Interdisciplinary Leaders in
Substance Use Education,
Research, Care and Policy

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BOOK OF ABSTRACTS

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BOOK OF ABSTRACTS

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53. 20. Improving Addiction Teaching of Social Work and Medicine Faculty: A Pilot Online Addiction Training Program
Daniel P. Alford MD, MPH; Rachel Sonia John MPH, MSW, LICSW; Christopher Salas-Wright PhD; Deborah Chassler MSW; Maryann Amodeo PhD, MSW, LICSW - Boston University School of Social Work

53. 21. Opioid Taper and All-Cause Mortality: A Retrospective Cohort Study
Hector R. Perez MD, MS; Michele Buonora MD; Chenshu Zhang PhD; Yuting Deng MPH; Chinazo O. Cunningham MD, MS; Joanna L. Starrels MD, MS - Montefiore Medical Center

54. 22. "I Didn't Think it was Fair Because I'm Not an Abuser": Opioid Tapering Experiences Among Racial and Ethnic Minorities in a Primary Care Setting
Hector R. Perez MD, MS; Ariana G. Pazmino BA; Michele Buonora MD; Joanna L. Starrels MD, MS - Montefiore Medical Center

55. 23. Self-Esteem as a Predictor of Substance Use Attitudes in Health Profession Students
Jilla Sabeti PhD; Sarah Lander; Emily Cramer; Wenola Tauro - Western New England University

55. 24. Should Patients With a History of Injection Drug Use Be Sent Home For the Treatment of Serious Infections With IV Antibiotics?
Daniel A. Solomon MD; Christin Price MD; Alev J. Atalay MD; Mary Montgomery MD; Jennifer A. Johnson MD; Joji Suzuki MD - Brigham and Women's Hospital

56. 25. Integrating Peers into an Addiction Consult Service: A Critical Role in Post-Discharge
Carla King MPH[1]; Monique Lalane LCSW[2]; Jennifer McNeely MD, MS[3]; Rebecca Linn-Walton PhD, LCSW[1]; Lynsey Avalone LMSW, MPH[1] -1.NYC Health+Hospitals/Central Office, Office of Behavioral Health; 2. NYC Health+Hospitals/Bellevue, Department of Psychiatry; 3. NYU School of Medicine, Department of Population Health

56. 26. Opiate Treatment Program eConsults and Follow Up: A Retrospective Chart Review
Sarah Takimoto BS; Soraya Azari MD; Marlene Martin MD - UCSF at Zuckerberg San Francisco General Hospital and Trauma Center

57. 27. A Qualitative Study of Factors and Circumstances Contributing to Unintentional Opioid Overdose Among Patients in a Colorado Health System
Shane Mueller MSW; Jason M. Glanz PhD; Steve Koester PhD; Anh P. Nguyen PhD; Melanie Stowell MSc; Ingrid A. Binswanger MD, MPH, MS - Institute for Health Research, Kaiser Permanente Colorado

58. 28. Partner Characteristics Associated With the Presence of Alcohol Use Disorder Among Urban Young Black Women
Ariadna Capasso MFA; Ralph J. DiClemente MSc, PhD – New York University

58. 29. A Scoping Review of Post-Overdose Interventions
Samantha Fitzsimmons Schoenberger BA; Sarah M Bagley MD; MSc, Katherine M Waye MPH; Alexander Y Walley MD, MSc - Boston Medical Center

59. 30. "You're Always Jumping Through Hoops": Mapping Patients' Experiences of Care for Opioid Use Disorder-Associated Endocarditis
Benjamin Bearnot MD, MPH; Julian Mitton MD, MPH - Massachusetts General Hospital

59. 31. Outpatient Parenteral Antibiotic Therapy (OPAT) in a Large Urban Safety Net Hospital Setting: Therapy for Vulnerable Populations at Home
Ayesha Ashley Appa MD; Carina Marquez MD; Vivek Jain MD, MAS - UCSF Infectious Diseases

60. 32. HIV Clinicians' Intention to Prescribe Buprenorphine and Naloxone: Baseline Results from the PTSL Study
Eric Romo BA; Donna Wilson MS; Alexander Y. Walley MD, MSc; Josiah D. Rich MD, MPH; Traci C. Green PhD, MSc; Susan E. Ramsey PhD; Jeffrey Bratberg PharmD; Michelle McKenzie MPH; Randall Hoskinson, Jr BS; Haley Guhn-Knight BA; Peter D. Friedmann MD, MPH - University of Massachusetts Medical School, Baystate

60. 33. Post-Overdose Outreach Programs in Massachusetts
Alexander Y. Walley MD, MSc; Katherine M. Waye MPH; Allyn Benintendi BSc; Yijing Li BA; Scott W. Formica PhD - Clinical Addiction Research and Education Unit, Section of General Internal Medicine, Boston Medical Center/Boston University Medical Center

61. 34. A Case of MRSA Vertebral Osteomyelitis and Refractory Opioid Use Disorder: A Comparison of Treatment Options in the United States and Canada
Simeon Kimmel MD, MA[1]; Paxton Bach MD, MSc[2]; Alexander Walley MD, MSc[1] - 1. Boston Medical Center; 2. British Columbia Centre on Substance Use

62. 35. "That's What We Call the Cocktail" Non-Opioid Medication and Supplement Misuse Among Opioid Users
Avik Chatterjee MD, MPH; Shankar Ramkellawan; Diego Lopez MPH; Jessie Gaeta MD; Kamala Smith MPH; Travis P. Baggett MD, MPH - Boston Health Care for the Homeless Program

62. 36. Implementation of Emergency Department-Initiated Buprenorphine in Low-Resource, High-Need Settings
Ryan McCormack MD, MS; Kathryn Hawk MD, MPH; John Rotrosen MD; David Fiellin MD; E. Jennifer Edelman MD; Phoebe Gauthier; Patricia Novo; Lisa A. Marsch PhD; Sarah Farkas; Randolph Knight; William Goodman MD, MPH; Soo-Min Shin; Kristen Huntley PhD; David Liu MD - NYU School of Medicine

63. 37. Implementation of Opioid Agonist Therapy for Opioid Withdrawal in a Community Hospital – Multidisciplinary Partnership and Iterative Systems Change
Morgan Younkin MD, MPH; Audra Williams MD, MPH; Aimee Mertz PharmD; Nicholas Weida MD-Greater Lawrence Family Health Center

63. 38. Gaps in Substance Use Disorder Treatment for Veterans Across the US: Comparing Community-Based and VA SUD Treatment Programs
DeShauna Jones PhD; Carolyn Turvey PhD; Stephan Arndt PhD; Diane Cowper PhD - University of Iowa

64. 39. Barriers To Initiating Naltrexone at Hospital Discharge in Adults with Alcohol Use Disorder
Susie Kim MPH, MSW; Clara A. Chen; Debbie M. Cheng ScD; Henri Lee MD; Tibor Palfai PhD; Jeffrey H. Samet MD, MA, MPH; Richard Saitz MD, MPH - Boston University School of Public Health

65. 40. Opioid Overdose in Patients Treated With Extended-Release Naltrexone: Postmarketing Data From 2006 to 2018
Priya Jain MD; Kimberley McKinnell-Marcopul MS; Madé Wenten BA; Prashanthi Vunnava BA; Marie Liles-Burden MPH; Avani Desai PharmD; Sarah Akerman MD; Maria A Sullivan MD, PhD; James Fratantonio PharmD; Gary Bloomgren MD - Alkermes, Inc.

65. 41. Implementing Buprenorphine Pharmacotherapy in a Large Urban Jail System, Philadelphia Department of Prisons, 2018-2019
Gail Groves Scott MPH; Bruce Herdman PhD, MBA - Substance Use Disorders Institute, University of the Sciences

66. 42. Alcohol Screening and Brief Intervention in Colorado: Successes and Opportunities for Improvement after 10 years of Implementation
Kacy Crawford MPH[1]; Carolyn Swenson MSPH, MSN, RN[2]; Dahsan S. Gary MPH[1]; Bethany C. Pace-Danley BSW, MA2 – 1. Colorado Department of Public Health and Environment; 2. Peer Assistance Services, Inc.

67. 43. Adolescent SBIRT Practice Transformation: From Implementation to Realized Clinical and Operational Outcomes
Aaron Williams MA - National Council for Behavioral Health

68. 44. Creating and Growing a Pain and Addictions Curriculum for Family Medicine Residents: Resident Feedback & Lessons Learned
Randi Sokol MD, MPH, MMedEd; Lindsay Weigel MD - Tufts Family Medicine Residency Program

68. 45. Osmotic Demyelination Syndrome in a Patient With Alcohol Use Disorder Despite Slow Correction of Hyponatremia
Sarah Leyde MD - University of California San Francisco, San Francisco, CA

69. 46. Wernicke-Like Encephalopathy in a Patient With Gamma-Hydroxybutyrate (GHB) Withdrawal
Sarah Leyde MD - University of California San Francisco, San Francisco, CA

69. 47. Exploring a Complex Relationship: A Qualitative Study of Substance Use and Homelessness
Amanda Jurewicz BA; Deborah K. Padgett MA, PhD, MPH; Ziwei Ran MSW; Donna G. Castelblanco MBE; Ryan P. McCormack MD; Lillian Gelberg MPH; Donna Shelley MD, MPH; Kelly M. Doran MD, MHS - New York University School of Medicine

70. 48. Cardiovascular Risk Factors in Patients Admitted for Alcohol Detoxification
Daniel Fuster MD, PhD[1]; X. García-Calvo MD[1]; F. Bolao MD[2]; P. Zuluaga MD, PhD[1]; A. Sanvisens MSc[1]; J. Tor MD, PhD[1]; R. Muga MD, PhD[1] – 1. Internal Medicine Service. Hospital Universitari Germans Trias iPujol. Addiction Unit. Univeristat Autònoma de Barcelona. Badalona, Spain. 2. Internal Medicine Service. Hospital Universitari Bellvitge. L'Hospitalet de Llobregat, Spain

71. 49. The Current and Projected Landscape of Pain and Substance Use Disorder (SUD) Curricula in Pharmacy Programs
Jeffrey Bratberg PharmD; Daniel Ventricelli PharmD; Thomas Franko PharmD - University of Rhode Island

71. 50. Core Competencies - Specific Disciplines Addressing Substance Use: AMERSA in the 21st Century – 2018 Update
Jeffrey Bratberg PharmD, FAPhA; Deborah S. Finnell DNS, RN, CARN-AP, FAAN; Valerie Hruschak MSW; Sharon Levy MD, MPH; Victoria A. Osborne-Leute PhD, MSW; Jill Mattingly DHSc, MMSc, PA-C; Beth A. Rutkowski MPH; Jenny Eriksen Leary - University of Rhode Island

72. 51. Mandating Naloxone Co-Prescription to Prevent Opioid Overdose: Early Implementation Findings in Five States
Traci C. Green PhD, MSc; Ziming Xuan ScD, SM, MA; Corey Davis JD, MPH; Alexander Walley MD, MSc, Jeffrey Bratberg PharmD - University of Rhode Island

72. 52. Implementation of an Online Resource to Administer Substance Misuse Prevention Education
Brian Bishop BA '20, PharmD '20; Jeffrey Bratberg PharmD, FAPhA; Kelly Matson PharmD, BCPPS - University of Rhode Island

73. 53. Adaption of an In-Person Healthcare Leadership Curriculum to a Virtual, Interprofessional Addiction Fellowship Cohort
Donna LaPaglia PsyD; Jeffrey Cully PhD; Karin Daniels PhD - Yale School of Medicine

73. 54. Perceptions on PrEP Amongst Internal Medicine Residents at an Inner-City Hospital
Shorabh Sharma MD; Jenna Butner MD - SBH Health System

74. 55. Hatha Yoga, Guided Imagery and Metta Meditation in a Medically Managed Detoxification Treatment Setting for Opioid Use Disorder and Alcohol Use Disorder
Jenna Butner MD[1,2]; Shorabh Sharma MD[1,2] - 1.St. Barnabas Hospital 2. CUNY Medical School

75. 56. NYC Health & Hospitals Implementation of Addiction Intervention Services in 11 Emergency Departments
Lynsey Avalone LMSW, MPH; Kayna Pfeiffer LMHC, CASAC - New York City Health and Hospitals

75. 57. From the Hospital to the Community: A Successful Use of Patient Navigation Provided to an Individual with Opioid Use Disorder Enrolled in Project HOUDINI LINK
Alexandra Haas MFT; Emily F. Dauria PhD, MPH; D. Andrew Tompkins MD, MHS - UCSF

76. 58. Understanding Risk Communication About Fentanyl Use in Health Care and Community Settings: Successes and Opportunities For Improvement
Christine M Gunn PhD; Alexander Y Walley MD, MSc; Miriam Harris MD, MSc; Spoorthi Sampath BS; Samantha Schoenberger BA; Ariel Maschke MA; Sarah M Bagley MD - Boston University School of Medicine, Department of Medicine

76. 59. Clinicians' Perspectives on Extended-Release Naltrexone to Treat Opioid Use Disorder in Outpatient Settings: Results from an Online Survey
Kristen McCausland PhD, MPH; Batool Haider MD, MS, ScD; Michelle K White PhD; Amy K O'Sullivan PhD; Kaitlin Rychlec; Sarah Akerman MD; Andrew J Saxon MD - Veterans Affairs Puget Sound Health Care System

77. 60. Medical Cannabis: Legal, but Accessible? Medical Cannabis Certification and Use Among Primary Care Patients
Jaclyn Yamada BA; Daniel Lipsey BA; Chinazo Cunningham MD, MS; Julia Arnsten MD, MPH - Montefiore Medical Center and Albert Einstein College of Medicine, Bronx, NY

78. 61. A Low-Barrier, Low-Threshold Community Office-Based Buprenorphine Clinic 10 Years' Experience
Julia M. Shi MD, FACP; Jeanette Tetrault MD, Susan Henry RN - APT Foundation

78. 62. Expanding Access to Medications for Opioid Use Disorder Treatment at a City Level: A Community Health Center Learning Collaborative
Elizabeth M Salisbury-Afshar MD, MPH; Gabrielle Nichols MPH - American Institutes for Research (AIR); Rush University Medical Center

79. 63. The Use of Social Support for LGBTQ Clients with Co Occurring Disorders to Remain in Treatment and in the Community
Eileen Klein PhD, MSW, MS - Ramapo College

79. 64. Intervention of Members of Addiction Self-Help Groups in Undergraduate Medical Education: Reflections of Medical and Midwifery Students
Marie-Laure Paquet; Caroline Demily MD, PHD; Christine Maynié-François MD - Collège Universitaire de Médecine Générale, Université de Lyon

80. 65. "A Patient With…": A Substance Use Disorder Training Curriculum for Internal Medicine Residents
Mim Ari MD - University of Chicago

80. 66. Teaching Safe and Effective Opioid Prescribing to Internal Medicine Clerkship Students
Mim Ari MD; Amber Pincavage MD - University of Chicago

81. 67. Stitching a Solution to the Addiction Epidemic: A New Longitudinal Curricular Thread on Addiction at Yale School of Medicine
Srinivas B Muvvala MD; Michael L Schwartz PhD; Patrick G O'Connor MD; Jeanette M. Tetrault MD; Ismene L. Petakris MD - Yale School of Medicine

81. 68. Making the Case for Recovery Coaching
Ricardo Cruz MD, MPH; Mayowa Sanusi MPH; Rafik Wahbi BS; Alissa Cruz MPH; Eric Lozada LADC, CADC, CARC; Nakita Haywood; Tyshaun Perryman BA; Deric Topp MPH; Michelle Clark DrPH; Daniel Hosteleter MPH; Molly Higgins-Biddle MPH; Daniel Alford MD, MPH; Theresa Kim MD - Boston Medical Center

82. 69. Harder to Treat Than Addiction or Cancer? Highlighting Care Gaps For Patients With Both Addiction and Cancer
J. Janet Ho MD, MPH - Massachusetts General Hospital

83. 70. Opioid Prescribing in UMass Internal Medicine Primary Care: An Assessment of Baseline Prescribing Patterns and Provider Needs
Phoebe Cushman MD, MS; Jeevarathna Subramanian MD; Jason Shaffer MS2; Sheri Keitz MD, PhD; Anthony Monfreda BS; Lori Pelletier PhD; Gertrude Manchester MD - University of Massachusetts Medical School

83. 71. The Opioid Crisis Task Force: A Novel System-Wide Interdisciplinary Response to Our Region's Opioid Crisis
Phoebe Cushman MD, MS; Jayne Poch BSN, RN; Paula Bigwood DNP; Elizabeth Isaac PharmD; Katharyn Kennedy MD; Kavita Babu MD - University of Massachusetts Medical School

84. 72. Development of a Nurse-Practitioner Student led Multidisciplinary Substance Use Disorder Special Interest Group
Brittany L. Carney MS, RN; Heather Patrick RN; Phoebe Cushman MD, MS - University of Massachusetts Worcester, Graduate School of Nursing

84. 73. Substance Use Disorder Preparedness and Practice Among Nurses: Impact of Addictions Consult
Christopher Shaw MSN, NP, CARN-AP; Sara Macchiano MSN, MBA, CNE; Dawn Williamson DNP, PM HCNS-BC, CARN-AP; Mary Rockford RN; Susan Smith MD, MPH; John Jones PhD, MSW - Massachusetts General Hospital

85. 74. Treatment for Substance Use Disorders in Pregnant Women: Motivators and Barriers
Zane P. Frazer BS; Krystle McConnell MPH; Lauren Jansson MD – Johns Hopkins University School of Medicine

85. 75. Infant Outcomes for Pregnant Women with Opioid Use Disorder Receiving Medication for Addiction Treatment
Kelly L. Strutz PhD, MPH; Hannah Skok BS; Jesse Skok BS; Katie Nguyen BS; Christine Philippe BS; Michael E. Tsimis MD; Heather L. McCauley ScD; Julia W. Felton PhD; Kathryn J. Barnhart PhD, MPH; Cara A. Poland MD, Med, FACP, DFASAM - Michigan State University, College of Human Medicine

86. 76. Willingness to Provide Care to Patients Who Use Alcohol and Opioids (AOs): The Impact of Personal Experience and Substance Use Education
Khadejah F. Mahmoud PhD(c), MSN; Ann M. Mitchell PhD, RN, AHN-BC, FIAAN, FAAN - University of Pittsburgh School of Nursing

87. 77. Employing a Delphi Panel to Understand Changes in Overdose Risk and Naloxone Need in the United States
Traci Green PhD MSc; Rachel Plotke BA; Alexander Walley MD, MSc; Jeffrey Bratberg PharmD; & Jesse Boggis MPH - Boston Medical Center

87. 78. Community Naloxone Trainings in Philadelphia: Views of Training Participants
Margaret Lowenstein MD, MPhil; Rachel Feuerstein-Simon MPA; Maryam Khojasteh MUP; Roxanne Dupuis MSPH; Alison Herens MSW; Jeffrey Hom MD, MPH; Carolyn Cannuscio ScD - University of Pennsylvania Perelman School of Medicine

88. 79. New Hampshire Screening, Brief Intervention, and Referral to Treatment (SBIRT) Interprofessional Education (IPE) Training Collaborative: "Evaluation of SBIRT Training in Higher Learning Institutions: Results of a 3 Year IPE Collaboration"
Pamela Dinapoli RN, PhD, CNL[1]; Kristina Fjeld-Sparks MPH[3]; Helen Pervanas PharmD, RPh[2]; Jennifer Towle PharmD, RPh[2]; Lisa Dotson MSW; Nancy Frank MPH; Diana Gibbs BA, CPS; Joseph O'Donnell MD; Laura Pickrell MPH; Kate Semple Barta JD; Paula Smith MBA, EdD; Devona Stalnaker-Shofner EdD, LPC, NCC; Douglas Southard PhD, MPH, PA-C. – 1. University of New Hampshire; 2. MCPHS University; 3. The Dartmouth Institute for Health Policy and Clinical Practice

89. 80. Mutual Respect: Adoption and Substance Use During Pregnancy
Christine Soran MD, MPH; Phuong Hoang; Rebecca Schwartz LCSW; Dominka Seidman MD, MAS; Hannah Snyder MD - UCSF

89. 81. Perspectives and Knowledge on Contraception: A Survey of Addiction Providers in Boston Medical Centre's OBAT Program
Miriam Harris MD, MSc; Alica Ventura MPH; Christine M Gunn PhD; Annie Potter MSN, MPH, NP, CARN; Katherine White MD, MPH; Christine Prifti MD; Colleen Labelle MSN, RN-BC, CARN: Elizabeth W. Patton MD, MPhil, MSc - Boston University-Boston Medical Center

90. 82. Opportunities for Tailored Risk Communication for Women and Men Using Fentanyl
Miriam Harris MD, MSc; Sarah M. Bagley MD, MSc; Spoorthi Sampath BSc; Alexander Y. Walley MD, MSc; Ariel Maschke MA; Samantha Schoenberger BA; Christine M. Gunn PhD - Boston University-Boston Medical Center

91. 83. Examining Opioid-Involved Overdose Mortality Trends Prior to Fentanyl: New York City, 2000-2015
Denise Paone EdD; Ellenie Tuazon MPH; Bennett Allen MA; Hillary V. Kunins MD, MPH, MS - NYC DOHMH

91. 84. Using Urine Drug Testing to Estimate the Prevalence of Drug Use in New York City: Lessons Learned From the NYC Health and Nutrition Examination Survey 2013-2014
Denise Paone EdD; Benjamin H. Han MD, MPH; Elizabeth Mello MS; Ellenie Tuazon MPH - NYC DOHMH

92. 85. Early Lessons Learned: Launching an Addiction Medicine Consult Service in the Safety Net
Marlene Martin MD; Hannah Snyder MD - UCSF at ZSFG

92. 86. Efficacy of Opioid Overdose Prevention and Response Training on Medical Student Knowledge and Attitudes
Tabitha E. Moses MS[1,2]; Jessica L. Moreno PharmD[3]; Rafael Ramos MS[2]; Michael Garmo BS[2]; Mark K. Greenwald PhD[1]; Eva Waineo MD[1] – 1. Department of Psychiatry and Behavioral Neurosciences, 2. Wayne State University, School of Medicine; 3. Beaumont Medical Group

93. 87. Attitudes Towards Medically-Assisted Treatment Among People With Past Opioid Use Disorders in Allegheny County
Shelcie Fabre BS[1]; Simone P. Taubenberger PhD[1]; Noelle E. Spencer MSc[1]; Puneet Gill[1]; Shushma Gudla BS[1]; Bhavita Jagessar BS[1]; Nicole Paul BS[2]; Raisa Roberto[1]; Daly A. Trimble[1]; Karen Hacker MD[3]; Judy C. Chang MD, MPH[4] - 1. Magee-Womens Research Institute; 2. University of Pittsburgh School of Medicine; 3. Allegheny County Health Department; 4. Department of Obstetrics and Reproductive Sciences and General Internal Medicine, Magee-Womens Research Institute, and Center for Research in Health Care, University of Pittsburgh School of Medicine

93. 88. Barriers to Recovery Among People Who Use Opioids in Allegheny County
Puneet Gill BA[1]; Noelle E. Spencer MSc[2]; Simone Taubenberger PhD[2]; Judy C. Chang MD, MPH[3] -1.Duquesne University; 2. Magee-Womens Research Institute; 3. Department of Obstetrics, Gynecology and Reproductive Sciences and General Internal Medicine, Magee-Womens Research Institute, and Center for Research in Health Care, University of Pittsburgh School of Medicine

94. 89. Rapid Naloxone Administration Workshop for Healthcare Providers at an Academic Medical Center
Raagini Jawa MD, MPH; Thuy Luu PharmD, BCPS, MPH; Melissa Bachman PharmD, BCPS; Lindsay Demers MS, PhD - Boston Medical Center

94. 90. Implementing Buprenorphine Waiver Training For Medical Students Within a 5-State Region
Jared W. Klein MD, MPH; James Darnton MD; Jesse Moritz BA; Judith I. Tsui MD, MPH - University of Washington

95. 91. Team Touchpoints of Care: A Case Report about Chronic Pain, Opioid Misuse, and Depression
Gina C Dobbs DNP, CRNP[1]; Tiffiny V Hall MSW[1]; Susanne Astrab Fogger DNP, CRNP, PMHNP-BC, CARN-AP, FAANP[2] – 1. University of Alabama at Birmingham 1917 Clinic; 2. University of Alabama at Birmingham School of Nursing

95. 92. Buprenorphine Treatment Outcomes Among Opioid-Dependent Veterans
Daniel Rounsaville PhD; Justine Swanson MA, MS; Grace Chang MD, MPH - Brockton VA Hospital, Harvard Medical School

96. 93. Trends in 311 Needle Reports in San Francisco as an Indicator for the Drug Overdose Epidemic
Laila Fozouni MPH; Jorge Rodriguez MD; Benjamin Bearnot MD - Harvard T Chan School of Public Health

96. 94. **Curriculum for Teaching Medical Students and Residents About Medical Marijuana**
Glen D. Solomon MD, FACP; Cynthia Sheppard Solomon BSPharm, RPh, FASCP, CIP, CMTM, CTTS, NCTTP - Wright State University Boonshoft School of Medicine

97. 95. **Assuring Hookah Tobacco Use is Included in Comprehensive Tobacco Control Efforts**
Cynthia Sheppard Solomon BSPharm, RPh; Glen D Solomon MD - Wright State University Boonshoft School of Medicine

98. 96. **'REACH-IN': A Student-Driven Hospital-Based Initiative to Confront the Opioid Epidemic**
Matthew Fine BA; Leeza Hirt BA; Reema Navalurkar BS; Dillan Villavasanis BA; Trevor Lee MD; Benjamin Shuham BA; Jeffrey Weiss PhD; Michael Herscher MD, BA; Linda Wang MD - Icahn School of Medicine at Mount Sinai

98. 97. **Resident Co-Facilitation of Shared Medical Appointments for Patients with Substance Use Disorders: Impact on Attitudes Toward and Confidence in Treating Addiction**
Jasleen Salwan MD, MPH; Molly Doernberg MPH Candidate; Stephen R. Holt MD, MS, FACP; Jeanette Tetrault MD, FACP, FASAM; Dana A. Cavallo PhD - Yale New Haven Hospital

99. 98. **The Yale Medications for Opioid Use Disorder (MOUD) Training Program: Expanding Treatment Access**
Jeanette Tetrault MD; Shara Martel MPH, MS; Ellen Edens MD, MPH; MA Melissa Weimer DO; Gail D'Onofrio MD, MS – Yale University

100. 99. **"Story of Starting:" How Opioid Addiction Begins From The Perspectives of Individual With Current and Past Histories of Opioid Use Disorders**
Noelle E. Spencer MSc[1]; Simone P Taubenberger PhD[1]; Shelcie Fabre BS[1]; Puneet Gill1; Shushma Gudla BS[1]; Bhavita Jagessar BS[1]; Nicole Paul BS[2]; Raisa Roberto[1]; Daly A Trimble[1]; Robert Elser MEd, MA, USMC[3]; Karen Hacker MD, MPH[3]; Judy C. Chang MD, MPH[4] – 1. Magee-Womens Research Institute; 2. University of Pittsburgh School of Medicine; 3. Allegheny County Health Department; 4. Department of Obstetrics and Reproductive Sciences and General Internal Medicine, Magee-Womens Research Institute, and Center for Research in Health Care, University of Pittsburgh School of Medicine

100. 100. **Barriers to Opioid Use Disorder Treatment for People with Disabilities**
Sharon Reif PhD; Cindy Parks Thomas PhD; Rachel Sayko Adams PhD, MPH; Monika Mitra PhD; Joanne Nicholson PhD - Brandeis University

101. 101. **Does a Focused Educational Session Improve Complex Care Management Staff Confidence and Knowledge about Caring for High-Risk Patients with Substance Use Disorders?**
Christine A. Pace MD, MSc; Carly Taylor BA; Kristin Wason NP; Evonne Yang MSW, MPH; Joanne Hogan DNP, RN; Jessica Aguilera-Steinert MSW, LICSW; Lindsay Demers PhD; Daniel P. Alford MD, MPH - Boston Medical Center

101. 102. **Online Training vs In-Person Training for Opioid Overdose Prevention Training for Medical Students, a Randomized Controlled Trial**
Noah Berland MD, MS[1]; Andrea Greene MPH[1]; Aaron Fox MD, MS[2]; Keith Goldfeld DrPH[3]; So-Young Oh PhD[3]; Bobak Tofighi MD[4]; Antonia Quinn DO[4]; Daniel Lugassy MD[4]; Kathleen Hanley MD[4]; Ian deSouza MD[1] – 1. SUNY Downstate College of Medicine; 2. Albert Einstein College of Medicine; 3. NYU School of Medicine; 4. NYU Langone Health /Bellevue Hospital Center

102. 103. **Association of Cannabis Use on Quality of Life, Functional Status and Symptomatology among a Cohort of Colorectal Cancer Survivors: Results of a Population-Based Survey**
Susan L Calcaterra MD, MPH, MS; Andrea N. Burnett-Hartman PhD; J. David Powers MS; Douglas A Corley MD, PhD; Carmit M McMullen PhD; Pamala A. Pawloski PharmD, BCOP, FCCP; Heather Spencer Feigelson PhD, MPH - University of Colorado

103. 104. **Analyzing Co-Occurring Substance Use Risks among SBIRT Patients Engaged in Federally-Qualified Health Centers**
Michael A Lawson PhD[1]; Shanna McIntosh MS[2]; Lauren Holmes PhD[2]; David Albright PhD[2]; Jacqueline Doss MS[2] – 1. College of Education, University of Alabama; 2. School of Social Work, University of Alabama

103. 105. **Analysis of Patient-Reported Intentional and Accidental Fentanyl Use in a Central Texas Treatment Facility**
Mandy L. Renfro PharmD (c); Lindsey J. Loera PharmD (c); Lucas G. Hill PharmD, BCPS, BCACP, Carlos F. Tirado MD, MPH, FABAM - The University of Texas at Austin College of Pharmacy

104. 106. A Phase Ia/Ib Feasibility Study of the Be-SAFE© iBook Intervention for Nurses Responding to Opioid Overdoses Outside the Emergency Department
Angela Clark PhD, RN; Jeannie Burnie APRN - University of Cincinnati

105. 107. Substance Use Stigma Among a National Sample of Healthcare Students: Knowledge, Beliefs, and Attitudes
J. Konadu Fokuo PhD; Paul Hutman PhD; Valerie Gruber PhD; Paula Lum MD; James Sorensen PhD; Carmen Masson PhD - University of California, San Francisco

105. 108. Outcomes of a 2-Year Mentoring Relationship: Advancing the Next Generation of Scholars in the Substance Use Specialty
Yovan Gonzalez MSN, FNP; Deborah S. Finnell DNS, RN, CARN-AP, FAAN - Johns Hopkins University School of Nursing

106. 109. Providing Community Initiated Technical Assistance in Response to the Opioid Epidemic
Holly N Hagle PhD1; Kathryn L Cates-Wessel2; Laurie Krom MS1 - 1. UMKC; 2. American Academy of Addiction Psychiatry

106. 110. Motivators to Seek Treatment From the Perspectives of Individuals With Opioid Use Disorders in Allegheny County in Pennsylvania: A Qualitative Study
Bhavita Jagessar BS[1]; Simone P. Taubenberger PhD[1]; Noelle E. Spencer MSc[1]; Shelcie Fabre BS[1]; Puneet Gill[1]; Shushma Gudla BS[1]; Nicole Paul BS[2]; Raisa Roberto[1]; Daly A. Trimble[1]; Karen Hacker MD[3]; Judy C. Chang MD, MPH[4] - 1. Magee-Womens Research Institute; 2. University of Pittsburgh School of Medicine; 3. Allegheny County Health Department; 4. Department of Obstetrics and Reproductive Sciences and General Internal MedicineMagee-Womens Research Institute, and Center for Research in Health Care, University of Pittsburgh School of Medicine

107. 111. Improving the Management of Alcohol Use Disorder in a Community Hospital
Alyssa Peterkin MD - Mount Auburn Hospital

108. 112. Opioid Overdose Prevention: A Pilot Training Program for Social Work Students and Field Instructors
Jennifer Putney PhD, MSW; Cali-Ryan Collin MSW; Rebekah Halmo MSW; Richy Villa MSW; Matthew Snyder MSW; Tamara Cadet PhD, MPH, MSW - Simmons University

108. 113. Collaboration in the Implementation of Behavioral Health Innovations: A Mixed-Methods Analysis
Natrina L Johnson MS; A. Rani Elwy PhD; Christopher Lewis PhD - Boston University School of Public Health

109. 114. Methamphetamine and its Association With Development of Complex Infections
Michael Kindred MD; Catherine Troop MS; Joshua Kim MD – UK Healthcare

110. 115. Opiate Detoxification During Pregnancy: A Systematic Review and Meta-Analysis
Sarah Elizabeth Reed MA1; Alok Aggarwal MD2 – 1. Teachers College, Columbia University; 2. Brookdale University Hospital and Medical Center

110. 116. A Preliminary Evaluation of a Brief, Manualized Guided Self-Change Intervention for College Students with Substance Use Problems
Robbert Langwerden MS; Staci Leon Morris PsyD; Rachel Clarke PhD; Michelle Hospital PhD, LMHC, BBA; Eric Wagner PhD; Katherine Perez BS - Florida International University

111. 117. Guided Self-Change Targeting Excessive Alcohol Consumption in a College Student Immersed in Caribbean Carnival Culture
Robbert J. Langwerden MS; Staci Leon Morris PsyD; Eric F. Wagner PhD; Michelle M. Hospital PhD, LMHC, BBA - Florida International University

111. 118. Pre and Post Tests of Bachelor Students Engaged in Addiction Learning
LaMart Hightower PhD - Northern Michigan University

112. 119. Addressing Substance Use Risk in Pregnant and Postpartum Women Enrolled in Early Childhood Home Visiting Programs: A Quasi-Experimental Pilot Test of a Pragmatic Screen-And-Refer Approach
Sarah Dauber PhD; Cori Hammond MPH; Aaron Hogue PhD; Jessica Nugent MPH; Gina Hernandez MA - Center on Addiction

112. 120. **Implementing a Multi-Component School-Based Substance Use and Other High-Risk Behavior Prevention Program: A Feasibility Study**
Sarah Dauber PhD; Chris Gonzalez MBA; Cori Hammond MPH; Alexandra Colomba; Linda Richter PhD; Aaron Hogue PhD; Amy Schreiner PhD – Center on Addiction

113. 121. **Factors Influencing Counseling Adherence in Medication-Assisted Treatment for Opioid Addiction**
Vierne Placide PhD, MPH; Lynn Unruh PhD, RN - SUNY Cortland

113. 122. **Combating the Opioid Epidemic Through Integration: A Review**
Vierne Placide PhD, MPH; Christopher White – SUNY Cortland

114. 123. **Providing Primary Care for Women With Substance Use Disorder in Residential Treatment**
Meghan Geary MD - Alpert Medical School of Brown University

114. 124. **The Use of Transdermal Buprenorphine For Conversion From Methadone to Sublingual Buprenorphine in a Patient Hospitalized For Life-threatening Ventricular Arrhythmia**
Caroline Falker MD; Lisa Puglisi MD; Melissa Weimer DO, MCR, FASAM - Yale School of Medicine

114. 125. **Degree of Bystander-Patient Relationship and its Association with Repeated Opioid Overdose Events**
Molly K. McCann PhD(c), MS[1]; Todd A. Jusko PhD[2]; Courtney MC Jones PhD, MPH[1]; Jeremy T. Cushman MD MS[1,2] - 1. University of Rochester, School of Medicine and Dentistry, Departments of Public Health Sciences, Emergency Medicine and Orthopedics; 2. University of Rochester, School of Medicine and Dentistry, Departments of Public Health Sciences, and Environmental Medicine

116. 126. **Degree of Bystander-Patient Relationship and Prehospital Care for Opioid Overdose**
Molly Kathleen McCann PhD(c), MS[1,2] Todd A. Jusko PhD[1,3]; Courtney MC Jones PhD, MPH[1,4]; Jeremy T. Cushman MD, MS[1,2] – 1. University of Rochester, School of Medicine and Dentistry; 2. Departments of Public Health Sciences, Emergency Medicine and Orthopedics; 3. Departments of Public Health Sciences, and Environmental Medicine; 4. Departments of Emergency Medicine and Public Health Sciences

117. 127. **Extended-Release vs. Oral Naltrexone for Alcohol Dependence Treatment in Primary Care**
Joshua D. Lee MS, MSc; Mia Malone; Alex Vittitow; Ryan McDonald MA; Babak Tofighi MD; Ann Garment MD; Daniel Schatz MD; Eugene Laska PhD; Keith Goldfeld PhD; John Rotrosen MD - NYU School of Medicine

117. 128. **Extended-Release Naltrexone Opioid Treatment at Jail Re-entry (XOR)**
Ryan McDonald MA; Mia Malone; Alex Vittitow; Babak Tofighi MD; Eugene Laska PhD; Keith Goldfeld PhD; John Rotrosen MD; Joshua D. Lee MD, MSc. - New York University School of Medicine

118. 129. **Alcohol-Induced Blackouts at Age 20 Predict the Incidence, Maintenance, and Severity of Alcohol Dependence at Age 25: A Prospective Study in a Sample of Young Swiss Men**
Jean-Bernard Daeppen MD - Addiction Medicine, Lausanne University Hospital

118. 130. **Characteristics of General Hospital Patients With Alcohol Use Disorder Eligible For a Clinical Trial of Naltrexone at Discharge**
Esperanza Romero-Rodríguez MD, MPHC, MRes; Susie Kim MPH, MSW; Clara A. Chen MHS; Debbie M. Cheng ScD; Stephanie Loomer MS; Henri Lee MD; Tibor Palfai PhD; Jeffrey Samet MD, MA, MPH; Richard Saitz MD, MPH - Boston University Schools of Medicine and Public Health and Boston Medical Center

Best Research Abstract Award

Prescription Drug Monitoring Programs and Changes in Adolescent Injection Drug Use: A Difference-in-Differences Analysis

Joel J. Earlywine BA; Scott E. Hadland MD, MPH, MS; Julia Raifman ScD, SM - Boston University School of Public Health

Background: Prescription opioid misuse among adolescents is an increasing public health problem and a risk factor for injection drug use (IDU), but few studies have evaluated strategies for preventing adolescent initiation of drug use. To reduce the prescription opioid supply, most states have prescription drug monitoring programs (PDMPs) and 18 states mandate PDMP use. However, the extent to which mandated use of PDMPs might protect against adolescent IDU is unknown**. Objective**: To evaluate the relationship between state mandated PDMP use and adolescent injection drug use**. Methods**: Using Youth Risk Behavioral Surveillance System (YRBSS) individual-level data on adolescents aged 17-18 years across 47 states collected every other year between 1995-2017, we identified youth who reported lifetime IDU. Using a difference-in-differences design, we evaluated changes in the percent of adolescents reporting lifetime IDU before and after PDMP mandates in 18 states that implemented mandates, relative to changes in the percent of adolescents reporting lifetime IDU over time in 29 states without PDMP mandates. We estimated linear regression models controlling for individual age, sex, race/ethnicity, state, year, and state-level poverty with standard errors clustered by state and standard YRBSS survey weights**. Results**: Among 329,437 students, 51.7% identified as male, 62.2% as non-Hispanic white, 17.4% as non-Hispanic black, 14.5% as Hispanic, and 5.9% as other. Among all adolescents, 3.5% (95% confidence interval [CI], 2.8-4.2%) reported IDU prior to PDMP mandates. The baseline trends in IDU did not differ in states that did and did not mandate PDMPs (point estimate, <0.001; 95% confidence interval [CI], -0.001-0.002). Mandated PDMPs were associated with an absolute reduction in lifetime IDU of 1.5% (95% CI, 0.6-2.4%), a relative reduction of 42.9% (95% CI, 17.1-68.6%.). The effect of PDMPs persisted at least two years beyond the use mandate with an associated 1.5% reduction (95% CI, 0.5-2.5%) in lifetime IDU, indicating an additional lagged effect of the laws. **Conclusions**: Mandatory PDMPs were associated with a reduction in adolescent injection drug use, providing empirical evidence that PDMP mandates may prevent adolescents from initiating IDU. Policymakers may wish to consider PDMP mandates as a strategy for preventing adolescent IDU.

Research Abstract Runner-Up

Community Pharmacy-led Intervention For Opioid Medication Misuse

Gerald Cochran MSW, PhD; Craig Field PhD; Amy Seybert PharmD; Adam Gordon MD, MPH; Ralph Tarter PhD - University of Utah, School of Medicine, Division of Epidemiology

Background: Opioid prescribing has been consistently reduced during recent years. Nevertheless, more than one-third of those who report opioid misuse continue to receive these medications dispensed from pharmacy settings. **Objective**: This presentation reports the results of a small-scale clinical trial that delivered the Brief Intervention-Medication Therapy Management (BI-MTM) model among community pharmacy patients engaged in opioid medication misuse (NIDA R21DA043735; NCT03149718). **Methods**: We conducted a two-group randomized trial (N=32; enrollment rate=74.4%; 3-month retention>=93%) that compared standard medication counseling (SMC) to BI-MTM in an urban and a rural community pharmacy. Participants were screened for misuse at point-of-dispensing and were assessed at baseline, 2-, and 3-months. BI-MTM includes: a single pharmacist-led medication counseling session and 8 telephonic patient navigation sessions. We assessed the following outcomes: elimination of opioid medication misuse (measured by the Prescription Opioid Misuse Index) and improvements in pain (measured by the Short Form-36 pain subscale) and depression

(measured by the Patient Health Questionnaire-9). We also describe patient satisfaction with BI-MTM, session completion rates, and study barriers/facilitators. Data analyses include descriptive and multivariate statistics. **Results:** BI-MTM recipients were 95% less likely at 3-months to report continued misuse (95% CI=.01,.25; p<.001) compared to SMC. BI-MTM recipients reported greater pain improvement (B=14.0; 95% CI=3.28,24.8, p=.01) and decreased depression (B= -0.64; 95% CI=-0.81,-0.46; p<0.001) than SMC at 3-months. All BI-MTM recipients completed the pharmacist session and an average of 7 navigation sessions. BI-MTM recipients reported an average ≥4.2/5 level of satisfaction with the pharmacist session, and 92.4% were satisfied with navigation sessions. Barriers included: recruitment, given decreased opioid prescribing within the region; patient stigma from staff, and face-to-face engagement for those patients who received mail-order opioid medications. Facilitators included: pharmacist flexibility, open community pharmacy practice orientation (i.e., patients walk-in anytime), and telephonic navigation session delivery. **Conclusions**: BI-MTM is a promising intervention for improvement of patient health—with important facilitators of success. A future larger scale study should be conducted across multiple community pharmacies that includes methods to address mail-order medications and stigma education for staff.

John Nelson Chappel Best Curriculum, Quality Improvement and Program Abstract Winner

The B-Team (Buprenorphine): Medication-Assisted Treatment for Patients with Opioid Use Disorder in the Hospital

Richard Bottner PA-C; Chris Moriates MD; Nicholaus Christian MD; Kirsten Roberts PharmD; Rachel Holliman MSW; Blair Walker MD; Clarissa Johnston MD - Dell Medical School at the University of Texas at Austin

Background: Despite a public health crisis and the availability of effective therapies, most patients with opioid use disorder (OUD) are not offered treatment such as buprenorphine. Patients with (OUD) may be hospitalized for several days or weeks at a time, frequently for complications directly related to their substance use. There are already a few programs nationwide that offer inpatient buprenorphine induction on medical or surgical wards, but these programs are typically offered by physicians with addiction medicine specialty training. The scope of the opioid epidemic makes this a non-scalable solution, thus hospitalists should also be able to provide this service. **Objectives:** We sought to create a hospital medicine-led interprofessional service ("The B-Team" (Buprenorphine)) that screens appropriate patients for buprenorphine induction, assists in starting treatment, facilitates linkage with an outpatient maintenance clinic, and provides institutional education in an effort to reduce stigma about OUD.
Methods: We developed an evidence-based inpatient buprenorphine induction protocol specifically for our institution and created multidisciplinary reference guides. We developed relationships with outpatient treatment clinics to provide linkages for patients upon discharge from the hospital. The primary hospital team refers patients to the "B-team." A social worker then screens the patient for his or her readiness for change. If qualified, a clinical provider initiates therapy in concert with the primary team and ensures linkage with the outpatient clinic at discharge including prescribing bridge maintenance therapy until the outpatient appointment. **Results:** Within the first five months, 43 consult requests were made in our 211-bed hospital. We provided stigma reduction efforts in all cases. Eighteen patients were started on buprenorphine therapy, and 44% of patients were engaged in outpatient care within one week of discharge. **Conclusion:** A robust interdisciplinary consultation program could be an effective model for providing hospital medicine-based therapy for inpatients with OUD. Opportunities to grow the program include expanding services to the emergency department, and eventually training primary teams to initiate buprenorphine therapy.

Program & Curriculum Abstract Runner-Up

Expanding Access: Findings From the Massachusetts Opioid Urgent Care Center Pilot
Michele Clark DRPH, MPH; Eileen Brigandi BS, LADCI; Daniel Hostetler MPH; Susan Grantham PhD, MPP; Hermik Babakhanlou-Chase MAH; Molly Higgins-Biddle MPH; Conor Duffy MPH; Sarah C. Ruiz MSW - JSI Research & Training Institute, Inc.

Background: Responding to a need for increased availability of treatment resources, the Massachusetts Department of Public Health Bureau of Substance Addiction Services funded three Opioid Urgent Care Center (OUCC) pilot sites in high utilization areas: an urban safety-net hospital; a behavioral health and substance use treatment program; and a substance use treatment agency co-located with a health center. **Objective**: The OUCCs ensured access to the full continuum of opioid treatment services through direct provision or external partnerships. One OUCC established a barrier-free medication for opioid use disorder (MOUD) bridge clinic. Core service elements included brief assessment and clinical evaluation, medical clearance, and referral to treatment. **Methods**: Guided by the Reach, Effectiveness, Adoption, Implementation, and Maintenance (RE-AIM) Model, a mixed methods evaluation assessed the OUCCs' reach and effectiveness in enhancing treatment on demand and considerations for implementation and sustainability. Data sources included OUCC client intake and assessment data, site visits, and client interviews from February 1, 2017- January 31. 2019. **Results**: The OUCCs conducted 20,657enrollments; 66% reported opioids as a problem substance. Thirty-five percent of clients visited the OUCC more than once. Clients reported complex psychosocial needs at enrollment: 67% self-reported a psychological/emotional problem and 34% homeless. The majority (65%) received detox referrals, followed by outpatient treatment (9%), MOUD (8%), and Clinical Stabilization Services (6.0%). Eight-seven percent of OUCC enrollments resulted in a referral to treatment within one day (excluding bridge clients), with more than 80% of those referrals placed within three days at state-reporting programs. Bridge clients were referred to long-term MOUD an average of 20 days after stabilization. Over 92% of clients interviewed reported high satisfaction with their visit. Having an established system of care and access to a robust referral network expedited client access; outpatient and MOUD referrals were higher where those programs existed within the OUCC agency. **Conclusions**: OUCC is a promising model for triaging high need clients to opioid treatment services across the continuum of care. The pilot program successfully integrated into each organization and expanded access to services through a formalized assessment process, new services, and broadened referral network. Future plans include exploring reimbursement and further expanding access to MOUD.

SUD Across the Life Span

Characteristics of Youth-Serving Addiction Treatment Facilities in the United States using the 2017 National Survey of Substance Abuse Treatment Services (N-SSATS)
Rachel H. Alinsky MD; Scott E. Hadland MD, MPH, MS; Pamela Matson PhD; Magdalena Cerda DrPH; Brendan Saloner PhD - Johns Hopkins School of Medicine

Background: Data suggest that adolescents with opioid use disorder (OUD) are significantly less likely than adults to receive medications for opioid use disorder (MOUD). The extent to which addiction treatment facility characteristics contribute to this differential access is unknown. **Objective**: To describe the quantity and characteristics of adolescent-serving addiction treatment facilities in the US, and examine associations between facility characteristics and offering maintenance MOUD. **Methods:** We performed a cross-sectional study using the 2017 National Survey of Substance Abuse Treatment Services (N-SSATS), a survey of all addiction treatment facilities in the U.S. We identified facilities that offer specialized programs for adolescents, and examined their characteristics compared to adult-focused facilities, including facility ownership, insurance accepted, geographic location, and services offered. We evaluated characteristics associated with offering maintenance MOUD (opioid agonist maintenance with buprenorphine or methadone, or extended-release naltrexone). **Results**: Among 13,585 addiction treatment facilities in the U.S., 3,537 (26.0%) offered specialized

programs for adolescents. Adolescent-serving facilities were more likely than adult-focused facilities to accept public insurance, receive government grants, or be owned by a non-profit or state/local/tribal government ($p<0.001$ for all). Of the 3,537 adolescent-serving facilities, 92.4% (3,267) offered outpatient treatment, 11.7% (413) offered residential treatment, and 3.6% (129) offered inpatient treatment. Among adolescent-serving facilities, 23.1% (816) offered maintenance MOUD, compared to 35.9% (3,612) of adult-focused facilities (odds ratio [OR], 0.53; 95% confidence interval [CI], 0.49-0.58). Adolescent-serving facilities were more likely to offer maintenance MOUD if they were non-profit, hospital-affiliated, accepted both public & private insurance, were located in the Northeast, or offered inpatient services ($p<0.001$ for all). While adolescent-serving and adult-focused facilities were equally likely to offer naltrexone as their only MOUD (OR, 0.92; 95% CI, 0.79-1.08), adolescent-serving facilities were approximately half as likely to offer opioid agonist maintenance MOUD (OR, 0.51; 95% CI, 0.46-0.57). **Conclusions**: Only one-quarter of U.S. addiction treatment facilities offer specialized programs for adolescents, and these facilities are half as likely to offer maintenance MOUD as adult-focused facilities. This study may explain why adolescents are less likely than adults to receive MOUD by demonstrating that the facilities that serve them are also less likely to provide MOUD.

The Lifespan of Crisis: A Conceptual Model of Grandparents Raising Grandchildren in Opioid Addicted Families

Margot Trotter Davis PhD; Marji Warfield PhD - Brandeis University

Background: The explosion in opiate addiction has created one of the nation's most pressing challenges. One relatively unstudied consequence is new family formations, including children of addicted parents living with grandparents. Grandparents as parents is not a new phenomenon, but the opioid epidemic challenges family stability because people with OUD typically cycle through periods of intense use and abstinence. Thus, a crisis usually precipitates the parent leaving, abruptly forcing the grandparent into action. **Objectives**: We sought to create a conceptual model of cycles of crisis and stability in grandparent headed families due to the opioid epidemic. **Methods:** This qualitative study is the first in-depth examination of the challenges of grandparents caring for grandchildren due to the opioid epidemic. We interviewed 10 stakeholders and 14 grandparents who are raising grandchildren due to OUD in New England. Analyses used both inductive and deductive approaches to identify codes and themes from the stakeholder and grandparent interviews. **Results**: (1) Different drivers direct grandparents into the formal (child protection) system versus informal care (absent parents retain all rights); (2) Crisis precedes a change in the child's living status, often straining system responses; (3) Fluidity of custodial arrangements due to parent's OUD status, do not map onto existing support or benefit systems. **Conclusions**: Despite their growing numbers, custodial grandparents largely are hidden from government and service statistics. Grandparents navigate a delicate balance weighing the needs of their own child with OUD and caring for their grandchildren. Grandparents called to take guardianship at the crisis point rely on the legal and social service systems and they often do not receive adequate support in making informed decisions. Due to the crisis that precedes a change in care, the child's mental health often is compromised and grandparents are on the front line of negotiating the health care system as well. Facing ongoing crisis and stabilization are the new norm for grandparent-led families.

Receipt of Counseling and Medication Treatment for Nicotine Use Disorder among Adolescents and Young Adults

Nicholas Chadi MD; Jonathan Rodean MPP; Joel Earlywine BA; Bonnie Zima MD, MPH; Sarah Bagley MD, MS; Sharon Levy MD, MPH; Scott E. Hadland MD, MPH, MS - Boston Children's Hospital

Background: While cigarette use among youth has been decreasing steadily in the past three decades, thousands of adolescents continue to develop a nicotine use disorder (NUD) every year. Although counseling and pharmacotherapy are both supported by evidence for the treatment of NUD in youth, rates of receipt of these treatments remain largely unknown. **Objective**: To determine rates of receipt of counseling and

medication treatment for NUD among adolescents and young adults in the US. **Methods**: We used the IBM Watson-Truven MarketScan Medicaid database to identify all individuals aged 10-22 years with ≥6 months continuous enrollment who received a diagnosis of NUD (using ICD-9 diagnosis codes) between January 1, 2014 and June 30, 2015 across 11 de-identified states. Receipt of treatment within six months of NUD diagnosis was identified using claims for counseling for NUD or pharmacy dispensing of nicotine replacement therapy (NRT), varenicline and bupropion sustained-release (SR). We performed chi-square tests to compare youth with NUD who did and did not receive treatment and multivariable logistic regression to determine socio-demographic and clinical predictors of treatment receipt. **Results**: Overall, 1,796,227 (51.5%) were female, 1,663,634 (47.7%) were non-Hispanic white, 1,212,014 (34.8%) were non-Hispanic black, 235,853 (6.8%) were Hispanic, and 132,386 (3.8%) were diagnosed with NUD. Among youth with NUD with six months of follow-up after diagnosis (n=81,144); 4.1% received counseling for NUD, 1.3% received pharmacotherapy (NRT or medication) and 0.1% received both pharmacotherapy and counseling at 6 months. Among youth with NUD receiving treatment, older age, white race/ethnicity, asthma, depression, anxiety, attention deficit hyperactivity disorder, and co-occurring alcohol or marijuana use disorder were all associated with receipt of pharmacotherapy ($p<0.001$). Youth diagnosed in inpatient or emergency department settings had higher odds of receiving pharmacotherapy than youth diagnosed as outpatients among those receiving any treatment ($p<0.001$). Bupropion was the most commonly prescribed medication (46.0%), followed by NRT (31.2%) and varenicline (22.7%). **Conclusions**: Receipt of evidenced-based treatment for NUD was extremely low among youth with Medicaid coverage suggesting a missed opportunity to address NUDs in this population. Interventions to improve access to recommended behavioral counseling and pharmacotherapy for NUD among youth should be considered.

Acceptability of Interventions to Address Opioid Misuse in Family Planning Settings

Adam C Viera MPH; Heather Gotham PhD; An-Lin Cheng PhD; Kimberly Carlson MPH; Jacki Witt JD, MSN, WHNP-BC - Yale University School of Public Health

Background: In the current opioid epidemic, women are an important group experiencing opioid misuse and opioid use disorder (OUD). The rate of overdose mortality among women aged 30-64 nearly tripled from 1999 to 2017. Implementation challenges have prevented evidence-based treatments and harm reduction strategies from being used effectively. For example, women experience gaps in access to effective treatment such as medications for OUD. Women also have less access to the most basic harm reduction services – syringe services– due to factors such as gender-based violence, which could be improved by integrating harm reduction services within sexual and reproductive health services. **Objective**: The objective of this study was to assess the acceptability among family planning providers of interventions to address opioid misuse. **Methods**: Family planning providers were surveyed regarding their knowledge and attitudes related to opioid use and misuse. An invitation to complete an anonymous online survey was sent to 6,481 family planning providers. The survey link was also posted on a web banner on the National Clinical Training Center for Family Planning website. A total of 711 individuals responded to the survey, of whom 691 were deemed eligible for inclusion in analysis. **Results:** Most respondents (86.0%) agreed that opioid misuse was a major problem in their community and that there was poor access to treatment (70.4%); however, respondents were much less likely to endorse that medications like methadone and buprenorphine (57.5%) should be offered for women with OUD than addiction counseling (93.9%) and recovery support (90.1%). Respondents from urban (versus rural) clinics, larger (versus smaller) clinics, and those with more training and education in addiction, were significantly more likely to endorse the use of medications and harm reduction services. **Conclusions:** Family planning services can be an important touchpoint for screening and referral to treatment and other services among women with OUD. It is important to educate family planning providers on the evidence-base behind services for persons who misuse opioids – including harm reduction interventions – as a first step towards integrating responses to opioid misuse into family planning settings.

Hospital-Based Addiction Interventions, Part 1

Increased Provider Trust Among Patients With Substance Use Disorder After Consultation By a Hospital-Based Addiction Medicine Consult Service: An IMPACT Study

Caroline King MPH; Devin Collins MA; P. Todd Korthuis MD, MPH; Christina Nicolaidis MD, MPH; Jessica Gregg MD, PhD; Alisa Patten MA; Honora Englander MD - Dept. Medical Informatics and Clinical Epidemiology

Background: Patients with substance use disorders (SUD) report a lack of trust in heathcare providers, yet little research explores the role of hospital-based addictions care in creating trusting relationships with patients with SUD. **Study Objective**: The study objective aimed to evaluate how trust in providers changed among people with SUD after consult by an interprofessional addiction medicine service (IMPACT). **Methods**: We analyzed data from patients seen by the IMPACT from 2015 to 2018. Hospitalized participants with SUD completed a baseline survey and follow-up surveys 30-90 days after hospital discharge, which added qualitative questions exploring patient experiences with hospitalization and IMPACT. We measured provider trust using the Wake Forest Trust scale (scores 10 to 55, higher scores indicate more trust). We used a paired t-test to analyze quantitative data, with two sensitivity analyses: 1) paired t-test with single-imputation of lowest trust score for missing data and 2) paired t-test using Markov chain Monte Carlo imputation. We conducted a thematic analysis of qualitative data using an inductive approach at the semantic level. **Results**: Of 378 patients with SUD who had prior hospitalizations, 179 (47.4%) had both baseline and follow-up scores. Mean (SD) trust scores changed from 31.8 (9.0) at baseline to 39.7 (7.6) at follow-up. The paired t-test indicated patients had higher trust after IMPACT ($p<0.001$, mean difference= 7.92). Both sensitivity analyses yielded similar results ($p<0.001$, mean difference=4.69; and $p<0.001$, mean difference=8.17, respectively). Qualitative analysis revealed that participants felt IMPACT demonstrated trustworthiness through addiction expertise; effective withdrawal management; straightforward and honest communication about SUD; advocacy; and encouraging patient autonomy by incorporating harm reduction principles. Qualitative data suggested that peer mentors were important mediators of patient trust. Patients who trusted peers based on shared life experiences perceived IMPACT as more credible and trustworthy. **Conclusions**: Consultation by a hospital-based addiction medicine team was associated with improved trust in physicians, which has important implications in hospital care. Peer mentors may serve as a crucial broker through which patients with SUDs and providers can establish trust.

Integrating Harm Reduction into Hospital Care: An Interprofessional Discharge Planning Conference for People with Substance Use Disorder Needing Long-term Intravenous Antibiotics

Monica Sikka MD; Luke Strnad MD; Alyse Douglass RN; Kathleen Young RN; Heather Mayer RN; Jessica Gregg MD PhD; Stacey Mahoney MSW, CADC; Jessica Brown MSW, CADC; Honora Englander MD - OHSU

Background: Serious infections such as endocarditis and osteomyelitis in people with substance use disorder (SUD) are life-threatening and commonly require long-term intravenous antibiotics. An outpatient parenteral antimicrobial therapy (OPAT) plan is often felt unsafe or impractical; patients are frequently denied skilled nursing facility (SNF) admissions; and hospitalizations can be difficult to tolerate. These challenges can lead to long lengths-of-stay, frequent discharges against medical advice, high readmissions, and undertreated infections. Our hospital has well-established OPAT and addiction medicine teams, but lacked processes and pathways that prioritize patient preferences, optimize outcomes, and reduce harms of drug use. We developed a structured, interprofessional care conference that integrates principles of ethics and harm reduction. **Objective**: Implement and evaluate an interprofessional OPTIONS-DC care conference. **Methods**: OPTIONS-DC identifies OPAT safety risks, protective factors, antibiotic options, and treatment settings. Conferences ground discussion in ethical principles and patient priorities, which inform decisions around disposition and medical management. We prospectively recorded comprehensive conference notes and retrospectively abstracted chart data. We performed content analysis of conference notes and patient health records to identify how OPTIONS-

DC modified care plans and prioritized patient preferences. We considered out-of-hospital antibiotic-days to complete recommended therapy as hospital-days saved. **Results**: Infectious diseases and addiction medicine teams saw 104 patients with SUD needing long-term intravenous antibiotics from February 2018 to March 2019. Hospital teams referred 31 patients for OPTIONS-DC because their current treatment plan was misaligned with patient-preferences. 16 of 31 conferences changed care plans to align with patient-preferences while emphasizing patient safety, including 13 patients whose antibiotics were altered to support an out-of-hospital care plan. 21/31 (68%) patients completed recommended antibiotic therapy. Conferences resulted in 238 hospital-days saved. Content analysis revealed that conferences supported teams to identify risks and harm reduction strategies across all aspects of treatment, including safer drug use practices (e.g. inhalation vs injection), discharge destination (e.g. homeless shelter vs hospital), and antibiotic choice (e.g. oral vs IV). **Conclusion**: A structured interprofessional conference that has flexibility to prioritize patient preferences using harm reduction is feasible and safe. It has potential to expand treatment options for infections and SUD, and reduce hospital days.

Opioid Agonist Therapy During Hospitalization: A Retrospective Cohort Analysis Assessing System-Wide Variation and Associated Patient and Hospital Characteristics in the Veterans Health Administration

Kelsey C. Priest PhD, MPH[1,2]; Travis Lovejoy PhD, MPH[2,3,4]; Honora Englander MD[5]; Sarah Shull, PhD, MA[4]; Dennis McCarty PhD[2] – 1. School of Medicine, MD/PhD Program, Oregon Health & Science University, Portland, Oregon, United States; 2. School of Public Health, Oregon Health & Science University-Portland State University; 3. Department of Psychiatry, Oregon Health & Science University; 4. Center to Improve Veteran Involvement in Care, VA Portland Health Care System; 5. Division of Hospital Medicine & Section of Addiction Medicine, Department of Medicine, Oregon Health & Science University

Background: General hospital admissions among people with opioid use disorder (OUD) are increasing, yet little is known about delivery of opioid agonist therapy ([OAT]—methadone and buprenorphine) during hospitalization. **Objective**: This study explored patient- and hospital-level characteristics and system-wide care delivery variation associated with hospital OAT delivery in the Veterans Health Administration (VHA). **Methods**: A retrospective cohort of patients obtained from the VHA Corporate Data Warehouse included those with an index hospitalization during the 2017 VHA fiscal year aged 18 years and older with an OUD-related ICD-10 diagnosis code within 12 months of index hospitalization. RStudio and Stata were used for descriptive statistics and multilevel logistic regression models. **Results**: The study cohort included 12,407 unique index hospitalizations from 109 VHA hospitals in the continental U.S. Patients were predominantly male (n = 11,543; 93%), white (n = 8,880; 72%), with a median age of 61 years (range 21 to 90), and a median length of stay of 5 days (range: 1 to 50 days). The median frequency of OAT delivery across 109 VHA hospitals was 11% (SD: 0.10; range 0% to 43%). In the fully-specified multilevel logistic regression model, 12 patient-level characteristics were significantly associated with hospital OAT receipt, including patient demographics (e.g., male gender: OR 1.52; 95% CI [1.16, 2.01]), pre-admission care (e.g., OAT received: OR 15.3; 95% CI [13.2, 17.7]), and admission care (e.g., non-OAT opioid delivery: OR 0.53; 95 CI [0.46, 0.61]). Five hospital-level covariates were associated with OAT receipt during hospitalization, including hospital acute diagnosis relative volume (OR 0.98; 95% CI [0.97, 0.99]), hospital size (e.g., large sized hospitals (OR 2.04; 95% CI [1.39, 3.00]), and location (e.g., Northeast: OR 1.80; 95% CI [1.30, 2.49]). **Conclusions:** Variation in hospital OAT delivery was observed across the VHA system and patient and hospital-level characteristics were associated with differing odds of OAT receipt during hospitalization. These findings reveal mutable and immutable characteristics that require further exploration to understand differences in OAT receipt during hospitalization.

Initiating Buprenorphine Maintenance for Inpatients with Opioid Use Disorder: A Resident-Led Quality Improvement Project

Ashish Thakrar MD; David Furfaro MD; Ryan Graddy MD; Megan Buresh MD; Sara Keller MD; Leonard Feldman MD - Johns Hopkins Hospital

Background: Johns Hopkins Hospital's (JHH) internal medicine services inconsistently initiate and discharge patients with opioid use disorder (OUD) on opioid agonist therapy with medications such as buprenorphine. This missed opportunity to save lives in the midst of the opioid overdose epidemic also contributes to patient distress, increases against medical advice discharges, and raises the risk for readmissions. **Objective**: The primary aim of this project was to increase the number of buprenorphine maintenance therapy initiations on JHH internal medicine services. Secondarily, we wanted to understand barriers to starting buprenorphine maintenance, to decrease perceived barriers, and to increase the number of providers with DATA 2000 waivers. **Methods**: We targeted inpatients with OUD on resident internal medicine services for our primary aim and internal medicine residents at JHH for our secondary aims. We conducted four interventions: we 1) administered an 18-question survey to residents regarding barriers to starting buprenorphine maintenance; 2) developed a protocol for initiating buprenorphine maintenance with follow-up; 3) presented an educational conference featuring testimony from a patient with OUD; and 4) started the Buprenorphine Bridge Team of DATA waivered physicians to write buprenorphine prescriptions that bridge patients from discharge to follow-up. **Results**: 89 of 152 residents (59%) completed the baseline survey and identified the greatest barriers to initiating buprenorphine maintenance as "don't know how" (67%), "medical team chooses a taper" (49%), "no discharge plan" (47%), and "discomfort with dosing" (40%). Over the first three months since implementation, internal medicine teams initiated 26 patients on buprenorphine maintenance compared to nine during the three months prior. The Bridge Team wrote 28 buprenorphine bridge prescriptions with naloxone co-prescriptions, and three new attending physicians obtained DATA waivers to bring the total number to seven. **Conclusions**: Inpatient stays offer a crucial opportunity to start buprenorphine maintenance for patients with OUD. Residents identified a lack of education and discharge planning as the most important barriers to initiating buprenorphine maintenance. After a bundle of interventions involving resident education, collaboration with case management, and a novel Buprenorphine Bridge Team, internal medicine teams at JHH now start buprenorphine maintenance for inpatients with OUD more frequently.

Overdose Protection

A Rapid Ethnographic Investigation of Opioid Policies and Fentanyl Overdose to Inform Community-Driven Responses

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Background: The rapid pace and evolution of the opioid epidemic complicate efforts for effective, timely, and meaningful public health surveillance and challenge the evaluation of policy initiatives. Current "big data" administrative sources are informative but lack local specificity and a rapid turnaround. **Objectives**: By utilizing ethnographic methods to complement existing data sources and learn about how the changing opioid environment is affecting policies designed to address overdose risk, in a series of rapid assessments in targeted communities across Massachusetts. **Methods**: We developed the Rapid Assessment for Consumer Knowledge (RACK), a cross-sectional approach that consists of surveys and audio-recorded interviews conducted with people who use drugs (PWUD) in 6 Massachusetts communities. Using targeted ethnographic sampling in settings with high drug use burden, we recruited individuals who completed staff-assisted surveys and interviews. Descriptive statistics summarized survey data. Interviews were recorded and transcribed. The transcripts were independently analyzed to identify emergent themes. Findings from the first site, Lowell, are presented. **Results**: Fifty PWUD were surveyed. All resided in Lowell and 44% were homeless/unstably housed. Participants reported using opioids (90%), cocaine (64%), and the majority (72%) suspected fentanyl

exposure in the past 12 months. Participants had both overdosed themselves (66%), and witnessed overdoses (median=8). Emergent themes from the interviews included: perception and response to fentanyl's omnipresence, need for harm reduction services, and local policy concerns. Despite having laws supporting naloxone access and a statewide program for community naloxone, Lowell had limited availability of free/low-cost naloxone, and participants indicated the pharmacy as their main source of the medication. Prescription opioids were hard to find, expensive, and difficult to obtain from medical providers whereas fentanyl was highly accessible and cheap. Furthermore, data suggested that mandatory holds such as civil commitments undermine help-seeking during an overdose. **Conclusions:** Rapid assessment is a viable and crucial complement to current surveillance efforts and can help to better understand the local impacts of state policies, especially on the most vulnerable populations affected by ongoing opioid risk. The data continue to inform local efforts to establish syringe service programs, peer outreach efforts, and infectious disease transmission prevention.

Investigating the Attitudes and Perceptions of Pharmacy Technicians in the Dispensing of Naloxone
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Background: Alongside the pharmacy and pharmacist, the pharmacy technician is an important partner in ensuring medication safety and promoting pharmacy-based public health initiatives, such as adult immunizations and provision of naloxone to prevent opioid overdose. **Objectives:** This study aimed to investigate the attitudes and perceptions of pharmacy technicians in relation to the dispensing of naloxone in a sample of Massachusetts community retail pharmacies (CRPs). **Methods:** From February to April 2018, a sample of 39 technicians in CRPs located in 13 Massachusetts municipalities was surveyed in-person, with one technician surveyed on site at each CRP. Study pharmacies were all from one U.S. chain. Stores were divided into High-Risk Municipalities (HRM), which had an opioid-related death rate greater than the state average, and Low-Risk Municipalities (LRM), which were less than the state average. Analyses contrasted HRM and LRM technician responses via Mann-Whitney U and Chi-Square statistics. Open-ended responses were summarized for themes and contrasted by municipality risk status. **Results:** Technicians in both groups believed they could identify patient groups at risk of overdose in their practice but assessed naloxone need for 67% of patients in HRM and <25% of patients in LRM ($p=0.001$). Willingness to provide naloxone was high (>89%) in both municipality risk settings. Participant feedback revealed common themes, including the belief that patients need lower cost naloxone; and lack of awareness that naloxone could prevent overdose in individuals taking prescription opioids not just people who inject drugs. **Conclusions:** Pharmacy technicians would benefit from training and are well positioned to recognize overdose risk and offer preventive interventions, like naloxone provision.

Recovery Opioid Overdose Team (ROOT): Linking People to Treatment Post-Overdose Reversals in the Emergency Departments
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Background: Emergency department (ED) visits for opioid overdoses from July 2016 to September 2017 has increased by 79% in the Midwest. Effective, timely, and community-wide coordinated secondary prevention interventions – occurring after overdose survivors have been reversed with naloxone – are urgently needed in the ED. One promising approach is the use of peer recovery coaches to establish immediate relationships with overdose survivors in the ED setting and navigate follow-up connection to treatment services. **Objective**: To describe and evaluate a warm hand-off referral program, Recovery Opioid Overdose Team (ROOT), that links overdose survivors to recovery support and treatment services post-ED discharge. **Methods**: The ROOT team was composed of a certified peer recovery coach who is in long-term recovery, and a case management navigator, who specializes in mental health and provided guidance for accessing community treatment services.

At the time of a naloxone reversal, the ROOT team was activated when law enforcement contacted the 24/7 Crisis Team, who then notified ROOT. The peer would then engage with the patient who overdosed in the ED. Retrospective chart reviews was conducted to evaluate the pilot outcomes of ROOT in two Midwest EDs from September 2017-September 2018. **Results**: Seventy-two overdose survivors were approached by the ROOT staff over a year period. Two of the participants had repeat overdoses who eventually received treatment services. Majority of overdose survivors were male (n=56; 76.6%), white (n=37; 50.7%), had some form of housing (n=60; 87.5%), and limited access to transportation (n=37; 50.7%). Eighty-two percent (n=60) of overdose patients received a second follow-up post-ED discharge with a median of two follow-ups that consisted of phone calls, ED and community outreach. Within the first week of ED discharge, 18% (n=13) of overdose patients had developed a recovery plan. For patients who engaged with ROOT, 38% (n=28) received ongoing treatment services (n=16 outpatient, n=10 residential, n=1 detoxification facility, n=1 recovery home). **Conclusions**: The ROOT, a community-wide coordinated peer recovery program in the EDs, shows promise in linking overdose survivors to recovery support and treatment services post-overdose.

A Novel Approach to Preventing Opioid Overdose in Persons Using Fentanyl-Contaminated Methamphetamine

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Background: In the summer of 2018, San Francisco experienced a surge in opioid overdose reversals and deaths. The DOPE Project recorded 393 lay reversals near the Civic Center. Fifteen suspected opioid overdose deaths occurred in early September which was thrice that expected; most involved fentanyl per the medical examiner. The San Francisco General Hospital clinical laboratory for the first time identified several potent fentanyl analogues in street drug samples, including counterfeit pills, black tar heroin, cocaine, and methamphetamine.

Learning Objectives:

1. Recognize the increasing prevalence of fentanyl contamination in street-purchased drugs.
2. Recommend carrying naloxone to persons using any street-purchased drugs, including methamphetamine.
3. Apply knowledge of naltrexone's mechanism of action to reduce the risk of fentanyl overdose in persons using stimulants.

Case Presentation: A 33-year old man purchases methamphetamine from his dealer, becomes sedated and stops breathing. The dealer administers naloxone and calls 911. After hospitalization, he returns to his dealer, makes another purchase and overdoses again. His dealer resuscitates him with naloxone again. On follow-up with his medical provider, the man is not ready to stop using methamphetamine, but tired of overdosing on fentanyl. The provider recommends fentanyl test strips and prescribes oral naltrexone. Was this prescription a good idea and why?

Discussion: Methamphetamine is the second most widely used class of illegal drugs worldwide. In the U.S., amphetamine-related hospitalizations quadrupled from 2008-15. Some of those hospitalizations may result from unintentional opioid overdose due to fentanyl contamination. The short-acting opioid antagonist, naloxone, is widely recognized as an essential tool in reversing opioid overdoses. Because of increasing fentanyl adulteration in many street drugs, naloxone should be recommended for all persons who use any street-purchased drugs. Naltrexone is a longer-acting, pure opioid antagonist that competitively binds to the μ, κ, and δ receptors in the CNS. It blocks the effects of opioids like fentanyl, including respiratory depression and death. While naltrexone has not been shown effective for the treatment of methamphetamine use disorder, it may reduce the risk of death in persons using fentanyl-contaminated stimulants.

Buprenorphine Access & Retention

Buprenorphine Prescription Patterns in a Cohort of Newly Prescribed Patients in New York City, 2015-2018

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Background: The use of buprenorphine-naloxone (BUP-N) to treat opioid use disorders is effective, and longer retention in treatment is associated with improved health outcomes. This study examines retention in BUP-N treatment using New York State Prescription Monitoring Program (PMP) data to examine prescription filling patterns among New York City (NYC) residents over a three-year period**. Objective**: To describe the patterns of BUP-N prescription filling and time to discontinuation among patients newly prescribed buprenorphine in NYC. **Methods**: Using the PMP, we identified newly prescribed BUP-N patients, defined as individuals who filled a BUP-N prescription in 2015 and none in the previous two years. We followed individual's BUP-N prescription history and censored individuals at 36 months. We flagged each month as either having a 14-day supply BUP-N prescription or not, creating a unique sequence for each individual that represented their BUP-N prescription history. We created a matrix quantifying each sequence's dissimilarity to every other sequence. Using the matrix, we assigned individuals into groups based on similar sequences. We determined the optimal number of groups based on best fit and clinical meaningfulness. We assessed differences in groups by gender, age, and prescription dose (first and average). **Results**: In 2015, there were 4,828 newly prescribed BUP-N residents. Sequence analysis identified eight groups of prescription patterns: discontinuation after 1 month (39%), 2-3 months (15%), 4-7 months (8%), 8-12 months (8%), 13-17 months (8%), 18-28 months (5%), a group continuous for 36 months (14%), and a group with a start, long break (6 months or longer), and reengagement (3%). Groups differed by gender and age. A greater proportion of females (45%) and older adults (55+: 47%) discontinued BUP-N after 1 month compared with males (36%) and middle-aged adults (35-43: 34%). A greater proportion of middle-aged adults (16%) were continuous on BUP-N for 36 months compared with younger (12%) and older (12%) adults. There were no differences by first or average prescription dose. **Conclusion**: NYC residents who newly fill BUP-N have short durations of treatment, with nearly 40% discontinuing after one month. Interventions that increase retention are needed to achieve the full benefits of treatment.

Analyzing Manufacturer Approaches that Hinder Access to Buprenorphine

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Background: While opioid use disorder affects over two million Americans, only one in five patients receives adequate treatment. Buprenorphine, which was originally approved by the Food and Drug Administration (FDA) in 1981 for moderate-to-severe pain, is a key medication for the treatment of opioid use disorder (OUD). Buprenorphine products, however, remain expensive, hindering patient access. Objective: To understand why low-cost, generic versions of brand-name buprenorphine products are not widely available to US patients. **Methods**: We used Drugs@FDA to identify FDA-approved buprenorphine products indicated for opioid dependence. We then identified prescribing rates of these products in Medicaid since 2002, the year buprenorphine was first approved for the treatment of opioid use disorder. Next, we searched the FDA databases, the Federal Register, Westlaw, PubMed, and Google News to identify the regulatory history of buprenorphine and its various formulations to identify and categorize strategies employed to deter generic competition. **Results**: The first branded buprenorphine/naloxone tablet and film are the most utilized buprenorphine products indicated for opioid use disorder in Medicaid, with the tablet and film formulations being dispensed nearly 3-times more (n=17,923,159) and being reimbursed by Medicaid nearly 5-times more (n=$3,660,042,792) than all the other buprenorphine products for OUD combined (n=6,498,347;

n=$748,989,723). Since buprenorphine/naloxone's initial approval in 2002, the product has been the subject to numerous strategies intended to undermine low-cost generic entry, including: brand-name manufacturer promotion to physicians, formulation shifts (e.g., from sublingual tablet to sublingual/buccal film to subcutaneous injection), settlements of patent litigation, non-cooperation by the brand-name manufacturer in developing a shared risk evaluation and mitigation strategy, marketing of "branded generics." These strategies have resulted in delayed market entry for generic options, ranging from 4 (tablet) to 6 years and counting (film), and reduced uptake of alternatives. **Conclusion**: Buprenorphine formulations remain expensive 17 years since the underlying active ingredient was first approved by the FDA for OUD due to a combination of factors identified in our research. Policymakers must focus on making and promoting low-cost generic buprenorphine formulations to mitigate one of many barriers to opioid use disorder treatment.

Patterns of Buprenorphine Treatment in North Carolina's Medicaid Program

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Background: In response to high rates of opioid overdose deaths, North Carolina is implementing policies and programs to expand access to buprenorphine treatment for opioid use disorder (OUD) in its Medicaid program. Studies of buprenorphine treatment patterns in North Carolina's Medicaid program are needed to inform these efforts. **Objective**: To describe trends in buprenorphine treatment in North Carolina's Medicaid program. **Methods**: We used North Carolina Medicaid claims data from 2014 to 2017. We identified people with OUD age 18 and older in North Carolina's Medicaid program using International Classification of Diseases codes. We examined buprenorphine treatment patterns using prescriptions for buprenorphine formulations intended for OUD treatment and Current Procedural Terminology codes. We defined buprenorphine treatment episodes as periods of filled prescriptions without more than a 30-day interruption. **Results**: The number of Medicaid enrollees with a diagnosed OUD in a year increased from approximately 22,000 in 2014 to approximately 36,000 in 2017. The number of enrollees with OUD receiving any buprenorphine in a year increased from approximately 5,600 in 2014 to approximately 9,700 in 2017. The percent of enrollees with a diagnosed OUD receiving buprenorphine thus remained stable at approximately 26% during this period. The percent of enrollees retained in treatment at 90 days increased from 70% to 78% during the study period. The frequency of receipt of recommended services (naloxone prescribing, HIV and HCV testing, and psychosocial services) generally increased during the study period but remained low. For instance, naloxone was prescribed in only 2.3% of buprenorphine treatment episodes in 2017. The frequency of receipt of contraindicated medications (concurrent receipt of opioid or benzodiazepines) fell during this period but remained high. For instance, an additional opioid was prescribed in 23% of buprenorphine treatment episodes in 2017. The frequency of toxicology testing and provider visits during treatment episodes increased in the study period. **Conclusions**: The stagnant treatment rate at 26% of those diagnosed suggests treatment need has continued to outstrip access as the number of adults with OUD has been increasing. The frequency of recommended practices increased from 2014-2017 but remained low, indicating that opportunities exist to improve care.

Adverse Childhood Experiences Predict Opioid Treatment Relapse in Rural Buprenorphine Patients

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Background: Adverse childhood experiences (ACEs) include emotional, physical, and sexual abuse; neglect; and household dysfunction before the age of 18. ACEs are a major public health concern and a strong predictor of substance abuse later in life. However, to date, there are no studies investigating the association between ACEs an opioid relapse. Rural populations may be especially vulnerable to opioid use relapse, as rural populations have a higher prevalence of prescription opioid misuse, higher ACE scores, and less access to substance use treatment compared to urban populations. **Objective**: The aim of this study was to examine the association between ACE scores and opioid relapse among patients at an outpatient, rural OUD treatment program. **Methods**: Archival data from an outpatient rural OUD treatment clinic were analyzed. ACE data were

collected during treatment intake. Indicators of opioid relapse were recorded during each visit and included self-reported opioid use, positive urine drug screen, and/or acquisition of opioids determined by the prescription drug database. During OUD treatment, patients were prescribed a 30-day supply of buprenorphine-naloxone and were required to attend a monthly 1-hour group counseling session. Counseling consisted of trauma-informed intervention that combined cognitive behavioral therapy and 12-step facilitation. **Results**: Of the 87 patients (75% male; 100% Caucasian), 54% relapsed at least once during the course of treatment. Of the 2,052 total patient visits (M = 23.6, SD = 22) recorded, 7% indicated opioid relapse. The median number of visits to relapse was 1. Regarding the influence of adverse events on relapse, for every unit increase in the ACE score, the odds of relapse increased by 17% (95% CI: 1.05-1.30, p = .002). Additionally, each treatment visit was associated with a 2% reduction in the odds of opioid relapse (95% CI: 0.97-0.99, p = .008). **Conclusions**: These results suggest that ACE may increase the risk of opioid relapse early in treatment and that trauma-informed treatment may help prevent relapse for some OUD patients.

A Treatment Opportunity: Pregnancy

Pregnant Women's Acceptability of Substance Use Screening and Willingness to Disclose Use in Prenatal Care

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Background: Despite the prevalence and acceptance of substance use screening as part of prenatal care, with few exceptions, pregnant women’s perspectives on screening is largely absent from research and clinical practice. **Objectives**: To explore pregnant women’s acceptability of alcohol, tobacco, and drug use screening and willingness to disclose use in prenatal care. To center the voices of pregnant women who are directly impacted by the adverse consequences of screening as central to informing the policies and practices that directly impact them. **Methods**: A secondary analysis of self-administered surveys and in-clinic structured interviews with 589 pregnant women aged 18 and older, recruited at their first prenatal care visit from four university-affiliated prenatal care facilities in Baltimore, Maryland and Southern Louisiana. Data were analyzed for associations between outcome variables (acceptability of screening and willingness to disclose use) and predictor variables (substance use, previous CPS involvement, and participant characteristics) using Pearson’s chi-squared tests and Fisher’s exact tests. **Results**: A substantial majority of pregnant women found screening acceptable for alcohol (97%), tobacco (98%), and drug use (97%) during prenatal care. Screening for alcohol use was more unacceptable among women who did not report risky alcohol use compared to women who did report risky alcohol use (P = 0.08). Tobacco use, drug use, and previous CPS involvement were not associated with acceptability of screening. A substantial majority of pregnant women reported they are willing to honestly disclose alcohol (99%), tobacco (99%), and drug use (98%). Alcohol, tobacco, and drug use and prior CPS involvement were not associated with the willingness to disclose substance use. **Conclusions**: Pregnant women, including those who reported substance use or prior CPS involvement, found substance use screening in prenatal care acceptable and were willing to honestly disclose their use. In general, women with historical and cultural privilege (white, older, with self- or employment-based insurance) were less willing to honestly disclose their alcohol, tobacco, and drug use. These findings are significant as they challenge widely held perceptions of pregnant women who use drugs, and suggest that verbal screening is acceptable as a means of assessing substance use in prenatal care.

Embedding Medication for Addiction Treatment into Prenatal Care Improves Health Care Utilization for Pregnant Women with Opioid Use Disorder

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Background: Opioid use disorder (OUD) has become more prevalent among pregnant women, with 5-10% of pregnancies facing an OUD. Medication for addiction treatment (MAT) has been demonstrated to improve pregnancy health, preventing maternal relapse and morbidity and mortality for both mother and infant. Buprenorphine specifically can be dispensed in outpatient settings including the prenatal care (PNC) received by the majority of pregnant women. Hypothesizing that embedding buprenorphine into PNC would benefit pregnant women and their infants, the Grand Rapids Encompassing Addiction Treatment with Maternal Obstetric Management (GREATMOMs) program in Grand Rapids, MI, co-locates addiction medicine into a maternal-fetal medicine (MFM) clinic. Patients receive PNC from a certified nurse midwife (CNM) and/or MFM physician as appropriate for their level of risk, in collaboration with an Addiction Medicine specialist for MAT and other OUD care. **Objective:** In the current study, we sought to examine health services utilization of pregnant women with OUD in the GREATMOMs program compared to those receiving MAT and PNC from separate behavioral health and prenatal clinics. **Methods:** Chart reviews were conducted for GREATMOMs patients from 2017 to 2019 (n=29) and a sample of pregnant patients from a behavioral health clinic in the same health system (n=21). Negative binomial and logistic regression models were used to examine effect of clinic type on utilization measures (PNC visits, MAT-specific visits, 2 and 6 week postpartum visits) before and after controlling for demographics. **Results:** Preliminary results indicate that GREATMOMs patients received more PNC visits (adjusted rate ratio [aRR]=1.55, 95% confidence interval [CI] 1.02, 2.36) with fewer MAT-specific visits (aRR=0.70, 95% CI 0.52, 0.94) than patients in separate clinics, for no significant difference in total visits. They were also more likely to return for postpartum visits at both 2 weeks (adjusted odds ratio [aOR]=10.77, 95% CI 1.65, 70.27) and 6 weeks (aOR=7.46, 95% CI 1.19, 46.76) after birth. **Conclusions:** Embedding MAT into a PNC clinic facilitates prenatal and postpartum health services utilization for pregnant women with OUD. This model shows promise for maintaining treatment engagement among this population.

Racial and Ethnic Differences in the Utilization of Medication for Opioid Use Disorder (MOUD) in the Year Prior to Delivery in Massachusetts

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Background: Racial and ethnic disparities persist across key maternal-infant health outcomes including maternal mortality, prenatal care engagement, and preterm infant birth. Medication treatment for opioid use disorder (OUD) during pregnancy is critical to improve dyadic health outcomes, yet engagement remains around 50%. Maternal characteristics, including race/ethnicity, that are associated with treatment engagement have not been explored. **Objective**: To explore the extent to which race/ethnicity is associated with degree of treatment engagement among women with OUD in the year prior to delivering a live birth. **Methods**: We performed a retrospective cohort study using a linked, population-level, statewide dataset including all women who delivered a live birth in Massachusetts in 2012-2015. The primary outcome was degree of prenatal treatment engagement (consistent, inconsistent, or no engagement) with methadone or buprenorphine among women with OUD in the year prior to delivery. Maternal characteristics (race/ethnicity (white, black, Hispanic), age, education, geography), and enrollment in a publicly-funded opioid treatment program were included in the final nominal logistic regression model, examining the independent associations of maternal characteristics with prenatal treatment engagement. **Results**: There were 5,230 women with evidence of OUD who delivered a live birth, or 1.6% of all live births from 2012-2015. White women made up 87.0% of deliveries to women with OUD compared to 63.7% of all deliveries in MA. Among women with OUD, 43.8% of white women, 25.4% of black women, and 27.3% of Hispanic women consistently engaged in MOUD in the year before delivery, defined as all 12 months prior to and including month of delivery or continuous months of engagement since treatment initiation. In our adjusted model, compared with white women, black and Hispanic women had 2.98 (95% CI 2.15-4.14) and 2.79 (95% CI 2.20-3.53) times the odds of having no engagement vs. consistent treatment engagement respectively. **Conclusions**: We identified that black and Hispanic women with OUD had significantly lower rates of MOUD engagement during pregnancy, which persisted after adjustment for other

maternal characteristics. Further exploration of individual, hospital, and treatment system characteristics to explain this disparity in treatment engagement is critical to ensuring equitable care for all pregnant women with OUD.

Infectious Complications of SUD

Correlates of HCV Infection Among People Who Inject Drugs in Rural New England: Preliminary Results from the DISCERNNE Study

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Background: Rural areas have seen a surge in hepatitis C (HCV) infections associated with injection drug use. This study investigates correlates of HCV infection among people who inject drugs (PWID) in rural New England. **Objectives**: 1) Evaluate the prevalence of HCV and receipt of HCV treatment; 2) Identify individual-level factors independently associated with HCV infection. **Methods**: We report on the first 377 adult PWID (>= 18 years) recruited from rural counties in Massachusetts, Vermont, and New Hampshire using respondent-driven sampling. In this cross-sectional study, participants received rapid HCV antibody testing and completed an audio computer-assisted self-interview (ACASI). This survey assessed demographics, injection and sex risk behaviors, addiction treatment, overdose, incarceration history, health care access, and previous HCV testing and treatment. We used multivariable logistic regression to identify factors associated with HCV infection. **Results:** Of the 377 adult PWID, 68% tested positive for HCV. Of those who were HCV positive, 57% were previously aware of their HCV status, 15% had seen a medical provider for HCV in the past 6 months, and only 7% were taking or had finished taking prescription medication for HCV. The following factors were associated with increased odds of HCV infection: injecting at least daily in the last 30 days (Adjusted Odd Ratio [aOR]=1.88, 95% Confidence Interval [CI]: 1.08-3.29); sharing injection equipment (syringes, cottons, cookers, spoons, or water) in the last 30 days (aOR=2.34, 95% CI: 1.34-4.10); ever having overdosed (aOR=1.98, 95% CI: 1.15-3.41); ever receiving medication for opioid use disorder (aOR=1.98, 95% CI: 1.11-3.51); and incarceration in the last 6 months (aOR=2.11; 95% CI: 1.13-3.94). Walking distance from a syringe services program (aOR=0.53, 95% CI: 0.34-0.92) was associated with decreased odds of HCV infection. **Conclusion:** HCV is highly prevalent among PWID in rural New England, and the majority of cases remain untreated. PWID who engage in risky injection behaviors and have experienced adverse sequelae of drug use (e.g. overdose and incarceration) are more likely to be HCV infected. Increasing proximity to syringe services may lower HCV risk among rural PWID.

Hepatitis C Treatment in a Narcotic Treatment Program: 2.5-year Outcomes

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Background: Hepatitis C a common disease that disproportionately affect people who inject drugs (PWID). Historically, PWID have been ineligible for treatment. Direct acting anti-virals (DAA) have facilitated the treatment and cure of hepatitis C, including for those with active substance use disorders. Directly observed therapy (DOT) for medication has been demonstrated to be a highly effective tool for disease management. Real-world re-infection rates for PWID after hepatitis C treatment are still being characterized. **Methods**: We conducted a quality improvement retrospective review of all patients who have undergone treatment for hepatitis C through our narcotic treatment program, which is located in an urban, underserved setting. We collected basic demographic information, clinical characteristics, absences during treatment, and drug screen abnormalities. **Results**: Over 2.5 years of program operation, a total of 179 patients underwent treatment through our NTP. 171/179 people completed treatment (8/179 are currently in treatment and 8/179 are awaiting

SVR testing). 150/163 (92%) had a documented cure by sustained virological response at 12 weeks (SVR 12). 13/163 were lost to follow-up before an SVR could be collected. 7/179 individuals died over this time period, where no causes of death were related to HCV. 7/179 participants became reinfected during the observation period. **Conclusions**: Treatment of hepatitis C in a narcotic treatment program is feasible and successful. Observed re-infection rates in this cohort appear to be low. The provision of hepatitis C treatment through an NTP should become standard of care and a reimbursable service.

Is Increased Intensity of Treatment For Opioid Use Disorder Associated With Improved Biomarkers and Antiretroviral Adherence in Persons With HIV?

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Background: Among persons with HIV (PWH), those with opioid use disorder (OUD) have poorer health outcomes than those without. **Objective**: We sought to assess if OUD treatment intensity was associated with improved HIV viral load (VL), CD4 count, VACS Index, and antiretroviral therapy (ART) initiation and adherence among PWH. **Methods**: We used 2008-2017 Veterans Aging Cohort Study ICD, CPT, clinic stop, procedure, and bed section codes to identify new OUD treatment encounters and number of substance use disorder visits per month during the year following treatment initiation among PWH. Treatment intensity was modeled using trajectory analysis to identify distinct patterns during the 12 months after first encounter. Opioid agonist therapy (OAT) with methadone or buprenorphine was also assessed. We used linear regression to evaluate the association of treatment intensity with changes in CD4, log VL, VACS Index, ART initiation, and adherence during the study period. Models were adjusted for demographics, OAT, hepatitis C, smoking status, alcohol-related diagnosis, and time between measures. **Results**: Among 2,419 PWH (mean age 55 years, 61% black, 97% male) with a new OUD treatment encounter, we identified five distinct treatment trajectories: one visit only (39% of sample); low, not sustained (37%); high, not sustained (9%); low, sustained (11%); and high, sustained (5%). OAT receipt was low (17%) but increased with treatment intensity. Among 709 PWH not on ART at treatment start, ART initiation increased from the lowest treatment intensity to the highest (23-40%) (p=0.003). Among 1401 PWH on ART at treatment start, adherence improved more in higher intensity treatment groups (p=0.004). CD4, VL, and VACS Index improved for all treatment groups but did not differ significantly by treatment group. **Conclusions**: Among PWH and OUD, higher OUD treatment intensity was associated with improved ART initiation and adherence but not with improvements in CD4, VL, and VACS Index.

Polysubstance Use Patterns and HIV Disease Severity Among Those With Substance Use Disorder: Latent Class Analysis

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Background: Polysubstance use is common among people living with HIV infection (PLWH) and substance use disorder (SUD) but its effects are under-studied. **Objective**: We aimed to 1) identify polysubstance use patterns over time with latent class analysis, and 2) assess their associations with HIV disease severity. **Methods:** We studied a prospective cohort of 233 PLWH who also had SUD. Latent class analysis identified polysubstance use patterns based on the Alcohol Use Disorders Identification Test (consumption) and past 30-day use of cannabis, cocaine, opioids, and tranquilizers. We categorized changes in substance use patterns over 12 months and tested associations between those changes and CD4 cell count and HIV viral suppression at 12 months in linear and logistic regressions, adjusting for demographics. **Results**: At baseline, three patterns (classes) were identified: 18% did not use any substance (NONE), 63% used mostly cannabis and alcohol (CA), and 19% used mostly opioids, cocaine, tranquilizers, cannabis and alcohol (MULTI). At 12 months, 61% were

in the same class. Forty percent decreased the number of substances used (MULTI to CA, either to NONE) or remained as NONE; 43% were in CA both times; and 17% increased (NONE to CA or either to MULTI, including remaining MULTI). Adjusted mean CD4 count was lower among participants increasing substance use (mean [95%CI] 446 [318-574]) and among those in CA both times (464 [373-556]) compared to those who decreased or abstained throughout (605 [510-700], p=0.005). No significant difference was observed for HIV viral suppression. **Conclusions**: We identified distinct substance use patterns among PLWH and SUD: cannabis/alcohol, and opioids with alcohol and other drugs. Patterns changed over time, and changes towards fewer substances or no use were associated with better HIV disease severity (based on CD4 count). Findings may inform clinical advice for PLWH and SUD.

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Role of Peer Navigators and Networks in Recovery

Project RECOVER: A Peer Recovery Coaching Model

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Background: Despite known mortality benefit through receipt of medications for opioid use disorders (MOUD), minority populations (Black and Latino) are less likely to be engaged and retained in MOUD after completing detox and have high rates of opioid related mortality**. Objectives**: Peer Recovery Coaches (PRC) deliver interventions to individuals with opioid use disorder (OUD) for a minimum of six months to:
1. Link to primary care and identify, manage and prevent OUD comorbidities such as HIV, hepatitis B and C, and mental illness;
2. Engage in MOUD; and
3. Receive overdose education and naloxone (OEND).

Methods: Partnering with two addiction detox programs that serve minority populations in Boston, Project RECOVER (Referral, Engagement, Coaching, and Overdose preVention Education in Recovery) uses two culturally diverse PRCs to support individuals post-detox with linkage, engagement and retention in MOUD and primary care. Through "Recovery Wellness Plans," PRCs prioritize domains of social determinants of health that patients identify as important to their recovery. Data are collected at one, three, and six months to assess activities as well as linkage, engagement and retention in MOUD post detox. **Results**: Preliminary findings after six months of implementation are: 83 patients with OUD (60% male, 55% Black and/or Latino) enrolled. 75% have a history of incarceration, 49% self-reported Hepatitis C infection, and 88% reported housing instability. The average lifetime number of overdoses at enrollment was 6. Patients attempted OUD treatment an average 2.73 times prior to enrollment. Through PRC engagement, 55.8% had an appointment scheduled for primary care, 74% had frequent contact with the PRC, and 77% received OEND. Of the 50 patients with one-month data, four reported an overdose and 38 reported engagement in MOUD. Process evaluation identified different degrees of PRC integration with the two detox treatment programs, PRC perceptions of recovery and the program, and individual client experiences. **Conclusion**: Using culturally diverse PRCs is a feasible and promising model to engage patients with OUD from minority communities to healthcare and substance use treatment, and has potential to decrease opioid-related overdose deaths in this population.

Community Collaboration on Overdose and Suicide Prevention: Attitudes, Perceptions, and Practices Among Substance Use Coalition Leads

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Background: Drug overdose and suicide are claiming more and more lives each year. Suicide is a leading cause of death for people who misuse alcohol and drugs, and people with opioid use disorder have a suicide rate six times greater than the general population. Though the connection between suicide and substance use is clear, prevention is fragmented. A greater impact can be made with a comprehensive public health approach to preventing overdose and suicide. **Objectives**: To explore attitudes and perceptions among community stakeholders regarding suicide and overdose and identify populations in need and facilitators and barriers to collaboration. **Methods**: An electronic survey was distributed to New York State suicide and substance use/opioid prevention coalitions and to county mental hygiene directors in March 2019. **Results**: The survey received 160 responses (54% response rate). Most substance use (SU) coalitions believe that suicide is a problem in their county (77%), that those with opioid use disorder are at a greater risk of suicide (88%), and that those with risky substance use are most in need of suicide prevention (74%). Moreover, 77% of SU coalitions agreed that the rising rates of opioid overdose and suicides are related and that some cases of overdose are actually suicides (84%). Yet few believe their counties have the necessary funding to prevent suicide (18%). Most of the SU coalitions agree that there is value in collaborating on suicide and opioid overdose prevention (93%), but only 66% agreed that suicide prevention can help combat the opioid crisis. Still, opportunities for collaboration were identified: distributing materials on respective trainings (89%), combining short trainings (79%), and meeting with the suicide prevention coalitions to discuss the incorporation of suicide prevention (77%). Major barriers to collaboration included lack of coalition member time (66%) and scope of work limitations (55%). **Conclusion**: Coalitions may be an important vehicle for joint SU and suicide prevention. However, they need support and guidance to integrate suicide prevention best practices. This study identifies specific areas in which to provide education, training, and technical assistance to communities and highlights possible areas of future collaboration between SU and suicide prevention coalitions.

Peer Health Assistance Program: Survey of Current and Former Nurse Clients

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Background: The Colorado Nurse Practice Act contains a provision which created a peer health assistance program (PHAP). This program provides assistance to nurses with impaired practice due to physical, mental health, behavioral, or substance use concerns. Providing help for nurses with impaired practice is critical to their health and well-being, assuring patient safety and public trust, as well as returning competent nurses to the healthcare workforce. **Objective**: To describe the experiences of current and former nurses who were served by a PHAP. **Methods**: Two surveys were developed to assess the experiences of current and former clients. Survey forms included questions about their (1) history of substance use, mental health, and physical health concerns prior to receiving services from the program; (2) current licensure and employment status, and obstacles to obtaining or maintaining employment; (3) perceived barriers to seeking assistance; (4) perceived obstacles to maintaining compliance with a rehabilitation contract; and (5) satisfaction with services received through the program. Surveys were sent to 846 nurses who were current clients (n=311) or former clients (n=538). **Results**: Surveys were returned from 268 nurses. Nearly half of nurses were referred by the board of nursing with 69% reporting the referral was due to substance use, alcohol being the most common. Most (62%) did not believe that their substance use affected their practice yet relayed that recognition of their emotional or physical condition could have led to earlier identification. The most common barrier to seeking assistance was belief that they could resolve their problems on their own (65%), followed by concern about confidentiality (59%), fear of losing their license (57%), and embarrassment (55%). More than half (58%) rated overall satisfaction with the PHAP as somewhat or very satisfactory with case management being most helpful (65%). The majority (61%) of former clients reported an active license without conditions or an agreement. **Conclusions**: Coworkers' or employers' awareness of signs and symptoms could have led to earlier identification and intervention. Educational programs should be disseminated to promote proactive prevention, detection, and intervention when a nurse is exhibiting signs suggestive of substance use.

Alcohol Induced Neurocognitive Disorder: An Incompletely Defined, Underappreciated, and Emerging Public Health Epidemic

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Background:

The National Epidemiologic Survey on Alcohol and Related Conditions demonstrated significant increases in 12-month AUD prevalence (106.7% change) among individuals age >65 over a 10-year period. The Baby Boomer generation will increase from 56.4 million in 2020 to 82.3 million in 2040. AUD prevalence will increase from 850k-1.7 million to 1.2-2.6 million. Alcohol induced neurocognitive disorder (NCD) in this patient cohort represents a diagnostic dilemma, a treatment challenge, and a financial burden on the U.S. healthcare system, now and in the future.

Learning Objectives:

1. Understand the similarities and differences of the common neurocognitive disorders and alcohol-induced NCD.
2. Describe the current understanding, prevalence and treatment of alcohol-induced NCD.
3. Recognize the growing public health burden of AUD and the under-appreciation of alcohol induced NCD in the geriatric population.

Case Presentation:

65-y.o. female AUD, multiple urgent care visits/hospitalizations for alcohol intoxication over a two-year period, admitted for bizarre behavior and alcohol intoxication. Initial assessment concerning for significant memory and cognitive impairment. She had Montreal Cognitive Assessment testing (13/30 score) with severe deficiencies in visuospatial/executive function and working memory. OT assessment demonstrated significant cognitive impairments and need for 24-hour supervision/assistance with ADLs/iADLs, cognitive rehabilitation was recommended. She was discharged on acamprosate. She had an initial Neurology appointment after a three-month rehabilitation hospitalization. She was able to provide history that her memory had been impaired the past 2 years secondary to heavy alcohol use, and that her memory had improved. It was felt that she was functioning well in terms of her ADLs/iADLs. She was scheduled for a brain MRI, and Neurology clinic follow-up in 6 months.

Discussion:

Alcohol induced NCD is diagnostically challenging, with a prevalence of 8.27/100,000 to 25.6% in cohort studies. It is considered reversible with sustained abstinence. Alcohol misuse cost the U.S. $249 billion in 2010, and the care and treatment of patients with alcohol induced NCD will contribute to this considerably in the future. It is imperative healthcare professionals recognize alcohol induced NCD, its diagnosis and treatment, and this emerging public health epidemic.

Approaches to Alcohol-Related Morbidity

Primary Care Provider Education about Prevention of Fetal Alcohol Spectrum Disorders

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Background: Prenatal alcohol exposure (PAE) is the most common cause of preventable intellectual disabilities. According to the U.S. Surgeon General and CDC, there is no known safe amount, no safe time, and no safe type of alcohol use during pregnancy. Many women believe that small amounts of alcohol use during pregnancy is safe, with up to 30% reporting drinking during pregnancy. Primary care providers (PCPs) do not regularly address the risks of PAE and fetal alcohol spectrum disorders (FASDs) with their female patients of reproductive age. **Objective**: To train PCPs to counsel patients about the risks of PAE as part of a CDC-funded,

system's level approach to reduce the incidence of FASDs within a Boston-based health system. **Methods**: Provide a 45-minute educational program and skills-based training for PCPs. The program was held during regularly scheduled educational venues and covered FASDs, screening for alcohol use and counseling about PAE risk using a Brief Negotiated Interview (BNI). Mixed method training activities included brainstorming about challenges to counseling patients about alcohol use, lecture to deliver knowledge, skills-based practice session and provider-patient communication video demonstration. Pre and post-test surveys were collected. Additional trainings and longer-term follow-up surveys are planned for 3-6 months post-initial training. **Results**: 54 pre-test and 50 post-test surveys were collected and include 57% physicians; 24% nurse practitioners; 18% other (nurses, behavioral health specialists, other); 46% in clinical practice greater than 10 years. Providers reporting at least average ability to counsel patients about the risks of PAE increased from 59% (n=32) to 92% (n=46) and from 39% (n=21) to 92% (n=46) in their perceived ability to talk to patients about FASDs. 73% (n=36) responded that they intend to make a change in clinical practice; the most common anticipated challenge reported by 48% was "patient resistance to change". **Conclusion**: Brief, tailored FASD trainings for PCPs delivered during regularly scheduled educational venues that focus on knowledge and alcohol use counseling skills both ensure participation and increase providers' perceived ability to counsel patients. High levels of intention to change clinical practice were reported. The perceived challenge of patient resistance should be addressed in future trainings.

Effects of Partial Bans on Off-Premise Sales of Alcoholic Beverages on Hospitalization Rates for Alcohol Intoxication in Switzerland

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Background: In Switzerland, in the canton Vaud and its capital Lausanne two restrictions on off-premises sales for alcoholic beverages were introduced. The first Intervention took place in Lausanne only and was a ban on off-premise sales for all alcoholic beverages on Fridays and Saturdays after 8 PM (September 2013 - June 2015). The second intervention took place in the whole canton including the capital Lausanne and was a ban on off-premise sales of beer and spirits (but not wine) after 9 PM (Lausanne 8 PM) on all days of the week (since July 2015). **Objective**: To test the effectiveness of off-premise sales restrictions on hospital admissions. Methods: Interrupted time series models (ARIMA) of monthly hospital admissions rates (per 1000) between 8 PM and 6 AM for acute alcohol intoxications (ICD-10 codes : F10.0, F10.1, T51.0) with the remaining Suisse (excluding canton Vaud) as control sites were used. Sensitivity analyses were performed using different control sites (e.g., remaining French-speaking cantons only), different statistical models (ARIMA models on differences between rates of control and intervention sites versus difference-in-difference models), and alcohol dependence as outcome. **Results**: Hospital admission rates declined after both interventions in Lausanne (b1= -.017; 95%CI[-.025,-.008]; p<.001; b2=-.021,95%CI [-.030, -.013],p<0.001) and for the second intervention (but not the first, which took place only in Lausanne) in the canton Vaud (b2=-.015,95%CI[-.020,-.009],p<.001). Effects were largest for the 16-19 year olds with the first intervention in Lausanne (b=-.048, SE= .014), and for the 16-19 and 20-24 year olds with second intervention in the whole canton. This meant reductions of hospital admissions of around 56% to 62% during the corresponding times of the interventions. Sensitivity analyses showed similar effects when using different control sites and statistical methods, and smaller effects for alcohol dependence. **Conclusion**: This is one of the rare studies of restrictions of business hours (not whole days such as Saturdays or Sundays) off-premise alcohol sales. Even partial restrictions (on two days only, for beer and spirits only) of off-premise sales resulted in significant reductions of hospitalization rates, and may be particularly suitable for young people.

Effects of Partial Bans on Off-Premises Sales of Alcoholic Beverages on Emergency Department Admissions in a Major Swiss City

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Background: Unhealthy alcohol use is a major public health problem. It notably leads to an important number of emergency department (ED) admissions. Structural measures, such as restricting the access to alcohol, can have an impact on alcohol use and possibly on ED admissions. **Objectives**: The aim of the study was to assess the potential impact of two measures limiting access to alcohol introduced in a major Swiss city on admissions in the Emergency Department. The two measures were: 1.) a ban on off-premises sales for all alcoholic beverages Friday-Saturday after 8PM, introduced in September 2013, modified in July 2015 to 2.) a ban on off-premises sales for alcoholic beverages except for wine on all days of the week after 8PM. **Methods**: Data were de-identified centralized data from the hospital admission system collected from 2012-2016. Using monthly admission data, a transfer function time series model based on Box and Tiao was used to check for the association between the two bans on off premises sales and the percentage of ED admissions with positive blood alcohol content (BAC) (i.e. number of admissions with positive BAC/total number of admissions) to the ED of the city hospital. Analyses were conducted by age group: 16-29, 30-44, 45-59, 60-69, 70+. **Results**: the percentage of BAC+ admissions was 4.73% in 2012 (1628/34431 admissions) and 3.86% (1484/38458) in 2016. Among 16-29 y.o. there was a significant decrease in BAC+ admissions associated with the two measures (measure 1: b(SE): -0.014 (0.004), p<.001; measure 2: b(SE) -0.005 (0.004), p=0.2; measures 1 and 2: b(SE): -0.020 (0.004), <0.001). There was no significant association for the other age groups. **Conclusions**: measures restricting access to alcohol are associated with a decrease in ED admissions with BAC+ among young individuals and could represent an efficient option to reduce alcohol related harm. Nevertheless, the observational nature of the study does not allow to conclude to a causal association between the introduction of the measures and the decrease in ED admissions.

Initiation of Pharmacologic Treatment of Alcohol Use Disorder During Hospitalization

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Background: At a safety net hospital in San Francisco, 28% of hospitalized patients have a substance use disorder. Alcohol Use Disorder (AUD) accounts for 54% of these.Alcohol-related complications are in the top 5 diagnoses with the highest 30-day readmission rates at 25%. Despite this prevalence, inpatient medicine teams were discharging only 6.25 patients per month with medications for treatment of AUD; reaching less than half of interested, eligible patients screened by the hospital's Alcohol and Tobacco Treatment Team (ATTT). The ATTT is a nursing-led team that is specially trained in screening and brief intervention for AUD and tobacco use. **Objectives:** Increase the number of patients with AUD pharmacotherapy at discharge from prior baseline of 6.25 to 15 per month. A secondary objective was to educate patients, physicians, nurses and pharmacists about AUD medications. **Methods:** A team of internal medicine residents, nurse leader and a faculty hospitalist partnered with the ATTT to increase the number of patients with AUD who were prescribed pharmacotherapy at discharge. We collaborated on a pharmacologic treatment algorithm, expanding our institution's previous naltrexone-only approach. We organized monthly addiction medicine didactics and disseminated educational materials. Resident team members shadowed the ATTT nurses and obtained input on integrating resident and ATTT workflow. We fostered healthy competition between medicine teams by providing monthly updates on the number of ATTT-screened patients who were prescribed AUD treatment. Residents will receive a small financial incentive if our QI target is met half the months of the year. **Results**: Our primary measure was the number of patients discharged with a prescription for treatment of AUD at hospital discharge. Six months after the initiation of our project, we met or exceeded our monthly goal in five of six months and increased our average monthly prescription rate three-fold. **Conclusions**: A multidisciplinary partnership to improve AUD treatment can effectively increase prescribing of pharmacotherapy in a safety-net urban hospital. Key interventions included an educational campaign, expanding the ATTT medication algorithm for AUD,

incentivizing resident physicians to prescribe medication for treatment of AUD among patients eligible and interested in treatment.

Hospital-Based Addiction Interventions, Part 2

Spreading Addictions Care across Oregon Hospitals: Lessons Learned from an Interprofessional Tele-Mentoring Program

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Background: While addiction medicine consult services are emerging at academic medical centers nationally, little is known about how to spread hospital-based addictions care across community hospitals. Project ECHO™ is a well-described videoconferencing healthcare education and mentoring model that uses case-based learning and expert presentations. We implemented a "Substance Use Disorder in Hospital Care ECHO" (SUD-Hospital-ECHO) to disseminate best-practice in hospital-based addiction care across Oregon. **Objective:** Implement and evaluate SUD-Hospital-ECHO. **Methods:** We recruited interdisciplinary participants and interdisciplinary faculty, including a hospital-pharmacist; nurse manager; and physicians, peer, and social worker from the hospital addiction medicine consult service. Weekly hourly sessions occurred over 10 weeks (January-March 2019), each including participant case-presentations and faculty didactics. Topics ranged from medication for opioid use disorder (MOUD), trauma-informed care, harm reduction, and getting institutional buy-in. We analyzed pre-post participant surveys; performed a content analysis of case forms and faculty recommendations; and performed a thematic analysis of field notes, open-ended survey questions, and participant focus group. **Results:**37 people across 8 disciplines and 12 urban and rural hospitals participated. 28 (76%) attended at least 7 sessions. 24 completed baseline and follow-up surveys and attended >=50% of sessions. While participants scored well on knowledge assessment (82% correct pre, 84% post), most reported low baseline self-efficacy. At follow-up, more participants felt very prepared to diagnose SUD (75% vs 50%) and discuss community treatment (46% vs 21%), harm reduction (54% vs 13%), and overdose prevention (54% vs 22%). Some participants reported ECHO "made the difference between treating and not treating OUD in the hospital" whereas others felt system-barriers kept them "in the dark ages." Participants valued interprofessional faculty; MOUD education; learning opportunities around language, trauma, community treatment settings, and managing active drug use during hospitalization; and practical tools such as methadone policies. Beyond ECHO, participants felt they needed ongoing mentoring, policy change, and leadership support to effectively implement practice-change across the hospital. **Conclusions:** A tele-mentoring program targeting interprofessional community hospital participants was feasible, acceptable, and increased provider preparedness. Beyond training, participants report needing mentoring and system-level support to implement hospital-based addictions care. Findings may be important to spreading hospital-based addictions care.

Factors Associated With Pharmacotherapy Initiation at Hospital Discharge Among People With Opioid and Alcohol Use Disorder Seen by an Addiction Medicine Consult Service

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Background: Medications for opioid use disorder (OUD) and moderate-to-severe alcohol use disorder (AUD) are effective and under-prescribed. Nationally, hospital-based addiction medicine consult services are emerging as a way to engage out-of-treatment adults and initiate and coordinate addictions care. Understanding which patients are most likely to accept pharmacotherapy for OUD and AUD can inform interventions and deepen understanding of the role of hospitals in addressing substance use disorder (SUD). **Objective**: Determine patient- and consult-service level characteristics associated with initiation of medication for OUD and AUD at hospital discharge. **Methods**: We analyzed data from a study of the Improving Addiction Care Team

(IMPACT), an interprofessional hospital-based addiction consult service that includes care from medical providers, social workers and peers. Researchers collected baseline surveys during index hospitalization from September 2015 to May 2018. The IMPACT clinical team completed case closure forms at hospital discharge. We used logistic regression with backwards selection ($p<0.2$) to identify factors associated with medication initiation among participants with OUD, AUD, or both. Candidate variables included patient demographics, social determinants, and treatment-related factors. We included an interaction term to determine if IMPACT effect differed significantly by diagnosis (AUD only vs any OUD); if the interaction term was significant, we planned to present terms separately. **Results:** During the study window, 951 patients were referred to IMPACT. 760 were approached, 401 completed a baseline survey and had AUD and/or OUD. 220 had a case closure form and 182 had no pharmacotherapy for OUD/AUD before admission. Homelessness (3.75 95%CI 1.64 8.55), a partner with substance use (3.87 95%CI 1.35, 11.12), history of methadone maintenance (OR 3.64; 95%CI 1.41, 9.40), and a higher 'dose' of IMPACT (4.89 95%CI 1.65, 14.48) were associated with increased initiation of medication. The interaction term evaluating if IMPACT effect varied by diagnosis was not significant ($p>0.05$). **Conclusions:** The association of homelessness and a partner with SUD suggests that hospitalization may be an opportunity to reach highly-vulnerable people with SUD, further underscoring the need to provide hospital-based addictions care as a health-system strategy. Consult services that staffed to see patients frequently may have higher medication initiation rates.

Resident-Led Inpatient Addiction Medicine Consult Service in a Safety Net Community Hospital

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Background: Given the high community prevalence of Opioid Use Disorder (OUD), all residents at the Lawrence Family Medicine Residency are trained to competency in medication-assisted treatment (MAT). However, the residency's affiliate safety-net hospital previously did not have an inpatient Addiction Medicine consult service, creating gaps in patient care and resident education. We built on an established, resident-led inpatient consult model for patients with HIV, by expanding this service to patients admitted with OUD. **Objectives:** The consult service aims to support primary inpatient teams in the biopsychosocial treatment of OUD and its comorbidities, to enhance the resident education in substance use disorder, and to coordinate transitions of care for patients initiated on inpatient opioid agonist therapy to outpatient MAT. **Methods:** Residents completing an 'Area of Concentration' in Addiction Medicine or HIV serve as the 'resident on-call' on a weekly rotating basis during an ambulatory care block, with asynchronous precepting by residency faculty physicians. The resident on-call obtains a substance use and treatment history, advises the primary team on withdrawal and substance use management, addresses common comorbidities of OUD, counsels on harm reduction, and coordinates transition to outpatient MAT with nursing and social work. **Results**: During the initiation phase (October 2018 – April 2019), seven residents, precepted by a rotating pool of five attending physicians, saw 38 patients in consultation. 36/38 patients had OUD (of which 8 had co-occurring alcohol use) and 2/38 had Alcohol Use Disorder. 29/38 patients had concurrent tobacco use disorder, of which 5 accepted cessation treatment on discharge. 12/36 patients with OUD started methadone, 7/36 initiated buprenorphine, 8/36 had outpatient MAT continued, and 9/36 patients declined MAT or were otherwise not linked to outpatient care. HIV pre-exposure prophylaxis was offered to 13 patients and accepted by 3, and 17/36 patients were provided with naloxone. The initiation phase has opened new transition of care partnerships with local methadone clinics. **Conclusions**: The implementation of a resident-led Addiction Medicine consult service is feasible, filled an important gap in the integration of care across treatment settings, and expanded resident educational opportunities.

Implementation of a Substance Use Intervention Team to Provide Hospital Based SBIRT and MAT

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Background: As the opioid epidemic continues, public health advocates increasingly urge hospitals to perform substance use disorder (SUD) screening, brief intervention, discharge planning with referral to treatment, and naloxone education. Universal screening makes specialized treatment available to all patient and decreases stigma due to SUDs, allowing patients and providers to address SUDs during their hospitalization. Additionally, hospital and emergency department initiated medication assisted treatment (MAT) improves engagement with treatment, decreases opioid use, and use of MAT after non-fatal overdoses decreases mortality. **Objectives:** To assess initial year outcomes for a hospital substance use intervention team. **Methods**: The Substance Use Intervention Team (SUIT) service was established to offer universal screening and consultation by an interdisciplinary team of physicians, NPs, a PharmD, and social workers. Our academic medical center initiated universal screening efforts in tandem with its specialized substance use intervention team and clinic. The screening process is SBIRT based and starts with an initial abbreviated NIDA screen that is performed by bedside nurses who ask about risky alcohol and drug use. Patients identified through this screen as having moderate or high risk SUDs receive a consult from the SUIT service and the appropriate level of treatment is targeted to the patients' needs. The team attempts to start all appropriate opioid use disorder patients on MAT while hospitalized. **Results:** During January – December 2018, 87.2% of 35,541 hospital admissions received initial screening. Of those who screened positive, 1400 patients received a brief intervention, SUIT was consulted on 880 patients, and multiple forms of MAT were used in the inpatient setting. Ninety-nine patients were started on buprenorphine with the majority referred for ongoing treatment. Two hundred forty-four patients have been seen in the SUIT outpatient clinic and the patient identification and flow has been used to justify initiation of naloxone distribution in both the SUIT clinic and Emergency Department. **Conclusions**: The SUIT service has successfully screened the majority of patients admitted to our urban academic medical center and has identified and provided multidisciplinary addiction care and MAT to appropriate patients.

Hospitals Can't Do It Alone - Navigating Addiction

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Background: Hospitals support communities in times of crisis, however the current prevalence of substance use issues have put a strain on traditional clinical settings. Patients who are identified as engaging in high-risk substance use face a systematic absence of comprehensive discharge planning and connection to specialized care navigation. **Objective:** Develop a specialized external navigation framework for substance use. **Methods:** Project Connect (PC) is a collaboration between a large healthcare delivery system and a community-based organization. PC was built on top of our Screening, Brief Intervention, and Referral to Treatment (SBIRT) Program in two large emergency departments (EDs). PC staff were on-boarded as health system volunteers and trained on the SBIRT program and health system policies and procedures. SBIRT Health Coaches identified patients who would benefit from external care navigation for substance use and called PC staff to come meet the patient in the ED. PC staff completed a baseline intake, and structured engagement at 7/30/60/90/120 days with patients. 220 patients were enrolled from April 2018 to April 2019. **Results**: 153 (70%) patients were successfully handed off to PC staff for a baseline intake and external care navigation. Of patients able to be reached at each time point, 52% were engaged in treatment for their substance use at baseline, 65% at 30 days, 46% at 60 days, 50% at 90 days, and 64% at 120 days. At 120 days, an additional 21% of patients not in treatment reported abstinence. PC staff assisted patients with navigation between levels of care, including detox, inpatient, outpatient, and sober housing. Other services provided include family support, social service applications, primary care referrals, domestic violence support services, and coordination with the criminal justice system. **Conclusions**: Project Connect has served to illustrate the importance of measured approaches in formulating cross-organizational collaborations and has proven to be a successful model for supporting patients with substance use issues beyond the hospital setting. This model is being disseminated to additional EDs and Primary Care practices, and future studies will evaluate patient experience measures.

Caring for People Experiencing Homelessness

Mixed Methods Evaluation of Access and Factors Influencing the Quality of Pain and Addiction Care in Veterans Affairs Homeless-Tailored Primary Care Clinics

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Background: Opioid use disorder (OUD) and overdose are public health issues that impact vulnerable subpopulations, such as Veterans experiencing homelessness. Tailored care to connect these Veterans with appropriate resources is necessary; in response, the Department of Veterans Affairs (VA) has implemented homeless-tailored primary care clinics (Homeless-Patient Aligned Care Teams [H-PACTs]). In implementing the VA's Opioid Safety Initiative (OSI), which calls for a reduction in opioid prescribing and a focus on alternative pain therapies, H-PACT providers have had to adapt to a new standard of care. **Objectives:** Describing clinician perceptions of accessibility of services related to pain, addiction, and opioid reduction services in H-PACTs. **Methods:** We conducted phone surveys with 2 lead providers from the 29 largest H-PACTs. Close-ended items queried (a) location of addiction services (co-located or within walking distance); (b) provider-perceived "ease of access" to prescribers of OUD medication and (c) perception of responsiveness to pain. Open-ended items queried services available in the H-PACT or VA facility for opioid use and pain, and barriers/facilitators in limiting opioid use. **Results**: 52 of 58 (90%) H-PACT lead providers completed surveys. In close-ended questions, 83% of H-PACTs reported having addiction services co-located or within walking distance of their clinic. Most H-PACTs (62%) perceived easy access to prescribers of medication for OUD. Nearly all (94%) perceived they were responsive to patient pain concerns, but 62% mentioned dealing with patient anger over opioid tapering. In open-ended questions, H-PACTs volunteered availability of these pain-management services: pain clinic (79%), acupuncture (34%), mental health (28%), yoga (21%), mindfulness (14%), support groups (10%). Also, 14% of providers expressed the need for help with opioid use reduction. However, statements about jumping through "hoops" to get specialized services were common. **Conclusions**: VA H-PACTs usually do have addiction services nearby, and 62% perceive easy access to OUD medication treatment. However, both quantitative and qualitative responses hint at challenges in the range of pain-related services, and potential barriers to using ostensibly available services for both pain and addiction.

Homeless-Tailored Primary Care Environments are Associated with Fewer Negative Care Experiences for the "Most Vulnerable" Homeless Veterans

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Background: Homeless persons have negative experiences (NEs) in primary care (PC) that can contribute to poor patient and system outcomes. A homeless-tailored PC model (Homeless-Patient Aligned Care Teams, H-PACTs) offers smaller panels, outreach, dedicated staff, tangible need support, and linkage to social services. In the Veterans Administration (VA), H-PACTs operate alongside regular VA PC clinics ("Mainstream") also serving homeless-experienced Veterans (HEVs). Although some data suggest better PC experience in H-PACTs, it's unclear whether tailored clinics avert adverse care experiences among HEVs with vulnerabilities such as severe chronic pain, history of overdose, severe mental distress, or unsheltered living situation. **Objective**: Assess NE for vulnerable patients in different primary care environments. **Methods**: We surveyed a random sample of 14,352 HEVs receiving H-PACT or Mainstream PC at 26 VA facilities. The Primary Care Quality-Homeless survey measured experience in domains of Relationship to provider, Cooperation among

providers, Accessibility/Coordination, and Homeless-specific needs. We counted unfavorable responses (i.e., "my provider does not listen to me"), and categorized NEs based on the least-favorable tertile. Chi-squared tests compared prevalence of NEs of H-PACT vs Mainstream PC recipients and iterated these comparisons after stratifying by 4 vulnerabilities: severe chronic pain, severe mental distress on the Modified Colorado Symptom Index, history of alcohol/drug overdose, and unsheltered homeless status. **Results**: Among 5,766 HEV (40.2% response rate), the prevalence of NEs in each domain ranged 24%-41% for H-PACT and 31-46% for Mainstream PC ($p<0.001$ for H-PACT vs Mainstream for every scale compared). NEs were less common in H-PACT compared to Mainstream PC across all survey domains. This difference was greater for respondents with each vulnerability (absolute difference 6-17%, all $p<0.001$) than for respondents lacking that vulnerability (3-9%, absolute, all $p<0.001$). **Conclusions**: The value of a homeless-tailored PC service delivery model appears to be particularly evident for HEVs who have well-known vulnerabilities that can prove challenging in conventional primary care, including severe chronic pain, severe emotional distress, a history of overdose, and recent unsheltered homelessness. The particular service adjustments that make H-PACTs effective for people with these vulnerabilities are likely to include alterations in personnel, panel size, and services offered.

Breaking Down Barriers: Creating a Low Threshold Buprenorphine Program for Unhoused Patients

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Background: Opiate overdose has increased, yet connection to treatment has remained stagnant. In San Francisco we have seen a spike in public injection due to high rates of homelessness. Unhoused individuals encounter significant barriers to accessing traditional medications for addiction treatment (MAT). As a result, public health practitioners are pursuing innovative approaches to address these barriers and treat opiate use disorder. **Objectives:** In 2015, approximately 7,500 individuals in San Francisco experienced homelessness, 37% of whom report drug and/or alcohol abuse as a major health concern. Our team has targeted this vulnerable subset of individuals who are unhoused and experiencing moderate to severe opiate use disorder (often using methamphetamines concurrently). **Methods**: In response to the increase in overdoses and public injection, the SFDPH Street Medicine Team began a low barrier buprenorphine program. The team has treated 327 people over the past 2 years an evaluation was done of 95 patients seen in year 1 who received at least one prescription for buprenorphine. Patients were engaged by skilled outreach workers and offered same-day assessment and prescription for buprenorphine at a harm reduction syringe access program, a small medical clinic, or in streets and parks. The primary goal has been retention in care, with secondary goals of improved health, reduction in opioid use and/or abstinence. **Results:** 62% of patients were retained in care at 1 month, 41% of patients at 6 months, and 22% at 12 months. While uninterrupted buprenorphine treatment and illicit opioid abstinence are one goal, intermittent treatment with buprenorphine and decreased opiate use were more common in this pilot. However, we were able to engage and retain a subset of highly vulnerable unhoused patients; because of this, we were able to work towards improved health outcomes and connect participants to services. **Conclusions:** This poster will review our successful outcomes and ongoing challenges. We will present the core components of the program. The poster is focused on adaptations needed for a successful implementation of low barrier buprenorphine for individuals experiencing homelessness.

Plus One: Accessing Treatment for Substance Use Disorders in the Context of a Romantic Partnership

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Background: People experiencing homelessness face multiple barriers to accessing drug treatment, especially those involved in romantic partnerships. Approaches to substance use treatment commonly focus on an individual's motivation for change. In San Francisco, residential drug treatment facilities do not allow couples to enter programs together, specifically citing intimate partnerships as grounds for expulsion from treatment. Outpatient programs also discourage couples from attending groups or medical appointments together. The San Francisco Street Medicine Team seeks to improve access to outpatient substance use treatment for people

experiencing homelessness. Our team observed that people seeking treatment felt it essential to start and maintain treatment with their romantic partner.

Learning Objectives:
1. Describe the successes and challenges of engaging and treating a couple for substance use
2. Review the literature exploring substance use treatment for couples
3. Explore the treatment gaps in recovery programs for couples seeking substance use treatment

Case Presentation: This case study presents a romantic couple seeking treatment for co-occurring opiate use disorders. Though this couple faced the challenges of homelessness, polysubstance use, and lack of mental health treatment together, each had unique differences in motivation during treatment and engagement with care. In providing treatment for them as a couple rather than individual clients, the Street Medicine Team found that substance use was deeply intertwined with the partnership in ways that added complex challenges and strengths to recovery.

Discussion: Though romantic partnerships with co-occurring substance use can add barriers to recovery for people experiencing homelessness, a partnership with substance use is inextricably tied to survival, identity, and mutual support and caring.

Benzodiazepine Use Has No Impact on Treatment Retention in a Low-Threshold Methadone Program
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Background: Patients with opioid use disorder receiving methadone maintenance therapy (MMT) commonly use benzodiazepines (BZD). Evidence regarding the effect of BZD use on MMT outcomes is mixed. Many traditional opioid treatment programs (OTPs) deny services or penalize individuals who use BZD. Low-threshold OTPs focus on harm reduction and offer services to patients despite ongoing BZD use consistent with U.S. Food & Drug Administration (FDA) recommendations. **Objectives**: This study aimed to determine the effect of baseline BZD use (both prescribed and non-medical) on 12-month treatment retention among patients receiving MMT at a low-threshold OTP. For patients entering low-threshold MMT, we hypothesized that patients with BZD use at treatment entry would have similar 12-month retention compared to those without. **Methods**: We conducted a retrospective cohort study of 3377 patients consecutively initiated on MMT from January 2015 to December 2017 at the APT Foundation in New Haven, CT. We used Chi-square tests to examine the association between 12-month retention and BZD use measured by urine toxicology; as well as demographics, other substance use, and six psychosocial domains (using BASIS-24). We performed a Kaplan-Meier analysis to compare time to treatment discontinuation by BZD use with a log-rank test. **Results**: Overall, 19% (n=629) had baseline BZD use. Female sex, white race, and unemployment were associated with BZD use (all p's<0.001). Oxycodone ($p<0.001$) and cannabis use ($p=0.008$) were also associated with BZD use. Thirty-one percent of patients with BZD use (n=171) and 31% without BZD use (n=757) were retained at 12 months ($p=0.95$). Median treatment duration was 182 days (95% CI, 152-239) and 175 days (95% CI, 156-196) for patients with and without BZD use, respectively. Kaplan-Meier curve showed no significant difference in treatment duration between groups (log-rank test $p=0.73$). **Conclusions**: Baseline BZD use had no significant effect on 12-month treatment retention or treatment duration among patients receiving MMT in a low-threshold OTP. These data support FDA recommendations encouraging medications for opioid use disorder regardless of BZD use at intake. OTPs should focus on improving retention for patients with and without BZD use.

Prescribing Monthly Injectable Buprenorphine to a High Risk, Homeless Man with ADHD
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Background: A 31-year old homeless male sought treatment at the Brien Center OBOT (Office Based Opioid Treatment) program. He reportedly had been banned from five local pharmacies due to threatening behaviors. Additionally, he had been asked to leave two other local OBOT programs due to overtaking buprenorphine and self-administering it with a benzodiazepine.

Learning Objectives: 1) Discuss 3 methods employed by a community-based treatment agency to engage a high risk, homeless person for the treatment of opioid use disorder 2) Review patient selection for monthly injectable buprenorphine 3) Review challenges of diagnosis and treatment of co-occurring ADHD in people with opioid use disorder

Case Presentation: Initial evaluation of this person revealed a single male who had been homeless for over a decade. He reported a long history of using multiple substances since his teens and a history of being diagnosed with ADHD as a child. He reported recent use of multiple substances. The Brien Center employed harm reduction and motivational interviewing to engage him in treatment. The person identified his main goals as 1) stopping substance use and 2) finding stable housing. Accommodations to scheduling were made, as he often arrived early or late for his appointments. While in treatment he demonstrated symptoms consistent with ADHD and so was prescribed a long acting amphetamine. Cocaine and other substance use ceased and behavior improved once the stimulant dose was stabilized. Soon afterwards the patient expressed interest in monthly injectable buprenorphine. He reported this intervention further supported his recovery, as he no longer had the option to overtake his medication. He is currently living in a motel where he works part time to offset his rent.

Discussion: This case presentation highlights some of the treatment challenges and practical solutions for community-based OBOT programs. People with opioid use disorder often present with co-occurring behavior health issues. Housing issues can create challenges to appointment adherence and medication regimens. Monthly injectable buprenorphine provides the opportunity maximize medication adherence and remove barriers to treatment.

Improving Treatment Utilization, Retention, and Outcomes

Factors Associated with Long-Term Retention in Buprenorphine Based Addiction Treatment Programs: A Systematic Review
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Background: The average length of opioid agonist therapy with buprenorphine (BUP) for opioid use disorder is less than 6 months. Understanding the factors associated with long-term BUP treatment is a critical step towards improving outcomes for individuals with opioid use disorder. **Objectives**: We conducted a systematic review to determine what treatment level factors (dose, treatment setting and behavioral therapies) were associated with longer retention in BUP treatment. **Methods**: We searched Medline, Embase and the Cochrane Database of Systematic Reviews in February 2018. Articles were restricted to randomized-controlled trials on human subjects, written in English, and contained >24 weeks of objective data on retention in BUP treatment. We assessed whether dose of BUP, treatment setting, or co-administration of behavioral therapy were associated with retention rates. **Results**: Over 14,000 articles were identified. Twenty-two articles met final inclusion criteria, describing a total of 13 studies (Figure 1). There was significant heterogeneity in the measurement of retention. Measures included days in treatment (n=10), urine drug testing for BUP (n=2), and a combination of days in treatment and plasma level testing for BUP (n=1). Three studies compared doses of BUP between 1-

8mg and showed significantly higher rates of retention with higher doses (p-values <0.01). All other studies in our review utilized maintenance BUP doses between 8mg-24mg daily, without comparison. No study found a significant difference in retention between BUP alone and BUP plus behavioral therapy (p-values > 0.05). Starting BUP prior to initiation in outpatient treatment programs (inpatient induction or within criminal justice settings) was significantly associated with retention in BUP treatment (p-values 0.009 and 0.005 respectively). **Conclusion:** Setting of treatment initiation and higher BUP dose are associated with improved long-term treatment retention. More data on BUP treatment programs is needed as well as a standardized approach to defining retention in BUP treatment programs.

Strategies To Improve Treatment Utilization For Substance Use Disorders: A Systematic Review of Intervention Studies

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Background: Most SBIRT research has focused on screening and brief interventions with little attention given to referrals to treatment. The efficacy of clinical interventions to improve referrals and promote treatment utilization for substance use disorders (SUD) remains unclear. **Objective:** The present study systematically reviewed the literature on interventions to improve referrals and promote treatment utilization. **Methods:** We conducted a systematic review of clinical intervention studies (published in English between 2000-2017) reporting outcomes relevant to the utilization of specialty substance use treatment. We excluded studies that did not report treatment utilization outcomes (i.e., treatment initiation, attendance, engagement). Results of randomized controlled trials (RCTs) were synthesized. Risk of bias was assessed using Cochrane guidelines. Proportions of positive to negative utilization outcomes were calculated for each low-bias RCT. Interventions were categorized by theory-based approach. Within each intervention category, we report the number of studies with positive effects for at least half of relevant outcomes. **Results:** Fifty-two RCTs were identified, with 35 (67.3%) measuring treatment initiation, 39 (75.0%) measuring attendance, and 4 (7.7%) measuring engagement. Twenty-three RCTs (44.2%) had low risk of bias and were synthesized. Strongest effects were found on treatment utilization with 35% overall positive studies and most consistent findings in collaborative care (67%) and cognitive-behavioral (100%) intervention categories. Overall, 29% of treatment attendance studies were positive with twelve-step promotion showing the strongest results (50%). Only one low risk study looked at engagement, finding strong results (75% of outcomes) for twelve-step promotion. **Conclusions:** Interventions focused on collaborative/coordinated care and CBT were most effective at increasing SUD treatment initiation, while twelve-step promotion interventions were more effective at increasing sustained attendance and engagement. Interventions and outcomes were largely heterogeneous and often poorly defined. Further research is needed to develop, define, and test robust models of treatment utilization to improve the efficacy of referrals to treatment and to identify precisely which intervention components are most effective in promoting treatment utilization at each step of the treatment continuum.

Reporting of Substance Use Treatment Quality in US Adult Drug Courts

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Background: Adult drug courts divert individuals from traditional substance use-related case processing into court programs which aim to integrate substance use treatment. However, research suggests programs struggle to adhere to evidence-based practices, such as providing access to medications for opioid use disorder (MOUD). **Objectives**: To examine the adult drug court grey literature 1) for the presence of recommended measures of substance use treatment quality and 2) to evaluate the quality of substance use treatment within adult drug courts. **Methods**: We completed an environmental scan of publicly available adult drug court evaluations published after January 1st, 2008. We excluded other problem-solving court types and programs outside of the United States. In accordance with recommended strategies for systematic grey literature search, we completed

1) structured Google searches, 2) subject area website hand searches, and 3) consultation with topic experts. Identified evaluations were reviewed by two team members to determine eligibility for inclusion. Evaluation quality was appraised using the Cochrane recommended Evidence for Policy and Practice Information and Coordination Center (EPPI-Center) tool for process evaluations. We extracted measures of substance use treatment quality including measures from the 2014 American Society of Addiction Medicine performance measures and the Office of the Assistant Secretary of Planning and Evaluation review of MAT guidelines. Frequency of quality measures were analyzed descriptively. Measures of quality across reports were synthesized qualitatively. **Results**: Our search identified 421 evaluations (384 via Google, 37 via hand search, and 8 via experts), of which 120 were included. Process measures were included within 84 evaluations, of which 47 (56%) were medium or high quality. Among evaluations containing process measures, 16 (19%) reported documentation of substance use diagnosis, 10 (12%) reported documentation of psychiatric disorder diagnosis, 7 (8%) reported a measure of medications for alcohol use disorder utilization, and 18 (21%) reported a measure of MOUD utilization. Evaluations suggest low uptake of evidence-based practices within adult drug courts. **Conclusions**: Despite Bureau of Justice Assistance grant programs encouraging uptake of evidence-based practices, most evaluations did not include recommended measures of substance use treatment quality. The limited evaluation data suggests low uptake of key indicators of quality.

Impact of Extended Release Naltrexone on Health-Related Quality of Life in Individuals with Opioid Use Disorders and Criminal Justice Involvement

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Background: Individuals involved with the criminal justice system are at an increased risk of dying from opioid overdoses. Yet, many individuals incarcerated and on community supervision do not have access to Medications for Opioid Use Disorders (MOUD). Of those that do, few remain in treatment long-term. Health-related quality of life (QOL), a self-perceived measure of physical and mental health and their effects on daily functioning, is a predictor of adherence to and retention in treatment, as well as sustained remission from drug use. To date, limited research has examined the impact of extended-release naltrexone (XR-NTX) on QOL in criminal justice populations. **Objective**: Using a multi-site, randomized control trial of XR-NTX compared to Treatment as Usual (TAU) we sought to identify 1) difference in QOL between XR-NTX and TAU groups at 6 months, and 2) whether QOL predicted retention in treatment**. Methods**: The participants were 308 community dwelling adults with criminal justice involvement who were randomly assigned to XR-NTX or TAU. **Results**: Contrary to our hypothesis, there were no significant differences (p=.980) in QOL between the two groups. However, average QOL did predict retention (p=.036), such that those with higher QOL were more likely to remain in treatment. **Conclusion**: Our findings have important implications as they stand in contrast to studies on buprenorphine and methadone that showed significant improvements to QOL following continuous treatment. In part, this could be a function of XR-NTX drug mechanism as an opioid antagonist, which does not activate mu opioid receptors that can produce feelings of wellbeing and pleasure. Accordingly, there may be no associated subjective experience of improved QOL when treated with an opioid antagonist. We did identify that consistent with existing literature, average QOL predicted retention in treatment. In light of data that XR-NTX did not increase QOL, we will discuss how clinicians may want to educate patients that XR-NTX may not necessarily produce improved well-being so as to ground their patient's expectations of treatment outcomes and potentially reduce attrition from treatment.

Use of a Rapid Micro-Induction of Buprenorphine/Naloxone to Administer Buprenorphine Extended-Release in an Adolescent with Severe Opioid Use Disorder

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Background: Several micro-induction protocols, including a rapid three-day protocol, have been developed to facilitate timely induction onto buprenorphine/naloxone without requiring a period of opioid withdrawal in patients with opioid use disorder (OUD). For subcutaneous buprenorphine extended-release (ER), a minimum seven-day induction period with a transmucosal buprenorphine-containing product is recommended prior to administration; however, this time frame can be prohibitive for many patients.

Learning Objectives: 1) Review the rationale, pharmacology, and existing protocols for buprenorphine/naloxone micro-inductions 2) Highlight challenges in treating adolescents with OUD 3) Outline a rapid micro-induction protocol for the administration of buprenorphine ER.

Case Presentation: A 16-year old female with a history of active, severe OUD and stimulant use disorder, hepatitis C virus, attention-deficit hyperactivity disorder, posttraumatic stress disorder, and complex social stressors was admitted to a tertiary Children's hospital with cellulitis. Her last use of intravenous fentanyl was on the evening of admission. She had five recent overdoses requiring naloxone. She had previously been treated with methadone and several trials of sublingual buprenorphine/naloxone, but would quickly discontinue treatment. She expressed interest in resuming pharmacologic OUD treatment. Due to her impulsivity and previous failed treatment attempts with daily-dosed formulations, buprenorphine ER was obtained with agreement from the patient. Using a rapid micro-induction protocol (Table 1), she was transitioned onto 300 mg buprenorphine ER within four days with no withdrawal symptoms or precipitated withdrawal. Maximum clinical opiate withdrawal scale (COWS) score was 6.

Discussion: A previously published rapid micro-induction protocol was successfully used to initiate buprenorphine ER. No precipitated withdrawal occurred despite recent fentanyl use and administration of short-acting opioids in hospital. Shortening the induction period and avoiding the need for withdrawal may make buprenorphine ER more accessible to patients with OUD.

Table 1. Inpatient Titration Schedule

	Hydromorphone (oral)		Buprenorphine/naloxone* (sublingual)		Buprenorphine ER (subcutaneous)
	Dosing	*Total Dose Received*	*Dosing*	*Total Dose Received*	*Dose Administered*
Day 1	1-3mg q3h prn	15 mg	0.5mg q3h	3mg	
Day 2	1-3mg q3h prn	5 mg	1mg q3h	7mg	
Day 3	Discontinued		8mg daily	8mg	
Day 4			Discontinued		300mg

**expressed as mg of buprenorphine component*
q__h = every __ hours
prn = as needed

Use of a Novel Prescribing Approach for the Treatment of Opioid Use Disorder: Buprenorphine/Naloxone mMcro-Dosing

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Background: The emergence of fentanyl into the illicit drug supply has resulted in a 22-fold increase in the number of opioid related overdose deaths in the United States. Buprenorphine / naloxone (BUP/NX) is recommended as first-line treatment for opioid addiction in recent Canadian clinical care guidelines. An identified limitation of BUP/NX however is the period of required abstinence from all opioids prior to induction on the medication (to avoid precipitated withdrawal). Accordingly, initiation of BUP/NX can be a challenge for

patients and prescribers. 'Micro-dosing', or the prescribing of incrementally increasing doses of BUP/NX over time, may be a way to overcome this challenge as it can be done in parallel with the ongoing use of opioids (either illicit of prescribed).

Learning Objectives: This case series is to evaluate the rates of successful induction of a BUP/NX micro-dosing protocol currently used in a community clinical practice setting to transition patients from either opioid agonist treatment (OAT) (e.g., methadone or sustained release oral morphine [SROM]) or illicit opioid use (e.g., heroin or fentanyl).

Case Presentation: Twelve patients completed a 7-day protocol of BUP/NX micro-dosing. 82% were male, median age was 38 years, 7 were on OAT (4 on methadone, mean dose 70 mg and 4 on SROM mean dose 260 mg) another 4 were using illicit fentanyl. Overall, all twelve patients were successful in completion of the BUP/NX micro-dosing induction protocol which included: 0.5 milligrams (mg) once daily ([OD]; day 1), 0.5 mg twice daily ([BID]; day 2), 1 mg BID (day 3), 2 mg BID (day 4), 3 mg BID (day 5), 4 mg BID (day 6), 12 mg OD (day 7). On day 7, the patient discontinued OAT and any illicit opioids. BUP/NX was subsequently titrated to a daily dose of between 12 and 32 mg.. All patients reported success with initiation of BUP/NX. No patients reported experiencing precipitated withdrawal.

Discussion: BUP/NX micro-dosing appears to be a promising approach for the induction of BUP/NX. While further research is needed, BUP/NX micro-dosing may offer a novel approach for individuals with opioid addiction who are unsuccessful with a traditional BUP/NX induction.

Issues Related to Prescription Opioids

Survivor Story: Beating Cancer and Tapering Opioids

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Background:
Opioids are frequently prescribed to manage patients' pain during and after cancer treatments. As the population of cancer survivors increases, so does the potential for harms related to ongoing opioid use. Many medical providers do not feel equipped to address concerning opioid use or opioid use disorder. Clinical collaboration between palliative care and addiction medicine (ADM) specialists is an innovative approach to caring for cancer survivors who develop opioid-related harms.

Learning Objectives:
Illustrate the value of collaboration between palliative care and ADM to screen, manage, and treat cancer survivors who develop opioid harms.

Case Presentation:
23-year-old female in remission for 3 years after treatment for T-lymphoblastic leukemia complicated by headaches and major depressive disorder. The palliative care team prescribed hydromorphone 4mg every 3 hours for daily headaches for the last 4 years, despite no signs of active disease. In the last year, she has developed physical deconditioning, severe fatigue, and anxiety. The hydromorphone was less effective at times, so she took more than prescribed and ran out early. Her palliative care team became worried about these behaviors and referred the patient to an ADM specialist co-located in their clinic. The ADM specialist noted that the patient had extreme physical dependence on opioids, complicated by depression, but did not meet opioid use disorder criteria. The ADM specialist worked with the palliative care team to initiate a patient-provider agreement, medication refill structure, and mutually agreed upon plan for slow opioid taper. The patient continued this slow taper for 6 months when she noted that she could no longer tolerate it. She was transitioned to buprenorphine, and successfully completed a 1-week taper.

Discussion:
As the population of cancer survivors who have been prescribed opioids grows, it is imperative that providers have education and resources to care for this complex group of patients. A collaborative care model between palliative care and ADM through direct communication and shared education is one framework to support and educate providers. This case illustrates an opportunity for medical education innovation for the growing workforce of palliative care and ADM providers who previously received little education in this challenging area.

MCSTAP – The Massachusetts Consultation Service for Treatment of Addiction & Pain: A Statewide Model to Support Primary Care Providers Treating Patients with Chronic Pain a/o Substance Use Disorder
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Background: Massachusetts 2018 legislation stipulated a program supporting providers treating patients with Chronic Pain (CP) and Substance Use Disorder (SUD). A subsequent needs-assessment of Massachusetts Primary Care Providers (PCPs) identified multiple critical support gaps. Respondents (20% buprenorphine waivered) were seeking knowledge, support, and community-based resources. **Objective**: Establish a real-time, telephonic consultation program supporting PCPs treating patients with CP a/o SUD (CPSUD). **Methods**: We developed a free, real-time, telephonic consultation service to support Massachusetts PCP's safe prescribing and care for adults with CPSUD regardless of insurance. MCSTAP employs 10 physician consultants (PCs) with expertise in CPSUD (9 CP and SUD & 1 CP). PCs offer evidence-based knowledge on SUD management and medications; opioid, non-opioid, and non-pharmaceutical pain medications; pain management treatment plans, and community-based resources for people with CPSUD. Consulting/tools related to system development/improvement were offered when appropriate. A resource specialist (RS) triages PCP calls to PCs who respond within 30 minutes, clinical information is gathered, provider recommendations and coaching are provided on diagnostic and therapeutic issues, and next steps are identified. MCSTAP prescribes no medical treatment. The RS provides requested community resource information. MCSTAP program implementation included physician consultant hiring, policy/protocol/quality improvement/website development, interagency coordination (state physician organizations and the prescription-monitoring program) and, marketing (to physicians, hospitals, community health centers, ACOs, and insurance companies). **Results**: January 1 - March 31, 2019, MCSTAP received 39 calls (Type: 85% consults, 15% follow-up), (Problem type: 38% SUD, 28% CP, 31% CPSUD, 3% Other), (Requests: 100% telephonic consultation, 4% referral information), (Providers type: 54% MD, 26% NP, 13% RN, 8% NM). Patients' insurance: 42% Medicaid, 26% commercial insurance, 16% Medicare, and 16% NA. Of SUD consultations (52% prescription opioids, 15% illicit opioids, 15% alcohol, 20% combinations of alcohol, benzodiazepines, cocaine, opioids, or other substances). Of the 26 PCPs who called MCSTAP, 30% did so more than once. **Conclusions**: MCSTAP represents a novel approach supporting PCPs treating patients with CPSUD. Iterative stakeholder marketing is a priority. A 30% repeat call rate suggests that PCPs are adopting MCSTAP into clinical work and decision-making and implies that the program meets their clinical support and information needs.

The Association Between Discontinuing Long-Term Opioid Therapy and Heroin Use
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Background: Opioid prescribing guidelines recommend reducing or discontinuing opioids for chronic pain with patient collaboration, if risks of opioid treatment outweigh benefits. There is little data on the association

between prescription opioid discontinuation and heroin use. **Objective**: To assess the association between opioid discontinuation and heroin use documented in the medical record. **Methods**: We conducted a matched nested case-control study in an integrated health plan using electronic health records (EHR) collected during 1/2006 to 5/2018. We created a cohort of patients prescribed long-term opioid therapy (LTOT, defined as ≥ 3 opioid dispensings in 90 days). We used automated text string searches and a medical record review to identify cohort patients with heroin use documented in the EHR after initiating LTOT (cases). The estimated date of heroin use onset represented the index date. Cases were matched with control patients prescribed LTOT without evidence of heroin by gender and length of follow-up. Opioid discontinuation was defined as a period of >45 days before the index date with zero morphine milligram equivalents (MMEs) dispensed. Conditional logistic regression was used to estimate matched odds ratios (mOR) and 95% confidence intervals (CI), adjusted for 7 covariates. **Results**: Among 23,107 patients receiving LTOT, we reviewed 1,736 medical records with EHR mentions of heroin use. We identified 270 patients with heroin use and heroin initiation dates documented in medical records. Of these patients, we identified 74 cases in whom heroin use occurred after LTOT initiation. Cases were more likely than controls (n=1,480) to be young, Latino, and insured by Medicaid. Cases were approximately 2-times more likely to have discontinued LTOT than controls (mOR=2.24; 95% CI, 1.16, 4.32). **Conclusions**: We identified an association between LTOT discontinuation and heroin use. Many patients also initiated heroin use while still prescribed LTOT, suggesting there may be missed opportunities for opioid use disorder prevention and treatment among these patients. Our conclusions should be interpreted with caution given the limitations of EHR data to estimate heroin use onset. Further research is needed to replicate these findings and guide interventions to prevent the transition to heroin use among patients who have been prescribed LTOT.

Trends Associated with Opioid Discontinuation Before and After Restrictive Opioid Prescribing Policies
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Background: In August 2014 and February 2016, Colorado Medicaid implemented opioid pill count limits (120/30 days) and dose restrictions (<300 daily morphine milligram equivalents [MME]), respectively. Kaiser Permanente Colorado (KPCO), along with other health systems, responded to these policies for Medicaid and other health plan members. **Objectives**: To examine trends of long-term opioid therapy (LTOT) discontinuation before and after restrictive opioid prescribing policies. We also examined changes in overdose risk characteristics of patients who discontinued LTOT before and after the policies. **Methods**: We conducted a cohort study of KPCO members prescribed LTOT (≥ 3 opioid dispensings in 90 days). Cohorts were constructed over 3 policy periods: 18 months before the pill limit (2/1/13-7/31/14); 18 months after the pill limit (8/1/14-1/31/16) but before the dose restriction; and 17 months after dose restriction (2/1/16-6/30/18). Across policy periods, we compared the proportion of patients who discontinued (defined as a reduction in dose to zero MME for 90 or more days) at least once. We also compared each patient's baseline opioid dose and opioid overdose risk score, based on previous modeling, across policy periods. Data were analyzed using t-test for the risk score and chi-square tests for proportions. **Results**: Across policy periods (n1=7935, n2=8455, n3=7953), we observed significant increases in LTOT discontinuation from 10.9% to 13.9% to 23.8% (p<0.0001 for each change). Opioid overdose risk scores did not decrease significantly after the pill count policy (p-value=0.78). However, there was a significant decrease in risk scores after the dose policy, from 0.72 to 0.63 (p-value=0.013). Among patients who discontinued, baseline dose did not differ (1st-2nd period: p-value=0.25 from; 2nd-3rd period: p-value=0.66). **Conclusions**: We observed increasing LTOT discontinuation after restrictive Medicaid opioid prescribing policies. More individuals with lower risk characteristics discontinued after the policies. We cannot attribute these changes specifically to Medicaid policies since other policies and guidelines coincided with these policies, such as Centers for Disease Control and Prevention (CDC) guidelines for the management of opioids in chronic pain (3/2016). Further research is needed to understand the impact of prescribing policies on patient outcomes across patient risk groups.

Mental Health Needs in Older Patients with Opioid Use Disorder: Concurrent Illness Rates and Interest in Telehealth

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Background: Although a high percentage of patients with opioid use disorder (OUD) have concurrent psychiatric diagnoses, prevalence in older adults with OUD has not been well described. Existing data show minimal impact of counseling or other substance use services in improving outcomes of patients on buprenorphine therapy. Most previous studies have not carefully assessed or specifically targeted patients' mental health needs. **Objectives**: This pilot study sought to assess mental health needs and the potential for using telehealth to address them in a group of older adults with OUD. **Methods**: Structured interviews were conducted with 25 individuals age 45 and older receiving outpatient buprenorphine therapy in a small southern U.S. city. Patients were queried regarding their current and past history of mental health problems, previous treatment and potential interest in receiving telehealth sessions. **Results**: The most common past or current mental health problems reported among these 25 patients were depression (80%), anxiety (60%), post-traumatic stress disorder (32%), panic disorder (28%), and social anxiety disorder (20%). Most common current problems reported were anxiety (48%), depression (48%), panic disorder (28%), post-traumatic stress disorder (20%), and social anxiety disorder (20%). Among patients with self-reported depression, 75% reported previous diagnosis by a health professional and previous treatment with medication. Among patients with self-reported anxiety, 86% reported previous diagnosis by a health professional and previous treatment with medication. Fourteen patients (56%) expressed interest in receiving telehealth therapy for anxiety, and 12 patients (48%) expressed interest in telehealth therapy for depression. **Conclusions**: This pilot study found a high prevalence of mental health problems, especially depression and anxiety, among older adults with OUD. Approximately half the sample expressed interest in receiving treatment by telehealth for depression or anxiety. A trial of mental health treatment through telehealth is warranted to address these needs and study its possible impact on OUD outcomes.

Innovations in Addiction Education

Bridging the Gap: Development and Implementation of an Interprofessional Workshop Exercise on Taking a Substance Use History

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Background: Only 11% of patients with substance use disorder receive treatment, creating a substantial treatment gap. Similarly, an education gap exists whereby trainees are exposed to numerous patients with substance use when they are experiencing complications, rather than when they are engaged in treatment in an interprofessional (IP) setting. Additionally, dedicated curricular instruction focused on how to screen, assess and evaluate patients for substance use is lacking. **Objectives**: The objective of this curricular innovation project was to design and implement an IP workshop on taking a substance use history for Yale health professions students and provide skills practice opportunities through simulation and clinical experiences. **Methods:** The platform for this workshop was the Interprofessional Longitudinal Clinical Experience (ILCE) course which is delivered to first year medical, nursing and PA students. Once stakeholder engagement was established and using the Kern model of curriculum development as a framework, we developed a large group workshop coupled with small group break-outs. Substance use history skills were assessed in a series of three IP simulation sessions over the duration of the course. All simulation sessions were videotaped. Students provided qualitative feedback on the session via Qualtrics survey software. **Results:** The workshop was delivered to all 260 ILCE students in October, 2018. The workshop consisted of a mini-didactic outlining the three-step process

to taking a substance use history, a standardized patient demonstration exercise, and small group case discussions. A faculty facilitator guide standardized the teaching in the small group sessions. Through a series of three team based simulation exercises and within their clinical placements, students had opportunities to practice these skills under direct observation. 129 students responded to a qualitative survey assessing their experience with the workshop. Students appreciated the opportunity to practice in the small group sessions and in simulation. Students reflected that the small group exercises would have been improved if the groups were smaller and if they had even more opportunities to practice under direct supervision. **Conclusions:** Development and implementation of an IP skills-based workshop is feasible for early health professions students. Increasing opportunities for observed skills practice are critical to sustainability.

Impact of Brief Education and a Simulated Patient Encounter on Student Pharmacists' Intention to Provide Harm Reduction Resources

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Background: The University of Texas at Austin College of Pharmacy provides a foundational 90-minute opioid overdose prevention and response training to incoming student pharmacists during orientation. However, this training does not provide hands-on experience with naloxone formulations or opportunities for patient counseling. Furthermore, it does not address the pharmacist's role in providing access to sterile syringes. **Objective:** To assess student pharmacists' self-reported likelihood of providing harm reduction resources after participating in various simulated patient encounters to offer naloxone and provide counseling regarding opioid overdose response. **Methods:** An opioid overdose prevention module was added to the required clinical skills course for second-year student pharmacists. The module began with a 50-minute lecture on non-discriminatory terminology, prescription monitoring programs, syringe service programs, overdose risk stratification, and overdose response counseling. The following week, each student was tasked with offering naloxone and overdose response counseling in one of three simulated patient encounters. The potential encounters included a third-party naloxone request, a patient on chronic opioid therapy for pain, and a patient purchasing syringes without a prescription. Following the encounter, students completed a questionnaire to evaluate their self-reported likelihood of providing harm reduction resources. Descriptive statistics and independent t-tests were used to analyze the data. **Results:** Every second-year student pharmacist completed the questionnaire (n=123). Nearly all reported being extremely or somewhat likely to dispense naloxone to a potential overdose responder (97.6%) and to offer naloxone to a patient with overdose risk factors (99.2%). A substantial majority reported being extremely or somewhat likely to offer naloxone to a patient purchasing syringes without a prescription (83.7%) and to sell syringes to that patient (78.1%). Most indicated that participation in the module increased their likelihood of engaging in all of these harm reduction activities. Responses did not differ significantly based on which simulated patient the student encountered. **Conclusions:** Brief education and a simulated patient encounter increased student pharmacists' self-reported likelihood of providing harm reduction resources in their future practice. This educational format should be considered as an effective alternative to conventional lecturing.

Decreasing Stigma Towards Patients With Opioid Use Disorder Through Early Medical Education

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Background: Opioid use impacts people from all socioeconomic classes and races across the US. Efforts to increase education on diagnosis and treatment of opioid use disorders (OUDs), and strategies to reduce stigma to better prepare the next generation of physicians, is needed to address this devastating opioid crisis. **Objective**: To determine if a newly developed 2-hour small group session providing basic education about OUD for first year medical students, including disease concept, patient centered role playing and strategies to engage with patients, could increase confidence in interacting with and screening patients at risk for OUD and reduce stigma towards these patients. **Methods**: 120/145 medical students who participated in the 2-hour session answered a pre and post-evaluation questionnaire that measured confidence of screening and

interviewing patients, baseline familiarity and perceived stigma towards persons with OUD, using validated questionnaires adapted to address opioid use disorder for medical students (confidence scale, familiarity scale and PSAS). During the educational session, students learned the definition of OUD, prevalence, screening question, how to take a focused history and discussed with their peers' topics of importance like stigma and medical professional frustration. **Results:** First year medical students (N=120) were 58% women and 42% men between the ages of 21-32 years. The entire group significantly increased their confidence to interact with patients with OUD ($p<0.0001$), and decreased their stigma ($p=0.002$). Male students significantly reduced their stigma ($p=0.01$) compared to female students ($p=0.06$). Those students who were less familiar or did not have previous interactions with persons with OUD showed a larger increase in confidence compared to students with more baseline familiarity with persons with OUD ($p<0.001$). **Conclusions**: Early medical education can begin to build student's confidence in positive interaction and caring for patients with OUD. Significant reduction of stigma can be achieved with small additions to early medical school curriculum. These changes are critical to the care of these patients and for the preservation of their hope of humanity.

Suicide Safer Care in Behavioral Health Settings: A Comparative Analysis of Attitudes, Perceptions and Practice Between Mental Health and Substance Use Disorder Treatment Providers

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Background: Opioid overdose deaths continue to rise in the US despite prevention and treatment efforts, totaling 70,237 in 2017. This public health crisis is interminably linked with suicide. There were another 47,101 suicides in 2017, an underestimate considering that 20-30% of overdoses are actually suicides. As suicide continues to rise in tandem with opioid overdose deaths, suicide prevention may be a missing element in current efforts to combat the opioid crisis. Recognizing this link, all inpatient and outpatient addiction treatment programs will be required to provide a minimum standard of suicide care beginning June 2019. Ensuring that substance use disorder (SUD) treatment providers have the knowledge, skills, and confidence to provide that standard of care will be a critical first step in the integration of suicide safer care into routine practice. **Objectives**: To assess attitudes, perceptions, practice, and training needs among SUD treatment providers and explore how they differ from those of mental health providers. **Methods**: An electronic survey was distributed to clinicians in mental health and SUD treatment in nine health systems across New York State between November 2018 and January 2019. **Results**: A total of 648 clinicians responded to the survey (64.5% response rate); 153 were SUD providers. Thirty-five percent of SUD providers reported working with a client who died by suicide and 79.7% with a client who attempted suicide. Even so, many reported not routinely asking new (30%) or existing clients (51%) about suicidal thoughts/behaviors or providing best practices in suicide prevention: Identifying foreseeable changes that could increase risk (63%), collaborative safety planning (61%), or involving family/friends in treatment (71%). Perceived effectiveness at reducing a client's risk of suicide (58% vs. 66%) and confidence and routine delivery of multiple best practices were significantly lower among SUD than mental health treatment providers ($p<.05$). **Conclusions**: The results of this study identify key areas for targeted training and technical assistance to increase the impact of new treatment standards on reducing suicide and combatting the opioid crisis.

Addition of a Dedicated Addictions Experience Improves Ratings on a Psychiatry Clerkship

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Background: Research has repeatedly shown that most primary care physicians lack competency in the detection and management of addictive disorders (1). Contributing to the problem is a lack of sufficient addiction training at the undergraduate medical school level. Considering the prevalence of these disorders relative to other medical conditions, these deficiencies seem more profound (1). Clearly, curricular reform is warranted. **Objectives**: This study was designed to assess whether replacing two weeks of general psychiatry with addiction medicine would adversely impact ratings for the clerkship. A key objective was to implement curricular reform in addiction without disrupting the core rotation experience. **Methods:** A 2-week required

clinical experience on an addictions service was incorporated into the 6-week psychiatry clerkship at the University of Florida, College of Medicine, during which students were assigned to one of three addiction services. To complement the experiential component, a comprehensive addictions lecture series was added. At the conclusion of each rotation, students participated in a 1-hour debriefing session and completed anonymous course evaluations online. **Results**: Contrary to initial concerns that required training in addictions might adversely impact the course ratings, overall clerkship evaluations improved, climbing from a mean of 4.1 in the year prior to implementation, to 4.6 in year 3 of the study. During the same period, student ratings of their preparedness for dealing with psychiatric problems in the primary care setting improved as well (previous year 4.2, year 3 of study, 4.5). **Conclusions**: The addition of a 2-week clinical experience in addiction to a psychiatry clerkship did not adversely affect overall course ratings and may have improved student perception of their ability to manage common psychiatric problems in the primary care setting. While we did not establish causality, the addition of a 2-week clinical experience in addiction may have contributed to an improved overall rating of the psychiatry clerkship.

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Safe and Competent Opioid Prescribing Education (SCOPE of Pain): The Effect of Mandatory Education on CME Outcomes

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Background: In July 2016, a NY State Law mandated that all prescribers complete a 3 hour pain management CME activity by July 2017. In February 2017, Boston University School of Medicine's 2 hour SCOPE of Pain program along with a 1 hour module developed to meet additional NY State pain education requirements became the first training to satisfy this mandate. **Objective**: Determine the impact state mandated pain management education has on CME outcomes. **Methods**: We compared post-training CME outcomes (satisfaction with the training, intention to change practice, perceived barriers to practice change, and knowledge acquisition) between clinicians completing SCOPE of Pain under the NY State mandate versus clinicians voluntarily completing SCOPE of Pain in states without a mandate. We limited our analysis to attendees from specialties who manage patients with chronic pain. **Results**: The total sample (n=14,737) included 72% physicians, 16% advanced practice nurses and 12% physician assistants. The voluntary trained group included 4,702 clinicians from 34 states and the mandatory trained group included 10,035 clinicians from NY State. Immediately post-training, the voluntary group had a significantly higher rate of satisfaction with the training with 50% (2,349/4,702) rating SCOPE of Pain as "Excellent" (5 out of 5) compared with 27% (2,738/10,035) from the mandatory group. The voluntary group also reported a significantly higher "intent to change practice" with 85% (3,976/4,702) responding "Yes" compared with 75% (7,504/10,035) of the mandatory group. The two most common practices to be changed were the same for both groups focusing on improvements in patient education and medical record documentation. Knowledge acquisition and perceived barriers to practice change were similar between the 2 groups. **Conclusions**: While the NY State training mandate efficiently reached the target audience, attendees were less satisfied with the training and were less likely to endorse an intention to change compared to attendees who voluntarily completed the training. With much discussion about mandating safer opioid prescriber education, it is important to better understand how and why mandated education may negatively influence the learners' experience and intent to change clinical practice.

Screening For SUD

It's Not Just What You Do, It's How You Do It: Variation In Substance Use Screening Outcomes With Commonly Used Screening Approaches in Primary Care Clinics

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Background: Screening for alcohol and drug use is increasingly being adopted in primary care, and clinics often struggle to choose the approach to alcohol and drug screening that is best suited to their resources, workflows, and patient populations. **Objective**: This multi-site study conducted in the NIDA Clinical Trials Network seeks to inform the implementation and feasibility of electronic health record (EHR)-integrated screening for substance use in primary care. **Methods:** In two urban academic health systems, researchers worked with stakeholders from 6 clinics to define and implement their optimal screening approach. All clinics used single-item screening questions for alcohol/drugs followed by AUDIT-C/DAST-10 for a positive initial screen. Clinics chose between: (1) screening at routine vs. annual visits; and (2) staff-administered vs. computer self-administered screening. Results were recorded in the EHR, and data was extracted quarterly to describe implementation outcomes including screening rate and detected prevalence of unhealthy (moderate-high risk) use among those screened. Screening is ongoing; findings reported here are from the first 3-12 months post-implementation at each clinic. **Results:** Across sites, of 84,311 patients with primary care visits, 58,492 (69%) were screened. In the 4 clinics with mature (9-12 months) implementation, screening rates ranged from 42-95%. Rates were lower (10-22%) in the 2 clinics that were more recently launched. Screening at routine encounters, in comparison to annual visits, achieved higher screening rates for alcohol (90-95% vs. 42-62%) and drugs (90-94% vs 38-60%). Staff-administered screening, in comparison to patient self-administered screening, had lower rates of detection of unhealthy alcohol use (2% vs. 15-37%). Detection of unhealthy drug use was low at all clinics, ranging from 0.3-1.5%. **Conclusions**: EHR-integrated screening was feasible to implement in at least 4 of the 6 clinics; 1-year results (available Fall 2019) will determine feasibility at all sites. Self-administered screening at routine primary care visits achieved the highest rates of screening and detection of unhealthy alcohol use. Although limited by differences among clinics and their patient populations, this study provides insight into outcomes that may be expected with commonly used screening strategies in primary care.

Computerized Screening and Clinical Decision Support Can Increase Primary Care Provider Delivery of Brief Intervention For Unhealthy Drug Use: Baseline Results From a Pilot Study of the Substance Use Screening and Intervention Tool (SUSIT)

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Background: Primary care providers (PCPs) face multiple barriers to offering substance use interventions, including lack of time, knowledge, and information about their patients' drug use. We developed a tablet-based Substance Use Screening and Intervention Tool (SUSIT) to assist PCPs by delivering screening results and clinical decision support for conducting a brief intervention (BI) to address unhealthy drug use. The SUSIT screener is an electronic self-administered Substance Use Brief Screen (SUBS), followed by a modified World Health Organization Alcohol, Smoking and Substance Involvement Screening Test (WHO-ASSIST) for those who screen positive. **Objectives**: This pilot study examined whether the SUSIT could increase delivery of BI during primary care visits. **Methods**: Adult patients from one primary care and two HIV clinics completed tablet-based screening in the waiting room, and identified their drug of most concern (DOMC). Those with moderate-risk use of any drug (without high-risk alcohol or drug use) were eligible. A pre-post design compared participants enrolled during the control period to a new group of participants enrolled during the intervention period, in which PCPs received the SUSIT. All participants completed an after-visit survey documenting the elements of BI delivered by the PCP, and a 90-day timeline follow-back. **Results**: The 78

participants (42 control, 36 intervention) were majority male (76%), with a mean age of 46 (SD=13). Marijuana was the most prevalent DOMC (n=52 (66.7%)); cocaine was the second most prevalent DOMC (n=7 (9.0%)). Mean days of use of the DOMC in the past 90 days was 38.8 (SD=37.7). During the intervention period, PCPs used the SUSIT with 31 of 36 (86%) participants. Participants in the intervention condition were more likely to report receiving BI [(n=33 (91.7%) vs. n=17 (40.5%), P<0.001]. The intervention group also received more elements of BI [median=9.5, mean 7.8 (SD=4.5) vs. median=0, mean 2.7 (SD=4.3); P<0.001]. **Conclusions**: Providing drug use screening information and clinical decision support to PCPs increased the delivery of BI during routine primary care visits. Future analyses will examine changes in drug use behavior 3 months post-intervention.

A Randomized Trial of Opioid Misuse Prevention in Dental Surgery Patients

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Background: Clinical guidelines for the use of opioids in chronic pain patients are available, but less agreement has been reached about the treatment of acute pain. In addition, no patient-specific efforts have been developed to prevent opioid misuse in patients with opioid prescriptions for acute pain. There is evidence that dental surgeons prescribe 45% of all opioids and that dental pain is related to opioid misuse and addiction. Notably, patients who are prescribed opioids do not have nor receive appropriate information on safe use, storage, and disposal of opioids. **Objective**: The aims of this project were to conduct a randomized controlled trial to examine the efficacy of a brief psychoeducation intervention designed to promote appropriate use and disposal of opioids. **Methods**: Participants were recruited at an oral and maxillofacial surgery clinic at a medical university. The interventionist consented participants, obtained demographic information, and provided no additional intervention or a 10-minute intervention. The intervention was a didactic information session that educated participants on appropriate opioid use, pain management, and opioid disposal. Afterward, all participants responded to a knowledge questionnaire based on the information provided during the intervention. The knowledge questionnaire was also conducted at 1-week follow-up. **Results:** Data from 69 adult patients (64% female; 54% African American) were analyzed. After controlling for morphine milligram equivalents (MME) prescribed and race, patients in the intervention group (M = 30.2, SD = 24.5) consumed less MME compared to the control group (M = 42.3, SD = 38.8) at 1-week follow-up (□ = .29, p = .021). In addition, 58% of patients in the intervention group reported appropriate plans for opioid disposal compared to 22% of patients in the control group (p = .005). Furthermore, there were significant differences in secondary outcomes, with the intervention group reporting better knowledge of opioid risks immediately following the program (p < .001) and at 1-week follow-up (p < .001) compared to the control group. **Conclusions**: These findings suggest that even brief psychoeducation can reduce opioid use following dental surgeries.

A Randomized Controlled Trial of Primary Care Screening and Brief Clinician Intervention to Reduce Adolescents' Risk of Riding With an Intoxicated Driver

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Background: Motor vehicle-related fatalities remain the leading cause of death for U.S. adolescents, and alcohol/drugs are often involved. The medical office is an opportune setting to address this risk. A prior non-randomized study found promising results for a primary care brief intervention to reduce this risk, but a more rigorous RCT is needed. **Objective**: To conduct a pilot RCT of primary care Screening and Brief Intervention (SBI) on adolescents' riding with a substance-using driver ("riding risk"). **Methods**: Well-visit patients ages 12-18 years were consecutively recruited at 5 Boston pediatric practices in 2015-2016. Upon arrival, participants provided informed assent/consent and completed the CRAFFT screen and baseline assessment on a tablet computer. Participants were then randomized within-site to usual-care (UC) or SBI (1:2). Clinicians were instructed to give all SBI patients the Contract for Life (CFL) document to complete with their parents. The

CFL asks adolescents to agree never to drive after substance use or accept a ride from a substance-using driver; parents agree to provide safe transportation. We assessed patient-reported CFL receipt, whether a family discussion occurred, and past-3-month riding risk in confidential online follow-ups. We compared group riding risk rates at 6- and 12-months using GEE logistic regression, stratified by baseline risk to examine primary and secondary prevention effects separately. **Results**: Baseline sample characteristics (N=869; UC=243, SBI=626) included mean age+SD 14.7+1.9 years, 51% girls, 44% White non-Hispanic, 65% with college-graduate parents, 11% (n=99) reporting past-3-month riding risk. Follow-up retention was 75% and 79% at 6- and 12-months. Seventy-nine percent of SBI patients reported receiving the CFL; 54% of them reported discussing it with parents. Among those reporting riding risk at baseline, SBI reduced past-3-month riding risk, compared to UC, at 12-months follow-up (38% vs. 68%; adjusted relative risk ratio [ARRR] 0.58, 95%CI 0.37-0.91). The effect at 6-months was smaller (41% vs. 62%, ARRR=0.82, 95%CI 0.50-1.34, p=ns). Effects among those with no baseline riding risk were non-significant (6-months 0.72 [0.43-1.23]; 12-months 0.99 [0.50-1.99]). **Conclusions:** A brief primary care intervention using the Contract for Life shows promise for reducing adolescents' risk of involvement in substance-related car crashes, but larger RCTs are needed.

At EASE: Training Nursing and Social Work Students to Discuss Sensitive Patient Topics Through an Interprofessional Experiential Application for Sensitive Encounters (EASE)

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Background: Nurses and social workers encounter a variety of mental health challenges in their clinical settings, including substance misuse, interpersonal violence, and eating disorders. Although they learn some screening and intervention skills in the classroom, they do not receive much hands-on practice. While classroom learning, including role play with classmates, can help them learn basic skills, the situation is different when students are faced with actual patients unknown to them. To that end, many schools of medicine and nursing have utilized the standardized patient (SP) model, where actors portray the role of a patient to allow the student to practice examination and engagement skills. Not many, however, have students engage in simulations alongside students from other health professions. **Objectives:** To evaluate the effectiveness of an interprofessional team approach to patient encounters; To evaluate students' attitudes and perceptions towards working interprofessionally. **Methods:** 87 students from two disciplines—graduate nursing (FNP) and graduate social work (MSW)-- learned together in teams (n=51 MSW, n=36 FNP). Students performed patient engagement and assessment utilizing case studies with "real" standardized patients (actors). The case studies reflected "sensitive topics" that are difficult for students to explore with patients: sexual assault, LGBTQ issues, HIV, substance misuse, elder abuse, sexual assault, and interpersonal violence. Faculty, SPs and students participated in debriefing. The SPICE-R (Fike, Zorek et al., 2013) was given before and after the exercise, to assess attitudes toward interprofessional healthcare teams and the team approach to patient care. **Results:** Paired t-test results showed significant differences for all students regardless of discipline, from pretest to posttest, for three questions: "My role within an interprofessional healthcare team is clearly defined" (t=2.868, p<0.05); "participating in educational experiences with students from another health profession enhances my future ability to work on an interprofessional team (t=2.273, p<0.05)", and "I understand the roles of other health professionals within an interprofessional team (t=2.212, p<0.05)." **Conclusion:** Integrated experiential learning (pairing students from different disciplines together in a simulated healthcare setting) improves students' understanding of theirs and others' role on the team, and improves attitudes towards working together. Student teams successfully engaged patients in sensitive health topics.

Behaviors, Attitudes, and Beliefs Among Current Adolescent Electronic Nicotine Device Users
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Background: Electronic nicotine device (END) use among U.S. adolescents has increased, leading to its identification as an epidemic (FDA, 2018). Between 2017 and 2018 END use in the last 30 days nearly doubled among US High School students (CDC, 2019). Previous work has shown that US adolescents consider ENDs less harmful than cigarettes (Ambrose BK, et al., 2014; Peters, et al., 2013), and END use shares similar risk factors to smoking initiation (Kinnunen et al., 2015). A research gap exists exploring behaviors, attitudes, and beliefs among current adolescent END users. **Objectives:** To explore attitudes, behaviors, and perceptions for END use among adolescents reporting current END use while enrolled in school-based behavioral programs or substance use treatment. **Methods**: A total of 188 high school students completed a 15-item survey regarding END behaviors, attitudes, and beliefs in a multi-state cross-sectional study. **Results**: Most participants (88.8%) did not initiate END use to quit other nicotine products. Most adolescents (54.5%) reported only using an END. Most adolescents who reported using an END and other nicotine product(s) reported using other nicotine product(s) prior to initiating END use (72.6%). Reasons reported for initial use included "get a buzz/get high" (52.7%), "relax/relieve stress" (43.1%), and "have a good time with friends" (45.7%). Reasons reported for continued use were “get a buzz/get high" (54.3%), "relax/relieve stress" (47.9%), and “have a good with friends” (31.9%). Among participants who reported owning an END (62.0%), many reported buying it at a store, (35.1%) purchasing it from a friend (31.7%), and someone having given it to them (21.9%). Substances commonly used included nicotine (54.1%) and marijuana/hash oil (34.6%). Half of participants (50%) reported that ENDs were less harmful than other nicotine products. **Conclusion**: Similar reasons for initiating and continuing END use were reported among adolescent END users, including peer influence and perceived effects of use. Of concern was reported ENDs use prior to other tobacco products, direct purchasing of ENDs, minimal END use for nicotine cessation and marijuana as a primary substance used in ENDs. Future research should explore whether nicotine cessation programming addresses the potentially unique needs of adolescent END users.

The Choice Point Model of Acceptance and Commitment Therapy in an Inpatient Substance Use Disorder Setting: A Pilot Study
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Background: Addiction is a nationwide epidemic costing the U.S. $600 billion annually (SAMHSA, 2015). 10.2 million adults also exhibit co-occurring disorders, furthering treatment resistance (SAMHSA, 2015). Diagnostically-specific treatments such as Cognitive Behavioral Therapy (CBT) have yielded only moderate success (Lee et al., 2015). Recent evidence indicates that transdiagnostic approaches such as Acceptance and Commitment Therapy (ACT) may be more effective at targeting addiction and co-occurring disorders (Ruiz, 2012). **Objectives**: This study aimed to examine the effectiveness of the Choice Point Model of ACT (CPM-ACT). It was hypothesized that psychological inflexibility, values-based action, and self-compassion would improve over time in an inpatient substance use disorder (SUD) setting. To our knowledge, this is the first application of CPM-ACT in an SUD population. **Methods**: Forty-seven participants (N=47) completed the 16-session group intervention. Measures included the Acceptance and Action Questionnaire-II (AAQ-II), Valued Living Questionnaire (VLQ) and Self-Compassion Scale (SCS). AAQ-II measures internal avoidance, VLQ measures values-based action, and SCS measures self-compassion. A one-way repeated measures ANOVA was performed on three occurrences in order to determine change in psychological inflexibility, values-based action, and self-compassion over time. **Results**: Results demonstrated overall improvements in psychological inflexibility, $F(2,92) = 29.888$, $p < .01$, values-based action, $F(1.701,78.265) = 74.048$, $p < .01$, and self-compassion, $F(2,92) = 28.211$, $p < .01$, over time. Post-hoc analyses revealed decreases in psychological inflexibility when comparing pre-treatment with mid-treatment means ($p < .01$) and pre-treatment with post-treatment means ($p < .01$). Mid-treatment and post-treatment comparisons were also significant ($p < .01$).

Similarly, increases in values-based action and self-compassion were demonstrated when comparing pre-treatment with mid-treatment means ($p <.01$) and pre-treatment with post-treatment means ($p < .01$). Mid-treatment and post-treatment differences were both significant ($p <.01$). **Conclusions:** These finding suggest that the Choice Point Model of ACT is effective at improving psychological inflexibility, values-based action, and self-compassion in an inpatient SUD setting. The results have implications for the treatment of addiction and co-occurring disorders as all three variables have shown to be important target areas. Furthermore, due to elevated attrition rates and insurance denials, interventions not requiring treatment completion for successful outcomes may be optimal.

Development of a Teleconsultation and Adaptive Education System Platform for Primary Care Providers Managing Opioid Use Disorder

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Background: Barriers to prescribing buprenorphine among primary care providers includes a lack of belief or knowledge in buprenorphine treatment, need for personalized addiction education resources, and real-time expert support following receipt of DEA waiver certifications. The goal of this ongoing project is to develop a teleconsultation and an adaptive educational system based on natural language processing for primary care residents and recent graduates (<1 year) affiliated with the NYU School of Medicine and Health+Hospitals systems integrating buprenorphine treatment for OUD. **Objective** 1: Develop a content-sensitive adaptive education system (AES) prototype based on natural language processing to deliver personalized multimodal educational content (e.g., podcasts, video modules). **Methods**: We developed a content-sensitive adaptive education system in collaboration with the NYU Center for Health Informatics, that relied on a corpus of clinical phrases derived from data mining clinical obstacles and knowledge gaps elicited by PCPs related to OUD using online forum queries (Providers Clinical Support System, n=1100) and a review of the literature (n=121). The corpus size of queries was indicated to achieve data saturation due to the clinical heterogeneity of buprenorphine treatment, OUD care, and the number of intervention specifications. An iterative approach was utilized to develop a personalized multimodal educational prototype (e.g., podcasts, video modules) based on clinical phrase inputs from test text messages (e.g., “diversion”, “induction”) until we achieved technical accuracy of the natural language processing-guided algorithm. **Results**: The natural language processing algorithm demonstrated a PPV of .68, sensitivity of 0.87, and specificity of 0.84. **Conclusions**: NLP offers an innovative approach to personalize training content pertaining to OUD care for PCPs. However, further refinement of the NLP algorithm followed by usability testing among residents is required prior to integration in academic settings and clinical care.

Changes in Concurrent Opioid Analgesic and Benzodiazepine Prescriptions Following Policy and Provider Education Interventions, New York City, 2013-2017

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Background: Previous studies identified that concurrent opioid analgesic (OA) and benzodiazepine prescriptions increase overdose risk. Although the New York City (NYC) Department of Health and Mental Hygiene and Centers for Disease Control and Prevention recommend avoiding concurrent OA and benzodiazepine prescribing, little is known about the effect interventions have on reducing concurrent prescribing. We identified three interventions implemented in NYC and hypothesized to reduce rates of co-prescribing. One statewide policy intervention, the Internet System for Tracking Over-Prescribing (I-STOP) legislation, required prescribers to query a patient’s prescription history before prescribing controlled substances. Two provider interventions, an educational campaign to detail 1,000 prescribers in the Bronx and a city-wide distribution of judicious prescribing guidelines, both included recommendations to avoid concurrent prescriptions. **Objective:** To assess the effect three public interventions had on reducing concurrent prescribing

rates in NYC. **Methods**: For each intervention, we assessed changes in the monthly age-adjusted rate of patients with concurrent prescriptions. Patients were considered to have concurrent prescriptions if they filled both a benzodiazepine and an OA prescription during the same month and at least one prescription was for 30-days. For interventions at the city-level (I-STOP and guidelines), we assessed changes in trends using an interrupted time series model. We compared monthly age-adjusted rates of patients with concurrent prescriptions in the six months before and after each intervention. For the Bronx detailing campaign, we assessed changes in trends using a difference-in-difference model with the other four NYC counties as the controls. The 12-month time periods for the three interventions did not overlap. **Results:** The rate of patients with concurrent prescriptions decreased during each 12-month period. After accounting for time trends, there were no significant changes in rates following the implementation of I-STOP (-11.4 per 100,000, P=0.44) and judicious prescribing guidelines (-0.03 per 100,000, P=0.99). The rate of patients with concurrent prescriptions increased by 2.3 per 100,000 following the Bronx campaign (P<0.01). **Conclusions**: While rates of patients with concurrent prescriptions decreased during each of the periods, changes in trends were not observed following the citywide interventions. Small increases in rates of concurrent prescriptions were observed following the Bronx detailing campaign.

Patterns of Opioid Withdrawal in Patients Transitioning from Opioid Use or Buprenorphine Treatment to Extended-Release Naltrexone

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Background: Before initiating naltrexone extended-release injectable suspension (XR-NTX), a monthly μ-opioid receptor antagonist, a minimum of 7-10 day opioid-free period is recommended. The time course and severity of withdrawal symptoms during this period may vary based on management strategy and patient characteristics.

Objective: We assessed the temporal pattern of opioid withdrawal during induction onto XR-NTX. **Methods:** This post-hoc analysis included participants from two clinical trials investigating transition onto XR-NTX (following induction with standing ancillary medications [clonidine, trazodone, clonazepam] ± oral NTX/sublingual buprenorphine (BUP) along with psychoeducational counseling); Study 1 included participants (N=378) with active opioid-use (excluding BUP) prior to entry into an outpatient study (active opioid-use) and Study 2 included participants (N=101) treated with BUP (≥3months) prior to entry into a hybrid residential/outpatient study (BUP-treated). We compared the patterns of withdrawal during induction (Days 1-7), XR-NTX injection (Day 8), and following XR-NTX injection (Day 9). **Results**: Mean peak clinical opiate withdrawal scale (COWS) scores were uniformly mild and decreased over time for participants with active opioid-use at study entry (Day 1-7: 7.09 [minimum, maximum 0.3, 22.0]; Day 8: 4.71 [0, 23.0]; Day 9: 2.66 [0, 10.0]) and were stable for BUP-treated participants at study entry (Day 1-7: 5.50 [0.4, 19.7]; Day 8: 6.41 [0, 17.0]; Day 9: 5.20 [0, 13.0]: the temporal pattern from Day 1-7 was significantly different between the groups (p<.0001). During induction, the largest percentage of maximum peak COWS scores occurred on Day 1 (61.4%, 232/378) for participants with active opioid-use and on Day 6 (30.7%, 31/101) for BUP-treated participants. Subjective opiate withdrawal scale scores followed a similar pattern. **Conclusions**: In this post-hoc analysis, a 7-day XR-NTX induction regimen was generally well tolerated. Participants with active opioid-use at study entry were more likely to experience earlier maximum peak COWS scores followed by a gradual decline, whereas BUP-participants treated with BUP at study entry were more likely to experience later maximum peak COWS scores prior to XR-NTX induction. This difference in the characteristic withdrawal pattern across the induction week may inform the way in which a healthcare provider monitors or treats patients to optimally manage withdrawal symptoms.

Experience of Patients within a Transitional, Low-Threshold Clinic for the Treatment of Substance Use Disorder: A Qualitative Analysis of a Bridge Clinic

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Background: In 2017, there were 19.7 million Americans with substance use disorder (SUD) and over seventy thousand overdose deaths. Despite the existence of effective treatment for SUD, a minority of patients with SUD receives treatment, indicating the need for innovation in care for individuals with SUD. Transitional and low-threshold models of care for SUD have recently been utilized, however there is limited evidence about their effectiveness or patients' perspective on these models. **Objective**: Our objective is to examine patient experience within a transitional, low-threshold clinic for SUD to inform further development of patient-centered models. **Methods**: Semi-structured interviews with patients (N = 28) were conducted to explore patient experience in a transitional, low threshold, bridge clinic for the treatment of SUD. Maximum variation sampling was used to select patients who displayed diversity across age, gender, housing status, type of SUD, length of stay, and patient status. Interviews were conducted until theoretical saturation, at which point no new concepts emerged. The constant comparative method was used to develop and assign codes**.** **Results**: The flexibility and accessibility of services, provider and staff compassion and approachability, use of peers in recovery, and comfortable physical space were identified as positive features of the model. Patients almost universally appreciated the flexible and harm reduction-oriented model of treatment and reported the ability to maintain abstinence and adhere to treatment more consistently than they were able to in past programs. Patients did not like the transitional model of care. **Conclusion**: Overall, patients reported a positive experience in a transitional, low threshold bridge clinic. Future quantitative research is needed to further examine the effects of low threshold programs on treatment outcomes, including ongoing substance use, treatment retention and overdose mortality.

Understanding Why Patients With Substance Use Disorders Leave the Hospital Against Medical Advice: A Qualitative Study

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Background: Leaving the hospital against medical advice (AMA) is associated with negative health outcomes and re-admissions. Patients with substance use disorders (SUD) are up to three times more likely to leave AMA as compared to those without SUD. Studies suggest that undertreated withdrawal and a perception of stigma may increase the risk, however, to date, there are no published qualitative studies exploring the specific reasons why patients with SUD decide to leave AMA. **Objectives**: Our objective was to explore why patients with SUD leave AMA through semi-structured, open-ended interviews and to ultimately use these insights to examine how to effectively reduce rates of AMA discharges among this population. **Methods**: Semi-structured interviews with patients (n = 15) with SUD with documented AMA discharges from our hospital between 9/2017 – 9/2018. Maximum variation sampling was employed to display diversity across gender, race, age, and type of substance use disorder (alcohol vs opioids). Patients were interviewed until no new concepts emerged from additional interviews. Two coders separately coded all transcripts and reconciled code assignments. **Results**: Four core issues were identified as patients' reasons for leaving the hospital AMA: undertreated withdrawal and ongoing craving to use drugs, uncontrolled acute and chronic pain, stigma and discrimination by hospital staff about their SUD, and hospital restrictions, including not being allowed to intermittently leave the hospital floor. For patients with histories of criminal involvement, being hospitalized reminded them of being incarcerated. **Conclusions**: These findings shed light on the reasons patients with SUD leave the hospital AMA, an event that is associated with increased thirty-day mortality and hospital re-admission. AMA

discharges represent missed opportunities for the health care system to engage with patients struggling with a SUD. Our findings support the need for inpatient addiction treatment, particularly for management of withdrawal and co-occurring pain, and the need to address health care provider associated stigma surrounding addiction.

Development of a Resident Didactic Experience With SMART Recovery Training

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Background: Internal medicine residents interested in caring for patients with substance use disorder do not receive formal training to facilitate group sessions with patients. Prior studies have demonstrated that experiential, didactic, and simulation formats improve addiction treatment knowledge and skills for resident learners (1). SMART recovery is a non-profit organization dedicated to help individuals achieve abstinence from addictive behaviors through facilitator-led mutual aid groups focusing on the following four principles: enhancing and maintaining motivation to abstain; coping with urges; managing thoughts, feelings and behavior; and balancing momentary and enduring satisfactions (2). Unlike mutual help programs that are based in spirituality, SMART recovery is secular and utilizes approaches from motivational interviewing, and cognitive behavior therapy (3). Residents can be trained to facilitate SMART recovery meetings, providing them with concrete tools to care for patients with SUD. **Objectives**: 1. Appreciate the elements of SMART recovery and how it differs from other mutual-help recovery groups. 2. Train internal medicine residents to facilitate SMART recovery meetings. 3. Provide evaluation and feedback to residents on their facilitation. 4. Gather initial information from residents on the experience of the training and leading groups. **Methods**: At Massachusetts General Hospital, internal medicine primary care residents were trained to facilitate SMART recovery meetings in Spring 2018 through the Get SMART Fast online facilitator training program. Residents then co-facilitated monthly SMART recovery meetings with peer recovery coaches**. Results**: Four internal medicine residents co-facilitated SMART recovery meetings at one of MGH's community health centers. Monthly meetings averaged 10-15 participants. At the meetings, different SMART techniques were utilized to address the core principles of SMART recovery, including enhancing motivation, managing cravings, and maintaining a balanced lifestyle. Anecdotal reports from the residents were positive. Residents highlighted that the opportunity to learn SMART techniques and facilitate SMART meetings equipped them with tools to use in clinical encounters. **Conclusions**: Internal medicine residents can be trained to facilitate group recovery meetings with patients with SUD. In this pilot, four residents were trained to facilitate SMART recovery meetings and regularly facilitated meetings with recovery coaches. Next steps include the development of resident evaluation of facilitation skills and formalizing training opportunities so it is available to future interested residents.

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Emergency Department Utilization among People Living with HIV on Chronic Opioid Therapy

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Background: Chronic pain affects approximately 50% of people living with HIV (PLWH), and is a driving factor of Emergency Department (ED) visits in this population. Chronic Opioid Therapy (COT) has been shown

to improve treatment outcomes among PWLH. However, COT for chronic pain in the general population is associated with increased costs, ED utilization, and risk of overdose death. **Objective**: To better understand differences in ED utilization among PLWH on COT with and without exposure to the following COT-related factors: high opioid dose (>=50 daily morphine milli-equivalents), extended COT duration, benzodiazepine co-prescription, and opioid treatment agreements (OTAs). **Methods**: We conducted a secondary analysis of an observational, longitudinal study of a cohort of PLWH on COT receiving care at two urban safety net hospitals. The primary outcome was an ED visit in the past 12 months at the 12 month follow up. Potential predictors were the aforementioned COT-related factors chosen a priori. Covariates in the model included: age, gender, hepatitis C virus (HCV) infection, homelessness, prior ED visits, and Charlson Co-morbidity Index (CCI). Stepwise logistic regression was used to derive a parsimonious predictive model for ED encounters. **Results**: The study included 153 participants, of which the mean age was 54, 65% were male, 18% were White, 73% were Black, 15% were homeless, and 45% had an ED visit at follow up. Benzodiazepine co-prescribing (adjusted odds ratio (AOR): 1.13, 95% Confidence Interval (95% CI) [.39, 3.24]), OTAs (AOR: 1.24, 95% CI [0.37, 4.14]), and COT duration (AOR: 1.05, 95% CI [0.99, 1.12]) were not significantly associated with increased ED utilization. Participants prescribed high dose opioids were 62% less likely to visit the ED (AOR: 0.38, 95% CI [0.14, 1.04]), though this was not statistically significant. Covariates significantly associated with ED utilization were history of ED visits (AOR: 3.32, 95% CI [1.58, 6.99]) and higher CCI score (AOR: 1.39, 95% CI [1.12, 1.72]). **Conclusions**: COT-related factors were not associated with increased risk of ED utilization in this study. However, these results highlight that care for people treated with COT practices should address co-morbidities among PLWH which may reduce their ED utilization.

Trends in Rural/Urban Disparities in Injection Drug Use-Associated Infective Endocarditis

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Background: The incidence of infective endocarditis (IE), a serious heart infection that can result from injection drug use (IDU), has increased in step with the opioid epidemic. Harm reduction services, including provision of clean needles and syringes; education regarding safer injection practices; and infectious disease testing, vaccination, and treatment aim to decrease the risk of infectious complications associated with IDU, but are limited in rural areas. **Objectives**: Our objective was to compare hospitalizations for IDU-related IE between rural and urban patients over a 12-year period and evaluate coinfection with hepatitis C. **Methods**: We used 2003-2015 National Inpatient Survey (NIS) data to compare trends in hospitalization for IDU-related IE between rural and urban patients. Second, we examined trends in IDU-related IE hospitalizations of patients co-infected with hepatitis C, by rural/urban status. We identified hospitalizations involving substance use disorders and infections of interest using ICD-9 and ICD-10 codes, and used survey procedures and weight variables provided by the NIS to account for the complex survey design and changes in sampling over time. **Results**: Between 2003 and 2015, the number of hospitalizations for IDU-related IE increased 869% for rural patients (2/100,000 to 16/100,000) and 105% for urban patients (8/100,000 to 17/100,000). Over the same period, hepatitis C coinfections reported for IDU-related IE hospitalizations increased 65% for rural patients (23.0% to 38.2%), and decreased 14% for urban patients (43.7% to 37.9%). **Conclusions**: Compared to urban patients, rural patients had a greater increase in IDU-related IE hospitalizations over the study period. Among hospitalizations for IDU-related IE, coinfection rates increased for rural patients, but not urban ones.

Experiences Impacting Transition to Parenthood Among Mothers with Opioid Use Disorder

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Background: Postpartum women with opioid use disorder (OUD) have a three-fold increased risk of overdose and death compared to pregnant women. Clinical and community support is critical for sustaining recovery for pregnant and parenting women with OUD. Despite this, little attention has been given to the postpartum period while much attention has been given to supporting women with OUD during pregnancy. It is important to

understand the barriers, stressors, and successes experienced by mothers with OUD in order to effectively support postpartum women during their transition to parenthood when risk of relapse is high. **Objectives**: To understand (1) experiences related to parenting among mothers with OUD during the postpartum period, and (2) how these experiences contribute to their transition to parenthood and identity as mothers. **Methods**: We conducted semi-structured qualitative interviews (n=20) with mothers in recovery from OUD with children under 10 years of age in Western Massachusetts. Each interview was professionally transcribed, coded by two independent coders, and analyzed using a qualitative descriptive approach. **Results**: Participants described a consistent perception that they were expected to prove themselves as mothers because of their OUD. They described unrealistic expectations for mothers with OUD, stemming from society, service providers, and from themselves, creating a paradox in which obtaining the identity of "good mother" was unachievable. This perception led to feelings of guilt and, at times, loss of child custody and relapse. Participants reported a desire for parenting support specific to the needs of women working toward recovery, better timing of support groups for mothers with small children, provider education that combats societal stigma around addiction, and peer support from other mothers in recovery who understood their experiences as women with OUD. **Conclusions**: Lack of flexibility and unrealistic expectations may jeopardize parenthood and, subsequently, recovery for mothers with OUD. Research is needed to understand how clinical and community service providers can work together and partner with mothers with OUD to consider women's intersectional needs in a way that will support parenting and recovery.

Engagement in Out-Patient Services among Pregnant and Postpartum Women with Opioid Addiction: A Qualitative Study

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Background: The incidence of perinatal opioid use disorder (OUD) and neonatal abstinence syndrome are nearly three times higher in Massachusetts (MA) compared to the national average. Effective perinatal addiction and parent/child-focused services are essential to reduce the risk of relapse, and to support optimal child development during the high-risk perinatal period. However, there is limited knowledge regarding the experiences of pregnant and postpartum women with OUD as they engage in perinatal out-patient parent- and child-focused services. **Objective**: This study aims to understand the factors influencing engagement with out-patient services from pregnancy to 1 year postpartum among women in recovery from OUD. **Method**: We conducted semi-structured qualitative interviews and a brief survey with 20 mothers in OUD recovery recruited from health care and community organizations in Western MA. Transcripts were coded by two independent coders and analyzed using a qualitative descriptive approach. **Results**: The average duration of any addiction treatment was 5.6 years; 80% received medication-assisted treatment during a pregnancy. Approximately two-thirds experienced relapse during pregnancy or the first year postpartum. We developed a conceptual model of service engagement based on three identified themes that elucidated women's perinatal experiences interacting with a variety of out-patient services. The first two themes were "How I see myself" and "How services see me." These themes described how a mother's developmental process as a parent as well as a person in recovery intersects with the service quality and the effectiveness of the individual provider. The convergence of the first two themes resulted in varying degrees of trust and engagement. The third theme, "Are you with me?," captured the full spectrum of collaborative engagement. The ideal collaborative engagement experience was achieved when service delivery was aligned with the mother's holistic view of herself, and when the provider had the ability and opportunity to engage in the mother's journey as a partner and advocate. **Conclusion**: Women described successful service engagement when they experienced service providers as being emotionally supportive, delivering relevant services, and advocating on their behalf. To best support families affected by OUD, relevant and timely services should be linked with compassionate delivery.

Engagement in Early Intervention Services among Parents in Recovery from Opioid Addiction: A Qualitative Study

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Background: Infants born to parents with opioid addiction are at higher risk of developmental delays and future education and behavioral problems due to multiple factors. For this reason, these infants frequently qualify for Early Intervention (EI) child development services. However, many eligible families choose not to enroll in this voluntary service. Greater understanding of the parental perceptions and experiences with EI services is needed to improve engagement among this population. **Objective**: To understand the parental perceptions and experiences that may impact engagement with EI services among parents in recovery from opioid addiction. **Methods**: We conducted semi-structured qualitative interviews (n=25) and focus groups (n=6) with parents in recovery from opioid addiction with children under 10 years of age in Western Massachusetts. Each interview was transcribed, coded by two independent coders, and analyzed using a qualitative descriptive approach. **Results:** Among the participants, 90% were mothers and 10% were fathers. Five major themes emerged relating parental perceptions of EI to engagement in EI: (1) Fear, guilt, and shame (emotions acting as barriers to enrollment); (2) Is it "needed"? (motivations to enroll based on perceived value versus perceived mandate); (3) Starting with "judgment" (a baseline level of perceived stigma that parents in recovery associate with EI); (4) Breaking down the "wall" (overcoming the fear and perceived judgement to build partnerships with providers); (5) "Above and beyond" (need for personal connection and concrete supports through EI in addition to services provided to the child). These themes collectively describe a wide range of perceptions of EI services associated with varying degrees of EI engagement, specific to parents recovering from opioid addiction. **Conclusions**: Parents in recovery from opioid addiction may experience a range of emotions, perceived stigma, and ambivalence that can act as barriers to their engagement in EI. Successful engagement is achievable when parents and providers build partnerships despite these barriers. An effort to purposefully maintain a bi-generational approach and establish a greater connection with parents may help providers foster stronger EI service engagement among families affected by opioid addiction.

Managing Gabapentin Dependence and Withdrawal: A Case of Extraordinary Tolerance

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Background: Gabapentin, an antiepileptic drug found to be useful in relief of neuropathic pain, has become a staple of chronic pain management. Over the last decade, there have been several reports of gabapentin tolerance, dependence, and misuse. There is increasing concern that the drug is not as benign as initially thought and has now been scheduled as a controlled substance in two states.

Learning Objectives: The extent of this problem has not yet gained widespread recognition and the management has little description in literature. We present a remarkable case of gabapentin dependence and a novel method to manage withdrawal.

Case Presentation: A 31-year-old male with a history of polysubstance dependence presented with fever, myalgias and weakness following the abrupt cessation of gabapentin intake. He had been on the drug for 13 years for back pain after developing an opioid use disorder on long-acting oxycodone. Over time, he developed a use disorder for gabapentin as well, taking as much as 36 grams a day (10 times the recommended maximum daily dose.) The patient reported significant physical and psychological withdrawal on tapering and seizures with discontinuation; He expressed a wish to safely stop the drug altogether. The unprecedented degree of dependence made management challenging and an innovative plan was developed. A lower dose of gabapentin was started and tapered while overlapping with pregabalin and phenobarbital in a symptom-triggered manner in response to the Clinical Institute Withdrawal Assessment score. Divalproex sodium was added for seizure prophylaxis and olanzapine for insomnia. Gabapentin was discontinued completely within a week and he was managed as an inpatient for an additional 10 days as phenobarbital was tapered. He was discharged with

pregabalin, divalproex, perphenazine and a plan for continued outpatient phenobarbital tapering. He declined further inpatient addiction treatment.

Discussion: The abuse potential of gabapentinoids has been discussed in literature, but there has been little description of the management of withdrawal and cessation of the drug. Our method was based on inferring that the mechanism of action of gabapentin, although poorly understood, results in a final gabamimetic effect, similar to that observed in benzodiazepine/barbiturate use.

Internet Sourced Supplement Gone Wrong: A Case of Opioid-Like Withdrawal From Tianeptine

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Background:
Tianeptine is an atypical tricyclic antidepressant which also has mu opioid agonist properties. Tianeptine is not FDA approved or scheduled in the US. However, due to its availability online, poison control centers are reporting an increasing number of calls related to toxicity and withdrawal (11 calls from 2000-2014, 81 in 2017). Case reports describe using buprenorphine to treat patients who develop an opioid (like) use disorder.

Learning Objectives:
• Tianeptine has opioid agonist effects and long-term use can present as an opioid use disorder.
• Prevalence of Tianeptine use in the US is increasing.
• Buprenorphine may be an effective treatment option.

Case Presentation:
A 33-y.o. man with ADHD and depression presents to the ED with signs and symptoms of severe opioid withdrawal as well as urinary retention, light sensitivity and "head zaps". He started using Tianeptine 4 years ago after reading online that it can give you a high at supratherapeutic doses. His dosing steadily increased to 50 grams a day (recommended dose, 25mg). He described negative effects on his work, relationships and was spending up to $2,000 per week.
He initially received benzodiazepines but after discussion with Addiction Medicine was transitioned to buprenorphine/naloxone. The patient's symptoms improved but he continued to have headaches, light sensitivity and "head zaps". The patient reported also taking venlafaxine he obtained online. Venlafaxine was added back and the majority of the patient's symptoms resolved. He has continued to do well on buprenorphine/naloxone 24mg/4mg daily.

Discussion:
Tianeptine is a complex medication. Prevalence is increasing in the US and patients may be taking significantly more than the recommended dose. This patient was taking up to 2000 times the recommend dose. Buprenorphine may be an effective treatment option for patients who meet criteria for a use disorder. Patients may also need treatment for anxiety and/or depression. This patient did well on buprenorphine/naloxone and venlafaxine.

El Zahran et al., "Characteristics of Tianeptine Exposures Reported to the National Poison Data System — United States, 2000–2017." MMWR / August 3, 2018 / Vol. 67 / No. 30
Trowbridge and Walley, "Use of Buprenorphine-Naloxone in the Treatment of Tianeptine Use Disorder." Journal of Addiction Medicine Dec 2018

Opinions of Naloxone: Perspectives of Community Members in Neighborhoods with High Overdose Rates

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Background: Programs promoting access to naloxone have been implemented to reduce rates of opioid overdose deaths. Few studies have examined opinions of naloxone among community members in high risk communities with high rates of overdose deaths. **Objective**: The objective of this analysis was to describe the beliefs and opinions of naloxone among a diverse sampling of community members in neighborhoods with high rates of opioid overdose deaths in Allegheny County, Pennsylvania. **Methods**: This analysis is part of a larger ethnographic study of eight communities in Allegheny County with the high rates of opioid overdose deaths. We conducted semi-structured, in- depth in-person or telephone interviews with individuals within these affected communities and performed observations of community meetings and programs that addressed opioids and overdose. Interview transcripts and observation field notes were reviewed to identify when naloxone was mentioned. These sections were then coded using an open approach in an iterative fashion. Common themes were identified. **Results**: Interviews from a selection of 10 participants were coded and used. These 10 participants included a mix of health care workers, community members, government officials, recovering and current addicts, as well as social workers. Field notes from an observation of a community block watch meeting was also analyzed. Preliminary themes noted contradictory beliefs and opinions about naloxone. Participants across stakeholder categories viewed naloxone as life-saving. They also endorsed concern that use and reliance on naloxone would become a "crutch" that "enables" continued opioid use without motivation or inducement to address the underlying addiction. Some community members also expressed resentment of the resources and money being spent on naloxone distribution as opposed to support for other life-saving medications that are more useful to the general public such as epinephrine and other resources. Likewise, there are perceptions that some communities have more access to the drug in emergency situations than others. **Conclusion:** Naloxone is seen as a lifesaving drug across participant categories. Nonetheless, stakeholders other than current and former users expressed ambivalence around the availability of Naloxone. Framing naloxone distribution efforts in ways that address these issues may serve to promote wider acceptance of naloxone access.

An Evaluation of the Supporting Chart Documentation of Incident Opioid Use Disorder (OUD) Diagnoses

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Background: Improvement in the proportion of veterans with OUD receiving treatment is a priority within the Veterans Health Administration (VA). Accurate identification, using administrative data, of patients with OUD diagnoses is important; however, that accuracy is unknown. **Objectives**: To evaluate the internal validity of incident OUD diagnosis documentation via chart review and to assess characteristics associated with misclassification. **Methods:** Within three VA medical centers, we identified all incident OUD diagnoses (≥1 encounter with an opioid abuse or dependence ICD-10 diagnosis between October 1, 2016 and June 1, 2018, and no such diagnosis in the prior year). We are conducting chart reviews on 90 randomly selected patients. Two clinicians review and evaluate each chart for opioid use, OUD criteria, opioid prescriptions, urine toxicology and referral to substance use disorder treatment within a 30-days pre- and 90-days post-diagnosis. The primary outcome is the internal validity of documentation of the OUD diagnosis. We have reviewed 60 of 90 charts and will complete chart reviews by May 31, 2019. **Results:** In the 20-month observation period, we identified 1,357 Veterans with an incident OUD diagnosis. Preliminary chart review data suggest that documentation from 38% (26/60) of incident OUD cases were not internally valid. Of the 26 cases rated as false positive OUD, 15 (58%) occurred in outpatient settings and 14 (54%) occurred in mental health or substance use treatment settings. Among patients with incident OUD prescribed long-term opioid therapy for pain, most

(64%, 7/11) did not contain information to support OUD diagnosis criteria. Three of the 7 contained information on potential misuse (inconsistent urine toxicology, early refills). **Implications**: A large proportion of incident OUD diagnoses did not have internally valid documentation. Insufficient documentation and potential misclassification occurred across a variety of clinical settings suggesting systematic problems in applying ICD-10 diagnoses for OUD. Given the high rate of potential false positive OUD diagnoses identified, OUD incidence and outcomes based solely on secondary administrative data should be interpreted with caution. Impacts: We anticipate this information will help systems interpret the validity of OUD diagnoses and develop interventions to improve the accuracy of OUD diagnoses in administrative data.

The Development and Testing of an mHealth Tool to Extend Effects of a Brief Alcohol Intervention for Suicidal Adolescents in Inpatient Psychiatric Care

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Background: Mobile health (mHealth) apps can maintain and extend intervention effects for substance use and suicide following psychiatric hospitalization. The integrated Alcohol and Suicide Intervention for Suicidal Teens (iASIST) is an empirically-supported intervention which can be augmented with technology for continuity of care. Objective: This study's purpose was to develop a complementary mHealth tool for iASIST that extends care for suicidal adolescents who drink alcohol following discharge from inpatient psychiatric care, and to assess usability, feasibility, and acceptability of the mHealth app. **Methods**: Qualitative interviews were conducted with eight adolescents and their parents gathering feedback on iASIST. Interviews were recorded and transcribed for analysis, and the tool was developed from the findings. Next, we conducted an open trial of iASIST adding the mHealth tool with nine psychiatrically-hospitalized adolescents and their parents. We assessed usability, feasibility, and acceptability by analyzing use patterns and survey data over the 3-months following discharge. **Results**: Participants identified the need for an app that delivers iASIST content following hospitalization. Adolescents wanted the app to provide support for substance- and mood-related goals. Parents requested resources and assistance navigating conversations about alcohol and mood with their adolescent. Over a 3-month period, adolescents logged into the app an average of 5.7 times. The most frequently used feature was alcohol and mood tracking (M=5.2), followed by messages (M=2.8), forum (M=2.7), support (M=1.8), strategies (M=1.7), and change plan (M=1.4). Parents logged in an average of 14.7 times. They visited the forum (M=2.8) most frequently, then communication (M=2.7), messages (M=2.4), change plan (M=2.2), tracking (M=1.8), support (M=1.7), and the library (M=1.1). All adolescents, and all but one parent, felt the app was easy to use. All but one parent, and all but two of adolescents, reported the content was relevant and useful. Adolescents and parents felt the reading level, length, frequency, quantity of messages, and length of services were acceptable. Parents wanted the app for more than the 3-month follow-up period. Nearly all participants believed others would use the app. **Conclusions**: Study findings suggest a larger randomized controlled trial is warranted to test the combined effectiveness of iASIST and the mHealth tool.

Dynamics of Fatal Opioid Overdose by State and Across Time

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Background: In 2017, ~47,600 opioid overdose deaths occurred in the U.S. accounting for 67.8% of all overdose deaths, representing an increase from 19.8 to 21.7 deaths per 100,000 since 2016. **Objectives**: The study presents state level data on fatal overdoses in the last 11 years (2006-2016) and aims to: 1) identify states and regions with higher rates; 2) identify states with higher percentage increases in recent years; and 3) discuss policy implications based on findings**.** **Methods**: Data from the Kaiser Family Foundation analysis of the CDC's, National Center for Health Statistics System Multiple Cause of Death Files, 1999-2016, were obtained for cause of overdose deaths and stratified into three categories: heroin, semisynthetic, and synthetic opioids.

Deaths from illegally-made fentanyl and pharmaceutical fentanyl could not be distinguished in this data source; consequently, both types of fentanyl were included. Descriptive analysis of overall fatal opioid overdose death rates were mapped per 100,000 persons for the years 2015 and 2016 for each drug type. Percentage change between 2015 and 2016 for these three opioid categories was calculated by state using geospatial mapping ESRI ArcGIS 10.5. **Results**: In 2016, the national mean rate of opioid overdose deaths in the U.S. was 14.98 per 100,000 with a median of 13.88. When stratifying opioid overdose death by state, remarkable regional differences emerge. The highest rates of opioid death occurred in the Appalachian region (ranging from 29.2 to 40.3 deaths per 100,000; while lower rates were not region specific and included Texas (4.93), Kansas (5.02), California (5.13), Hawaii (5.39), and Arkansas (5.66). States with the highest opioid-related mortality rates were not representative of the set of states with the most significant change in rate from 2015-to 2016. States with the highest increase in fatal opioid overdose rates between 2015 and 2016 included Maryland (67%), Pennsylvania (64%), New Jersey (63%), Florida (49%), and Indiana (48%). **Conclusions**: Examining the dynamics of fatal opioid overdose by states and regions across time can potentially identify effective strategies and inform state and federal policy decisions to reduce opioid overdose rates.

Improving Addiction Teaching of Social Work and Medicine Faculty: A Pilot Online Addiction Training Program

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Background: Boston University's (BU's) Schools of Social Work and Medicine collaboratively designed an online Faculty Education in Addiction Training (FEAT) Program for social work and internal medicine faculty. **Objective:** Substance use disorders (SUDs) affect the lives of millions of Americans—yet, many health professionals are not equipped to teach about them. We have conducted NIH-funded in-person immersion training for physician (Alford et al., 2009) and social work educators (Salas-Wright et al., 2018), resulting in improved substance-related teaching. Using an online format, the FEAT Program was the next step in our train-the-educators efforts. **Methods:** We requested applications from medical and social work programs nationwide. 70+ medicine faculty and 20+ social work faculty applied. Due to limited resources, we capped enrollment at 15 faculty from each profession. The curriculum included core videos: Science of Addiction, Psychosocial Aspects of Addiction, Medications for Treating Addiction, and Addiction Treatment Programs, and supplemental videos: Chronic Pain and Opioids, Screening and Brief Intervention, Psychiatric Co-Morbidities, and Mutual Help Groups. An "Ask the Experts" online Q & A forum facilitated engagement of participants. A synchronous "live classroom" highlighted teaching strategies such as visits to 12-step programs, skill practice scenarios and interviewing individuals in recovery from SUDs. Journal articles supplemented course content. Pre-post measures focused on knowledge acquisition, teaching confidence, teaching preparedness, and frequency and type of integration of SUD content into teaching. Focus groups provided qualitative data on course components and solicited ideas about improvements. **Results:** Thirty faculty from 12 social work and 14 medical schools participated. All core videos were viewed by 100% of participants at least once; two thirds of faculty participated in the "live classroom" discussion of teaching strategies. Additional data will include baseline and follow-up knowledge and teaching confidence scores as well as focus group results. **Conclusion:** This pilot demonstrated the feasibility of joint online addiction training for social work and medicine faculty. Recruitment demonstrated a huge need among medicine faculty and a need for broader outreach to social work faculty. Future efforts will explore expansion to a larger number of schools and to other health professions.

Opioid Taper and All-Cause Mortality: A Retrospective Cohort Study

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Background: Opioid tapering is a recommended strategy to decrease risks associated with being on chronic opioid therapy. However, longitudinal evidence of potential harms of opioid tapering is limited. **Objective**: To

determine whether opioid tapering is associated with increased mortality compared to patients on chronic opioid therapy that did not taper. **Methods**: We conducted a retrospective cohort study of patients in a large, urban health system between 2008 and 2012 with 2 years of follow-up. Adult patients on chronic opioid therapy with a stable dose of at least 25 morphine milligram equivalents over a baseline year were included. Patients with any history of cancer before the baseline year were excluded. Patients were considered to have experienced an opioid taper if they had a reduction in the average daily dose of at least 30% from their baseline dose throughout the year after their baseline year (the exposure year). Patients who had a stable dose or increased dose were the comparator group. The primary outcome was all-cause mortality in the year following the exposure year (the outcome year). Multivariate logistic regression controlled for age, race, gender, baseline dose, Elixhauser medical complexity, and baseline year. **Results**: Of 1,338 patients, 207 (15.5%) experienced opioid tapers. Average age was 51.6 years. Female patients were more likely to be tapered (OR 1.4, 95% CI [1.0-1.9]). Tapered patients had a significantly lower median baseline dose compared to non-tapered patients (63.3 vs 91.2, p=0.001). Twenty-nine patients died during the outcome year; 8 had been tapered (3.9%) and 21 (1.9%) had not been tapered. In multivariate analysis, tapered patients were more likely than non-tapered patients to die during the outcome year, but this only approached statistical significance (AOR 2.2, 95% CI [0.93-5.3]). Given our sample size and the mortality rate observed, our post-hoc power to detect a difference of this magnitude at a two-sided alpha of 0.05 was 24.8%. **Conclusions**: In this large cohort of patients on chronic opioid therapy, we found a non-significant increase in all-cause mortality in tapered patients compared to non-tapered patients. Our results should merit caution. Further study, with greater statistical power, is urgently needed.

"I Didn't Think it was Fair Because I'm Not an Abuser": Opioid Tapering Experiences Among Racial and Ethnic Minorities in a Primary Care Setting

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Background: Substantial evidence exists that pain management practices differ by patient race and ethnicity, and that racial and ethnic minorities perceive their pain care as biased. However, prior studies have not examined the perspectives of racial and ethnic minorities on chronic opioid therapy (COT) about their experiences engaging with opioid tapering. **Objective**: To understand perspectives on patient engagement in an opioid taper among racial and ethnic minority patients. **Methods:** In this qualitative study, we conducted semi-structured 1:1 telephone interviews with patients who experienced opioid tapers in a primary care setting in a large urban health system in the Bronx, NY. Adult patients were eligible if they underwent a 30-100% dose reduction from a stable baseline dose between 2016 and 2017. Patients were ineligible if they had a history of cancer. Interview questions sought to understand perceived barriers to and facilitators of engaging in an opioid taper. Sociodemographics were extracted from the electronic medical record. Transcripts were coded and analyzed by two authors using a thematic analysis approach. **Results**: Of 43 patients contacted, 10 participated. Average age was 53.9, 5 were male, 6 were Black/African-American, and 4 were Hispanic. The overarching theme was participants felt unfairly targeted for a taper, which permeated any discussion about patient engagement. First, participants distinguished themselves from other patients who deceive providers to obtain opioids: "I know of a lot of people who only gets them to sell them, which makes it bad for people who really need it." Second, participants lacked trust in the healthcare system: "[The providers are] just telling me whatever to get a paycheck. They don't really care." Third, participants perceived themselves to have low risk for negative consequences of opioids: "If I'm in pain I'm going to take my medicine...I'm not that weak to sit there and...overdose." **Conclusions**: In this sample of racial and ethnic minorities who experienced opioid tapers, we found that feeling unfairly targeted for a taper was a predominant theme. Future interventions for racial and ethnic minorities should address real and perceived inequities associated with tapering to promote patient engagement and facilitate successful tapering experiences.

Self-Esteem as a Predictor of Substance Use Attitudes in Health Profession Students

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Background: Among health professional students, increasing permissive attitudes and beliefs toward social drug use may contribute to substance abuse tendencies that appear to be on the rise. **Objectives**: This study investigated factors predicting permissive attitudes towards social drug use among health professional students. The main questions investigated were: (1) does self-esteem and/or prior substance abuse education impact student drug use attitudes; and (2) do gender differences modulate the magnitude of these effects.
Methods: Participants were pharmacy student volunteers (N = 122; 92% completion rate) completing two validated instruments (SAAS and the Rosenberg Self Esteem Scale), administered online at two times during semester. Participants had either completed or not completed at least one elective course on substance abuse education. No incentives were provided for completing the survey. ANOVAs and Tukey t-tests were run to determine main effects of substance abuse education and self-esteem on permissive drug use attitudes. Hierarchical multiple regression was conducted to test if any main effects were modulated by gender.
Results: Overall, 35% of students sampled held highly permissive attitudes towards social use of alcohol, marijuana and other drugs, with female students tending towards the non-permissive spectrum. Logistic regression revealed that both negative self-esteem ($T = 2.5$, $p = 0.013$) and lack of substance abuse education ($T = 2.2$, $p = 0.03$) facilitated increased permissiveness attitudes toward alcohol and marijuana use, once gender differences were accounted for. The impact of substance abuse education in reducing drug use permissiveness was evident in only the female but not male participants. **Conclusions**: To foster positive change in pharmacy student's attitudes towards reduced drug use permissiveness, educational interventions must address both the gender-specific needs and self-esteem issues of students.

Should Patients With a History of Injection Drug Use Be Sent Home For the Treatment of Serious Infections With IV Antibiotics?

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Background:

Outpatient parental antibiotic treatment (OPAT) is not traditionally considered a safe option for patients with a history of injection drug use (IDU). We report the successful completion of IV antibiotics at home after cardiac surgery in a patient with endocarditis.

Learning Objectives:

1. Hospitalization for complications of IDU should be used as a touchpoint to link patients to addiction services
2. Creation of multidisciplinary infrastructure that includes both inpatient and outpatient addiction care can support safe discharge for patients with history of IDU
3. Integration of infectious disease and addiction treatment can improve outcomes and prevent readmissions

Case Presentation:

The patient was a 60-year-old man with history of opioid use disorder (OUD) who was admitted with mitral valve (MV) and tricuspid valve (TV) endocarditis. He underwent TV replacement and MV repair and was discharged to an inpatient rehab to complete six weeks of antibiotics. At rehab, he experienced social isolation, inadequate pain control and opioid cravings and was readmitted to our hospital. During his second hospitalization he was evaluated by the inpatient addiction consult service, initiated on buprenorphine and discharged home to complete a course of antibiotics through a peripherally inserted central catheter (PICC) with management by OPAT service and follow up in outpatient Bridge clinic. He completed his course of antibiotics with no complications, no opioid relapse and no additional readmissions. Twenty-two inpatient and rehab days were avoided.

Discussion:
There are many benefits to sending patients home including quality of life and cost savings from a reduction in inpatient hospital days. Review of existing literature suggests that OPAT outcomes for patients with a history of IDU are comparable to non IDU-OPAT. No studies have included treatment for addiction as a requirement for participation.
This case illustrates the feasibility of discharging patients with a history of IDU home with IV antibiotics. The important components of a multidisciplinary program include 1) inpatient addiction consult service; 2) infectious disease consultation with OPAT service and 3) low barrier access to outpatient addiction services to ensure patients can continue addiction treatment after discharge.

Integrating Peers into an Addiction Consult Service: A Critical Role in Post-Discharge
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Background: Hospital admissions present a unique opportunity to engage people with substance use disorder (SUD) into effective treatment. Historically in New York State, Certified Recovery Peer Advocates (CRPAs) with lived experience in addiction and recovery have been exclusively employed in SUD treatment programs. At NYC Health+Hospitals, we have transformed this role, integrating peers into the new 'Consult for Addiction Treatment and Care in Hospitals (CATCH)' program. CATCH uses multidisciplinary addiction consult teams providing medication, support and linkage to treatment for patients hospitalized for medical reasons. CRPAs have the potential to enhance patients' linkage to treatment through engagement during and after medical admission. **Objective**: To describe the role of CRPAs in post-discharge follow-up with SUD treatment in one public hospital. **Methods**: Key activities of the CRPA role were defined: 1) 'Warm-handoffs', wherein CRPAs escort patients to SUD treatment appointments on discharge, as appropriate 2) Direct contact via phone within 48 hours post-discharge to remind patients of upcoming appointments 3) Contact with patients or treatment providers 1 day after a scheduled appointment to confirm attendance. If an appointment was missed, patient/collaterals were contacted, as appropriate, and further intervention was noted. Data was collected at NYC Health+Hospitals/Bellevue from January to March 2019 via a tracking system developed for CRPAs to prioritize and record outreach. The tracker was reviewed during weekly supervision to evaluate patient outcomes, program performance, and areas of improvement. **Results**: 261 patients receiving a CATCH consult were assigned for post discharge follow-up. Seven 'warm-handoffs' were completed with 71.4% (5/7) of patients confirmed in treatment on follow-up. Of patients/collaterals with access to a working phone, 50.2% (101/201) were contacted directly for initial follow-up, while 49.8% (100/201) of calls were made to SUD treatment programs/providers. Overall, 28% of patients (72/261) were confirmed in treatment after the first follow-up. Of those not confirmed in treatment, 62% (118/189) received a second follow-up call. **Conclusions:** CRPA encounters with patients while in hospital, combined with warm-handoffs and post-discharge follow-up, may help patients to engage in SUD treatment. Although promising, the feasibility of frequent warm-handoffs warrants further consideration to determine efficacy and impact on team productivity.

Opiate Treatment Program eConsults and Follow Up: A Retrospective Chart Review
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Background: Methadone maintenance treatment (MMT) is a highly-effective, evidence-based treatment for opioid use disorder (OUD). However, connecting patients with OUD to specialized opioid treatment programs can be challenging. This is especially prominent in safety-net systems, where untreated OUD has been shown to increase acute care utilization. **Objectives:** In 2017, the San Francisco Health Network (SFHN) implemented an eConsult to the Opiate Treatment Program (OTP) at Zuckerberg San Francisco General Hospital (ZSFG).

eConsult is a web-based referral and consultation system designed to link patients to specialty care from both outpatient and inpatient settings. The factors which influence ultimate enrollment in MMT and treatment retention after electronic referral are unknown. **Methods**: This is a retrospective cohort analysis of 178 patients with OUD referred by eConsult to OTP from its launch in 2017 to December 2018. Patient demographic characteristics, medical co-morbidities (including HIV status, other substance use disorders, and mental health conditions), and referral factors (i.e. referral department or clinic, methadone discharge dose, etc.) were collected. Descriptive statistics were used to characterize referral sources, patient factors, and the proportion of patients that enrolled in OTP. Chi-square testing and logistic regression were used to compare variables among the patients who enrolled in MMT and those who did not**. Results**: Our primary measure was the percentage of patients who enrolled at OTP following eConsult with preliminary data showing greater than 20% enrollment. Data from 2005-2013 National Surveys on Drug Use showed 19.44% of persons with OUD receiving opioid specific treatment in the past year. Utilization of opioid specific treatment in persons of color have been shown to be as low as 1.24% in Asian-Americans/Pacific Islanders with OUD and 15.66% in Blacks with OUD. While not reaching significance, trends demonstrate lower rates of enrollment in patients who identify as a person of color. **Conclusions**: Implementation of an electronic referral process in an integrated health network may result in enrollment rates greater than national utilization rates; however, more research is needed to implement a referral system that facilitates utilization of MMT in racial/ethnic minority patients.

A Qualitative Study of Factors and Circumstances Contributing to Unintentional Opioid Overdose Among Patients in a Colorado Health System

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Background: Despite growing policy and programming efforts to prevent overdose, unintentional overdoses involving prescribed opioids persist. Observational studies have identified opioid overdose risk factors using data available in medical records. However, important factors that contribute to or precipitate overdose are not readily available in medical records. **Objectives**: Use qualitative methods to identify factors that contribute to unintentional opioid overdose and identify opportunities for intervention. **Methods**: We conducted semi-structured interviews with patients from a federally qualified health center and an integrated health care plan and delivery system in Colorado who experienced an unintentional pharmaceutical opioid overdose since 2017. Patients were identified using overdose ICD codes. Medical charts were reviewed to confirm overdose. Patients were recruited by mail and phone. Interviews explored patients' history of pain, perceived risks and benefits of opioids, and circumstances that led to the overdose. Thematic Analysis was used to identify and organize themes. **Results**: We interviewed 24 patients who experienced an overdose. They reported the following contributors to overdose: (1) complex health needs and severity of pain; (2) fears of or experiences of being abandoned by their health care providers due to new restrictive opioid policies, leading to poor communication with their providers and feelings of hopelessness; and (3) a lack of understanding of the term "overdose" as only the result of intentionally consuming excess medications to get high, contributing limited risk perception. These factors contributed to risky or careless behavior to relieve pain and suffering, such as combining multiple opioids, changing the dosing intervals, and mixing opioids with other medications or alcohol. **Conclusions**: In this qualitative study of pharmaceutical overdoses, three contributors to unintentional overdose were identified by patients who had experienced these events. Potential strategies to mitigate these contributors include: listening non-judgmentally and empathetically to patients, acknowledging their vulnerabilities and suffering; educating patients on risk factors for overdose beyond taking more than prescribed; providing clearer instructions on how to properly take opioid medications; and communicating clearly about medical decisions and invite shared decision-making where possible. Further, formal evaluations of policies developed to reduce overdose risk in clinical practice are needed.

Partner Characteristics Associated With the Presence of Alcohol Use Disorder Among Urban Young Black Women

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Background: Alcohol use is a major driver of racial/ethnic inequities in sexual and reproductive health. Among young Black women, alcohol use disorders (AUD) have been associated with noncondom use, intimate partner violence and sexually transmitted diseases. Whereas most research focuses on individual factors associated with AUD, interpersonal and contextual factors are critical to ending AUD-derived health inequities. **Objectives**: The objective of the study was to examine partner characteristics and interpersonal relations associated with AUD among young inner-city Black women. **Methods**: A survey was administered to 560 17-24 year-old Black women in Atlanta, GA. AUD was assessed with the AUDIT screening tool. Total AUDIT scores were dichotomized at below 8, no AUD, and 8+, AUD. Group differences were assessed using two-sided Wilcoxon rank sum tests for non-normally distributed continuous variables and Pearson's chi-square analyses for categorical variables. We used logistic regressions for multivariate analysis. **Results**: Overall, 45.2% (n=253) of the women had an AUDIT score of 8 and above. Having an older partner (p=<0.001), a boyfriend as main income source (p=0.003), a partner who consumed 6+ drinks during last sex (p=<0.001), and experiencing physical abuse (p=0.024) and reproductive coercion by an intimate partner (p=<0.001) were associated with AUD. In multivariate analyses, women who experienced physical abuse were 100% times more likely than those who did not to have AUD (OR=1.99; 95% CI: 1.09-3.65). Partner age modified this association: women with older abusive partners had 7.21 the odds of those with non-abusive same-age partners of having AUD (95% CI: 1.14-45.59). The odds of AUD for women whose partners consumed 6+ drinks during last sex was 6.96 (95% CI: 2.75, 17.60) that of women with non-drinking partners. **Conclusions**: We highlight the association of drinking disorders and unequal gender relations. Skills-building interventions that strengthen women's self-efficacy and economic autonomy could prove effective in reducing AUD-derived health inequities.

A Scoping Review of Post-Overdose Interventions

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Background: Nonfatal opioid overdose is a significant risk factor for subsequent fatal overdose. The time after a nonfatal overdose may provide a critical engagement opportunity to both reduce subsequent overdose risk and link individuals to treatment. Post-overdose interventions have emerged in affected communities throughout the United States (US). **Objectives**: The objective of this scoping review is to identify US-based post-overdose intervention models (1) described in peer-reviewed literature and (2) implemented in public health and community settings. **Methods**: Using the adapted PRISMA Checklist for Scoping Reviews, we searched PubMed, PsychInfo, Academic OneFile, and federal and state databases for peer-reviewed and gray literature descriptions of post-overdose programs. We developed search strings with a reference librarian. We included studies or programs with at least the following information available: name of program, description of key components, intervention team, and intervention timing. **Results**: We identified a total of 27 programs, 3 from the peer-reviewed literature and 24 from the gray literature. 9 programs operated out of the ED, while 18 programs provided post-overdose support in other ways: through home or overdose location visits, mobile means, or as law enforcement diversion. Commonly, they include partnerships among public safety and community service providers. **Conclusions**: Programs are emerging throughout the US to care for individuals after a nonfatal opioid overdose. There is variability in the timing, components, and follow-up in these programs and little is known about their effectiveness. Future work should focus on evaluation and testing of post-overdose programs so that best practices for care can be implemented.

“You’re Always Jumping Through Hoops”: Mapping Patients’ Experiences of Care for Opioid Use Disorder-Associated Endocarditis

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Background: Infectious complications of opioid use disorder (OUD), including endocarditis, are rising. Patients with OUD-associated endocarditis have poor clinical outcomes, and their care is not well understood. **Objective**: Our objective was to perform journey mapping to capture the trajectories, episodes and settings of care for patients with OUD-associated endocarditis. We wanted to better understand experiences of the disease course from the patient perspective as patients moved in and out of health care. **Methods**: This was a secondary analysis of qualitative data collected through interviews of patients who received care at a single academic hospital for OUD-associated endocarditis. We reviewed interview transcripts to identify details of each patient’s care experience, recording dates of presentation, care settings, diagnoses, care plans, drug use history and transitions in care. These care details and trajectories were then displayed and contrasted using journey maps and other visual aid techniques. **Results**: We reviewed eleven patient care experiences, including 5 inpatients and 6 outpatients. No patients followed a linear or unidirectional arc of care from hospital to post-acute care and home. A more typical course included multiple interactions with the health care system before hospitalization, prolonged stays in the hospital and post-acute care, leaving care settings against medical advice, multiple rehospitalizations, frequent return to drug use and gaps in the care system when patients transitioned home. These gaps often resulted in consequential discontinuities in care. The eleven experiences will be presented using patient journey mapping and visual aid techniques to better characterize their disease courses. **Conclusions**: Journey mapping the trajectories, episodes and settings of care from the patient perspective helped us better understand the complexities of a typical OUD-associated endocarditis disease course. We learned that the disease courses are complex and not linear or unidirectional. Patients transitioned in and out of multiple care settings, and leveraged social or personal ties to fill gaps created by discontinuities in care. The health care system was often not well suited to address these patients’ health needs. Journey mapping disease courses is a useful tool in understanding the patient experience of complex medical care.

Outpatient Parenteral Antibiotic Therapy (OPAT) in a Large Urban Safety Net Hospital Setting: Therapy for Vulnerable Populations at Home

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Background: Adoption of outpatient parenteral antibiotic therapy (OPAT) is accelerating due to proven safety and value, but experience in safety-net settings remains limited, especially for patients with history of substance use. Emerging reports from safety-net settings have featured OPAT delivered in nursing facilities and respite care centers, but literature is sparse on home-based OPAT for vulnerable patients. **Objectives:** In a new home antibiotics program at San Francisco General Hospital, we sought to describe early outcomes among adults without active injection drug use but with high rates of substance use and comorbid illnesses. **Methods**: We conducted a cohort study of patients discharged from a large urban county medical center and enrolled in an outpatient IV antibiotics program from September 2017 to January 2019. We collected clinical data and computed outcomes of safety (30- and 90-day readmission for infection) and efficacy (completion of antibiotic therapy). Use of methamphetamine, crack, cocaine, heroin, or other non-prescribed opioid noted to be “active, intermittent, or recent,” (in prior 60 days) in admission note was defined as “active or recent substance use.” “Prior substance use” was defined as note of “history of use” or “prior use” of aforementioned substances. We did not include alcohol or tobacco in this analysis. **Results**: Overall, 47 courses of antibiotics were given to 45 patients. Of these, 39/47 (83%) of antibiotic courses were administered in a residential setting, and 8/47 (17%) via the hospital outpatient infusion center. Comorbid conditions were common, including 9/45 (20%) with hepatitis B/C and 8/45 (18%) with HIV. Present or prior substance use was seen in 17/45 patients (38%), including recent or active drug use in 11/45 (24%). Most common indications for antibiotics were osteomyelitis and bacteremia. Efficacy in the OPAT program was high: overall, 44/47 (94%) courses of outpatient IV antibiotics were completed, and the 30-day and 90-day readmission rates were 13% and 20% respectively, with zero 30-day readmissions related to OPAT. **Conclusions**: An OPAT program embedded within a safety net

hospital system delivering care in patients' homes had high completion rate and low readmission rate, despite patients' high prevalence of underlying comorbid conditions and non-injection substance use.

HIV Clinicians' Intention to Prescribe Buprenorphine and Naloxone: Baseline Results from the PTSL Study

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Background: The use of opioids is common among persons living with HIV (PLWH), resulting in high rates of opioid overdose among PLWH. Despite this, uptake of office-based buprenorphine treatment and naloxone prescribing in HIV clinical practices has been limited. **Objectives**: To identify factors associated with HIV prescribers' intention to prescribe buprenorphine and naloxone**. Methods**: The Prescribe To Save Lives (PTSL) study recruited 119 prescribers (physicians, nurse practitioners, and physician assistants) from twenty-three HIV outpatient practices across eighteen states. Prescribers completed a baseline survey that assessed their intention to prescribe buprenorphine and naloxone using a 5-point Likert scale, with responses ranging from 1 (Not at all likely to prescribe) to 5 (Very much so likely to prescribe). The survey also assessed prescribers' demographics, substance use assessment practices, addiction training, attitudes and knowledge towards buprenorphine and naloxone, and the substance use characteristics of their patient panel. We used mixed-effects linear regression models to identify factors associated with intention to prescribe buprenorphine and naloxone. **Results**: HIV prescribers expressed moderate intention to prescribe buprenorphine (mean intention score= 2.9, SD=1.5) and naloxone (mean=3.3, SD=1.4). Factors positively associated with intention to prescribe buprenorphine included: having completed a buprenorphine course (b=0.99, p=0.0003), agreeing that buprenorphine blocks the effects of opioids (b=0.35, p=0.004), and greater confidence in prescribing buprenorphine (b=0.14, $p < 0.0001$). Reporting they did not know whether they had a patient who overdosed on opioids (vs. "No") was negatively associated with intention to prescribe buprenorphine (b=-0.82, p=0.018). Factors positively associated with intention to prescribe naloxone included: greater amount of naloxone training (b=0.19, p=0.033) and greater confidence in prescribing naloxone (b=0.14, p=0.0006). Age (per 10 years) (b=-0.33, p=0.002) and not knowing whether they had a patient who overdosed on opioids (b=-0.86, p=0.022) were negatively associated with intention to prescribe naloxone. **Conclusion**: Baseline results from the PTSL study show that HIV prescribers' intention to prescribe buprenorphine and naloxone was associated with previous training and knowledge of these medications and greater self-efficacy. Training and mentoring interventions, like that underway in the PTSL study, have the potential to increase uptake of office-based buprenorphine treatment and naloxone prescribing among HIV clinicians.

Post-Overdose Outreach Programs in Massachusetts

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Background: In 2017, the overdose death rate in Massachusetts was more than double the national estimate. From 2015 to 2016, we documented the emergence of 23 local, collaborative outreach programs consisting of partnerships between public health and public safety agencies in response to the overdose crisis. These programs typically involve a public safety first responder and public health professional conducting outreach to the overdose survivor or their social network. The outreach team provides overdose risk reduction education as well as referrals to addiction treatment and other social services. **Objective**: To inventory post-overdose outreach programs in all 351 Massachusetts municipalities in 2019 as the first step in a study seeking to better understand and measure the effectiveness of post-overdose outreach programs. **Methods**: In March and April 2019, we sent an online questionnaire to police and fire departments, emergency medical services, local health

departments, and opioid overdose education and naloxone distribution (OEND) programs. The questionnaire items included whether the organization conducts outreach activities after a non-fatal overdose, participates in a multi-community coordinated effort, and the personnel type involved in the program. **Results**: Among the 351 municipalities in Massachusetts, we received 409 individual responses from 93% (328/351) of municipalities in Massachusetts. Among the questionnaire respondents, 39% (161/409) were from police departments, 31% (127/409) from fire departments, 23% (96/409) from local health departments, 23% (95/409) from emergency medical services, and 1% (5/409) from OEND programs. Almost half of responding municipalities (46%, 150/328) reported at least one functioning post-overdose outreach program. Almost two thirds of municipalities with programs (65%, 98/150) reported program coordination across communities. Post-overdose outreach programs commonly reported the following members in their outreach teams, police officers (79%, 118/150), recovery coaches (67%, 101/150), and addiction treatment providers (54%, 81/150). **Conclusions**: Post-overdose outreach programs have continued to emerge in 2019 since our previous 2016 study. Post-overdose outreach programs are typically collaborative between communities and utilize an array of public health and public safety personnel to provide outreach services. Further research is warranted to understand the effectiveness, benefits and risks of these programs, and establish best practice guidance for communities implementing these programs.

A Case of MRSA Vertebral Osteomyelitis and Refractory Opioid Use Disorder: A Comparison of Treatment Options in the United States and Canada

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Background:
In response to the opioid overdose crisis, which claimed nearly 50,000 American lives in 2017 alone, efforts to integrate addiction care into general medical settings have increased. However, individuals with severe, refractory opioid use disorder (OUD) for whom methadone, buprenorphine, and extended-release naltrexone are not tolerable or effective, rapidly exhaust their treatment options. To combat the current overdose crisis, strategies used successfully elsewhere in the world should be considered to determine if and how these approaches could be adopted to the US context.

Learning Objectives:
- Review the epidemiology of infectious complications from OUD
- Understand existing strategies and applicable laws governing treatment for OUD
- Describe treatments and harm reduction strategies for OUD that are available in Vancouver, Canada but which are restricted in Boston, MA

Case Presentation:
We present the case of 57-year-old unhoused male with refractory OUD and complicated methicillin-resistant Staphylococcus aureus chronic vertebral osteomyelitis which has been previously incompletely treated. Despite multiple efforts to treat his OUD with methadone and buprenorphine while in hospital and ongoing attempts to link him to outpatient care, the patient experienced multiple infectious and substance-related complications from his OUD (recurrent vertebral osteomyelitis and new infections including cellulitis, sternal osteomyelitis, tenosynovitis, and leg abscess, antimicrobial resistance, and multiple overdoses, including in-hospital). During his treatment course, he was admitted more than 25 times in 18 months, 21 of which resulted in discharges against medical advice largely due to ongoing substance use and conflict with staff around restrictions on leaving the floor and smoking.

Discussion:
There is a need for alternative approaches for patients with severe OUD when first-line treatments are unsuccessful in reducing substance and infectious related complications. Had this patient been cared for in Vancouver, Canada, he would have been offered alternative medications such as injectable opioid agonist

therapy and/or slow-release oral morphine, as well as an opportunity to use an in-hospital safe injection facility. We will review the existing evidence in support of these approaches which have been implemented successfully in Vancouver and consider opportunities to improve care for the patient in the case.

"That's What We Call the Cocktail" Non-Opioid Medication and Supplement Misuse Among Opioid Users

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Background: Recent evidence suggests that combining opioid use with use of non-opioid substances is common, though little is known about this phenomenon and how best to address it. **Objective**: We sought to explore the details of and reasons behind the practice of combining other substances with opioids, and the impact of this practice on safety. **Methods**: We recruited adults, predominantly those experiencing homelessness, with recent opioid use. We conducted semi-structured interviews to explore the practice of combining non-opioid substances with opioids and analyzed transcripts to identify themes. **Results**: Twenty-nine individuals completed interviews. Mean age of participants was 36, and 45% (13/29) reported female gender. Sixty-six percent (19/29) reported White race, 28% (8/29) reported Black race, and 48% (14/29) reported Latino ethnicity. Combining other substances with opioids was a well-known practice: "that's what we call the cocktail." Participants reported use of clonidine, gabapentin, benzodiazepines, Phenergan, Adderall, Seroquel, barbiturates, Nyquil, Robitussin, and Tylenol PM, as well as alcohol and candy in combination with opioids. Participants reported purchasing these substances on the street, stealing them, or getting them from a prescriber. Augmenting the opioid high was a common reason for combining substances: "I heard [gabapentin] gets you a higher high like really hits you so I wanted to get that." Importantly, participants also reported combining substances to treat psychiatric symptoms: "I use drugs to self-medicate. If I [feel] depressed." Individuals commonly reported learning about combining substances "from people on the street" but also reported learning from the internet and television. Safety was either not a concern or was outweighed by perceived benefits: "When I'm doing it I don't care about safety. I be wanting to feel nothing." Participants also felt that combining over-the-counter or prescription medications would be safe: "Not think about [safety] cuz it's not that strong like the pills. It's just for sleep." **Conclusions**: Combining non-opioid substances with opioids is common and driven by diverse motives. Clinicians caring for opioid-involved patients should consider screening for concurrent use of other substances and discussing the risks of this practice.

Implementation of Emergency Department-Initiated Buprenorphine in Low-Resource, High-Need Settings

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Background: Emergency Department (ED) initiated buprenorphine (BUP) with referral is superior to referral alone in engaging patients with opioid use disorder (OUD) at 30 days and is cost effective. Barriers exist in translating research into practice. **Objective:** To evaluate the feasibility and impact of introducing ED clinical programs for OUD screening and BUP treatment initiation with referral for ongoing treatment in rural and urban settings with high need, limited resources, and different staffing structures. **Methods**: This multicenter, implementation feasibility study uses mixed-methods combining qualitative and quantitative inquiry with health record data. It takes places in a critical access hospital, a community hospital with urban/rural catchment, and an academic public safety-net hospital. Our implementation strategy used an adapted Implementation Facilitation (IF) procedure and a participatory action approach. Formative evaluation was informed by ED and community providers and staff, patients with OUD, and other key informants through surveys to assess organizational and provider readiness and qualitative inquiry (focus groups and interviews). Findings were reported back to

stakeholders and used to develop and iteratively refine site-specific clinical protocols and implementation strategies, along with education and resources designed to enhance uptake of ED-BUP at each site. **Results**: Staff and stakeholders completed a total of 162 pre-IF surveys, and 45 staff, stakeholders, and patients participated in pre-IF qualitative inquiry. Preliminarily themes included concerns related to lack of knowledge/experience with BUP, workflow integration, increased time/patient burden, limited referral options, and patient-specific concerns/stigma (drug-seeking and diversion, behaviorally challenging/violent patient population, futility). Study external facilitators navigated challenges during 5 visits to each site and 24 multidisciplinary learning collaborative calls. Clinical programs were successfully adopted at each site. During the 6-month clinical evaluation period, 135 patients were treated with BUP in the ED by approximately by 50 unique providers. In the post-IF period, several staff conveyed their initial reluctance was supplanted by support once processes were streamlined and initial fears were not realized (via 155 surveys and 43 qualitative participants). Anecdotes of positive experiences with patients were powerful catalysts of change. **Conclusions**: ED-initiated BUP clinical programs, implemented using an IF strategy, was feasible and acceptable across these diverse settings.

Implementation of Opioid Agonist Therapy for Opioid Withdrawal in a Community Hospital – Multidisciplinary Partnership and Iterative Systems Change

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Background: While opioid agonist therapy is standard of care for Opioid Use Disorder (OUD), and its use is recommended for acute opioid withdrawal in hospitalized patients, many health systems do not provide this treatment. Prior to 2015, our institution, a safety-net community hospital, only offered symptom management with adjunctive medications to hospitalized patients with opioid withdrawal. **Objectives:** Our institution aimed to improve the treatment experience of the hospitalized patient with OUD by providing standard of care treatment for withdrawal. **Methods:** A multidisciplinary Substance Use Disorder committee with regular meetings and senior leadership support was convened in 2015. First, the taskforce reviewed the legality and evidence supporting the use of opioid agonist therapy for withdrawal in the hospital setting. After reaching consensus, a protocol based on a local academic institution's guidance was initiated, first as a three-day methadone taper. A multidisciplinary team of substance use disorder champions led a hospital-wide seminar series on OUD treatment modalities and disseminated the protocol through small team trainings. After reviewing clinical experience with the protocol, opioid agonist withdrawal management was expanded to include extended length of therapy with either methadone or buprenorphine for the duration of a patient's hospitalization. Ongoing efforts address linkage to outpatient treatment after discharge. **Results:** During the five-month period from April - August 2018, 46 patients were prescribed methadone for opioid withdrawal. Of 30 patients prescribed the three-day protocol, 9 (30%) left the hospital against medical advice (AMA). Of the 9 patients prescribed the extended protocol without time limit on duration, 2 left AMA (22%). 7 patients were prescribed methadone without following a pre-set protocol. In total, 13/46 (28%) patients prescribed methadone for withdrawal left the hospital AMA. Process evaluation indicates that the protocol has been well adapted and is now routinely utilized. **Conclusions:** Implementation of opioid agonist therapy in the community setting is feasible and requires complex systems change best supported by a multidisciplinary and well-resourced taskforce. Even in the absence of assured direct linkage to outpatient addiction treatment on discharge, opioid agonist therapy for withdrawal remains an essential inpatient treatment modality.

Gaps in Substance Use Disorder Treatment for Veterans Across the US: Comparing Community-Based and VA SUD Treatment Programs

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Background: Veteran populations have elevated rates of heavy alcohol use, tobacco, and opioids, which may be further exacerbated by combat-related mental health problems and functional disability. While the Veterans

Health Administration (VHA) has integrated alcohol and drug use screening programs and pharmacotherapies in their treatment of substance use disorders (SUD), barriers including stigma, military norms, inaccessibility of appropriate level of care, and location may discourage Veterans to seek treatment within the VHA. **Objective**: This paper aims to assess the distribution of SUD treatment facilities across the U.S. paying special attention to VHA programs and community-based, non-VA SUD treatment facilities offering programs specifically for Veterans. **Methods**: Data from the National Survey on Substance Abuse Treatment Services (N-SSATS), Veterans Health Administration, and the U.S. Census were used to map the distribution of VA and non-VHA SUD treatment centers relative to state Veteran populations and assess relationships between a state's Veteran population, urbanicity, and number of SUD treatment facilities. We also assess whether characteristics of non-VA facilities providing programs tailored for Veterans differed from non-VHA facilities without Veteran-specific programming. **Results**: A state's urbanicity was positively associated with the number of non-VHA and VHA SUD treatment programs for Veterans; however, Veterans are disproportionately located in rural areas. Eleven low resource states were identified containing below average levels of SUD treatment facilities for Veterans. Non-VHA facilities with Veteran programming were more likely to offer pharmacotherapies for SUD and provide more assessments, screenings, and transitions, but were less likely to offer pharmacotherapies for psychiatric disorders or to be licensed by healthcare accrediting organizations. **Conclusions**: There is an opportunity for both non-VHA and VHA facilities to work with one another to treat Veterans. Both treatment facilities types may complement each other by offering services in varying geographic regions and offering different types of services.

Barriers To Initiating Naltrexone at Hospital Discharge in Adults with Alcohol Use Disorder

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Background: Few patients with alcohol use disorder in hospitals are started on medication treatment for it. **Objectives**: To evaluate reasons why general hospital inpatients may be ineligible to start naltrexone for alcohol use disorder (AUD) treatment at hospital discharge. **Methods**: We screened inpatients at an urban general hospital for eligibility for a randomized clinical trial of daily oral vs. monthly extended-release naltrexone to treat AUD at discharge. Researchers reviewed limited medical record information (e.g. age, current/future need for opioids, laboratory test results, evidence of alcohol withdrawal or AUD) to identify patients to screen. Screening involved researcher-administered interviews including assessment of DSM-5 AUD using the AUD and Associated Disabilities Interview Schedule-5 (AUDADIS-5) and opioid use, opioid urine testing, and nurse assessment of contraindications for both forms of naltrexone (e.g. coagulation disorder, liver failure, body habitus, likely need for opioids). **Results**: Among 1079 screened patients, 821 met criteria for AUD. Among those with AUD, mean(±SD) age was 54±11 years, 23% female, 47% black, 10% Hispanic/Latino, and 518 (63%) were ineligible for the trial due to: 174/518 (34%) research exclusions (e.g. English fluency, ability to provide informed consent, refusal to answer screening questions, ability to provide contact information for follow-up), 164/518 (32%) logistics, and 180/518 (35%) clinical exclusions. Logistical exclusions: 164 were not able to complete the screening process because they either were discharged or left the hospital against medical advice before screening measures could be completed. Clinical exclusions: 92 opioids (current/future need/use of opioids, positive urine test for opioids), 27 coagulation-related (low platelets, coagulopathy, coagulation disorder, anti-coagulant use), 6 liver-related (elevated liver enzymes, acute hepatitis, liver failure), and 64 other (e.g. known naltrexone hypersensitivity, acute severe psychiatric illness, body habitus, worsening medical condition). **Conclusion**: Many general hospital patients with alcohol use disorder have barriers to beginning naltrexone treatment at discharge. However, most of these might be overcome with extra efforts to overcome logistical challenges in busy hospital settings.

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Opioid Overdose in Patients Treated With Extended-Release Naltrexone: Postmarketing Data From 2006 to 2018

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Background: Opioid overdose rates are increasing in the United States. Patients treated with naltrexone extended-release injectable suspension (XR-NTX), a μ-opioid receptor antagonist administered monthly, may be vulnerable to opioid overdose if they attempt to override the blockade, miss a dose, or discontinue XR-NTX. Clinical trials of patients treated with XR-NTX have not demonstrated an increase in overdose susceptibility compared with treatment-as-usual, placebo, or buprenorphine-naloxone. **Objective:** We assessed postmarket reporting rates of fatal and non-fatal opioid overdose during and after treatment with XR-NTX. **Methods:** Case data from postmarketing adverse event reports of opioid overdose received from 2006-2018 (collected as part of ongoing postmarketing surveillance) for patients treated with XR-NTX for any indication were manually reviewed and assessed for time of event from last dose of XR-NTX; identified cases were adjudicated by ≥2 reviewers. Assessable cases were categorized by overdose type and the timing of the event from the last dose of XR-NTX (latency): ≤28 days (on-treatment), and 29-56 days or >56 days from the last dose of XR-NTX. Within each latency category, cases with a fatal outcome were identified. **Results:** An estimated 495,602 patients were treated with XR-NTX (for any indication) from 2006 to 2018. We identified 161 cases in which opioids were specifically stated as the cause of overdose; approximately 41% (66/161) of cases contained adequate information to assess latency of event from last dose of XR-NTX. For the 66 assessable cases, opioid overdose rates were similar for each latency category. For the assessable cases of opioid overdose, the reporting rates (per 10,000 patients) were 0.54 (0.24, fatal) for ≤28 days, 0.34 (0.16, fatal) for 29-56 days, and 0.44 (0.40, fatal) for >56 days from the last dose of XR-NTX, respectively. **Conclusions:** Based on assessment of 12 years of postmarketing overdose data, the reporting rates of fatal and non-fatal opioid overdose during or after treatment with XR-NTX were found to be <1/1000 patients treated. As the incidence of opioid overdose in the United States continues to rise, further research is needed to better understand the risk of overdose in patients receiving or discontinuing medication for opioid use disorder.

Implementing Buprenorphine Pharmacotherapy in a Large Urban Jail System, Philadelphia Department of Prisons, 2018-2019

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Background:
Philadelphia ranks #3 of large U.S. cities in overdose mortality.
Philadelphia Dept of Prisons (PDP) = Sixth largest jail system.
25% (~900 inmates/day) have opioid use disorder (OUD.)
Less than 1% of jails offer opioid agonist medications.
2017 Mayor's Opioid Task Force recommendation laid groundwork.

Objectives:
•Describe the implementation of buprenorphine pharmacotherapy in the Philadelphia Department of Prisons.
•Identify system and structural challenges, and policy recommendations.

Method: Case study. Interviews, or internal data from program.

Results:
•Piloted in women's jail in February 2018; full roll-out in August 2018.
•10 prescribing waivered physicians, across 5 buildings.
•Approx. 230 men & 70 women eligible to participate daily.

•80% (men) & 90% (women) enrollment rate.
•Early (female) pilot data: ~50% engage in follow-up treatment.

Initial protocol:
Nurse screen for OUD; opioid withdrawal assessment
Buprenorphine daily observed dosing (tablet crushed)
First dose is 4 mg, subsequent dose is 8 mg/day
Re-entry: "bridge" RX for ~5 days + Naloxone kit
Post-release Appointment date for sentenced patients or referral to outpatient clinic
Medicaid re-enrollment.
Naloxone training.

Protocol changes:
Option for adjunctive psychosocial treatment groups
Re-entry: patients get ~5 days of medication(blister-pack), not RX
Formulation: change to buprenorphine/naloxone tablet

Regulatory barriers:
1) DATA Waiver requirements- federal
a) Patient limits- SAMHSA- "emergency" request for patient limit increase
b) DEA- gaps in guidance on patient panels /capacity
2) Opioid Treatment Program (OTP) federal regulations

Structural challenges:
1) Pharmacy: 40% RXs filled
2) Insurance/cost
3) PA Medicaid software system
a) complexity/ uncertain MA re-activation times
b) unintended consequences: ex: children's coverage termination
4) Community treatment? "warm handoff"
5) Data collection outcomes analysis: requires multiple partners

Policy Innovation:
Demonstrates a harm reduction approach to treatment, allowing incarcerated, pre-sentenced individuals to maintain opioid tolerance and reduce their overdose risk on re-entry.

Next steps: Outcomes data analysis, will study participant engagement in treatment, re-admission to jail, and fatal overdose rates.

Conclusion: This first-year jail buprenorphine program demonstrates successful engagement of eligible individuals, and ability to integrate OUD pharmacotherapy into large urban jail medical protocols, however regulatory barriers can be barriers to program capacity. Policy implications include outdated federal opioid treatment regulations.

Alcohol Screening and Brief Intervention in Colorado: Successes and Opportunities for Improvement after 10 years of Implementation

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Background: Colorado implemented two Screening Brief Intervention Referral to Treatment (SBIRT) grants to address alcohol and other drug use from the Substance Abuse Mental Health Services Administration between

2006 and 2016. Approximately 175,000 adults aged ≥18 years were screened in grant-funded sites (e.g., hospitals, primary care clinics, emergency departments); 11,000 health professionals participated in SBIRT skills-based trainings or presentations; and SBIRT clinical support tools were widely disseminated. In 2017, the Colorado state health department added the Centers for Disease Control and Prevention's optional module on alcohol screening and brief intervention (ASBI) to the Behavioral Risk Factor Surveillance System (BRFSS). **Objective**: To assess the reach of efforts to implement ASBI in Colorado for the prevention of excessive alcohol use. **Methods**: The BRFSS is a national, cross-sectional telephone survey of adults aged ≥18 years that asks questions about health-related behaviors, including alcohol use and seeing a health care provider. The 2017 Colorado BRFSS collected self-reported data on ASBI among adults who reported seeing their health care provider in the past two years (n=7,904). Weighted prevalence estimates with 95% confidence intervals were calculated for various measures among adults who reported seeing their health care provider and among those who saw a health care provider and reported binge drinking. **Results**: Among adults who saw their health care provider, 88% reported being asked in person or on a form about their alcohol use, 80% were asked how much they drink, 38% were asked about binge drinking, and 22% were advised about harmful drinking levels. Among those who also reported binge drinking, 94% were asked about alcohol use; but only 49% were asked about binge drinking, 38% were advised about harmful levels of drinking, and 17% were advised to reduce their drinking. **Conclusions**: Most Colorado adults who saw their health care provider were screened for alcohol use, but less than half who reported binge drinking were specifically asked about their binge drinking. Primary care settings in Colorado have opportunities to expand the use of ASBI for reducing excessive alcohol use and improving adherence with the US Dietary Guidelines for Americans on alcohol.

Adolescent SBIRT Practice Transformation: From Implementation to Realized Clinical and Operational Outcomes

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Background: Research indicates high-risk adolescent substance use is a significant predictor in negative outcomes for substance use disorder (SUD) in adults, yet SUD services for adolescents remain difficult to access. Building upon the research for Screening, Brief Intervention and Referral to Treatment (SBIRT) with adolescents, the Facilitating Change for Excellence in SBIRT initiative developed an innovative and evidence-based guide, or Change Package, for adolescent SBIRT which comprises 11 clinical and operational change concepts that facilitate SBIRT implementation. **Objective**: To provide primary care with a model for addressing unhealthy substance use amongst the adolescent population. Within the model, providers will be equipped with the knowledge and skills to drive integration by enhancing competencies for discussing with youth risky substance use on a continuum. **Methods**: A panel of experts convened to develop the Change Package which was then piloted in an 18-month learning community of 12 national Federally Qualified Health Centers (FQHCs). Through multi-modal training and technical assistance, learning community participants tested these concepts for efficacy and practical applicability. The Change Package was evaluated by measuring penetration, provider acceptability, and fidelity/adherence through a comprehensive evaluation that analyzed data from implementation surveys, organizational-self assessments, and clinical data. Evaluation feedback guided the refinement of the Change Package. **Results**: All pilot sites increased rates of screening and delivery of brief interventions and experienced advancements in penetration and adherence to the Change Package over 18 months. Through pilot participant impact stories, sites reported an augmented ability to address the spectrum of adolescent substance use. Compared to behavioral health clinicians (BHCs) not trained in SBIRT, trained primary care providers (PCPs) and BHCs reported greater confidence in delivering brief interventions effectively and in linking patients to treatment services. Findings suggest that adolescent SBIRT training with primary care providers in FQHCs can help prepare PCPs for the adoption of substance-related prevention and early intervention services. **Conclusions**: The Change Package is a guide to support FQHCs in successfully implementing a standardized, yet flexible model for addressing adolescent substance use prevention and early intervention within primary care. A finalized resource will be available for interested parties at the time of presentation.

Creating and Growing a Pain and Addictions Curriculum for Family Medicine Residents: Resident Feedback & Lessons Learned

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Background: Family physicians are well-positioned to take care of patients who struggle with addiction, providing increased access to care, destigmatizing addiction, and supporting patients' other medical and mental health needs.1,2, However, most physicians do not feel adequately trained to diagnose and treat addiction.3 A 2015 study found that only 28.6% of Family Medicine residency programs had an addiction curriculum.4 While American Academy of Family Physicians (AAFP) and the American Society of Addiction Medicine (ASAM) have developed a list of core, broad addiction competencies, these do not directly translate into curricula at a more applicable and granular level. **Objective**: In 2015, the Tufts Family Medicine Residency Program created a pain and addictions curriculum. We sought to evaluate this curriculum based on resident feedback and offer lessons learned after four years of implementation. **Methods**: We surveyed 21 previous graduates of our residency program who completed 3 years of the curriculum. **Results**: Prior to starting residency, residents reported minimal training in pain and addiction. Our curriculum helped residents improve their confidence in basic addiction skills. By the end of the curriculum, all residents reported viewing addiction as a core social determinant of health and overall held de-stigmatized attitudes toward patients with SUD. 76% of residents plan to prescribe Buprenorphine-naloxone (B/N) in their future careers. Resident reported the most valuable parts of curriculum are the experiential learning opportunities: going to various levels of care, running groups, getting B/N waivered, teaching naloxone administration. They wanted more opportunities to do 1:1 prescribing, want B/N waiver training and opportunities to perform OUD intakes earlier in their training, more training on AUD and chronic pain management. **Conclusions**: We have identified a few take-home points for other residency programs to consider: teach chronic pain management alongside addiction, couple didactics with experiential learning opportunities, provide group visits so residents gain deeper appreciation for patients' struggles, utilize interdisciplinary teaching with behavioral health providers, teach not only the "what" but also the "how" of the work.

Osmotic Demyelination Syndrome in a Patient With Alcohol Use Disorder Despite Slow Correction of Hyponatremia

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Background:

Osmotic demyelination syndrome leading to a "locked-in" state is a rare complication of rapid correction of hyponatremia. Severe hyponatremia, chronic hyponatremia, hypokalemia, rapid correction of sodium, malnutrition, and alcohol use disorder are established risk factors.

Learning Objective:

Recognize alcohol use disorder as a risk factor for hyponatremia and osmotic demyelination syndrome

Case Presentation:

The patient is a 38-year-old man with a history of severe alcohol use disorder and remote traumatic brain injury who presented to the emergency department with one day of altered mental status and nausea/vomiting. Triage vital signs were notable for mild sinus tachycardia to 109 beats per minute. On initial exam, mucous membranes were dry and the patient was alert, but confused. He exhibited signs of alcohol withdrawal. Labs revealed sodium of 114 mEq/L and potassium of 2.6 mEq/L. Point of care urine toxicology was negative (serum alcohol level was not obtained.) His potassium was repleted and his sodium was corrected slowly (< 8 mEq/L per 24 hours) utilizing desmopressin and hypertonic saline. His alcohol withdrawal was treated with benzodiazepines. His mental status improved but on hospital day 7 he was noted to have new dysarthria. Brain MRI showed osmotic demyelination in the central pons and lateral geniculate bodies. He progressed to a fully "locked-in" state and required intubation for airway protection. Over the course of several weeks his neurologic status improved, and on the day of discharge to an acute rehabilitation facility, he was able to sit in a chair and speak,

though still with marked dysarthria.

Discussion:
Despite slow correction of hyponatremia, this patient developed osmotic demyelination syndrome. It is important to recognize that alcohol use disorder is an independent risk factor for the development of this syndrome. This case report suggests that current guidelines for the rate of sodium correction may still be too fast in patients with multiple risk factors for osmotic demyelination syndrome. Further research is needed to determine optimal rates of correction for such patients.

Wernicke-Like Encephalopathy in a Patient With Gamma-Hydroxybutyrate (GHB) Withdrawal

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Background: Wernicke encephalopathy is characterized by ophthalmoplegia, ataxia, and confusion. It is caused by thiamine deficiency and is typically seen in patients with severe alcohol use disorder and other states of malnutrition. Wernicke-like encephalopathy has been described in cases of GHB withdrawal.

Learning Objectives:
1) Recognize the syndrome of GHB intoxication and withdrawal
2) Identify Wernicke-like encephalopathy as a rare manifestation of GHB withdrawal

Case Presentation:
The patient is a 50-year-old man with a history of neurosyphilis, generalized anxiety disorder on clonazepam, GHB use, and stimulant use disorder, who presented to the hospital with chest pain and anxiety. On initial examination, he had no neurologic deficits. His troponin was 0.10 ng/ml and he was admitted to the cardiology service for further workup. On the night of admission, he began acting impulsively (taking his clothes off, stealing candy from the nursing station), which progressed to severe agitated delirium (throwing ceiling tiles at staff.) After receiving diphenhydramine, lorazepam, and haloperidol, he became extremely somnolent and required intubation for airway protection. He was extubated the next day and exhibited confabulation, left cranial nerve six palsy, and ataxia. Lumbar puncture showed 1 WBC and normal protein and glucose levels. Serum and CSF syphilis testing was negative. MRI brain was normal. He was treated with benzodiazepines and high-dose IV thiamine. His mental status improved, but his cranial nerve six palsy was present at the time of discharge to an outpatient substance use disorder treatment program. The patient was amnestic, but the patient's friend later told the team that he used GHB shortly after being admitted. The patient drinks alcohol very rarely and has a normal diet with BMI 23 and no signs of malnutrition on exam.

Discussion:
GHB is a "club drug" which causes euphoria and disinhibition. At higher doses, somnolence is common. Agitated delirium can occur before, after, or in alternation with depressed mental status. Withdrawal resembles that of other sedative-hypnotics. Wernicke-like encephalopathy has been described in the setting of GHB withdrawal. It is unclear whether patients are thiamine deficient. Case reports describe improvement with supportive care, treatment of withdrawal, and thiamine supplementation.

Exploring a Complex Relationship: A Qualitative Study of Substance Use and Homelessness

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Background: Emergency department (ED) patients commonly face problems with both substance use and homelessness. Research has suggested a bi-directional relationship between substance use and homelessness, but most prior research has been quantitative and cross-sectional. Better understanding this relationship could

inform the design of more responsive ED-based substance use interventions, including those that also address homelessness. **Objective**: To examine the complex interrelationships between homelessness and substance use among emergency department patients using in-depth qualitative interviews. **Methods**: We conducted in-depth, one-on-one interviews with ED patients who had become homeless within the past 6 months. Using a semi-structured interview guide, we asked patients about their pathways into homelessness and the relationship between their substance use and homelessness. Interviews, on average lasting 42 minutes, were digitally recorded and professionally transcribed. Transcripts were coded line-by-line by 2-3 investigators, who discussed and refined codes in an iterative fashion. The codes then formed the basis for thematic analysis and consensus discussions. ATLAS.ti was used to assist with data organization. **Results**: Of the 31 patients interviewed, 54.8% reported unhealthy alcohol use and 41.9% drug use in the past year; for others, substance use was only in the past. Five themes emerged: 1) Substance use often contributes to homelessness as an upstream factor, through varied intermediary factors (e.g., job loss, family discord); 2) Homelessness affects substance use variably, both increasing (e.g., due to depression) and decreasing substance use (e.g., due to lack of time); 3) Substance use and homelessness sometimes share precipitants, often related to interpersonal factors; 4) Substance use creates practical and environmental barriers relevant to homelessness (e.g., avoiding shelters that might trigger relapse); 5) Homelessness can both promote and hinder entry into substance use treatment (e.g., may motivate "change"). **Conclusions**: Substance use and homelessness are intertwined in complex ways. ED-based substance use interventions should consider the high prevalence of homelessness and the variable ways in which homelessness affects substance use and vice versa.

Cardiovascular Risk Factors in Patients Admitted for Alcohol Detoxification

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Background: The prevalence of cardiovascular risk factors (CVRF) in otherwise healthy alcohol-use disorder (AUD) patients admitted for hospital treatment is not known. **Objective**: We wanted to describe the prevalence of CVRF, of concomitant use of other drugs, as well as the blood levels of glucose, creatinine, cholesterol and triglycerides in AUD patients admitted for hospital treatment. We also wanted to assess if there was a difference in the distribution of CVRF, use of drugs and blood levels by sex.
Methods: Cross-sectional study performed at two tertiary hospitals in Barcelona between June 2013 and March 2019. Information of alcohol and other drug use and the presence of CRVF [overweight/obesity, hypertension, diabetes and dyslipidemia] were gathered through interview and medical chart review. Blood was drawn on the second day of admission. We performed analyses to assess if sex was associated with the distribution of CVF, other drug use and laboratory values. **Results**: We included 321 patients (77% male, median age 50 years [Interquartile range (IQR):44-57]). The median alcohol consumption was 140 gr/day (IQR:100-220) and median length of AUD was 20 years (IQR:10-25.5); 245 (76.3%) were active smokers and 20 (6.2%) were former smokers, 76 (23.7%) had concomitant use of cocaine and 74 (23.1%) cannabis, while 39 (12.1%) consumed both cocaine and cannabis, and 18 (5.6%) used opiates. Prevalence of CRVF was as follows: overweight 110 (34%), obesity 73 (22.7%), hypertension 82 (25.5%), diabetes 41 (12.8%) and dyslipidemia 149 (46.9%). The median levels of glucose, creatinine, cholesterol and triglycerides (in mg/dL) were 92 (IQR:83-103), 0.78 (IQR:0.66-0.90), 189 (IQR:156-222) and 110 (IQR:77-179), respectively. Women had lower levels of alcohol consumption (134 vs. 177 gr/day, $p<0.01$), and shorter length of AUD (15.4 vs. 20.7 years, $p<0.01$), and a trend towards lower opiate use (1.4% vs 7.4%, $p=0.07$) and lower prevalence of diabetes (13.8% vs. 32.5%, $p=0.08$). No other sex-associated differences were seen in other drug use, CRVF or blood levels.
Conclusions: AUD patients admitted for detoxification present a high prevalence of CVRF, most prominently tobacco use, overweight/obesity, hypertension and dyslipidemia. Women are admitted with a lower level of alcohol consumption and shorter length of AUD.

The Current and Projected Landscape of Pain and Substance Use Disorder (SUD) Curricula in Pharmacy Programs

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Background: Pharmacists play a key role in ensuring the safe and effective use of medication for patients diagnosed with pain and/or SUD. Despite the increasing prevalence of chronic pain and SUD, pharmacists are provided little time in the classroom. in both the United Kingdom and Canada, the amount of pain education has been called "woefully inadequate." In 2016, the White House issued an action item to require opioid education in the pharmacy curriculum. The International Association for the Study of Pain (IASP) has set forth a recommended curriculum for schools and colleges of pharmacy. However, no data has been published for US programs. **Objective**: To collect and analyze the amount and nature of pain/ SUD education in U.S. schools and colleges of pharmacy. **Methods**: A survey was sent to all clinical pharmacy department chairs via an American Association of Colleges of Pharmacy (AACP) listserv, to members of the Pain, Palliative Care and Addiction Special Interest Group (SIG) of the American Pharmacists Association (APhA) and the SUD SIG of AACP separately. The survey focused on time spent on certain pain and SUD topics, placement in the curriculum, and instructional and assessment methods. Survey data was shared with a focus group composed of a convenience sample of SIG members and analyzed. **Results**: 23% (31) of programs responded to the survey. 19% of programs had 1+ required pain/SUD course within curriculum; 58% had an elective course. 84% provided 5+ hours of lecture on pain/SUD. Qualitative focus group data highlighted that more time, more required pain/SUD content delivered longitudinally and continuously should be implemented. Focused subjects should be most prevalent disorders involving alcohol, opioids, and nicotine. Limitation include logistical structure, administration support, experiential site integration, and faculty expertise and interest. **Conclusions**: A longitudinal, spiraled approach to pain/SUD education could provide a more robust education while minimizing time changes in current pharmacy curricula. SUD content offers multiple pathways to achieve different application skills and should be increased to highlight the role of the pharmacist in SUD care.

Core Competencies – Specific Disciplines Addressing Substance Use: AMERSA in the 21st Century – 2018 Update

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Background: Knowledge, skills, abilities, or personal characteristics that can be observed and measured are important for informing the competencies of health care professionals in all disciplines to effectively identify, intervene with, and refer persons who are at risk because of substance use. Documenting these competences provides guidance to educators preparing health care professionals and to organizations that evaluate and measure performance. Competencies need to be revised and developed as new evidence is established. Thus, it was time to revise those published in 2002 by AMERSA through Project MAINSTREAM. **Objectives**: Describe the process of initiating a major revision of the core competencies for medicine, nursing, pharmacy, and social work related to substance use. Identify various factors that compelled the need for updating competencies, consider core competencies shared by the disciplines and suggest strategies for further dissemination. **Methods**: Funding for the initiative was made possible by a grant from SAMHSA. A representative from each discipline was identified based on leadership roles within AMERSA. Each representative identified additional team members within their discipline to contribute to the development of competencies. The lead contributors met to discuss the framework for the competencies and the structure for the narrative introducing them. An editor oversaw the work of the team and collated the work into a cogent document. **Results**: The final 166 page document includes a background and introduction leading to five chapters focused on medicine, nursing, pharmacy, social work, and physician assistants and each discipline's corresponding competencies. The document is richly substantiated with recent and seminal references. As part of the dissemination plan, the work will be disseminated in a special issue of Substance Abuse. **Conclusions:** The final product provides in-depth chapters for each discipline beginning with an introduction; core values;

education, licensure, and certification; critical issues, obstacles, and challenges; and vision for the future, followed by discipline-specific competencies. Educators, practitioners, organizations, and consumers will benefit from having this substantial resource.

Mandating Naloxone Co-Prescription to Prevent Opioid Overdose: Early Implementation Findings in Five States

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Background: The US overdose epidemic has evolved from one driven primarily by prescription opioid medications and heroin to one dominated by illicitly manufactured fentanyl. Expanding community access to the overdose antidote naloxone is an evidence-based overdose prevention strategy that works against all opioids. Laws to permit community programs, prescribers, and pharmacists via a standing order to provide more naloxone have grown substantially, with the newest law requiring that naloxone be co-prescribed to individuals that meet criteria for being at increased risk for overdose. **Objectives**: We sought to examine early impacts of the co-prescribing mandate on the number of naloxone doses dispensed by prescribers and by pharmacy standing order, types of prescribers prescribing, pharmacies dispensing, and type of payor. **Methods**: Using data from a large community pharmacy chain, we examined effects of co-prescribing mandates 90 days before and after they took effect in Arizona, Rhode Island, Virginia, Florida and Vermont. Analyses included descriptive statistics, linear models and Chi-square tests. **Results**: Naloxone co-prescribing mandates enhanced community naloxone provision, engaged more and varied prescribers, complemented naloxone provision under pharmacy standing orders, provided naloxone to more geographies, reduced burden on patient cash purchases, and broadened the payor mix for naloxone. State mandates with explicit language requiring naloxone provision to people with histories of substance use disorder or overdose attained the highest naloxone dispensing per capita. **Conclusion**: Mandating co-prescribing quickly expands access to life-saving medication in more places and creates a sustainable source of community naloxone. Policy makers should consider implementing naloxone co-prescription to save lives.

Implementation of an Online Resource to Administer Substance Misuse Prevention Education

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Background: Evidence-based, age-appropriate substance misuse prevention education is required for all public schools in Rhode Island. There are currently no free, validated curricula in place for educators to plan lessons. A novel 3-hour, in-class curriculum was developed and assessed in eight Rhode Island public schools during the 2016-2017 academic year. An author-identified limitation was curriculum delivery due to different classroom and scheduling needs among schools. Resource accessibility by educators was deemed essential for sustainability and favorable curriculum delivery. **Objective**: To produce a validated curriculum that is accessible online for educators in the state of Rhode Island. To implement a continuous quality improvement program to iteratively improve access to the website. **Methods**: In conjunction with a pharmacy student at the University of Rhode Island, a website was developed to host the curriculum. A continuous quality improvement (CQI) program was implemented to track user interactions and to gain insightful feedback from users. Educators are required to make an account on the website in order to track utilization. Website traffic is tracked using Google Analytics to provide information regarding organic searches, length of time spent on the website, and the type of machine that was used to access the website. **Results**: Since launching the website in early 2019, there have been 29 unique users to the website and 16 have created an account. There were nine users who returned back to the website at least five times. Session durations varied from 10 seconds to as long as 30 minutes. The average user spent between 3-10 minutes on the website. User engagement showed that 52% of sessions on the website never left the homepage. Users accessed the website using a desktop 79% of the time.

Conclusions: A website to host free substance misuse prevention education was successfully implemented and a CQI program has been established to iteratively improve access for future educators. An analysis of Google Analytics data revealed the website homepage as a potential issue and will be modified in the future to help improve user engagement.

Adaption of an In-Person Healthcare Leadership Curriculum to a Virtual, Interprofessional Addiction Fellowship Cohort

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Background: Healthcare leadership development in post-graduate addiction training is generally limited and didactic. A curriculum that successfully expanded leadership training for Addiction Psychiatry residents, Insight Oriented Leadership (IOL), utilizes self-reflective learning, with peer discussion and feedback, towards development of leadership identity. We describe the adaption of IOL to a virtual platform with an interprofessional cohort of addiction fellows. **Objective**: We assessed the feasibility of delivering an in-person, process- oriented healthcare leadership development curriculum with a cohort of geographically dispersed fellows via video teleconferencing. **Methods**: Participation in IOL was offered to fellows of the VA Interprofessional Advanced Fellowship in Addiction Treatment from (Boston, MA; Dallas, TX; Madison, WI; Pittsburgh, PA; San Antonio, TX; San Diego, CA; West Haven, CT). Six, 1-hour weekly facilitated group sessions were held via Zoom. Pre-post self-assessment of leadership skills and confidence to perform 10 healthcare specific leadership tasks was administered anonymously via Qualtrics. In addition post-course ratings of the experience were administered anonymously via Microsoft Forms. **Results:** Six fellows (67%) from five sites selected the course, with five fellows (83%) attending at least five sessions. Participants reported no leadership training during their graduate education (n=5) and pre-course leadership skills were self-rated as novice (n=2, 40%) or intermediate (n= 3, 60%). Pre-post rating of confidence with healthcare leadership tasks increased for 9 of 10 leadership tasks. Post-course ratings were assessed with 5-point Likert scale (strongly disagree to strongly agree) with participants reporting increased interest (n=3; x=4.33; sd=.58), and knowledge (n=3; 4.00, sd=.58). Fellows rated the course as enjoyable (n=3; 4.67, sd=,58) and would recommend it to future fellows (n=34.33, sd=.58). Acceptability of the video platform to support learning was variable (n=4;x=3.0; sd 1.4); and qualitative responses indicated that the video platform posed some technical barriers. **Conclusions:** Adaption of an in-person leadership curriculum to a virtual format, with remotely located fellows, showed initial promise to increase leadership interest, knowledge and confidence, while revealing some barriers to participation due to the videoconferencing method. Future focus on improved access and operability of the video platform is warranted, given the educational potential for national leadership development at the post-graduate level.

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Perceptions on PrEP Amongst Internal Medicine Residents at an Inner-City Hospital

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Background: Pre-exposure prophylaxis for HIV (PrEP) has been proven to be safe and effective to curb new HIV infections in at-risk HIV negative individuals. The adoption of PrEP for use in People Who Inject Drugs (PWID) has been limited. There is little data with regards to attitudes and knowledge on PrEP amongst Physicians in-training. We intend to fill that void with our study to better guide future efforts for PrEP adoption. **Objectives**: To assess the knowledge and beliefs of internal medicine resident physicians in regards to HIV pre-exposure prophylaxis. Methods: A voluntary web based anonymous survey was sent out to 94 internal medicine

residents to assess their knowledge as well as willingness to prescribe PrEP. Data gathered was analyzed using descriptive statistics. **Results**: There were 85 possible respondents, of which 84 completed the survey. Overall, 93% of residents had heard of PrEP, however only 31% correctly answered the generic drug name i.e. Emtricitabine/Tenofovir Disoproxil Fumarate. 61% correctly answered that a negative HIV test is essential prior to initiating PrEP. 45% felt they were not comfortable monitoring for adherence, toxicity and sexually transmitted infections in patients on PrEP. 82% answered that they hadn't received any prior education on PrEP. 88% had never prescribed PrEP to a patient in the past, and only 23% had ever been asked by patients to provide information on PrEP. 82% of residents believed that their attendings were likely to support them in clinic, if they were to suggest PrEP for an eligible patient. 100% of respondents answered yes when asked if they would spend time counselling patients on PrEP in clinic and 93% said they were willing to consider prescribing. 80% were of the opinion that patients taking PrEP would likely increase sexual-risk taking practices. 87% said they support the use of government funding to pay for PrEP. **Conclusion:** There is a significant disparity between perceived resident knowledge, and their actual understanding of prescribing PrEP. The majority had never received any formal training on pre-exposure prophylaxis, and were not comfortable initiating a discussion regarding PrEP with their patients. More training at the resident level is necessary.

Hatha Yoga, Guided Imagery and Metta Meditation in a Medically Managed Detoxification Treatment Setting for Opioid Use Disorder and Alcohol Use Disorder

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Background: Several studies have described yoga together with meditation as being both cost-effective as well as effectual in treating substance use disorders (1, 2, 3). Morning plasma cortisol, ACTH and prolactin in participants of Sudarshan Kriya Yoga, who were admitted for alcohol use disorder were significantly lower in a study performed by Gangadhar et al. In another study performed by Stein et al comparing the efficacy of Hatha yoga to conventional group psychodynamic therapy, no difference was found between the two groups. **Objectives:** Our study intends to ascertain the effects of Chair Hatha Yoga, Guided Imagery and Metta Meditation on patients admitted for alcohol and opioid use disorder, using qualitative feedback from the participants. **Methods:** Semi-structured chair yoga and meditation sessions will be held once weekly in a medical detoxification unit for opioid and alcohol use disorders at an inner city, safety-net hospital. Sessions will be led by an addiction medicine physician who is a registered yoga teacher and will be 15 minutes. They will be comprised of 10 minutes of chair yoga done in the Hatha tradition, which focuses on pranayama breath and six movements of the spine (flexion, extension, lateral). The second part of the session will be a 5 minute exercise in both Guided Imagery and Metta meditation styles. Upon completion, patients will be asked to describe their experience in an opt-out and anonymous fashion. **Results:** Responses were assessed using qualitative and thematic analysis, with codes developed through an iterative process and documented for categorization. Examples of responses included: "This exercise brought me beneath the waves;" "I felt really relax. In a comfort zone. I also felt at peace, an inner peace;" "The chair yoga exercises were relaxing yet beneficial...by the end my back felt more relaxed. Stretching the body even for this short of a time was magnificent;" "I enjoyed the part that I was willing to relax for once and not be drinking;" "Felt relax. Really did. For a moment it took me out of this place." **Conclusions:** This qualitative study is evidence of the effectiveness and empowerment that Yoga and Meditation may have on one's treatment in a medically managed withdrawal setting. To date, there have not been any studies in this setting, and this proves to be an area that could be of benefit to those with alcohol and opioid use disorders. More research is needed for this non-pharmacological guided treatment for substance use disorders in all settings.

NYC Health & Hospitals Implementation of Addiction Intervention Services in 11 Emergency Departments

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Background: The NYC Health + Hospital system (H+H) provides Emergency Department (ED) services to approximately 75,000 patients with Substance Use Disorder annually. An additional 13,000 ED patients have Opioid Use Disorder (OUD), accounting for approximately 44,000 visits, the preponderance of whom do not engage in addiction treatment after discharge. **Objective**: To describe the initial adoption and preliminary evaluation of an innovative and interdisciplinary addiction intervention program in a large hospital system to identify, initiate, and engage patients to ongoing addiction services from the ED. **Methods**: H+H has begun to implement an addiction intervention program in all 11 EDs comprised of four novel and evidenced-based services: hiring teams of Certified Recovery Peer Advocates (CRPAs), and licensed counselors; brief screening for risky substance use by nurses; free Naloxone kit distribution; and Buprenorphine induction.
Results: In nine months, H+H implemented the program across seven emergency departments, the remaining four plan to launch by summer 2019. H+H began by hiring 39 CRPAs and licensed counselors, which has resulted in over 6,000 encounters with patients, 15% of whom had OUD. Over 137,000 patients were screened for risky substance use by ED nurses, 14% screening positive and 8% receiving an intervention from an addiction team member. At least 1,600 patient encounters included peer support services, and 4,600 received a brief intervention which may have comprised of motivational interviewing, supportive counseling, and/or a Naloxone kit. Over 731 patients were given referrals to treatment. Four EDs began providing Buprenorphine to patients, with over 100 patients provided the medication. **Conclusions**: H+H has endeavored, at scale, to optimize the ED visit as an opportunity to initiate and engage patients in addiction treatment. Brief intervention services had historically been able to serve only a small portion of ED patients in need, while peer support and Buprenorphine therapy were novel interventions introduced into this service environment. While an encouraging number of patients have been impacted by the program, further investigation is required to determine the number of patients initiating and maintaining addiction treatment upon discharge.

From the Hospital to the Community: A Successful Use of Patient Navigation Provided to an Individual with Opioid Use Disorder Enrolled in Project HOUDINI LINK

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Background: Although offering individuals with opioid use disorder (OUD) medication during a hospital stay or emergency department (ED) visit has improved treatment access, linkage to and retention in community-based care following discharge remains a significant problem Project HOUDINI LINK (Hospital Opioid Use Disorder treatment INItiation and LINKage to care) is a SAMHSA-funded program that provides six months of patient navigation and contingency management to patients initiating an FDA approved medication for OUD while hospitalized or in the ED at Zuckerberg San Francisco General Hospital (ZSFGH), an urban safety net hospital.

Learning Objectives: By the end of this presentation, attendees will be able to (1) describe the evidence-base for patient navigation during OUD treatment; (2) identify three potential treatment barriers that linkage navigation may overcome; and (3) explain how contingency management may improve OUD treatment outcomes.

Case Presentations: The patient is a 32-year old Caucasian cisgender male who presented to the ZSFG ED experiencing opioid withdrawal with the desire to stop using heroin after leaving an abstinence-based residential treatment program. He moved to San Francisco to attend the residential program and had no other housing option available. Due to the severity of his withdrawal, he was referred to the ZSFG ED shortly after admission. The patient was assessed and given 8mg of sublingual buprenorphine with near resolution of withdrawal symptoms. In addition, he was agreeable to enroll in Project HOUDINI LINK. He decided to continue buprenorphine after discharge but was then without stable housing as he could not return to his abstinence-

based program. With the help of Project HOUDINI LINK, the patient was referred to a community-based buprenorphine provider, obtained San Francisco-based health insurance, found temporary housing and a residential treatment program that encouraged buprenorphine maintenance, and began mental health and primary care treatment. His patient navigator visits and contingency management incentives (up to $325) reinforced his attendance, cessation of opioid and stimulant use, and ongoing buprenorphine adherence.

Discussion: Project HOUDINI LINK was developed to improve linkage rates of patients undergoing hospital-based OUD treatment initiation. Linkage services allow patients with complex co-occurring disorders and multiple psychosocial stressors to succeed in the existing continuum of OUD care.

Understanding Risk Communication About Fentanyl Use in Health Care and Community Settings: Successes and Opportunities For Improvement

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Background: In the midst of opioid overdose deaths surging due to illicitly-made fentanyl, it is not understood how best to communicate the risks associated with fentanyl use. **Objective**: This study explored risk communication related to fentanyl use by assessing patient and care provider experiences in discussing fentanyl across 4 dimensions of risk communication. **Methods**: We purposively sampled 1) equal numbers of men and women with past year fentanyl use, and 2) healthcare and community outreach practitioners ("providers") in Boston and conducted qualitative interviews. Using grounded content analysis, we developed codes structured around 4 communication elements: 1) providing information about risk; 2) recommending the elimination of risky behavior (abstinence); 3) discussing safer use strategies (harm reduction); and 4) reassuring patients that care will continue regardless of adherence to recommendations. Codes were analyzed to build themes around these dimensions and compare risk communication strategies currently employed and those desired by each group. **Results**: Twenty-one people who use fentanyl (PWUF) and 10 providers were enrolled. PWUF wanted information about fentanyl risks and saw those with a history of addiction as the most credible source. Risk information was welcomed when delivered in a non-judgmental, "kind and courteous" manner, and the messenger did "not sugar coat it". Discussing abstinence, both PWUF and providers stressed "personal readiness" as essential. Yet, PWUF reported that effective referrals in post-overdose settings were uncommon: "They highly recommend to get into a detox, but they never try to make the effort to get me in." All providers emphasized needing to communicate harm reduction strategies to reduce fentanyl-related overdose that recognize individual use practices. Although providers expressed a willingness to continue care for PWUF, 14 PWUF experienced stigma in health care settings that undermined risk conversations, some being refused care: "One of my primary care [providers], he told me just to get out of his office… Now he will never see me again." **Conclusion**: Building the capacity of medical practices to counsel PWUF in the midst of the opioid crisis is critical to engaging patients. Partnering and employing peers with experience using illicit fentanyl may be a promising strategy to improve fentanyl overdose risk communication.

Clinicians' Perspectives on Extended-Release Naltrexone to Treat Opioid Use Disorder in Outpatient Settings: Results from an Online Survey

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Background: Extended-release injectable naltrexone (XR-NTX), buprenorphine, and methadone are effective pharmacological treatments for people with opioid use disorder (OUD), yet all are underutilized. In 2017, less than 2% of 1.3 million people in substance use treatment facilities received XR-NTX, and only 24% of facilities offered XR-NTX for OUD. One barrier to the initiation of XR-NTX is the need for a 7-10 day period of

withdrawal management (detoxification) prior to induction. **Objective:** To describe withdrawal management and induction practices of healthcare providers (HCPs) and additional perceived barriers to XR-NTX for the treatment of OUD. **Methods**: HCPs from outpatient settings who treated >5 people with OUD/month and intended to prescribe medication for OUD in the next 6 months participated in an online survey. Survey items assessed clinician characteristics and treatment initiation practices, experiences with withdrawal management and induction onto XR-NTX, and barriers to initiating treatment with XR-NTX. **Results:** Participants (n=99) were primarily male (70%), White (75%), and physicians (74%). Most (90%) had supervised withdrawal management in people with OUD during the previous 12 months; tapering doses of buprenorphine was most commonly used (69%). Nearly 70% offered XR-NTX following withdrawal management, however only 13% were able to successfully initiate >50% of their patients onto XR-NTX. Only 38% reported receiving training on XR-NTX induction procedures, and 70% learned withdrawal management through clinical experience. Perceived barriers to prescribing XR-NTX were patients' fear of withdrawal (93%), HCPs' concern about patient relapse (82%), and financial barriers including insurance coverage for withdrawal management (84%) and lack of reimbursement for support staff (76%). HCPs also identified insufficient infrastructure, including lack of linkages between detoxification and outpatient programs (84%) and availability of detoxification facilities (80%) as barriers. **Conclusions**: As the United States continues to face an opioid epidemic, it is imperative to identify and address barriers to the utilization of pharmacological treatments. Findings from this study highlight the need for additional training and infrastructure support for withdrawal management and XR-NTX induction strategies. Primary care physicians were over-represented in the study; therefore, the findings may not be representative of all HCPs as the perceived barriers may differ by profession and specialty.

Medical Cannabis: Legal, but Accessible? Medical Cannabis Certification and Use Among Primary Care Patients

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Background: Legal medical cannabis became available in New York state in 2016. To access medical cannabis, patients must: (1) be certified by registered medical providers, (2) register online with the NYS DOH, and (3) purchase medical cannabis from a licensed dispensary that cannot accept insurance or credit cards. Given these challenges, access to medical cannabis may be limited among urban, under-served patients who often have limited economic resources and/or complex medical conditions. **Objectives**: To describe factors associated with: (1) seeking medical cannabis certification, and (2) purchasing medical cannabis, among primary care patients. **Methods**: We conducted a retrospective electronic medical record (EMR) review of patients certified from 7/2017–9/2018 at a primary care-based medical cannabis program in a safety net academic medical center. We collected EMR data on the following: demographic characteristics, qualifying conditions for medical cannabis, "street" marijuana use, opioid analgesic use, tobacco use, and medical/surgical history. We also queried the state prescription monitoring program for records of medical cannabis purchases. We evaluated factors associated with purchasing medical cannabis using chi-square tests. **Results**: Of 280 patients certified for medical cannabis, 58% (n=163) were female, median age was 50 (range 19-94), 41% (n=116) were Hispanic, and 81% (n=228) were publicly insured. Most patients were certified for chronic pain (94%, n=263). More than half (53%, n=149) were current "street" marijuana users, and 41% (n=115) were currently using opioid analgesics. Patients had a median of four chronic medical conditions (range 0-28). After being certified for medical cannabis by a medical provider, 49% (n=136) purchased medical cannabis and 28% (n=77) purchased medical cannabis more than once. Fewer "street" marijuana users purchased medical cannabis than non-users of "street" marijuana (34% v. 62%, $p<0.003$). **Conclusions**: Fewer than half of certified patients purchase medical cannabis, with "street" marijuana users less likely than non-users to purchase. Patients seeking medical cannabis in primary care tend to be female, older than 50 years, publicly insured, and have chronic pain with multiple comorbidities. Understanding barriers to purchase is important to ensure equitable access to medical cannabis.

A Low-Barrier, Low-Threshold Community Office-Based Buprenorphine Clinic 10 Years' Experience
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Background: Buprenorphine has been available since 2002 for clinical use. Central Medical Unit (CMU) is an outpatient community clinic in New Haven, CT and has enrolled patients since 2008 for buprenorphine maintenance (BM). This low-barrier, low-threshold clinic offers patients with opioid use disorder (OUD) medications including buprenorphine provided by physicians and nurse clinicians with recommendations, but not mandates to attend additional psychosocial counseling. **Objective**: Chart review of patients on buprenorphine maintenance to evaluate the percentage of illicit drug use. **Methods**: CMU is a low-barrier, low-threshold office based opioid treatment clinic in New Haven, CT. Patients are seen for evaluation, induction and maintenance visits. Urine toxicology at each visit is mandatory. Patients has scheduled visits from weekly to monthly depending on treatment progress. We performed a chart review of urine toxicology screens for the past 4 months of all the patients enrolled at CMU through end of April 2019 for percentage of illicit drug use (opiates, oxycodone, cocaine, methadone). Demographic information, length of stay (LOS) in treatment, and urine toxicology screens are reviewed. Positive urine toxicology screens are defined as positive results for cocaine or opiates or oxycodone or methadone or negative for buprenorphine. **Results**: 361 patients are identified with 336 active clients receiving active contacts for the review period. Over 36% have LOS of > 4 years, 15% have LOS of 2-3 years, and 16% have LOS of 1-2 years. There are 102 females and 259 males. 23% are over 55 years of age; 22% between 45 to 54; 27% between 35 to 44; 28% between 18 to 34. Out of the 336 active patients, 87% have no illicit drug screen; 5% + opiates; 2% + oxycodone; 8% + cocaine; < 1% + methadone or buprenorphine negative. Majority of patients with positive toxicology screen have more than one done. Only a percentage of the toxicology is positive, i.e. the illicit drug use was sporadic. **Conclusion**: Low-barrier, low-threshold office based opioid treatment can be a successful modality and can be used to service a substantial OUD population in achieving abstinence.

Expanding Access to Medications for Opioid Use Disorder Treatment at a City Level: A Community Health Center Learning Collaborative
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Background: Overdose deaths involving opioids rose from 426 in 2015 to 741 in 2016, an increase of 74% (Chicago Department of Public Health [CDPH], 2017). In response, CDPH prioritized increasing access to buprenorphine as one component of the response. **Objectives**: The Chicago Department of Public Health hosted a learning collaborative to support knowledge sharing across community health center (CHC) system providers and leadership, to provide access to addiction treatment experts, to assist in incorporation of evidence-based practice, and to support efficient training. The learning collaborative consisted of two tracks: decision-maker track to support systems-level change and provider track to train buprenorphine prescribers and behavioral health and other care team members. Effectiveness of the initiative was assessed through the collection of health system metrics and individual evaluations from learning collaborative participants**.** **Methods**: The learning collaborative included one year of quarterly, in-person meetings for each track. Before the first meeting and at the final meeting, each health system shared metrics about service capacity, prescribers, and patients. After each quarterly session, individual participants completed online evaluations. **Results**: 38 unique individuals from fifteen health systems participated in the decision-maker track and 107 unique individuals participated in at least one of the provider track meetings. Participants reported that attendance impacted their systems' practice. Health system metrics included a 52% increase in the number of waivered prescribers (from 79 to 120), an 84% increase in the number of providers prescribing buprenorphine (25 to 46), and a 68% increase in the number of locations prescribing buprenorphine (25 to 42). **Conclusions**: This learning collaborative successfully supported the expansion of access to medications for opioid use disorder treatment in primary care settings in Chicago. While having a prescriber with a DATA waiver is a necessary step to allow for buprenorphine prescribing in primary care settings, our learning collaborative found that both system-level support and ongoing clinical training are vital components to allow health systems to create sustainable, evidence-based change.

The Use of Social Support for LGBTQ Clients with Co Occurring Disorders to Remain in Treatment and in the Community

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Background: Lesbian, Gay, Bisexual, Transgender and Queer/Questioning (LGBTQ) individuals are often faced with societal challenges that can lead to mental health or substance abuse issues. The dual stigma of mental health problems, and their sexual minority status, may lead them to be shunned by both mainstream treatment programs and the LGBT community. They also tend to be socially isolated, leading to increased incidence of mental health problems and substance use, since they are not accepted or welcomed into the mental health agencies or substance treatment facilities by affirming care providers. Frequently, they are excluded from the LGBTQ community because of their dual stigma. **Objective**: A program, The Rainbow Heights Club, was developed in 2002 to support and advocate for LGBTQ individuals with an Axis I mental health diagnosis. All of the members are in treatment for their mental health and/or substance abuse problems, but do not have a place to feel accepted, supported or have a sense of community. Rainbow Heights is a place where they can go to feel accepted by staff, peers and other members, without discrimination or fear of rejection because of their sexual identity or mental health/substance use history. **Methods:** Club members were surveyed using a quantitative likert scale to find out if the Rainbow Heights Club was helpful in maintaining themselves in the community and following their treatment plans. **Results:** Results indicated that since joining the Club 75% of members are more consistent in following prescribed treatments and free of psychiatric hospitalization:79% reported being clean and sober; 75% reported they were more consistent with medical and psychiatric follow up and 94% reported they had stopped or reduced substance and/or alcohol use. **Conclusion:** Positive results indicate that providing affirmative services in an environment of acceptance is effective in helping individuals maintain their abstinence and adherence to necessary health and mental health treatment. It has also been concluded that providers do not have to be LGBTQ to provide effective services but must be mindful of challenges and obstacles faced by members of these clients.

Intervention of Members of Addiction Self-Help Groups in Undergraduate Medical Education: Reflections of Medical and Midwifery Students

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Background: Meeting with patients as teachers in medical school helps to build knowledge and change impressions that healthcare students may have on a chronic illness. Meeting with persons living with addiction or in recovery outside of healthcare facilities may change how healthcare students feel about addiction issues. **Objective:** Since 2015, we developed an addiction course for undergraduate medical and midwifery students, which includes a 4-hour session with members of Alcoholics Anonymous (AA), Narcotics Anonymous (NA), or Al-Anon. In this session, several members tell their story, followed by a question-and-answer time between members and students. The aim of our study was to evaluate students' satisfaction about this session, but also their reflections and feelings. **Methods:** We used a mixed method in this study. Each year, we invited students to complete an online anonymous evaluation to grade each session and give feedback. We also conducted a qualitative study to explore students' reflections and feelings regarding the session with AA/NA/Al-Anon members. **Results:** Between 2015 and 2019, a total of 116 students attended the course. Each year, the session with self-help group members received the best grade in the evaluations, with a mean grade ranging from 8.6/10 (SD 1.31) to 9.1/10 (SD 1.29), and positive feedback. In the qualitative part of the study, we conducted 9 semi-structured individual interviews and one focus-group of 6 students. Students all praised the intervention of self-help group members, which they found more interesting than interventions by medical teachers. They found it easier to understand the need for comprehensive and patient-centered care, and felt it changed their representations of patients with addiction. They felt more confident in talking about addiction with their patients, but also more responsible and legitimate as future healthcare professionals. **Conclusions:** Meeting with members of self-help groups was appreciated by students, who reported a positive impact on their comprehension and views about addiction. We wish to implement a similar session for primary care residents.

Further studies will evaluate if and how this session impacted students' attitudes regarding addiction on the long term.

"A Patient With…": A Substance Use Disorder Training Curriculum for Internal Medicine Residents
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Background: Internal Medicine (IM) residents frequently encounter patients with substance use disorders (SUDs), and many of the important skills required to recognize and care for those with SUDs are central to internal medicine (IM). However, many residents feel unprepared to diagnose and treat addiction, which is compounded by negative regard for patients with SUDs. **Objective**: To equip IM residents with the knowledge and skills to care for patients with SUDs by applying this information to their own empaneled patients, thus resulting in more compassionate and evidence-based care. **Methods**: A 5-part series that runs through three years of IM residency is in development. During each session, residents work through a structured worksheet related to their own patient cases (using EMR data and notes), interwoven with facilitator-presented material, to cover key concepts and make specific plans for action. Sessions developed in this pilot year include "A patient with opioid use disorder" and "A patient with alcohol use disorder." Evaluation includes a pre-curriculum needs assessment and post-session surveys that include knowledge, attitude and confidence questions, as well as plans for action. **Results**: Our needs assessment (n=35, 33% response rate) show 85% characterize the amount of instruction received during residency in addiction as "none" or "too little". While residents estimate that 25% of patient admitted to the inpatient service and 16% of clinic patients meet criteria for a SUD, 50% feel unprepared to diagnose and 81% feel unprepared to treat SUDs. Fifty percent strongly agree or agree that patients with SUDs are particularly difficult to work with and only 22% (SA/A) report that working with patients with SUDs is satisfying. Initial analysis of post-session surveys show plans to screen more liberally for SUDs, initiate harm reduction strategies, and consider pharmacotherapy more frequently. **Conclusions**: A SUD curriculum must address both knowledge and attitudes to empower residents to integrate addiction recognition and management into their practice. Using resident-empaneled patients is a promising strategy and can be adapted across settings and disciplines. Developing effective ways to deliver content on this topic is paramount to improve care for patients with addiction.

Teaching Safe and Effective Opioid Prescribing to Internal Medicine Clerkship Students
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Background: Managing acute and chronic pain with opioids should address the morbidity and mortality associated with the opioid epidemic. A 2016 AAMC statement highlighted that teaching should be "reinforced throughout the continuum of medical education" to be most effective. **Objective**: Our objective was to update our current Internal Medicine (IM) clerkship curriculum on pain management with evidence-based principles of safe and effective opioid prescribing. **Methods**: Participants were IM clerkship students at the University of Chicago. A 1-hour required case-based workshop was created to discuss concepts that guide chronic opioid prescribing, recognize red flags for opioid misuse, learn how to screen for opioid use disorder, and manage acute pain. A pre-post survey was administered to assess the impact of the workshop on experiences, knowledge and confidence. **Results:** Forty-three students have participated in our workshop and completed pre-post surveys (100% response rate). During the IM clerkship, 81% and 75% of students care for patients on acute and chronic opioids respectively once per week or more. Seventy-nine percent cared for patients with opioid use disorder once per month or more. Despite frequent exposure, the majority of students were not familiar with guidelines for prescribing chronic opioids (79%), and not confident in determining appropriate acute pain regimens (90%) and identifying patient at risk for opioid use disorder (60%). Completion of the curriculum was associated with statistically significant increases in these measures. Performance on 3 knowledge questions improved from 46% , 11% and 60% correct to 90% ($p<0.001$), 100% ($p<0.001$) and 90% correct ($p=0.006$). Ninety-five percent felt the workshop was helpful in practicing effective opioid prescribing and 98% reported gaining new knowledge. **Conclusions**: Implementing a workshop for third year medicine clerkship students

focused on safe and effective opioid prescribing improved students' knowledge, familiarity and confidence. As the opioid epidemic continues to grow, undergraduate IM training is an opportune setting to address this issue. It is critical to both address the potential for opioid misuse when prescribing opioids and acknowledge the role opioid use disorder plays in some of our medically complex inpatients.

Stitching a Solution to the Addiction Epidemic: A New Longitudinal Curricular Thread on Addiction at Yale School of Medicine

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Background: Despite the enormous burden of disease and impact on public health, addiction continues to be one of the most under-treated chronic diseases – largely due to the lack of an adequately trained physician work force. **Objective:** In response to national calls and increasing student demand for improved addiction education, the educational leadership at Yale School of Medicine recommended the creation of a new curricular thread addressing addiction. **Methods:** We followed the six-step Kern Model of curriculum development as a framework to develop a longitudinal four-year addiction curriculum. We convened a multi-disciplinary committee of educators, departmental leadership, and students to develop the thread. First, we conducted a comprehensive needs assessment through curriculum mapping. Using an iterative process, we then developed core topic areas for inclusion in the thread and outlined educational strategies. These topic areas served as the foundation for the creation of our overall goals and objectives. We held a series of meetings with course and clerkship directors to identify gaps and opportunities. The pedagogical strategies included, didactic activities, workshops, practice-based learning, clinical simulations, and clinical experiences. **Results:** Through curricular mapping, we found that prior to the creation of the thread the teaching of addiction related material was delivered in an uncoordinated manner. We coordinated, enhanced, and updated the existing material and added new curricular content. We organized the material under five core topic areas including: etiology and epidemiology, evaluation of substance use and substance use disorders, pharmacologic treatment, psychosocial treatment, prevention of substance use and harm-related consequences. The thread was launched in fall 2018 and included new initiatives including a harm reduction course delivered to all students just prior to starting clerkships and a buprenorphine training for all fourth-year students. **Conclusions:** Lessons learned included the need for identification of thread material when it is being delivered to students and the importance of faculty development. Development and implementation of a 4-year addiction curriculum is feasible, and our model could lay the ground- work for implementation at other institutions.

Making the Case for Recovery Coaching

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Background:

In Massachusetts, there are approximately 30,000 detoxification admissions annually for heroin and other opioid use disorder. Nearly two thirds of individuals do not access treatment with medications for opioid use disorder (MOUD) despite a higher risk of overdose after detox. Project RECOVER at Boston Medical Center utilizes Peer Recovery Coaches (PRC) to meet individuals at two local detoxes to facilitate engagement with long-term MOUD after discharge. Although MOUD is the primary objective, individuals present with complex needs impacted by addiction.

Learning Objectives:

1. To understand the type and breath of recovery support services provided to people of color admitted for detox by culturally diverse PRCs

2. To understand how PRCs reduce barriers to access treatment, including MOUD.

Case Presentation:
A 36-year-old Spanish-speaking man with advancing visual impairment, mood disorder, severe OUD and no history of treatment with MOUD presented to the detox for opioid withdrawal management. He met with our Spanish-speaking PRC at the detox to build rapport, outline client-identified needs, and facilitate client's engagement with PRC services after discharge. Among the services provided were overdose prevention counseling and linkage to MOUD, primary care, HIV and hepatitis B/C testing, and behavioral health services. The PRC assisted with transportation and accompanied him to medical appointments to address his visual loss. Through a Recovery Wellness Plan inventory, housing insecurity and outstanding legal cases were identified as two primary areas of focus. The PRC attended court with the client, identified gaps in legal representation, and connected him to legal aid that led to prevention of incarceration.

Discussion:
This case exemplifies one model of PRC care that focuses on building a longitudinal relationship with PRCs after detox to support people of color with OUD on multiple domains that affect addiction outcomes including retention in MOUD treatment. The objectives of the PRCs are to support individuals through complex pathways to their recovery by helping the individual address barriers and social determinants of health in addition to physical and mental health needs.

Harder to Treat Than Addiction or Cancer? Highlighting Care Gaps For Patients With Both Addiction and Cancer

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Background:
Patients with substance use disorders (PWSUD) have a high morbidity and mortality rate, even when excluding overdose related deaths. Palliative care (PC) is a specialty that improves quality of life for patients with serious, life-threatening illnesses via symptom management, medical decision-making support, and nurturing prognostic awareness. CDC guidelines on responsible opioid prescribing do not extend to patients with active cancer treatment, underscoring current gaps in care for PWSUD and cancer.

Learning Objectives:
1. Describe the growing population of PWSUD and cancer
2. Identify gaps in care for PWSUD and cancer
3. Develop strategies for collaborative management for PWSUD and PC/oncology needs

Case Presentation:
Case 1: Mr. O is a 45-year old man with metastatic colon cancer, and is distressed by recent signs of disease progression. He has a history of cocaine use and is on chronic opioids after multiple abdominal surgeries. He is seen by PC for lingering neuropathic pain from prior chemotherapy. His wife noticed increasing fixation and aberrant behavior around his opioid medications (missing medications, taking more than prescribed, sweatiness, nervousness, nausea), which she helps him manage. She contacts the PC clinic anxiously after finding a bag of powder, which he confides is fentanyl that he has begun using recently along with inhaling crushed oxycodone.

Case 2: Mr. P is a 35 year old man with metastatic melanoma and an incredible response to immunotherapy, who now has no evidence of disease. He continues to be on high doses of opioids for chest wall pain that is not explained by imaging or biopsy. He reports fatigue, anxiety, and decreased function with trial of slow opioid taper.

Discussion:
PWSUD and active cancer face stressors that increase risk for return to active use. Paradoxically, patients entering survivorship are also at risk for developing and unmasking SUD in the process of tapering opioids post-treatment. Thus, PWSUD and cancer-related pain are a uniquely vulnerable and underserved population, highlighting the urgent and increasing need for comprehensive, interdisciplinary collaboration between oncology, addiction, and palliative medicine.

Opioid Prescribing in UMass Internal Medicine Primary Care: An Assessment of Baseline Prescribing Patterns and Provider Needs

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Background: Central Massachusetts is an epicenter of the opioid crisis, with Worcester being the only Massachusetts county not to report a decrease in opioid overdose deaths in 2017. UMass Memorial Health Care is working toward adherence to CDC opioid guidelines. **Objective**: To create a registry of patients taking chronic opioid therapy (COT), characterize patterns of opioid prescribing, and assess the needs of Primary Care Physicians (PCPs) in UMass Benedict Internal Medicine Primary Care. **Methods**: 1) Registry: We developed a registry of patients who received >3 opioid prescriptions within six months (12/22/2017-6/22/2018). Incorporating data from Massachusetts Prescription Awareness Tool (MassPAT) and Epic, we assessed baseline prescribing patterns, including morphine milligram equivalents (MME)/day, opioid and benzodiazepine co-prescribing, early refills (<28 days), and presence of a pain agreement and/or urine toxicology within the last year. 2) Needs assessment: We distributed a 5-item survey to all 30 PCPs (26 MDs, 4 NPs) with responses on a 1-4 scale and free text (which we collapsed into themes). **Results**: We identified 450 patients on COT for whom our PCPs are primary prescribers. Eighteen percent received >60 MME/day, 25% received concurrent opioids and benzodiazepines, and 22% received early refills. Of the 73 patients taking >60 MME/day, 53% lacked updated pain agreements and 40% lacked baseline urine toxicology. Based on our survey, most PCPs did not feel confident managing chronic pain, identifying red flags for opioid misuse, or interpreting urine toxicology. The four main areas of opioid prescribing for which PCPs requested help were: choosing non-opioid options for pain management, following opioid guidelines, monitoring MassPAT, and managing difficult patients. **Conclusions**: Baseline data demonstrate that opioid prescribing patterns within Benedict are a cause for concern. Our PCPs lack confidence managing chronic pain. We are in the process of implementing a "peer support system" to help PCPs adhere to opioid guidelines, starting with prescribers of patients taking >60 MME/day. Integration of our registry into Epic (to allow update for any group of patients in real time) is nearly complete. Our eventual goal is to disseminate our findings to other practices and contribute to a system-wide approach to responsible opioid prescribing.

The Opioid Crisis Task Force: A Novel System-Wide Interdisciplinary Response to Our Region's Opioid Crisis

Phoebe Cushman MD, MS; Jayne Poch BSN, RN; Paula Bigwood DNP; Elizabeth Isaac PharmD; Katharyn Kennedy MD; Kavita Babu MD - University of Massachusetts Medical School

Background: Central Massachusetts has struggled to confront our opioid crisis. Of the 157 patients who suffered fatal opioid overdoses in greater Worcester 2008-2012, 112 (71%) had contact with UMass Memorial Health Care (UMMHC) in the year prior to death. In response to these statistics and to the 2018 JCAHO (Joint Commission on Accreditation of Healthcare Organizations) Pain Assessment and Management Standards, UMMHC assembled a team of nurses, pharmacists, physicians, information technologists, and quality improvement experts to form our Opioid Crisis Task Force (OCTF). **Objectives** : 1) Develop and implement strategies to monitor, evaluate and support delivery of evidence-based, patient-centered care to reduce opioid-related morbidity and opioid-associated deaths in our patient population. 2) Meet or exceed the 2018 JCAHO Pain Assessment and Management Standards. **Methods**: At our kickoff meeting in September 2018, experts and

stakeholders from multiple disciplines arrived at the root causes of UMMHC's inadequate response to the crisis: 1) Limited access to opioid use disorder (OUD) treatment, 2) Stigma associated with opioid dependence, 3) Lack of standardized methods to catalog/disseminate efforts to prevent, identify and treat OUDs. Additional gap analysis led to creation of 5 OCTF subcommittees: Improved Prescribing, Access to Treatment, Electronic Resources, Changing Culture, and Community Outreach. **Results**: In the seven months since establishment, our accomplishments have included developing an Epic order set for initiating buprenorphine in the ER, integrating a registry of patients on chronic opioid therapy into Epic, installing controlled substance collection boxes for patients at two major hospitals, organizing free buprenorphine waiver trainings for all providers, leading a discussion forum for families of teens at a local high school, hosting a supervised injection facility mock set-up, establishing a peer-to-peer consultation service to help departments struggling with patients on high dose opioids, and distributing a monthly newsletter of all opioid-related events across UMMHC. **Conclusions**: Preliminary review suggests that formation of a centralized Opioid Crisis Task Force is an effective means of uniting professionals across a healthcare system in working toward responsible opioid prescribing and treatment of OUDs. Additional evaluation is required to fully assess our effectiveness in confronting our region's opioid crisis.

Development of a Nurse-Practitioner Student led Multidisciplinary Substance Use Disorder Special Interest Group

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Background: Substance use disorders (SUDs) are common, with opioid use disorder and overdose death significantly impacting Massachusetts and its communities over the past 10 years. There is a significant need to improve the clinical competency of emerging healthcare providers whom are uniquely positioned to incorporate substance use training into their emerging clinical skillset. We formed the SUD Special Interest Group in January 2018 to help the UMass Schools of Nursing, Medicine and Biomedical Sciences further meet the academic mission and the needs of the community**. Objective**: To foster interprofessional learning and supplement existing SUD curricula by sponsoring workshops and lectures led by local and regional speakers/experts in SU and to develop a supportive community of individuals who aim to better understand and care for patients with SUDs. **Methods**: Funding and support was obtained to support this initiative. Speaking with key stakeholders (including faculty and students) helped develop topics of interest. Leaders maintained records of the amount of sessions, content type and future curriculum needs**. Results**: Since launching the SUD Special Interest Group, 6 interprofessional training sessions have occurred across the tri-school curriculum. Session topics include: naloxone training/overdose education, recovery coach panel discussion, chronic pain/safe opioid prescribing, supervised injection facilities and rural health/opioid use disorder treatment. The group was recognized by its peers for its student-led impact and discussed its mission at the Nursing School Dean's Assembly in Spring 2018. In addition, a skills-based clinical session for undergraduate nursing students was completed. This focused-on meeting an unmet need for nursing students to screen and assess patients with SUD in the inpatient setting. **Conclusions**: The SUD SIG has informally developed students' access to interprofessional SUD training and fostered a community of learning. Future directions should include expanding quantifying the impact of these sessions on participants and exploring ways to formalize content areas into curriculum.

Substance Use Disorder Preparedness and Practice Among Nurses: Impact of Addictions Consult

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Background: 19.4 million Americans have substance use disorder (SUD). Annually SUD contributes to 100,000 deaths. A hospital-based strategic plan for SUD was launched to insure appropriate treatment and care

of patients with SUD. Part of this initiative was the launch of the Addictions Consult Team (ACT) to support inpatient units. To evaluate the impact of ACT, a study on physician-practices and attitudes towards caring for those with SUD was completed. However, nursing practice surrounding SUD is poorly understood. **Objectives**: To assess nursing preparedness and practice surrounding SUD and evaluate the impact of ACT on nursing confidence and perceptions of SUD. **Methods**: Nurses from 4 inpatient units completed an online survey with questions from the physician's SUD survey adapted for nursing practice. Questions about nurse practice, confidence, and perceptions and the survey was administered pre and 6-months-post-initiation of ACT on each unit. Nurses also participated in semi-structured focus groups (FG) to elicit nurse perspectives on SUD knowledge and care delivery. Differences in survey scores pre and post-ACT were computed, and FG transcripts were coded for themes. **Results**: 40 completed the survey at baseline and 19 at 6 months. 15 participated in FG. No significant differences in survey scores for nursing practice, confidence, or perceptions of SUD were observed comparing the 2 time points. Themes revealed concerns for privacy, safety, and resources. Other themes included lack of honesty, knowledge, team cohesion and engagement as barriers to care. **Conclusions**: Nurses felt unprepared to care for SUD patients. Themes pointed to system influences as negatively impacting perceptions of SUD such as lack of standardized protocols and environmental issues. These external factors impacted nursing confidence in providing care despite ACT. Ongoing support of ACT combined with protocols, education, and assistance with treatment planning by addiction nursing experts may enhance nursing practice and perceptions of SUD.

Treatment for Substance Use Disorders in Pregnant Women: Motivators and Barriers

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Background: Pregnancy is a unique opportunity to provide broad and necessary medical care for women- including treatment for Substance Use Disorders (SUD). The standard of care for SUD in pregnant women is treatment at a comprehensive care facility. There is little existing qualitative research exploring what motivates pregnant women with SUD to seek treatment and what barriers to treatment exist for this population. **Objectives**: Determine factors that motivate pregnant women with SUD to seek treatment and what barriers exist to treatment. **Methods:** This qualitative study used interviews to explore common factors that motivate pregnant women with SUD to seek comprehensive care during pregnancy and common hesitations/ barriers to treatment. The study population included 20 women in treatment at the Center for Addiction and Pregnancy (CAP), a comprehensive care facility for pregnant and parenting women at Johns Hopkins Bayview Medical Center. Participants did private 30-question interviews, which were recorded and transcribed for analysis. **Results**: Interviews revealed several major themes in motivators to seek treatment, including concern for the health of the baby, concern about custody of the baby and/or other children, inability to terminate the pregnancy, wanting to escape violent environments or homelessness, readiness to stop using, and seeking structure or routine. Interviews also highlighted major themes in hesitation to seek treatment and logistical barriers: fear of legal attention/ loss of custody, not wanting to be away from children or a partner, concern about stigma associated with being in a SUD treatment program, lack of affordable childcare and transportation and low capacity on the housing unit of the treatment program. **Conclusions:** This study provides insight into patients' perspectives on barriers to SUD treatment during pregnancy. Stigma, privacy concerns and punitive measures for substance use during pregnancy are common reasons that women hesitate to seek treatment. Identifying these barriers is an important step in directing further work to improve access to crucial care in this vulnerable population.

Infant Outcomes for Pregnant Women with Opioid Use Disorder Receiving Medication for Addiction Treatment

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Background: Opioid use disorder (OUD) has increased among pregnant women, such that one opioid-exposed infant is born every 30 minutes. Medication for addiction treatment (MAT) has been demonstrated to improve infant outcomes; in particular, buprenorphine has been associated with decreased risk of preterm birth, increased birth weight, and shorter length of neonatal intensive care unit (NICU) stay. Although buprenorphine can be dispensed in any outpatient setting, most pregnant women receive it in a separate clinic from their general prenatal care (PNC). In contrast, the GREATMOMs program in Grand Rapids, MI, co-locates addiction medicine into a maternal-fetal medicine (MFM) clinic. Patients receive PNC from a certified nurse midwife (CNM) and/or MFM physician as appropriate for their risk level, in collaboration with an Addiction Medicine specialist for MAT and other OUD care. **Objective**: The objective of this study was to examine infant outcomes for pregnant women with OUD in the GREATMOMs program compared to those receiving MAT and PNC from separate behavioral health and prenatal clinics. **Methods**: Chart reviews were conducted for GREATMOMs patients from 2017 to 2019 (n=29) and a sample of pregnant patients from a behavioral health clinic in the same health system (n=21). Logistic, proportional odds, and negative binomial regression models were used to examine effect of clinic type on infant health outcomes (preterm, low birthweight, Apgar at 1 and 5 minutes, length of NICU stay) before/after controlling for demographics. **Results**: Preliminary results indicate no significant differences in infant outcomes between GREATMOMs patients and those in separate behavioral health and prenatal clinics. In both patient populations, approximately 1 in 5 babies was born preterm and 25% were of low birthweight. Median Apgar scores in both populations were 8-9 at both time points, while median NICU stay was 5 days for GREATMOMs babies and 7 days for those from separate clinics. **Conclusions**: Infant outcomes were very similar for pregnant women receiving buprenorphine, regardless of whether MAT was embedded into their prenatal care clinic or received in a separate clinic. Future research will examine the roles of treatment characteristics, behavioral and social determinants of infant outcomes for these patient populations.

Willingness to Provide Care to Patients Who Use Alcohol and Opioids (AOs): The Impact of Personal Experience and Substance Use Education

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Background: Alcohol and opioid (AO) use are a public health issue that significantly contributes the global burden of disease, chronic disease and premature death. However, healthcare providers, including nurses, often do not screen patients for AO use problems. Low willingness among healthcare providers has been associated with negative patient experiences and lower patient satisfaction. Low willingness can also result in less patient engagement, underutilization of healthcare resources, and poorer patient health outcomes. **Objective**: To examine the difference in nurses' willingness to provide AO-related care based on type of personal experience with substance use (self, friend, family member and co-worker) and substance use education (in-school, continuing education and in-service education). **Methods**: A descriptive correlational design was used to examine the difference in nurses' willingness to provide AO-care based on personal experience with substance use and type of substance use education. A sample of 264 hospital-based behavioral-health and medical-surgical nurses participated in the study. AO-Personal experience, substance use education and willingness to work with AO use-related problems were measured using investigator-developed questionnaire and Motivation Sub-scales. **Results:** Nurses who reported personal experience with substance use were more willing to work with patients with alcohol use ($p= .002$) and opioid use ($p=.014$) problems than to those who did not have personal experience. More specifically, nurses' who reported an experience with substance use themselves ($p=.004$) and a co-worker ($p=.008$) reported higher willingness to provide alcohol use-related care compared to those who did not. In addition, nurses who reported having substance use education had higher willingness to provide alcohol ($<.001$) and opioid use ($p<.001$) care. Specifically, nurses who received substance use-continuing education had higher willingness to work with alcohol ($p<.001$) and opioid use ($p<.001$) patients. Nurses who reported receiving in-service education reported greater willingness to provide care for patients with opioid use ($p=.045$).

Conclusions: Findings from this study can help to increase our understanding of factors that may influence nurses' willingness to provide AO-care and develop specific interventions designed to target these factors in order to transfer their knowledge and skills into clinical practice, and to foster the implementation of AO-preventive measures.

Employing a Delphi Panel to Understand Changes in Overdose Risk and Naloxone Need in the United States

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Background: Drug poisoning has claimed the lives of over 70,000 Americans in 2017. The opioid crisis appears to be rapidly transforming into three epidemics: prescription opioid (PO), heroin, and fentanyl, faster than existing surveillance and databases can track. **Objective**: To determine factors influencing the transition from a PO to a heroin or fentanyl epidemic, and establish expert consensus on use patterns and naloxone availability for people who use opioids (PWUO) within these epidemics. **Methods**: A modified-Delphi process involving 10 nationally-recognized experts in public health, harm reduction, drug markets, and law enforcement was performed in three iterative waves. Experts named factors that influence the transition towards a fentanyl epidemic and quantified naloxone availability and administration. Experts ranked their answer confidence; if < 30%, they were not asked again. Epidemic transition responses were aggregated and ranked based on importance. Opioid use patterns and naloxone responses were averaged and shown beside the expert's response for them to confirm or update. Experts then met to reach 75% consensus. **Results**: Factors that influence transitions toward a fentanyl epidemic include lack of opioid use disorder treatment, drug traffickers' aggressively distributing fentanyl due to demand, and high street price of PO due to prescribing restrictions. The social drug use network size of PWUO in a PO epidemic is smaller than in a fentanyl or heroin epidemic. 52% of PWUO use alone and 9% have naloxone available in a PO epidemic compared to 38% of PWUO who use alone and 18% who have naloxone available in a heroin or fentanyl epidemic. **Conclusion**: Current market supply and demand influence the transition towards a fentanyl epidemic. States dominated by POs may consider distributing more naloxone and rapidly expanding treatment capacity for medication-based treatment for opioid use disorder to reach socially isolated PWUO and slow the transition to a more lethal epidemic. States should consider the benefit of training and equipping PWUO with naloxone to strategically leverage naloxone supply and maximize overdose death prevention.

Community Naloxone Trainings in Philadelphia: Views of Training Participants

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Background: Provision of the opioid antagonist naloxone is one key strategy to reduce opioid overdose deaths. Naloxone distribution efforts historically have focused on individuals with opioid use disorder (OUD) and their immediate networks. More recently, public health organizations have expanded outreach efforts to the general public with the goal of training more people likely to witness overdose. However, little is known about training attendees and their likelihood of carrying and using naloxone. **Objectives:** Explore perspectives of community naloxone training participants including 1) motivations for attending trainings, 2) training impact, and 3) experiences with obtaining and carrying naloxone following trainings. **Methods:** We conducted semi-structured interviews with participants in free community naloxone trainings hosted by the Philadelphia Department of Public Health from May-September 2018. The interview guide focused on participant motivations for training attendance, experience in training, and barriers and facilitators to obtaining and carrying naloxone following trainings. Interviews were transcribed and analyzed using modified grounded theory to identify emergent themes. **Results:** The 23 interview participants were primarily white (65%), female (70%), with a mean age of 35. Participants reported a range of motivations for attending naloxone trainings. More than half reported

encountering individuals with OUD, either in their workplace, their commute, or their personal lives. Others were motivated by a general desire to address a community problem or to obtain practical emergency response skills. Many participants felt overwhelmed by the impact of the opioid epidemic on their community, but also reported greater self-efficacy for recognizing and responding to overdose following training. However, the majority of participants encountered barriers in obtaining naloxone, including cost or convenience. Of those who obtained naloxone, all reported regularly carrying the medication and one had reversed an overdose in a public space. **Conclusion:** Community naloxone trainings may be an effective way to expand outreach to individuals likely to witness a drug overdose, particularly in their professional or personal lives. The biggest barriers to obtaining naloxone was cost and convenience, so coupling trainings with distribution efforts may be a more effective way of increasing naloxone carrying and overdose response among community members.

New Hampshire Screening, Brief Intervention, and Referral to Treatment (SBIRT) Interprofessional Education (IPE) Training Collaborative: "Evaluation of SBIRT Training in Higher Learning Institutions: Results of a 3 Year IPE Collaboration"

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Background: New Hampshire has high rates of substance use disorders, related comorbidities, and marked health disparities in both rural and urban settings. The aims of this 3-year project were to: 1) increase the number of health professionals across disciplines with the knowledge, skills, and attitudes to be leaders in implementing SBIRT, and 2) increase access to high quality care for underserved populations who suffer from substance use disorders**. Objective**: Train New Hampshire's incoming healthcare workforce to utilize SBIRT in an interprofessional framework. **Methods**: Five academic programs collaborated with the New Hampshire Area Health Education Center. Adapting curricula provided by SAMHSA, the schools provided robust training in SBIRT, reinforced through simulations. IPE was incorporated via: 1) an interactive online platform accessible across academic institutions, and 2) an in-person IPE Day**. Measures**: The SBIRT interprofessional training collaborative was evaluated iteratively. Qualitative and quantitative data were analyzed, triangulated and reported regularly to inform changes and assess progress over a three-year period. Feedback included: 1) Tracking participation in activities, 2) pre-post surveys to assess learners' knowledge and perceptions, 3) surveys of faculty members regarding project implementation within the participating programs, and 4) targeted qualitative methods to understand the trajectory and contextual factors that may affect sustainability of program efforts. **Results**: Between 2016-2018, 1300 health professional students received training through didactic lectures, group exercises, case simulations, clinical placements, and reflective learning. Provision of training was individualized by campus. There was an 63% return rate for student evaluation, of which 59% reported the program was very/extremely successful in increasing student knowledge, skills and attitudes related to SBIRT. 64% were very/extremely competent in identifying their discipline specific role in SBIRT. 55% were very/extremely aware of the role of others in the delivery of SBIRT. Results of semi-structured interviews with faculty will be discussed. **Conclusions**: At the end of three years, faculty have fully integrated SBIRT training in their respective curricula. To ensure sustainability, an inventory of training resources has been created. Faculty are committed to interprofessional relationships created across campuses to continue to enhance the skills that will be needed to implement SBIRT and sustain efforts over time.

Mutual Respect: Adoption and Substance Use During Pregnancy

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Background:

Pregnant women who use drugs face stigma and possible punishment discouraging some from accessing care despite evidence of improved birth outcomes. Guidelines on the care of pregnant women who use drugs highlight flexible treatment plans but do not comment on options counseling. Little is known about reproductive choices for pregnant women who use drugs.

Learning Objectives:

- •Pregnant women who use substances face stigma and barriers to accessing prenatal care which can be countered by strengths-based care provision.
- •Open adoption is an important option for pregnant women with substance use disorders.

Case Presentation:

AW is a 40 yo G2P0 with opioid use disorder and hepatitis C who presented at 25 weeks gestation. The pregnancy was unplanned and she felt unprepared to parent. Although initially planning abortion, she worked with a social worker to connect with an adoption agency.

AW elected to work with two adoptive fathers and disclose her substance use. The adoptive parents were overjoyed to hear from AW.

AW's history was notable for two decades of daily injection heroin use. AW attended all prenatal care and was offered opioid agonist treatment (OAT) throughout pregnancy. She initiated methadone on admission for labor and had an uncomplicated vaginal birth with the adoptive parents present. They participated in an eat-sleep-console protocol for neonatal opioid withdrawal syndrome. AW attended postpartum visits and declined ongoing OAT. She stated, "Everyone went out of their way to make sure things happened on my terms. At other hospitals, I felt judged, like I wasn't in control. Never felt anything like that here."

Discussion:

AW's story highlights the importance of a strengths-based approach for people using substances during pregnancy. AW engaged with an adoption agency, disclosed her medical history, and accessed prenatal care. Her medical team and adoptive family supported her decisions and celebrated her successes, resulting in an atmosphere of joy at birth. Stories like AW's are critical to shifting narratives of pregnant people who use substances from one of deficits to one of strengths. More work is needed to understand how to develop programming to support strengths-based pregnancy care for people who use drugs.

Perspectives and Knowledge on Contraception: A Survey of Addiction Providers in Boston Medical Centre's OBAT Program

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Background: Women with substance use disorders (SUDs) have disproportionately unmet contraception needs when compared to the general population. Engaging women in contraception counseling within addiction treatment settings represents an opportunity to improve access to care. Boston Medical Center (BMC) initiated a quality improvement project to expand its capacity to provide comprehensive contraception services in its office-based addiction treatment (OBAT) program embedded within primary care**. Objectives**: We surveyed OBAT clinicians to assess their knowledge, attitudes, and behaviors regarding current contraceptive practices in anticipation of the expansion of contraceptive access within OBAT, including long-acting reversible (LARC)

methods. **Methods**: An anonymous survey was administered to 45 physicians, nurses, and nurse practitioners who practice in the OBAT clinic in December 2018. We elicited demographics, current contraception counseling and prescribing behaviors, attitudes regarding the clinician's role in reproductive health care, and current contraceptive knowledge and attitudes. We also asked clinicians to differentiate between practices with patients without a SUD and those with a SUD. Descriptive statistics were used to summarize responses. **Results**: Of the 45 eligible providers, 32 responded (71% response rate). Demographically, 23 (72%) of respondents were female. There were 19 (59%) physicians, 10 (32%) nurses, 2 (6%) nurse practitioners, and 1 (3%) other provider. Most reported currently counseling their patients about contraception (n=27, 84%) and 27 (84%) agreed that contraceptive counseling was within the role of the primary provider. There were few differences in the distribution of women with SUDs vs. all women who had been recommended or prescribed contraception in the past year. Only 65% (n=17) were aware that 75% of pregnancies in women with SUDs are unplanned. Almost half of clinicians (n=13, 41%), incorrectly endorsed the statement "women with SUDs are less likely to adhere to prescription contraception than women without SUDs." Of the 17 clinicians (53%) who reported prescribing contraception only 4 (24%) offered intrauterine devices or contraceptive implants (i.e., LARC). **Conclusion**: There remain knowledge gaps amongst providers regarding the unmet contraceptive needs of women with SUDs, including limited access to LARC in the OBAT setting. Barriers and facilitators to offering comprehensive contraception within OBAT settings require further study.

Opportunities for Tailored Risk Communication for Women and Men Using Fentanyl

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Background: Opioid-related overdoses are increasingly occurring in female populations. There is evidence that gender influences preferences for treatment, engagement in care, and risk communication. This study explored experiences with and preferences for fentanyl-related overdose risk communication and competing concerns based on gender. **Methods**: We purposively sampled men and women with past year fentanyl use in Boston for qualitative interviews. Interviews lasted 40-60 min and participants received $50. We conducted a grounded content analysis of professionally transcribed interviews. Codes were analyzed to build themes around risk communication preferences and behaviors. We used a constant comparison method to assess if risk communication preferences and competing concerns varied between men and women. **Results**: Twenty-one participants were enrolled, eleven men and ten women. Both men and women desired communication that was compassionate: "You have to understand that the world has been so hard on these people... [We] deserve kindness and compassion and sympathy." The majority of female participants wanted communication to take place in groups, and wanted interactive experiences. Most male participants emphasized that information should be delivered by people with lived experience, "if you're about to go skydiving, you don't want to talk about some guy who's only seen it in movies. You want someone who's actually jumped out of a plane and can describe to you what's the best way to not die jumping out of said plane." While all participants were concerned about overdose, they reported different competing concerns by gender. Women identified physical violence, sexual violence, and involvement of child services in their lives as main concerns. Men were concerned about incarceration: "I was always worried about going to jail… if I was going to be dope sick when I went." **Conclusions**: People using fentanyl wanted to talk about overdose risks and emphasized compassionate communication. We found gender preferences in how overdose risk messages should be delivered. This can guide tailoring of delivery strategies and harm reduction topics by gender. Addressing or acknowledging men and women's competing concerns may be important when communicating overdose risk.

Examining Opioid-Involved Overdose Mortality Trends Prior to Fentanyl: New York City, 2000-2015
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Background: Rates of overdose death in New York City (NYC) increased 26% from 2000 to 2015, with a notable decrease in rate from 2006 to 2010. Beginning in 2016, the synthetic opioid fentanyl entered the NYC illicit drug market and has been associated with large increases in overdose death after 2015. This study assessed NYC trends in opioid-involved overdose death prior to fentanyl to understand the contribution of specific opioids and inform overdose prevention strategies. **Objective**: To better understand the contribution of opioid analgesics and heroin to overdose death prior to the introduction of fentanyl into the NYC drug supply, the present study examined overdose mortality data from 2000 to 2015. Our study examined mortality by opioid type. We report heroin- and opioid analgesic-involved deaths as three mutually exclusive trends: (1) heroin without opioid analgesics; (2) opioid analgesics without heroin; and (3) the combination of heroin and opioid analgesics. We assessed trends in overdose prior to this new phase of the epidemic to better understand the contribution of specific opioids and associated demographic profiles to inform public health overdose prevention strategies. **Methods**: Data were derived from death certificates linked to postmortem toxicology testing. We stratified cases into three mutually exclusive groups: (1) heroin without opioid analgesics (OAs); (2) OAs without heroin; and (3) the combination of heroin and OAs. We calculated mortality rates by year, and compared rates by the demographic characteristics age, sex, and race/ethnicity. Joinpoint regression identified junctures in trends between 2000 and 2015. **Results**: Rates of overdose death involving heroin without OAs decreased from 2006 to 2010, then increased from 2010 to 2015 among males, persons age 15 to 54, and Blacks and Whites. Rates of overdose death involving OAs with and without heroin increased from 2000 to 2015 across all demographic subgroups. **Conclusions**: The identified trends in overdose death are suggestive of demographic shifts in drug use. Notably, older adults may have had established heroin use practices prior to the proliferation of OAs and were thus less likely to modify drug use practices.

Using Urine Drug Testing to Estimate the Prevalence of Drug Use in New York City: Lessons Learned From the NYC Health and Nutrition Examination Survey 2013-2014
Denise Paone EdD; Benjamin H. Han MD, MPH; Elizabeth Mello MS; Ellenie Tuazon MPH - NYC DOHMH

Background: Population-based studies of the prevalence of drug use in the general population are typically based on voluntary self-reporting of substance use, such as the National Survey on Drug Use and Health or the National Health and Nutrition Examination Survey). We tested urine specimens from participants of the New York City Health and Nutrition Examination Survey (NYC HANES), a local, representative heath examination survey modeled on NHANES for the use of illegal drugs and prescription opioids and benzodiazepines to help estimate recent drug use. **Objective**: To evaluate the performance of linking urine drug testing with a local, representative heath examination survey in estimating the prevalence of drug use in New York City. **Methods**: We used urine drug testing results from the NYC HANES to estimate the prevalence of drug use (heroin, cocaine, opioid analgesics, and benzodiazepines) among the study sample and compared them to self-reported past 12-month use from the same survey. **Results**: Among 1,527 respondents of NYC HANES, drug testing was performed on 1,297 (85%) participants who had provided urine and consented to future research studies. Self-reported responses gave past-year weighted estimates of 13.8% (95% CI 11.6-16.3) for heroin, cocaine, or prescription drug misuse, 9.9% (95% CI 8.1-12.1) for prescription drug misuse, and 6.1% (95% CI 4.7-7.9) for heroin or cocaine use. Urine testing gave past-year weighted estimates of 4.3% (95% CI 3.0-6.0) for any drug use, 2.8% (95% CI 1.9-4.1) for any prescription drug, and 2.0% (95% CI 1.2-3.6) for heroin or cocaine use. **Conclusions:** Urine drug testing provided less information about drug use at a population level than self-reports for estimating drug use in New York City. Different approaches using a variety of data sources are recommended for surveillance of drug use on a population level.

Early Lessons Learned: Launching an Addiction Medicine Consult Service in the Safety Net
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Background: Zuckerberg San Francisco General Hospital (ZSFG) is San Francisco's county hospital. In 2018, ZSFG received a grant to launch an addition medicine consult service (AMC). We describe the start-up period and the initial three months of the AMC. **Objective**: Describe the workflows, partnerships, onboarding, and training leading up to the launch period. Explain strategic priorities set by team to achieve first year goals. Review the consult service launch and findings to date. **Methods**: The first six months were used to hire a patient navigator, recruit attendings, develop workflows, partner with community and other inpatient stakeholders, review billing, format consultation notes, and outline a launch plan. During this time AMC leadership also spoke to other institutions with existing AMCs to identify lessons learned.
During month one of operations, the AMC launched to family medicine and obstetrics. In month two, the non-teaching hospitalist service was added. In month three, the service expanded to trauma surgery. **Results:** AMC staffed 58 patients over the first 12 weeks. The average number of consults per week was 5.58 patients. The number of average consultations from highest to lowest were from family medicine, hospital medicine, trauma, and obstetrics. The primary substances the AMC was consulted for from highest to lowest were opioids, methamphetamines, alcohol, cocaine, and benzodiazepines. Of those started on medications for opioid use disorder, 40% had a comorbid stimulant use disorder. Half of the patients had more than one SUD, 69% were homeless, 50% did not have a phone, and 25% had a concurrent mental illness. To date, the 30-day follow-up rate in outpatient care, opioid treatment program, residential treatment, or primary care is 41%. **Conclusions:** Uptake from hospital teams was highest among the non-surgical services where prior educational efforts regarding SUD had been implemented. As the service expands to more surgical teams, efforts will focus on engaging and educating providers. The AMC may reach capacity as it covers more inpatient teams, necessitating new workflows to triage consults. Further examining follow up data and acute care utilization after discharge is warranted to identify factors associated with lack of follow-up.

Efficacy of Opioid Overdose Prevention and Response Training on Medical Student Knowledge and Attitudes
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Background: Overdose is the leading cause of preventable death in the USA. There have been efforts to increase naloxone distribution to reduce overdose deaths; however, negative attitudes of healthcare workers may create a barrier. Medical schools have begun training students, many of whom seek to carry naloxone. Initial studies found trainings improve student knowledge in responding to overdoses. **Objective**: The present study evaluates the impact of a pilot opioid overdose prevention and response training (OOPRT) program and naloxone distribution at Wayne State University School of Medicine. **Methods**: First through third year medical students were invited to complete a baseline survey including questions about past experiences with and knowledge of naloxone and opioid overdose, clinical experiences, and attitudes towards patients with opioid use disorder (OUD). Of those who expressed interest, 38 were randomly selected to attend OOPRT and receive a free naloxone kit. Students received a post-training survey that included the same Opioid Overdose Knowledge, Opioid Overdose Attitudes, and Medical Conditions Regard Scales (adapted for Substance Use Disorders [SUDs]) administered at baseline. **Results:** 2 students (53.1% M1, 21.9% M2, 25.0% M3) completed both baseline and post-training surveys. At baseline, 93.8% did not believe they had enough knowledge to manage an overdose. We found significant improvements in knowledge in 6 of the 8 subscales: signs of overdose ($t(31)=5.87$; $p<.001$), actions to be taken in overdose ($t(31)=5.00$; $p<.001$), and 4 of the 5 naloxone use subscales. We also found significant improvements across all measures of opioid overdose attitudes ($t(31)=14.18$; $p<.001$). There were improvements in 4 of 11 measures in attitudes towards patients with SUD. 100% of students enjoyed the training and indicated a belief that all students should receive the training.

Conclusions: OOPRT demonstrated robust changes in knowledge about responding to opioid overdose and ratings of personal ability to help someone experiencing opioid overdose. There were more limited changes in attitudes; however, student attitudes were generally positive at baseline. Education regarding OUD and naloxone may decrease negative attitudes towards patients with OUD and improve care. These findings support continued curriculum content on OUD and naloxone in medical education.

Attitudes Towards Medically-Assisted Treatment Among People With Past Opioid Use Disorders in Allegheny County

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Background: Since 2006, Allegheny County has experienced fatal overdose rates higher than any other county in Pennsylvania. When prescribed and monitored properly, medication-assisted treatment (MAT) has proven to be effective in helping patients recover from opioid use disorders (OUD). However, few empirical studies have explored the beliefs, attitudes, hopes and concerns regarding MAT among people with past OUD. **Objective:** Our overall study objective was to explore the perceptions, attitudes, beliefs, concerns and perceived needs of community stakeholders regarding the opioid epidemic in high risk ("hot spot") communities. The objective of this analysis was to describe the experiences and perceptions of individuals with a history of OUD regarding medically-assisted treatment. **Methods**: Semi-structured, in-depth in-person or telephone interviews were conducted with individuals self-described as in recovery from past OUD living in eight affected communities. Interviews were audio recorded and transcribed. Transcripts reviewed for sections where MAT is mentioned by participants. A code-book was developed in an open fashion and updated iteratively. This poster reports on the analysis of a subset of 20 interviews. Thematic analysis explored participants' experiences with MAT. **Results**: Interviews with 20 participants in recovery from past OUD were included in this analysis. Participants described mixed attitudes about and experiences with MAT. While some participants credited MAT with their recovery and ability to transition out of drug use, participants also described negative MAT experiences such as struggling to pay for treatment costs, and encountering stigma from other drug users. Participants also described beliefs that long-term use of MAT did not constitute "recovery" which some defined as being completely abstinent from drugs. **Conclusions**: Analysis of interviews with individuals with past OUD regarding their experiences with MAT demonstrated that negative perceptions of MAT are related to treatment costs, stigma, and persistent expectations of abstinence as the only appropriate treatment outcome, while positive experiences are attributed to successful transitions out of drug use. Findings from this study suggest that there may be significant opportunity to strengthen support for the use of MAT through effective educational supports

Barriers to Recovery Among People Who Use Opioids in Allegheny County

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Background: A qualitative study was undertaken to gain a deeper understanding of the opioid crisis in Allegheny County from the point of view of stakeholders in affected communities. People at risk of overdose who choose to seek treatment face financial and location-based barriers to accomplishing these goals. **Ojectives:** The study objective was to explore opioid users' barriers to seeking treatment in Allegheny County. **Methods:** Semi-structured, in-depth in-person or telephone interviews were conducted with over 110 individuals living in or working with eight affected communities. Interviews were audio recorded and

transcribed. A code-book was developed utilizing a priori topics from the interview guide and updated iteratively utilizing a semi-grounded theory approach. This paper reports on the analysis of a subset of 28 interviews. Thematic analysis focused on participants' discussions of barriers to treatment. **Results**: A review of 28 transcripts indicated two main themes in stated barriers to treatment access, particularly within lower income neighborhoods. Participants indicated that lower income neighborhoods faced higher barriers to accessing treatment programs due to financial and location-based challenges. The main financial barriers included healthcare and transportation costs. Location-based barriers centered on transportation and proximity of recovery services. In addition, several participants indicated that eligibility criteria for certain types of programs and the high demands the recovery process requires posed barriers to both accessibility and maintenance of recovery. **Discussion/Implications**: Results from this analysis support development of interventions at the community-level to create more accessible and effective treatment options for those facing opioid addiction.

Rapid Naloxone Administration Workshop for Healthcare Providers at an Academic Medical Center

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Background: Opiate overdose is a growing problem in the United States and often medical residents are first responders to community or in-hospital opiate overdoses. While medical residents are given a brief treatment algorithm on suspected opioid overdose during the mandatory American Heart Association Basic Life Support training, there is a lack of hands on standardized curriculum on how to administer this life saving medication. **Objectives**: By the end of this workshop, the learners will be able to identify the signs and symptoms of opioid overdose, describe the mechanism of how nasal naloxone reverses an opiate overdose, and administer single-step and two-step nasal naloxone via hands-on demonstration. **Methods**: To fill this learning gap, we developed a fifteen-minute hands-on simulation workshop on how to respond to an opiate overdose for medical trainees. Trainees who completed our workshop were able to leave with a first responder naloxone kit using the Massachusetts state wide open prescription. All attendees were asked to take a voluntary pre and post training survey. **Results**: A total of 80 trainees from a variety of specialties and training levels participated in this workshop, We were able to successfully link the pre- and post-data of 29 participants, 80% of whom were residents and 20% of whom were fellows. Trainees were assessed on comfort in administering naloxone as a first responder and teaching patients on how to administer naloxone with a 5-point Likert scale (1= Not at all Comfortable, 5= Extremely Comfortable) and asked for the percent of time they prescribed naloxone to high risk patient populations. We found statistically significant increases in comfort using naloxone (2.55 vs 4.17, $p<0.001$) as well as teaching patients to administer naloxone (2.28 vs 4.07, $p<0.001$). **Conclusions**: This innovative curriculum provides an adaptable, short and effective workshop with a hands-on simulation review for medical trainees at a variety of training levels on how to approach an opioid overdose and how to teach others these important skills.

Implementing Buprenorphine Waiver Training For Medical Students Within a 5-State Region

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Background: Opioid use disorder (OUD) is undertreated nationally in part due to a shortage of providers. Buprenorphine waiver training is generally not part of medical school curricula, unnecessarily delaying students' exposure to this important form of treatment. **Objective**: We aimed to provide waiver training to introduce principles of buprenorphine treatment and facilitate eligibility to prescribe buprenorphine during residency and beyond. **Methods**: Using a modified RE-AIM framework , we implemented effective and sustainable waiver training within the existing medical student curriculum (Table). The University of Washington School of Medicine (UW SOM) enrolls over 260 students across 6 regional campuses in 5 Pacific Northwest states, creating unique implementation challenges. **Results**: Two waiver trainings were scheduled during the final course before graduation, the only time when all students are in the same geographic location.

We also created an elective clinical rotation in OUD treatment for fourth-year medical students, which includes waiver training. During the first year, 59 students enrolled in the didactic trainings and 9 students completed the clinical experience. Implementation revealed specific facilitators (e.g. enthusiastic faculty and students) and barriers (e.g. competing educational priorities). **Conclusions**: By utilizing a structured framework, we have successfully implemented waiver training into the medical school curriculum. Institutions hoping to provide this opportunity to health professional students could consider adopting a similar approach.

Team Touchpoints of Care: A Case Report about Chronic Pain, Opioid Misuse, and Depression

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Background: Chronic pain syndrome frequently coexists with a history of childhood trauma, psychiatric disease, and/or substance use. People living with human immunodeficiency virus (HIV) have a high prevalence of pain. Guidelines recommend multidisciplinary teams to manage chronic pain.

Learning Objective: 1. Identify characteristics associated with chronic pain and depression.
2. Differentiate opioid misuse from addiction.
3. Recognize team dynamics leading to optimal outcomes.

Case presentation: The patient is a 46-year old African American man with undetectable HIV (CD4+ T cells = 424 cells/mm3) and chronic pain from avascular necrosis. Underwent a left hip arthroplasty 3 years ago; the right is too early for replacement. Frustrated without a surgical solution, primary providers refer him to pain management. Adverse Childhood Experiences Questionnaire is 8/10 noting a history of sexual abuse from an older male cousin and a father abusing alcohol. His is severely depressed and without housing or income. Urine drug screening (UDS) is positive for opiates and cannabis; patient confirms taking opiates prescribed from past emergency visits. Every UDS in the past 3 months is positive for opiates without consistent opioid prescribing. To cope with the pain he overtakes aspirin products contributing to severe gastric upset. He sees a pain psychologist and links to a Psychiatric Mental Health Nurse Practitioner (PMHNP) for treatment of depression. Pain management, the PMHNP, and social work collaborate to optimize pain and depression treatment. Buprenorphine is titrated for pain control and monitored with UDSs and clinic visits. Behavioral and opioid treatment agreement educates the patient on safe opioid use. The patient works closely with social work for housing. With coordination of care of pain, mental health, and housing, the patient improves, works a part-time job to maintain his housing. Pain intensity remains 7-10/10, however pain is not interfering with his activities or enjoyment of life.

Discussion: Recognition of experienced trauma and treating depression improved the patient's function and quality of life. Basic social needs of housing and income are essential and associated with improvement in depression symptoms.

Buprenorphine Treatment Outcomes Among Opioid-Dependent Veterans

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Background: The opioid epidemic calls for identification of the best practices in medication assisted treatment for addiction. Buprenorphine, an opioid agonist is an effective intervention to combat opioid use disorder, significantly reducing mortality and resumed use. An important part of combatting the opioid epidemic is understanding the clinical practices in addition to taking buprenorphine that contribute to successful treatment outcomes. **Objective**: The goal of this study has been to improve understanding of the clinical variables associated with retention in buprenorphine treatment within an outpatient VA clinic**. Methods**: This outpatient

clinic studied is located in Brockton Massachusetts and serves a diverse population of Veterans from all wartime eras. The Buprenorphine Clinic in the Alcohol Drug Treatment Program (ADTP) has been operating since 2015. Clinical records of Veterans in the ADTP outpatient clinic in the Brockton VA from 2015-2018 were reviewed and the variables of the abstraction included demographic variables, psychiatric diagnoses including substance use disorders, engagement in mental health care including psychiatry, individual therapy, group therapy and case management, and results of urine toxicology. The outcomes include time spent in treatment as well as reasons for treatment cessation. Analyses used multiple regression to predict the number of days in treatment. **Results**: A multiple regression of early treatment participation, which consisted of the number of psychiatry, group, and individual appointments in the first three months of treatment, predicting total days in treatment was found to be a significant predictor $R^2=.63$, $F(3,23)=12.89$, $p<.01$ of overall treatment duration. Two of the individual predictors psychiatry and group participation were found to significantly predict total treatment episode duration controlling for each other with group ($\beta= .48$, $p=.003$), and psychiatry ($\beta = .49$, $p=.003$), indicating that higher levels of early treatment attendance in groups and with the prescribing physician predict longer treatment episodes. **Conclusions:** Higher levels of early treatment participation appear to significantly predict the length of buprenorphine therapy treatment episodes in a group of dually diagnosed veterans. This indicates that access to more frequent appointments in substance use disorder clinics may increase treatment retention.

Trends in 311 Needle Reports in San Francisco as an Indicator for the Drug Overdose Epidemic
Laila Fozouni MPH; Jorge Rodriguez MD; Benjamin Bearnot MD - Harvard T Chan School of Public Health

Background: Drug overdoses are a major cause of mortality in the United States, and are now the leading cause of accidental death, outnumbering automobile accidents and gun violence. San Francisco (SF) has experienced one of the highest rates of overdose-related mortality in California, and public injection drug use and associated litter are major public health concerns. **Objectives**: To use a publicly available, crowdsourced database of reports of discarded needles to a non-emergency municipal response system (311) to understand the evolving drug overdose epidemic in SF. **Methods**: We conducted a longitudinal analysis of 311 needle reports in SF over a 10-year period. We stratified these reports by the mode of reporting as well as day of the week and neighborhood to understand how trends differed by time and geography. **Results**: Between January 1, 2009 and December 31, 2018, 27,637 discarded needles were reported. The number of needles reported per year rose on average 3250% over the 10-year study period, from an average of 24 reports per month in 2009, to an average of 160 reports per month in 2014, and an average of 781 reports per month in 2018. Needle reports were primarily made via the Mobile/Open 311 app (59%) and direct calls to 311 (36%). Fifty-two percent of needle reports were accompanied by a photo of the discarded needle or reported site. More needle reports were made on weekdays (16% of needle reports per day, on average), whereas 10% of needle reports were logged per weekend day, on average. By neighborhood, the most needle reports originated from South of Market (30%), Mission (16%), Civic Center (8%), and the Tenderloin (6%). Reported number of needles increased in all four of these neighborhoods during the study period, by 4710%, 2870%, 5260%, and 6580% respectively. **Conclusion:** Reports of discarded needles in SF have increased dramatically over the past 10 years and are primarily concentrated in 4 neighborhoods. Reports of discarded needled could be used to guide the development of harm reduction programs or target the installation of future needle disposal sites, as well as to provide an opportunity to engage the community.

Curriculum for Teaching Medical Students and Residents About Medical Marijuana
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Background: More than two-thirds of Americans live in states where physicians can recommend treatment with medical marijuana (MM). We are unaware of any educational curricula for medical students or residents focusing on treating patients with medical marijuana. Objective: Because evidence-based education on MM is

lacking, we created an educational program to train health professionals including medical students, residents and faculty on the use of MM. Method:An extensive literature review was performed, evaluating legal concerns, professionalism issues, and clinical evidence of benefits and harms. To design a curriculum relevant to the needs of Internal Medicine residents, we created a needs assessment program. Since treatment with medical marijuana is a novel concept for trainees, we felt that using standard approaches would not be helpful in determining unperceived needs. We structured our needs assessment around clinical vignettes. Cases were presented and discussed as a group exercise. Participants were asked 1) what information do you need from the patient? and 2) what information do you need to make an informed therapeutic decision? We collected all of the questions/comments raised by the trainees for each clinical vignette. We then consolidated the resident- directed learning needs into learning objectives, and devised a case-based curriculum for medical marijuana.
Results: Our curriculum included: Why healthcare professionals need to know about medical marijuana – what is it, what are the clinical benefits and major risks associated with its use? Challenges to healthcare professionalism; The FDA and marijuana; Composition of medical marijuana; Drug-drug and drug-disease interactions; Counseling patients on marijuana and medical marijuana use; Adverse effects; State law – qualifying conditions, permitted forms of medical marijuana; Formulations and dispensing of medical marijuana; Select clinical vignettes (with a discussion of evidence of efficacy and harms, FDA-approved medication alternatives):Chronic non-cancer pain; Multiple Sclerosis; Chemotherapy induced nausea and vomiting; Anxiety and depression; Where medical marijuana is not appropriate; General cautions; Key references Conclusion: Medical students, residents, and faculty need to understand the health effects of medical and recreational marijuana use. Medical educators can utilize this curriculum to develop an evidence-based medical education program about medical marijuana.

Assuring Hookah Tobacco Use is Included in Comprehensive Tobacco Control Efforts

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Background: Hookah smoking, using a "waterpipe" to inhale combustible, molasses sweetened tobacco, often with other flavor additives, is a growing threat to public health in the United States. Inhalation of hookah smoke results in far greater amounts of tar and carbon monoxide than smoking a cigarette. Hookah tobacco use increased significantly over the past decade. As of 2014, 23% of U.S. 12th graders used a hookah at least once in the past year. **Objective**: Review and evaluate the level of inclusion of hookah in discussions of tobacco use and/or tobacco cessation, in clinical research papers, 'Tobacco 21' or similar efforts to block youth access, and other legislative policy to effectively be part of hands-on tobacco control. **Methods**: Three areas were evaluated: 1) A convenience sample of 15 papers published in general medical journals in the first quarter of 2019 that specifically addressed the issue of smoking, tobacco use, or smoking cessation were reviewed for hookah tobacco inclusion. 2) A sample of twelve communities, using 'Tobacco 21' or similar regulations to prevent youth access, were reviewed for their ability to include wording to prevent hookah use in specific cities/towns/states. 3) A summary of tobacco control regulations in all fifty states, compiled by University of Maryland School of Law in 2013, was evaluated for specific wording and effectiveness at blocking hookah use.
Results: Findings: 1) 4 out of 15 articles included hookah in tobacco use/cessation discussions.
2) Few 'Tobacco 21' or similar policies addressed hookah, requiring additional legislation to block access to hookah. 3) Of state tobacco control regulations, few laws specified hookah use coverage in tobacco control; and, interpretation of inclusion of hookah dependent on specific wording. **Conclusions**: Hookah tobacco use is not frequently included in academic journals addressing tobacco or public policy decisions. Whether inadvertently, or purposely excluded from tobacco control policy, hookah should assume a full-fledged partnership with other forms of tobacco in policy and research discussion to assure access is blocked, especially for youth, and young adults where use is increasing rapidly. This would be in alignment with WHO recommendations.

'REACH-IN': A Student-Driven Hospital-Based Initiative to Confront the Opioid Epidemic
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Background: Persons with opioid use disorder (OUD) represent an estimated 4-11% of hospitalized patients, and are increasingly admitted for opioid-related complications. Given that approximately 61% of emergency department (ED) discharges of patients with substance use disorders in 2014 occurred in teaching hospitals, medical students are well-positioned to identify and connect patients with OUD to treatment. **Objective:** The REACH-IN quality improvement initiative empowers medical students to identify hospitalized patients with OUD, initiate buprenorphine when appropriate, and facilitate their transition to outpatient care. **Methods:** Mount Sinai Hospital is a large, urban, teaching hospital that does not have an addiction consult service. Medical students collaborated with a hospitalist and primary care attending, housestaff, and staff from REACH, a primary care-based, outpatient program for persons who use drugs. This team identified hospitalized patients with OUD in two ways: 1) students screened a daily electronic report of all ED and inpatient encounters of patients with possible OUD and 2) hospital staff directly referred patients. Identified patients were evaluated for buprenorphine eligibility in person. Appropriate candidates were started on buprenorphine in the hospital and provided an outpatient REACH appointment within one week of discharge. Students were involved throughout the evaluation process and tracked the progress of patients post-discharge. **Results:** From July 2018 to April 2019, 61 patients were evaluated. 16 (26.2%) were started on buprenorphine while inpatient and 24 (39.3%) were referred to REACH or another program for OAT. Four (6.6%) were later started on buprenorphine at REACH. Of the 9 started on buprenorphine in the hospital and referred to REACH, 7 (77.7%) attended an initial outpatient visit, with 7 (77.7%), 5 (55.6%), and 4 (44.4%) engaged in treatment at 30, 60, and 90 days respectively. **Conclusions:** As the opioid epidemic progresses, medical students can play a vital role in linking patients to OAT. As patients begin receiving treatment and students gain unique, first-hand experience in caring for persons with OUD, these hospitalizations represent 'teachable moments' for all involved. Next steps include evaluating the impact of this initiative on students' knowledge, skills and attitudes toward caring for persons with OUD.

Resident Co-Facilitation of Shared Medical Appointments for Patients with Substance Use Disorders: Impact on Attitudes Toward and Confidence in Treating Addiction
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Background: Shared medical appointments (SMAs) are a novel modality for treating chronic conditions such as diabetes, obesity, or substance use disorders (SUD) where patients with the same condition are seen as a group by a clinician or an interdisciplinary team of health care providers. Studies have demonstrated that SMAs can promote patient self-management of substance use disorders, but research on the educational impact of SMAs on medical resident participants is lacking. **Objectives**: To examine the impact of implementing resident-co-facilitated SMAs for SUD treatment in an addiction medicine clinic embedded within an academic residency practice on residents' attitudes toward and confidence in treating addiction. **Methods**: Over the course of 12 months (Sept. 2018 – Sept. 2019), 12 senior residents (the intervention group) of the Yale Primary Care Internal Medicine program are being recruited on an ongoing basis to co-facilitate, with a clinical psychologist, four consecutive weekly SMAs for SUD. An additional 36 residents serve as controls, seeing patients with SUD in traditional one-on-one encounters in the addiction clinic setting. At Weeks 0, 4, and 8, each resident completes a survey examining personal views toward treating SUD (Attitude measures) and self-perceived competence in SUD treatment (Confidence measures). Chi-square analyses will be used to compare intervention and control group residents on these measures. The percentage changes in favorable Attitudes and increased Confidence over time among the control group residents will serve as the "expected" values in the analysis; any changes different than expected among intervention group residents will be attributed to having co-facilitated the SMAs. **Results**: Preliminary data indicate that most residents recruited to lead SMAs lacked

prior experience with facilitating group sessions. At baseline, residents in both the intervention and control groups indicated a strong belief that physicians should be competent in treating substance use disorders and reported high levels of self-perceived competence. **Conclusions**: We hypothesize that co-facilitating SMAs will lead to more favorable attitudes toward patients with SUDs and increased confidence towards treating SUDs among co-facilitating residents compared with residents who did not participate in SMAs.

The Yale Medications for Opioid Use Disorder (MOUD) Training Program: Expanding Treatment Access

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Background: Although treatment is effective, providers often lack the tools to detect and initiate treatment for patients with opioid use disorder (OUD). Treatment expansion can be addressed by educating the next generation of medical students, and advanced practice practitioners (APPs) [physician associates (PAs) and nurse practitioners (NPs)] in buprenorphine prescribing. Often exposed to the complications of OUD, students have little exposure to evidence-based addiction treatment. **Objectives**:
(1) To promote the adoption of MOUD by training health professional students in the Schools of Medicine (MD, PAs) and Nursing; as well as residents, faculty and APPs at Yale-New Haven Hospital and in the community as training clinical preceptors is critical to promote evidence-based practice in real-world settings.
(2) To embed the DATA waiver training into the respective curricula curriculum for all health professions students and residents. **Methods**: A multi-disciplinary team of PCSS-approved trainers provided half day face-to-face didactic sessions followed by half day on-line instructions for all providers. (16 hours of additional training through the PCSS website was provided for all APPs.) Our innovative instructional strategies were enhanced by our on-line web portal (www.medicine.yale.edu/edbup) and expansion of CT's network of PCSS mentors and instructors to ensure sustainable support for providers. Pre- and post-surveys measuring knowledge, satisfaction and attitudes are collected. **Results**:
Working with stakeholders in the schools we integrated the training in the required fourth year capstone course, in the PA 2nd year, and are in the process of embedding the training into advance nursing medicine/OB/psychiatry curriculum.

Provider type	**Students**	**Providers**
MD	178	94
NP	67	16
PA	4	7
Totals	**249**	**117**
TOTAL	**366**	

Overall training target population: 1,029 individuals over the 3 years
Students: 200 Medical, 200 NP, 120 PA
Residents: 125 Medicine, 45 EM, 54 Psychiatry, 30 Pediatric
Providers: (MD, APPs) 60 faculty, 45 preceptors and150 other

Conclusions: All targeted programs and provider groups have engaged in training. The impact for expanding access to MOUD for individuals with OUD by educating the workforce is estimated in the thousands, translating to tens of thousands over the course of the providers' careers.
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"Story of Starting:" How Opioid Addiction Begins From The Perspectives of Individual With Current and Past Histories of Opioid Use Disorders

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Background: There is an epidemic of opioid overdose deaths in Allegheny County, Pennsylvania. Individual stories of the circumstances that led to opioid use can shed light upon larger trends in onset of opioid use. **Objective**: Our overall study objective was to explore the perceptions, attitudes, beliefs, concerns, and perceived needs of community stakeholders regarding the opioid epidemic in high risk ("hot spot") communities. The objective of this analysis was to explore the circumstances and influences to which people who use opioids in Allegheny county attribute their initial use of opioids. **Methods**: Semi-structured, in-depth in-person or telephone interviews were conducted with over 100 individuals living in or working with eight affected communities. For this analysis, we focused on Interviews with individuals who described current or past histories of opioid use disorder. Interviews were audio recorded and transcribed. A code-book was developed utilizing a priori topics from the interview guide and updated iteratively. Transcript sections that contained participants' stories of their first use or their perception of when and how their opioid use disorder began were sub-coded and these sub-codes then reviewed with the larger coding team to identify categories and themes. **Results**: A subset of 24 interviews of people who currently or previously used opioids were included in this analysis. Many participants described their initial use of opioids as related to a desire to cope with or eliminate mental/psychological or physical pain that they were experiencing. In some cases, illicit opioid use followed the use of prescribed medication, and in others participants described seeking out opioids to self-medicate. In telling their stories, participants identified individuals who facilitated their introduction to opioid use. These individuals included partners and those who initially invited them to participate in the drug trade as sellers or consumers. **Conclusions**: In order to create programs aimed at avoiding initial drug use or in seeking treatment after exposure, it is important to understand the circumstances that lead people who use opioids to first use an opioid. Expanding and facilitating approaches to pain management for various types of pain is needed.

Barriers to Opioid Use Disorder Treatment for People with Disabilities

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Background: Strikingly little is known about opioid use disorder (OUD) among people with disabilities, which undermines the ability to address the opioid crisis in the disability community. OUD prevalence is higher among people with disabilities, with 9% misusing opioids versus 5% among non-disabled adults. People with disabilities also are at increased risk for substance use disorders (SUD) broadly; for example, adults with physical disabilities have 50% greater SUD risk than other adults. Persistent pain and disability are closely related and may increase risk for long-term opioid use and, in some cases, OUD. **Objective**: Access to SUD and OUD treatment, including medications, remains challenging for all populations. We aimed to understand this challenge for people who live with disabilities and have OUD. **Method:** Systematic review of peer-reviewed literature. We broadly defined disability, and specified several disabilities (e.g., traumatic brain injury). **Results**: Preliminary findings from the systematic review highlight the need to address treatment barriers, making services accessible and offering accommodations to support use of medication treatment and participation in psychosocial counseling for people with disabilities. In one study, adults with disabilities were denied SUD services due to physical and/or programmatic barriers at rates ranging from 65% for people with mobility impairments to 85% for people with multiple sclerosis. Physical access is an ongoing challenge for both formal and informal (e.g., Alcoholics Anonymous) treatment and recovery support services, as is availability of ASL

interpreters. People with traumatic brain injury likely need accommodations due to executive functioning deficits, which make traditional SUD treatment difficult. People with disabilities disproportionately have Medicaid coverage, thus availability of services and medications under Medicaid is an important factor. **Conclusions**: Access to evidence-based OUD treatment by people with disabilities is largely unknown. Promising practices, such as recovery coaches, primary care integration and telehealth seem to improve access to treatment in the general population, and should be examined in the disability population.

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Does a Focused Educational Session Improve Complex Care Management Staff Confidence and Knowledge about Caring for High-Risk Patients with Substance Use Disorders?

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Background: Accountable care organizations (ACOs) often turn to complex care management (CCM) to reduce unnecessary healthcare utilization among high-risk patients. Given the prevalence of substance use disorders (SUD) among CCM-eligible patients, CCM staff must be able to identify, triage, and support patients with SUD, and collaborate with SUD services. In the Boston ACO CCM program, where 63% of our top 2% highest risk patients have SUD, these skills are imperative. Yet, like many CCM programs, ours is staffed by nurses, community health workers (CHW), and pharmacists who may have limited formal SUD training, necessitating effective and efficient educational approaches. **Objective:** To evaluate the effectiveness of a half-day SUD educational session in improving CCM staff confidence and knowledge about care management for patients with SUD. **Methods**: Educational modules encompassed identification, treatment, harm reduction and patient education for opioid and cocaine use disorder, unhealthy alcohol use, and levels of care for SUD. Modules combined didactic and case discussion, and were delivered over a half-day. We evaluated their impact on staff confidence and knowledge by administering a survey immediately before and after. **Results:** Forty-one staff participated; 28 filled out both pre- and post-tests, of whom 17 were nurses, 6 were CHWs, and 5 were pharmacists. In order to examine change in confidence and knowledge, we used a series of non-parametric Sign tests. Despite fairly high baseline levels, we saw statistically significant increases in all assessed areas of confidence from pre- to post-, particularly about identifying severity and health impacts of SUD; talking to patients about SUD; and identifying appropriate treatment. With regard to knowledge, a question about interpretation of screening results for unhealthy alcohol use showed a trend toward a statistically significant increase, but did not reach significance likely due to the small sample. More than 90% of respondents correctly answered a question about medication for opioid use disorder both before and after the session. **Conclusions**: A focused educational session on SUD improved CCM staff confidence in working with patients with SUD. Future training should include content areas targeted at experienced learners and evaluate relative effectiveness and training gaps for the different disciplines.

Online Training vs In-Person Training for Opioid Overdose Prevention Training for Medical Students, a Randomized Controlled Trial

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Background: Medical education has historically ignored substance use disorders, and though they generally require all medical students to learn basic life support, however, they have not taught how to respond to opioid overdoses. Further, medical education is moving towards online modules. To date there are few studies

comparing outcomes with traditional lectures. In this paper, the authors attempt to use a randomized controlled trial to compare the two educational modalities at a second urban medical school. **Objectives:** The author's primary objective was to demonstrate non-inferiority of online compared to in-person training for knowledge. Our secondary objective were to show non-inferiority of online compared to in-person training attitudes, and preparedness. **Methods:** Our study received IRB exemption. Students were randomized to either receive in-person or online training. Online training consisted of pre- and post-tests and video-based lectures. In-person training consisted of a pre-test just prior to receiving an oral lecture, and then immediately completed a post-test. We calculated 99% confidence intervals for each measure and utilized a margin of non-inferiority of 5%. **Results**: The online group demonstrated a statistically significant increase in knowledge and self-reported preparedness, without a statistically significant change in attitudes, see table 1. 99% CIs were [-0.20, 1.09] for knowledge, [6.51, 10.93] for preparedness, and [-2.32, 1.59] for attitudes, see figure 1. **Conclusions**: Online training for opioid overdose prevention training provided non-inferior outcomes for knowledge, preparedness, and attitudes. This study supports the use of online opioid overdose prevention training as a non-inferior alternative to in-person training.

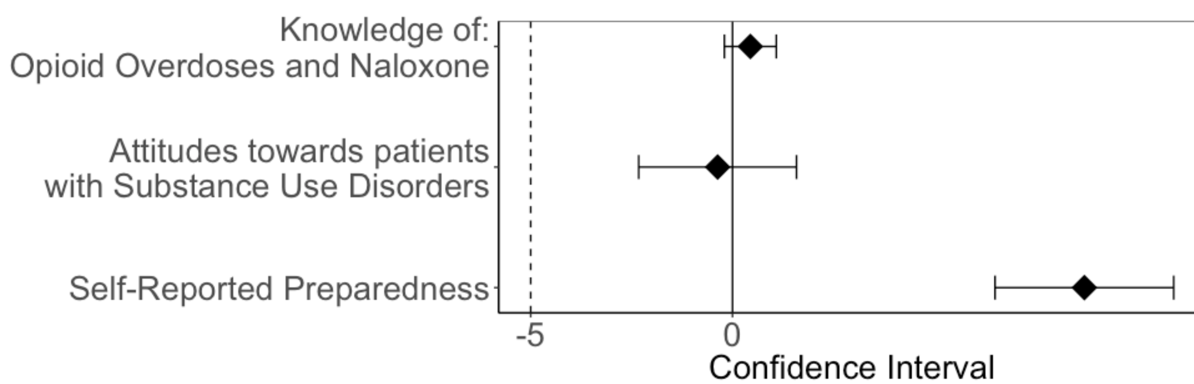

Figure 1

Association of Cannabis Use on Quality of Life, Functional Status and Symptomatology among a Cohort of Colorectal Cancer Survivors: Results of a Population-Based Survey

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Background: The prevalence and efficacy of cannabis to improve patient-reported, cancer-related outcomes remains inconclusive and may be clarified by examining cannabis use among patients with a common cancer diagnosis. **Objective**: To determine the prevalence of cannabis use among colorectal cancer (CRC) survivors and its associations with quality of life (QoL) and cancer-related symptomatology. **Methods**: This cross-sectional survey of CRC survivors was conducted within the Patient Outcomes To Advance Learning (PORTAL) network's CRC Cohort and includes patients from 4 healthcare systems in the United States. Participants represented a population-based sample of healthcare system members ≥ 18 years old diagnosed with adenocarcinoma of the colon or rectum from January 1, 2010 through December 31, 2016 and who completed an online survey of patient-reported QoL outcomes and behaviors, including cannabis use (N=1,784). The main outcomes was QoL as measured by the validated European Organization for Research and Treatment of Cancer (EORTC) QLQ-C30 summary score. **Results**: We distributed 5,635 surveys and our response rate was 31.6% for fully completed surveys. Of the 1,784 respondents, 293 (16.4%) reported cannabis use following CRC diagnosis. Current tobacco smokers were more likely to use cannabis compared to former or never tobacco smokers (adjusted odds ratio [aOR] 2.71, 95% CI 1.56-4.70) and greater alcohol use (>4 drinks per month versus ≤4 drinks per month) was associated with cannabis use (aOR 2.17, 95% CI 1.65-2.85). There was an association between cannabis use and stage at diagnosis, with stage 3 or 4 CRC patients more likely to use cannabis than stage 1 or 2 patients (aOR 1.68, 95% CIO 1.25-2.25). After adjusting for demographics,

medical comorbidities, stage and site of cancer diagnosis, and opioid use, cannabis users had significantly lower QoL than non-cannabis users (difference of -6.14, 95% CI -8.07 - -4.20). **Conclusions and Relevance**: Among CRC survivors, cannabis use was common, associated with more advanced stages of disease, associated with tobacco and alcohol use, and not associated with differences in QoL (adjusted for stage and other factors). Healthcare providers should inquire about cannabis use and provide evidence-based recommendations regarding its efficacy for cancer-related symptoms.

Analyzing Co-Occurring Substance Use Risks among SBIRT Patients Engaged in Federally-Qualified Health Centers

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Background: Substance use difficulty represents a challenge which threatens the social and economic welfare of communities throughout the United States. This paper explicates a data-driven approach for identifying patterns of substance use risk, and related vulnerability, among patients who participating in a local SBIRT initiative in Western Alabama. **Objectives**: The purpose of this paper is to analyze how substance use and mental health risks present themselves among different sub-populations of patients who “screen in” for SBIRT services. A secondary purpose is to explore how analyses of patient risk can be used by SBIRT program staff to enhance clinical intervention and training. The setting for the study is an SBIRT program serving low-income, Federally Qualified Health Centers (FQHC) in the Southeastern United States. **Methods:** Latent Class Analysis (LCA) was used to model different profiles of substance use and mental health risk/difficulty among 600 patients with qualifying DAST-10 or Audit scores. These models were estimated using the DAST-10, the Audit, and the PHQ-9 for depression. In addition, patient age, race/ethnic status, and sex (as a binary) were analyzed for their association with each risk profile. **Results:** Median age=42 (range 20 to 72), 42% women 38% white, 62% African American. LCA yielded three characteristically different risk profiles among patients with qualifying AUDIT/DAST-10 scores. These profiles included a “Drugs Only” class (66%) comprised of patients who screened-in for brief intervention. A second risk profile, the “Dual Vulnerability” (29%) class, included patients who engaged in regular binge drinking and had DAST-10 scores that qualified them for brief intervention. The third risk profile, the “Severe Vulnerability” class (5%), was indicated by severe alcohol abuse, related behavioral difficulty, depression, and qualifying DAST-10 scores. Last, our regression analyses indicated that these profiles could be partially differentiated by patient age, sex, and ethnicity. **Conclusions:** These sub-population profiles, together with their respective correlates, can be used by program staff to improve clinical practice and training. Specifically, an analysis of interview data suggested that these profiles were useful in helping program leaders develop modified scripts for motivational interviewing and client engagement among qualifying patients.

Analysis of Patient-Reported Intentional and Accidental Fentanyl Use in a Central Texas Treatment Facility

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Background: Fentanyl is a synthetic opioid agonist that is substantially more potent than morphine or heroin. Illicitly-manufactured fentanyl is a common adulterant in the U.S. heroin supply, representing a major source of accidental toxicity. In 2017, synthetic opioids were responsible for over 28,400 overdose deaths in the U.S. In Texas, overdose deaths due to synthetic opioids increased by 33.3% from 2016 to 2017. Research regarding intentional use of fentanyl by people with opioid use disorder (OUD) is limited, though it could yield valuable information for prevention, treatment, and recovery initiatives. **Objectives**: (1) To determine the prevalence of accidental and intentional fentanyl use in patients participating in a substance use disorder treatment program in Austin, Texas. (2) To perform a qualitative analysis of suspected accidental fentanyl use reported by participants. **Methods**: Adult patients with a diagnosis of OUD enrolled at a residential and outpatient treatment

facility in Austin, Texas were invited to participate in a survey examining their opioid use. Data was collected via a brief survey administered to 63 participants from June–August 2018. Responses were analyzed using descriptive statistics and free response questions were content-analyzed and validated by intra-rater comparisons. **Results**: Survey participants included males (n=38) and females (n=25) with an average age of 26.9 years. The primary opioid used by participants was heroin or heroin and another opioid (78.4%). Most participants knowingly used fentanyl (n=40, 63.4%). A sizeable minority of participants personally mixed heroin with fentanyl or another synthetic opioid (n=23, 36.5%). Forty-five (71.4%) participants suspected they took fentanyl or another synthetic opioid by accident and forty (66.7%) participants report knowingly using fentanyl at least once. Nineteen (44%) participants who reported accidental exposure to fentanyl or another synthetic opioid experienced an overdose. **Conclusions**: Most participants surveyed in a central Texas treatment facility have been intentionally or accidentally exposed to fentanyl or another synthetic opioid. A high percentage of accidental exposures resulted in a self-reported overdose. While this represents one treatment facility, this survey provides clinically meaningful data on the prevalence of fentanyl and other synthetic opioid use in a demographically representative sample.

A Phase Ia/Ib Feasibility Study of the Be-SAFE© iBook Intervention for Nurses Responding to Opioid Overdoses Outside the Emergency Department

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Background: Opioid overdose fatalities have increased 200% since the year 2000, and the number of persons seeking overdose-related care in the emergency department (ED) increased 30% across the entire United States.1,2 In 2010, there were an estimated 135,971 ED visits designated as opioid overdose nationwide and opioid-related emergency department visits increased 99.4% in the past decade.3,4 The influx in ED visits places ED nurses at the forefront of responding to the epidemic and a concerted, coordinated effort among nurses is essential. This presentation will provide an overview of the Be-SAFE© group educational intervention and results from the Phase Ia/Ib feasibility study. **Objective**: The purpose of this study was to develop an intervention to improve nurse' knowledge of how to safely respond during an overdose event outside the traditional walls of the ED. Determine whether nurses, who have received training, could deliver the intervention with a high level of implementation fidelity in the group setting, and determine the intervention effect size. **Methods**: The research team proposed to test the hypothesis that the Be-SAFE© group educational intervention would increase actual knowledge using a one-group pre-test/post-test design. Three interventionists were trained by the PI and delivered the intervention, five times for a total of 15 interventions. Two research assistants measured intervention fidelity using the Be-SAFE© Fidelity Checklist which included adherence and competence subscales. **Results**: Nurses (n=89) scored significantly higher on the post-test (M=85.07%, SD=10.29%) compared to the pre-test (M=71.32%, SD=14.81%), t(79) = -9.148, p<0.001. All 15 interventions were delivered with a high level of fidelity. **Conclusions**: Nurses reported feeling significantly less confident (p<0.001) and significantly less safe (p<0.001) when responding to personal vehicles, as compared to patients arriving via EMS. In addition, there was a significant difference in 'worrying about personal injury when caring for patients experiencing an overdose who arrive via personal automobile'(p<0.001). The Be-SAFE© educational intervention improved nursing knowledge related to the overdose response and established that ED nurses felt more competent to manage OUD after receiving education.

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Substance Use Stigma Among a National Sample of Healthcare Students: Knowledge, Beliefs, and Attitudes

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Background: Healthcare providers hold negative attitudes towards persons with SUD that are similar to the attitudes held by the general public. These negative attitudes impact the health related professional services (e.g., medical, nursing, psychological, pharmaceutical) received by persons with SUD. Healthcare students identified the lack of substance use treatment knowledge, professional confidence and training as key causes of explicit stigmatizing attitudes. **Objectives**: This project explored the relationship of substance use treatment knowledge, beliefs of addiction (free will vs. disease), clinical training, confidence to diagnose substance use disorders (SUDs) and personally knowing someone with SUD to explicit stigmatizing attitudes toward people with SUD among healthcare students. **Methods**: A national sample of 110 clinical healthcare students was recruited through a Qualtrics recruitment panel. Participants provided information on clinical training and completed the Drug Problems Perceptions Questionnaire, the Addiction Belief Scale, the Substance Use Treatment Knowledge Questionnaire, and a confidence to diagnose and treat persons with SUD questionnaire. **Results:** Neither SUD knowledge ($p = .19$) nor personal experience with SUD ($p = .32$) predicted addiction beliefs scores. Addiction belief scores were trending towards a significant and negative relationship with explicit SUD attitudes scores ($\beta = -.19$, $p = .052$, R2 = .03). Number of SUD coursework hours ($\beta = -.25$, $p = .03$, R2 = .17), significantly predicted explicit SUD attitudes. **Conclusions**: Knowledge of factors impacting healthcare students' explicit attitudes towards persons with SUDs can be used to reduce provider stigma, such as in a targeted SUD inter-professional educational intervention of attitudinal change and clinical training curricula for healthcare students. We plan to publish these results in a peer-reviewed journal.

Outcomes of a 2-Year Mentoring Relationship: Advancing the Next Generation of Scholars in the Substance Use Specialty

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Background: At a time when there is a need for nurses with substance use-related knowledge and competency, mentoring can help close this gap. The context of a mentoring relationship is one that is respectful, collegial, and affirming, extending over time in which mutual sharing, learning, and growth occur. Recognizing that the lines between teacher and mentor overlap and can be blurred, the mentor-mentee relationship can be one in which each benefit particularly when focused on the optimal growth of each individual. Mentoring the next generation of scholars for the substance use specialty is critically needed. **Objective**: To describe the outcomes of a mentoring relationship focusing on building a program of substance use scholarship. **Methods**: A mentoring relationship was initiated at the onset of the mentee's Doctor of Nursing Practice (DNP) program. Weekly meetings were conducted over a 2-year period to address established goals: (1) Begin a program of scholarship aligned with the Doctor of Nursing Practice, (2) Broaden professional networks, (3) Secure funding for scholarship, (4) Present scholarly work at professional meetings, and (5) Build a record of publications. **Results**: The program of scholarship began with a pilot project in which the mentee tested the feasibility of an online SBIRT program with clinic staff, leading to an expanded pilot project with ambulatory nurses and another among clinicians who were Hispanic/Latino, and finally to planning a project evaluating SBI skills assessment. At the onset, the mentee had no publications, no professional presentations, and limited networks in the substance use specialty. At the end of the 2-year period, the mentee has two published abstracts and three manuscripts in review; seven professional presentations; joined two professional organizations focusing on substance use; and received two prestigious national awards with a fellowship to support substance use-related

scholarship. **Conclusion**: Through guidance, encouragement, and investment, the overarching goal of ensuring the success of the mentee was attained. The mentee is continuing to engage in and champion many of the mentor's causes and forge new ground in leading and advocating for an expanded nursing workforce prepared to address the health of the nation and beyond.

Providing Community Initiated Technical Assistance in Response to the Opioid Epidemic

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Background: The Opioid Response Network (ORN) Consortium, formerly the State-Targeted Response: Technical Assistance (STR-TA), addresses the opioid epidemic by supporting community efforts to build capacity for evidence-based practices in the prevention, treatment, and recovery of Opioid Use Disorders (OUD). ORN, funded by the Substance Abuse and Mental Health Services Administration (SAMHSA), provides local professional consultation to communities requesting technical assistance to help address the opioid epidemic. The ORN is led by the American Academy of Addiction Psychiatry (AAAP). **Objectives**:
•Describe the components of a national community technical assistance project.
•Explore the framework for which community technical assistance is being employed.
•Analyze technical assistance requests across prevention, treatment, and recovery. **Methods**: Several recent studies have demonstrated that the number of patients presenting with Opioid Use Disorders (OUD) in medical clinics, community health centers, and private practices is increasing (SAMHSA, 2018; Compton, Jones & Baldwin, 2016). The Opioid Response Network was created by SAMHSA to support community efforts to address opioid use disorder in the use of evidence-based practices in prevention, treatment, and recovery. **Results**: As of March 2019, the ORN project has facilitated 700+ TA requests, 1400 TA events with 6,918 TA attendees. We recently surveyed TA recipients to increase our understanding of the impact of the ORN TA. The survey was sent to 1,961 TA recipients receiving TA between May 2018 and January 2019. Three hundred and eighty-eight respondents indicated that the ORN TA indirectly impacted 100,000+ community members (clients, patients, etc.) and 16,000 colleagues. Further, overall extrapolated survey data indicated that 1.5 million community members could have been impacted by the projects TA efforts [calculated by multiplying the median by the number TA recipients (direct plus indirect impact)]. **Conclusions**: The ORN project demonstrated that community-oriented TA could be successfully implemented across a diverse network of stakeholders. This presentation will highlight illustrative TA requests. The presenters will cite examples of TA being delivered. The presentation will include descriptive information, case examples and explore TA delivery methods.

Motivators to Seek Treatment From the Perspectives of Individuals With Opioid Use Disorders in Allegheny County in Pennsylvania: A Qualitative Study

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Introduction: Allegheny County Pennsylvania sees high rates of opioid use and contains resources for treatment. Literature suggests when people with substance use addiction are more internally motivated to quit, they more successfully complete treatment programs. **Objectives**: Our overall study objective was to explore the perceptions, attitudes, beliefs, concerns, and perceived needs of community stakeholders regarding the opioid epidemic in high risk ("hotspot") neighborhoods with above average rates of opioid overdose deaths. This analysis sought to understand circumstances, factors, and events motivating individuals who described current or past addiction to opioids to seek treatment. **Methods**: Semi-structured, detailed in-person or

telephone interviews were conducted with individuals living or working with hotspot communities. Interviews were audio recorded and transcribed. A code-book was developed utilizing a priori topics from the interview guide and updated iteratively. Thematic analysis focused participants' motivations to quit using opioids. We coded and analyzed 22 interviews with individuals who self-identified as having current (4) or past opioid use disorders (18), with equal representation of men (11) and women (11). Two coders identified sections of the transcript where participants described thoughts and experiences regarding motivations to seek treatment. **Results**: A majority of participants described internal motivations such as: dissatisfaction with the lifestyle that results from opioid use; unhappiness with their self-image; and 'familial' motivations to quit. Familial motivations for treatment included: death of a loved one, changes to relationships, feelings that their addiction was a burden for their family, and preservation of one's self-image. Some extrinsic motivators were also described: predominantly legal and familial involvement. Many participants regarded external factors as insufficient to quit using or maintaining treatment. Almost all participants had a unique and individual combination of factors that contributed to their motivation to quit: multiple internal, multiple external or mixed internal and external factors. **Conclusion**: Our findings suggest that internal motivators are crucial to the process of seeking and completing treatment. Expanded use of interventions focusing on inspiring and expanding internal motivations to seek treatment—such as motivational interviewing--is needed to increase treatment engagement and successful recovery.

Improving the Management of Alcohol Use Disorder in a Community Hospital

Alyssa Peterkin MD - Mount Auburn Hospital

Background: Despite the availability of pharmacotherapy for alcohol use disorder since as early as 1949 it remains under utilized. The National Survey on Drug Use and Health 2015 data estimated that 6.7% of the 15.1 million people diagnosed with an alcohol use disorder received treatment in the United States. Inpatient admissions for an alcohol related problem can be a critical time for patients and for some may be considered a turning point in their life. Unfortunately, the discussion of treatment for alcohol use disorders is a frequently missed opportunity prior to discharge. While some patients may require therapy or counseling, others may benefit medications in addition to therapy or alone. Education about alcohol use disorder and treatment options is necessary to improve patient outcomes. Lack of knowledge of efficacy and safety profiles for medications remains a significant barrier for providers. **Objective**: To increase physician education on alcohol use disorder and promote treatment. **Methods**: In a 200-bed community hospital in Cambridge, Massachusetts, attending and resident physicians within the internal medicine department were asked to complete an online survey prior to and after attending a lecture on alcohol use disorder. The 17-question survey assessed current prescribing habits, knowledge of alcohol use disorder statistics and treatment options as well as attitudes toward current discharge planning. **Results**: In general, the number of correct responses increased (49%) when comparing pre and post survey data. Although the majority of pre-survey respondents reported prior education on alcohol use disorder, they classified themselves as slightly familiar with the current FDA approved treatments. After the lecture 50% of respondents identified as slightly likely to prescribe Naltrexone. In general, residents were more dissatisfied than attendings with the discharge planning for patients with alcohol use disorders. **Conclusion**: Engaging general internal medicine inpatient providers in educational initiatives focused on alcohol use disorder alone will not increase prescribing habits for medications such as naltrexone prior to discharge from hospital. Inpatient providers want more institutional support through protocols, assistance from addiction specialists and established outpatient follow up. This mindset perpetuates stigma and the socialization of a medical problem.

Opioid Overdose Prevention: A Pilot Training Program for Social Work Students and Field Instructors
Jennifer Putney PhD, MSW; Cali-Ryan Collin MSW; Rebekah Halmo MSW; Richy Villa MSW; Matthew Snyder MSW; Tamara Cadet PhD, MPH, MSW - Simmons University

Background: Inadequate numbers of behavioral health professionals are trained to address the needs of individuals at risk for opioid overdose. The training program described in this presentation was funded by a U.S. Health Resources and Services Administration grant to train interdisciplinary teams in evidence-based substance use treatment. **Objective:** The training curriculum focused on opioid overdose prevention and included content on the acute effects of opioids, withdrawal symptoms, risk factors and signs of overdose, naloxone training, and harm reduction principles. **Methods/Methodology**: Trainees (N=15) included MSW students, social work field instructors, and interdisciplinary primary care behavioral health providers. Trainees completed the Opioid Overdose Attitudes Scale (OOAS) and a knowledge assessment at pre- and post-training. Paired samples t-tests were utilized to compare OOAS overall and subscale score means pre- and post-training. **Results**: Results indicated statistically significant changes in overall OOAS scores from pre- (M=88.0, SD=12.5) to post-training (M=104.80, SD=10.35; t(14) = -6.49, p<.001). Results also indicated statistically significant changes in the competence subscale from pre- (M=26.80, SD=8.66) to post-training (M=39.00, SD=5.52; t(14) = -6.10, p<.001) and in the concerns subscale from pre- (M=27.87, SD=4.53) to post-training (M=32.40, SD=5.21; t(14) = -4.67, p<.001). There was no significant change in the readiness subscale from pre- (M=33.33, SD=3.27) to post-training (M=33.40, SD=1.88; t(14) = -0.08, p=.941). Paired samples t-tests were also used to evaluate the mean difference in participants' knowledge assessment scores from pre- to post-training. Results indicated statistically significant changes in scores from pre- (M=7.0, SD=2.8) to post-training (M=10.5, SD=1.7; t(13) = -6.85, p<.001). **Conclusions**: This training was effective in improving learners' attitudes and knowledge. However, findings did not indicate a statistically significant increase in learners' readiness to intervene in an overdose scenario. Future inquiry is needed to understand what educational innovations would help learners feel more ready to intervene.

Collaboration in the Implementation of Behavioral Health Innovations: A Mixed-Methods Analysis
Natrina L Johnson MS; A. Rani Elwy PhD; Christopher Lewis PhD - Boston University School of Public Health

Background: Phase 2 of the Community Hospital Acceleration, Revitalization and Transformation (CHART) program invested $60 million into 27 community hospitals to enhance their delivery of efficient, effective care and preparing them for a value-based payment environment. **Objectives**: We aimed to 1) understand the extent to which hospital stakeholders and community partners collaborated during the implementation of behavioral health innovations at 11 Massachusetts community hospitals, and 2) determine whether hospitals which reported levels of systemic collaboration experienced reductions in behavioral health revisits and/or readmission rates. **Methods**: We analyzed qualitative data collected from 119 hospital management, staff, and community partners in 2016. Administrative data were analyzed to determine the annual readmission and revisit rates for individuals admitted to the hospital with a behavioral health primary or secondary diagnosis (psychiatric and substance use disorders). We categorized hospitals according to the Levels of Systemic Collaboration framework by the SAMHSA-HRSA Center for Integrated Health Solutions. We compared the change in pre/post outcome measures. **Results**: The three hospitals with the greatest reductions in ER revisits collaborated at level 3 (basic onsite collaboration) and 4 (close collaboration with some system integration). Two hospitals collaborated at a level 5 (close collaboration with some shared space) but had contrary, post-implementation outcomes based on administrative data: one had reductions in both ER revisits and hospital readmissions, whereas, the other had increases in both rates. Two of the three hospitals with the greatest reduction in readmissions collaborated at a level 4. The third hospital, which had the highest baseline readmission rate, collaborated at level 2 (basic collaboration at a distance**). Conclusion**: The three hospitals with greatest reductions in ER revisits and two of the hospitals with greatest reductions in readmissions collaborated at or above a basic level of collaboration, indicating that co-location, regular communication, and occasional meetings may have been key factors contributing to reductions in revisits and readmissions. The two hospitals

with the highest collaboration had opposite trends in outcome measure. These results suggest that co-located collaboration between providers may be one important, but not sufficient factor, in improving rates of revisits and readmissions related to behavioral health conditions.

Methamphetamine and its Association With Development of Complex Infections

Michael Kindred MD; Catherine Troop MS; Joshua Kim MD – UK Healthcare

Background: The medical consequences of intravenous substance use is an increasingly prevalent reason for patient admissions to university hospitals. Deep-seated infections are the most serious encountered and the incidence of complex infections such as endocarditis and osteomyelitis is increasing. These patients present with extensive medical, psychological, and social issues and require interventions by multi-disciplinary teams. While the opioid epidemic has attributed to the spike in infectious complications, intravenous methamphetamine abuse is on the rise and may have an equal or greater impact. Factors contributing to the infectious complications include the vasoactive effects, cognitive impairment, psychosis, malnutrition, poor dentition, and lack of personal hygiene. Additional sources of bacteria and fungus are also involved in IV methamphetamine use (Gordon & Lowy, 2005). These factors are not exclusive to methamphetamine users but are more prevalent (Darke, Kaye, McKetin, & Duflou, 2008**). Objectives**: There is a dearth of literature that looks at the prevalence of infections in IV methamphetamine users despite the increase in IV methamphetamine use. These deficits, along with the potential for adverse patient outcomes, show the need to recognize the impact of IV methamphetamine on the medical landscape. **Methods**: The members of the Addiction Medicine consultation service at a large AMC provide evaluation and management for these patients as it relates to SUD. IRB approval was gained to conduct a retrospective chart review to examine the rates of complex infections of IV methamphetamine and opioid users. **Results**: One hundred patients' charts were reviewed. On admission, 27 patients tested positive for methamphetamine or both methamphetamine and opioids. Twenty-two were diagnosed with deep-seated infections (10 endocarditis, 5 osteomyelitis, 4 septic arthritis, 2 abscesses, and 1 cellulitis). Forty-three patients tested positive for opiates upon admission. Thirty-four were diagnosed with a deep-seated infection (14 endocarditis, 9 osteomyelitis, 5 septic arthritis, 3 cellulitis, 2 bacteremia, and 1 abscess). **Conclusions**: Use of methamphetamine intravenously alone, or concurrently with opiates, are the typical presentations seen rather than singular use of IV opiates. Further examination of this area is warranted to inform clinical interventions and protocols. Medical mismanagement of this population has serious implications related to treatment and outcomes.

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Opiate Detoxification During Pregnancy: A Systematic Review and Meta-Analysis

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Background: Opiate use during pregnancy is current pervasive public health issue. Current treatment recommendations are to maintain opiate dependent pregnant women on opiate agonist therapy's (OAT's).1,2 However, there is conflicting research on the safety of opiate exposure in-utero, with some studies suggesting that there may be long-lasting adverse consequences to newborns.1,3 Furthermore, there is high co-morbidity of untreated maternal mental health issues and significant treatment disparities.4,5 Nonetheless, only a handful of researchers have examined the safety of medically supervised taper during pregnancy and assessed maternal relapse rates after full detoxification.1-3. **Objectives**: 1) To assess the safety of opiate detoxification during pregnancy, and 2) to examine the rates of maternal relapse after complete detoxification. Methods: A systematic literature review was conducted from inception to October 2017 on 6 databases: PubMed, PsychInfo, Embase, Web of Science, CINHAL and Proquest Dissertations. Studies that reported original data on pregnancy loss, preterm birth (PTB), fetal growth outcomes, APGAR scores, neonatal abstinence syndrome (NAS) rates, neonatal intensive care unit (NICU) admission rates, infant length of hospital stay (LOHS) and maternal relapse rates were included in the analyses. For primary analyses, Poisson's Conditional Model with Exact Likelihood was fitted to dichotomous data, raw mean differences for continuous data and the Freemen-Tukey double arsenic transformation was utilized for normalizing proportional data. Secondary analyses, included subgroup analysis for maternal relapse rates and Egger's Regression to test for funnel plot asymmetry. Results: A total of 8 studies out of (N = 1377) met inclusion criteria. Two factors reached significance in favor of detoxification over opiate exposure, NAS (LIRR = 1.152; CI = [-1.7795, -0.5262]) and infant LOHS (MD = -16.2761, CI = [-31.1715, -1.3807]). Finally, maternal relapse remained significant after full detoxification (PR = 0.1885, CI = [0.0500, 0.3733]). Conclusion: Opiate detoxification during pregnancy does not appear to pose an increase risk to obstetric outcomes compared to OAT. However, detoxification is associated with significant decrease in NAS rates and LOHS. Given the high risk of relapse, more research is needed evaluating the effectiveness of intensive outpatient behavioral health follow-up and assessment of relapse rates at 12-months postpartum.

A Preliminary Evaluation of a Brief, Manualized Guided Self-Change Intervention for College Students with Substance Use Problems

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Background: Over the past few decades, alcohol and other drug (AOD) use has steadily increased among college students (Johnston et al., 2016). Specifically, alcohol use and binge drinking have been shown to have detrimental effects on various outcomes, including academic performance (Walter & Kowalczyk, 2012). Guided Self-Change (GSC; Sobell & Sobell, 2005) is a cost-effective, brief, manualized early intervention targeting substance use problems. We hypothesized that GSC would decrease AOD use among diverse college students due to its brevity, goal-orientation, and motivational nature**. Objective**: The primary aim of the current study was to implement and examine the effectiveness of the GSC program (Sobell & Sobell, 2005; Wagner, 2014) among college students. This GSC 4-session program incorporates Motivational Interviewing (Miller & Rollnick, 2013), cognitive-behavioral (Kaminer & Waldron, 2006), goal-setting, harm reduction (Ritter & Cameron, 2006), adaptive coping, and mindfulness approaches. **Methods:** Participants completed a baseline and an exit survey, administered before the first and after the final session, respectively. This preliminary evaluation of the program primarily focused on assessing participant-reported substance use over the past 30-days at both time points. **Results**: Descriptives of the current sample (N = 55, Mage = 25.8, SDage = 5.15) indicated 47.3% identified as female, 58.2% as Hispanic/Latinx, 69.1% White, 25.5% African American or Black, and 5.4% as other race. Among the participants that completed both the baseline and exit survey (N = 33), alcohol use (Mbaseline = 6.47, Mexit = 5.97), binge drinking (Mbaseline = 3.22, Mexit = 1.81), vaping (Mbaseline = 6.15, Mexit = 6.09) and marijuana use (Mbaseline = 12.45, Mexit = 10.13) showed trends of decreasing. These effects can be regarded as clinically significant, but were not statistically significant possibly

due to the limited sample size. At the end of the program, 89% of participants rated the program to be 'helpful' or 'very helpful' (Mhelpfulrating = 4.48; range: 0-5). **Conclusions**: Overall, these are promising findings for the preliminary implementation of the Guided Self-Change approach for reducing substance use among a diverse college student population.

Guided Self-Change Targeting Excessive Alcohol Consumption in a College Student Immersed in Caribbean Carnival Culture

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Background: Client was a 23-year-old female college student, originally from a Caribbean island, self-referred to a manualized 4-session Guided Self-Change early intervention program. Client reported excessive alcohol consumption, largely influenced by social pressures due to normalized drinking in Carnival culture (Reid et al., 2012). The client was intrinsically motivated to change her consumption frequency and intensity, which was attributable to the client's experienced consequences of excessive alcohol consumption, including embarrassment and memory loss.

Learning Objectives: Client's presenting problem required a culturally sensitive approach to reducing harm reduction and increasing awareness of the consequences of drinking. Moreover, given the short nature of the program (i.e., 4 sessions), the counselor intended to introduce various adaptive coping skills.

Case Presentation: Both the client's cultural background as well as the focus of her business – Caribbean Carnival Travel planning – created contextual difficulties in reducing alcohol consumption during cultural and work-related events. Client was concerned about refusing alcohol, both among peers and among customers. Her treatment goal, therefore, was not abstinence, but reduction of alcohol consumption utilizing refusal skills and applying constructive coping skills to deal with life stressors.

Discussion: The Guided-Self Change Program combines Motivational Interviewing techniques with Cognitive-Behavioral interventions (Sobell & Sobell, 2005), aided by printed client manuals. The learned coping skills included communication and refusal skills, stress-reduction tools, and also added innovative mindfulness exercises. Applying coping skills was paramount in the reduction of excessive drinking, and it allowed the client to confidently refuse alcoholic drinks without fearing the social consequences. Organically, there was 3-week break between the third and final session, which allowed the client to implement the learned skills during Carnival. Upon her return, the client reported increased control over her alcohol consumption at termination and learned that social isolation did not ensue from refusal of alcohol.

Pre and Post Tests of Bachelor Students Engaged in Addiction Learning

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Background: Four students involved in human services curriculum at Northern Michigan University completed the school's social work class on addictions: diagnosis, treatment and prevention. . This course is designed to cover the key content necessary for developing an understanding of a complex body of knowledge that is filled with certainties and uncertainties, science and speculation, dogma and theory, as well as opinion and silence. **Objective**: The objective of the pre and posttests was to see what students knew prior to taking the course and to demonstrate an increase of their knowledge regarding this subject. **Methods:** Students completed a pretest consisting of 20 questions at the beginning of the course to identify their knowledge of the subject and then completed a posttest of the same questions to demonstrate an improvement of their knowledge on the subject **Results:** There was an improvement in students' scores that demonstrated an increase in their knowledge of the subject. **Conclusions**: Students acknowledged that prior to taking the class their knowledge of addiction,

including various assessment tools, treatment modalities, was limited. They reported an improvement in these areas and stated they wanted to continue their learning of the subject.

Addressing Substance Use Risk in Pregnant and Postpartum Women Enrolled in Early Childhood Home Visiting Programs: A Quasi-Experimental Pilot Test of a Pragmatic Screen-And-Refer Approach

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Background: Home visiting (HV) is the primary supportive intervention provided to high-risk pregnant and postpartum women and a potential setting for addressing unmet substance use treatment needs. However, most HV programs do not have standardized protocols for addressing substance use. To address this gap, we developed the HELP model, which included standardized substance use screening, followed by motivational interviewing and case management interventions aimed at linking clients to treatment. **Objectives**: We present the impacts of HELP on increasing identification of substance use risk in HV clients, discussion of substance use during home visits, and referrals to substance use treatment, and describe home visitor perspectives on challenges in addressing substance use risk in their clients. **Methods**: HELP was piloted in 4 New Jersey counties that were implementing the Healthy Families America (HFA) model with 25 home visitors and 394 clients. The study used a quasi-experimental design, whereby HELP clients were compared to 771 HV clients in 5 counties that implemented HFA but not HELP, applying propensity score weights to balance the groups. Multi-level mixed effects models compared groups on the proportion of clients identified by the home visitor as having substance use risk, the proportion whose home visitor discussed substance use during a visit, and the proportion referred to substance use treatment. Qualitative interviews were conducted with 14 home visitors in the HELP group and analyzed using thematic content analysis. **Results**: HELP clients were significantly more likely than non-HELP clients to have their home visitor discuss substance use during a visit [B(SE)=2.77(.48), pseudo-z=5.81, p=.000, OR=15.94]. Groups did not differ on risk identification and there were too few referrals to reliably test for group differences. Qualitative data indicated that client fears of child removal, barriers to treatment access, and home visitor lack of clinical skill presented challenges to addressing substance use in HV. **Conclusions**: HELP was successful in increasing general discussion about substance use risk during visits, but not in increasing risk identification and referral outcomes. Possible explanations include client and system-level barriers, as well as implementation challenges. Alternative strategies are needed to address substance use in HV.

Implementing a Multi-Component School-Based Substance Use and Other High-Risk Behavior Prevention Program: A Feasibility Study

Sarah Dauber PhD; Chris Gonzalez MBA; Cori Hammond MPH; Alexandra Colomba; Linda Richter PhD; Aaron Hogue PhD; Amy Schreiner PhD – Center on Addiction

Background: School-based programming is one of the most widely-used strategies for preventing adolescent substance use and other high-risk behaviors. Many existing programs are limited by a focus on a single high-risk behavior, a failure to engage family and school personnel, and presentation of universal psychoeducation only. The Council on Recovery in Houston developed the Choices program to overcome these limitations. Choices includes a theoretical framework and core components that can be flexibly tailored to the unique needs of each school. **Objective:** We describe the theoretical framework and core components of Choices and assess the implementation of program core components. **Methods**: Choices was implemented in 2 Houston high schools from August-December 2018. Core components include: Universal psychoeducational presentations; Selective group-based programming; Indicated counseling sessions with individual students, parents, and school staff; and Action Groups to engage students, parents, and faculty in prevention efforts. Choices counselors reported on each component monthly via an online survey. **Results**: Universal: Schools did not differ in the number of universal presentations (School A: Mean per month (M(SD)) = 2.0(2.2); School B: M(SD) = 1.5(1.0)). Selective: Schools did not differ in the number of selective groups (School A: M(SD) = 4.8(4.8); School B: M(SD) = 3.5(1.0)) but did differ in the number of selective group participants (School A: M(SD) =

53.3(19.9); School B: M(SD) = 13.8(4.1); t(df) = 3.9(6), p = .008). Indicated: Schools differed on the average number of indicated sessions held per month (School A: M(SD) = 96.3(30.2); School B: M(SD) = 54.3(13.8), t(df) = 2.5(6), p = .045). Both schools conducted most indicated sessions with students. School A conducted more indicated sessions with school staff (School A: M(SD) = 41.8(13.0); School B: M(SD) = 3.5(1.3); t(df) = 5.86(3.1), p = .009). Action Groups: Student, parent, and faculty action groups were held at both schools, with no significant differences in the number of groups or attendees. **Conclusions:** Both schools implemented all core components, however School A conducted more Selective and Indicated work than School B. Differences may be explained by school variability in need, suggesting appropriate program tailoring, as well as variability in implementation feasibility.

Factors Influencing Counseling Adherence in Medication-Assisted Treatment for Opioid Addiction

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Background: Opioid abuse, especially the non-medicinal use of opioid prescription drugs, is a public health concern in the US. Research has shown medication-assisted treatment (MAT) is fundamental in decreasing opioid abuse overdose and mortality. **Research Objective**: The importance of counseling during MAT, and factors that contribute to adherence to counseling, is not well-known. This study assesses factors that affect patients' adherence to counseling while undergoing MAT. **Methods**: A retrospective cohort design utilizing survival analysis (cox regression model) assessed the relationship of personal characteristics, socio-economic status, insurance status, type of opioid addiction, integrated care, and social support with counseling adherence. The sample was of 1,151 opioid dependent adults receiving MAT. **Results:** Descriptively, the majority of the sample accessing treatment during the study timeframe were white, female, and single. The mean age was just under 35, and a large percentage of the sample had at least a high school diploma. However, most were unemployed, and low income. The cox regression analysis indicated that counseling adherence at the end of one year was predicted by older age and insurance. Patients with a heroin primary drug dependence were less likely to still be in counseling at the end of a year than patients whose primary dependence is non-medicinal prescription drugs**. Conclusions**: The study reveals statistically significant conclusions regarding age, insurance, and type of opioid addiction; and holds significant implications for both policy and practice, such as legislative initiatives, effective treatment modalities, and MAT expansions. This study also points to the need for insurance coverage in adherence to counseling in MAT. Policy reforms that tighten or eliminate ACA coverage or that make Medicaid harder to obtain will only accentuate problems with overcoming opioid addiction. As the opioid epidemic has become a national public health concern, having treatment interventions inclusive of factors associated with better treatment outcomes (evidenced-based practices associated with heroin, age) in addition to the availability of funding for treatment is of uttermost importance to achieve care continuum.

Combating the Opioid Epidemic Through Integration: A Review

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Background: Research suggests using an integrative approach in treating substance use disorder (SUD), similar to other behavioral health illnesses results in better patient outcomes. Yet the majority of SUD treatment has occurred in fragmented or specialty care. **Research Objective**: To review the literature on challenges and barriers in SUD integration, in addition to effective modalities and initiatives identified to improve the integration lag. **Methods**: A review was conducted on the following concepts in relation to integration - substance use disorder, health care services, chronic care model, and workforce- to answer the following research questions: 1) What barriers and challenges exist in SUD integration? 2) Are there effective modalities and initiatives identified to improve the integration lag for SUD? 3) Why is it important to develop and maintain an integrative workforce? Quality articles were assessed from Onesearch which included the following databases: PubMed (MEDLINE), PubMed Central, and Science Direct. **Results**: Findings highlighted SUD traditional treatment seen as social and criminal issue (not health), reimbursements, lengthy referrals, and SUD

expertise lacking. Barriers and Challenges include: defining integration, reimbursement for SUD services, providers' implicit biases and cultivating staff support for new initiatives. Effective modalities and initiatives either integrated SUD services into health care or healthcare into specialty SUD treatment improving access and utilization, which highlighted the importance of provider training and engagement for this to occur. Integrative workforce strategies occurs successfully when management commits to it and demonstrates the economic value. **Conclusion:** Research indicates integrated services results in better patient outcomes, yet SUD and health care services integration is still inadequate. SUD traditional treatment is seen as a social and criminal (not health) issue, with barriers in reimbursements, lengthy referrals, and SUD expertise lacking. Integration is however imminent due to health care reform, as the ACA considers SUD treatment "essential health benefits." Integrated care benefits extends to caregivers, providers, and the health care system. Strategies for integrative improvements include: Collaborative approach inclusive of policy makers to address reimbursement challenges, staff inclusive of medical and behavioral professionals, and addiction and recovery included in training curriculum for direct-care professionals (medical and behavioral health).

Providing Primary Care for Women With Substance Use Disorder in Residential Treatment

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Background: Historically, substance use disorder (SUD) was less common among women. However of over the past few decades this gender gap in unhealthy substance use has been is closing with a striking increase in associated mortality for women. Furthermore, women with SUD have unique vulnerabilities**. Objectives:** Nationally, the vast majority of women who qualify for SUD treatment are not receiving it. Thus, it is important to focus on the intersection of women's health and substance use treatment. One way to do this is for primary care to partner with women's residential treatment programs as we have done in Providence, RI. **Methods**: Eastman House is a 16 bed residential treatment center for adult women with SUD. Residents are mandated to see a health care provider for a history and physical within the first week of being there. Before this collaboration, it was challenging to achieve this physician visit in a timely manner. Starting in January 2019, one of the full time primary care faculty began seeing women from Eastman House for half of a primary care session each week (four patients in two hours). Two options are provided to each patient: the doctor can provide medical care while an individual is at Eastman House and/or she can be that woman's primary care doctor going forward if the patient so desires**. Results**: In the first three months, 46 women have been seen. Several women have continued primary care here. Goals of this collaboration include reducing unnecessary ED visits, providing medication continuity (including OBAT), providing sick visits and treatment for common conditions seen in early recovery and in routine primary care. **Conclusions:** Future directions include building collaborations with the state's correctional institution, obstetrics and gynecology and psychiatry as well as treating hepatitis C. As we know women with substance use disorder have unique vulnerabilities and rising mortality. We hope to serve as a proof of concept for one way to address the medical needs of women with substance use disorder in primary care.

The Use of Transdermal Buprenorphine For Conversion From Methadone to Sublingual Buprenorphine in a Patient Hospitalized For Life-threatening Ventricular Arrhythmia

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Background:

Many patients with opioid use disorder (OUD) will experience serious medical complications that may influence the recommendation for OUD pharmacotherapy. In particular, cardiac arrhythmias may necessitate a patient transitioning from methadone to buprenorphine. Novel techniques are needed to make this transition safe, effective, and expedited. This case describes an innovative transition technique.

Learning Objectives:

Identify factors that contribute to cardiac arrhythmias in patients with opioid use disorder.

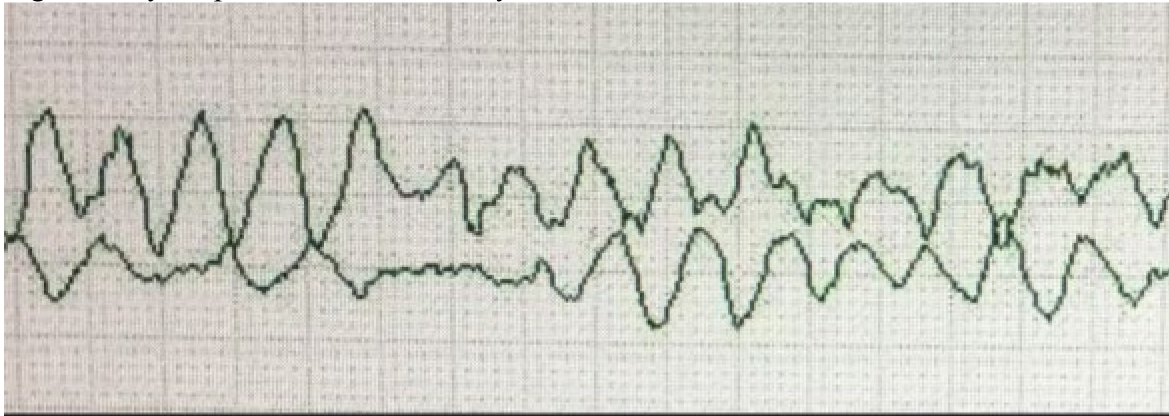
Describe a novel transition method from methadone to buprenorphine during hospitalization.

Case Presentation:
42-year-old woman is admitted to the hospital for a motor vehicle accident secondary to cardiogenic syncope while on methadone maintenance 60 mg/day for severe OUD and fluconazole 800 mg/day for fungal endocarditis. She recently completed a course of azithromycin for bronchitis. In the ED, she was noted to have low potassium and polymorphic ventricular tachycardia which required cardioversion. The inpatient addiction medicine (ADM) service was consulted with a request to transition the patient to buprenorphine. Methadone was discontinued and immediate release (IR) oxycodone was initiated for opioid withdrawal management. Acetaminophen, ibuprofen, clonidine, hydroxyzine and benzodiazepines were used for adjunctive treatment. Fluconazole was changed to amphotericin and flucytosine.

On hospital day 3, transdermal (TD) buprenorphine (10 µg/h) was applied while continuing IR oxycodone. After 24 hours, TD buprenorphine was removed and 4mg sublingual buprenorphine-naloxone (SL BUP) was initiated 2 hours later. One hour later, she developed severe opioid withdrawal requiring a total of 28mg SL BUP given over 5 hours. Her symptoms stabilized overnight. On hospital day 5, she had stable withdrawal and craving and was discharged on 8mg three times a day SL BUP with outpatient follow-up.

Discussion:
The combination of multiple QTc prolonging medications, electrolyte derangements, and cardiac abnormalities can lead to serious arrhythmias, particularly in patients prescribed methadone. There is a role for novel approaches to transition patients from methadone to buprenorphine when this develops. These techniques are still being shaped to adapt to inpatient demands. There is a role for the inpatient ADM specialist and multidisciplinary treatment for patients admitted to the hospital with substance use disorders to address these complex cases.

Figure: Polymorphic Ventricular Tachycardia



Degree of Bystander-Patient Relationship and its Association with Repeated Opioid Overdose Events

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Background: Across the spectrum of patient care for opioid overdose, an important, yet frequently overlooked feature is the bystander. For other acute medical events, such as cardiac arrest and stroke, research supports that bystander presence is associated with better outcomes. Despite the similarities, this well-established conceptual framework has yet to be applied in the context of overdose. **Objective:** To assess whether the degree of

bystander-patient relationship is associated with repeated opioid overdose events. **Methods:** A retrospective cohort study was conducted among adults who received naloxone administration in the prehospital setting for suspected opioid overdose. Patients were identified using a pre-existing, longitudinal registry documenting all prehospital administrations of naloxone by first responders in a midsized NY community. Individuals who received at least one administration for a suspected opioid overdose between June 1st, 2016 to July 31st, 2018, with available EMS and medical record data were eligible for study inclusion. Bystander type was defined as: Close (spouse/family), Proximal (friends), and Distal (no relation to patient). The association between bystander type and repeated overdose event was estimated using Logistic Regression models. **Results:** A total of 610 opioid overdose encounters, among 545 unique patients, were identified from the registry. The majority of the sample was male (67.2%), white (73.6%) and aged 25-34 years of age (34.9%). Over 11% of patients experienced a repeated overdose event within the study time frame, and 5.6% experienced at least one within 90 days of their initial overdose encounter. Having a Proximal bystander present during their initial encounter was associated with 36% lower risk of a repeated overdose event within 90 days, compared to those with Distal bystanders (OR=0.6, 95% CI 0.2, 1.9). Conversely, risk of repeating was 53% higher for individuals with Close bystanders, relative to Distal, but again, did not reach statistical significance (95% CI 0.7, 3.4). **Conclusion:** Although we did not find a significant association between bystander type and odds of repeated overdose event, these results offer an opportunity to further evaluate the role of the bystander in the context of one's prospective SUD recovery.

Degree of Bystander-Patient Relationship and Prehospital Care for Opioid Overdose

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Background: Across the spectrum of patient care for opioid overdose, an important, yet frequently overlooked feature is the bystander. For other acute medical events, such as cardiac arrest and stroke, research supports that the presence of a bystander is associated with better outcomes. Despite the similarities, however, this well-established conceptual framework has yet to be applied in the context of overdose. **Objective:** To assess whether the degree of bystander-patient relationship is associated with prehospital care for the treatment of opioid overdose. **Methods**: A retrospective cohort study was conducted among adults who received naloxone administration in the prehospital setting for suspected opioid overdose. Patients were identified using a pre-existing, longitudinal registry documenting all prehospital administrations of naloxone by first responders in a midsized NY community. Individuals who received at least one administration for a suspected opioid overdose between June 1st, 2016 to July 31st, 2018, with available EMS and medical record data were eligible for study inclusion. Bystander type was defined as: Close (spouse/family), Proximal (friends), and Distal (no relation to patient). The association between bystander type and prehospital patient care outcomes were estimated using Logistic and Linear Regression models**. Results**: A total of 610 opioid overdose encounters, equating to 545 unique patients, were identified from the registry. The majority of the sample was male (67.2%), white (73.6%) and aged 25-34 years of age (34.9%). Among patients with Proximally related bystanders during their encounter, the time to naloxone administration was decreased by 2.40 minutes, compared to Distally related, and after adjusting for covariates (95% CI -4.6, -0.2). Overdose encounters with 911 dispatch codes more indicative of opioid overdose (i.e. 'Overdose/Poisoning' vs 'Unconscious/Fainting') were associated with having a Close/Proximal bystander present relative to a Distal bystander (Close, OR=1.9, 95% CI 1.1, 3.4; Proximal, OR=3.7, 95% CI 1.9, 7.3). **Conclusion**: We found that having a Proximal bystander during an overdose event is associated with dispatch codes indicative of an overdose and shorter time to naloxone administration. These findings offer an alternative focal point for interventions aimed at spreading overdose awareness and harm reduction strategies.

Extended-Release vs. Oral Naltrexone for Alcohol Dependence Treatment in Primary Care

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Background: Oral naltrexone (O-NTX) is first-line pharmacotherapy for alcohol use disorders (AUD) however, it is under-prescribed in primary care and characterized by low daily adherence and treatment retention. **Objective**: Monthly injectable extended-release naltrexone (XR-NTX) may improve adherence and good clinical outcomes. No head-to-head trials have compared the effectiveness of XR-NTX vs. O-NTX. **Methods**: This is a randomized, open-label, comparative effectiveness trial of 24 weeks of XR-NTX vs. O-NTX as AUD treatment in primary care at a public hospital in New York City. Adults (>18yo) with AUD randomized to XR-NTX (380mg/month) vs. O-NTX (50mg/day) with Medical Management. Self-reported daily drinking recall informed the primary outcome, a Good Clinical Outcome (GCO) across weeks 5-24, defined as abstinence or moderate drinking and 0-2 days of heavy drinking per month. **Results:** N=237 adults randomized (n=117 XR-NTX; n=120 O-NTX); mean age 48.5 (SD 10.6); 71% male; 54% AA, 21% Hispanic; 41% employed. At baseline mean drinks/day were 9.6 (SD 11.6); 29% abstinent days; 61% heavy drinking days; mean Obsessive Compulsive Drinking Scale (OCDS) scores were 17.6 (SD 7.1) and mean Alcohol Use Disorders Identification Test (AUDIT) scores were 24.2 (SD 8.0). 64% of monthly XR-NTX injections were received and 67% of monthly O-NTX refills were provided. The primary GCO across weeks 5-24 was reported by 29% XR-NTX and 23% O-NTX (p=0.29). Mean months with a GCO was 2.9 XR-NTX, 2.5 O-NTX (p=0.21). Rates of % days abstinent (70% XR-NTX vs. 71% O-NTX; p=0.77) and % heavy drinking days (20% XR-NTX vs. 16% O-NTX; p=0.28) were similar across weeks 1-24. Mean blood pressure decreased from 127/86mmHg at baseline to 124/83mmHg at week 25; there was no change in mean weight (180lb) pre/post, and there were no differences in BP or weight changes by arm. Declines in OCDS scores (17.6 to 7.6) were similar by arm. **Conclusion:** Initiation and retention on both forms of naltrexone was robust. Overall, participants reported improved longitudinal drinking outcomes. There was insufficient evidence of any differences in primary and secondary self-reported drinking outcomes between monthly XR-NTX and daily O-NTX.

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Extended-Release Naltrexone Opioid Treatment at Jail Re-entry (XOR)

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Background: Extended-release naltrexone (XR-NTX, Vivitrol®; Alkermes Inc.), is an injectable monthly sustained-release mu opioid receptor antagonist. Use of XR-NTX among opioid dependent persons leaving jails and prisons is increasing despite scant high-quality evidence regarding XR-NTX's effectiveness at re-entry. **Objectives:** Among persons leaving jail and prison who are at high risk for opioid relapse, overdose, and death, there is a clear rationale for XR-NTX treatment at reentry. **Methods:** This open-label randomized controlled trial examines the effectiveness of XR-NTX in reducing opioid relapse at release from jail compared to no medication controls. Adults (>18yo), incarcerated in Rikers Island jails (Queens, NY) with opioid use disorder diagnosis and upcoming release date randomized to 24-weeks of XR-NTX (380mg/month) vs. an 'enhanced' treatment as usual (ETAU) only condition who will receive community treatment referrals in order to provide study benefit beyond usual care. Primary aim will compare time-to-relapse among participants treated with XR-NTX vs. ETAU controls following release from jail. A non-randomized, quasi-experimental cohort of participants in a jail-based methadone maintenance program (MTP) will allow for an additional time-to-relapse comparison of XR-NTX to a methadone standard-of-care. Relapse is defined as self-report of greater than seven consecutive days of non-prescribed, illicit opioid use, or, two consecutive positive urine toxicology tests for non-prescribed opioids. **Results:** N=198 adults enrolled, 119 randomized (n=61 XR-NTX; n=58 ETAU) and 79 non-randomized methadone cohort participants; mean age 43 (SD=10.0); 83% male; 48% AA, 42% Hispanic.

Preliminary results of primary aim, time-to-relapse during Weeks 0-24 was greater among XR-NTX, 6.1 Weeks vs. ETAU, 4.2 weeks (p=0.29) though not significant. Relapse occurring at any time point through 24 Weeks post-release was 81% among XR-NTX and 91% among ETAU participants (p=0.18). Rates of confirmed opioid negative urines was 31%, XR-NTX, and 23%, ETAU. XR-NTX injections were well-tolerated: 93% received ≥ one injection, 57% ≥ two injections, 44% ≥ 3 injections, 34% ≥ four injections, 30% ≥ five injections, and 23% received all six XR-NTX injections during 24-week treatment period. **Conclusions:** XR-NTX is a potentially important treatment and relapse prevention option among persons with opioid use disorder leaving a large urban jail.

Alcohol-Induced Blackouts at Age 20 Predict the Incidence, Maintenance, and Severity of Alcohol Dependence at Age 25: A Prospective Study in a Sample of Young Swiss Men

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Background: Alcohol-induced blackout (AIB) is a common alcohol-related adverse event occurring during teenage years. Although research provides evidence that AIB predicts acute negative consequences, less is known about the associations of AIB with chronic consequences, such as alcohol dependence (AD). **Objective:** This study estimated the associations between an experience of AIB at age 20 and the incidence, maintenance, and severity of AD at age 25 among Swiss men**. Methods:** Prospective cohort study with 5.5 years separating baseline and follow-up. Setting: Switzerland.
Participants: Swiss male drinkers (n = 5,469, age 20 at baseline) drawn from the Cohort Study on Substance Use Risk Factors (C-SURF). Measurements: Self-report questionnaires assessing AIB, AD, alcohol (drinking volume, binge drinking), cigarette and cannabis use, several risk factors (sensation seeking, family history of problematic alcohol use, age of first alcohol intoxication) and sociodemographic variables. **Results**: Generalized estimating equation models with and without adjustment for risk factors, including alcohol use and socio-demographics, showed that AIB at age 20 significantly predicted the incidence of AD at age 25 in men without AD at age 20 (OR[95%CI], unadjusted: 2.52[2.04, 3.11], p<.001; fully adjusted: 1.47[1.13, 1.91], p=.004), maintenance of AD in men with AD at age 20 (OR[95%CI], unadjusted: 1.82[1.12, 2.95], p=.015; fully adjusted: 1.66[1.00, 2.76], p=.048), and AD severity (IRR[95%CI], unadjusted: 1.89[1.69, 2.11], p<.001; fully adjusted: 1.20[1.10, 1.31], p<.001). **Conclusions**: Alcohol-induced blackout at age 20 predicts the development, maintenance and severity of alcohol dependence at age 25 and constitutes an early and easily assessed sign of alcohol dependence. Clinicians should consider that young individuals who report past alcohol-induced blackout may be at a higher risk for current or future alcohol dependence, and should provide targeted care, such as assessment for alcohol dependence, counselling and referral to specialized treatment, if needed.

Characteristics of General Hospital Patients With Alcohol Use Disorder Eligible For a Clinical Trial of Naltrexone at Discharge

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Background: Alcohol use disorder medication such as naltrexone is rarely initiated at hospital discharge even when the diagnosis is recognized. Few studies have described the characteristics of adult general hospital patients with alcohol use disorder (AUD) eligible to start naltrexone at discharge. **Purpose**: To characterize a sample of hospitalized patients with AUD eligible for a clinical trial of naltrexone at discharge, and compare those enrolled to those not enrolled. **Methods**: Adult general hospital patients with AUD and at least one past-month heavy drinking day (HDD)(5+ drinks for men, 4 for women) who had no naltrexone contraindications were eligible to participate in a randomized trial comparing initiation of oral and extended-release naltrexone at discharge. Trained research staff assessed patients likely to have AUD and few contraindications, for DSM-5 AUD using the AUD and Associated Disabilities Interview Schedule-5 (AUDADIS-5); and past 30-day alcohol use by the Timeline Followback. **Results**: Of 899 inpatients who met AUD criteria, 357 were eligible for the

trial and 197 were enrolled in the trial. Among those with AUD (n=899), mean±SD age was 54±11 years, 22% were female, 47% black, 10% Hispanic/Latino, 37% had any nights homeless in the last 90 days, men reported 15+12 HDDs (12+12 for women), 75% had severe AUD and 12% moderate AUD. Most of those with AUD who were ineligible for the trial due to a contraindication were excluded due to opioid use or likely future need. Among the 357 patients eligible for the trial, those who enrolled appeared to be younger (50 ± 10 vs 57 ± 10 years), more likely to report any nights homeless (47% vs 33%), reported more HDDs (18 ± 11 vs 17+11 for men and 18 ± 11 vs 16+12 for women) and were more likely to have severe AUD (90% vs 76%). **Conclusion**: Adult general hospital patients eligible for a trial of naltrexone for AUD, and who ultimately enrolled, tended to be younger, homeless, and have more severe AUD. These findings suggest that efforts may be needed to expand initiation of medication for AUD in the hospital across a broader population.

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