and evaluate the quality of its content and format. **Methods:** Development included the following stages: (1) prototype development, (2) assessment and revision of the prototype based on feedback from focus groups, and (3) evaluation of content coverage, accuracy and interactivity using U.S. Clinical Guidelines for tobacco treatment and published guidelines for WATI formatting, and (4) final review.
**Results:** Based on the data from focus groups, the initial prototype was redesigned. Two independent raters evaluated the information content of the second version according to U.S. treatment guidelines and guidelines for WATI quality. Most (9 of 12) components were well covered and 3 minimally covered. Eight of 12 components were classified as correct and 4 as mostly correct. Just two topics were considered interactive. Based on the evaluation, the program was revised and a final review was conducted on the intervention content. All components complied with tobacco treatment guidelines. **Conclusions:** Future studies will evaluate user satisfaction and the clinical efficacy of Live without Tobacco. Should it prove attractive to users and effective for cessation, its open source formatting will facilitate translation/adaptation for use in multiple languages and health issues.

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**Substance Use-Related Stigma and Shame Pre- and Post-Hepatitis C Rapid Testing**
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**Background:** Hepatitis C virus (HCV) causes over 16,000 deaths annually. Five million individuals in the United States have been infected with HCV, the majority of whom have a history of injection drug use. Yet, a minority of HCV-infected individuals have initiated antiviral treatment. The stigma and shame associated with HCV and substance use have been linked to a reluctance to disclose HCV status and initiate HCV treatment. **Objective:** To explore if individuals who screened positive for HCV differed in their perceived shame, stigma and substance use, compared to HCV- individuals. **Methods:** Participants included 123 individuals (43% female) enrolled in an urban outpatient drug treatment program. All received an HCV rapid blood test and completed self-report questionnaires assessing demographics, substance use, HCV status, and perceived stigma and shame regarding addiction. Participants with HCV antibody+ results were asked about perceived HCV stigma. **Results:** Both individuals who screened positive and negative for HCV reported experiencing shame, though the levels of shame were not as high as we hypothesized. A significant minority of participants in both groups demonstrated frequent or high levels of shame (Internalized Shame Scale >50; 26% HCV- vs. 18% HCV antibody+). We identified a significant difference between alcohol related risk levels, with HCV- participants endorsing higher proportions of hazardous drinking (20%) compared to HCV+ participants (10%) over the past year (p=0.002). Similarly, 52% of HCV- participants reported drinking alcohol in the past 30 days, compared to only 22% of HCV antibody+ participants (p=0.01). There were no significant differences between the HCV- and HCV antibody+ participants on days reported using opiates or cocaine over the past 30 days or on measures of HCV or substance related stigma and shame. **Conclusions:** Given the advent of new and more effective HCV treatment options, reducing psychological barriers to HCV testing and to treatment initiation is increasingly important. Understanding HCV and substance use related stigma and shame could help shape interventions to prevent this stigmatization.

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Treatment Outcomes of Treatment for Opioid Addiction in Young Adults
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Background: Opioid addiction among young adults is an increasing problem associated with substantial morbidity and mortality. Despite the widespread use of relapse prevention medications such as extended release naltrexone (XR-NTX) and buprenorphine for opioid addiction in adults, little is known about their effectiveness in young adult populations.

Objective: (1) To track the outcomes of community opioid addiction treatment for young adults over 20 weeks and (2) describe the implementation of the current program. Methods: Chart Review of N = 47 serial admissions Jan 2013 to Jan 2014 to a specialty community treatment program for opioid addicted young adults stepping down from residential detoxification. Prescribed attendance was 1-4 days per week including group and individual counseling, physician visits, supervised medication administration. Results: Patients were average age 25.4 years (from 19 to 34), 74% male, 85% Caucasian. About 32% of patients in the target population who underwent detox at the residential center during this period were referred, with 81% of such referrals admitted. Patients were prescribed either buprenorphine (79%) or XR-NTX (21%). Of the patients on XR-NTX, at least 50% received >4 doses. Rates of treatment retention were 96%, 68%, 60%, 50%, and 50% (for weeks 4, 8, 12, 16, and 20 respectively). Rates of any weekly attendance were 81%, 60%, 51%, 43%, and 45% (for weeks 4, 8, 12, 16, and 20 respectively). Rates of negative urine opioid test (absent imputed as positive) were 83%, 66%, 51%, 50%, and 50% (for weeks 4, 8, 12, 16, and 20 respectively) and for other drugs 70%, 57%, 47%, 43%, and 45%. There were minimal age differences in terms of retention and weekly attendance. Males attended approximately 15% more than females and were also retained in treatment longer.

Conclusions: Despite its limitations, the present study supports the feasibility and effectiveness of integrating medication for opioid addiction into standard community treatment. Additional research is needed to explore differential outcomes for these two medications and other treatment characteristics, and to understand how specialty programs can better facilitate the transition from inpatient detoxification to outpatient continuing care.

Motivational Incentives among Cannabis using Youths in an Urban Intensive Outpatient Treatment Program
Hoa Vo, PhD(1); Marc Fishman, MD(1,2); Erika Robbins, BA(1); Maxine Stitzer, PhD(2) -
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Background: Contingency Management (CM) is an established intervention shown to facilitate treatment outcomes among patients abusing illicit substances. CM is a broad concept based on the behavioral principles of positive reinforcement adding a desired incentive in order to increase the likelihood of a desired behavior. The focus of CM is to increase a target behavior and as a natural default decrease undesirable behaviors. Motivational incentive (MI) is a term based on the principles of CM and positive reinforcement. In a clinical setting, patients and providers agree on target behavior(s). Patients are given incentives each time they complete the desired behavior, as immediate as feasible. Objective: The objectives are two-fold, (1) to evaluate the effectiveness of MI in a community treatment setting among adolescents and (2) to evaluate the
extent to which MI influences treatment outcomes. **Methods:** The current presents data on MI in an adolescent (ages 14-22) intensive outpatient community treatment setting with primarily Cannabis misuse. N = 350 (N = 250 baseline control; N = 100 MI) patients are given draws for prizes each time they attend treatment session and also each time their urine toxicity screen shows a negative result. For every three consecutive attendance, they earn 2 bonus draws for the week and for every consecutive abstinent they also earn bonus draws exponentially. Draws are conducted using the MIIS computer program, which shows a virtual coin toss and lands on Small, Medium, Large, or Jumbo prizes. These prizes range from snacks to $50 gift cards. **Results:** Among youths, MI increases attendance about 30% over 12 treatment weeks. CM appeared to have less impact on abstinence from substances. **Conclusions:** This project is among the first to evaluate the feasibility of MI among youths with SUDs in a community treatment setting and suggests that MI may be a promising clinical engagement tool but warrants additional efforts in order to decipher economic sustainability and effectiveness in reduce substance use.

**Impact of Exercise on Depression and Anxiety Symptoms among Abstinent Methamphetamine-Dependent Individuals**

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**Background:** Aerobic exercise at moderate levels has been shown to be a useful intervention for the treatment of a variety of medical and psychiatric disorders and symptoms among adults. To date, there is little literature on the effects of exercise in improving the course of recovery for MA dependence. One potential mechanism that may help explain how exercise is a beneficial intervention for substance use disorders can be found across several studies that concluded that exercise can improve mood and well-being. Since anxiety and depression are associated with higher relapse, exercise may promote positive outcomes for substance use disorders. One area of concern for clinicians treating MA-dependent individuals is the negative mood states that are associated with MA-abstinence syndrome. **Objective:** The purpose of the present study is to look at the effects of an 8-week exercise program on depression and anxiety symptoms among a newly abstinent sample of MA-dependent adults in a residential treatment setting. **Methods:** One hundred thirty-five MA-dependent individuals, newly enrolled in residential treatment were randomly assigned to receive either a 3 times per week, 60-minute structured exercise program for 8 weeks (24 sessions) or an equivalent number of health education sessions. **Results:** Analyses indicate significantly reduction in depression and anxiety symptom scores over time among exercise intervention participants compared to health education control participants. A significant dose interaction effect between session attendance and exercise intervention was found on greater reductions in depression and anxiety symptoms over time compared to the control group. **Conclusions:** Results support the role of a structured exercise program as an effective intervention for improving dysphoric mood symptoms associated with MA abstinence-depression and anxiety.
"Two Pains Together": Patient Perspectives on Psychological Aspects of Chronic Pain while Living with HIV
Jessica Merlin, MD, MBA; Melonie Walcott; Christine Ritchie; Ivan Herbey; Stefan G. Kertesz; Eric Chamot; Michael Saag; Janet M. Turan - University of Alabama at Birmingham

Background: Chronic pain is common in HIV-infected individuals. Understanding HIV-infected patients' chronic pain experience not just from a biological, but also from a psychological perspective, is a critical first step toward improving care for this population.

Objective: Our objective was to explore HIV-infected patients' perspectives on psychological aspects of chronic pain using in-depth qualitative interviews.

Methods: Investigators engaged in an iterative process of independent and group coding until theme saturation was reached.

Results: Of the 25 patients with chronic pain interviewed, 20 were male, 15 were younger than age 50, and 15 were African-American. Key themes that emerged included the close relationship between mood and pain; mood and pain in the context of living with HIV; use of alcohol/drugs to self-medicate for pain; and the challenge of receiving prescription pain medications while dealing with substance use disorders.

Conclusions: The results suggest that psychological approaches to chronic pain treatment may be well received by HIV-infected patients.

Demographic and Clinical Features of Amphetamine-Type Stimulants (ATS) Use Disorder among Treatment Seeking Patients in Singapore
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Background: Amphetamine-type stimulants (ATS) are the second most widely used class of drugs worldwide, after cannabis. In Singapore, government experts have ranked crystalline methamphetamine as the second most commonly used drug after heroin in 2010 to 2012.

Objective: This paper describes the demographic and clinical characteristics of ATS abusers treated at National Addictions Management Service (NAMS), Singapore from April 2009 to March 2012.

Methods: As part of our NAMS treatment outcome monitoring program (TOM), 55 ATS abuse patients were seen at the NAMS clinic from Apr 2009 to Mar 2012; their demographic data and clinical characteristics were obtained during the baseline assessment.

Results: The sample was predominantly single (76.4%) male (76.4%), Chinese (41.8%) or Malay (36.4%) and had a mean age of 31 (q9.4) with mean onset of ATS use at 25 (q8.8) years. 43.6% were employed and 80% were educated up to secondary level (49.1%) or above (30.9%). 85.5% smoked cigarettes. 45.5% were diagnosed as ATS dependence and 41.8% with ATS abuse (41.8%) using the DSMIVTR. Smoking (78.2%) was the most popular method of ATS use and ice was most commonly abused (94.5%). 61.8% had a co-morbid psychiatric disorder and 38.2% had a history of substance induced psychosis.

Conclusions: In concordance with existing literature, a substantial proportion of treatment-seeking ATS use disorder patients in NAMS were young single male, unemployed with secondary education level. Ice was commonly abused and the most popular method of ATS use was smoking. Supporting earlier studies, a substantial proportion of treatment-seeking ATS use disorder patients had experienced a previous episode of substance-induced psychosis. Findings from our TOM indicated the
imperative of addressing co-morbid psychiatric co-morbidity during the treatment of ATS use disorder. It also suggested a great need for further research to understand factors related to how this substance-induced disorder affects ATS use, dependence, and treatment outcomes.

12-Step Related Beliefs Correlated with Higher Alcoholics Anonymous Affiliation and Longer Length of Sobriety
David Sugarbaker, MPH - PGSP-Stanford PsyD Consortium

**Background:** Research suggests that 12-step program affiliation is an effective adjunct and aftercare for formal treatment. Among Alcoholics Anonymous (AA) members, certain 12-step related beliefs may link to higher AA affiliation and longer length of sobriety (LOS).

**Objective:** Study aims were (1) to explore the association between LOS and AA affiliation and (2) to identify AA members' beliefs about recovery that correlate with both longer LOS and higher AA affiliation.

**Methods:** Surveys were administered to AA members (N=20). The survey (40 5-point Likert items) was designed to assess AA members' beliefs about personal recovery from alcoholism. Study participants also completed the Alcoholics Anonymous Affiliation Scale (AAAS) and self-reported LOS. **Results:** The survey was found to be highly reliable (α=.944). LOS correlated with AAAS score (r=.731, p<.001). Of the 80 correlations between survey items and AAAS score and LOS, 23 were significant and four survey items positively and independently correlated with both LOS and AAAS score: (a) belief in a Higher Power correlated with AAAS score (r=.527, p=.017) and LOS (r=.475, p=.034); (b) belief in the importance of letting go of resentments correlated with AAAS score (r=.641, p=.002) and LOS (r=.505, p=.023); (c) belief that "alcohol is a but a symptom" correlated with AAAS score (r=.637, p=.003) and LOS (r=.508, p=.005); and (d) belief that one feels and behaves better by practicing the Twelve Steps correlated with AAAS score (r=.586, p=.007) and LOS (r=.522, p=.018). **Conclusions:** This study identified several 12-step related beliefs that are associated with both higher AA affiliation and longer LOS. While the factors that promote sobriety are undoubtedly myriad and complex, the findings herein expound upon the demonstrated relationship between AA involvement and duration of sobriety by identifying important and associated intra-individual factors.

Problem Drug use in Patients on Chronic Opioid Therapy: Results of a Primary Care Clinic Intervention
Lucinda Grande, MD - University of Washington Dept. of Family Medicine

**Background:** The treatment of chronic non-cancer pain (CNCP) with chronic opioid therapy (COT) is associated with misuse, abuse and overdose deaths. **Objective:** A retrospective cohort analysis was performed to assess the effectiveness of an intervention to improve care of patients with CNCP prescribed COT in a community practice. We hypothesized that patients who remained on COT following the intervention (Continuing) would have a lower prevalence of problem use than those no longer on COT (Discontinued). **Methods:** A patient registry was built. Support staff scheduled routine urine drug testing (UDT), provider visits and treatment
agreements, and performed patient outreach. A two-year chart review was later performed to extract evidence of problem use, defined as at least one problem behavior or inconsistent UDT result. Problem use was compared between the Continuing and Discontinued groups.

**Results:** 234 patients met selection criteria at the start of the study period. 30% of patients were Discontinued from COT by the end of two years, 48% by patient choice and 52% by provider choice. The majority of Discontinued patients (83%) chose to leave the clinic. The majority of patients overall exhibited problem use, with a similar prevalence in the Continuing and Discontinued groups (83% and 93%, respectively). Among the 68% of patients undergoing UDT, inconsistent results were equally prevalent in the Continuing and Discontinued groups (45% and 46%, respectively). **Conclusions:** Problem opioid use was pervasive in a population of patients with CNCP on COT, as revealed by sensitive detection criteria. Introduction of a chronic disease population management program was followed by a large exodus of patients, most of whom likely sought opioids elsewhere. The widespread practice of continuing COT in patients with recognized problem drug use may often represent a tacit opioid maintenance therapy for opioid use disorder. Much more selective use of COT in the primary care setting and more widespread use of addiction treatment options would likely improve safety of patients and the community.

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**Veterans-Focused Treatment Program Evaluation within a County System**
Kakoli Banerjee, PhD; Renee Marquett, PhD, MBA - Santa Clara Valley Medical Center, Dept. of Alcohol and Drug Services

**Background:** A SAMHSA- funded Veteran's Court program offered dedicated veteran's only residential treatment beds, and a licensed clinician for veterans. The program's emphasis on veterans-only groups allowed the project clinician to focus on veteran-specific issues.

**Objective:** A single system design will be employed to determine whether the veterans-focused intervention, during a 33-month period, yielded significantly improved outcomes (e.g. substance abstinence, decreased mental health symptoms, housing stability, employment, etc.) than years during which veterans received treatment as usual. **Methods:** The data for the intervention stage of this study was gathered from 66 study participants who were admitted to a program that provided veterans access to community treatment as a complement to the VA and placed clients into treatment more rapidly. A three-wave, single group design was used to gather data at admission, discharge and six-months after admission. **Results:** Preliminary results indicated that study participants experienced moderate changes in substance use at 6 months; alcohol abstinence increased from 69% to 77%, and from 61% to 88% for illegal substances. Severity of mental health symptoms also declined from 49% to 36%, and stable housing rose from 36% to 82%. **Conclusions:** While the three-wave, single group design can demonstrate whether the intervention led to changes in the expected direction, it does not allow us to determine whether these changes represented the impact of the augmented program and how different it may be from treatment as usual. In this study, we compare the intervention period with the 12 months prior to the project and 12 months after the end of the veteran's project to determine whether the augmented project resulted in superior outcomes.

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Symptoms and Treatment Compliance of Patients Receiving Treatment in Therapeutic Communities: A Longitudinal Study
Laisa Marcorela Andreoli Sartes, PhD; Tatiana S. Madalena, MS; Bianca A.R. Singulane; Nayara B. Silva - Universidade Federal de Juiz de Fora (UFJF)

Background: Although substances such as alcohol and tobacco will be highlighted as the most abused drugs in Brazil in recent years, there is a greater concern for crack users. Therapeutic Communities (TCs) has excelled currently as an important ally of attention to the drug user's public health system, but little is known about the population served in these services.

Objective: Describe the physical, psychological symptoms and treatment outcomes of TCs.

Methods: This study is part of a larger study to evaluate prevalence and profile of the crack users in treatment in TCs. Patients over 18 years who met criteria indicative of addiction to crack, seeking treatment in TCs were included and responded a battery of tests. In order to evaluate the symptoms and treatments outcomes, a longitudinal study was conducted in which 42 patients TCs were accompanied by a psychologist weekly during 24 weeks. Physical, psychological symptoms and treatment outcomes were recorded in a semi-structured form.

Results: Anxiety and depression were the most prevalent psychological symptoms and were maintained throughout treatment. 80% of patients reported anxiety. There was a peak between weeks 16 to 19. Craving by crack was reported by approximately 35% of patients in the first week, dropping gradually over the first 20 weeks. At treatment initiation, a period withdrawal focused symptoms, especially cough and craving for tobacco. The most prevalent physical symptoms have been gradually decreasing over treatment stopping at week 15. Around 40% of patients remained until the 24th week of observation. Of the total sample of 42 individuals observed in this study, 4 in fact completed the treatment offered. Women tended to stay longer in treatment than men. The curve shows that men in the first weeks there was a loss of around 20% of patients.

Conclusions: With this study we obtained an understanding of the user population crack seeking specialized treatment in TCs in Brazil, enabling a better discussion of proposals for the improvement of interventions and treatment plans for crack users TCs, intending thereby encourage other studies on TCs.

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Treatment Access Disparities among Individuals with Co-occurring Mental Health and Substance Use Disorders: An Integrative Literature Review
Mary Ann Priester, MSW, PhD Student; Teri Browne, PhD, MSW, NSW-C; Dana DeHart, PhD; Stephanie Clone, MSW; Aidyn Iachini, PhD, MSW, LSW; Robert Hock, PhD, LMSW - University of South Carolina

Background: Twenty percent of individuals with a severe mental health disorder will develop a substance use disorder during their lifetime. Only 7.4% receive treatment for both disorders, and 55% receive no treatment at all (SAMHSA, 2010). These persons frequently experience homelessness, criminal justice involvement, have low rates of mental health services utilization, and are women (Watkins et al., 2004). Their substance abuse often exacerbates mental health symptoms, creates psychosocial instability, and decreases ability to seek and access treatment (Green, Drake, Brunette, & Noordsy, 2007). Objective: The aim of this integrative literature review is to examine and synthesize the literature about disparities in treatment access among
individuals with co-occurring disorders. **Methods:** Electronic scholarly databases (PubMed, Sociological Abstracts, Social Services Abstracts, EBSCO multi-database portal) were searched for peer-reviewed journal articles using combinations of the search terms: "co-occurring;" "dual-diagnosis;" "substance abuse;" "mental illness;" "treatment;" "access;" "engagement;" and "client." Inclusion criteria were broadly defined and included empirical/non-empirical studies and theoretical/conceptual literature that focused on treatment access for individuals with co-occurring disorders. The authors critically evaluated the literature to identify population-specific barriers to treatment access. **Results:** This integrative literature review identified several underserved populations of individuals (rural, youth, gender identity, racial/ethnic minority, low income, no insurance) with co-occurring disorders who experience disparate access to treatment services. Four primary types of barriers to service access were identified across populations: structural, service-system, cultural, and environmental barriers. **Conclusions:** Recommendations for addressing barriers to treatment access for individuals with co-occurring disorders include: certification and training standards for clinical assessment of co-occurring disorders for substance abuse, mental health, and medical professionals; targeted workforce development and recruitment of diverse substance abuse and mental health professionals; and single-entry point and co-located and/or integrated assessment, treatment, and case management services.

“Real Play” Based Curriculum is Effective in Motivating Students to Learn Motivational Interviewing

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**Background:** Motivational Interviewing (MI) is an evidence based tool to change target behavior. As time available is the most common limiting factor in MI training, we developed a brief (1.5hr), single session curriculum involving "real play" (talking about a chosen area of change in one's own life), with the aim of motivating students to learn MI in their own time.

**Objective:** To demonstrate the efficacy of real play based curriculum to motivate students to learn MI in their own time and to validate the ability of this method to increase perceived importance of learning MI, belief in MI as an effective tool to bring about behavior change.

**Methods:** Our curriculum was piloted on volunteers from first year medical students and was structured as follows.

Pretest, brief introduction - 15min
Real play with student counselor- 15min
(One student "real played" as client, with self-chosen specific health related target behavior and another student played the counselor)
Power point presentation on MI- 20min
Real play with instructor counseling using brief MI approach- 15min
Wrap up and Q &A- 15min
Post test- 10min.

Pre and post- test questionnaires were paired, included importance, readiness and confidence rulers, Likert scaled questions and space for subjective feedback, and did not contain identifying data. Results were analyzed using two tailed paired t tests.
**Results:** Students reported significantly increased belief in effectiveness of MI as a tool for behavior change, and increased importance of learning MI after the session. Ten out of eleven students expressed willingness to attend next session to learn MI, even if it was not mandatory. All students reported that the interactive parts of the session were more useful, and wanted more time allotted for that. **Conclusions:** Results indicate that our curriculum is effective in motivating students to learn MI. This model might be applicable in teaching MI across a range of clinicians including case managers, social workers, nurses and physicians.

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**University Students' Levels of Stress, Depression, Alcohol and Drug Use, and GPA in Relation to Time Use Patterns**

S. Maggie Maloney, PhD, OTR/L; Amanda Fonner, MOTS - Saint Louis University

**Background:** National surveys indicate university students exhibit poor coping strategies by abusing alcohol and other drugs (AOD). What is unknown is how students' AOD use correlates with time use patterns, depression and anxiety. **Objective:** This survey research sought to verify students' levels of anxiety, depression and AOD use and to document the relationship of time use patterns with these variables and their GPA. **Methods:** Researchers collected survey data at six buildings on a large, public, Midwestern urban university campus at variable times/days during a one-week period. Subjects completed three self-report screening tools: Center for Epidemiological Studies Depression Scale (CES-D), State-Trait Anxiety Inventory, and Alcohol Use Disorders Identification-Consumption (AUDIT-C). Demographic data was collected along with a time use survey covering 25 categories of typical daily activities. Subjects received a $10 bookstore gift card. **Results:** Findings for the 295 subjects revealed they were 49% Caucasian, 53% female, mean age of 22.5 years, and a mean GPA of 3.1. Mean scores for the AUDIT-C indicated 22% of males and 39% of females were within the "At Risk" category for alcohol abuse. For the CES-D: 22% males and 24% females were within the major depression range. For State Anxiety: 41% (both genders) were in mild to moderate range for anxiety. Males reported 2.5 hours drinking alcohol and .7 hours using drugs per week. Females reported 2.2 hours drinking and 1.5 hours using drugs per week. Analysis indicates students spend a smaller proportion of time in sleep and ADLs/IADLs, and larger proportion of time in socialization, education, and work/internships. Further results of the differences in gender time use and correlations will be presented at conference. **Conclusions:** Students experience high levels of AOD use, anxiety and depression and have time use patterns, which do not promote healthful activities. Occupational therapists might partner with universities to develop intervention programming to promote positive time use patterns and decrease use of AOD, depression and anxiety.

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Developing Marijuana Guidance for Screening and Brief Intervention in Colorado
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Background: Colorado is one of two states that have legalized recreational marijuana and one of 21 states plus the District of Columbia that have legalized medical marijuana. This presents new challenges for health professionals who utilize screening and brief intervention (SBI) in their practice. **Objective:** 1) To identify needs and challenges among health professionals who address marijuana with patients. 2) To compile accurate information on marijuana to address prevention, health, safety and harm reduction in adolescents and adults. 3) To summarize this information in a user-friendly format. **Methods:** In 2013 the Screening, Brief intervention, and Referral to Treatment (SBIRT) Colorado initiative convened a committee of experts and clinicians from the health and legal professions to develop guidance on marijuana. They compiled a literature review on marijuana, and feedback from health professionals implementing SBI to identify information needed to inform and engage patients. **Results:** Specific needs among those providing SBI included information about health and safety risks of smoked and ingested marijuana; particular risks in adolescents, pregnant and lactating women; suggestions for conversations with parents; and suggestions for addressing decreased perceptions of marijuana risks after legalization. Common beliefs and misperceptions reported by patients included a belief that marijuana is not addictive, it is safer than alcohol or tobacco, that legalization and being "all natural" indicates a low potential for harm, and that marijuana is a proven treatment for many common health conditions. The one-page document was finalized in January 2014 and has been disseminated across Colorado. Challenges included limited research on potential benefits of marijuana for some health conditions, lack of information on the effects of edible compared to smoked marijuana, evolving consensus on definitions of impaired driving, and crafting effective responses to common beliefs and misperceptions. **Conclusions:** Once marijuana is legalized for medical and recreational use, perceptions of risk among the general public may shift. Health professionals need accurate information to provide effective SBI.

Gender Effects on Retention in Dually Diagnosed Individuals in Private Residential Treatment
Susie Adams, PhD, RN; Siobhan Morse, MHSA, CRC, CAI, MAC – Vanderbilt University, Foundations Recovery Network

**Background:** Prior studies have identified gender differences in treatment retention associated with individual client and program characteristics for persons with dually diagnosed mental health and substance use disorders. Gender specific, trauma-informed programs for women have demonstrated greater treatment retention than co-ed programs where men and women are together in treatment groups in public sector studies. Little information is known about individuals attending private sector treatment for co-occurring disorders in either gender specific or co-educational programs. **Objective:** This study examines gender effects on treatment retention for dually diagnosed individuals in private residential treatment delivered in trauma-informed co-educational programs in three different sites. **Methods:** The participants were
1,317 individuals (539 women and 778 men) receiving treatment for co-occurring substance abuse and mental health disorders at three private residential treatment centers in Tennessee and California. Statistical analyses included bivariate analyses, Cox regression and survival analysis to examine factors that predict retention for men and women in this treatment setting and gender effects on treatment retention. **Results:** Different factors appear to influence treatment retention for each gender and include age, history of opiate use in the 30 days prior to admission, Readiness to Change (URICA scores) and Addiction Severity Index (ASI) alcohol, employment, family/relationship and psychiatric composite scale scores. Additionally, women were more likely to stay longer in treatment when compared to men. **Conclusions:** This study demonstrates that trauma-informed private residential treatment delivered in co-educational programs can successfully retain dually diagnosed men and women in treatment. These findings can be used to tailor treatment interventions in similar populations to increase overall retention and maximize treatment efficacy.

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**Buprenorphine to Treat Opioid Use Disorder in Patients with Co-occurring Chronic Pain: a Clinical Case Series**
Matt Tierney, MS, APRN - University of California, San Francisco

**Background:** Co-occurring opioid addiction and chronic pain can be difficult to treat. In 3 cases presented here, use of buprenorphine effectively addressed clinical concerns and treatment goals. **Learning Objectives:** Reasonable goals for treating co-occurring opioid addiction and chronic pain include: effective analgesia; minimization of adverse medication effects; minimization of opioid misuse and other aberrant behaviors; and an increase in patient comfort and functioning. **Case Presentation:** Case 1: Overuse of MS Contin with resulting rebound pain and opioid withdrawal. Case 2: Patient heroin, alcohol and cocaine use prevented MD continued office-based methadone prescribing for pain. Case 3: Patient misuse of non-prescribed opioids prevented primary MD from continuing office based opioid pain management without referral to addiction treatment. **Discussion:** Buprenorphine may be a viable treatment option for managing opioid addiction and misuse for patients with chronic pain who are failing pain management via prescribed opioid analgesics in outpatient settings.

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**Use of Mentored Residency Teams to Enhance Addiction Medicine Education**
Kenneth Saffier, MD(1); Julie Nyquist, PhD(2); Maureen Strohm, MD(3); Steven Eickelberg, MD(4) - (1)Contra Costa Regional Family Medicine Residency; (2)University of Southern California Keck School of Medicine; (3)Eisenhower Medical Center Family Medicine Residency; (4)Medical Education and Research Foundation for the Treatment of Addiction

**Background:** Although effective screening tools and treatments are now available, due to societal stigma and limited training, medical students and residents are often unprepared to deliver essential preventive care and treatment of substance use disorders (SUDs). The Medical Education and Research Foundation for the Treatment of Addiction (MERF) received funding from the Open Society Foundation to conduct a Champions' Project to develop a model to
integrate SUDs education into family medicine residencies. **Objective:** 1) Participating champions will report increases in knowledge of SUDS and in confidence in relevant patient care and teaching activities; and 2) participating programs will demonstrate enhancements in their educational activities related to SUDS training. **Methods:** The leadership team brought together expertise in SUDs treatment, leadership, resident training and educational processes. Champions from four training programs (two faculty members and one resident) were accepted into this 22-month project (8/2012-6/2014); encompassing a total of 160 residents. The project included the following: Completion of personal and program needs assessments; onsite training in educational principles (14 hours) and case-based SUDs education (25 hours); online mentored meetings, scheduled every one-two months to plan interventions and track progress and share key articles (journal club format); and evaluation of the project and all local curricular innovations. **Results:** We will present the pre and post results from the confidence survey of the "Champions," as well as the pre/post knowledge results from a validated national exam. Highlights of results from each of the four sites, as well as the activities of the leadership team will be provided. Each team has multiple accomplishments including new/enhanced: formal presentations, workshops for skill training, activities in clinical settings, experiential activities, patient education materials, and changes in clinic processes and services. **Conclusions:** The mentored team model has promise for promoting change in SUD training within residency training. The inclusion of three people from each site helped create a local "critical mass" to help promote and support action.

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**Assessment of Interpersonal and Alliance Related Competencies Training in a Graduate Substance Abuse Program: A Pilot Study**
Mathieu Goyette, PhD; Maryse Paré, MPs; Marianne Saint-Jacques, PhD – Université de Sherbrooke

**Background:** Assessment of continuing development of competencies on interpersonal skills in substance abuse counselling as recommended by different boards remains a complex task. The use of psychotherapeutic process instruments on graduate students' videos with simulated patients (SP) offers new opportunity to overcome this issue. **Objective:** This project represents an initial step to transpose instruments to the assessment of interpersonal and alliance related competencies based on graduate students' interaction with SP. The objective is to identify instruments in the scientific literature and to compare their application. **Methods:** Based on research conducted on PsychInfo and MEDLINE, three measures were identified for assessment of alliance using videotaped role-plays with SP (Joystick Method [JM], Thomas et al., 2014; Psychotherapy Process Q-Set [PPQS], Jones, 2000; Segmented Working Alliance Inventory - Observer [SWAI], Berk et al., 2010). Experimenters were trained to use the instruments and then applied them on a student's videos with SP on the first and second years training courses. Descriptive quantitative results are presented in relation to competencies in substance abuse counselling. **Results:** Literature review shows less theoretically grounded instruments who can be applied to substance abuse and coded by an observer are scarce. Preliminary application of the three instruments shows an adequate interater reliably. JM appears simpler to use but requests complex analysis. The three instruments grasp different but related competencies. PPQS measures a global appreciation of different counselling competencies whereas SWAI and JM are
more specific to assessment of the quality of the dynamic and complexity of the relation emerging from the interactions between the student and the SP. **Conclusions:** The three instruments seem to offer a good complementarity to assess the development of competencies in graduate training but could also be applied to the assessment of substance abuse rehabilitation process in general.

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**Expansion of an Emergency Department SBIRT Program with Prescription Naloxone: A Pilot Program**

P. Quincy Moore, MD(1); Pamela Vergara-Rodriguez, MD; Jeffrey Watts, MD; Steven Aks, DO - (1)Cook County Health and Hospitals System

**Background:** Prescription naloxone programs have empowered laypersons to prevent death from opioid-related overdose. SAMHSA supports the inclusion of harm reduction training for SBIRT counselors, but literature describing SBIRT interventions that include prescription naloxone services is sparse. Delivering substance use education and treatment options together with harm reduction is a novel opportunity to engage opioid users. **Objective:** This abstract describes the development of a partnership between a hospital-based SBIRT program and an emergency department (ED) based naloxone program. **Methods:** A partnership was developed between leadership within the two programs. Administrative support was secured to use SBIRT resources for this project. Operational procedures were created by the leaders of the two programs and SBIRT counselors. After learning the goals and logistics of the program, SBIRT counselors were trained on how to provide overdose and naloxone training to patients (a state-mandated step for providing prescription naloxone), with each counselor observing one live training. An order was created in the electronic medical record system allowing ED providers to request an SBIRT counselor to perform naloxone training in addition to their standard SBIRT protocol including the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST), with subsequent referrals to internal and external services. Finally, an implementation flow plan was created for counselors to notify the ED provider who then writes the prescription upon completion of the training. Information regarding this program was disseminated to ED providers and community partner substance use programs. **Results:** Four SBIRT counselors and 35 community partners were trained in naloxone education. Our ED-based program has prescribed naloxone 25 times. Data collection for the ED/SBIRT partnership is ongoing. **Conclusions:** We describe the expansion of a hospital-based SBIRT program to include ED-based prescription naloxone as a way to improve the harm reduction efforts of SBIRT. SBIRT counselors perform a critical step in the process of naloxone education and distribution while also improving the efficiency of the prescribing process.

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Merging the Silos: A Training Consortium for Addiction Treatment
David E. Smith, MD, FASAM(1); Khashayar Farhadi Langroudi, MA(1); Christina Bradley, BS(1); Akhil Mehra, MD(1); Michael Wachter, MD(2); Elizabeth Reed, PhD(1) - (1)healthRight360; (2)Muir Wood Adolescent and Family Programs

Background: Substance abuse is the number one public health problem in the United States and causes more deaths, illnesses, and disabilities than any other preventable health problem. Although there are different models available for the treatment of Substance Use Disorders (SUDs), mental health professionals lack a training model that integrates theory- and evidence-based interventions into existing psychosocial treatments such as 12-step. Objective: The purpose of this paper is to introduce and evaluate a training model proposed by Dr. David Smith, which includes a consortium of professionals, fellows, and trainees. The program educates mental health professionals and trainees on the integration of psychosocial, biological, and theory-based treatment models. Methods: The focus populations of this program are adolescents and adults in residential and outpatient treatment for SUDs and comorbid psychiatric disorders. The mental health professionals meet weekly and are introduced to different approaches in treatment of SUDs such as 12 step, Cognitive Behavioral Therapy, Behavioral Activation, Acceptance Commitment Therapy, Existential-Integrative, and pharmacotherapy, using case formulations and presentations. Three mental health professionals who attend these trainings were asked to evaluate how this curriculum is assisting them in the integration and practice of addiction treatment. Results: Our results suggest that despite the differences in levels of training and disciplines, these mental health professionals found common ground in the integration of different approaches to treating addiction and co-occurring mental health disorders. They also reported a higher level of competency in their ability to integrate different theoretical and evidence-based approaches with the 12-step philosophy. Conclusions: This innovative training model is appropriate for any program that treats SUDs and mental health issues. Because the Affordable Care Act requires parity for primary and mental health care, it is imperative that mental health professionals are trained in an integrative fashion that allows them to best serve the needs of their patients.

Contingency Management (CM) a Behavioral Therapy for Patients with Stimulant Use Disorders
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Background: Contingency Management (CM) is a program based on the concept of Contingent Reinforcement, the direct relationship between a specific behavior and a specific outcome. To integrate this concept into the treatment already provided in the outpatient Addiction Treatment Program (ATP) clinic. The Contingency Management program monitors a specific target behavior and provides tangible positive reinforcements each time the target behavior occurs and withholds reinforcement if the target behavior does not occur. Learning Objectives: Educate participants on current Behavioral Therapy practices implemented, Educate participants on the effectiveness of Contingency Management, Educate participants on the importance of evidence based practice in treatment of Substance Use Disorders. Case Presentation: Patients currently
enrolled in ATP and is using a Stimulant are eligible for enrollment in the program. CM is provided in addition to traditional treatment of Substance Use Disorders. To be eligible, the patient must have an identified stimulant use as problematic at the Orientation appointment. Additionally, patient should have multiple attempts at treatment prior to this episode. Veterans are also administered the Brief Addiction Monitor at the orientation session and again at discharge. On following visits, patient will receive a Stat Lab test prior to IOP group 3 times per week, Monday, Wednesday and Friday. After IOP, following results of test, Vet will meet for CM session. CM was implemented in ATP in October 2012. To date, there have been 31 patients enrolled in the Contingency Management program. Of the 31 patients enrolled 15 have successfully completed the program. Discussion: By comparison to standard treatment, CM has been shown to increase retention in treatment by 25%, and increase abstinence from cocaine by 25% over the course of an 8-week treatment episode. There is also an increase in abstinence at one-year post treatment, by about 20%.

Interdisciplinary Peer Assisted Learning for the Screening, Brief Intervention and Referral to Treatment (SBIRT) model for Alcohol Use Disorder
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Background: Internal Medicine (IM) faculty have traditionally taught IM residents the Screening, Brief Intervention and Referral to Treatment (SBIRT) model. An alternative approach is with Peer Assisted Learning (PAL); however, most educators and learners are within the same discipline of study. In this interdisciplinary pilot curriculum, psychiatry residents taught SBIRT plus pharmacology to IM residents. Objective: Evaluation this interdisciplinary PAL approach. Methods: 10 Psychiatry residents (PGY 2-4) taught the 3-hour required curriculum to 27 categorical IM residents (PGY 2-3), offered twice to accommodate learner schedules. The curriculum included SBIRT concepts, objectives, skills practice, and pharmacologic management. Teaching methods included didactics, large group demonstration, small group discussion, and role-play using patient cases. We developed a 5-item Likert questionnaire based on literature review and expert consultation to assess resident perceptions of PAL and satisfaction with the SBIRT curriculum. Residents completed the items immediately after each session, rating items from 1 - "strongly disagree" to 5 - "strongly agree". We calculated means and standard deviations for all items. Results: IM resident learner surveys revealed this model helped their learning (mean 4.13, std dev 0.33; and 4.21.0.33, respectively for the two sessions), peer educators better understood challenges faced in clinic (3.88.0.93; 3.95.0.93), peer educators were more effective at teaching at their learning level (3.88.0.60; 3.79.0.60), and they better appreciated peers' roles (4.00.0.50; 4.11.0.50). Most rated at the "agree" level to future sessions facilitated by interdisciplinary peers (4.13.0.60; 4.16.0.60). Psychiatry resident educators indicated this model-improved appreciation of peers' roles and challenges in clinics (4.67.0.47; 4.57.0.47). All psychiatry residents, in both groups, "strongly agreed" this model reinforced their knowledge (5.00.0.00). All wanted more opportunities to teach in interdisciplinary settings (5.00.0.00). Conclusions: Based on the groups of residents surveyed, this interdisciplinary PAL between psychiatry and IM residents is a helpful and satisfactory method of teaching the SBIRT curriculum.
Correlates of Public Support Toward Harm Reduction Strategies for Intravenous Drug Use
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**Background:** Historically, US policy has not supported harm reduction interventions (e.g., safe injection facilities, SIFs; and needle exchange programs, NEPs) that have been shown to be effective at reducing the substantial burden associated with intravenous drug use (IDU). It is crucial to understand what factors might be associated with this lack of support; however, very little data exist. **Objective:** Our aims were to (1) assess current public opinion about SIFs and NEPs and (2) evaluate several demographic and dispositional factors (e.g., age, gender, race, political ideology, religiosity and stigma towards IDUs) that might be related to support for these interventions. **Methods:** 620 US adults completed a web-based study. Measures relevant to the current analyses included public policy questions assessing support towards NEPs and SIF, assessments of stigma (Social Distance Scale, Perceived Dangerousness Scale), and a question about whether IDUs deserve help or punishment. **Results:** The majority of participants were at least somewhat supportive of both NEPs (82.6%) and SIFs (59.8%). After controlling for political ideology, greater support for NEPs and SIFs was predicted by more agreement that IDUs deserve help rather than punishment, older age, and lower levels of religiosity. Also, participants who endorsed lower ratings regarding dangerousness of IDUs were more supportive of NEPs, and participants who endorsed lower need for social distance from IDUs were more supportive of SIFs. Neither race nor gender predicted support of NEPs and SIFs. **Conclusions:** Our sample of US adults tended to report support for harm reduction strategies. Demographic factors (e.g., age, religiosity) and individual differences in attitudes (e.g., stigma toward IDUs and perceptions about IDUs deserving help/punishment) were also associated with support for harm reduction strategies. Findings suggest the importance of considering these factors, especially stigma and attitudes towards IDUs. Such beliefs, if effectively challenged, could have a potential impact on public policy towards harm reduction strategies for IDUs.

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Modeling Chronic Pain Risk Management
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**Background:** Residents participate in the new Pain Management Consultation Clinic (PMCC) with a faculty role model and a behavioral scientist. **Objective:** Balance safe and effective care with compassion. Incorporate risk evaluation and management. Change resident attitudes about managing chronic pain. Residents identify low confidence in treatment of chronic pain for patients considered high risk for substance misuse; many are "jaded" about pain treatment by second year. **Methods:** Target population: High percentage of patients with substance use history. High mental health burden. Many chronic pain patients are already taking high levels of prescription pain medications at first visit. Limited access to substance use treatment and non-prescription treatment modalities. Program content: Eight conferences on safety and risk management of chronic pain resulting in consensus policies. Reviewed literature and obtained input from expert scholars. Promulgated guidelines for comment. Held a stakeholder meeting of
faculty, residents and administrators. Implemented guidelines with thresholds and boundaries for chronic pain medication treatment. PMCC was started. Residents participate with faculty in evaluating complex cases for benefit and risk and developing treatment plans.

**Results:** Organizational concepts and policies to model coherent treatment of chronic pain patients were achieved. Poster includes: plans and policies, educational and operational materials including resources, bio-psycho-social assessment tools, and procedural documentation and communication strategies. Adopted a consensus policy for chronic pain treatment. Achieved pre and post testing of knowledge and confidence in care of patients with chronic pain, psychiatric history and/or substance use using standardized measures. Adopted pharmaco-vigilance strategies. Achieved systematic chart reviews to identify individual resident educational needs. Evaluated patient outcomes. **Conclusions:** The poster session bares our new appreciations for institutional and educational change, and gives direction to other interested groups. Involve everyone from the beginning. Stimulate a conversational "buzz" about ideas. Dialog through disagreements and find compromises to develop consensus.

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**Overdose Education and Naloxone Rescue Kits for Family Members of Opioid Users: Characteristics, Motivations and Naloxone use**

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**Background:** In response to the overdose epidemic, a network of support groups for family members in Massachusetts has been providing overdose education and naloxone rescue kits (OEN). **Objective:** The objectives of this study were to describe the characteristics, motivations and benefits of family members who receive OEN and to describe the frequency of naloxone used during an overdose rescue. **Methods:** This cross-sectional, multisite study surveyed attendees of community support groups for family members of opioid users where OEN training was offered using a 42 item self-administered survey that included demographics, relationship to opioid user, experience with overdose, motivations to receive OEN, and naloxone rescue kit use. **Results:** Of 126 attendees who completed surveys at 8 sites, 99 (79%) had received OEN training and 27 (21%) had not. Trainees appeared more likely than participants not trained to report being a parent of an opioid user (91% v 65%, p =0.0024), providing financial support to an opioid user (58% v 30%, p =0.0086), applying for court-mandated treatment for the opioid user (41% v 15%, p=0.034) and having witnessed an overdose (35% v 12%, p=0.045). The major motivations to receive training were: wanting a kit in their home (72%), education provided at the meeting (60%) and hearing about benefits (57%). Five family members (5%) had used program naloxone successfully during an overdose rescue. **Conclusions:** Families of people who use opioids can be trained to prevent overdoses with naloxone rescue kits. Further study is warranted to understand how to optimize this approach to overdose prevention in the community setting.
Change in Medical Student Attitudes Toward Addiction Following Participation in a Required Clerkship

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**Background:** Addiction is underdiagnosed and undertreated, even among patients who present for medical care. Lack of adequate physician training in addiction and persistent stigma toward addiction patients are significant barriers to treatment access. **Objective:** The present study examined whether barriers could be minimized through medical student participation in a mandatory clerkship in addiction medicine. **Methods:** Third-year medical students completing a required 6-week clerkship in Psychiatry (4 weeks) and Addiction Medicine (2 weeks) were surveyed regarding their training, knowledge, and attitudes toward mental illness and addiction treatment on their first and final day of the clerkship. The 139 respondents (48.2% male) were generally 24-27 years old. **Results:** Repeated measures t-tests demonstrated that students increased their confidence talking to patients about psychiatric symptoms (t= 17.0, p< .001), alcohol use (t= 9.3, p<.001), and other substance use (t= 10.5, p<.001). They reported being more likely to: address patients' ambivalence (t= 4.4, p<.001), refer to an addiction specialist (t= 3.7, p<.001), and give information regarding 12-step programs (t= 5.7, p<.001). Students also reported decreased discomfort with addiction patients (t= 4.3, p<.001), increased likelihood of identifying addiction symptoms (t= 7.2, p<.001), and stronger beliefs in the disease concept of addiction (t= 3.0, p=.004), the role of physicians in addiction treatment (t= 4.6, p<.001), the value of referring to 12-step programs (t= 4.0, p<.001), the importance of knowing treatment options for addiction (t= 2.5, p=.01), and the expectation that addiction medicine would be a significant focus of their future practice (t= 2.8, p=.006). **Conclusions:** Participation in a mandatory rotation in addiction medicine during the psychiatry clerkship can have a significant positive impact on medical students' knowledge and attitudes related to addiction treatment. Such training may help to minimize barriers to treatment access by helping to develop competent, compassionate physicians who are in a better position to manage patients with addiction.

Pilot Study to Describe the Substance Use Experiences of HIV-Positive Young Black Men who have Sex with Men (MSM) between the Ages of 18-29 in San Francisco

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**Background:** The prevalence of HIV among young Black men who have sex with men (MSM) is three to four times higher than white MSM. Young black MSM are run-aways and homeless, forcing them to survive on the streets by becoming sex workers, engaging in unprotected anal intercourse because either they or their partner is under the influence of drugs or alcohol. Previous studies cite crack cocaine use, sex while high on crack cocaine, marijuana and alcohol, or sharing needles for injection drugs as strongly associated with HIV infection among young black MSM. **Objective:** Describe the substance use experiences of this population over their lifetime. **Methods:** The goal of this qualitative study is to offer insight about the range of factors and enhance our understanding about the role that substance use plays in the lives of HIV-positive young Black MSM. Surprisingly, the results of this study do not draw the same
conclusions as previously cited studies with HIV-positive young Black MSM in other cities. Participants will identify contributing risk factors for acquiring HIV/AIDS among young Black MSM as well as describe and explain the significance of substance use among this population.

**Results:** The themes that emerged from the coding of this qualitative narrative study describe an across-case experiential trajectory with a summary of the significant experiences of this population, contributing to the limited body of knowledge currently available about family, relocation, relationships, methamphetamine prevalence and access, testing positive for HIV and willpower, coping and the sense of hope. This information will contribute to the development of prevention education strategies specifically tailored to this population that address issues surrounding substance abuse in HIV transmission.

a. family and includes issues with being stigmatized due to their sexual orientation along with rejection, judgment, discrimination, and lack of acceptance and early exposure to drugs and sex in the family.
b. relocation to San Francisco, they talk about HIV, being homeless and the theme of survival, needing money for meet their basic needs including food and housing so they can have a place to sleep and shower.
c. relationships, which include feelings of abandonment, alone, lonely, and the need to find a community and have a sense of belonging.
d. methamphetamine exposure, prevalence, and access happening among their newfound community and peer pressure to do the drug, using it for emotional numbing so that they can deal with their circumstances. They discover the sexual enhancement benefit and this leads them to engage in high risk behaviors such as URAI.
e. testing positive for HIV, describing as a sense of relief and something they are not surprised about; there is a resignation about eventually being HIV infected.
f. willpower, coping, and a sense of hope for their future.

**Conclusions:** Clinicians and researchers in all academic and practice settings will encounter HIV-positive young Black men and need to understand the prevalence of HIV/AIDS among this population as well as the importance of making a thorough sexual health and risk behavior assessment. It appears that the high exposure, prevalence, and access of methamphetamine in San Francisco among the predominantly White MSM population has had an impact on these young Black men.