Family Doctor

A Journal of the New York State Academy of Family Physicians

New York State Academy of Family Physicians

Winter 2024

Volume twelve, Number three

Focus:

Substance Use, Abuse and Addiction

FEATURE ARTICLES:

- Counseling Patients about Cannabis-Associated Psychosis
- Opioid Abuse in the Elderly
- Considerations of Kratom: An Exploration of the History, Utilization, Risks, and Management
- Managing Acute Pain in Patients with Opioid Use Disorder
- Navigating the Vaping Crisis

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From the Executive Vice President

By Vito Grasso, MPA, CAE

The 2023 American Academy of Family Physicians Congress of Delegates adopted a bylaws change and new procedures to elect officers and directors. The changes became effective immediately and are intended to foster development of leaders through diversification of the traditional process which had relied heavily upon support by constituent chapters of the AAFP.

The centerpiece of the new process is the creation of a nominations committee comprised of 15 members. Three members are ex officio. The chair is former AAFP president Reid Blackwelder of Tennessee. The chair will appoint the other members of the committee. NYSAFP has nominated three of our current board members for appointment to the new nominations committee.

A major goal of the new nominations process is to generate multiple candidates for offices and to enhance diversity of leadership of the Academy by finding members who might not be able to surface through the traditional pathway of coming up through the chapter political process. In NY, we have fostered the development of many chapter leaders through our support of full delegations to the National Conference of Constituency Leaders (NCCL), and the National Conference of Residents and Students. NY currently has two members on the AAFP board, Dr. Tochi Iroku-Malize who just completed a year as president and is now board chair, and Dr. Sarah Nosal who is a 3rd-year director. Dr. Rupal Bhingradia just completed a term as the new physician director on the board after being elected to that post at NCCL.

Of course, there was a lot of other business conducted at the COD including action on 46 resolutions. We submitted 14 resolutions, three of which memorialized members from NY who passed away since the last COD.

Among the NY resolutions which were considered was one which would require the AAFP to call for termination of the ACO REACH program in Medicare. Discussion of this resolution included expressions of concern with the AAFP position on Medicare Advantage. The AAFP does not support immediate termination of any model and instead advocates for model stability. The AAFP has advocated for systemic changes to Medicare Advantage, such as modifications to risk adjustment or reduction of administrative burden through reforms to prior authorization. Our resolution was defeated.

Since the COD there have been further developments with Medicare Advantage which suggest the concern which motivated our resolution was well founded. An article in the 11/14/23 issue of STAT News reported on a year-long investigation of the use of artificial intelligence (AI) by UnitedHealth Group to drive denial of claims for care intended for seriously ill patients in Medicare Advantage. The investigation concluded that the application of AI to deny claims was intentional and that the company "pursued a strategy to pressure its medical staff to cut off payments for seriously ill patients in lockstep with a computer algorithm's calculations, denying rehabilitation care for older and disabled Americans as profits soared."

Three former case managers were interviewed for the story.

Technology has been a major source of change in society generally. In health care, technological advancements have frequently been heralded as increasing efficiency and affording access to new, safer and more effective therapies.

But the story about UnitedHealth Group reveals a darker side to the use of technology. The use of AI by health insurance plans is essentially unregulated. The STAT News investigation found that Medicare Advantage plans use AI to pinpoint the moment when they can "plausibly cut off payment for an older patient's treatment." Denial of payment for critically needed care is devastating for seriously ill patients. If they cannot afford to pay for treatment themselves, they must go without the care they need. Appealing denials can take many months to resolve. For people with serious illness, time is not something they can afford to waste.

In retrospect, this investigation establishes the veracity of our concern that Medicare Advantage establishes a foundation upon which plans can and will protect their profits by creating barriers to payment which place vulnerable patients at risk.

Many of our resolutions to the AAFP COD have addressed in one way or another the pernicious affect of profiteering on healthcare. Our position in support of single payer has been justified, in part, by recognition that as much as a third of what we spend on healthcare is wasted on redundant administrative costs for practices like prior authorization which are imposed by payers to protect their bottom line. Only a few years ago the AAFP adopted a resolution which asserted that health is a human right and people are entitled to health care to preserve that right. If we are to remain true to that principle, we must protect people from all threats to their free exercise of the right to be healthy, including the threat of losing access to health care because payers create barriers to payment.

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President's Post

By Heather Paladine, MD, MEd, FAAFP

Our winter Family Doctor journal issue addresses the important topic of substance use. As we grapple with the increasing number of deaths due to substance use in the United States, it becomes increasingly evident that addressing substance use is not only a societal issue but a critical aspect of comprehensive primary care. As family physicians, our commitment to patient health and well-being makes it imperative that we champion the integration of substance use treatment into our residency training, our practices, and our communities.

By incorporating evidence-based interventions for substance use within primary care settings, we can bridge the gap between identification and treatment. Early detection and intervention are pivotal in curbing the progression of these disorders, underscoring the importance of a proactive approach in our practices. Unfortunately, there is a serious shortage of treatment programs in many areas of the country, making it important that more family physicians are trained and have the resources to provide this care. A study in 2022 showed that only 7% of early career family physicians, the most likely to be trained, were prescribing buprenorphine in their practices.

The battle against substance use goes beyond clinical strategies; it demands a paradigm shift in how we perceive and confront stigma. It is our responsibility as healthcare providers to eradicate stigma through education, empathy, and a commitment to treating individuals with dignity and respect. I'm proud that the NYSAFP has policy supporting the lowering of barriers to substance use treatment and focused on substance use as a medical issue. We also provide educational opportunities for physicians to incorporate substance use treatment into their practices. This issue of the journal is one example; I hope you enjoy the variety of articles on this topic as much as I did. And, if substance use treatment is not already a part of your practice, I hope you will consider joining a future educational session to learn more.

It is our responsibility as healthcare providers to eradicate stigma through education, empathy, and a commitment to treating individuals with dignity and respect.

Albany Report

By Reid, McNally & Savage

December 2023

Summer and Fall Advocacy

It has been a very busy summer and fall for NYSAFP's advocacy efforts since the session ended in June. Following is an outline of these activities:

Shield Laws: NYSAFP spearheaded successful advocacy campaigns to enact "shield laws" for NY physicians and other authorized clinicians providing medication abortion care via telemedicine as well as gender affirming care, including for individuals outside the state. Shortly after the legislative session ended, we led efforts to gain Governor Hochul's approval including a bill signing ceremony for the telemedicine abortion bill held in June with the Governor, where NYSAFP members Dr. Linda Prine and Dr. Maggie Carpenter were featured.

Adult Vaccine Reporting: NYSAFP also prioritized legislation during the annual Advocacy Day in late February and during the post-budget session to require adult reporting to the state/NYC vaccine registries. For the first time, this legislation was passed by the Assembly this session and picked up strong active support from the NYSDOH including the Commissioner of Health. This fall, we arranged a meeting with Health Commissioner Dr. James McDonald and discussed this legislation as part of the agenda. We asked for NYSDOH's support and encouragement to the Governor to include this policy in the Executive Budget in the coming year.

Public Purchase of Vaccines: During the fall meeting with Commissioner McDonald, NYSAFP's leadership including President-elect Dr. Rachelle Brilliant and Vaccine Subcommittee Chair Dr. Phil Kaplan discussed the many challenges physician offices are having in acquiring, paying for and get adequately reimbursed for vaccines, made even more acute with the recently commercialized COVID-19 vaccines and newly approved RSV vaccines which are very costly. During the meeting, NYSAFP advocated for public purchase of all vaccines as a public good in line with Academy policy. As a short-term solution we asked if there was a way for physician practices to purchase vaccines through a state contract similar to the bulk purchasing of other goods and services under the Office of General Services.

The Commissioner and staff appreciated the discussion and said they would look into our recommendations. They also encouraged NYSAFP to consider whether it could expand its current vaccine contracts to include non-member family physicians, and other vaccinating providers like pediatricians, OB/GYNs, internists etc. to try to leverage greater purchasing power. NYSDOH also mentioned an analysis they had done related to publicly purchased vaccines several years ago and said they would share it with us. We have been following up with NYSDOH on these items since the meeting.

Wrongful Death Bill: Unfortunately, an amended version of the "wrongful death" bill vetoed late last year by Governor Hochul was reintroduced and passed by the Legislature in the final days of the session. NYSAFP is now working in coalition with MSSNY, other specialty societies, hospitals, insurance and business groups to register strong opposition and ask the Governor to again veto the bill. In September, we launched a new and easy-to-use NY grassroots system in conjunction with the NYSAFP to help with member advocacy to urge Governor Hochul to reject this legislation. We also recently launched an ad campaign with four other physician specialty societies urging the Governor to keep doctors in New York and veto this bill. The campaign ran throughout December in Empire Report NY (see ad on next page). These efforts will continue over the next few weeks until the bill is taken up by the Governor by the end of 2023.


Dr. Jun David speaks in support of non-compete bill

Non-Compete Bill: Another bill that passed both houses during the 2023 legislative session would ban the use of non-compete clauses in all employer-employee contracts. NYSAFP resolved to support this bill to protect employee rights and patients' ability to continue to see the physician of their choice. NYSAFP has joined letters in support with other medical specialty societies urging Governor Hochul to sign the bill. Most recently, NYSAFP Past-President, Dr. Jose (Jun) David participated in a press conference at the State Capitol with other supportive organizations and Senate bill sponsor Senator Ryan, to urge approval. The bill has not yet gone to the Governor for action but should before the end of the year.

Reproductive Healthcare Access: Following the passage of the landmark telemedicine abortion shield law in New York, we have been working with NYSAFP leadership to identify whether state funding could be available to support participating physicians who provide uncompensated reproductive health care via telemedicine to patients in other states. We have had meetings to discuss the need for funding to support expanded NYS training programs in abortion care for NY physician residents in community settings like Planned Parenthood, private practices and others. To date, NYSAFP leaders including President Dr. Heather Paladine, Advocacy Chair Dr. Jiana Menendez, NYSAFP EVP Vito Grasso and others have joined us in meetings with the Governor's office and Assembly Health Chair Amy Paulin who both expressed interested in helping. In November, we also met with the key staff people at NYSDOH who administer the Reproductive Access Fund created in 2022, to determine if that could provide an avenue for future funding. We are now working to pursue funding in 2024.

Doctors Across NY: Following regular questions and concerns from members related to the Doctors Across NY (DANY) application process, serious delays in funding announcements and other issues, we arranged a meeting in early fall with the point people who administer DANY at NYSDOH. NYSAFP leaders including President Dr. Heather Paladine, EVP Vito Grasso, Private Practice Subcommittee Chair Dr. Caleb Atkins and member Dr. Marten Peterson participated. We had a robust discussion on the frequent member feedback we receive, provided recommendations for improving the process and gained a greater understanding of their funding and approval challenges from the Division of the Budget. NYSAFP's feedback was appreciated and agreements were made to continue ongoing dialogue to try to improve physician applicant experience and timing with the DANY funding process.

We also arranged for NYSAFP leadership to meet with Senator James Skoufis to discuss support for his legislation to increase DANY grants for physicians in private practices in underserved areas (S6882). Senator Skoufis appreciated NYSAFP's support and asked for help in identifying an Assembly sponsor, and to assist with advocacy to advance the bill in the coming session. Following the meeting, we were able to help the Senate secure an Assembly sponsor with Assemblyman John McDonald, who has introduced the bill in the Assembly, as A7942. The Private Practice Subcommittee has asked NYSAFP to consider including this bill as a priority for the 2024 Advocacy Day.

Looking to 2024

The 2024 session began in January and below are initiatives that will be prioritized by NYSAFP in the new year:

Single Payer: Legislation S7590 Rivera/A7897 Paulin has been introduced to establish the New York Health Act for single payer health coverage. The bill was introduced after the 2023 session ended by the Senate and Assembly Health Committee Chairs and includes some changes from the 2022 version in an effort to pick up allies and address opposition from certain unions. The 2023 bill retains provisions allowing physicians to collectively negotiate with the single payer. The Advocacy Commission reviewed the new bill during the Summer Cluster and recommended ongoing support by NYSAFP.

Medical Aid in Dying: NYSAFP has been supporting legislation A.995A, Paulin/S.2445A Hoylman-Sigal to authorize medical aid in dying in NYS and was active this session discussing the bill with legislators as well in participating in public relations activities. We have met with Assembly Health Chair and sponsor, Amy Paulin who has asked for NYSAFP's support for increasing bill cosponsors to demonstrate sufficient support for advancement in the coming session. This has been identified as a leading priority for NYSAFP President Dr. Heather Paladine and we have created a member toolkit to use to encourage grassroots and grass-tops advocacy by members, which we launched in early December. We will also be using a new NY grassroots system developed by RMS and NYSAFP to help with this advocacy going into the next session.

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Let's Get Immunized NY: NYSAFP and RMS continue to lead a vaccine coalition in New York to help support education and advocacy around immunizations for children and adults. We are continuing to grow both the partners and funding for this important effort as we move into year 3 of this campaign in 2024. In 2023, this campaign had an in-person, dedicated lobby day with partners focused on vaccine education and advocacy and we anticipate doing so again in the coming session. A sign on letter will be sent to the Governor soon, led by NYSAFP, asking LGINY partners to urge enactment of the adult vaccine reporting proposal, as well as support dedicated resources for public relations and education on the importance of vaccination in the SFY 2024-25 Executive Budget.

Insurance & Payment Reforms: We are continuing to pursue greater investments in primary care as well as insurance simplification and reforms in New York State. We have worked to support increased funding for primary care recruitment and retention, and for improvements in how the Doctors Across NY program operates.

Bills of Interest Passed by Both Houses During 2023 Session:

Below are the bills passed by both houses which we thought would be of particular interest, with NYSAFP priorities highlighted. The text for any bill can be viewed at: https://nyassembly.gov/leg/. Unless noted, the bills await action by Governor. All bills passed during the 2023 session must be sent to her desk by the end of the calendar year and she has 10 days (not including holidays/Sundays) to act once transmitted.

Non-Patient Specific Orders for Registered Professional Nurses (S6886-C Rivera/A6030-C)
This bill authorizes physicians to prescribe non-patient specific orders that a registered professional nurse may perform including electrocardiogram tests to detect signs and symptoms of acute coronary syndrome, administering point-of-care blood glucose tests to evaluate acute mental status changes in persons with suspected hypoglycemia, administering tests and intravenous lines to persons that meet severe sepsis and sepsis shock criteria, and pregnancy tests. This bill was signed into law 7/19/23, chapter 193 of the laws of 2023 and took effect immediately.

Temporary Licensure for Nurses/Physicians Licensed Outside NYS (S7492-B Stavisky/A6697-B Fahy)
This bill would authorize certain out-of-state nurses and physicians who practices in NY under Executive Order 4 to temporarily practice in New York State pending a determination on licensure. If signed, the law would be repealed one year after it shall have become law. This bill was signed into law 6/22/23, chapter 136 of the laws of 2023.

Wrongful Death (S6636 Hoylman-Sigal/A6698 Weinstein)
This bill would expand the possible damages in a wrongful death action to include compensation for grief or anguish, the loss of love or companionship, loss of services and support, and the loss of nurture and guidance.

Secondary Coverage Requirement for Excess Medical Malpractice Insurance (S7057 Breslin/A7255 Anderson)
This bill is a chapter amendment to Chapter 673 of the Laws of 2005 to extend from July 1, 2023, to July 1, 2028, the statutory clarification that the Medical Malpractice Insurance Pool (MMIP) is not required to offer a second layer of excess medical malpractice insurance coverage. This bill was signed into law 6/30/23, chapter 156 of the laws of 2023 and took effect immediately.

NYS Medical Indemnity Fund Definitions (S1324 Krueger/A 4131 Paulin)
This bill is a chapter amendment to Chapter 517 of the Laws of 2016 which would repeal the recently enacted clarifications as to covered services under the Medical Indemnity Fund by amending the definitions of qualifying healthcare costs and extend the enhanced rates until December 31, 2025. This bill was signed into law 3/24/23, chapter 112 of the laws of 2023 and shall take effect on the same date and in the same manner as the same chapter of the laws of 2022.

Right of Affirmation of a Health Care Practitioner (S2997 Rivera/A6065 Dinowitz)
This bill provides that an affirmation of a health care practitioner by an attorney may be served or filed in an action in lieu of and with the same force and effect as an affidavit. The law changes the reference from "physician, osteopath, or dentist" to "health care practitioner." This bill was signed into law 10/25/23, chapter 585 of the laws of 2023 and takes effect immediately.

Telehealth for Reproductive Healthcare (S1066-B Mayer/A1709-B Reyes)
This bill establishes protections for NY physicians and other authorized health care providers to offer reproductive health care services including medication abortion care to patients via telehealth regardless of the patient's location, including those who may be located outside New York State. Under the bill, New York State would not comply with extradition, arrests, and coordination with any out-of-state investigations or evidentiary requests to operate as a shield to New York health care practitioners who perform any legally protected health activity against states that impose disciplinary actions upon them. The bill also prevents New York and prevents medical malpractice insurers from taking adverse action against or failing to issue a policy to health care practitioners for legally protected health activity. Signed into law on 6/23/23 and effective immediately.

Legal Protections Against Arrest/Extradition of Abortion Providers (S1351 Krueger/A1005 Lavine)
This bill is a chapter amendment to Chapter 219 of the Laws of 2022 to clarify and expand provisions that shield New Yorkers from civil and criminal consequences for abortions that are lawfully performed in New York State. All reproductive healthcare services lawfully performed in the state are now included. New York police are prohibited from arresting anyone who participates directly or indirectly in an abortion that is lawfully performed in NYS and New York police are also prohibited from cooperating with out-of-state investigations related to abortions lawfully perform in NYS. This bill was signed by the Governor on March 3, 2023, Chapter 101 of the Laws of 2023 and shall take effect on the same date and in the same manner as the same chapter of the laws of 2022.

Providing Medication Abortion Prescription Drugs at SUNY/ CUNY (S1213-B Cleare/A1395-C Epstein)
This bill provides access to medication abortion prescription drugs at SUNY and CUNY campuses by employing or contracting with individuals authorized to prescribe such drugs, or by providing referrals. This bill would provide medication to all enrolled students. This bill was signed into Chapter 129 of the Laws of 2023 on May 2, 2023, and will take effect on August 1, 2023.

Legal Protections for Gender Affirming Care (S2475B Hoylman-Sigal/A6046B Bronson)
This bill would prohibit the arrest, extradition, and loss or suspension of license of authorized health care providers in New York who perform lawful gender-affirming care to individuals from states with restrictions on gender-affirming care access. Signed into law 6/25/23 and effective immediately.

Physician Coursework or Training in Nutrition (S4401-A Webb/A5985-A Rosenthal)
This bill requires DOH to develop, maintain, and distribute to NYS practicing and licensed physicians a resource library related to continuing medical education and training opportunities regarding nutrition.

Establishment of a Nursing Certificate and Education Programs (S447-C Stavisky/A3076-A Lupardo)
This bill would allow nursing professionals to complete up to one-third of their clinical training through simulation experiences and defines acceptable simulation experiences including requirements of such experiences. This bill was signed into law 5/15/23, chapter 134 of the laws of 2023 and takes effect 11/11/23.

Required Protocols for Fetal Demise (S4981-B Brouk/A1297-B Bichotte)
This bill requires hospitals to adopt, implement and periodically update standard protocols for the management of fetal demise. This act will be known and may be cited as "Mickie's law." The bill establishes protocols for fetal demise including determining whether a pregnant person is experiencing an emergency medical condition in relation to fetal demise, admitting the pregnant person to the hospital and/or treating them in the emergency room for close observation, monitoring, stabilizing treatment. The protocols shall be in accordance with the federal EMTALA statute. This bill was signed into law 10/25/23, chapter 542 of the laws of 2023 and takes effect 11/24/23.

Licensure of Athletic Trainers (S942-A Bailey/A219-A Solages)
This bill relates to the licensure of athletic trainers; adds athletic trainers to the list of persons and officials required to report cases of suspected child abuse or maltreatment. This bill aims to create licensure for the profession of athletic training.

5-Year Extension of Emergency Technician Recertification (S7463 Mannion/A7426 Stern)
This bill extends the underlying statute established by Chapter 563 of the laws of 2001, by 5 years, effectively extending the EMS Recertification demonstration program. The Pilot Recertification Program allows an EMT, EMT-Intermediate, EMT-Critical Care or Paramedic, who is in continuous practice, demonstrates competency and completes appropriate continuing education, to renew their certification without taking a certification exam. This bill was signed into law 6/30/23, chapter 166 of the laws of 2023 and took effect immediately.

Educational Requirements for Licensed Physical Therapists (S6220B Stavisky/A6696 Fahy)
This bill amends the education law, in relation to the practice of physical therapy. This bill updates the educational requirements for licensure as a physical therapist to require a doctoral degree in physical therapy for licensure. This bill was signed into law 10/25/23, chapter 594 of the laws of 2023 and takes effect 10/25/24.

Newborn Screenings (S6542 Rivera/A7338 Paulin)
This bill requires glucose-6-phosphate dehydrogenase deficiency testing for all newborns as part of newborn screening requirements in public health law.

MSSNY Committee for Physicians' Health Liability Immunity (S3449 Rivera/A6017 Paulin)
This bill seeks to make a technical correction following a recent court decision that interpreted liability protections to not apply to the entity that creates a physician committee. The legislation clarifies authorization of the Medical Society of the State of New York's Committee for Physicians' Health program and clarifies that the liability protections offered in the statute for physician participants in the program extend to the organizations themselves as well as their employees acting without malice and within the scope of its functions for the committee. This bill was signed into law 10/25/23, chapter 567 of the laws of 2023.

Limitations on Mandatory Overtime for Nurses (S850 Jackson/A970 Gunther)
This bill would amend Chapter 815 of the Laws of 2022 by requiring health care employers to notify the Department of Labor (DOL) when utilizing an exception to the limitations on mandatory overtime provisions and make a good faith effort to have overtime covered on a voluntary basis. A DOL enforcement officer will be charged with investigating complaints/violations. This bill was signed into law by the Governor on March 3, 2023, Chapter 27 of the Laws of 2023 and shall take effect on the same date and in the same manner as the same chapter of the laws of 2022.

Non-Compete Agreements (S3100-A Ryan/A1278-B Joyner)
This bill prohibits employers, or their agents, or the officer or agent of any corporation, partnership, or limited liability company from seeking, requiring, demanding or accepting a non-compete agreement from a covered employee. Also, it would allow an employee to bring a civil action in a court of competent jurisdiction against any employer or persons alleged to have violated these provisions, within two years of: (i) when the prohibited non-compete agreement was signed; (ii) when the employee learns of the prohibited non-compete agreement; (iii) when the employment relationship is terminated; or (iv) when the employer takes any steps to enforce the non-compete agreement.

Medical Debt (S4907-A Rivera/A6275-A Paulin)
This bill prohibits hospitals, health providers, or ambulance services from furnishing any portion of a medical debt to a

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consumer reporting agency. Also, it requires such health providers to include a provision in any contracts entered with the collection entity for the purchase or collection of medical debt that prohibits the reporting of any portion of such medical debt to a consumer reporting agency. The bill defines "Medical debt" as an obligation or alleged obligation of a consumer to pay any amount whatsoever related to the receipt of healthcare services, products, or devices provided to a person by a hospital licensed under article twenty-eight of public health law, a health care professional authorized under title eight of the education law or an ambulance service certified under article thirty of public health law.

Self-Administered Contraceptives (A1060-A Paulin/S1043-A Stavisky)
This bill authorizes non-patient specific order for the dispensing of self-administered hormonal contraceptives by pharmacists prescribed or ordered by a licensed physician, nurse practitioner, or the Commissioner of Health. It further provides that prior to dispensing, and at a minimum of every twelve months for returning patients, the pharmacist shall provide the patient with a self-screening risk assessment questionnaire, developed by the Commissioner of Health, in consultation with the Commissioner of Education. The pharmacist shall also provide the patient with a fact sheet developed by the Commissioner of Health, in consultation with the Commissioner of Education. Licensed pharmacists would be required to receive training satisfactory to the Commissioner of Education and shall notify a patient's primary care provider when self-administered hormonal contraceptives are dispensed under this section unless the patient opts-out. The bill makes it clear that pharmacists retain the ability to refuse to dispense a prescription if in their professional judgment, potential adverse effects, interactions or other therapeutic complications could endanger the health of the patient. This bill was signed into law on May 2, 2023, Chapter 128 of the Laws of 2023 and takes effect November 2, 2024.

Matthew's Law (S2099-C Harckham/A5200-B McDonald)
This bill authorizes pharmacists and prescribers to dispense drug adulterant testing supplies. It states that testing supplies shall be stored at a licensed pharmacy, hospital, clinic, or other health care facility in a manner that limits access to health care professionals. Retail stores containing pharmacies may dispense testing supplies from the pharmacy department only. No quantity of drug adulterant testing supplies greater than necessary to conduct five assays of substances shall be dispensed in a single transaction. This bill was signed into law on November 17, 2023, Chapter 654 of the Laws of 2023 and takes effect December 17, 2023.

Coverage for Biomarker Testing (S1196A Persaud/A1673A Hunter)
This bill requires that every state-regulated insurance plan, including Medicaid, provide coverage for biomarker testing for the purposes of diagnosis, treatment, appropriate management, or ongoing monitoring of an individual's disease or condition when the test provides clinical utility to the patient as demonstrated by medical and scientific evidence, including, but not limited to:

- Labeled indications for a test approved or cleared by the federal Food and Drug Administration or indicated tests for a food and drug administration approved drug;
- Centers for Medicare and Medicaid Services national coverage determinations and Medicare administrative contractor local coverage determinations; or
- Nationally recognized clinical practice guidelines such as, but not limited to, those of the National Comprehensive Cancer Network or the American Society of Clinical Oncology.

All of us at Reid, McNally & Savage would like to thank the membership of NYSAFP for your strong support and advocacy this year. We look forward to continuing to work with you to pursue priorities of importance to family physicians and your patients in 2024.

Upcoming Events

2024

Feb. 25-26, 2024
Winter Cluster
Albany Renaissance

May 11 (Open virtually)
May 18-19, 2024
Reconvene Congress of Delegates
Albany

July 27-28, 2024
Summer Cluster
Troy
Hilton Garden Inn

Nov. 3, 2024
Fall Board Meeting

For updates or registration information for these events go to www.nysafp.org

Medication for Opioid Use Disorder: A Quick Overview

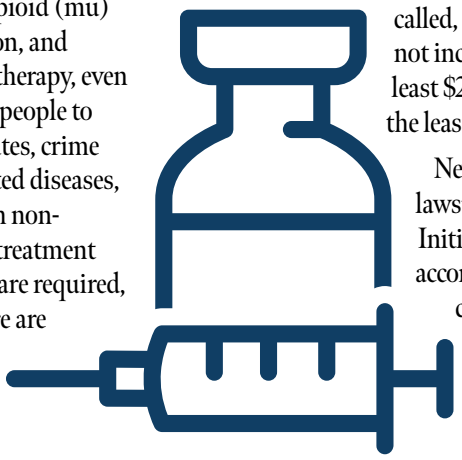
By Robert S. Bobrow, MD

Opioid addiction/misuse, now known as opioid use disorder (OUD), is a societal scourge which, judging by the rate of fatal overdoses, continues to worsen. What follows is a distillation of two recent publications (*The Journal of Family Practice*, May 2023, and *The Medical Letter on Drugs and Therapeutics*, Sept.4, 2023) on the treatment of OUD.

Maintenance pharmacotherapy, known as medication-assisted treatment (MAT) or a newer term, medication-assisted recovery (MAR) is the standard of care. Three drugs are FDA-approved for this, and often given in conjunction with psychosocial therapy: methadone, naltrexone, and buprenorphine.

Methadone

Methadone has been in use since the 1970's and is only available through government-licensed programs. Physicians can legally prescribe methadone only for pain, but not for opioid withdrawal (unless the patient is hospitalized) or maintenance pharmacotherapy. It is a full agonist of opioid (mu) receptors, can cause respiratory depression, and prolongs the Q-T interval. Maintenance therapy, even though it may continue for years, allows people to continue working, decreases mortality rates, crime rates, and the frequency of injection-related diseases, like HIV and hepatitis C. Compared with non-pharmacotherapy, methadone improves treatment retention with an NNT of 2. Daily visits are required, at least for the first few months, and there are generally no financial barriers in the licensed programs.



Naltrexone

Naltrexone is an antagonist of opioid receptors, given as a monthly injection. Although there is an oral form, it is not considered to be effective in OUD. Naltrexone blocks the euphoric effects of opioids, diminishing the "high". Because it can precipitate withdrawal symptoms, 7-14 days of abstinence are required before starting it. It is not addictive or easily abused, and is not a controlled substance. While some studies have shown it reduces cravings and improves abstinence rates, it is generally considered inferior to methadone and buprenorphine for treatment of OUD, and its effects on mortality are unclear. The monthly extended-release form, marketed as Vivitrol, costs at least $1600 per dose. Interestingly, the oral form is also used to treat alcohol use disorder, as it diminishes the pleasurable effects of alcohol, suggesting that in some individuals, alcohol can activate opioid receptors.

Buprenorphine

Buprenorphine is a partial agonist of opioid receptors which results in less respiratory depression and fewer adverse cardiac events, so is therefore safer than methadone. It is considered the maintenance pharmacotherapy of choice for OUD. It is usually given sublingually in combination with the opioid antagonist naloxone as Suboxone. Naloxone, an abuse deterrent, is not absorbed sublingually but would mute the effects of buprenorphine if the preparation were to be used intranasally or intravenously. It is at least as effective as methadone at reducing mortality, and improves abstinence rates, job stability and psychosocial outcomes. Unlike methadone, it can now be prescribed by any physician with a DEA license (it is a schedule III drug and federal restrictions requiring a waiver have recently been lifted). Weekly visits are usually required at first, then monthly, making it more convenient than methadone. However, there aren't any subsidized treatment programs and patients must be seen privately. Without covering insurance, this can become quite expensive. At one organization I called, visits would cost at least $1000 during the first 6 months, not including the cost of the medication itself which would be at least $200/month. Consequently, the best treatment may also be the least available.

New York State recently received 2.6 billion dollars of opioid lawsuit settlement money (ag.ny.gov/nys-opioid-settlement). Initial distribution of funds began in April 2022, which, according to the website, will be directed towards New York communities for treatment, recovery, and prevention efforts. I have noted that in my area (Suffolk County) all the funds so far have gone to bolster existing opioid addiction support programs, but none have gone to making buprenorphine more available. I believe some of this should go toward making buprenorphine more accessible, either through publicly subsidized clinics or vouchers to be used in the private sector. Perhaps some of our members who have the ear of their local legislators can advocate for increased availability of buprenorphine for the benefit of our patients.

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TWO VIEWS:
OUD Treatment – Two Community Approaches

VIEW ONE

A PLEA FOR SIMPLICITY IN OUD TREATMENT

By Kristin L. Mack, DO, FAAFP and Ephraim Back, MD, MPH, FAAFP

Treating opiate use disorder (OUD) affords family medicine physicians numerous opportunities for significant engagement with patients and families that can lead to healthier lifestyles and communities across generations. Our experience over the last four years introducing OUD treatment as a service that did not previously exist for families in a small community, has led to just such relationship building.

Our starting block was a community hit hard by the effects of addiction and compounded by a culture quick to shame addicted individuals, often viewing a person's addiction as a choice. The area's poverty rate is higher than New York State and national averages, and the healthcare status was deemed "critical access" with the closest mental health and inpatient hospital resources nearly an hour away. Encountering increasing numbers of individuals who were using drugs, local law enforcement determined that "we cannot arrest our way out of this," and turned to other community resources for assistance. However, mental health and addiction counselors were often not available, and the nearest opioid treatment center is well over an hour away. Even though there were organizations seeking support to address OUD, there was still a hesitancy to involve any medical representation or prescribers in these groups. Compounding the situation was the sentiment in the community that physicians were also part of the problem by over-prescribing opioids for pain.

It is estimated that nearly 5% of U.S. adults have abused or been addicted to opioids and approximately one third say that they know someone who suffers with OUD. A report released by the University of Vermont Center on Rural Addiction (UVM CORA) found that in 2020, the age-adjusted opioid overdose death rate in UVM CORA's rural service area (which includes our area in Northeastern NY) was 27.6 per 100,000 persons (454 deaths), significantly higher than the national rural opioid overdose death rate of 18.1 per 100,000.[1] Adding to these grim statistics is the fact that, like many rural areas, our community has a predominance of large families that stay in the area their entire lives or leave briefly, and then return to be closer to their families. So, almost every family knew or experienced a closeness to someone suffering with a use disorder. Still, the community's thoughts of addiction were largely affected by shame, even when there were multiple family members affected across generations.

Recognizing that the opioid epidemic was endangering and killing our patients, we determined that it was imperative to intervene. The intervention we offered was simple: buprenorphine. And there is evidence that doing just this has a major effect.[2,3] Informed by the success of harm reduction models, the next generation guidelines favor simplicity,[4] and the experience in our community is certainly consistent with a straight- forward approach. In fact, in the buprenorphine waiver training courses that we have taught (and still teach for education and support of those physicians new to OUD

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VIEW TWO

CHANGING THE CULTURE OF OPIOID THERAPY FOR CHRONIC PAIN: LESSONS FROM A COMMUNITY HEALTH CENTER

By Elena Hill, MD, MPH

SHARON'S STORY

Sharon came to our clinic with a fentanyl patch on her waist and a pill bottle containing a whopping dose of 30 mg of oxycodone four times a day in the large pocket of her purse, which hung just past her walker and bounced against her back brace which she wore daily after several botched spinal surgeries.

Sharon's story is not unique: In fact, most of us have many "Sharons" in our practice.

We don't usually think of opioids as psychiatric drugs, but we really should: after all, they act most prominently in the central nervous system and affect dopamine and other neurotransmitters in the brain, just like other psychotropic drugs. They have a direct impact on our reward and behavioral systems. Therefore, we should stop thinking of them simply as pain medications, but instead as psychotropic medications that can change a person's behavior and personality when used long term.

Sharon's family could see that opioids had not only made her pain worse, (the phenomenon of opioid induced *hyperalgesia* – the actual *worsening* of pain over time – has been well established[1]), but had actually changed her personality. She was not the Sharon they knew; she was aggressive, socially withdrawn, anxious and depressed. Sharon was desperately afraid that we would "cut her off cold turkey" just like her last pain management clinic.

THE SCOPE OF THE PROBLEM

All major authoritative bodies on addiction and pain management have reached consensus that opioid use for chronic pain should be avoided whenever possible as the risks largely outweigh the benefits.[2-5] The New York State Department of Health has made it a key aim to reduce the number of opioid prescriptions for chronic pain,[6] and over the last few years, opioid prescriptions for chronic pain have continued to drop in NYS.[7] This may be in part due to our efforts to change the culture around long term use of opioids for chronic pain.

However, many patients are still prescribed opioids for chronic pain for months or even years without re-assessment or counseling. The liberal prescription of opioids has created the misconception that chronic pain is "curable" and created unrealistic expectations from patients that family physicians often cannot meet.

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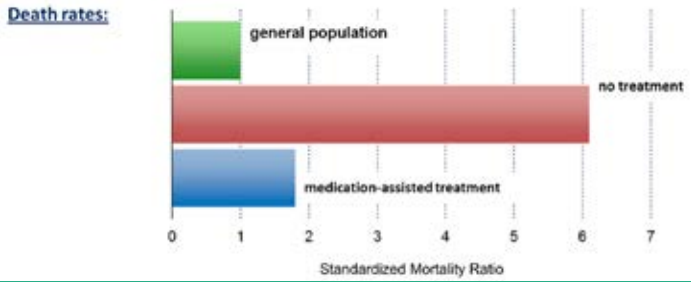
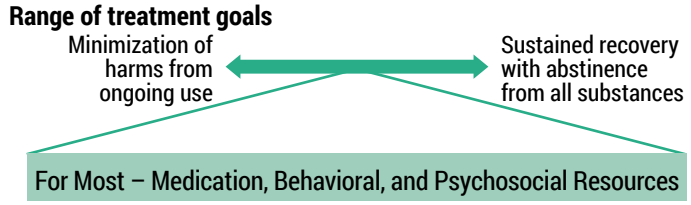
treatment), SAMHSA statistics make it clear that buprenorphine alone is life-saving. (Figure 1) People that suffer from OUD are more than six times more likely to die than the general population, making it a deadly disease. Providing buprenorphine lessens the risk by more than 70%, so it is a life-saving treatment.[5] Family physicians are the best-positioned to provide this service to their communities because of their relationships to individuals, families, and communities.

Figure 1: Death rates in those that suffer from OUD with and without treatment with buprenorphine.[5]



In our training courses, we have found that while family medicine physicians are experts at engagement and building relationships, they initially struggle with determining treatment goals, which is perhaps a relic of the severity of the abstinence-only models like Narcotics Anonymous. A helpful alternative view for many of our learners has been to see treatment goals as a spectrum (Figure 2), upon which patients may be at different areas of that spectrum at any given time. At one end of the spectrum is complete abstinence from all opiates (including buprenorphine or methadone). However, this is only beneficial for a small minority of patients and is associated with poor retention,[6] leading to recidivism, which can be dangerous or even fatal. On the other end of the spectrum, would be to "do nothing", which is what is still commonplace in much of primary care that does not offer any OUD services.[7] Instead of "doing nothing", we encourage physicians to adopt these minimal goals: see the patient, provide buprenorphine if appropriate, and if not, provide information on outside resources. Even if the provider does not write a prescription for buprenorphine, they should provide naloxone and a follow-up appointment. Tailoring treatment along this spectrum reduces risk and stigma, and patients are better able to engage in healthcare. We aim to provide buprenorphine treatment and avoid self-imposed barriers to care, such as requiring consistent drug-free urine or instituting punitive measures for subjectively determined "bad behavior."

Figure 2: Spectrum of Treatment Goals
(original content by Provider Clinical Support System, Medications for Opiate Use Disorder (PCSS-MOUD), edited with permission by authors)[5]

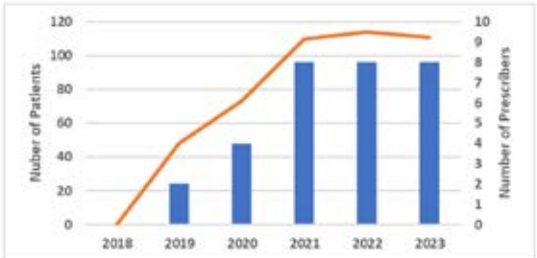


Changing "there is nothing we can do," to "there is always something we can do," fostered a cultural shift in our own health center. In the initial staff meeting prior to offering buprenorphine, the following concepts were put forward plainly: OUD is a chronic medical condition, it is an extremely deadly condition, and we can help patients with this condition and ultimately save lives. At the end of this presentation, we acknowledged that many of us have been negatively affected, either by our patients with "drug-seeking behavior" or through relationships with individuals suffering from OUD. The directive was that we would work together to overcome many of the negative biases that we harbor, and the expectation was to treat everyone with respect and empathy. With that, we started providing care.

Acknowledging and understanding our biases was humbling, but also unifying. It became easier over time, even for those who admitted that it was difficult for them initially. In communication with patients, whether on the phone, in the waiting room, or in the exam room, our entire team accepted the challenge. Our physicians, NPs, and PAs led by example, using person-first language and providing patient-centered care.

A major factor in our success was that our clinicians all agreed to take the buprenorphine waiver training (required at that time but no longer required) and began to prescribe buprenorphine for patients with OUD. Two physicians with prior experience were the initial champions and the other six clinicians came on board over the 1st two years of the program. During this time, we steadily increased the number of patients with OUD being treated with buprenorphine and have plateaued with approximately 110 patients in treatment at any given time (Figure 3). Almost all of these patients had been using either oral or IV drugs that they were obtaining illicitly. The average caseload is 14 patients per physician, NP, or PA (range 6-28), comprising a relatively small percentage of the family medicine caseload in the health center. Within the practice there was little resistance to the initiative, and we encountered no significant barriers in the implementation. This initiative has also helped inform our treatment of patients with chronic pain, many who have been on opioids for years. We continue to prescribe opioids for some of these patients, but work to optimize the treatment, assessing the efficacy and safety of the opioid treatment, applying multimodal analgesia, and weaning if possible. In some patients with chronic pain who were on opiates, but had developed OUD, we were able to transfer them to a buprenorphine regimen that was more appropriate. And, we have also begun to offer buprenorphine as an analgesic alternative to our pain patients for whom it is appropriate to have opiates as a part of their treatment.

Figure 3: Number of buprenorphine prescribers and patients being treated with buprenorphine, 2018-2023



We supported each other informally with quick conversations, but also had more formal support in our larger organization (Hudson Headwaters Health Network) with a monthly virtual "MAT Meeting of the Minds" to discuss specific cases and provide education. We all found that providing this care was extremely gratifying and we valued the relationships that we were building with our patients who were also very appreciative. As a team, we understood the science behind buprenorphine for OUD. However, seeing the patients improve with treatment inspired us to go even further.

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Most impactful was what often happens in small communities with many connections: everyone representing us (clerical, nursing, and providers) portrayed themselves professionally in their community and squelched negative talk about OUD when they heard rumors circulating. They interjected to counter addiction-shaming in conversation, touted the services that we were now providing, and celebrated our patients when their lives stopped revolving around trying to find drugs. As word circulated that we were providing OUD treatment, patients who had avoided health care because of fear or shame and stigma started to come to us for care and support. Many patients with OUD have multiple co-morbidities and in addition to treating their OUD, we have been able to address some of their other health issues, such as depression, contraception, hepatitis C, hypertension, and cancer screenings.

Simply introducing OUD treatment in our health center four years ago has led to a magnified set of changes in our community and in the health of our patients. We currently have two physicians who sit on our county task force. There is regular cross-pollination with our local departments of public health and mental health programming. We have featured our community goals for treating and preventing substance use in local news articles and made public presentations to community members. We have offered programming on cultural humility to paramedics, pharmacists, local police, ER physicians, and school leaders. Working in collaboration with our mental health professionals, we are devising strategies for prevention and offering programming that provides childcare during community conversations, making it possible for families to attend. As OUD deaths soar nationally, we continue to strengthen our commitment to successful approaches for our community. For us, the positive change we saw in our community was most easily achieved when it was based on the simplest concepts:

- OUD is a disease.
- Life-saving treatment is available.
- Our community can help each other, together.

When faced with the mortality statistics of OUD and knowing the effectiveness of a simple approach, our oath to *Do No Harm* means, at the minimum, practicing harm reduction for patients suffering from this deadly disease. Physicians who practice harm reduction and support people who suffer from OUD are also advocates for a better healthcare system. Physicians who treat their patients with OUD in a respectful manner provide a safe environment for individuals who are rarely able to access safe places in a healthcare setting. In addition, family medicine physicians who practice and encourage cultural humility have the potential to disrupt the passage of addiction from one generation to the next, as they treat all generations of a family with stigma-free, effective, and life-saving treatment.

There is hope. Here, in our rural community, the perception of addiction as shameful has been slowly transforming into a recognition that people with OUD have a chronic medical condition and need and deserve treatment. As a result, more community members are seeking treatment, supporting families affected by overdose deaths, and instituting education programs with open community conversations that we expect will lead to healthy changes for generations to come.

OUD is a chronic medical condition.
OUD is an extremely deadly condition.
FM physicians can provide simple care.
It saves lives.

If you are interested in more education on how to treat OUD, visit www.samhsa.gov/ or look for upcoming training courses at https://www.nysafp.org/

If you are interested in advocating for changes that reduce barriers for OUD treatment, visit www.nysafp.org/advocacy, or consider joining NYSAFP Advocacy or Public Health Commissions.

If you know someone seeking treatment, or want to be sure you are listed on this service, visit https://findtreatment.gov/

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She has been teaching other physicians to provide medication assisted treatment to those with opiate use disorder since graduating residency and experiencing the limited support to the small communities where she practiced. On the topic of OUD treatment and prevention, she writes articles, advocates, presents, and leads community- based initiatives. Dr. Mack teaches rural medicine and advocacy education to residents for the Saratoga Hospital Family Medicine Residency Program. She previously chaired the Commission for Public Health for the NYSAFP and currently serves as board secretary. Dr. Mack is Essex County delegate to the NYSAFP Congress of Delegates and participates annually in NYSAFP's Advocacy Day.

Ephraim Back, MD, MPH, FAAFP *is the founding program director for the Saratoga Hospital Family Medicine Residency program. He is a clinical professor of family and community medicine at Albany Medical College and has been a family medicine educator for over 30 years. In response to the opioid epidemic, he has been treating patients with substance use disorders, conducts buprenorphine waiver training for physicians throughout NY, and is board certified in addiction medicine. He has been involved with the NYSAFP for 2 decades and currently serves on the Education Commission. He has received multiple teaching honors including the NYS Academy of Family Physicians' "Family Physician Educator of the Year" award twice.*

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AN INTERVENTION AROUND OPIOIDS FOR CHRONIC PAIN IN A COMMUNITY HEALTH CENTER

We are part of a community health center located in the Bronx, an area with one of the highest opioid burdens in the State. Up until 2020, our family medicine practice included a pain management clinic. Like so many pain clinics in our area, many of our visits revolved around opioid prescribing instead of more efficacious treatments for chronic pain.[8]

In 2020, our clinic committed to transitioning from a 'pain management clinic' to an 'integrated health clinic' with the goal of discontinuing opioid prescriptions for chronic pain and instead providing concrete, evidence-based therapeutic alternatives.

Each provider was responsible for initiating discussions around opioid weaning with their patients. We instituted a policy of 10%–15% decrease in morphine milligram equivalents (MME) per month in accordance with current guidelines.[5] This was required of all providers to maintain fairness and consistency for all patients. Patients were informed of the clinic's new policy and were given the option to either continue care at our clinic with the use of non-opioid therapies or to be referred to an alternative pain management clinic.

The full quality improvement study can be found here: https://bmjopenquality.bmj.com/content/11/3/e001852 [9]

Our clinic discontinued the inappropriate use of chronic opioids in over 380 patients over the course of one year. Not only have we been able to reduce the opioid burden in our population, but we have made an important cultural shift toward deprescribing in keeping with current best practices.[4]

It can be daunting for family practitioners to initiate conversations about opioid reassessment. Many of us are guilty of re-prescribing simply because we do not feel we have any alternative therapeutic options. In this article, we share some of the concrete alternatives we offered to our patients and offer strategies for other family doctors hoping to do the same. See Table 1 below.

Table 1. Strategies for Opioid Reassessment

1	Offer A Unified Approach
2	Offer Alternative Pain Management Clinics
3	Offer Non-Pharmacologic Therapies
4	Offer Alternative Pharmacologic Therapies
5	Utilize a Team Based Approach

1. Offer A Unified Approach

One of the factors we attribute to the success of our intervention was taking a *unified approach* to all patients receiving chronic opioid therapy. All providers were required to adhere to the policy of not prescribing opioids after a year's time. When discussing these changes with patients, providers were able to state "this is not *my decision* and has nothing to do with *you as an individual*. It is simply the clinic's new policy that we will not be dispensing opioids long term for chronic pain."

Many patients on chronic opioid therapy feel judged by their providers. This unified approach (a clinic policy instead of the decision of a single provider) helped eliminate that judgement and helped maintain the therapeutic relationship.

2. Offer Alternative Pain Management Clinics

Not all patients are amenable to discontinuing opioid therapy. We know that forced rapid opioid weaning is unethical and can even be dangerous.[10] Our intention was to ensure that, should patients decide to continue opioid therapy elsewhere, that we respect that decision and provide resources to do so. We provided contact information for other local pain management facilities and bridge prescriptions for patients, so they had time to establish care elsewhere. We made sure no patients were forced to quit "cold turkey".

At the beginning of our intervention, we had approximately 650 patients at our pain clinic. By our best estimates, approximately 380 of those patients remained after weaning off of opioids, This means about 42% of patients ultimately discontinued care at our clinic. It is hard to say if they continued to receive chronic opioid therapy elsewhere or perhaps just self-discontinued opioid therapy.

3. Offer Non-Pharmacological Therapies

Effective opioid reassessment means providing a robust set of evidence-based alternatives to opioid therapy. We made a number of non-pharmacological options available to patients. Many of our providers trained to offer cupping therapy, auricular acupuncture, trigger point injections, joint injections, dry needling, osteopathic manipulation, yoga and meditation, all of which have strong evidence for use in various chronic pain conditions.[11-14] In addition, several providers began a group visiting program. We now offer weekly yoga, meditation, and nutrition groups for patients. We bill these visits for other "modalities" just like any other office visit, but instead of providing the traditional pain management visit which might consist of just medication prescribing, we perform these procedures and modalities during the visit.

4. Offer Pharmacological Alternatives: Suboxone

In keeping with a harm reduction approach, we offered Suboxone as an alternative opioid therapy for patients.

There is good evidence for Suboxone for pain management in patients with and *even without* concurrent history of opioid use.[15,16] Suboxone is in many ways a safer option than full opioid agonists. It has a lower addiction potential and also has a "ceiling effect" – it does not continue to cause higher levels of sedation even at higher doses. This gives it a significantly lower risk of causing respiratory depression or overdose as compared to full opioid agonists.

All providers within the clinic were required to be waivered to provide Suboxone and CME time was provided to complete additional coursework in Suboxone prescribing for all attendings so that everyone was comfortable prescribing and counseling about this medication.

5. Utilize a Team-Based Approach

Adequately managing patients with chronic pain truly requires a team-based approach. At our health center, we are fortunate to

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have a community health worker program. There is strong evidence for the use of community health workers (CHWs), also called community navigators or health coaches, to improve patient care.[17] In April of 2021, we integrated three CHWs into the pain management clinic. Each of these health workers underwent training in health and wellness coaching through the American College of Lifestyle Medicine. All pain management patients were assigned to a community health worker and the CHW was often present during visits with the clinician. Patients began to see CHWs as part of their therapeutic team. The CHW was responsible for following up with patients after visits, providing 'check-in' phone calls, ensuring follow-up visits were scheduled and helping arrange transportation for patients.

For other clinics hoping to implement a similar change, support need not come from CHWs if they are not available. Nurses, medical assistants, resident physicians, or medical students can volunteer in this capacity. In addition, being able to refer patients to behavioral health resources – counselors, licensed social workers, or other therapist/behaviorists provides an additional level of support through the opioid reassessment process.

HOW DID SHARON DO?

Sharon was just one of several hundred patients who we helped to wean off chronic opioid therapy. She utilized almost all of the resources we provided her: she began to attend our yoga groups, a practice she had never tried before. Now, she practices fifteen minutes of yoga every day when she wakes up. In addition, she worked with us to decrease her opioids slowly, first discontinuing her fentanyl patch and then weaning down on her daily oxycodone. Once she was at a lower dose, she transitioned to Suboxone. Today, she takes a mere 2 mg of Suboxone and has been stable on this regimen. She also formed a close bond with her community health worker who she still reaches out to frequently. Her family has seen her revert to the sweet, gentle woman they always knew her to be.

Family physicians have the ability and arguably the moral obligation to re-assess chronic opioid use in their patients. The five strategies described in this article will hopefully give providers some more concrete ideas for how to do so in their own practices. Together, we can continue to change the culture of opioid use for chronic pain.

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Managing Acute Pain in Patients with Opioid Use Disorder

By Nisha Ghayalod, MD and Lovedhi Aggarwal, MD

Introduction

From 1999 to 2019, an estimated one million people died from overdoses of prescription or illicit opioids in the United States.[1] Opioid use disorder (OUD) is a chronic disease of the brain characterized by the persistent use of opioids despite harmful consequences caused by their use. The Diagnostic and Statistical Manual (DSM-5) describes OUD as a problematic pattern of opioid use leading to clinically significant impairment.[2,3] Acute pain management in patients with a history of OUD can be challenging due to increased pain sensitivity and the need for higher opioid doses to achieve pain relief. Patients with long term use of opioids typically develop tolerance while patients in recovery avoid the use of opioids in an effort to prevent relapse. Undertreatment is often perpetuated by some providers' fear of adverse effects, including respiratory and cognitive suppression, and by the misinterpretation of patient-reported pain as drug-seeking behavior.[4,5] There are numerous types of non-opioid medications that can be used to help manage pain such as NSAIDs, acetaminophen, and gabapentin. In populations that use MAT (medication assisted treatment) such as Suboxone and methadone, dosing and frequency can be changed so pain is better controlled. Our goal in this article is to present case vignettes and discuss different medications and treatment options to help patients suffering from opioid use disorder get relief from episodes of acute pain.

Opioid Use Disorder

Diagnosing opioid use disorder is based on the American Psychiatric Association Diagnostic and Statistical Manual (DSM-5) and includes a desire to obtain and take opioids despite social and professional consequences. Examples of opioids include heroin, morphine, codeine, fentanyl, and synthetic opioids such as oxycodone. Opioid use disorder consists of an overpowering desire to use opioids, increased opioid tolerance, and withdrawal syndrome when discontinued. Opioid use disorder also includes dependence and addiction, with addiction representing the most severe form of the disorder.[5] See Table 1 at right.

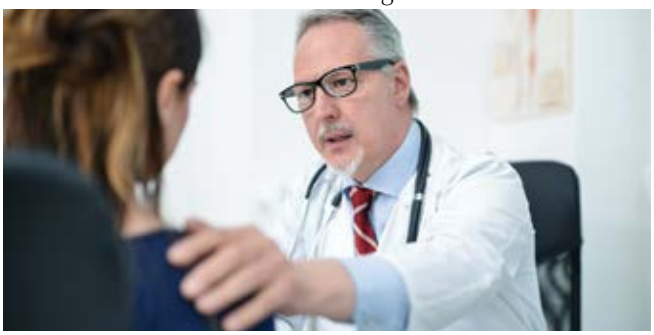

Table 1: SM Criteria for Opioid Use Disorder[23]

1) Opioids are often taken in larger amounts or over a longer period than was intended.
2) There is a persistent desire or unsuccessful efforts to cut down or control opioid use.
3) A great deal of time is spent in activities necessary to obtain the opioid, use the opioid, or recover from its effects.
4) Craving, or a strong desire or urge to use opioids.
5) Recurrent opioid use resulting in a failure to fulfill major role obligations at work, school, or home.
6) Continued opioid use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of opioids.
7) Important social, occupational, or recreational activities are given up or reduced because of opioid use.
8) Recurrent opioid use in situations in which it is physically hazardous.
9) Continued opioid use despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance.
10) Exhibits tolerance as defined by either of the following:
    a. A need for markedly increased amounts of opioids to achieve intoxication or desired effect.
    b. A markedly diminished effect with continued use of the same amount of an opioid.
11) Exhibits withdrawal as defined by either of the following:
    a. The characteristic opioid withdrawal syndrome.
    b. Opioids (or a closely related substance) are taken to relieve or avoid withdrawal symptoms.

Case Vignettes

Case 1:

A 28-year-old male with a past medical history of chronic pain, currently on 90mg of Oxycontin daily comes to the emergency room after sustaining a 10-foot fall while at work. He says he was painting a house when he slipped off his ladder. On physical exam, patient is in extreme distress and his right leg is externally rotated and shortened. X-ray of the hip shows a right hip fracture. The patient is extremely uncomfortable and requests medication to help treat his pain.

Managing acute pain in patients who chronically take opioids can be quite challenging due to increased pain sensitivity and the need to use higher doses of opioids to achieve adequate pain relief. While this patient is on a high dose of Oxycontin, it is important not to decrease his medication while he is hospitalized for this acute episode. This could precipitate withdrawal and worsen the patient's pain, making it even more difficult to control.

Opioid tolerance is defined as a decreased effectiveness of opioids over time, necessitating higher doses to achieve the same effect.[6] A patient is considered opioid tolerant if for at least 1 week he or she has been

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receiving oral morphine 60 mg/day; transdermal fentanyl 25 mcg/hour; oral oxycodone 30 mg/day; oral hydromorphone 8 mg/day; oral oxymorphone 25 mg/day; or an equianalgesic dose of any other opioid.[28]

Withdrawal is defined as physical and mental effects that result when you stop doing or taking something that has become a habit.[7] Symptoms of opioid withdrawal can include rhinorrhea, piloerection, myalgia, diarrhea, nausea, vomiting, photophobia, insomnia, autonomic hyperactivity, yawning, and pupillary dilation.[8] For patients with active OUD who are currently hospitalized, a way to measure withdrawal is by using a scoring system called the Clinical Opioid Withdrawal Scale (COWS). Refer to Table 2. Using the COWS score can help determine the severity of the patient's withdrawal and gauge if the patient is being adequately treated while suffering from acute pain. If the patient's opioid is unavailable at the hospital they present to, it is important to correctly convert to another opioid to prevent withdrawal and better manage the patient's pain. See Table 3.

Table 2: Clinical Opiate Withdrawal Scale (COWS)[24]

Sign or Symptom	Score
Heart Rate	< 80 = 0 81-100 = 1 101-120 = 2 >120 = 4
Sweating	None= 0 Subjective report= 1 Flushed or moist face = 2 Beads of sweat on face = 3 Sweat streaming of face= 4
Restlessness	Able to sit still = 0 Subjective reports of restlessness = 1 Frequent shifting or extraneous movements= 3 Unable to sit still for longer than a few seconds = 5
Pupil size	Normal or small = 0 Pupils possibly larger than appropriate = 1 Pupils moderately dilated = 2 Pupils so dilated that only rim or iris visible = 5
Bone or joint aches	None = 0 Mild diffuse discomfort= 1 Subjective reports = 2 Patient actively rubbing joints or muscles = 4
Rhinorrhea or lacrimation	None = 0 Congestion or moist eyes = 1 Rhinorrhea or lacrimation = 2 Nose constantly running or tears streaming= 4
Yawning	None = 0 Yawning 1-2 times = 1 Yawning> 3 times= 2 Yawning several times per minute = 4
Anxiety or irritability	None= 0 Subjective report= 1 Patient appears anxious = 2 So irritable that cannot participate in assessment= 4
Gooseflesh	Smooth skin = 0 Piloerection can be felt = 3 Prominent piloerection = 5

Table 3: Opioid Conversion Chart[25]

Analgesic	Path	Oral dose (mg)	OME (mg)	Conversion factor
Morphine	Oral Parenteral	15 5	15 15	1 3
Codeine	Oral Parenteral	100 60	15 15	015 0.25
Dihydrocodeine	Oral Parenteral	100 60	15 15	015 0.25
Hydrocodone	Oral	10	15	1.5
Hydromorphone	Oral Parenteral	4 1.5	15 15	3.75 10
Methadone·	Oral Parenteral	5 5	15 15	3 3
Oxycodone	Oral	10	15	1.5
Propoxyphene	Oral	100	15	0.15
Tapentadol	Oral	60	15	0.25
Tramadol	Oral	67.5	15	0.222222
Fentanyl	Intravenous Transdermal	0.1 0.6	15 90	150 25
Pethidine	Oral Parenteral	150 50	15 15	0.1 0.3
Dextropropoxyphene	Oral	100	15	0.15

OME: Oral morphine equivalent

Chronic opioid use implies that, during acute pain episodes, the dosage of medication needs to be higher than what individuals typically take. The general approach to treating acute pain in patients with opioid use disorder (OUD) involves maintaining the baseline opioid, optimizing non-opioid therapy, and adding supplemental opioids only if necessary. An opioid rotation, which involves switching from one opioid to another when increasing doses of the original opioid prove insufficient for pain management, can serve as another effective method for addressing acute pain episodes.[29] In an inpatient setting, patient-controlled analgesia (PCA) offers a convenient and effective delivery method, minimizing the risk of undertreatment and allowing for self-titration, and opioid-tolerant patients may require a higher initial opioid bolus.[29] Dosages should be titrated to the specific effect for each patient, with careful observation for signs of opioid toxicity.[9] Symptoms of opiate overdose include unresponsiveness, respiratory depression, and cold or clammy skin.[10] Naloxone can be employed in patients experiencing opioid overdose, but it is important to be aware that it may also precipitate withdrawal.

The patient in our case 1 vignette was placed on a hydromorphone PCA pump. The initial demand dose was set up 0.2 mg with lockout interval at 10 minutes, and maximum demands per hour at 6. He got a maximum 4-hour dose of 6 mg. This adequately controlled his pain and two days post-surgery he was transitioned to his usual outpatient dosing with excellent results.

Case 2:

A 32-year-old male with a history of OUD currently on methadone 160 mg daily comes to the clinic as a transition of care appointment due to being assaulted on his way to work. He was mugged and severely beaten resulting in a left humerus fracture, right lung contusion, and a concussion. He says his treatment in the hospital was poor and due to his history of OUD, his pain was mismanaged. He currently endorses 10/10 pain which he tearfully admits has been pushing him to want to start using heroin again. Acetaminophen and ibuprofen are only slightly taking the edge off his pain.

Unfortunately, the case described is more common than we would like to believe. Often, patients with a history of OUD are labeled as drug-seeking when they come in with acute complaints of pain. It is also assumed that when patients are on MAT, their pain should be well controlled as they are often on higher doses of methadone or buprenorphine. It is important to remember that these patients are not taking medications for analgesic effect but instead using it to help with cravings.[11] There is also a common concern among practitioners that if patients currently on MAT receive opioids to help manage acute episodes of pain, they are going to relapse. There are studies that show that patients who were not provided opioids in inpatient settings to relieve pain are more likely to relapse as they are not receiving adequate analgesia.[12] There are three different types of MAT options for patients who have OUD: naltrexone, methadone, and buprenorphine. Refer to Table 4 for a breakdown on each medication.

Methadone is a synthetic opioid and full agonist at the μ-opioid receptor and induces other opioid receptors. It has a half-life of 8-60 hours allowing the withdrawal and symptoms to be less severe. Methadone also acts on NMDA receptors which prevents the binding of narcotics and prevents the euphoria that is associated with short acting opioids.[15] This binding to an NMDA receptor helps treat neuropathic pain as well.[15] The normal adult dosage of methadone for acute pain episodes is an additional 2.5 to 10 mg every 3 to 4 hours as needed for severe pain.[15]

Buprenorphine is a partial agonist at the mu receptor, meaning that it only partially activates opiate receptors. It is also a weak kappa receptor antagonist and delta receptor agonist.[13] At lower doses, it has a strong analgesic effect and less side effects compared to methadone. Naltrexone works as a mu receptor antagonist and has weaker antagonist effects on kappa and delta-opioid receptors. This stops the euphoric effects of opioids and prevents overdoses when they are used.[14] Buprenorphine-naloxone, also known as Suboxone, is commonly used as a combination therapy. For patients who use Suboxone, a 3 to 4 times a day dosing can be used to help control acute pain for a max of 32mg/day.[16] Sublingual naloxone does not interfere with pain treatment as it has limited bioavailability unless injected, so it will not prevent patients from being adequately treated.[14]

For patients who are not responsive to the above methods in controlling acute pain, starting short acting full agonist opioids can be done. This should be an honest conversation between the practitioner and patient. If the patient agrees with the plan, certain

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Table 4: FDA-approved MATs for Treating OUD[26]

Drug	Pharmacologic Category	Treatment Initiation	Available Formulations	Further Considerations
Buprenorphine	Opioid receptor partial agonist	May begin immediately	Buccal film Sublingual tablet SC implant Transdermal patch IM/IV/SC injection	Milder withdrawal symptoms Reduces cravings and risk of overdose with relapse Easily obtained at pharmacies
Methadone	Opioid receptor full agonist	May begin immediately	Liquid Dispersible tablet IV/IM/SC injection	Only dispensed by a SAMHSA-certified treatment program Extended half-life (8-59 hours) may lead to delayed and longer-lasting respiratory depressant effects Associated with QT prolongation
Naltrexone	Opioid receptor antagonist	Only once detoxfication is complete	Tablet IM injection	Overdose and death more likely with relapse because of decreased tolerance

MAT: medication-assisted therapy; OUD: opiod use disorder; SAMHSA: Substance Abuse and Mental Health Services Administration; QT: time from th start of the Q wave to the end of the T wave. Source: Reference 6

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steps should be taken. If the patient is on Suboxone, you may continue to use the medication as well as start short acting opioids to desired analgesia.[11] It is important to note that due to the mechanism of action, you do not want to abruptly stop Suboxone as it may precipitate respiratory depression and over-sedation. You may also discontinue buprenorphine therapy and start the patient on full opioid agonist medication. When the pain episode has stopped, you may repeat the induction of buprenorphine.[11] An important step in this process is to make sure the patient is in early opioid withdrawal prior to induction of buprenorphine, as starting too early may precipitate withdrawal.[11]

After increasing the dose of methadone for our patient in case 2 to an extra 10 mg every 4 hours, his pain was controlled. He continued this dosing for another two weeks. This prevented relapse and he was eventually able to be titrated back to his baseline dose of 160 mg of methadone daily.

Case 3:

A 45-year-old female with a past medical history of OUD post rehabilitation 1 year ago and currently not on MAT therapy, comes in after a car accident with severe chest pain. The patient has reproducible pain in her left anterior 9-11 ribs and has worsened pain with deep inspiration. EKG is only significant for sinus tachycardia and x-ray confirms that she has left anterior rib fractures. The patient has a history of IV morphine use and is afraid to have any narcotics for her pain. She is adamant about using non-narcotic medication as she is fearful of relapsing and is asking what options she has available to help treat her pain.

Managing acute pain in patients with OUD not on MAT therapy can be a formidable task for a clinician. This subset is typically against using medication that may risk their continued sobriety and will refuse narcotics despite being in excruciating pain. There are multiple non-narcotic options available for the management of acute pain that can be used to help patients like the one in this case. In mild acute pain, ibuprofen, acetaminophen, oral corticosteroids, and topical agents are able to be used. In a study of post-operative pain from a knee replacement, intravenous acetaminophen (IA) has shown less narcotic usage on postoperative day 0 and during the entire hospital stay. Pain scores were statistically and clinically significantly decreased in the immediate postoperative period (the first 8 hours) for the IA group. Both groups progressed equally. The length of stay and percent discharge home were slightly improved in the IA group but not significant.[17] Oral corticosteroids and NSAIDS can be used to help reduce inflammation. NSAIDs works as COX-1 and COX-2 inhibitors disrupting the production of prostaglandin which works on pain and inflammation. Topical agents like diclofenac gel and lidocaine patches are also good alternatives for patients with localized pain. All these

Table 5: Alternate Medications to Opioids to Manage Acute Pain [27]

Drug Class	Drugs	Clinical Considerations
NSAIDs	Ibuprofen, naproxen, diclofenac, meloxicam, sulindac	Antiplatelet effects. GI bleeding risk; consider PPI use. CV risk; renal and hepatic considerations. Interactions with lithium. Available in topical, oral, and parenteral formulations.
Acetaminophen		Maximum dose considerations. Analgesic ceiling effects. Hepatic considerations. Available in oral, and parenteral formulations.
Opioids	Morphine, hydromorphone, oxycodone, hydrocodone, fentanyl, methadone	May be given as long-acting or short-acting formulation. Side effects and withdrawal symptoms. Assess renal and hepatic function. Available in topical, oral, and parenteral formulations.
Mixed-acting analgesics	Tramadol, tapentadol	Low affinity for opioid receptors. Analgesic ceiling effect. Risk of lowering seizure threshold. May be considered adjuvant for neuropathic pain.
NMDA receptor antagonists	Ketamine, methadone	May inhibit opioid tolerance. May be considered as adjuvant in opioid-tolerant patients. Ketamine shown to enhance morphine analgesic effects. Methadone administered as adjuvant to prevent opioid withdrawal.
Anticonvulsants	Carbamazepine, gabapentin, pregabalin	Slow onset of pain relief. Gabapentin and pregabalin useful for neuropathic symptoms. Utility in opioid-tolerant patients not well established.
Antidepressants	Venlafaxine, duloxetine, milnacipran, nortriptyline, amitriptyline	Greater evidence with neuropathic pain. Risk of serotonin syndrome with SNRIs. Risk of unpleasant side effects. Renal and hepatic considerations.
Alpha$_2$ agonists	Dexmedetomidine, clonidine	Helps suppress opioid-withdrawal symptoms. Considered opioid-sparing and antihyperalgesic. Potentiates systemic analgesics.
Corticosteroids	Dexamethasone	Possible analgesic adjuvant in opioid tolerance. Place in therapy unclear.

CV: cardiovascular; GI: gastrointestinal; NMDA: N-methyl-D-aspartate; NSAID: nonsteroidal anti-inflammatory drug; PPI: Proton pump inhibitor; SNRI: serotonin-norepinephrine reuptake inhibitor; Source: References 4,5,7,8,28-30, 32

agents have minimal addictive qualities and serve as choices that may be preferred for OUD patients who prefer non-narcotic pain management.

Neuropathic pain often occurs when there is an injury to a patient's nervous system. In an acute setting, neuropathic pain can be secondary to spinal trauma, stroke, tumor invasion, acute compression fractures, and shingles. Treatment of neuropathic pain can be with a serotonin and non-selective reuptake inhibitor (SNRI), tricyclic antidepressant (TCA), gabapentin, or pre-gabalin.[18]

There are nonpharmaceutical options available for patients suffering from acute pain that you can use in conjunction to the previously mentioned medications. Patients suffering from back pain have been found to have success in controlling pain with the use of physical therapy using active isotonic and isometric strengthening exercises.[19] There have been studies that show that acupuncture can provide greater immediate pain relief after a single treatment compared to analgesics with an additional benefit of reducing anxiety.[20] There are low adverse effects associated with acupuncture and it is generally well-tolerated.[20] If the pain is not being well controlled with oral medications, another option is epidurals. Patients who have rib fractures like the patient in the above case have been successful in adequately treating pain through the use of epidurals,[21] which can help block nociceptive input from intercostal nerves, thus preventing transmission of central pain signals.[22] There is a higher chance of systemic absorption of medication so risks versus benefit should be discussed with the patient.[22] Options to treat acute pain are summarized in Table 5 on page 20.

The patient in case 3 was started on intravenous acetaminophen 1g every 8 hours and ketorolac 15 mg every 6 hours as needed for pain. This decreased the patient's pain significantly. A lidocaine patch was applied daily with increased comfort allowing her to use her incentive spirometer regularly. This insured that she was discharged from the hospital with a lesser probability of developing pneumonia.

Conclusion

Managing acute pain in the setting of OUD can be challenging. Making sure adequate analgesia is provided to patients who suffer from acute pain after trauma, especially those who are on high doses of opioids, is imperative. Patients receiving MAT with methadone or buprenorphine should continue to receive maintenance therapy and may require additional treatment via a multimodal approach, including short-acting opioids, for acute pain management. Using non-narcotic medications and non-pharmaceutical therapies can be quite helpful in treating acute pain. These medications and modalities should be tried before escalating therapy to opioids.

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IN THE SPOTLIGHT

From The Membership Commission: Family Physician Membership Numbers and Implications for Future Growth

Dear Colleagues,

For several years the Membership Commission has noted concerning trends in membership numbers. While active membership has been stable, it has not been increasing. We identify several reasons for this:

1) Many practicing family physicians are choosing not to join.

2) There has been a significant decline in medical student membership since 2020.

3) Family physicians tend to dropout in their first few years after residency.

The bottom line is that these are concerning trends, and the absence of membership growth does not inspire confidence in the future of the Academy.

Membership Comparison

Membership Type	Date						
	1/1/2017	1/1/2018	1/1/2019	1/1/2020	1/1/2021	1/1/2022	1/1/2023
Active	2760	2770	2763	2830	2861	2826	2867
Supporting	19	19	19	18	18	16	13
Resident	728	726	818	852	833	854	849
Student	2388	2372	2426	2552	2155	1715	1623
Life	273	283	295	305	316	344	353
Inactive	30	35	36	43	35	32	31
Honorary	1	1	1	1	1	1	1
Transitional (2019)			87	26	29	9	2
Total Membership	6199	6206	6445	6627	6245	5800	5739
% of Change 2017-2023	103.87%	100.11%	103.85%	102.82%	94.24%	92.87%	98.95%

The commission found that global numbers such as in the table above do not adequately suggest strategic actions. In order to develop strategic measures for our Academy to consider, we have undertaken a detailed analysis of the various subgroups of family physicians, in part defined by their practice settings and types of practice.

Addressing these two considerations- practice setting and type of practice, is fundamental to the Academy's relevance. Understanding the issues of importance to the styles and settings of today's family physicians is critical in creating value for members. We fear that a lack of perceived value is limiting membership.

We have been discussing several characteristics of today's physicians, have drawn from the literature, and believe that the following breakdown of practice styles and motivating factors are helpful within self-employed and network employed groups, as well as urban and rural settings. The motivating factors* include those operative in the decision to become a family doctor. We can use these factors to tailor Academy programs and communications, and increase our relevancy.

1) **True Believers** - those whose dedication to family medicine as a specialty remains unshaken.
2) **Altruists** -those who are prepared to give of themselves in dedication to patient and community (sometimes as one of their highest priorities).
3) **Accidental Family Physicians** - those who became family physicians for more intellectual or pragmatic reasons.
4) **Hedge Bettors** - those who are family doctors because it offers job security, a good income, and flexibility.
5) **Entrepreneurial**
6) **Employed**

Each particular style and type of practice has its own priorities, concerns, and needs. While there is some overlap, their diversity mandates that the Academy acknowledge them and address them directly. By identifying and addressing them, the Academy can increase its relevancy.

We suggest that we can accomplish this in a variety of ways. Our educational programs can be crafted to directly address them. Our journal, Family Doctor, can use these subgroups in its thinking about which articles and editorials to invite and publish. Our Advocacy and Leadership Commissions can take every opportunity to achieve balance in taking these subgroups into consideration in their commissions' work. Our weekly newsletter can highlight activities which address one or more of these subgroup's concerns.

By directly addressing the diverse concerns of physicians, the Membership Commission believes that the Academy's relevancy to prospective and current members will be highlighted. Affirming and supporting the diverse paths that we family physicians choose will hopefully lead to new membership and increased retention. The Membership Commission will work to help facilitate this focus.

Bill Klepack, Chair
Membership Commission

*We acknowledge the work of Prof. Tim Hoff in this area

Betel-Quid:
Novel Insights into an Ancient Addiction

By Amar Takrani, DO and Allana Krolikowski, MD, FAAFP

Introduction

Managing addiction is increasingly becoming a primary care issue, as growing numbers of patients each year struggle with substance use or related disorders. Almost two million individuals across New York state have a substance abuse problem.[1] Immigrants and refugees in particular face a number of unique health challenges not shared by their domestic counterparts, including addiction to traditionally understudied or "orphan" substances. One such substance is betel-quid (BQ), which comprises areca nut (AN) from the *Areca catechu* palm tree and, commonly, smokeless tobacco (SLT).[2] Its expansive consumption worldwide is reflected in South & Southeast Asian communities across the state.

BQ is consumed by over 600 million people worldwide, predominantly in South & Southeast Asia, the Caribbean, Micronesia, and Island Melanesia. With or without the addition of SLT, the areca nut component is chewed together with slaked lime and leaves from the betel plant, and the internal areca seed is then spit out. Its ancient and widespread use can be attributed to the substance's euphoric, psychoactive, and aphrodisiac effects, as well as its ancient ceremonial applications. In traditional Ayurvedic medicine practices, BQ is postulated as a remedy for halitosis, indigestion, and as an appetite stimulant. It is also used culturally as a shared activity during times of leisure, with artistically designed instruments, boxes, and bowls augmenting the consumption experience. In Hinduism, BQ is an important part of deity construction and worship, and in Southeast Asian cultures, it is a symbol of marriage.[3,4]

Several adverse health effects have been associated with BQ consumption, though the physiological mechanisms underlying dependency to the substance are not well understood. The WHO classifies BQ addiction as a "neglected global public health emergency." This article will review plausible mechanisms of addiction, associated disease sequelae, and promising therapeutic strategies for family physicians managing this dependency.

Proposed (and Limited) Mechanisms of BQ Dependency

A broad database of research exists about the physiologic mechanisms leading to tobacco addiction, which has allowed for successful pharmacologic interventions based in (mostly) nicotine replacement. However, studies show that individuals with BQ dependency have a high rate of relapse despite targeted SLT therapy, likely due to the highly addictive properties of areca nut alone.[5]

Areca nut

"Paan", betel-quid

Only recently has research started to explore the underlying mechanisms of dependency to areca nut. Functional MRI results demonstrate that neurological mechanisms linking the brain's reward, cognitive, and impulsive systems are dominant in BQ users.[6] The primary active ingredient in areca nut is arecoline, a partial agonist of muscarinic acetylcholine receptors, which leads to parasympathomimetic effects. These psychoactive effects are comparable to those of nicotine, and include euphoria, hyperthermia, diaphoresis, salivation, palpitations, and heightened alertness. It has vasodilatory as well as central nervous system and intestinal peristaltic stimulant effects. It is the only muscarinic agonist known to be linked to drug-seeking behavior, a consequence possibly attributable to its nicotinic-like activity. Interestingly, although muscarinic activity itself may not be linked to dependency, the copious production of saliva associated with areca nut use may serve as a consistent cue to facilitate a conditioned response of further consumption. Areca nut contains high concentrations of GABA and glutamate, and has monoamine oxidase-A inhibitor properties, which can increase brain dopamine and serotonin levels. Recent data also indicate the presence of additional dopamine and serotonin transporter blocking activity, common findings in various substance use dependencies.[6,7,8]

Consequences of Long-Term Consumption

BQ consumption has been linked to multiple adverse health effects, with areca nut alone harboring significant carcinogenic properties. It is classified as a group I carcinogen, with or without tobacco, by the World Health Organization. Most commonly, chronic consumption can lead to oropharyngeal and esophageal squamous cell carcinomas. Additional cancers of the liver, pancreas, larynx, and lungs are also common among BQ chewers. A majority of BQ chewers exhibit premalignant oral lesions, including leukoplakia, erythroplakia, or oral submucous fibrosis. They also experience significant dental pathology, including increased risk of periodontal infections.[9] A clear dose-dependent relationship has been established between both frequency and duration of chewing BQ (in the setting of *no* added tobacco) and the development of these oral premalignant lesions. It should also be noted that the slaked lime component often included in BQ increases the pH of the oral cavity significantly, causing inflammation, and producing reactive oxygen compounds which can further promote carcinogenesis.[10]

Areca nut, primarily the arecoline component, has been linked to a diverse set of pathologies affecting almost all major organ systems. The compound has the ability to interfere with adipose cell metabolism and can increase insulin resistance, resulting in metabolic syndrome disorders. It can also cause bronchoconstriction and can affect asthma control and severity of attacks. Apart from placental damage, which is associated with higher incidences of preterm birth and low birth weight, newborns are also at risk for neonatal abstinence syndrome. Additional disease sequelae include cardiac arrhythmias, hepatotoxicity and cirrhosis, type II diabetes,

prostate hyperplasia, hypothyroidism, chronic kidney disease, and infertility in males and females. Arecoline also suppresses T-cell activity and cytokine release, impairing immunological responses.[2] Paradoxically, controversial findings reveal a therapeutic benefit of chewing BQ for the psychotic symptoms of schizophrenia.[11]

Behavioral Therapy and Barriers to Cessation

Behavioral interventions have comprised the majority of the limited research conducted into BQ cessation. Both individual and group counseling have been evaluated, with some demonstrated success. Significantly, motivational interviewing has been shown to help facilitate cessation plans. A betel nut intervention trial (BENIT) is currently being conducted in Guam and Saipan, with preliminary results suggesting various cultural, transportation, language, and time barriers impacting cessation success.[12] Cessation success is still in the process of being evaluated, with saliva samples having been collected to verify cessation self-reports. Another study noted that many participants in behavioral cessation programs feel pressure to chew BQ when among close relatives and friends, suggesting a fear of social consequences as a possible barrier to cessation. Studies in Cambodia and among Burmese refugees also reveal a lack of awareness of the harmful effects of areca nut consumption. A Pakistani study among adolescents at schools in Karachi showed promise with CBT techniques.[13] Increased knowledge of the deleterious effects of BQ consumption is cited commonly across studies by participants who quit successfully. Product bans and mass media campaigns have demonstrated a promising impact on BQ cessation. BQ use has become ingrained within various cultural and religious practices, and efforts to facilitate cessation should remain sensitive to relevant social contexts.

Pharmacologic Therapy

At present, there are no FDA-approved pharmacologic therapies available to aid in areca nut cessation. A recent study conducted in Taiwan noted that the antidepressants escitalopram and moclobemide (an MAOI) reduce BQ intake (cessation proportions were ~30% in the treatment group vs. 5% in the placebo group).[14] Eight weeks was the minimal recommended treatment duration at a fixed dose of these therapies. Other studies suggest phenelzine and St. John's Wort as acceptable for clinical use. Another posited therapy includes varenicline, given the similarities between arecoline and nicotine with respect to nicotinic-acetylcholine receptor binding. Bupropion may also have therapeutic effect via the stimulation of higher dopamine levels, a mechanism previously demonstrated to induce SLT cessation. Additional interventions being evaluated include naltrexone and nicotine-replacement therapies.[5,12]

Conclusion

Betel-quid dependency presents a significant and unique health challenge to family physicians. Its widespread consumption requires a culturally-conscious approach to patient education and cessation strategies. Primary care physicians should consider BQ consumption as a risk factor for various diverse pathologies, and in particular, oral premalignant and malignant lesions. From a behavioral standpoint, practitioners should focus on education that emphasizes the consequences of persistent consumption.

Additional research needs to be conducted into the pharmacologic therapies that may aid in cessation, with psychiatric medications being the primary focus. Preliminary efforts may include SSRIs, MAOIs, varenicline, and bupropion, especially as BQ use may be present alongside other substance co-dependencies. It should be stated that although there are limited productive interventions available, increasing awareness of this challenging dependency will continue to guide diagnostic and therapeutic goals.

As the US continues to see increased numbers of immigrants and refugees, it is imperative that family physicians begin to consider risk factors and pathologies that have been traditionally under-represented in the Western world.

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Opioid Abuse in the Elderly

By Havisha Gadepalli, MD, and Lovedhi Aggarwal, MD

Introduction

Opioid misuse has gained infamy as a nationwide epidemic. For adults aged 65 and older, opioid-related hospitalizations increased by 34%, and emergency department visits increased by 74% between 2010 and 2015.[1] Some of this increase is driven by opioid misuse, to which both older and younger adults are vulnerable. However, it is also influenced by the unique challenges of pain management in an aging population. In New York State, Prescription Monitoring Program (PMP) data shows that 14.5% of the state's population is using opioids.[2] The management of chronic pain in older adults is complicated by age-related cognitive decline, changes in pharmacodynamics, and the presence of multiple comorbid conditions. These factors result in under- or over-treated pain, increasing the risk of therapeutic failure and adverse drug events.[3]

Pain treatments, particularly pharmacologic pain management with opioids, are often associated with health risks.[4,5] For example, patients using opioids are more likely to experience constipation, cognitive impairment, falls, and respiratory depression. This is especially true among older patients, who are more likely to use multiple prescription medications, leading to more drug-drug interactions with opioids.[4-8]

In this review, we discuss the epidemiology of opioid use in the elderly and consider possible treatments through an extensive literature review.

Epidemiology

To understand the significance of problematic opioid use in the geriatric population, it is essential to comprehend its epidemiology. The incidence of opioid use is relatively low in those over 65 compared to younger age groups. However, trends of opioid use are increasing in all age groups. Over the past decade, research suggests that several opioid-related adverse outcomes have worsened among older adults, including prescription opioid misuse, opioid-related hospital stays, and emergency department (ED) visits.[9-11] While drug overdoses account for a small proportion (0.2%) of total deaths among adults aged 65 and over (5,209 of 2,509,396 deaths in 2020), drug overdose death rates for this age group have increased in the past two decades.[12,13] Medicare beneficiaries (aged and disabled) have among the highest and fastest-growing rates of diagnosed opioid use disorder, with more than 6 of every 1,000 beneficiaries affected.[33]

Adverse Effects

As opioids become more commonplace, it is crucial to be cognizant of potential negative outcomes. When older adults use opioids for pain, they face a special set of challenges due to their generally reduced metabolism, excretion, physical reserve, and more frequent use of drugs that can interact negatively with opioids.[14] As people age, medications affect them more strongly, and these substances are slower to leave their systems. Changes in renal, hepatic, and gastrointestinal function occur. In the renal system, renal clearance declines by 1% per year after the age of 50.[15] In the hepatic system, the metabolic activity of the liver is reduced by a decrease in size and reduced blood flow. There is also an associated decrease in first-pass metabolism, increasing the bioavailability of certain orally administered medications like morphine.[16] In the GI tract, aging is associated with decreased gastric and intestinal motility, as well as reduced absorption.[17] The most common side effects of opioids include nausea, urinary retention, constipation, hyperalgesia, respiratory depression, sedation, cognitive impairment, pruritus, and falls.

Nausea

The most common side effect of opioids in the elderly is nausea.[18] The mechanism of action of opioid-induced nausea is through direct stimulation of the chemoreceptor trigger zone (CTZ), which detects noxious chemicals in the blood and sends signals to the vomiting center (VC) in the medulla, initiating the vomiting reflex. Other mechanisms include direct stimulation of the vestibular apparatus and anticholinergic effects on the gastrointestinal system.[19]

Urinary Retention

Opioids can cause urinary retention by binding to mu and delta receptors, inhibiting parasympathetic nerves that innervate the bladder and decreasing the sensation of bladder distension.

Constipation

Opioid-induced constipation (OIC) accounts for over 40% to 60% in patients without cancer receiving opioids.[20] Opioid drugs inhibit gastric emptying and peristalsis in the GI tract, resulting in delayed absorption of medications and increased absorption of fluid. The lack of fluid in the intestine leads to hardening of stool and constipation. Most patients with OIC complain of straining and incomplete emptying of the rectum during defecation.[21]

Hyperalgesia

Opioid-induced hyperalgesia (OIH) is defined as a state of nociceptive sensitization caused by exposure to opioids. The condition is characterized by a paradoxical response, whereby a patient receiving opioids for the treatment of pain could become more sensitive to certain painful stimuli. The type of pain experienced might be the same as the underlying pain or different from the original underlying pain. OIH appears to be a distinct, definable, and characteristic phenomenon that could explain the loss of opioid efficacy in some patients.[22]

Respiratory Depression

Opioid-induced respiratory depression (OIRD), the primary cause of opioid-induced death, is the neural depression of respiratory drive, which, together with a decreased level of consciousness and obstructive sleep apnea, causes ventilatory insufficiency. Variability of responses to opioids and individual differences in physiological and neurological states (e.g., anesthesia, sleep-disordered breathing, concurrent drug administration) add to the risk.[23]

Cognitive Impairment

Cognitive impairment is seen in 30–80% of patients with substance use disorders.[24] Research indicates that individuals with OUD have structural and functional alterations in the brain compared to the general population. Excessive and prolonged opioid use affects various brain structures, including the prefrontal cortex, basal ganglia, amygdala, and brain stem. Impairments are also found after short-term abstinence in executive functioning, such as verbal fluency, inhibition, and decision-making.

Pruritis

Pruritus develops in about 2%–10% of patients with opioid use. This generally resolves within one week.[25]

Falls

Another life-threatening complication of opioid use is falls and fractures. Using opioids has been associated with an increased risk of falls and hip fractures in geriatric patients. Having a fall with a fracture in geriatric patients is associated with a 14-58% mortality rate within the year.[32] These higher rates of adverse effects are usually seen when opioids are first initiated, and not with long-term use. Data also suggests that if monitored closely with physician supervision, some of these poor outcomes can be avoided.

Treatment

Screening, brief intervention, and referral for treatment is an approach and framework designed to systematize and standardize the practice of screening for and addressing substance misuse.[26] While research has primarily identified its effectiveness in hazardous levels of alcohol use, it also has applications in identifying OUD and the risk of OUD. Suspect OUD in older adults with characteristic symptoms and/or signs, especially if they have risk factors.[27]

The management of individuals with problematic opioid use meeting the criteria for OUD involves detoxification and/or maintenance treatment, most commonly with methadone, naltrexone or buprenorphine. Few studies have been done regarding the treatment of opioids in geriatric patients. Most of the literature consists of research conducted on young patients. The first step in the management of problematic opioid use disorder is to detoxify the patient, usually done under the close supervision of a physician. Symptoms of withdrawal are not lethal, but they are unpleasant and can be extremely alarming for patients. These symptoms include mydriasis, tachycardia, yawning, insomnia, hypertension, piloerection, restlessness, and diaphoresis. These are listed in Table 1.

Table 1: Opioid Withdrawal Symptoms

Nausea Vomiting	Yawning
Mydriasis	Diarrhea
Insomnia	Diaphoresis
Restlessness	Rhinorrhea
Anxiety	Chills
Piloerection	Lacrimation
Heart Pounding	Abdominal Cramping

Withdrawal symptoms can be further exacerbated in elderly patients because of their pre-existing comorbidities.[28] The duration of withdrawal depends on the specific drug that was being consumed. For shorter-acting opioids (such as heroin and oxycodone), symptoms may start around 12 hours after the last ingestion of the opioid, typically peaking within the first day or two, and then beginning to dissipate within three to five days. With long-acting opioids (such as methadone), withdrawal symptoms can start about 30 hours after the last exposure and can last up to ten days.[29,30] The symptoms of withdrawal can be managed using both non-opioid pharmaceutical agents like alpha-2 adrenergic blockers (clonidine, lofexidine, guanfacine, and tizanidine) or opioid pharmaceuticals like methadone and buprenorphine.

After the patient has been detoxed, the next step is to begin medication to prevent the relapse of problematic opioid use. Methadone, buprenorphine, and extended-release naltrexone are the three medications currently approved by the U.S. Food and Drug Administration (FDA) for treating opioid use disorder (OUD) .

Methadone is a long-lasting opioid agonist[31] Methadone fully activates the mu-opioid receptors in the brain through the same mechanism of action as prescription or illicit opioids. In persons with OUD, methadone occupies those mu-opioid receptors and has the effect of lessening the painful "lows" of opioid withdrawal, and, at therapeutic doses, it attenuates the euphoric "highs" of shorter-acting opioids such as heroin, codeine, and oxycodone. Methadone can be started at any time during OUD treatment. However, it does require days to weeks to achieve a therapeutic dose, which needs to be individualized to decrease cravings and prevent returning to other opioid use.

Buprenorphine is a partial opioid agonist medication that partially blocks the opioid receptors in the brain. The medication reduces opioid withdrawal symptoms and opioid cravings and protects against opioid overdose if someone taking the medication

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returns to opioid use. As buprenorphine is a partial agonist, there is a ceiling effect where once a sufficient dose of medication is taken, additional doses of buprenorphine generally do not produce additional positive or negative effects. This ceiling effect means that buprenorphine is safer than other opioids regarding its risk of respiratory depression (slowed breathing) that may occur with other opioid medications.

Naltrexone, an opioid antagonist, blocks the effects of opioids if they are used, thus preventing the user from experiencing opioid intoxication or physiologic dependence with subsequent use, and thus reinforces abstinence. Long-acting injectable naltrexone given intramuscularly every 4 weeks is preferred over oral naltrexone. The medication is started 7 to 10 days after the last opioid use.

These treatments are summarized in Table 2

Table 2: FDA approved Medications for OUD Adapted from American Society of Addiction Medicine

Medication	Mechanism of action	Route	Dosing Frequency	Considerations
Methadone	Full Agonist	Orally	Daily	• Initiate at a lower dose of 10-20 mg in older adults • Maintenance doses are generally in the range of 60–120 mg PO daily • QT prolongation • Only dispensed by certified treatment programs
Buprenorphine	Partial Agonist	• Buccal film • Sublingual film • Subcutaneous implant • Transdermal patch	Daily	• Use sublingual form for patients above 65 • Milder withdrawal symptoms • Reduces cravings
Naltrexone	Antagonist	• Intramuscular injection	IM injection monthly	• Requires patient to be off opioids for 10 days before start • Patient retention is high

Conclusion

The opioid epidemic has had far-reaching effects on the entire population, and unfortunately, the geriatric population is not immune to these impacts. Statistical data reveals an increasing trend in the use and abuse of opioids among the elderly, leading to a rising mortality rate within this age group. Opioid use is associated with several side effects in the elderly, and a careful approach to prescribing, coupled with knowledge of these side effects, can help mitigate complications.

Managing withdrawal symptoms from opioids involves a combination of pharmaceutical and supportive measures. One consideration for treating OUD is transitioning to alternative therapies for chronic pain, such as non-opioid pain medications. Treatment of OUD with MAT is well tolerated and effective in the elderly and saves lives. Continued research and education on these topics are essential for improving the overall care and well-being of the elderly population facing challenges related to opioid use.

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Counseling Patients About Cannabis-Associated Psychosis

By Laura Tabbaa, MPH; Andrew Lang, MD and Mathew Devine, DO

Introduction

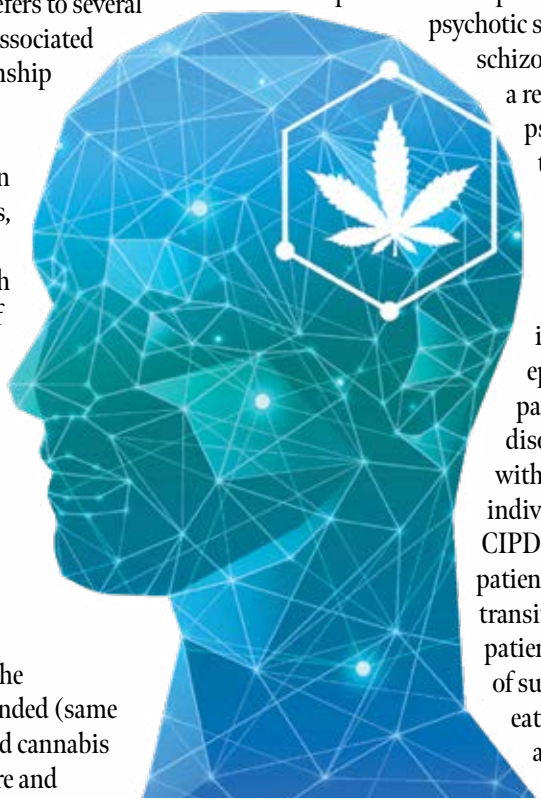
With the legalization of cannabis in New York State, patients are less likely to perceive cannabis use as harmful and are more likely to use it.[1] Primary care physicians can create a non-judgmental dialogue with patients about cannabis use, including the potential benefits, harms and factors affected by the individual's health profile. Some of the harms of use, such as the negative effects on cognition, are likely reversible with abstinence.[2] However, lasting harm can result for the small subset of patients who develop cannabis-associated psychosis (CAP).

Individual factors modify the strength of the association between cannabis use and new-onset psychosis. These factors include young age at onset of use,[3-5] more frequent use,[6] the use of products with high potency THC,[6] and with high THC:CBD content.[7] Additionally, patients who report an experience of transient positive psychotic symptoms such as paranoia or hallucinations after using cannabis are at increased risk for CAP.[8] Patients with baseline prodromal symptoms of psychosis or schizotypal personality traits are also at increased risk.[9,3] Lastly, patients with a family history of psychosis may be more vulnerable to the development of CAP.[10] In discussing these risks with patients, physicians may be able to reduce the incidence of CAP and associated harms.

Cannabis-Associated Psychosis

Cannabis-associated psychosis (CAP) refers to several psychotic outcomes used in the literature associated with cannabis use; research on this relationship has varied in terms of the outcomes and timelines studied. In a meta-analysis of 10 studies examining the relationship between dose of cannabis and subsequent psychosis, the authors included studies that used any psychosis-related outcome established with a validated clinical measure.[11] Regardless of the psychosis-related outcome used, cannabis was found to be associated with psychosis in a dose-response manner.[11]

The association between cannabis use and the development of psychosis is well established but whether cannabis causes psychosis or if the association is due to confounding or reverse causation has been debated.[12] A review of research that used genetically informed methods found that the relationship is partially genetically confounded (same genetic risks lead to both schizophrenia and cannabis use) and partially causal.[13] While the nature and mechanism of the causal role of cannabis continues to be researched, there is sufficient evidence to implement practices that will identify individuals who may be particularly vulnerable to CAP, as well as harm reduction strategies to decrease the likelihood that they experience CAP.[11]



Cannabis-Induced Psychotic Disorder

Cannabis-induced psychotic disorder (CIPD) is a particular form of CAP described in the DSM-5. CIPD involves hallucinations without insight and/or delusions beginning during cannabis intoxication or soon after that may persist for days or weeks.[14] To diagnose CIPD, symptoms must not be better explained by the presence of another psychotic disorder.[14] Lastly, if psychotic symptoms persist beyond one month of onset, a different diagnosis is likely more appropriate.[14] In Denmark, the incidence of CIPD is estimated to be 2.7 per 100,000 person-years.[15] The incidence in Denmark is likely higher than in the U.S. as cannabis use is more prevalent and the cannabis commonly used is high-potency hashish.[15]

A meta-analysis of 25 studies looking at outcomes for patients who experience substance-induced psychosis found that rates of transition to schizophrenia were highest for CIPD and reported 34% of CIPD patients transition to schizophrenia.[8] Notably, this is almost the same rate of transition to schizophrenia from other brief and atypical psychoses.[8] Researchers in Denmark followed 535 patients who experienced CIPD and had no treatment history for psychotic symptoms.[15] In addition to transition to schizophrenia, some of these patients experienced a recurrence of CIPD or some other transient psychotic condition.[15] In fact, authors report that only 15.9% of the patients followed did not require additional psychiatric care at all during the follow-up period. Notably, in this study, most patients who developed a schizophrenia spectrum disorder developed it more than one year after their initial episode of CIPD. Still, on average, these patients developed schizophrenia-spectrum disorders at a younger age compared to those with no known history of CIPD.[15] Half of individuals who develop schizophrenia after CIPD will develop it within 3 years.[16] Some patients who experience CIPD are more likely to transition to schizophrenia than others. These patients include those with a previous diagnosis of substance use disorder, personality disorder, or eating disorder;[16] patients who self-harmed after an episode of substance-induced

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psychosis;[16] younger patients (ages 16-25 years-old);[16] and patients with higher familial risk for a psychotic disorder.[17]

Although CIPD is, by definition, a self-limited condition, these patients would benefit from ongoing monitoring of their mental health by their primary care physician. Primary care physicians can educate their patients who experience CIPD about their increased risk for a recurrence of CIPD[15] and for the development a chronic psychotic disorder.[8] Patients, their families, and their physician need to promptly identify psychotic symptoms should they emerge, as early treatment can have a significant positive impact on the course of their illness.[18] In a study of patients with schizophrenia, it was found that a longer duration of untreated psychosis is associated with poorer outcomes after two years of treatment even after controlling for other known prognostic indicators.[18]

Furthermore, after symptoms of CIPD resolve, patients may still suffer from its sequelae and psychotherapy can be encouraged.[19] After psychosis, many patients report that their psychotic symptoms or experiences with psychiatric treatment were traumatic.[19] PTSD, post-psychotic depression, and decreased self-esteem are common and the lifetime risk of suicide in those with psychotic illness is approximately 7%.[19] Psychotherapy may also benefit patients by establishing a trusted relationship with a mental health professional, which may serve as a protective factor against suicide should suicidal ideation develop.

Identifying Patients Vulnerable to Cannabis-Induced Psychosis

Adolescents

In adolescents, more years of weekly cannabis use was associated with greater total subclinical psychotic symptoms and these symptoms persisted after a year of abstinence from cannabis.[20] In Greece, a study of 3,500 19-year-olds found that those who had used cannabis before 16-years-old reported greater positive and negative subclinical psychotic symptoms.[4] This finding was independent of lifetime frequency of use.[4] In the Netherlands, a retrospective study of 17,698 individuals with a mean age of 22 years-old, researchers found individuals who used cannabis before the age of 12 years old had a 4.8 times increased odds of psychiatric hospitalization history.[5]

Family physicians can educate adolescents and parents about the potential impacts of cannabis use at a young age, and should ensure confidentiality and use a screening tool such as the CRAFFT 2.1+N to open a dialogue with adolescent patients.[21] Physicians can then help the patient with goal setting and arrange for regular follow-up and support.[21]

Psychosis-Prone Individuals

Psychosis-proneness has been measured in some studies by quantifying the degree of schizotypal trait in individuals[9] or by identifying the presence of prodromal symptoms of psychosis – detected on screening by the presence of attenuated positive psychotic symptoms such as perceptual disturbances and paranoia.[3] Individuals with a high degree of psychosis-proneness are more likely to experience psychotic-like symptoms during acute cannabis intoxication, reflecting increased sensitivity to the psychomimetic effects of cannabis.[9] In a large prospective study in Finland, individuals with prodromal symptoms of psychosis measured at 15-16-years-old who used cannabis in adolescence, were twice as likely to develop psychosis by 30-years-old than individuals with prodromal symptoms who did not use cannabis in adolescence.[3]

Family physicians can ask about patients' subjective experience of use. Patients who do experience severe or frequent psychotic-like symptoms from cannabis can be informed that they are at increased risk of CAP, and strategies to eliminate use or engage in safer cannabis use can be discussed. Physicians who want to further evaluate an individual's risk for CAP can assess prodromal psychotic symptoms in the office using the PQ-16.[22]

Family History

Recent research has determined that familial risk for schizophrenia moderates the strength of the relationship between cannabis and psychosis.[10] Individuals at high genetic risk for schizophrenia who use cannabis report more subsequent psychotic experiences than similarly predisposed individuals who do not use cannabis.[10]

Family physicians can prioritize gathering a family mental health history in their patients using cannabis.

Higher Risk Cannabis-Use Practices

High THC Potency, Frequent Use

A study of 901 adult patients presenting to the hospital with first episode psychosis (FEP) across Europe and Brazil found that both daily use and use of highly potent cannabis increased the odds of FEP by 3.2 and 4.8 respectively.[6] Incidence of FEP was highest in areas where daily use of high potency cannabis was most prevalent. This study classified cannabis with THC >10% as high potency.[6] Notably, clinical trials studying the efficacy of cannabis for analgesia consistently use THC concentrations <10%.[23]

Data from nine U.S. states in 2020 showed that most of the cannabis available in medical and recreational dispensaries was highly potent with THC >15%.[23] This same data set also showed that THC potency in medical dispensaries was as high as 35% and 45% in recreational dispensaries.[24] Physicians can advise patients to use the lowest effective potency and to avoid highly concentrated products such as those used in "dabbing". For those frequently using medical cannabis, it may be possible to substitute other treatments on some days.

Dabbing

"Dabbing" is a method of marijuana use in which oil concentrate is inhaled.[25] Preparation of the oil involves extracting THC from the plant creating a highly potent THC product.[25] In addition to exposure to high potency THC, dabbing poses additional risks –the immediate risk of a severe burn (a blowtorch is used) and the potential long-term health risks from inhalation of residual solvent from production of the oil.[25] Physicians may advise patients on the hazards with this method of cannabis use.

Synthetic Cannabinoids

While the research discussed here pertains to natural cannabis, it is important for practitioners to be aware of synthetic cannabinoids, sometimes referred to by other names such as "spice" and "K2".

Likely due to their stronger agonist activity at the CB1 receptor,[26] synthetic cannabinoids increase the risk of psychosis even more than natural cannabis.[27] These drugs may also be easier to obtain for some and can be more difficult to detect on routine drug screening.[28] Patients using synthetic cannabinoids can be advised to abstain and switch to natural cannabis.

High THC:CBD Ratio

The ratio of THC:CBD impacts the effects and safety profile of cannabis products.[23] A high ratio of THC:CBD (≥1:1) increases intoxicating effects as compared to THC alone but a low concentration of THC:CBD (≤1:6) will attenuate intoxication.[23] A high CBD content in cannabis products also lowers the risk that they will induce psychosis.[7] In fact, research is underway to assess a potential role for CBD in the treatment of schizophrenia.[12]

United States data from 2020 showed that more than half of cannabis products in dispensaries were not labelled with CBD content information.[23] Of labelled products, 26.5% reported 0% CBD and the most common THC:CBD ratio available was ≥1:1.[23] Products with 0% CBD or THC:CBD ≥ 1:1 were mostly high potency products.[23] Less than 5% of labelled products contained a THC:CBD ratio of ≤1:6 and these were the products most likely to be low potency.[23]

Family physicians can educate patients on THC:CBD ratio and the relative safety of low ratio products, and they can advocate for increased relative availability of these products.

Conclusion

The safer–cannabis-use behaviors discussed here can be shared with any patient who uses or intends to use cannabis, and all patients can be screened for and made aware of factors making them more vulnerable to cannabis-associated psychosis. More practically, these discussions should be prioritized for adolescents, those with known mental illness, and those with a known family history of psychotic disorders. For these patients, physicians could screen for additional vulnerabilities if they feel it would benefit the patient or inform the guidance they offer. For vulnerable patients who choose to use cannabis, family physicians can establish an ongoing dialogue about their cannabis-use behaviors.

Screening Tools and Resources:

https://crafft.org/get-the-crafft/

https://cps.ca/en/documents/position/counselling-adolescents-parents-about-cannabis-primer-for-health-professionals

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3713086/

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Risk Factor for CAP	Recommendation to Clinician	Recommendation to Patient	Resource
Individual Level Vulnerability			
Young age	Screen all adolescent patients for cannabis use with tool such as the CRAFFT 2.1+N[29] and provide counseling[21]	Abstain from cannabis use until older or use safer cannabis-use practices	CRAFFT 2.1+N; cannabis guidance for counseling adolescents about cannabis use
Psychosis-proneness	Screen for prodromal psychotic symptoms[22] in patients for whom there is a concern (schizotypal personality traits etc.); Inquire about history of psychotic symptoms while using cannabis	Abstain from cannabis or use safer cannabis-use practices	PQ-16
Family history of psychosis/genetic risk	Prioritize taking a family mental health history in patients who use cannabis	Abstain from cannabis or use safer cannabis-use practices	
Personal history of CIPD	Educate patients on their risk for future psychosis; screen for PTSD, depression, suicidality; refer to psychotherapy	Abstain from cannabis or use safer cannabis-use practices; engage in psychotherapy	
Cannabis-Use Behaviors			
High THC potency	Inquire about THC potency used and methods of cannabis use	Use the lowest THC potency that gives desired effect; abstain from high potency products such as those used in "dabbing"	
Synthetic cannabinoids	Inquire about the use of synthetic cannabinoids ("K2", "Spice")	Abstain from synthetic cannabinoids ("K2", "Spice")	
High THC:CBD content	Inquire about CBD content of cannabis used	Choose products that have a low THC:CBD content	
Frequent use	Develop strategies to reduce use with patient	Reduce frequency of cannabis use	

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Dipsomania:
A Manic Thirst for Ardent Spirits

By Thomas C. Rosenthal MD

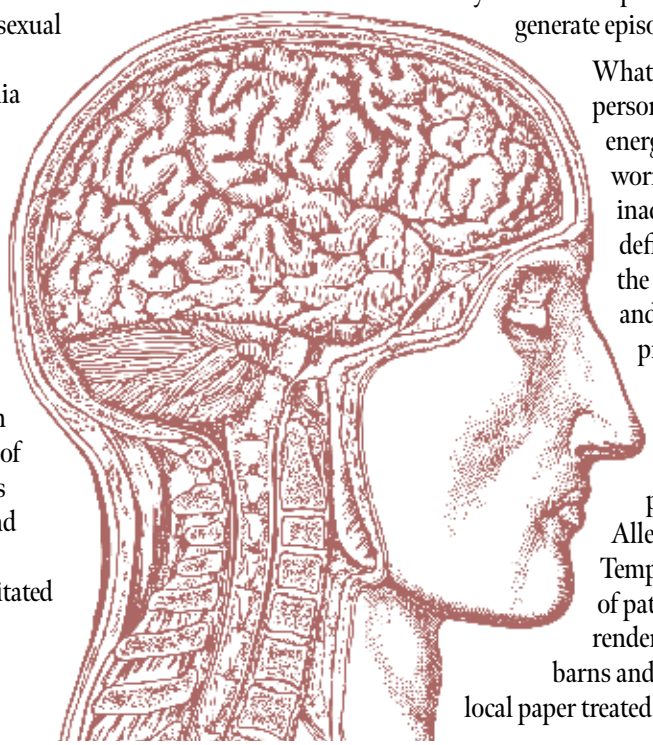
Nineteenth-century village physicians observed their patients on house calls, on village streets, and occasionally in their offices. They came to know patients in the context of community, revealing behaviors not always obvious within a patient/doctor relationship.

College educated Jabez Allen, MD, practiced in East Aurora, New York from 1834 to 1884. Medical society colleagues respected his book knowledge, and patients often joined him on his regular morning walks. He was keenly interested in human behavior and followed discoveries emerging from New York's Bellevue Hospital (founded in 1736) and the New York State Lunatic Asylum at Utica (opened in 1843).

In Dr. Allen's time, Catholic priests performed exorcism and protestant preachers endorsed extremes of prayer and fasting. In 1812, when most every affliction of the mind was considered insanity, Benjamin Rush published a theory that insanity reflected cerebral inflammation, best relieved by bloodletting, trepanning, or applying leeches to the neck and scalp. Then a new generation of alienists (later called psychiatrists) at Bellevue and Utica initiated comparisons of treatments based on observation. To them, insanities, including addictions, were cerebral dysfunctions, and much like other illnesses, they were both transient and recurring.

Addictions were grouped under the monomanias. From the Greek, 'mania' (meaning frenzy or madness), monomanias were insanities thought to arise from a single psychological obsession in an otherwise sound mind. Categories included kleptomania (stealing), andromania (sexual preoccupation), mythomania (lying), ludomania (gambling), and dipsomania (the preoccupation with alcohol and drugs). The label of dipsomania was medicine's first step towards categorizing addiction as a disease to be treated, not punished.

In 1812, Benjamin Rush estimated that one third of 'maniacs' admitted to Philadelphia hospitals suffered from an excess use of "ardent spirits." In 1851, Edward Jarvis studied the records of 32,214 patients admitted to 358 asylums across Europe and the United States, and calculated that 13% of admissions were triggered by intemperance, often precipitated by sudden elation, jealousy, remorse, envy, infatuations, religious anxieties, or passions.



In the nineteenth century, everyone drank beverages containing alcohol. The only available standard for water safety was whether a horse would drink it, so most people found hard cider, wine (aka brandy) or beer a more prudent choice. Alcohol was consumed at every meal.

Like all village doctors, Dr. Allen was familiar with unique, wayward and eccentric characters in the community. Some exhibited manners, habits, and behaviors that could be bothersome. Yet, within a circumscribed life, their function was satisfactory and their productivity adequate. Village doctors developed an instinct for oddity and often took on a role not unlike that of a concerned relative, realizing there was little reason to force conformity or attempt a remedy.

Given alcohol's ubiquitous presence, problem drinkers were common. Some drank excessively on an intermittent basis, but showed no anomalies of instinct. Attacks of this nature became less common with age. Others found their self-control could be subject to periodic complete paralysis. In intervals between attacks, they were quite sober, but as soon as an attack came over them, these patients surrendered to intemperate debauchery driven by an irresistible impulse that they seemed powerless to control. About a third maintained a continuous, chronic alcoholism.

Of the monomanias, dipsomania was the most common, and for many, it was a tendency they were born with. Their monomania could destroy their self-respect, create cycles of remorse, and generate episodes of calamitous consequences.

What emerged was a belief that every person possessed a fixed amount of cerebral energy. Manias occurred when work or worry become excessive, exercise inadequate, rest unfulfilling, or diet deficient. Alienists wrote papers blaming the hurried life of the nineteenth century and the exaggerated expectations promoted by newspapers, magazines, and the urgency of the telegraph.

Popular magazines and newspapers regularly advertised the pleasures of alcohol. A hotel in Dr. Allen's village advertised, "Our Temperance House is open ... [and] worthy of patronage. Nothing shall be wanting to render the stay of guests agreeable. [Our] barns and outhouses are commodious." The local paper treated stories about drunkards as

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humorous. Such as one about several friends amusing themselves at a public house with a sham gun fight until one inebriated participant suddenly exclaimed that he was shot. His declaration prompted another toast and round of laughter until they discovered a ramrod had discharged from one gun. The injured man died later that evening. Another issue of the same paper carried a story titled 'Death by Intemperance' about the pernicious influence of "ardent spirits" on Billy Button. After taking a liking to the jug of rum at a village house raising, Billy passed out drunk. The next morning, despite the exertions of a physician, he was pronounced dead. (*Aurora Standard*, 1835-1838).

The impulsive nature of dipsomaniacs occasionally led to the consumption of other intoxicants, like morphia, ether, chloroform, or cocaine. They were driven to satisfy a pathological and imperious want. They eventually developed a hatred for their chosen intoxicant, yet returned to it against their will. It is this last observation that secured dipsomania's placement among the insanities.

Like all monomanias, the nineteenth-century physician believed dipsomania, and its accompanying cerebral disfunction, was an expression of imbalance between healthy instincts, energy, and will power. Drunkenness was therefore a pathological mental condition in which drinkers are aware of their excesses, but at a loss to correct them. Their cerebral energy had suffered disruption and even the most determined patient relapsed if their environment remained unchanged.

In 1839, tobacco was added to the list of difficult to control habits. Harvard surgeon John Collins Warren Jr. reported that tobacco caused cancer of the tongue and lip 'as certainly as sugar rots teeth.' He suggested physicians focus patients on the disgusting nature of alcohol use.

When he could secure the patient's cooperation, Dr. Allen remained optimistic about curing dipsomania. He demanded patients make a solemn pledge to abstain from their drink (or drug) with the same commitment they might have about avoiding smallpox. Though they were often broken, a pledge added a measure of resolve to self-control. Dr. Allen's pledge included a commitment to keep the body healthy by focusing on good nutrition, consuming work, and daily moderate exercise to diminish cravings. Occasionally, he prescribed simple stomach tonics that contained no alcohol.

In the early decades of the nineteenth century, the diagnosis of *delirium tremens* emerged in the medical literature and was reported to carry a death rate of fifty percent. It became clear that some patients required direct interventions. Benjamin Rush began testing the theories of London's Dr. Francis Willis, who had gained fame for his treatment of George III during his first attack of mania in 1788. Willis ran a sanitarium for wealthy patients that provided plenty of fresh air and light farmwork. The more recalcitrant patients received an aggressive, bullying style of psychological intervention reinforced with strong purgatives, blistering, and cold baths. Dr. Allen was quick to add these more aggressive remedies to the talk therapy he either provided himself, or arranged for a layperson he considered skilled in conversation to attend the patient regularly. If opioid addiction was a problem, he compounded the patient's medications and gradually reduced the amount of opium.

For some, Dr. Allen recommended sequestration, often in an asylum. Unfortunately, most families accepted such placements only after the patient had committed some extreme outrage, usually of a criminal nature. Confinement stopped the immediate attack and prevented repeat transgressions that deepened the burden of guilt. Confinement also quieted the agitation of the cerebral cortex, particularly if frequent lukewarm baths and consumption of bitter drinks were employed. Substituting any medication, particularly morphia or cocaine, was avoided as they awakened an appetite for a new poison.

Moral instructions were essential. Such instruction raised the courage of the patient and rehabilitated their self-image. When taught that their excesses were a disease, the intemperate realized that their cerebral hygiene can be reversed through diet, exercise and serenity. Dr. Allen provided firm surveillance and direct moral and behavioral instructions for maintaining vital energies, mental equilibrium and self-confidence.

Dr. Allen, like today's family doctor, appreciated the unique potential of each patient under his care, though he called it their personal limits of cerebral energy. Many of us today manage our patients using similar techniques. When newer medications like buprenorphine, naltrexone or acamprosate are used, the primary care relationship amplifies their effect and potentiates success. In the end, liberating patients from their addictions provides a sense of accomplishment for both patient and doctor. It is the ultimate reward of being called someone's doctor.

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Navigating the Vaping Crisis: Approach to Screening and Supporting Youth in the Era of E-Cigarettes

By Natalie Buslach, MD; Sokkha Hak, DO and Mary Rose Puthiyamadam, MD

Introduction

Nicotine consumption has evolved significantly in recent decades, with smoking giving way to the emergence of vaping. Traditionally, nicotine use was primarily through combustible cigarettes. Among adolescents, cigarette use is at an all-time low at 1.9% of high school students nationally in 2023.[1] However, the majority of tobacco use is now consumed via electronic nicotine delivery systems (ENDS) which grew in popularity in the last decade at 14.1% and 18.7% among high school students nationally and in New York State respectively (Figure 1).[1,2] The advent of vaping now offers an alternative and appealing method for nicotine delivery. The key difference between conventional tobacco smoking and electronic cigarettes is in the delivery system. Tobacco smoking involves the combustion of tobacco which produces harmful tar and carcinogens. Electronic cigarettes, vaping devices, and e-hookahs heat a solution (e-liquid) to create aerosol vapors that are inhaled (Figure 2).[3,4] On average, 1-1.5 mg of nicotine is absorbed in the body per cigarette.[5] Comparatively, studies have shown that one Juul cartridge or pod delivers the nicotine equivalent of one pack of cigarettes. Nevertheless, device delivery is not uniform and other apparatuses may deliver higher or lower amounts of nicotine depending on concentration and device.[6]

With numerous e-liquid flavors available on the market, peer pressure and curiosity drive experimentation. Given the well-known health risks of combustible tobacco use, ENDS have been viewed as a safer and healthier alternative for adults who smoke combustible cigarettes. However, this has inadvertently appealed to more youth.[7] Nicotine, which most ENDS contain, is a highly addictive substance. Studies have shown that due to susceptibilities in the developing brain, adolescents are prone to developing dependence to nicotine use.[8] Prior pediatric studies have shown mixed results on whether ENDS lead to cigarette smoking or other risk factors for addiction in the future. A recent Cochrane review highlighting 319 studies demonstrated that varenicline (OR 2.33, 95% CrI 2.02-6.68; 67 RCTs, 16,430 participants) and nicotine e-cigarettes (OR 2.37, 95% CrI 1.73-3.24; 16 RCTs, 3,828 participants) in adults being associated with higher quit rates compared to placebo.[9] The American Academy of Pediatrics (AAP) recommends against utilization of ENDS in the pediatric population. Due to the novelty of these products and the slow adaptation of official regulations and cultural norms, a wave of impressionable youths is embracing vaping as a trend, resulting in addiction and an epidemic.[3] Understanding the vulnerability of youth, screening methods, tobacco use interventions, and current legislation is critical in reducing the prevalence of nicotine use.

Figure 2: Nicotine Delivery Devices

Tobacco Use: Considerations for Clinicians. Accessed December 4, 2023. https://www.aap.org/en/patient-care/tobacco-control-and-prevention/youth-tobacco-cessation/tobacco-use-considerations-for-clinicians/

Physiology of Nicotine on the Developing Mind

Tobacco use has been described as a pediatric disease given approximately 90% of US adults currently using tobacco first began smoking by age 18 and 98% by age 26.[10] Physical brain growth plateaus in the early teenage years, however development via rewiring and pruning of the grey and white matter continues

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until the mid-twenties.[11] The adolescent years are filled with formative experiences that influence this reorganization and reinforce the maturation of the dopamine system.[11] Therefore, this period of vulnerability is a consequence of the protracted development of the prefrontal cortex, responsible for executive cognitive functions, and the competing interest of the more mature reward-focused center. Theories have proposed that the pronounced risk-taking behavior exhibited in adolescence is due to this "imbalance" in neurodevelopment.[12]

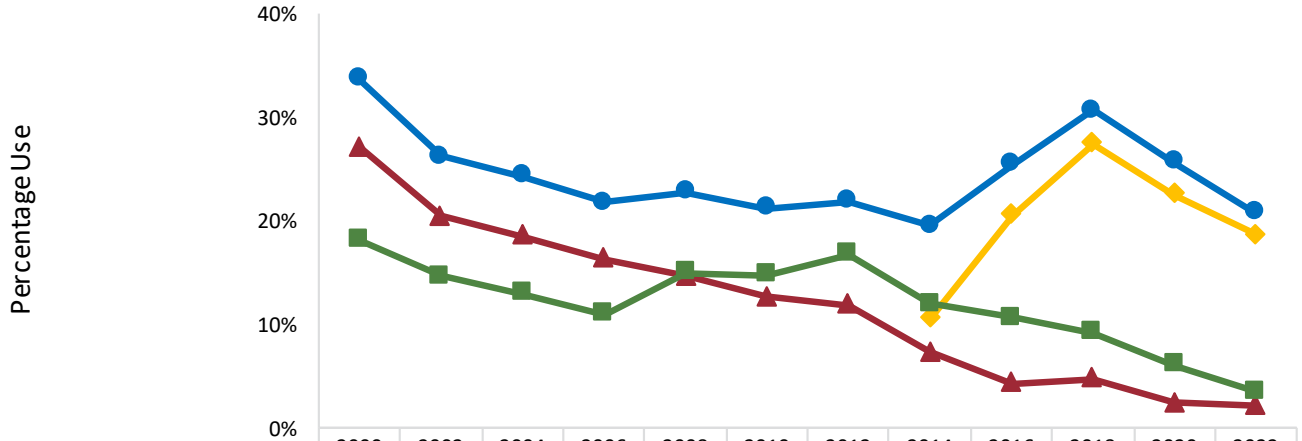
History of Nicotine/Tobacco Use and Media's Influence on Youth

The tobacco industry has long used advertising and product packaging to engage consumers and influence behavior.[13] During the 20th century, the tobacco industry experienced a significant rise in popularity driven in part by aggressive marketing campaigns. Cigarette advertising used imagery and rhetoric to glamorize smoking habits, and frame tobacco use as 'sophisticated' and 'healthy'. As the harmful health effects of smoking became apparent, public opinion shifted, prompting regulatory measures. However, the tobacco industry pivoted to target a new and younger demographic and vaping became 'cool' and 'rebellious.'

Various socio-environmental and personal factors can influence ENDS use among adolescents, including enticing advertising tactics, peer influence, developmental stage and social determinants of health.[14] Now with the relevance of ENDS, adolescents are increasingly exposed to vaping-related content through various platforms (i.e. music, movies, and social media) which can play a significant role in shaping attitudes and behaviors. The portrayal of positive ENDS use in social media influences perceptions of social norms, potentially normalizing the behavior. Research has shown that greater social media use and heavier exposure to ENDS on social media among adolescents were associated with a greater risk of ENDS use.[15] Social media sites such as Snapchat, Instagram, and Facebook can impact adolescents' awareness of the health risks associated with vaping and lower perceptions of harm related to ENDS use.[16] In addition to the social marketing aspect of promoting use, products have been formulated to provide hundreds of options to capture a broader audience. Research on sensory attributes (i.e. fruity, cooling, sweet, and minty) and flavors among adolescents demonstrated high youth appeal.[17]

Figure 1

Trends in Any Tobacco Product Use[2] among High School Students in NYS, NY-YTS 2000-2022



	2000	2002	2004	2006	2008	2010	2012	2014	2016	2018	2020	2022
Any Tobacco Products	33.6%	26.2%	24.3%	21.8%	22.8%	21.2%	21.8%	19.5%	25.4%	30.6%	25.6%	20.8%
Cigarettes	27.1%	20.4%	18.5%	16.3%	14.7%	12.6%	11.9%	7.3%	4.3%	4.8%	2.4%	2.1%
E-Cigarettes	n/a	n/a	n/a	n/a	n/a	n/a	n/a	10.5%	20.6%	27.4%	22.5%	18.7%
Other Tobacco Products	18.1%	14.6%	13.0%	11.0%	15.0%	14.8%	16.8%	12.0%	10.6%	9.2%	6.1%	3.5%

Note: Based on methods developed by CDC, the YTS is a school-based survey of a representative sample of high school students in NYS. The average sample size of high school students in the YTS, for all years excluding 2008, 2020, and 2022, is 8,000. In 2008, a special study was conducted, and the sample was increased to 23,133. In 2020 and 2022 response rates were lower due to the impact of the COVID-19 pandemic, with sample sizes of 3,895 in 2020 and 4,600 in 2022. Non-response bias analyses confirmed data quality and representativeness were not impacted by reduced sample size.

[1] U.S. Department of Health and Human Services. E-Cigarette Use Among Youth and Young Adults. A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC), National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2016.

[2] "Any Tobacco Product" refers to the products that were asked about in the YTS year. Cigarettes, cigars, and smokeless tobacco have been monitored since 2000. Bidis and kreteks were included from 2000 to 2010. Pipe was included from 2000 to 2008, and again in 2014. Hookah was included beginning in 2008 and ENDS were included beginning in 2014. "Other Tobacco Product" refers to any product other than cigarettes or ENDS. Current tobacco use is defined as use on one or more days in the past 30 days.

Source: New York State Youth Tobacco Survey 2000-2022. Contact the Bureau of Chronic Disease Evaluation and Research, New York State Department of Health at (518) 473-0673 or send an e-mail to tcp@health.ny.gov. StatShots can be accessed online at: http://www.health.ny.gov/prevention/tobacco_control/reports/statshots/

Effective Screening and Interventions

Substance use screening, brief intervention and referral to treatment (SBIRT) has been a prominent model to address substance use, which was first developed in the 1980s.[18] The AAP strongly recommends screening all adolescents for tobacco use.[19] The USPSTF provides a grade B recommendation for the screening of individuals starting at the age of 18 for unhealthy drug use.[20]

The original Car-Relax-Alone-Forget-Friends-Trouble (CRAFFT) questionnaire was reported to have a sensitivity of 70-96% and specificity of 76-94% when identifying alcohol and other drug use,[21] and was originally created to delineate between low and high-risk substance use in the adolescent population.[22] However, it did not screen for tobacco use, until the modified CRAFFT 2.1 + N was created which explicitly asks about tobacco use and vaping. Even with this, there remains a lack of high-quality evidence examining the efficacy of this tool in tobacco use.

Research studies have validated the Brief Screener for Tobacco, Alcohol, and other Drugs (BSTAD) and Screening to Brief Intervention (S2BI) tools in the adolescent population.[23,24] The BSTAD is a brief instrument developed by the National Institute of Alcohol Abuse and Alcoholism (NIAAA) that is self or clinician-administered which explicitly addresses the frequency of substance use and examines the use pattern of friends. It has a notable sensitivity of 95% and specificity of 97%.[23] The S2BI tool utilizes frequency screening questions to risk stratify adolescents to better guide treatment options. It has a sensitivity and specificity of 94% for identifying tobacco use in the last year.[22]

The Tobacco, Alcohol, Prescription Medication, and Other Substances (TAPS) screening tool was developed specifically as a two-stage screener, much like the PHQ-2 and PHQ-9, to identify substance use in the primary care setting with a sensitivity of 93% and specificity of 87% for identifying substance use through inquiring about frequency of use.[25]

When examined collectively, the sensitivity of S2BI, BSTAD, and TAPS was 0.89 (95% CI, 0.52-1.00), 1.00 (95% CI, 0.77-1.00), and 0.63 (95% CI, 0.24-0.91) respectively, while specificity was 0.97 (95% CI, 0.94-0.99), 0.98 (95% CI, 0.95-0.99), and 1.00 (95% CI, 0.99-1.00) respectively.[26] For a screening tool to be implemented, it should be quick, easily administered, and accurately triage substance use. The BSTAD and S2BI are quicker to administer than the TAPS and therefore, recommended for the pediatric population and busier clinicians.[26]

Regardless, if the individual has risk factors for nicotine use, anticipatory guidance concerning nicotine use is strongly recommended by the AAP and should commence no later than 11 to 12 years of age.[27–29] This recommendation is in agreement with the USPSTF grade B recommendation to help prevent smoking initiation in school-aged children.[27] A meta-analysis examining 24 randomized controlled trials noted behavioral interventions may potentially reduce smoking (including ENDS) initiation, but there was no significant benefit when interventions were applied to adolescents who use tobacco products.[27] Therefore, preventative interventions such as in-person counseling, telephone counseling, printed and computer-based interventions should be considered in clinical practice.[29]

Substance use of any kind including experimentation should not be permitted or thought of as negligible.[30] Given that less than 10% of adolescents with any substance use disorder receive treatment, it is of utmost importance.[22] The brief intervention portion of SBIRT refers to a dialogue with the adolescent about prevention, reduction, and cessation of the substance used.[30] Group therapy may be an underutilized tool to effectively assist in nicotine use cessation.[27] Additionally, there is a lack of high-quality studies that examine the effects of pharmacotherapy on adolescent tobacco cessation and even less when investigating use of pharmacotherapy in adolescents using ENDS. The AAP approaches this knowledge gap in management with a harm reduction perspective, noting that it is reasonable to prescribe nicotine replacement therapy (NRT) for individuals with moderate to severe tobacco use. This risk mitigating approach stems from the eminent consequences of untreated tobacco use and the presence of data supporting the safety of NRT in this population.[19] Unfortunately, there was no significant difference in cigarette smoking cessation rates in several trials involving the use of bupropion and varenicline.[28,29]

The e-cigarette or vaping use-associated lung injury (EVALI) outbreak of 2019 underlines the importance of purchasing products from a reputable supplier and company. EVALI cases across the US were strongly linked to contamination of THC e-liquid with vitamin E acetate.[31] Additionally, opting for ENDs with lower nicotine concentrations and setting financial limitations on individual purchasing are also harm reduction practices. Our goal as healthcare providers is often abstinence albeit our patients' goal may be to reduce use. It is vital that we consider this to be acceptable as well. Any decrease in use and safer methods of use are a success in a harm reduction perspective.

Policy and Shifts in Legislature

Understanding federal and state legislation allows physicians to better advocate for the health of their patients. The Public Health Cigarette Smoking Act of 1969 introduced the Surgeon General warning label on tobacco packaging. Throughout the years, the government and FDA continued to regulate sales, marketing, and consumption of tobacco. It was not until the late 1980s when it became illegal to use tobacco on domestic flights. The Family Smoking Prevention and Tobacco Control Act finally granted the Food and Drug Administration (FDA) authority over tobacco products in 2009.[32] Though e-cigarettes first entered the market in 2006, ENDS, cigars, and hookahs were not included in this legislation until the "Deeming Rule" of 2016 extending the FDA's legal authority over these products nearly a decade later.[33] As of December 2019, the minimum age of tobacco sales was raised from 18 years to 21 years nationwide under the passage of the "Tobacco 21" law.

In New York State, cigarette tax became the highest in the nation increasing from $1.00 to $5.35 per pack as of September 2023. The Adolescent Tobacco Use Prevention Act (ATUPA) amendments of 2020 assisted in ending the sale of flavored vapor products as well as prohibiting tobacco/vapor product discounts. It also restricts advertisement of products near schools and sales in pharmacies. Legislation has assisted in making tobacco and vapor products less accessible by turning online sales of products illegal to private consumers.[34]

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Other states have also combated substance use in youth in unique manners. Massachusetts issued legislation in 2016 prompting public schools to screen students in two grade levels and provide a school-based intervention. Most schools screened using CRAFFT once in middle school and again in high school. If students scored ≥2 then they were noted to be at high risk for substance use and were referred to counseling or treatment. Between 2017-2018, a total of 93,983 (93.4%) students were screened which identified 1,187 (1.3%) as high risk and receiving referrals to either in-school counseling (87.2%) or private providers (7.3%).[35] Further research based on this policy noted that, among female students, there was a significantly less increase in the rates of e-cigarette and cannabis use at follow-up in the school-based intervention (SBI) group compared with the control group. Researchers conclude that SBI may allow for yet another approach to address substance use.[24]

Our Mission to Support and Screen

Family medicine physicians are ideally situated to address the vaping epidemic through proactive screening and steadfast support. We are effective agents to perform initial screenings, education/counseling, and connect our pediatric patients with vital resources to achieve this goal. Treatment plans for adolescent vaping involve a multifaceted approach that addresses both the physical and psychological aspects of addiction through pharmacotherapy and behavioral interventions. Previously, in New York State, anti-drug campaigns focused on tobacco use but not specifically on vaping products. Now, New York City public schools will receive $282,000 in funding to address the vaping epidemic through the CATCH My Breath Campaign.[36] This is a peer-led teaching approach that will empower students with knowledge and skills to make informed decisions about ENDS and resist social pressures to vape. Since 2016, the FDA has extended regulatory efforts over ENDS. However, more should be done on a policy level to continue reducing youth nicotine consumption. By embracing a holistic approach that combines early detection, education, harm reduction, and advocacy, family medicine physicians can contribute to mitigating the impact of the vaping epidemic in the adolescent population.

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Considerations of Kratom:
An Exploration of the History, Utilization, Risks, and Management Strategies for the Family Medicine Physician

By Christine Hook, MD, BVetMed; Lily Sitisa, MMS and Elizabeth Loomis, MD, FAAFP

Overview

Kratom, also known as *Mitragyna speciosa*, is a plant from the coffee family that is native to Southeast Asia. Since the 19th century, manual laborers have traditionally used kratom to relieve fatigue and improve productivity. Due to its stimulant or opioid-like effect, depending on dosage, kratom usage in the United States has increased rapidly in the past decade. The COVID-19 pandemic, combined with the opioid crisis, furthered the popularity of kratom as an agent to self-manage opioid withdrawal and pain due to restricted healthcare access. Kratom is currently not controlled under the Controlled Substances Act (CSA), thus making it accessible from stores that sell essential oils or herbal supplements. Some adverse effects of kratom include agitation, drowsiness, seizures, hallucinations, respiratory depression, cardiac arrest, and even death. The Food and Drug Administration (FDA) warned in 2017 against using kratom due to kratom-related deaths. Although attempts were made to ban kratom, it is still legal throughout New York. This has posed a challenge for physicians when prescribing medications because kratom is a CYP450 inhibitor, impacting the metabolism and effects of other medications. Though traditional medicine or natural remedies may seem harmless, there is still more to learn about their use, effect, and interaction with other medications. Family physicians must include traditional medicine or herbal remedies in the history taking of non-prescription medications due to the ramifications of potential drug-drug interactions. This review aims to raise medical awareness and assist in clinical decision-making in preventing adverse effects in the usage and withdrawal of kratom.

History of Kratom

Prior to the industrialization of agriculture, farming was heavily dependent on human and animal labor. Since the 19th century, Southeast Asian farmers have relied on a plant called *Mitragyna speciosa* or kratom to alleviate fatigue from strenuous manual labor and increase productivity. Kratom is a tropical tree of the *Rubiaceae* family or coffee family that can grow between 4 and 16 meters tall. It is indigenous to Southeast Asia, the Philippines, and Papua New Guinea.[1] In Thailand, there are two types of kratom that are identified by the color of the leaf vein: green and red. The red vein kratom is preferred over the green vein kratom due to its bitterness and long-lasting effects.[2]

Methods of use of kratom include chewing, brewing, or smoking fresh or dried leaves. Due to its bitter taste, sugar is often added to make it more palatable. In addition to alleviating fatigue and increasing productivity, kratom was traditionally used to treat fever, pain, diarrhea, and diabetes.[1] At a low dosage, kratom possesses a stimulant-like effect, enhancing productivity and increasing stamina. At a high dosage, kratom possesses an opioid-like effect, acting as a sedative or analgesia.[3]

Kratom was utilized as a substitute for alcohol and opium in Thailand and became more commonly used during the 1940s due to affordability when Thailand imposed taxes on the opium trade. In 1979, the Thai government classified kratom in Category V in the Narcotics Act.[2] In Malaysia, the Malaysian Poison Act of 1952 stated that the processing, transporting, importing, exporting, selling, possessing, and using of kratom is illegal, and those involved in these acts can be prosecuted.[4]

Kratom was first introduced to the United States during the late 20th century by soldiers returning from the Vietnam War and immigrants from Southeast Asia. However, the use of kratom was limited, and it was not until over a decade ago that the use of kratom became more popular.[5] In the U.S., kratom is currently not regulated under the Controlled Substances Act (CSA) despite several attempts to do so. It remains classified as a Drug and

Chemical of Concern by the Drug Enforcement Agency (DEA). At the state level, kratom is currently legal in 44 states and banned in 6 states. Despite attempts made to ban it, kratom is still legal in New York and is accessible from stores that sell essential oils or herbal supplements.[6]

Kratom Use Patterns

When kratom was first introduced to the U.S during the late 20th century, its use was limited.[5] However, due to its accessibility and because it is currently not controlled under the CSA, the use of kratom has become more mainstream over the past decade.[5,6] It is estimated that 2-5 million Americans aged 12 and older use kratom, approximately 0.6-1.5% of the total U.S. population. Based on a study that analyzed data from the 2019 National Survey on Drug Use and Health and an online convenience sampling, individuals who are young, white, employed, had a high school education, make middle income, or reported past-year drug dependence or lifetime substance use disorder treatment were more likely to use kratom.[7] For instance, an increased likelihood of lifetime kratom use was predicted in individuals who are less than 35 years of age (OR = 1.64, 95% CI = 1.24, 2.16), male gender (OR = 1.79, 95% CI = 1.37, 2.34), high school educated (OR = 1.39, 95% CI = 1.04, 1.87), had lifetime nonmedical use of opioids (OR = 5.13, 95% CI = 3.80, 6.94), had at least moderate substance use disorder (SUD) (OR = 2.00, 95% CI =1.49, 2.68), and had ever received SUD treatment (OR = 1.53, 95% CI = 1.09, 2.14).[8] In a U.S.-based survey, individuals who use kratom reported using kratom to manage anxiety, depression, PTSD, pain, and opioid withdrawal.[3]

On March 11, 2020, the World Health Organization declared COVID-19 a pandemic in which isolation and quarantine were implemented to prevent the spread of infection.[9] With restricted healthcare access due to the COVID-19 pandemic as well as the ongoing opioid epidemic, studies have shown that the proportion of individuals who reported cannabis, stimulant, and opioid use had increased. According to a study regarding the use of kratom during COVID-19, 33% of individuals who use kratom (n = 58) reported an increased use during COVID-19.[10] Another explanation for why the use of kratom has increased during the COVID-19 pandemic is the use of kratom to alleviate COVID-19 symptoms of fever, malaise, and pain, which overlaps with the traditional uses of kratom.[11]

Pharmacological and Physiologic Effects

There are at least forty alkaloid compounds that comprise kratom, two of which are known to be pharmacologically active. These primary components include mitragynine and 7-hydroxy mitragynine. Mitratragyine is the most abundant alkaloid found on kratom leaves (approximately 66%). 7-hydroxy mitragynine is also present on kratom leaves but in much smaller quantities (~2%).[12] These two alkaloids are known to interact with opioid receptors but are considered structurally and pharmacologically distinct from classic opioids.[13] Like all opioids, mitratragyine and 7-hydroxymitragyine interact with mu opioid receptors. Mitratragyine is 2.6 times less potent than codeine, according to one study of mice.[14] 7-hydroxy mitragynine is a metabolite of mitratragyine and is considered 13 and 46 times more potency than morphine and mitragynine, respectively.[15] In one vivo study, naloxone induced withdrawal in mice chronically treated with 7-hydroxymitragyine.[16] Both mitragynine and 7-hydroxy mitragynine have antagonistic action on kappa and delta opioid receptors.[17]

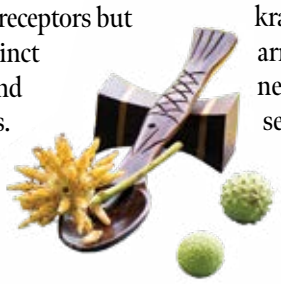
In theory, the risk of overdose is not comparable to that of classic opioids, given the biochemical pathways involved for analgesia. When kratom activates mu opioid receptors, it initiates G protein signaling and produces analgesic and mood-enhancing (antidepressant, anxiolytic) effects. Unlike standard opioids, there is no beta-arrestin signaling, which is a pathway associated with classic opioid side effects such as respiratory depression, constipation, and sedation.[17-19] There is also known involvement through alpha two adrenergic receptor stimulation, calcium ion channel blockade, 5-H2A receptor inhibition, and COX 2/ prostaglandin E2 mRNA inhibition for pain relieving effects.[20-22]

Our understanding of the pharmacokinetic profile of kratom is still evolving. Kratom alkaloids are metabolized in the liver and a time-dependent inhibitor of CYP450.[23,24] In one vivo study, mitratragynine was found to be a potent, competitive inhibitor of CYP2D6 activity (IC50= 2.2 µM) with moderate inhibition toward CYP2C19 (IC50= 11.4 µM).[24] In the liver, mitragynine is converted to 7-hydroxy mitragynine, but the amount produced is insufficient to explain its overall analgesic impact.[25,26] There is arguably a dose-dependent effect regarding kratom consumption. In doses greater than 5g, kratom may yield sedative, pain-reducing effects like opioids. At doses between 1g to 5g, kratom use may have a focus-enhancing or stimulant-like effect. In doses above 15Gg, kratom can induce the unwanted side effects associated with opioids such as sedation.[27]

Drug Interaction and Negative Effects

Kratom may seem like a harmless substance, being a natural remedy for several ailments, including pain and mood, but it is not without its potential adverse side effects. These side effects appear to be dose-dependent with heavier users, dosages at least 5G and a frequency of at least 22 doses a week, more likely to experience them (20% in one survey of 3,024 respondents). The rate of occurrence for adverse symptoms appears to be low. These are gastrointestinal in nature with symptoms including nausea, vomiting, and constipation - mirroring the profile of traditional opioids. Afflicted individuals rarely seek medical or mental health treatment (less than 1% of kratom users in a survey of 8,049 kratom users). Other side effects associated with kratom use include irritability, agitation, headache, rhinorrhea, lacrimation, insomnia, weight loss, and insomnia (13% in one survey of 3,024 respondents).[28]

On rare occasions, more severe adverse side effects have been identified in kratom users. Cardiac conditions associated with kratom consumption include hypertension, tachycardia, arrhythmia, and even cardiac arrest. Case reports of neurological side effects including cognitive impairment, seizure, brain injury, and coma also exist. It should be noted that several of these side effects occurred with concomitant use of other substances or adulterants (e.g., prescription drugs, nonmedical opioids,



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methamphetamines). Acute organ injury has also been identified in the liver (acute liver failure, hepatitis, cholestasis) and lungs (acute lung injury, acute respiratory distress syndrome).[28-30]

Risk of dependence, addiction, and withdrawal has been observed in high dose, frequent kratom consumption. Tolerance can develop quickly, with dependence occurring in as short as three months with soaring dose increases in the first few weeks. There is limited evidence in today's literature on the exact daily amount associated with kratom use disorder, but current reports indicate patients diagnosed with the condition have a daily use of 30g to 40g.[31] In Southeast Asia, the region where *Mitragyna speciosa* grows indigenously, 55% of kratom users developed dependence.[32]

Withdrawal can be observed after prolonged kratom use with complete or partial use cessation. These symptoms are opioid-like and can be physiological as well as psychological in nature. Symptoms include nausea, diaphoresis, muscle aches, tremors, diarrhea, rhinorrhea, lacrimation, hot flashes, insomnia, irritability, anxiety, mood disturbance, and hallucinations.[33] The withdrawal severity appears to correlate with total daily amount, duration, and frequency of use. The risk of relapse can be high, as much as 78-89% at three months post cessation.[31]

Polysubstance use is often reported in the fatality rates seen in kratom use. Between 2016 and 2017, the CDC found 152 kratom-related deaths, polysubstance seen in 87% of cases. This makes it challenging to determine if kratom played a direct role in the development of adverse health outcomes. There is no precise mechanism for how kratom may cause death in people, given that this herbal is a biased partial mu agonist.[28] In 2018, the FDA reported 44 cases of kratom-associated deaths.[34] However, Southeast Asia, the region where this plant grows endemic, has reported no kratom-related deaths.[35] It should be noted that related deaths and other health effects are likely underreported given the lack of standard toxicological screenings.[36]

Given its unregulated status, the production of kratom is not under the same rigorous quality and safety standards compared to regulated substances under the FDA. In 2018, there was a salmonella outbreak in kratom product, which resulted in 199 individuals being affected across 41 states. Approximately 38% of those ill were hospitalized, but no deaths occurred.[37] Polysubstance use or adulterant contamination is associated with many of the adverse side effects associated with kratom use.[28] The interaction between kratom and other herbals, medications, and compounds is largely not well understood. The alteration of CYP450 metabolism by kratom constituents likely plays a role.

Management of Use and Addiction

Some individual kratom users can meet DSM 5 criteria for substance use disorder, though kratom use disorder, KUD, is not recognized by the American Psychiatry Association. For those who identify as "addicted," there is a low prevalence of rewarding feelings of euphoria with kratom use regardless of its vehicle (e.g., injection, inhalation, smoking).[27] This medicinal compound is also used as a harm reduction agent for opioid addiction and other substances, such as alcohol and methamphetamines, and it alleviates withdrawal symptoms.[3] This paper has also touched upon the utility of kratom for mood elevation, focus improvement, and pain relief. As a family medicine physician, it is essential to understand where the patient is coming from in terms of the reason(s) why they need kratom, and to avoid potential biases obscuring the integrity of the medical evaluation.

As kratom is seen as an herbal remedy and hence "not real a medication," a patient may not disclose consumption to their respective primary care provider. Therefore, it is vital to keep kratom in mind when obtaining a patient history on substance history, especially if polysubstance use is present, as kratom has been connected to rare incident fatalities that are likely under-reported as standard drug screens today do not include kratom. Questions regarding use should be asked with a nonjudgmental, respectful approach to obtain honest disclosure from the patient. Using open-ended questions also allows the provider to ascertain the patient's motive and close knowledge gaps regarding use. Patients should be encouraged to use as little as possible, given the risk of possible adulterants or potential interactions with medications, supplements/herbals, and other compounds. Providers should emphasize the importance of maintaining the same vendor and product given its variability depending on production source.[3]

The presentation of kratom toxicity can be dose-dependent (as little as 8g) or altered with other contaminant substances. At doses higher than 15g, the presentation may mirror that of opioid toxidrome. Treatment is mainly supportive, including intravenous fluid therapy, sedatives, and antiemetics. Other interventions may be necessary if there is additional organ-related injury, such as N-acetylcysteine for drug-induced hepatitis, anti-epileptics for seizures, etc.[30] The use of reversal agents, like naloxone, is not well established but does show potential benefit in their use for treatment.[38] Poison control should be contacted in the event of known or suspected kratom ingestion to provide further treatment guidance and assistance.

There are no formal, evidence-based treatment guidelines for KUD. Buprenorphine-naloxone shows promise in the treatment of kratom detoxification and maintenance replacement therapy. In one case series study, there did not appear to be any correlation between past daily kratom use and the buprenorphine-naloxone dose required for maintenance therapy. Of the 28 patients studied, 66% tested negative for mitragynine four weeks into treatment, followed by 82% at weeks 8 and 12.[39] Alternative treatment agents for detoxification include intravenous clonidine and a combination of oral dihydrocodeine/lofexidine.[40,41] Methadone and buprenorphine can also be helpful for replacement therapy.[42] Enrollment in support groups and counseling programs (12-step program) can also be considered for treatment. A patient-centered approach for KUD is crucial as it tailors the needs and preferences of the patient and fosters a supportive, nonjudgmental environment conducive to treatment success and sustained recovery.

Conclusion

Kratom is a plant traditionally used as a natural remedy to relieve fatigue, improve stamina, and treat fever, pain, diarrhea, and diabetes. Currently, kratom has been commonly used to manage

mood disorders and pain. Although kratom may seem harmless, its stimulant and opioid-like effect can pose serious health concerns. Individuals who use kratom may experience side effects such as agitation, hallucination, insomnia, headache, and weight loss. Several case reports have suggested that individuals who use kratom are at a higher risk of developing neurological and cardiac health problems. In 2017, the FDA warned against the use of kratom due to kratom-related deaths. Kratom use during and after the COVID-19 pandemic increased as health access was restricted and patients sick with the virus needed a substitute to alleviate their viral symptoms. Therefore, family medicine physicians must be aware of the pathophysiology and effects of kratom, as well as how use of kratom may relate to a patient's cultural background, to appropriately assist patients in shared-decision making and optimization of healthcare.

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Resources for Medical Aid in Dying

What is Medical Aid in Dying?

A medical practice that provides a terminally ill, mentally capable adult with a prognosis of six months or less to live with the option to request a physician prescription for medication they can decide to self-administer to bring about death.

Current states that authorize Medical Aid in Dying include:

California - End of Life Option act - June 2016
Colorado - Access to Medical Aid in Dying - December 2016
Hawaii - Our Care, Our Choice Act - January 2019
Maine - Death with Dignity Act - September 2019
Montana - Death with Dignity Act - 2009
New Jersey - Dying for the Terminally Ill Act - August 2019
New Mexico - Elizabeth Whitefield End-of-Life Options Act - June 2021
Oregon - Death with Dignity Act - October 1997
Vermont - Patient Choice and Control at End of Life Act - May 2013
Washington state - Death with Dignity Act - March 2009
Washington, D.C. - Death with Dignity Act - Feb 2017

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Current Bill Status in New York:
https://www.nysenate.gov/legislation/bills/2023/A995/amendment/A

SCAN ME

Context from the first states implementing legislation
Summary of the Oregon Death With Dignity Act and its impact in the following decades:
https://deathwithdignity.org/news/2018/12/impact-of-death-with-dignity-on-healthcare/

Training Materials

Center to Advance Palliative Care

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Volunteer Action Network Toolkit: Introduction to MAID

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- Cultivation of the next generation of family physicians by offering scholarships and awards to pre-medical students, medical students, and residents to participate in family medicine conferences and programs
- Support of residents and new physicians in development of leadership skills and practice opportunities
- AAFP Member Services: http://www.aafp.org/online/en/home/membership/resources.html
- A list of the AAFP professional resources
- A list of the AAFP "Member Advantage"
- Additional Partnerships: http://www.nysafp.org/index/resources-6/partner-programs-106.html
- Jobs Board