CHAPTER 292

Substance Use Disorders

Kathryn Hawk Elizabeth A. Samuels Scott G. Weiner Gail D'Onofrio Edward Bernstein

REFERENCES

- http://www.who.int/substance_abuse/facts/alcohol/en/. (World Health Organization: Global status report on alcohol and health. 2014.) Accessed February 12, 2018.
- Moore B, Stocks C, Owens P: Trends in emergency department visits, 2006-2014. In: Agency for Healthcare Research and Quality, ed. HCUP Statistical Brief #227. Rockville, MD: Agency for Healthcare Research and Quality; 2017.
- Substance Abuse and Mental Health Services Administration: Drug Abuse Warning Network, 2011: National Estimates of Drug-Related Emergency Department Visits. Rockville, MD: Substance Abuse and Mental Health Services Administration; 2013.
- https://www.unodc.org/wdr2017/field/Booklet_1_EXSUM.pdf. (United Nations Office on Drugs and Crime: World Drug Report. 2017.) Accessed June 27, 2018.
- Weiss A, Bailey M, O'Malley L, Barrett M, Elixhauser A, Steiner C: Patient Characteristics of Opioid-Related Inpatient Stays and Emergency Department Visits Nationally and by State, 2014. Rockville, MD: Agency for Healthcare Research and Quality; 2017.
- Dasgupta N, Beletsky L, Ciccarone D: Opioid crisis: no easy fix to its social and economic determinants. Am J Public Health 108: 182, 2018. [PMID: 29267060]
- Vivolo-Kantor AM, Seth P, Gladden RM, et al: Vital Signs: trends in emergency department visits for suspected opioid overdoses—United States, July 2016-September 2017.
 MMWR Morb Mortal Wkly Rep 67: 279, 2018. [PMID: 29518069]
- Compton WM, Jones CM, Baldwin GT: Relationship between nonmedical prescription-opioid use and heroin use. N Engl J Med 374: 154, 2016. [PMID: 26760086]
- McLellan AT, Lewis DC, O'Brien CP, Kleber HD: Drug dependence, a chronic medical illness: implications for treatment, insurance, and outcomes evaluation. *JAMA* 284: 1689, 2000. [PMID: 11015800]
- Substance Abuse and Mental Health Services Administration: Key Substance Use and Mental Health Indicators in the United States: Results from the 2016 National Survey on Drug Use and Health. Rockville, MD: Substance Abuse and Mental Health Services Administration; 2016.
- White WL, Boyle M, Loveland D: Alcoholism/addiction as a chronic disease. Alcohol Treat Quart 20: 107, 2002. DOI: 10.1300/J020v20n03_06
- 12. Kelly JF, Saitz R, Wakeman S: Language, substance use disorders, and policy: the need to reach consensus on an "addiction-ary." *Alcohol Treat Quart* 34: 116, 2016.
- 13. Kulesza M, Matsuda M, Ramirez JJ, Werntz AJ, Teachman BA, Lindgren KP: Towards greater understanding of addiction stigma: intersectionality with race/ethnicity and gender. *Drug Alcohol Depend* 169: 85, 2016. [PMID: 27792911]
- www.thenationalcouncil.org/consulting-best-practices/national-council-shareables.
 (National Council for Behavioral Health: Language matters.) Accessed March 13, 2018.
- Saitz R: Clinical practice. Unhealthy alcohol use. N Engl J Med 352: 596, 2005. [PMID: 15703424]
- Hingson RW, Zha W, White AM: Drinking beyond the binge threshold: predictors, consequences, and changes in the U.S. Am J Prev Med 52: 717, 2017. [PMID: 28526355]
- National Institute of Alcohol Abuse and Alcoholism: Helping Patients Who Drink Too Much: A Clinician's Guide. Rockville, MD: National Institute on Alcohol Abuse and Alcoholism; 2007.
- Hingson RW, Heeren T, Winter MR: Age of alcohol-dependence onset: associations with severity of dependence and seeking treatment. *Pediatrics* 118: e755, 2006. [PMID: 16950966]
- Moritsugu KP, Li TK: Underage drinking: understanding and reducing risk in the context of human development. Foreword. *Pediatrics* 121(Suppl 4): S231, 2008. [PMID: 18381490]
- 20. Slade T, Chapman C, Swift W, Keyes K, Tonks Z, Teesson M: Birth cohort trends in the global epidemiology of alcohol use and alcohol-related harms in men and women: systematic review and metaregression. *BMJ Open* 6: e011827, 2016. [PMID: 27797998]
- Eagon PK: Alcoholic liver injury: influence of gender and hormones. World J Gastroenterol 16: 1377, 2010. [PMID: 20238405]
- 22. Bradley KA, Badrinath S, Bush K, Boyd-Wickizer J, Anawalt B: Medical risks for women who drink alcohol. *J Gen Intern Med* 13: 627, 1998. [PMID: 9754520]
- Erol A, Karpyak VM: Sex and gender-related differences in alcohol use and its consequences: contemporary knowledge and future research considerations. *Drug Alcohol Depend* 156: 1, 2015. [PMID: 26371405]
- Tuchman E: Women and addiction: the importance of gender issues in substance abuse research. J Addict Dis 29: 127, 2010. [PMID: 20407972]
- Breslow RA, Castle IP, Chen CM, Graubard BI: Trends in alcohol consumption among older americans: national health interview surveys, 1997 to 2014. Alcohol Clin Exp Res 41: 976, 2017. [PMID: 28340502]
- Compton W, Dawson D, Goldstein R, Grant B: Crosswalk between DSM-IV dependence and DSM-5 substance use disorders for opioid, cannabis, cocaine and alcohol. Drug Alcohol Depend 132: 387, 2013. [PMID: 23642316]

- Center for Behavioral Health Statistics and Quality: 2016 National Survey on Drug Use and Health: Detailed Tables. Rockville, MD: Substance Abuse and Mental Health Services Administration; 2017.
- CBD 2015 Disease and Injury Incidence and Prevalence Collaborators: Global, regional, and national incidence, prevalence, and years lived with disability for 310 diseases and injuries, 1990-2015: a systematic analysis for the Global Burden of Disease Study 2015. Lancet 388: 1545, 2016. [PMID: 27733282]
- Academic ED SBIRT Research Collaborative: The impact of alcohol screening, brief intervention and referral to treatment on ED patients' alcohol use. Ann Emerg Med 50: 699, 2007. [PMID: 17870206]
- D'Onofrio G, Fiellin DA, Pantalon MV, et al: A brief intervention reduces hazardous and harmful drinking in emergency department patients. Ann Emerg Med 60: 181, 2012. [PMID: 22459448]
- Bernstein S, D'Onofrio G: A promising approach for emergency departments to care for patients with substance use and behavioral disorders. *Health Aff* 32: 2122, 2013. [PMID: 24301395]
- 32. Woolard R, Baird J, Longabaugh R, et al: Project reduce: reducing alcohol and marijuana misuse: effects of a brief intervention in the emergency department. *Addict Behav* 38: 1732, 2013. [PMID: 23261491]
- 33. Bernstein E, Topp D, Shaw E: A preliminary report of knowledge translation: lessons from taking screening and brief intervention techniques from the research setting into regional systems of care. *Acad Emerg Med* 16: 1225, 2009. [PMID: 20053242]
- Woodruff SI, Eisenberg K, McCabe CT, Clapp JD, Hohman M: Evaluation of California's alcohol and drug screening and brief intervention project for emergency department patients. West J Emerg Med 14: 263, 2013. [PMID: 23687546]
- Vaca FE, Winn D, Anderson CL, Kim D, Arcila M: Six-month follow-up of computerized alcohol screening, brief intervention, and referral to treatment in the emergency department. Subst Abus 32: 144, 2011. [PMID: 21660874]
- Bernstein E, Edwards E, Bliss C, Heeren T, Bernstein J: Screening and brief intervention to reduce marijuana use among youth and young adults in a pediatric emergency department. Acad Emerg Med 16: 1174, 2009. [PMID: 20053238]
- Bernstein J, Bernstein E, Tassiopoulos K: Brief motivational intervention at a clinic visit reduces cocaine and heroin use. *Drug Alcohol Depend* 77: 49, 2005. [PMID: 15607841]
- Bruguera P, Barrio P, Oliveras C, et al: Effectiveness of a specialized brief intervention for at-risk drinkers in an Emergency Department. Short term results of a randomized controlled trial. Acad Emerg Med 25: 517, 2018. [PMID: 29418049]
- Barata IA, Shandro JR, Montgomery M, et al: Effectiveness of SBIRT for alcohol use disorders in the emergency department: a systematic review. West J Emerg Med 18: 1143, 2017. [PMID: 29085549]
- Cherpitel CJ, Ye Y, Bond J, et al: Brief intervention in the emergency department among Mexican-origin young adults at the US-Mexico border: outcomes of a randomized controlled clinical trial using promotores. *Alcohol Alcohol* 51: 154, 2016. [PMID: 26243733]
- Sommers MS, Lyons MS, Fargo JD, et al: Emergency department-based brief intervention to reduce risky driving and hazardous/harmful drinking in young adults: a randomized controlled trial. Alcohol Clin Exp Res 37: 1753, 2013. [PMID: 23802878]
- Merchant RC, Romanoff J, Zhang Z, Liu T, Baird JR: Impact of a brief intervention on reducing alcohol use and increasing alcohol treatment services utilization among alcoholand drug-using adult emergency department patients. *Alcohol* 65: 71, 2017. [PMID: 29084632]
- 43. Pringle JL, Kelley DK, Kearney SM, et al: Screening, brief intervention, and referral to treatment in the emergency department: an examination of health care utilization and costs. *Med Care* 56: 146, 2018. [PMID: 29256973]
- Smith PC, Schmidt SM, Allensworth-Davies D, Saitz R: Primary care validation of a single-question alcohol screening test. J Gen Intern Med 24: 783, 2009. [PMID: 19247718]
- Smith P, Schmidt S, Allensworth-Davies D, Saitz R: A single-question screening test for drug use in primary care. Arch Intern Med 170: 1155, 2010. [PMID: 20625025]
- Johnson J, Woychek A, Vaughan D, Seale J: Screening for at-risk alcohol use and drug use in an emergency department: integration of screening questions into electronic triage forms achieves high screening rates. *Ann Emerg Med* 62: 262, 2013. [PMID: 23688769]
- D'Onofrio G, Degutis LC: Integrating Project ASSERT: a screening, intervention, and referral to treatment program for unhealthy alcohol and drug use into an urban emergency department. Acad Emerg Med 17: 903, 2010. [PMID: 20670330]
- Ramos R, Cherpitel CJ, Alvarez J, et al: Preparing Mexican-origin community health advocates (promotores) to conduct SBIRT for problem drinking in the emergency room. *Pedagog Health Promot* 2018; DOI:237337991875642.
- Jack HE, Oller D, Kelly J, Magidson JF, Wakeman SE: Addressing substance use disorder in primary care: the role, integration, and impact of recovery coaches. Subst Abus 9: 1, 2017. [PMID: 28991516]
- Miller PM, Thomas SE, Mallin R: Patient attitudes towards self-report and biomarker alcohol screening by primary care physicians. *Alcohol Alcohol* 41: 306, 2006. [PMID: 16574672]
- D'Onofrio G, Pantalon MV, Degutis LC, Fiellin DA, O'Connor PG: Development and implementation of an emergency practitioner-performed brief intervention for hazardous and harmful drinkers in the emergency department. *Acad Emerg Med* 12: 249, 2005. [PMID: 15741590]
- Bernstein E, Bernstein J, Levenson S: Project ASSERT: an ED-based intervention to increase access to primary care, preventive services, and the substance abuse treatment system. Ann Emerg Med 30: 181, 1997. [PMID: 9250643]

- Boudreaux E, Bock B, O'Hea E: When an event sparks behavior change: an introduction to the sentinel event method of dynamic model building and its application to emergency medicine. Acad Emerg Med 19: 329, 2012. [PMID: 22435866]
- Clark RE, Samnaliev M, Baxter JD, Leung GY: The evidence doesn't justify steps by state Medicaid programs to restrict opioid addiction treatment with buprenorphine. *Health Aff (Millwood)* 30: 1425, 2011. [PMID: 21821560]
- Petrakis IL: A rational approach to the pharmacotherapy of alcohol dependence. J Clin Psychopharmacol 26(suppl 1): S3, 2006. [PMID: 17114952]
- Ries R, Fiellin D, Miller S, Saitz R: Principles of Addiction Medicine. 5th ed. Philadelphia, PA: Wolters Kluwer Publishers; 2014.
- Anton RF, O'Malley SS, Ciraulo DA, et al: Combined pharmacotherapies and behavioral interventions for alcohol dependence: the COMBINE study: a randomized controlled trial. *JAMA* 295: 2003, 2006. [PMID: 16670409]
- Rösner S, Hackl-Herrwerth A, Leucht S, Vecchi S, Srisurapanont M, Soyka M: Opioid antagonists for alcohol dependence. *Cochrane Database Syst Rev* 12: CD001867, 2010. [PMID: 21154349]
- Garbutt JC, Kranzler HR, O'Malley SS, et al: Efficacy and tolerability of long-acting injectable naltrexone for alcohol dependence: a randomized controlled trial. *JAMA* 293: 1617, 2005. [PMID: 15811981]
- Volkow ND, Frieden TR, Hyde PS, Cha SS: Medication-assisted therapies: tackling the opioid-overdose epidemic. N Engl J Med 370: 2063, 2014. [PMID: 24758595]
- Gibson A, Degenhardt L, Mattick RP, Ali R, White J, O'Brien S: Exposure to opioid maintenance treatment reduces long-term mortality. Addiction 103: 462, 2008. [PMID: 18190664]
- Darke S, Marel C, Mills KL, et al: Patterns and correlates of non-fatal heroin overdose at 11-year follow-up: findings from the Australian Treatment Outcome Study. *Drug Alcohol Depend* 144: 148, 2014. [PMID: 25278146]
- Bonhomme J, Shim RS, Gooden R, Tyus D, Rust G: Opioid addiction and abuse in primary care practice: a comparison of methadone and buprenorphine as treatment options. J Natl Med Assoc 104: 342, 2012. [PMID: 23092049]
- Busch SH, Fiellin DA, Chawarski MC, et al: Cost-effectiveness of emergency departmentinitiated treatment for opioid dependence. *Addiction* 112: 2002, 2017. [PMID: 28815789]
- Zarkin GA, Dunlap LJ, Hicks KA, Mamo D: Benefits and costs of methadone treatment: results from a lifetime simulation model. *Health Econ* 14: 1133, 2005. [PMID: 15880389]
- Korthuis PT, Tozzi MJ, Nandi V, et al: Improved quality of life for opioid-dependent patients receiving buprenorphine treatment in HIV clinics. J Acquir Immune Defic Syndr 56(Suppl 1): S39, 2011. [PMID: 21317593]
- Faggiano F, Vigna-Taglianti F, Versino E, Lemma P: Methadone maintenance at different dosages for opioid dependence. *Cochrane Database Syst Rev* 3: CD002208, 2003. [PMID: 12917925]
- Martin JA, Campbell A, Killip T, et al: QT interval screening in methadone maintenance treatment: report of a SAMHSA expert panel. J Addict Dis 30: 283, 2011. [PMID: 22026519]
- Donaher PA, Welsh C: Managing opioid addiction with buprenorphine. Am Fam Physician 73: 1573, 2006. [PMID: 16719249]
- D'Onofrio G, O'Connor PG, Pantalon MV, et al: Emergency department-initiated buprenorphine/naloxone treatment for opioid dependence: a randomized clinical trial. *JAMA* 313: 1636, 2015. [PMID: 25919527]
- 71. Schuckit MA: Treatment of Opioid-Use Disorders. N Engl J Med 375: 357, 2016. [PMID: 27464203]
- Platt L, Minozzi S, Reed J, et al: Needle and syringe programmes and opioid substitution therapy for preventing HCV transmission among people who inject drugs: findings from a Cochrane Review and meta-analysis. Addiction 113: 545, 2018. [PMID: 28891267]
- Sawangjit R, Khan TM, Chaiyakunapruk N: Effectiveness of pharmacy-based needle/ syringe exchange programme for people who inject drugs: a systematic review and meta-analysis. Addiction 112: 236, 2017. [PMID: 27566970]
- Potier C, Laprevote V, Dubois-Arber F, Cottencin O, Rolland B: Supervised injection services: what has been demonstrated? A systematic literature review. *Drug Alcohol Depend* 145: 48, 2014. [PMID: 25456324]
- 75. Wood E, Tyndall MW, Zhang R, et al: Attendance at supervised injecting facilities and use of detoxification services. *N Engl J Med* 354: 2512, 2006. [PMID: 16760459]
- Marshall B, Milloy M, Wood E, Montaner J, Kerr T: Reduction in overdose mortality
 after the opening of North America's first medically supervised safer injecting facility: a
 retrospective population-based study. *Lancet* 377: 1429, 2011. [PMID: 21497898]
- Centers for Disease Control and Prevention: Community-Based Opioid Overdose Prevention Programs Providing Naloxone—United States, 2010. MMWR 61: 101, 2012. [PMID: 22337174]
- Piper TM, Stancliff S, Rudenstine S, et al: Evaluation of a naloxone distribution and administration program in New York City. Subst Use Misuse 43: 858, 2008. [PMID: 18570021]
- Doe-Simkins M, Walley AY, Epstein A, Moyer P: Saved by the nose: bystanderadministered intranasal naloxone hydrochloride for opioid overdose. *Am J Public Health* 99: 788, 2009. [PMID: 19363214]
- Enteen L, Bauer J, McLean R, et al: Overdose prevention and naloxone prescription for opioid users in San Francisco. J Urban Health 87: 931, 2010. [PMID: 20967505]
- 81. Bennett A, Bell A, Tomedi L, Hulsey E, Kral A: Characteristics of an overdose prevention, response, and naloxone distribution program in Pittsburgh and Allegheny County, Pennsylvania. *J Urban Health* 88: 1020, 2011. [PMID: 21773877]

- Strang J, Manning V, Mayet S, et al: Overdose training and take-home naloxone f or opiate users: prospective cohort study of impact on knowledge and attitudes and subsequent management of overdoses. Addiction 103: 1648, 2008. [PMID: 18821875]
- Walley AY, Xuan Z, Hackman HH, et al: Opioid overdose rates and implementation of overdose education and nasal naloxone distribution in Massachusetts: interrupted time series analysis. BMJ 346: f174, 2013. [PMID: 23372174]
- 84. Bird SM, McAuley A, Perry S, Hunter C: Effectiveness of Scotland's National Naloxone Programme for reducing opioid-related deaths: a before (2006-10) versus after (2011-13) comparison. Addiction. 111: 883, 2016. [PMID: 26642424]
- Coffin PO, Sullivan SD: Cost-effectiveness of distributing naloxone to heroin users for lav overdose reversal. Ann Intern Med 158: 1, 2013. [PMID: 23277895]
- Coffin PO, Behar E, Rowe C, et al: Nonrandomized intervention study of naloxone coprescription for primary care patients receiving long-term opioid therapy for pain. *Ann Intern Med* 165: 245, 2016. [PMID: 27366987]
- 87. Harris EA: In school nurse's room: Tylenol, bandages and an antidote to heroin. *The New York Times*. March 29, 2017.
- Samuels EA, Hoppe J, Papp J, Whiteside L, Raja AS, Bernstein E: Emergency Department Naloxone Distribution: Key Considerations and Implementation Strategies. Irving, TX: American College of Emergency Physicians; 2015.
- Samuels E: Emergency department naloxone distribution: a Rhode Island department of health, recovery community, and emergency department partnership to reduce opioid overdose deaths. R I Med J (2013) 97: 38, 2014. [PMID: 25271659]
- Kaucher KA, Acquisto NM, Broderick KB: Emergency department naloxone rescue kit dispensing and patient follow-up. Am J Emerg Med 36: 1503, 2018. [PMID: 29237542]
- Dwyer K, Walley AY, Langlois BK, et al: Opioid education and nasal naloxone rescue kits in the emergency department. West J Emerg Med 16: 381, 2015. [PMID: 25987910]
- 92. Todd KH, Ducharme J, Choiniere M, et al: Pain in the emergency department: results of the pain and emergency medicine initiative (PEMI) multicenter study. *J Pain* 8: 460, 2007. [PMID: 17306626]
- Hoppe JA, Nelson LS, Perrone J, Weiner SG, et al: Opioid prescribing in a cross section of US emergency departments. Ann Emerg Med 66: 253, 2015. [PMID: 25952503]
- Weiner SG, Baker O, Rodgers AF, et al: Opioid prescriptions by specialty in Ohio, 2010-2014. Pain Med 19: 978, 2018. [PMID: 28339965]
- Axeen S, Seabury SA, Menchine M: Emergency department contribution to the prescription opioid epidemic. Ann Emerg Med 71: 659, 2018. [PMID: 29373155]
- Hoppe JA, Kim H, Heard K: Association of emergency department opioid initiation with recurrent opioid use. Ann Emerg Med 65: 493, 2015. [PMID: 25534654]
- Butler MM, Ancona RM, Beauchamp GA, et al: Emergency department prescription opioids as an initial exposure preceding addiction. *Ann Emerg Med* 68: 202, 2016. [PMID: 26875061]
- Barnett M, Olenski A, Jena A: Opioid-prescribing patterns of emergency physicians and risk of long-term use. N Engl J Med 376: 663, 2017. [PMID: 28199807]
- Shah A, Hayes C, Martin B: Characteristics of initial prescription episodes and likelihood of long-term opioid use: United States, 2006-2015. MMWR Morb Mortal Wkly Rep 66: 265, 2017. [PMID: 28301454]
- Dowell D, Haegerich T, Chou R: CDC guideline for prescribing opioids for chronic pain: United States, 2016. MMWR Recommend Rep 65: 1, 2016. [PMID: 26987082]
- 101. Chang AK, Bijur PE, Esses D, Barnaby DP, Baer J: Effect of a single dose of oral opioid and nonopioid analgesics on acute extremity pain in the emergency department: a randomized clinical trial. JAMA 318: 1661, 2017. [PMID: 29114833]
- 102. Friedman BW, Dym AA, Davitt M, et al: Naproxen with cyclobenzaprine, oxycodone/ acetaminophen, or placebo for treating acute low back pain: a randomized clinical trial. *JAMA* 314: 1572, 2015. [PMID: 26501533]
- 103. Butler SF, Fernandez K, Benoit C, Budman SH, Jamison RN: Validation of the revised Screener and Opioid Assessment for Patients with Pain (SOAPP-R). J Pain 9: 360, 2008. [PMID: 18203666]
- 104. Webster LR, Webster RM: Predicting aberrant behaviors in opioid-treated patients: preliminary validation of the Opioid Risk Tool. *Pain Med* 6: 432, 2005. [PMID: 16336480]
- Dowell D, Haegerich TM, Chou R: CDC guideline for prescribing opioids for chronic pain–United States, 2016. JAMA 315: 1624, 2016. [PMID: 26977696]
- 106. Patrick SW, Fry CE, Jones TF, Buntin MB: Implementation of prescription drug monitoring programs associated with reductions in opioid-related death rates. Health Aff (Millwood) 35: 1324, 2016. [PMID: 27335101]
- 107. Reifler LM, Droz D, Bailey JE, et al: Do prescription monitoring programs impact state trends in opioid abuse/misuse? *Pain Med* 13: 434, 2012. [PMID: 22299725]
- 108. Weiner SG, Griggs CA, Mitchell PM, et al: Clinician impression versus prescription drug monitoring program criteria in the assessment of drug-seeking behavior in the emergency department. Ann Emerg Med 62: 281, 2013. [PMID: 23849618]
- 109. Manasco AT, Griggs C, Leeds R, et al: Characteristics of state prescription drug monitoring programs: a state-by-state survey. *Pharmacoepidemiol Drug Saf* 25: 847, 2016. [PMID: 27061342]
- 110. Hawk K, D'Onofrio G, Fiellin DA, et al: Past-year prescription drug monitoring program opioid prescriptions and self-reported opioid use in an emergency department population with opioid use disorder. Acad Emerg Med 25: 508, 2018. [PMID: 29165853]
- 111. https://www.deadiversion.usdoj.gov/drug_disposal/takeback/. (Drug Enforcement Administration: Drug Disposal Information: National Prescription Drug Take Back Day.) Accessed March 6, 2018.