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Ketamine therapy is raising concerns about overdoses, addiction and predatory business practices

Ketamine has become a popular alternative treatment for depression and other mental-health ailments – but doctors and regulators are increasingly concerned about its risks.

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The 35-year-old woman arrived at the emergency room unresponsive.

A few weeks earlier, she had started telehealth therapy for post-traumatic stress disorder that involved dissolving tablets of ketamine — an anesthetic that’s increasingly being used as a mental-health treatment — under her tongue for a few minutes before spitting out her saliva. On the day of her trip to the ER, the telehealth provider instructed her to swallow her saliva instead of spitting it out — contradicting her written prescription. Soon she was in an ambulance to the hospital, where she was found to have a blood concentration of ketamine that was double the level typically used for general anesthesia.

The patient recovered after being treated with atropine, which is often used to counteract nerve-agent poisoning. But her “massive unintentional ketamine overdose” was reported by emergency-medicine doctors at UMass Memorial Medical Center in Worcester, Mass., in a letter to the editor published in the American Journal of Psychiatry early this year. The incident raises broader questions about at-home ketamine therapy, the doctors wrote.

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safety risks,” the doctors wrote, and may foster “predatory” business practices as for-profit companies vie to treat a vulnerable population. Guidelines for prescribing and monitoring ketamine therapy, the doctors said, are needed to ensure safe, equitable access for patients.

The UMass doctors aren’t the only ones raising alarms about the at-home use of ketamine, a controlled substance that can have hallucinogenic effects. Late last year, the U.S. Food and Drug Administration warned against the use of compounded ketamine without the close supervision of a healthcare provider, saying that, even though patients may be attracted by the ability to get such products through telemedicine platforms and compounders for at-home use, the lack of on-site monitoring for negative side effects could put users at risk. What’s more, the FDA “has not determined that ketamine is safe and effective” for treating psychiatric disorders, the agency said. About 55% of people who have tried at-home ketamine therapy reported either accidentally or intentionally using more than the recommended dose, according to a 2023 survey by All Points North, a mental-health company.

Ketamine was approved by the FDA as an anesthetic in 1970. After research in recent decades suggested that sub-anesthetic ketamine doses held promise as a depression treatment, some healthcare providers increasingly prescribed it for psychiatric disorders – an “off-label” use that has soared in the U.S. without the FDA’s approval and that remains largely unregulated.

Major providers of at-home ketamine therapy say they’re already adhering to high standards. But some industry insiders also say it’s time to rethink at-home ketamine use, in part because sparse data on patient outcomes leave questions about the safest, most effective dosages and frequency of treatments. The American Society of Ketamine Physicians, Psychotherapists and Practitioners, a professional group formed in 2016 that now has roughly 500 members, plans to issue new guidelines on the practice in the next few months – and online-only business models that don’t include an ongoing relationship between the patient and practitioner won’t be recommended, Sandhya Prashad, a psychiatrist and the group’s president, told MarketWatch.

There’s tension, however, between monitoring ketamine use more closely and maintaining its affordability and accessibility for patients who are desperate for effective mental-health treatments. A series of infusions administered in a clinic can cost several thousand dollars or more, while ketamine lozenges that can be taken at home can go for just a few dollars per dose. In many cases, patients pay out of pocket, as ketamine therapy is often not covered by insurance.

was blamed in part for the 2023 death of “Friends” star Matthew Perry. Online ads and social-media posts touting ketamine have spawned even more confusion about a drug that’s simultaneously an FDA-approved anesthetic, an alternative mental-health treatment and a party drug known as “Special K.” A recent study of online ketamine advertisers published in JAMA Network Open found that many did not disclose the risks of negative side effects, addiction or misuse, and some falsely described ketamine as nonaddictive.

The ketamine-therapy business, virtually nonexistent a decade ago, has grown into an industry with clinics dotting the country. Roughly 1,200 to 1,500 ketamine clinics operate in the U.S., up from 60 in 2015, according to a recent report from R&A Psyins, an insurance broker that offers coverage to psychedelics-focused businesses. The U.S. ketamine-clinic market was valued at \$3.4 billion in 2023, up 70% from 2018, and is projected to grow nearly 11% annually through 2030, according to Grand View Research. Online providers, fueled in part by [more relaxed telehealth regulations](#) implemented during the COVID-19 pandemic, control nearly half the market, according to Grand View.

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Ketamine “is helpful for getting one out of a negative frame of mind,” Tesla Inc. **↓ TSLA -3.14%** Chief Executive Elon Musk told journalist Don Lemon in a March interview, noting that he has a prescription from “a real doctor” for the drug. For people who have “a chemical state in your brain that you can’t just think yourself out of, then ketamine is helpful for getting you out of a depressive mind state,” Musk said.

A ‘race to the bottom’



Juan Pablo Cappello, who co-founded an at-home ketamine-therapy provider, said he's "very concerned" about the industry's direction.

PHOTO: DANNY GABRIEL

Juan Pablo Cappello, a Miami-based entrepreneur, co-founded at-home ketamine-therapy provider Nue Life Health Inc. in late 2020. But he backed away from the industry as he became increasingly uncomfortable with the profit-centered trends he saw, he told MarketWatch, and he is no longer affiliated with the company. "We found it harder and harder to find investors who really valued what we were doing," Cappello said, describing his effort to offer ketamine as a limited part of a longer-term, comprehensive therapy program.

"I'm very concerned about what I see in the industry," Cappello said. Some providers are putting profits above client safety, he said, as they're "trying to sling as much ketamine as possible at the lowest price with the least amount of friction."

Cappello said he's not pointing fingers at any particular companies. His concerns stem partly from the pressure he felt from some investors to maximize each patient's profitability, he said, as well as the growing number of patients who seemed to shop for ketamine based on price alone — prompting a "race to the bottom" that allows for the overuse and abuse of ketamine.

Now, Cappello is calling for a six-month pause on the practice of offering at-home ketamine treatment while the industry develops minimum standards to ensure patient safety is prioritized.

patients having medical issues related to chronic ketamine use and abuse.” The rush for profits, particularly among at-home providers, could “destroy this nascent healing industry,” he said.

Daniel Love, acting CEO of Nue Life and co-founder and partner of Beckley Waves, the startup incubator that acquired Nue Life last year, said he and Cappello “agree that patient safety should be prioritized over economic gain. At Nue Life, our first and foremost goal is to provide safe and affordable access to those in need.” Nue Life’s program of six ketamine treatments includes consultations with a medical provider, education, one-on-one coaching, group support and other services and costs \$1,399, Love said. Patient screening includes an assessment of the client’s home to ensure that it’s a safe setting for treatment, and treatment itself requires the presence of a “supportive caretaker,” he said.

When the FDA has approved a ketamine-derived drug to treat a mental-health condition, it has tightly controlled its use. In 2019, the regulator approved esketamine, marketed by Johnson & Johnson as the nasal spray Spravato, for treatment-resistant depression. The drug generated \$225 million in global sales in the first quarter of 2024, Johnson & Johnson [↑ JNJ +0.01% reported this month](#), up 72% from a year earlier. But the FDA does not allow Spravato to be taken at home, and the treatment is available only under a drug-safety program called a Risk Evaluation and Mitigation Strategy. Patients have to be monitored by a healthcare provider for at least two hours after each dose, the FDA has said, noting “the risk of serious adverse outcomes resulting from sedation and dissociation” as well as the potential for abuse and misuse of the drug.

The off-label use of ketamine itself, meanwhile, has no such regulations. At one large at-home provider, Mindbloom, patients go through a full psychiatric and medical telehealth evaluation before treatment and are required to have another adult present when they take the ketamine, Michael Petegorsky, Mindbloom’s head of public affairs, told MarketWatch. Petegorsky added that patients are required to consult with a clinician after the initial treatments to discuss any side effects and whether it’s appropriate to continue treatment. Mindbloom says it now provides 250,000 ketamine sessions per year, and the number of sessions facilitated by its clinicians quadrupled between 2021 and 2023.

Petegorsky is looking toward the FDA’s [potential approval of the psychedelic MDMA](#) for treating PTSD — approval is widely expected in August — to open the door to further growth of ketamine. “There’s huge stigma around psychedelic medicines in general,” he said, “and MDMA approval will help legitimize the whole category.”

school and an attending physician at Jewish General Hospital in Montreal, plans in the coming months to open a ketamine clinic in Los Angeles — but at least initially, the clinic won't offer any remote treatments, he said. Although patients may undergo the treatment at home, he said, they'll be supervised in person by a physician or nurse practitioner. The ketamine lozenges often used for remote treatments have a variable bioavailability depending on how they're consumed, meaning patients' actual dosage could be higher or lower than intended, he said. On top of the physiological risks, he said, there are psychological risks for patients if challenging content emerges during the treatment that requires immediate attention from a healthcare provider.

Nushama, a ketamine clinic in New York City, is also staying away from remote treatments, said co-founder Jay Godfrey. Recent red flags, like the research suggesting that the majority of at-home ketamine users have not taken the treatment as prescribed, only strengthen the company's belief that the therapy is best administered under medical supervision, he said. "It's a little bit too loosey-goosey out there," Godfrey said. "We believe we're one of the centers that does it right."

Social-media platforms, meanwhile, are also wrestling with the gray areas around ketamine's use as a mental-health treatment. Meta Platforms Inc.'s **↓ META -1.29%** external oversight board, an independent body that weighs Facebook and Instagram content-moderation questions, last year examined an Instagram user's post praising ketamine as a treatment for anxiety and depression and calling it "a magical entry into another dimension." The board said the post, which was labeled as a paid partnership and viewed 85,000 times, should be removed, and that Meta should clarify in its standards that content related to using or promoting pharmaceutical drugs where that use may result in a "high" is allowed only in the context of a "supervised medical setting," among other conditions.

Meta rejected that recommendation, saying requiring such detail could lead to the removal of content where there's no indication that the drug has been misused. But the company agreed with some of the board's other suggestions, including ensuring that content created as part of a "paid partnership" is reviewed against the company's branded-content policies. Meta did not respond to a request for comment on the board's decision and its response.

Nushama, a New York City clinic, offers only on-site ketamine therapy.

PHOTO: COURTESY OF NUSHAMA AND COSTAS PICADAS

A dearth of data

After Matthew Perry died in his swimming pool last year, an autopsy report released in December by the Los Angeles County medical examiner revealed ketamine levels in the actor's blood within the range typically used for general anesthesia and determined he died from "acute effects of ketamine." Perry had been on ketamine-infusion therapy for depression and anxiety, but his last known treatment, a week and a half before his death, was not related to the ketamine in his system when he died, according to the report. It's not known how Perry took the drug that led to his death, the report said.

In the aftermath of that high-profile death, experts said the industry needs to establish standards for the safest and most effective approaches to ketamine therapy. As a result, the American Society of Ketamine Physicians, Psychotherapists and Practitioners started working on new guidelines, but the group has found it challenging to build consensus. "This is a very controversial area," said Prashad, the group's president. "It's hard to get a lot of people on the same page."

Safe and effective dosages, for example, are a matter of some debate. Some online companies, Prashad said, are offering very high dosages. "Even in a clinical setting where I'm personally monitoring patients, I'm not using IV doses as high as what they're sending people at home," she said. For the higher dosages, she said, "I don't know that we even

Dosage decisions are also tricky because of variations in the sublingual and oral compounded ketamine products marketed by compounders and telehealth platforms, “which makes it challenging to predict which potential risks may be associated with these products,” the FDA said in its warning late last year.

More broadly, “it’s really hard at this point to make guidelines when we don’t have high-quality data to base the guidelines on,” said Gerard Sanacora, a psychiatry professor at Yale University School of Medicine and director of the Yale Depression Research Program. Sanacora has called for a clinical registry for the off-label use of ketamine, similar to the drug-safety program in place for Spravato. A registry, he said, would help determine “what’s the most effective dose, what’s the best frequency, where do you run into trouble.”

While bladder damage, for example, can result from ketamine misuse, Sanacora said, it’s not clear what level of use really amplifies that risk. Other risks include increases in heart rate and blood pressure that could lead to cardiovascular complications, he said, as well as the drug’s potential to exacerbate any substance-use issues a patient might have — or create new ones. “We know it’s a risk, but we don’t know the reality of it because we don’t have a registry,” he said.

As for the at-home use of ketamine, Sanacora said, “Without more data and more evidence of its safety and efficacy, I do not think this is a practice I’d recommend to anybody under normal circumstances.”

Despite all the potential benefits of a clinical registry, Sanacora acknowledges, it’s tough to think of anyone who could take the helm of such a project. It doesn’t fall directly under any federal agency’s jurisdiction, companies are unlikely to fund it because there’s no way to recoup the cost, and clinicians and patients are unlikely to participate without any enforcement mechanism, he said.

While ketamine can clearly be used safely for many patients, Sanacora said, questions remain about how to open up access for people who can benefit from treatment without crossing a line where providers are doing more harm than good. “We really just don’t know where that point is yet,” he said.

Patients like 53-year-old Kimberly Juroviesky say ketamine therapy’s benefits are clear. Juroviesky was injured in 2009 during a training exercise while on active duty in the U.S. Air Force and developed a severe chronic pain condition called complex regional pain syndrome. She started getting ketamine infusions in 2015, and “it’s been a miracle for me,” she said. While it doesn’t make her pain disappear, she said it makes it bearable, and

group focused on increasing safe, accessible care, education and insurance coverage for ketamine.

In addition to IV infusions in a clinic, Juroviesky said she has also taken ketamine at home. "I feel very safe either way," she said, adding that she would never take ketamine without a support person present. She is concerned, however, that some of the dosages available from online providers are too high. There should be better guardrails, she said, such as a cap on dosages available through online prescribing.

But any new restrictions, patient advocates say, should be balanced against the need to preserve patients' access to effective treatments. For many people struggling with suicidal thoughts, Juroviesky said, ketamine "is a lifesaving medication."



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