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EDITORIAL

Commentary on the Donovan Memorial Lecture: Addiction and Recovery as a Continuum

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"I suppose it is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail."–Abraham Maslow 1966.

It is refreshing to see health care professionals and addiction researchers openly discussing their personal struggles with substance use disorder (SUD) in medical and lay publications, hopefully helping to remove the stigma associated with this common, often fatal, malady. As we lose more people to overdose deaths, it is also encouraging that more medical toxicologists are incorporating addiction care into their practices. The American College of Medical Toxicology (ACMT) recognized the importance of substance use disorders (SUD) and the practice of addiction medicine by medical toxicologists years ago by supporting its members in various avenues. In addition to developing an Addiction Toxicology Committee, the college supports members who apply and sit for the addiction medicine board certification exam, co-sponsors a monthly addiction case conference, provides addiction medicine content in all its educational events (pre-symposiums and during the ACMT annual scientific meeting and NACCT, at ASAM), and works with ASAM on many national endeavors. Support from the Medical Toxicology Foundation (MTF) through the legacy gift from past president, Ward Donovan, has sponsored the last two Keynote speakers at the Annual Scientific meeting who focused on cutting edge research in substance use, and *JMT* agreed to publish an edited transcript of Nora Volkow's 2024 lecture.

As Chair of the Addiction Toxicology Committee of ACMT, I sent an email to Dr. Volkow blindly asking her to be our keynote speaker at the 2024 ASM meeting and was pleasantly surprised when she agreed. As the Section Editor of Addiction Toxicology of *JMT*, I edited the transcript of her presentation and requested the opportunity to write a commentary on the state of the SUD crisis.

I speak from both personal and professional perspectives. My viewpoints on substance use disorders and the disease model come from my experience in recovery for over 23 years, but also as a physician boarded in Emergency Medicine, Medical Toxicology, and Addiction Medicine, who now practices addiction medicine, full time. A big problem with our approach is that the treatment of addiction is not seen from the perspective of a continuum by those working within various elements of the chain, including those in healthcare and politics. If we only support some elements with resources or only focus on some, the chain breaks. Financial support going disproportionately to one area (e.g. harm reduction) will not solve our problem.

Moving from Stigmatization to Patronization

Despite all the work and progress that has been made in the field, the deaths continue [1], and the pendulum seems to be swinging from stigmatization to patronization. Dr. Volkow's work has significantly advanced the evidence that addiction is a brain disorder [2]. A misconception of many is that by referring to substance use disorder as a disease, it absolves the sufferer from any responsibility. While we continue to search for the best management of SUD, a shift in our approach may also be useful.

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See related article: Volkow N, et al. Groundbreaking Research from NIDA... from ACMT's 2024 Annual Scientific Meeting.

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Most agree that a disease is not a single entity but a characterization that describes a multi-faceted disorder affecting the structure or function in humans leading to harm or distress. A disease diagnosis allows a person to understand the changes in the human body (including the brain) that result in deteriorating function, helps one to understand the complications of progression of the disease, and provides a basis for understanding treatment.

A term of convenience has become a lightning rod in and out of the halls of medicine. Some believe that if we label SUD as a disease, it removes the contribution of free will and does not allow for the huge variation of signs, symptoms, and differences in the progression of disease among various people [3, 4]. Others believe, despite the research supporting changes that occur in the brain, that the mechanism has not be elucidated precisely enough for addiction to qualify as a disease.

Most chronic diseases are recognized before the full understanding of the mechanism is determined. Of course, with further research, understanding increases and an original mechanism may be supported or rejected. The symptoms of diabetes were mentioned in 1552, BC, when an Egyptian physician documented urinary frequency and weight loss in a group of people [5]. In 150 A.D., diabetes was described as "the melting down of flesh and limbs into the urine." Despite not knowing the precise mechanism, the disorder was recognized as a disease. It wasn't until 1889 that researchers determined that removing the pancreas resulted in diabetes. In 1920, the idea of using insulin to treat diabetes was hypothesized and successfully used to treat a patient in 1922 [6]. Obviously, since that time the understanding of diabetes has increased exponentially. But at what point was it fair to call diabetes a disease?

Having a disease also does not demand that the course for each person will be the same. With other chronic diseases, like diabetes, most accept that the severity, course, and complications of the disease differ among sufferers. There are people with diabetes that sustain multiple amputations, kidney failure, heart disease, and more, while others have a less severe course. The course is multifactorial, including external, non-medical elements. Why can't SUD be a disease that produces different outcomes?

Most in and out of healthcare also recognize that personal responsibility is required to treat most chronic diseases. When assessing diabetes treatment, in addition to medication treatment there are other factors important in controlling diabetes, like diet, weight control, exercise, and more. The diagnosis of the disease of diabetes increases the role of personal responsibility, and addiction should be no different. In the same respect, outside factors, including socioeconomic, psychosocial issues, and co-occurring illnesses lead to a more difficult road in treating diabetes, but these factors don't turn the disease into a choice. Again, why should SUD be different?

Does it really matter what we call it? Why are we debating what is a disease and what is not while our population is being decimated by the complications of opioid use disorder [1]. As others believe that calling it a disease is harmful, I am passionate that the disease model is one of many powerful tools that can affect one's ability to understand the basis of addiction, but an even more powerful tool for acceptance in the sufferers. In my career I have seen the pendulum swing. The stigma is less pervasive (although still there), but now I see patronization. As one who has experience on both sides of the addiction medicine curtain as patient and healer, personal responsibility is key to my recovery AND to my medical practice in encouraging recovery in others. I work in an outpatient and residential addiction medicine center and see those who are intoxicated, in withdrawal, early treatment, and some in sustained recovery. In my personal life, most of my friends are in long term recovery and I attend gatherings with those in many stages of intoxication, withdrawal, treatment and recovery.

I was treated for osteomyelitis in 1990 with hydrocodone for one month. Overall, I did not like the effects and stopped taking the medication when my infection resolved. In that era, hydrocodone was sent to physicians with DEA certification by mail by request (they were intended to be samples for patients). I started to realize that when I was feeling down, sad, angry, or any negative emotion, taking one or two of the samples seemed to help. Taking one or two also made celebrations better. I "dabbled" with opioids off and on for a few years. When the samples stopped coming, I took the opioids that we were prescribed from our doctor friends "just in case" for our adventure traveling. The "case" was, I wanted to feel different. I continued to drink, but preferred opioids. The mixture was even better.

I justified and rationalized that this behavior was okay. I convinced myself that I "deserved" the medication because I was unhappy, in a bad relationship, had a stressful job, and the self-pity went on ad infinitum. I continued to perform in my academic position, produce publications, and was promoted to associate professor.

In 1999, my first husband died in a car accident on the way to work one evening. The rationalization, justification, denial continued, but now I had "real pain," so "needed" opioids. The absurd thoughts expanded, including the idea that if I only took 5 pills per day, I didn't have a problem. As a result, I was always in withdrawal, but the pills took the edge off. My family thought my behavior was all related to grief. I isolated myself from others, was depressed, lost weight, and had a flattened affect. My days consisted of work, exercise and sleeping. The fact that I never took any

pills or drank alcohol when I went to work was another way of convincing myself that I did not have a problem.

In 2001, what I thought was the second worst day of my life turned out to be one of the best days of my life. Unlike my recent behavior, I did a couple of things right, because I was so desperate and afraid. I called my state physician health monitoring program (as was suggested from a previous grief counselor), that I didn't even know existed. I talked to someone who told me I needed to seek inpatient treatment.

Despite formal residency and fellowship training in emergency medicine and medical toxicology, I was ignorant about SUD. When I was told that I had a disease and was not a bad person, I was incredibly relieved. I had a genetic predisposition, and the tolerance, withdrawal, craving, coupled with the aberrant behavior did not occur in people without the disease. Every time I went a couple of days without pills, the overwhelming mental swirling and anxiety (withdrawal) could only be relieved with more pills. While I wasn't a bad person, my active disease resulted in a bad attitude and poor treatment of the ones I loved. And I was miserable. I am forever grateful for Dr. Volkow and all of those who came before her that discovered the mechanisms of this disease and those who continue to discover more [7].

Incorporating Personal Responsibility with Compassion

While I was relieved to find an explanation for what was going on in my mind, body, and life, I was also told, in **no uncertain terms** AND **with compassion**, that I was responsible for treating this disease. I quickly learned that this behemoth is something that requires multiple tools and the help of others to treat. In addition, I had to face my consequences.

Some professionals think that those with SUD who are "forced" into treatment by courts, professional organizations, or other entities cannot maintain long-term sobriety. I have rarely had a patient come to treatment for SUD who did not have some precipitating event. Most don't wake up and say, "I think I want to be a better person today and stop using substances. I will go seek treatment." Some like to say the reasons are "lover, liver, or lawyer." Lover can include a partner, parents, children (threat of losing custody, etc.). Liver includes medical consequences. Or lawyer refers to legal charges. Over the years, I have found that consequences often save the lives of those with SUD. I tell those who freely admit they have **not** come because of their own desire that it doesn't matter why they start, but that when they start to feel better and their lives change, what matters is why they stay. Acknowledging that most who start in SUD treatment don't want to be there yet giving them some hope of success makes the visit much better than condemning them for being honest.

My professional consequences were significant. Prior to this, I always avoided detection or talked my way out of any trouble (the trouble was usually of my own making). If I could have used my superpowers of denial to escape the diagnosis of SUD, I would have engaged them. But I had no choice but to face the ramifications of my actions. With a bit of time substance-free and with some clarity, the realization that **my** behavior resulted in **my** plight enabled me to surrender to the idea that I have SUD, and like any other disease, I am responsible for treating it. For me, this took any stigma OUT of the equation.

As I became more educated in addiction as a disease and familiar with studies, like Dr. Volkow's, regarding the changes in dopamine and the process of craving, my passion for working in the field grew.

I constantly hear the phrase, "we meet people where they are." It implies that we let those with the disease determine their treatment with our guidance. We always do that in medicine, but we are the ones educated on treating this disease. It is important to remember that this is a brain disease that manifests in poor-decision making early in the disease process. That is the most difficult part of SUD treatment and having the disease. When the brain has irrational thoughts, we deny that we need help or that we have a problem.

The focus on harm reduction has also grown and is a PART of the treatment of SUD, but will not solve the problem, alone. Dr. Volkow points to some successes in our battle against SUD, including distribution of reversal agents, like naloxone to reverse overdose. However, we still see mortality rising. And she highlights the fact that now more overdoses include different substances, like stimulants, that adverse effects may occur when treating mixed overdoses with naloxone.

In many local and national meetings, there is often tension and anger when abstinence is mentioned. Those who work in the ED or are distributing naloxone to those with SUD on the street, rightfully care most about that resource in our armamentarium. However, we can focus on naloxone distribution and **still** support the long-term goal of abstinence (with medication treatment). For the person with SUD living on the street, maybe abstinence is not an important topic, but eventually, it can become a goal.

Even if we keep people from dying, how do we keep them from using substances again and again? The disease progresses just as there is a progression in treatment and recovery. The person living on the street overdosing daily probably did not start there. They may have been living in a home and working and started on pain medication and eventually ended up losing everything to get to that place. How

do we get them into recovery? It starts with keeping them alive by reversing the overdose, but that is only part of the process.

The treatment approach of "just do the best you can" sends the message of inferiority and low expectations. Asking for abstinence (allowing for medication for SUD) is considered unreasonable by many professionals. That also represents stigma; it suggests those with SUD can't do better than to stay alive until the next overdose. Suggesting abstinence is different than demanding it. We tell diabetics the expectation for the blood sugar range. We don't punish them if they don't obtain the goal, however we set a goal. I would prefer stigmatization to patronization. As one who suffers from SUD, when I started my treatment path, I would have been offended if my team had not had expectations for me, other than to stay alive.

I believe a change in our approach to treatment as clarity returns to our SUD patients would make an impact and is part of the cultural change to which Dr. Volkow refers. If we truly believe that those with SUD are just like any other sufferers (whether we call it a disease or not), why can't we compassionately expect personal responsibility from them?

This approach must be interwoven within the doctor-patient relationship and done with finesse and compassion. We do it with other diseases every day. Just like discussing diet and exercise with patients with heart disease, we can discuss abstinence (allowing medication treatment) as a goal. This is NOT about inducing guilt. As one with SUD, I believe some of the reluctance, to be blunt, in setting expectations is the irrational fear that a physician will say something that will make the patient use and die. Instead, this approach supports the idea that we respect the patient's free will.

Timing really is everything. When a patient is in withdrawal or very early recovery, insight and rational thought may be lacking, and they are so miserable, therefore initial visits may require just basic recommendations and harm reduction.

If I have an established relationship with a patient and they relapse, I can use techniques of motivational interviewing and still focus on responsibility without guilt. For example, a common reason for relapse is a death in the family. Rather than saying, "I am so sorry. I can see why that would happen, it's okay," a more useful conversation would be to see what could have been done differently and how to prevent a relapse in the future while complimenting the patient for returning. If there is some circumstance that can be changed (like living with someone in active addiction), we try to address it. In addition, I always point out that if recovery is dependent on outside circumstances, no one would ever stay clean and sober. Since we can only control ourselves, we CAN stay clean and sober, despite our outside circumstances using the tools we learn in our recovery program. This delivers education and hope, rather than guilt.

A realistic barrier is time. Visits discussing responsibility take time. They take much more time than checking a urine drug screen result and a prescription drug monitoring program report, then sending in a prescription.

Medications for SUD

Buprenorphine is an amazing drug and is useful in many situations. One of the reasons patients have so much trouble stopping opioid use is the horrific physical withdrawal. Those without a diagnosis of SUD will often tell someone with the disease, "Just stop drinking or stop using." That is like telling someone with explosive diarrhea to not go to the bathroom. The physical discomfort and craving are so overwhelming that regardless of how much a person wants to not take the next drink or drug, the body forces them. That is where buprenorphine plays such an important role. During the withdrawal period, if given appropriately, often in microdoses, it can reduce symptoms, preventing someone from using more opioids to resolve withdrawal [8]. But timing of administration and the correct amount is so important.

Patients with opioid use disorder who are pregnant should not be at risk of withdrawal as it puts the fetus at great risk. Therefore, buprenorphine administration during pregnancy can avoid that high-risk situation.

While the development of medications for addiction is a huge success in the treatment of SUD, as mentioned in the keynote address, those who suffer from the disease who are prescribed the medication need to continue taking it and supplement their recovery. I prescribe medication to assist in recovery. If patients return to see me for medication refills but are not happy or are demonstrating the same behaviors they did before they stopped using, we discuss change. Taking buprenorphine won't make the death of a loved one any easier, even though it might relieve cravings. Taking naltrexone won't help a marriage if the person is still having an affair. There is no question that lives change for the better when substance use stops, but incredible transformations occur with additional work in addition to sobriety. When patients take responsibility for their recovery, they also develop hope and a sense of accomplishment that can grow exponentially and be shared.

Some may argue that medication is the sole solution, and other modalities are not useful if medication is used. I challenge anyone to show me a case of someone who employs the tools that I use that has suffered adverse effects from them. Many say that even those **without** SUD would benefit from the same tools. This is another example where

there has become a disproportionate focus and funneling of resources.

The New Pill Mills

Many recall the "pill mills" that were shut down. They were enterprises that had both a physician and a pharmacy and were owned by the same entity, often the physician. The doctor ordered large doses of opioids that were dispensed at the same location, resulting in huge profits. The doctor saw the patient and charged a fee for the visit. The patient walked a few steps to the pharmacy at the same location to pick up the oxycontin for an additional fee. In some towns, Oxycontin was currency, like the scrip in the old coal mining towns. When new restrictions on opioid prescribing were enforced to stem the opioid epidemic and pill mills were closed, those with opioid use disorder who were receiving prescriptions from pill mills were suddenly cut off from their supply. Many turned to the streets to purchase illicit pills, but the expense was untenable, so heroin became the best option. Soon after, fentanyl was substituted for heroin and the death toll rose. But weren't the prescribing restrictions on prescription opioids developed to help?

The Pharmacology text by Goodman and Gilman describes the life cycle of every new drug as the "3P's: Panacea, Poison, and Practicality." Unless a drug is particularly toxic in the second stage and taken off the market, the stock prices probably follow the same life cycle until a generic form is produced. Where are we with buprenorphine, the common drug used to treat opioid use disorder? I believe we are still in the panacea stage. For prescribers, this is the honeymoon stage and the most carefree. It is the stage where we think the new drug will solve every problem and cause none. Doesn't the recent abandonment of the X-waiver requirement support the safety of buprenorphine since any physician can prescribe it who holds a DEA certificate now?

Methadone has been around for a long time but has so many downsides and many restrictions. And it was not solving the opioid epidemic. Enter buprenorphine. Fortunately, this seemed to be the solution. When the X-waiver program began, practitioners added self-pay patients to their normal primary care practice to increase revenue and serve patients without access to addiction medicine providers.

For-profit clinics opened all over to reap the benefits of prescribing buprenorphine. Patients, either with or without insurance, could just appear and get prescriptions for buprenorphine. Of course, there were "restrictions," on this practice too. State laws required specific frequencies of appointments and drug screens and "referral and work with a behavioral health care provider," if the prescriber of buprenorphine was not a board-certified addictionologist, addiction psychiatrist, or psychiatrist. However, patients could refuse the behavioral health element, but if they did refuse, there was a requirement to attend a 12-step or self-help recovery program and provide proof of meeting attendance.

How often do the patients follow through with the behavioral health care provider? How often do they bring in records that document 12-step or self-help attendance that is required if they do not see a behavioral health provider? The clinics ARE strict about the frequency of visits and drug testing because they generate even more revenue for the clinic. Even the suggestion of any enforcement of additional recovery support before continued prescribing of buprenorphine is met with, "It is harm reduction." Giving buprenorphine, regardless of patient compliance is justified because it is "better than death." The result is patients just keep getting buprenorphine regardless of other recovery activity or compliance. Now that the FDA has relaxed restrictions on buprenorphine prescribing and abolished the requirement for the X-waiver, anyone with a DEA certificate can prescribe it, yet people continue to die from opioid use disorder.

As federal health insurance payors reimburse for treatment with medication for opioid use disorder, centers hand out buprenorphine with little adjunctive treatment, and more are opening every day. By owning their own pharmacies (opioid treatment programs or OTPs), requiring frequent visits and laboratory testing, they profit more. Now the providers charge for a visit, charge for dispensing the medication, AND charge for laboratory testing. Insurance re-imburses for a specific number of confirmation drug screens. That exact number is ordered, regardless of the medical necessity. However, often there is no true treatment or impetus for patients to recover. Many do require counseling. What have we accomplished? Does this sound familiar?

Unintended consequences? Are we just closing the old pill mills and opening new ones? The pills just changed. Outpatient clinics are popping up like MacDonald's or "MacDDiction" and handing out buprenorphine like candy in the name of harm reduction. This is beginning to appear like just another money maker, not a problem solver. It is so much easier and faster to write the prescription. The physician sleeps better knowing they reduced harm, and they are getting a nice paycheck.

Rather than ONLY writing the prescription, we need to have the conversation about true recovery. The problem is the number of patients that can be seen in a day decreases, hence decreasing overall revenue. At one center where I worked, they wanted 30-40 patients to be seen from 8:30-5. That is only time to review the drug screen, prescription drug monitoring program, and decide what prescription to write, EVEN if the patient has relapsed. How can an impactful

discussion about recovery be included with that time restriction, even for those who are doing well and should be praised? One of the training videos suggested that the words "personal responsibility" should not be used when referring to patients. And there are many patients who continue to get prescriptions, continue to relapse, and continue to find new bottoms who need a higher level of care. They should be referred to inpatient care but if that happens, the outpatient center loses money. They also frequently ordered levels of buprenorphine and norbuprenorphine to ensure compliance. Each of those tests has a cost. If you have instructed a patient on taking buprenorphine, how often do you think they do it correctly? What do you think the levels really mean and why do they vary so much between patients? Could it be because the appropriate process for sublingual administration is so difficult? Also, at the same center, they only prescribe pills and no strips because they are cheaper and produce an increase in revenue. Many patients tell me the strips dissolve much faster, probably improving absorption. If the levels are low, more appointments can be justified, therefore increasing the cost of healthcare even more. After developing rapport with patients, I discuss sublingual buprenorphine, and they admit how often they don't administer it correctly. Probably, patients often are craving due to the variation in levels. Fortunately, for me, it opens the discussion for injectable buprenorphine. Many of these centers will not offer injectable buprenorphine or naltrexone because they won't profit from it, despite it being in the best interest of patients.

I have talked to people in recovery who are not my patients or patients who finally understand and embrace the concept of recovery and later tell me all their tactics to circumvent the system. If a patient does well and is moved to 2-week or 4-week visits, they will save their medication until 2 days before the visit. They sell what they saved to buy fentanyl and take just enough buprenorphine to make the drug screen positive for buprenorphine. Then know how long to stop the fentanyl to keep it from testing on the drug screen and to allow them to tolerate the buprenorphine just before the visit without producing withdrawal. I don't think I could even do that! Many centers will not do observed testing as it may be offensive to the patient. So, the patient can dip a buprenorphine pill or strip into the urine and produce a positive test result. A skilled clinician will order a confirmation test to detect diversion, but anyone with a DEA license can prescribe the drug and those without addiction medicine training may not be familiar with these nuances.

Harm Reduction

General "harm reduction" alone cannot solve this problem. In fact, finding good evidence for its success is difficult [9, 10], except for reducing transmission of infectious disease with needle exchange programs. And even the incidence of hepatitis C is increasing again. Of course, no one is against harm reduction! And harm reduction can refer to many different tools along the path of the treatment of SUD and along a patient's path of recovery.

But if something is better than death, is that enough? There are circumstances that are so dire that harm reduction is the only option, and in some cases, we can keep someone alive long enough for them to eventually get treatment. We can still set reasonable small goals for which a patient can aspire. In an outpatient clinic, it is often a different story than the ED after an overdose or the street. We don't give a diabetic insulin and no instructions on diet, exercise, lifestyle change and say, "giving them insulin alone is better than them dying." Many of my patients with use disorders have told me they would prefer death to the way they are living. Is this the meaning of harm reduction? Does this encourage and inspire long term recovery? My counselors wanted more for me in life than mere survival. Many believe that if people "report" using less that we have succeeded. Are the patients even telling the truth or are they just telling us what they think we want to hear to continue getting buprenorphine?

How can we embrace the disease model and understand exposure to a substance (regardless of the amount) leading back to the cycle of craving and more use (tolerance) and at the same time congratulate someone because they are using less than they were? How long will that last?

I recently attended a webinar espousing harm reduction and the various resources that are being set up to do that. At the same time, people from all over the country continued to discuss the increase in deaths from opioids in their regions. One suggestion was that by allowing patients to come to a safe building and inject fentanyl under supervision with clean needles, we engender their trust, so they stay and then get into treatment and avail themselves to other needed services. Are people coming to find someone they can trust or coming to a comfortable place with air conditioning/heat, food, and comfortable chairs and beds to inject with clean needles? Why don't patients trust us when they come to substance use treatment centers where people are not injecting? I sometimes believe we are doing what makes **us** feel better rather than what works.

My understanding and education regarding harm reduction has come so far after discussing this topic with many people and I have concluded that, like so many other tools, it plays an important role, but it is not the ONLY solution.

Part of the cultural change described by Dr. Volkow includes integrating the treatment of SUD into the rest of the healthcare system. Maybe if we stop isolating those with this disease to the pill mills, especially since they have so many co-morbidities (including mental health), and integrate them with the rest of our healthcare system, we will further reduce or eliminate the stigma and engender more trust with our patients, while treating them more holistically.

It Is Always About the Money

Like many problems in history, they can often be described by following the money. Does the name "Sackler" ring a bell? Large amounts of dollars are being distributed by the opioid settlement fund and most people have no idea where it is being dispersed. The information is all available online and can be found with some searching. Much of the money has been given to research for harm reduction, however there is quite a bit that is still to be spent. Outpatient centers continue to pop up everywhere offering medication treatment. There must be money to support them.

The keynote address mentioned the justice population [11]. I participated in prescribing buprenorphine for men via telehealth who were in federal halfway houses. I was not permitted to give them a medication refill when they were released, and the grant had no provision for finding them any follow-up care or an appointment when they were released. I did internet searches to locate clinics that would accept them, gave them the information and often tried to set up an appointment for them, all outside of my duties. What did those who developed this process expect to happen?

Alcohol and drugs are just a symptom. This is a common refrain heard from those in recovery from SUD. Recovery is more than just abstinence. It is about the person changing. Even if a substance is illegal or it becomes too expensive, another substance will be developed to replace it. Say hello to fentanyl. Therefore, if we only reduce harm, we are not really treating the problem. Dr. Volkow referred to ongoing research to prevent methamphetamine or fentanyl from getting from the blood into the brain. But what about keeping methamphetamine and fentanyl out of the body? If this works, a new drug will be developed that will get into the brain. The goal of recovery is to change for the better, and the principles are the same regardless of what new drug is developed.

Practicality

Maybe we will come to the place where buprenorphine is a "poison" as more gets diverted and it is viewed more as a source of capital? However, I don't think that will happen. But before that, maybe we can jump to practicality. Instead of giving buprenorphine and methadone to everyone for as long as they desire, we could be more select in using it and we can incorporate more recovery tools with its use. Shorter term use to prevent withdrawal and use for pregnancy are important, but maybe those who stay on the medication long term should be selected more carefully.

Injectable buprenorphine is also extremely practical. Monthly injections allow the level of drug to be consistent, without requiring daily dosing and difficult compliance for appropriate administration. This formulation also eliminates diversion and should be an ideal preparation for tapering.

The opioid epidemic is a tragic combination of unintended consequences that are continuing. From detail men peddling drugs to doctors in their offices, advocacy for pain control, legislation related to pain and opioid use, and all the failed "solutions," people continue to die in huge numbers. Few specialties, including medical toxicology, are immune from the effects of this scourge.

All healthcare professionals who work in the SUD field should recognize the importance of the different stages of SUD and different steps in recovery and understand when and where they apply.

Medical toxicologists learn structures, doses, interactions, pharmacology, pharmacokinetics, mechanisms, receptors, but sometimes we are required to shift the way we approach patients. While it seems like it should be easier than those objective chores, for many it is much more difficult.

We can do more than save lives. By working with SUD patients, we can help them develop a sense of responsibility and fulfillment that fuels further recovery that they can share with others. In addition, our careers and lives can also be further rewarded.

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