Alcohol, Other Drugs, and Health: Current Evidence

JANUARY-FEBRUARY 2022

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INTERVENTIONS & ASSESSMENTS

Factors Associated with Racial Inequity in Receipt of Medication for Opioid Use Disorder

Medications to treat opioid use disorder (MOUD)—methadone, buprenorphine, and naltrexone—have been shown to be effective, but in the US, Black individuals are less likely to receive this treatment than White individuals. The reasons for this disparity are not well understood. Researchers used data from the Allegheny County (Pennsylvania) Department of Human Services to investigate potential factors associated with this disparity, including criminal justice involvement, interaction with human services, and health-related mediators.

- The sample included 6374 Allegheny County residents aged 18–64 years who were enrolled in Medical Assistance and were diagnosed with OUD between 2015 and 2017, with no recorded diagnosis of OUD in the prior 3 months.
- Initiation of MOUD differed significantly between racial groups with 30% of Black enrollees initiating MOUD compared with 51% of White enrollees.
- Five mediators were identified: having a non-OUD substance use disorder (SUD) diagnosis, months of housing support, days in jail, days in an emergency department, and use of intensive non-MOUD SUD treatment.
- When taking into account the mediators, the disparity decreased from 21% to 14%, accounting for 23% of the gap.

Comments: This study suggests that improving access to MOUD in criminal justice settings, emergency departments, and intensive SUD treatment may address some of the racial disparity in receipt of MOUD in the US. However, much more will need to be done to further understand and close this gap.

Darius A. Rastegar, MD

Reference: Hollander MAG, Chang CH, Douaihy AB, et al. Racial inequity in medication treatment for opioid use disorder: exploring potential facilitators and barriers to use. *Drug Alcohol Depend*. 2021;227:108927.

Is Motivational Interviewing Effective for Treating Cannabis Use Disorder?

Motivational interviewing (MI) is widely used in the addiction field, notably to address unhealthy alcohol use, for which there is good evidence of efficacy. There is no gold standard to treat cannabis use disorder (CUD). Researchers reviewed the evidence of efficacy of MI for addressing CUD. They identified 40 studies (randomized trials and open-label trials) focusing on adults and adolescents to include in the systematic review. Studied interventions included in-person and electronic interventions, and brief and more extended interventions (motivational enhancement therapy).

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Is Motivational Interviewing Effective for Treating Cannabis Use Disorder?

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- Overall, 32 of the 40 studies included in the review showed evidence for efficacy of MI for CUD.
- Meta-analyses were conducted with a 3-month follow-up endpoint.
  - MI was associated with greater odds of cannabis abstinence among adults (odds ratio [OR], 3.84; 2 studies included in the meta-analysis) and adolescents (OR, 2.02; 4 studies).
  - In adults, MI was associated with a reduced frequency of cannabis use (mean difference -3.9 days in a month; 6 studies) and quantity of use (mean difference 0.69 joints in a day; 6 studies), but not among adolescents (5 studies for quantity of use, 7 for frequency of use).
  - There was no effect of MI found for CUD symptoms (2 studies for adults, 4 for adolescents).

Comments: A limited number of studies was included in this meta-analysis and the evidence of efficacy is most robust for reducing cannabis use among adults (6 studies). It is more difficult to conclude about evidence of efficacy among adolescents and on abstinence and CUD symptoms due to the limited number of studies and null results. This systematic review considered a broad range of MI-based interventions and does not provide an insight on potential differences across interventions.

Nicolas Bertholet, MD, MSc

Reference: Calomarde-Gómez C, Jiménez-Fernández B, Balcells-Oliveró M, et al. Motivational interviewing for cannabis use disorders: a systematic review and meta-analysis. *Eur Addict Res*. 2021;27(6):413–427.

HEALTH OUTCOMES

Six-month Abstinence From Drinking Prior to Liver Transplant Does Not Improve Outcomes in Patients With Alcohol-associated Liver Disease

Alcohol-associated liver disease (ALD) is the leading indication for liver transplant (LT). Most transplant centers require 6 months of cessation from alcohol use prior to consideration for LT. However, this timeframe can increase mortality in patients, particularly those with decompensated ALD who may not have 6 months to wait. This retrospective cohort study compared outcomes in patients with early LT (<6 months alcohol cessation) versus standard LT (≥6 months alcohol cessation) in 1 institution over 8 years.

- Individuals in the study (n=163) were primarily male and white race; ethnic background was not reported.
- Individuals who received early LT had similar 1-year survival compared with those who received standard LT (94% versus 96%, respectively).
- Early LT was not associated with higher odds of return to alcohol use compared with standard LT.
- Younger age in both early LT and standard LT was associated with higher odds of return to hazardous alcohol use* compared with individuals older than 60.
- Patients in both LT groups with early return to alcohol use had reduced survival.
- Treatments for alcohol use disorder were not mentioned in the study.

* Defined as one of the following: heavy episodic drinking (≥5 drinks for men or ≥4 drinks for women per occasion), at-risk drinking (≥14 drinks for men or ≥7 drinks for women per week), or frequent drinking (≥4 days of drinking per week).

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Six-month Abstinence From Drinking Prior to Liver Transplant Does Not Improve Outcomes in Patients With Alcohol-associated Liver Disease (continued from page 2)

Comments: Six months of alcohol abstinence is an arbitrary timeframe to determine patient candidacy for liver transplant. This retrospective study provides evidence that it might not be necessary. The study highlights an opportunity to rethink transplant candidacy requirements for individuals with alcohol use disorder, while raising concerns about other factors such as race, ethnicity, and social status, which may introduce bias in LT candidacy. Addiction expertise on LT services may increase the number of patients who receive transplants and improve patients' alcohol-related outcomes.

Melissa B. Weimer, DO, MCR

Reference: Herrick-Reynolds KM, Punchhi G, Greenberg RS, et al. Evaluation of early vs standard liver transplant for alcohol-associated liver disease. *JAMA Surg*. 2021;156(11):1026–1034.

Initiation of Medication for Opioid Use Disorder Associated With Improved Retention in Treatment for Endocarditis and Osteomyelitis

People who inject drugs (PWID) are at risk for severe infections, including endocarditis and osteomyelitis, both of which require long-term intravenous antibiotic therapy. Unfortunately, PWID often do not complete these treatments; stigma and inadequate treatment of symptoms may contribute to this. In this study, researchers used data from the private for-profit HCA Healthcare facilities in the US to investigate the association of receipt of medications for opioid use disorder (MOUD) and retention in treatment for injection drug use-related infections.

- A total of 1433 patients with OUD and concurrent endocarditis or osteomyelitis were admitted to an HCA Healthcare facility between 2014 and 2018; 26 were receiving MOUD prior to admission and were excluded from this analysis.
- Only 269 of these patients (19%) received MOUD and only 44 (3%) were prescribed MOUD on discharge.
- Patients who received MOUD received an average of 5.7 additional days of IV antibiotic therapy.
- Receipt of MOUD was not associated with patient-directed discharge or 30-day readmission.

Comments: This study adds to growing evidence that MOUD facilitates the treatment of other serious complications of OUD. Providing MOUD should be considered the standard of care for the treatment of OUD in the same way that IV antibiotics are the standard of care for endocarditis and osteomyelitis.

Darius A. Rastegar, MD

Reference: Jo Y, Nosal R, Vittori A, et al. Effect of initiation of medications for opioid use disorder on hospitalization outcomes for endocarditis and osteomyelitis in a large private hospital system in the United States, 2014–18. *Addiction*. 2021;116:2127–2134.

The Proportion of Schizophrenia Cases Associated With Cannabis Use Disorder Increased in the Last Two Decades in Denmark

Epidemiologic studies have demonstrated a link between cannabis use—especially high-frequency use—and the development of schizophrenia. If this association were causal, secular increases in cannabis use and potency would lead to increasing incidence of schizophrenia. Researchers used a Danish population registry to examine trends in cannabis use disorder (CUD) and its association with development of schizophrenia to assess trends in the population-attributable risk fraction (PARF), an estimate of the proportion of schizophrenia cases that would be averted if individuals were not exposed to CUD.

- CUD increased more than 10-fold from 0.01–0.02% from 1975–1993 to nearly 0.2% in 2016.
- The adjusted hazard ratio for CUD and incident schizophrenia was nearly constant at around 4 from 1975–2016.
- PARF of CUD in schizophrenia increased from around 1–3% from 1972–1995 to 6–8% from 2010–2016.

Comments: As of 2016, 8% of schizophrenia cases in Denmark may have been attributable to cannabis exposure, a fourfold increase in two decades. These data offer further evidence of an association between cannabis use and incident schizophrenia. This association should be incorporated into public health messaging and individual risk counseling, with heightened urgency in settings with increasing availability and potency of cannabis.

Marc R. Larochelle, MD, MPH

Reference: Hjorthøj C, Posselt CM, Nordentoft M. Development over time of the population-attributable risk fraction for cannabis use disorder in schizophrenia in Denmark. *JAMA Psychiatry*. 2021;78(9):1013–1019.

County-level Cannabis Dispensary Counts Are Associated With Lower Opioid-related Mortality

Prior research on the association between state cannabis policies and opioid-related mortality has been mixed and limited by within-state policy variation and an inconsistent association between policies and actual cannabis availability. This study used panel regression methods to report on the association between opioid-related mortality and county-level cannabis dispensary counts, a fairly direct measure of cannabis availability at the local level. Dispensary counts and locations in 23 US states (814 counties) that allow medical or non-medical cannabis were obtained from Weedmaps, a major US cannabis website, for the period 2014–2018.

- After controlling for county-level population characteristics, yearly effects, and local and state cannabis and prescription opioid policies, an increase from one to two cannabis dispensaries at the county level was associated with a 17% reduction in overall age-adjusted opioid mortality rates.
- The association between dispensary counts and deaths associated with synthetic (non-methadone) opioids (including fentanyl) was greater (21% reduction with an increase from one to two dispensaries) than for deaths from prescription opioids or heroin (both an 8% reduction).
- Findings were similar when separating medical versus non-medical cannabis dispensaries, and when all US counties were included in the analysis.

Comments: This study provides the most detailed data to date in support of the association between legal cannabis availability and opioid-related mortality, with a particularly strong association with synthetic opioids, which includes fentanyl. The validity of the cannabis dispensary data used in this study is uncertain, and unmeasured confounding—perhaps related to opioid use disorder treatment access—remains a possible explanation for these findings. Moreover, this study highlights the complexity of overlapping drug markets and their associations with adverse health outcomes.

Joseph Merrill, MD, MPH

Reference: Hsu G, Kovács B. Association between county level cannabis dispensary counts and opioid related mortality rates in the United States: panel data study. *BMJ*. 2021;372:m4957.

Depressive Symptoms Are Associated With Nicotine Vaping Among Adolescents

A two-way relationship between depressive symptoms and smoking has been established. This study used nationally representative Monitoring the Future data from more than 32,000 US 8th, 10th, and 12th graders to examine the association between depression and vaping.

- Among respondents without depressive symptoms, approximately 10% vaped nicotine but did not smoke combustible cigarettes, 2% vaped nicotine and smoked cigarettes, and 1% smoked cigarettes without vaping in the past month. Among respondents with depressive symptoms, prevalence increased to approximately 13%, 4% and nearly 2.5%, respectively.
- 8th graders with depressive symptoms were two times more likely to vape without cigarette use than their peers. This association was not significant for 10th or 12th graders.

Comments: Serotonin release from nicotine use has been hypothesized as one reason that people with depression smoke more. Nicotine-stimulated serotonin release may also interfere with emotional regulation causing depression, particularly during sensitive periods of development. In this study, the association between vaping without combustible cigarette use was only found among the youngest students. It is possible that nicotine introduced by vaping causes depression and thus increases the likelihood that students will use cigarettes as they get older.

Sharon Levy, MD

Reference: Gorfinkel L, Hasin D, Miech R, Keyes KM. The link between depressive symptoms and vaping nicotine in US adolescents, 2017-2019. *J Adolesc Health*. 2021;S1054-139X(21)00345-1.

21st Annual Chief Resident Immersion Training (CRIT) Program in Addiction Medicine
Accepting applications through **February 11th, 2022**
https://www.bumc.bu.edu/care/crit/

What: This is a four-day immersion training for internal medicine and family medicine incoming chief residents on state-of-the-art methods to diagnose, manage, and teach about addiction medicine. Additional spaces are available for faculty mentors of chief residents as well as junior faculty members attending without a chief resident.

When: April 24 – April 27, 2022

Where: The conference will be held **virtually via Zoom, with the potential to be held in-person** in Massachusetts. We are keeping a close watch on the evolving COVID-19 situation, as protecting the safety of our attendees is a priority. Visit our website for the latest update.

Cost: Tuition is free for all attendees. **If the training is held in-person** in Massachusetts, the grant supports up to 15 full chief resident scholarships that cover travel and accommodations. Faculty mentors and junior faculty are responsible for covering their travel and accommodations.

Sponsors: National Institute on Drug Abuse (NIDA) and Boston University School of Medicine.
For more information or to apply: Visit https://www.bumc.bu.edu/care/crit or contact Ve Truong (ve.truong@bmc.org).

11th Annual Fellow Immersion Training (FIT) Program in Addiction Medicine
Accepting applications through **February 11th, 2022**
https://www.bumc.bu.edu/care/fit

What: The Fellow Immersion Training (FIT) program is a four-day intensive, immersion training that equips incoming and current clinical subspecialty fellows (e.g., Infectious Disease, Pain, Adolescent, Gastroenterology) with state-of-the-art skills and content to integrate addiction medicine into research and clinical care.

When: April 24 – April 27, 2022

Where: The conference will be held **virtually via Zoom, with the potential to be held in-person** in Massachusetts. We are keeping a close watch on the evolving COVID-19 situation, as protecting the safety of our attendees is a priority. Visit our website for the latest update.

Cost: There is no tuition for fellows. **If the training is held in-person**, accommodations and travel for fellows are funded.

Sponsors: National Institute on Drug Abuse (NIDA) and Boston University School of Medicine.

For more information or to apply: Visit https://www.bumc.bu.edu/care/fit, or contact Aga Bereznicka (Agata.Bereznicka@bmc.org).

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