PERSPECTIVE Rethinking Substance Use as Social History: Charting a Way Forward



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ABSTRACT

Physicians have traditionally asked about substance use within the Social History section of the consultation note. Drawing on social science theory and using the authors' own experiences as generalists and addiction scholars, we consider the possible unintended harms associated with this approach. The inclusion of the substance use history within the Social History reproduces the discourse of substance use disorders as "life-style choices" rather than medical conditions, and reinforces stigma among healthcare workers through the attribution of personal responsibility for complications associated with problematic substance use. The ongoing placement of the substance use history within the Social History may lead to a failure to diagnose and make appropriate management plans for clients with substance use disorders. These missed opportunities may include inadequate withdrawal management leading to discharge before medically advised, insufficient use of evidence-based pharmacotherapy and psychotherapy, polypharmacy, medical complications, and repeated admissions to hospital. We argue instead that the Substance Use History should be a stand-alone section within the consultation note. This new section would reduce the invisibility of substance use disorders within our medical systems and model that these chronic medical conditions are amenable to prevention, treatment and harm reduction through the application of evidence-based practices.

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INTRODUCTION

The importance of the Social History within the medical consultation note has received significant attention from medical educators over the last 15 years. Typically, physicians ask about Tobacco, Ethanol and Drugs ("TED") within the Social History. In the following paragraphs, we critically examine the possible unintended harms associated with this approach. To do so, we draw on social science theory, our own experiences as generalists and addiction medicine scholars, and the evolving science of addiction medicine.

CASE

A 30-year-old woman presented to an outpatient addiction medicine clinic. She reported having seen over ten physicians during the preceding 2 years for complications associated with intra-nasal cocaine use, including a myocardial infarction and a nasal-septal defect. Over those 2 years, her use of cocaine had escalated from 1 g every 3 days to 1 g daily. She understood that her health was deteriorating and wanted to stop using cocaine, yet she had been unable to do so. Consultations from other specialist physicians were reviewed. The "Past Medical History" and "Assessment" sections read: acute coronary syndrome, nasal-septal defect, insomnia, anxiety. Under "Social History" or "Habits" was listed, "cocaine use, no IVDU". The consultation notes did not include cocaine or stimulant use disorder under the "Past Medical History", or "Assessment" sections. None of the consultants had developed a medical management plan or referred her to specialty care for stimulant use disorder, the medical condition underlying her repeated visits.

"MAKING STRANGE" — THE INVISIBILITY OF SUBSTANCE USE DISORDERS

In their article, "Looking back to move forward: Using history, discourse and text in medical education research", Kuper et al. introduce discourse analysis as a tool to question assumptions in medical education, and "make strange", the "things that we accept as 'normal' because they are so familiar, so engrained in routine, so naturalized, that it becomes difficult to imagine that the world could be organized in any other way".¹ The authors argue that problematizing dominant discourses in medicine can help advance our field by uncovering power imbalances, advancing change, and training physicians who provide better care. For those of us who are clinicians, having trained first as generalists and then in the burgeoning specialty of addiction medicine, these ideas make intuitive sense. The discipline of addiction medicine has gained recognition in the last decade, receiving status as a standalone specialty in the USA² and similar status in Canada³ during this time. This evolution has allowed us to informally employ what French social theorist Michel Foucault called an "archeological" approach to discourse analysis.⁴ That is, we have the unique perspective of experiencing dominant discourses around substance use in medicine from both the generalist and specialist perspectives at a time of rapid change in our field. During our training, we often saw individuals with medical complications of substance use disorders admitted to hospital and discharged without receiving treatment for their underlying substance use disorder, as in the case above. Now, as specialists and scholars in addiction medicine, we see clearly the shortcomings of this approach and the importance of "making strange" this practice and its associated discourses.

DISCOURSE ARCHITECTURE OF THE CONSULTATION NOTE

Discourse architecture describes the environments or structures that either support or constrain conversations, discussions, and the exchange of ideas.^{5,6} In the context of the initial consultation note, within the medical record, architecture might be considered the broad categories that are typically included (Reason for Referral, Chief Complaint, Past Medical History, Medications etc.), the order of these categories, and the space dedicated to each. The architecture of the conventional consultation note is predefined and constitutes a central tradition in academic medicine.⁷ This architecture is highly uniform and is reproduced wherever Western medicine is taught.⁷ Medical students learn to investigate, conceptualize, and describe the patient's presenting illness through this strictly ordered narrative.⁷ This consultation structure is employed by

physicians for a number of reasons — to facilitate communication between health professionals, to reflect the patient-provider encounter, to outline the problems facing the patient in a succinct way, and to let the reader understand what led the clinician to make a particular diagnosis and treatment plan.^{7,8}

SUBSTANCE USE AS SOCIAL HISTORY

The Social History forms part of the architecture within the initial consultation note. Medical students are typically taught to ask about substance use within the Social History section of the consultation note, and the use of tobacco, ethanol and drugs is often considered a starting place in eliciting the Social History.^{9,10} Over the last 15 years, as our understanding of the importance of the social determinants of health has increased, some physicians have called for an increased emphasis on the Social History.9,11 The Social History has been identified as highly important for building rapport with patients¹², in understanding the etiology of disease,^{9,10} and for appreciating the social and structural factors that impact health.¹¹ We echo the importance of a thorough Social History and the need to understand the relationship between social and structural forces and substance use for each client. This information is also critical for developing a treatment plan that addresses the social factors that perpetuate substance use or trigger return to use. However, these calls for a more inclusive Social History have not problematized the collection of the substance use history within this section of the consultation note.

Consumption of substances is a common human experience — among Americans 12 years or older, 57.8% or 161.8 million reported consuming non-caffeine psychoactive substances in the last month.¹³ As such, it is important to understand how substance use affects health for persons with and without substance use disorders. Medical and psychiatric comorbidities are also common in persons with substance use disorders^{14–19}, making the substance use history important for generalist and subspecialist physicians. It is estimated, for example, that 40-80% of individuals with a substance use disorder have another mental health diagnosis^{17–19}. At present, however, the substance use history is often buried within a complex Social History including how a person earns a living, their relationship status, and whether they are housed. For those who do have substance use disorders, including the 23.6 million Americans with tobacco use disorder,¹³ the status quo disproportionately impacts their health. Heart disease, diabetes, and depression would not be listed under Social History, although, like substance use disorders these are conditions that may have complex genetic, social and structural aetiologies.²⁰ And yet, the problematic use of alcohol, tobacco and fentanyl --- some of the leading causes of preventable death in the USA^{13,21,22} find themselves

neglected and excluded from medical focus. Inclusion of the substance use history within the Social History is a vestige of a time when we knew little about the underlying neurobiology of addiction to psychoactive substances and a time when we had few treatment options. The last decades of research, however, have illuminated the pathophysiology of substance use disorders and the neural circuitry involved in pleasure and reward, motivation and self-control.²³ This understanding has propelled advances in the treatment of substance use disorders. We now have effective pharmacological treatments for opioid use disorder^{24,25}, alcohol use disorder,^{26,27} tobacco use disorder²⁸ and efficacious behavioural treatments for most substance use disorders^{29–32}, all of which deserve increased attention. In the case presented above for example, a referral for contingency management or cognitive behavioural therapy for stimulant use disorder may have prevented complications associated with stimulant use.

REPRODUCTION OF STIGMA IN HEALTHCARE

Stigma toward persons with mental illness and substance use disorders within health professional education and healthcare settings has been described as structurally embedded, that is, reproduced through practices and policy^{33–35}. Here, we argue that the physical space devoted to a substance use history within the Social History reinforces the hidden moral curriculum or discourse in medicine which sees substance use disorders as a "habit" or "life-style choice" rather than a chronic medical condition. This attribution of personal responsibility among healthcare providers leads to negative opinions regarding persons with substance use disorders and contributes to poorer care.^{33,36–38} Unsurprisingly, avoiding experiences of stigma is one of the most common reasons people with substance use disorders do not seek treatment or do not complete treatment.^{39,40}

GAPS IN CARE

It is not just that collection of information in this way is stigmatizing; it also impacts our ability to provide appropriate, person-centred, and evidence-based care. Ethnographic research has demonstrated that it is in formulating the abstracted representation of the patient via the consultation note that the crystallization of a "manageable problem" takes place.⁸ Indeed, the inclusion of a diagnosis of substance use disorder on the problem list can serve as a starting point for this crystallization and provide an impetus for the provider to include a management plan for that condition. When this does not take place, opportunities for high-quality care may be missed. As medical and psychiatric co-morbidities are common in persons with substance use disorders, the reason for presentation, as in the case presented, may not be the substance use disorder itself. Multiple studies suggest that among persons admitted to hospital with infectious complications associated with injection drug use for example, there are large gaps in the identification of substance use disorders by both admitting and consulting teams, leading to discharge summaries with no plans for pharmacotherapy or linkage to evidence-based substance use treatment outside of the hospital.^{41,42} This lack of a treatment plan may contribute to the underutilization of evidence-based pharmacotherapy and other treatments for substance use disorders. For example, it is estimated that less than 1% of persons with alcohol use disorder in Canada access first-line medications for the condition^{43,44}, and that fewer than 30% of patients with opioid use disorder access opioid agonist therapy.^{45,46}

Similarly, the failure to document substance use diagnoses and management plans may lead to inappropriate prescribing of medication to treat associated symptoms such as anti-psychotics for substance-induced insomnia or selective serotonin reuptake inhibitors for substance-induced mood or anxiety disorders. This polypharmacy is often unhelp-ful,^{47,48} and has been demonstrated to worsen outcomes in some double-blind randomized controlled trials.^{49,50}

The absence of documentation of substance use disorder diagnoses in the consultation note may also lead to the reproduction of the invisibility of substance use disorders in hospital settings. In 2020, 11.3% of US hospital discharges for alcohol-related admissions and 20.5% of discharges for opioid-related admissions were designated "Against Medical Advice".⁵¹ These premature discharges have been associated with a failure to meet the needs of patients who use drugs while in hospital. This includes inadequate withdrawal management and pain control as a result of discrimination against people who use drugs, and hospital policies that are not harm-reduction-informed.⁵²⁻⁵⁴ Documentation of the substance use history, formulation of substance use disorder diagnoses and the creation of appropriate management plans could improve withdrawal management in-hospital and reduce the incidence of discharges before medically advised.55

In sum, the use of the Social History to document the substance use history can lead to missed substance use diagnoses and the absence of treatment planning, including inadequate withdrawal management. The downstream impacts of these failures may include insufficient use of evidence-based pharmacotherapy and psychotherapy, polypharmacy, the development of substance-related complications, discharges before medically advised,⁵⁵ and repeated admissions to hospital.

MAKING SPACE FOR THE SUBSTANCE USE HISTORY

We propose instead that the Substance Use History should occupy its own space within the consultation note. This proposed section would include, at minimum, a history of all non-medical psychoactive substances used, including amount, frequency of use, and last use. The use of substances has impacts on a multitude of medical and psychological presentations regardless of whether there is a substance use disorder diagnosis, and therefore, this basic information is appropriate for all subspecialty and generalist evaluations because it can affect diagnosis, prognosis, and treatment decisions. When heavy or frequent use is present, it is critical to ask about any history of substance-related withdrawal, including complex withdrawal syndromes such as alcohol withdrawal seizures or delirium so that appropriate withdrawal management plans can be made. Depending on the answer to these initial questions as well as the reason for referral, the section might also include age of onset, evolution of use over time, the route of use (e.g. injection, oral, inhaled), use of harm reduction measures like sterile pipes or needles, history of high-risk use including overdose history and history of driving under the influence of the substance, as well as any past pharmacologic or non-pharmacologic treatment attempts. We propose additionally that substance use be included in the History of Presenting Illness section when it is related to the presenting problem, and importantly, when substance use meets criteria for a substance use disorder, it should be included in the Diagnosis or Assessment section accompanied by an evidence-based treatment and referral plan.

Providing more prominence to the Substance Use History should be accompanied by a thoughtful approach to diagnosing individuals with substance use disorders. Clinicians should use established diagnostic criteria (e.g. DSM-5), including indicating severity, and be mindful of underlying criteria in the International Classification of Diseases before using ICD-10 codes (e.g. substance "dependence" in the ICD-10 framework is more analogous to DSM-5 substance use disorder and should not be conflated with physiologic dependence). Simultaneously, social and structural determinants of health should continue to be documented in a rigorous way in the Social History section including but not limited to financial status, insurance status, family and relationships, involvement with the legal system, and housing insecurity such that structurally competent care can be delivered.11,56

CONCLUSION

Critical examination of substance use as Social History raises important questions about the possible unintended harms associated with this approach. Ten years ago, some of us called on our medical colleagues to "narrow the health care quality chasm in addressing substance use disorders".⁵⁷ Here, we propose a small shift on the page— a dedicated space for documentation of the Substance Use History — which may lead to larger shifts conceptually. In amending the architecture of the consultation note and in

taking up this space in the medical record, we call on our colleagues to make substance use disorders visible within our medical systems and model that they are amenable to prevention, treatment and harm reduction, through the application of evidence-based practices.

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REFERENCES

- Kuper A, Whitehead C, Hodges BD. Looking back to move forward: using history, discourse and text in medical education research: AMEE guide no. 73. Med Teach. 2013;35(1):e849-60. https://doi.org/10. 3109/0142159x.2012.748887.
- Nunes EV, Kunz K, Galanter M, O'Connor PG. Addiction Psychiatry and Addiction Medicine: The Evolution of Addiction Physician Specialists. Am J Addict. 2020;29(5):390-400. https://doi.org/10.1111/ajad. 13068.
- De Jong CAJ, Crockford D, Welle-Strand G, et al. Pathways to the Specialty Recognition of Addiction Medicine. In: el-Guebaly N, Carrà G, Galanter M, Baldacchino AM, eds. Textbook of Addiction Treatment: International Perspectives. Springer International Publishing. 2021:837-852.
- Foucault M. AM (1972) The archeology of knowledge and the discourse on language. Trans AM Sheridan Smith New York: Pantheon Books. 1969.
- FreeIon D. Discourse architecture, ideology, and democratic norms in online political discussion. New media & society. 2015;17(5):772-791.
- Sack W. Discourse architecture and very large-scale conversation. In R. Latham & S. Sassen (Eds.), Digital Formations: IT and New Architectures in the Global Realm (pp. 242–282). Princeton University Press; 2005. http://www.jstor.org/stable/j.ctt7s4z8.13.
- 7. Hunter KM, Montgomery K. Doctors' stories: The narrative structure of medical knowledge. Princeton University Press; 1991.
- 8. **Berg M.** Practices of reading and writing: the constitutive role of the patient record in medical work. Sociology of health & illness. 1996;18(4):499-524.
- 9. Behforouz HL, Drain PK, Rhatigan JJ. Rethinking the social history. N Engl J Med. 2014;371(14):1277-9.
- Srivastava R. Complicated lives—taking the social history. N Engl J Med. 2011;365(7):587-589.
- Holmes SM, Hansen H, Jenks A, et al. Misdiagnosis, Mistreatment, and Harm - When Medical Care Ignores Social Forces. N Engl J Med. 2020;382(12):1083-1086. https://doi.org/10.1056/NEJMp1916269.
- Wu BJ. History taking in reverse: beginning with social history. Consultant. 2013;53(1):34-6.
- 13. Key substance use and mental health indicators in the United States: Results from the 2021 National Survey on Drug Use and Health (HHS Publication No. PEP22-07-01-005, NSDUH Series H-57). Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration. 2022. https://www.samhsa.gov/ data/report/2021-nsduh-annual-national-report.
- 14 Walker ER, Druss BG. Mental and Addictive Disorders and Medical Comorbidities. Curr Psychiatry Rep. 2018;20(10):86. https://doi.org/ 10.1007/s11920-018-0956-1.
- Slawek DE, Lu TY, Hayes B, Fox AD. Caring for patients with opioid use disorder: what clinicians should know about comorbid medical conditions. Psychiatric Research and Clinical Practice. 2019;1(1):16-26.
- Scott KM, Lim C, Al-Hamzawi A, et al. Association of Mental Disorders With Subsequent Chronic Physical Conditions: World Mental Health Surveys From 17 Countries. JAMA Psychiatry. 2016;73(2):150-8. https://doi.org/10.1001/jamapsychiatry.2015.2688.
- Common Comorbidities with Substance Use Disorders Research Report. Bethesda (MD): National Institutes on Drug Abuse (US); 2020 Apr. Available from: https://www.ncbi.nlm.nih.gov/books/NBK57 1451/.
- Davis A, McMaster P, Christie DC, Yang A, Kruk JS, Fisher KA. Psychiatric comorbidities of substance use disorders: does dual diagnosis predict inpatient detoxification treatment outcomes? Int J

Ment Health Addict. 2023;21:3785–3799. https://doi.org/10.1007/s11469-022-00821-1.

- Watkins KE, Hunter SB, Wenzel SL, et al. Prevalence and characteristics of clients with co-occurring disorders in outpatient substance abuse treatment. Am J Drug Alcohol Abuse. 2004;30(4):749-64. https://doi.org/10.1081/ada-200037538.
- McLellan AT, Lewis DC, O'Brien CP, Kleber HD. Drug dependence, a chronic medical illness: implications for treatment, insurance, and outcomes evaluation. Jama. 2000;284(13):1689-95. https://doi.org/ 10.1001/jama.284.13.1689.
- 21. **Pilar MR, Eyler AA, Moreland-Russell S, Brownson RC.** Actual Causes of Death in Relation to Media, Policy, and Funding Attention: Examining Public Health Priorities. Front Public Health. 2020;8:279. https://doi.org/10.3389/fpubh.2020.00279.
- Esser MB, Leung G, Sherk A, et al. Estimated Deaths Attributable to Excessive Alcohol Use Among US Adults Aged 20 to 64 Years, 2015 to 2019. JAMA Network Open. 2022;5(11):e2239485-e2239485. https:// doi.org/10.1001/jamanetworkopen.2022.39485.
- Uhl GR, Koob GF, Cable J. The neurobiology of addiction. Ann N Y Acad Sci. 2019;1451(1):5-28. https://doi.org/10.1111/nyas. 13989.
- 24. **Santo T, Jr., Clark B, Hickman M, et al.** Association of Opioid Agonist Treatment With All-Cause Mortality and Specific Causes of Death Among People With Opioid Dependence: A Systematic Review and Metaanalysis. JAMA Psychiatry. 2021: https://doi.org/10.1001/jamap sychiatry.2021.0976.
- Lee JD, Nunes EV, Jr., Novo P, et al. Comparative effectiveness of extended-release naltrexone versus buprenorphine-naloxone for opioid relapse prevention (X:BOT): a multicentre, open-label, randomised controlled trial. Lancet. 2018;391(10118):309-318. https://doi.org/10. 1016/s0140-6736(17)32812-x
- 26 Bahji A, Bach P, Danilewitz M, et al. Pharmacotherapies for Adults With Alcohol Use Disorders: A Systematic Review and Network Metaanalysis. J Addict Med. 2022;16(6):630-638. https://doi.org/10.1097/ adm.000000000000992.
- Sloan ME, Werner RB, Yarnell-MacGrory S, Petrakis I. Alcohol. In: Marienfeld C, ed. Absolute Addiction Psychiatry Review: An Essential Board Exam Study Guide. Springer International Publishing. 2020:121-137.
- Rigotti NA, Kruse GR, Livingstone-Banks J, Hartmann-Boyce J. Treatment of Tobacco Smoking: A Review. Jama. 2022;327(6):566-577. https://doi.org/10.1001/jama.2022.0395.
- Gates PJ, Sabioni P, Copeland J, Le Foll B, Gowing L. Psychosocial interventions for cannabis use disorder. Cochrane Database Syst Rev. 2016;2016(5):Cd005336. https://doi.org/10.1002/14651858.CD005 336.pub4.
- 30 Kelly JF, Humphreys K, Ferri M. Alcoholics Anonymous and other 12-step programs for alcohol use disorder. Cochrane Database Syst Rev. 2020;3(3):Cd012880. https://doi.org/10.1002/14651858.CD012 880.pub2.
- Hartmann-Boyce J, Ordóñez-Mena JM, Livingstone-Banks J, et al. Behavioural programmes for cigarette smoking cessation: investigating interactions between behavioural, motivational and delivery components in a systematic review and component network meta-analysis. Addiction. 2022;117(8):2145-2156. https://doi.org/10.1111/add. 15791.
- Ronsley C, Nolan S, Knight R, et al. Treatment of stimulant use disorder: A systematic review of reviews. PLoS One. 2020;15(6):e0234809. https://doi.org/10.1371/journal.pone.0234809.
- Sukhera J, Knaak S, Ungar T, Rehman M. Dismantling Structural Stigma Related to Mental Health and Substance Use: An Educational Framework. Acad Med. 2022;97(2):175-181. https://doi.org/10.1097/ acm.000000000004451.
- Corrigan PW, Markowitz FE, Watson AC. Structural levels of mental illness stigma and discrimination. Schizophr Bull. 2004;30(3):481-91. https://doi.org/10.1093/oxfordjournals.schbul.a007096.
- 35. Knaak S, Livingston J, Stuart H, Ungar T. Combating mental illnessand substance use-related structural stigma in health care. Ottawa, Canada: Mental Health Commission of Canada; 2020.
- 36 Sukhera J, Miller K, Milne A, et al. Labelling of mental illness in a paediatric emergency department and its implications for stigma reduction education. Perspectives on Medical Education. 2017;6(3):165-172. https://doi.org/10.1007/s40037-017-0333-5.
- 37. **van Boekel LC, Brouwers EP, van Weeghel J, Garretsen HF.** Healthcare professionals' regard towards working with patients with

substance use disorders: comparison of primary care, general psychiatry and specialist addiction services. Drug Alcohol Depend. 2013 Elsevier Ireland Ltd; 2014:92–8.

- van Boekel LC, Brouwers EP, van Weeghel J, Garretsen HF. Comparing stigmatising attitudes towards people with substance use disorders between the general public, GPs, mental health and addiction specialists and clients. Int J Soc Psychiatry. The Author(s) 2014; 2015:539–49. vol. 6.
- van Boekel LC, Brouwers EP, van Weeghel J, Garretsen HF. Stigma among health professionals towards patients with substance use disorders and its consequences for healthcare delivery: systematic review. Drug Alcohol Depend. 2013;131(1-2):23-35. https://doi.org/ 10.1016/j.drugalcdep.2013.02.018.
- Brener L, von Hippel W, von Hippel C, Resnick I, Treloar C. Perceptions of discriminatory treatment by staff as predictors of drug treatment completion: utility of a mixed methods approach. Drug Alcohol Rev. 2010;29(5):491-7. https://doi.org/10.1111/j.1465-3362.2010.00173.x.
- Jicha C, Saxon D, Lofwall MR, Fanucchi LC. Substance Use Disorder Assessment, Diagnosis, and Management for Patients Hospitalized With Severe Infections Due to Injection Drug Use. J Addict Med. 2019;13(1):69-74. https://doi.org/10.1097/ADM.000000000 000454.
- 42. Rosenthal ES, Karchmer AW, Theisen-Toupal J, Castillo RA, Rowley CF. Suboptimal Addiction Interventions for Patients Hospitalized with Injection Drug Use-Associated Infective Endocarditis. Am J Med. 2016;129(5):481-5. https://doi.org/10.1016/j.amjmed.2015.09.024.
- 43. **Spithoff S, Turner S, Gomes T, Martins D, Singh S.** First-line medications for alcohol use disorders among public drug plan beneficiaries in Ontario. Can Fam Physician. 2017;63(5):e277-e283.
- Konrad G, Leong C, Bolton JM, et al. Use of pharmacotherapy for alcohol use disorder in Manitoba, Canada: A whole-population cohort study. PLoS One. 2021;16(9):e0257025. https://doi.org/10.1371/ journal.pone.0257025.
- 45. Alinsky RH, Zima BT, Rodean J, et al. Receipt of Addiction Treatment After Opioid Overdose Among Medicaid-Enrolled Adolescents and Young Adults. JAMA Pediatrics. 2020;174(3):e195183-e195183. https://doi.org/10.1001/jamapediatrics.2019.5183.
- Socias ME, Wood E, Kerr T, et al. Trends in engagement in the cascade of care for opioid use disorder, Vancouver, Canada, 2006–2016. Drug and Alcohol Dependence. 2018;189:90-95. https://doi.org/10.1016/j. drugalcdep.2018.04.026.
- Anderson SL, Vande Griend JP. Quetiapine for insomnia: A review of the literature. American Journal of Health-System Pharmacy. 2014;71(5):394-402. https://doi.org/10.2146/ajhp130221.

- Blaney D, Jackson AK, Toy O, Fitzgerald A, Piechniczek-Buczek J. Substance-Induced Anxiety and Co-occurring Anxiety Disorders. In: Donovan, A., Bird, S. (eds) Substance Use and the Acute Psychiatric Patient. Current Clinical Psychiatry. Humana, Cham. https://doi.org/ 10.1007/978-3-319-23961-3_8.
- Haney M, Rubin E, Foltin RW. Aripiprazole maintenance increases smoked cocaine self-administration in humans. Psychopharmacology (Berl). 2011;216(3):379-87. https://doi.org/10.1007/ s00213-011-2231-6.
- Cooper ZD, Foltin RW, Hart CL, Vosburg SK, Comer SD, Haney M. A human laboratory study investigating the effects of quetiapine on marijuana withdrawal and relapse in daily marijuana smokers. Addict Biol. 2013;18(6):993-1002. https://doi.org/10.1111/j.1369-1600. 2012.00461.x.
- Agency for Healthcare Research and Quality. Healthcare Cost and Utilization Project (HCUPnet). Available at: https://datatools.ahrq.gov/ hcupnet/#:~:text=HCUPnet%20is%20an%20online%20data,based% 20healthcare%20data%20on%20counties. Accessed October 1, 2023.
- Ti L. Leaving the Hospital Against Medical Advice Among People Who Use Illicit Drugs: A Systematic Review. Am J Public Health. 2015;105(12):e53-9. https://doi.org/10.2105/ajph.2015.302885.
- Simon R, Snow R, Wakeman S. Understanding why patients with substance use disorders leave the hospital against medical advice: A qualitative study. Subst Abus. 2020;41(4):519-525. https://doi.org/ 10.1080/08897077.2019.1671942.
- Mayer S, Langheimer V, Nolan S, Boyd J, Small W, McNeil R. Emergency department experiences of people who use drugs who left or were discharged from hospital against medical advice. PLoS One. 2023;18(2):e0282215. https://doi.org/10.1371/journal.pone.02822 15.
- Kleinman RA, Brothers TD, Morris NP. Retiring the "Against Medical Advice" Discharge. Ann Intern Med. 2022;175(12):1761-1762. https:// doi.org/10.7326/m22-2964.
- Hansen H, Braslow J, Rohrbaugh RM. From Cultural to Structural Competency-Training Psychiatry Residents to Act on Social Determinants of Health and Institutional Racism. JAMA Psychiatry. 2018;75(2):117-118. https://doi.org/10.1001/jamapsychiatry.2017. 3894.
- Wood E, Samet JH, Volkow ND. Physician education in addiction medicine. Jama. 2013;310(16):1673-4. https://doi.org/10.1001/ jama.2013.280377.

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