The New York Times https://www.nytimes.com/2025/12/15/health/medetomidine-withdrawal-symptoms-treatment.html

Medetomidine, a veterinary sedative, mixed into fentanyl has sent thousands to hospitals, not only for overdose but for life-threatening withdrawal. It is spreading to other cities.

By Jan Hoffman Photographs by Hannah Yoon

Dec. 15, 2025

Around 2 a.m., Joseph felt the withdrawal coming on, sudden and hard. He fell to the floor convulsing, vomiting ferociously. The delirium and hallucinations were starting.

He shook awake his friend, who had let him in earlier to shower, wash his clothes and grab some sleep. “Do you have a few dollars?” he pleaded. “I have to get right.”

The friend, a community outreach worker who had been trying for years to get him into treatment, looked up at him standing over her raving and unfocused.

“Either leave or let me call an ambulance,” she demanded.

At 34, Joseph (who, with his friend, recounted the evening in interviews with The New York Times) had been through opioid withdrawals many times — on Philadelphia streets, in jail, in rehab. But he had never experienced anything as terrifyingly all-consuming as this.

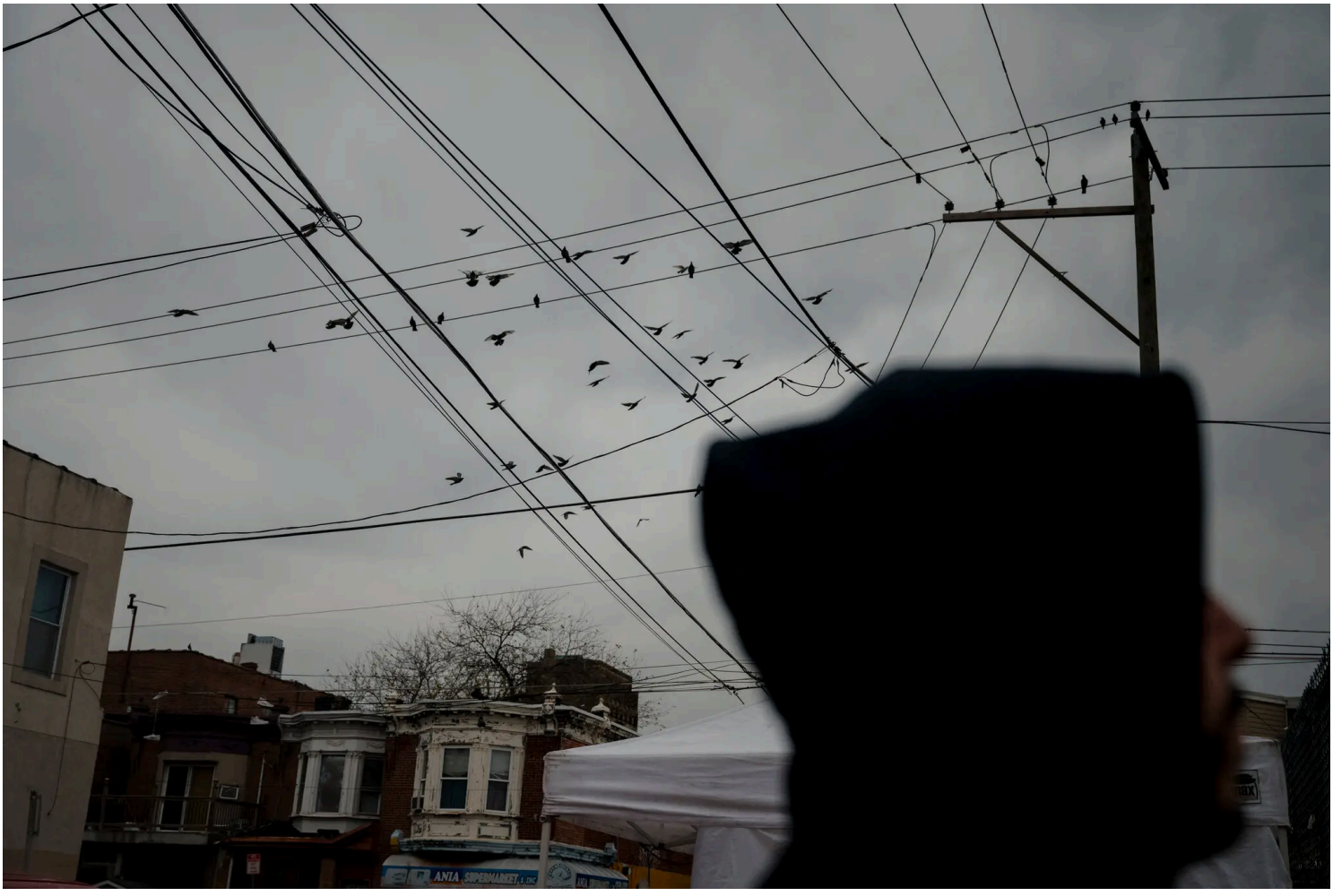
A new drug has been saturating the fentanyl supply in Philadelphia and moving to other cities throughout the East and Midwestern United States: medetomidine, a powerful veterinary sedative that causes almost instantaneous blackouts and, if not used every few hours, brings on life-threatening withdrawal symptoms.

It has created a new type of drug crisis — one that is occasioned not by overdosing on the drug, but by withdrawing from it.

Since the middle of last year, Philadelphia's hospitals have been strained by patients coming in with what doctors have identified as medetomidine withdrawal. Although the heart rate slows drastically right after use, in withdrawal the opposite occurs: The heart rate and blood pressure become catastrophically high. Patients experience tremors and unstoppable vomiting. Many require intensive care.

Joseph didn't have time to go to a hospital. His heart was pounding so frantically that he felt trapped in a never-ending panic attack. Slick with sweat and retching, nerves firing in pain, he clutched the bills his friend had angrily thrust at him and left her house in South Philly. He lurched down the dark street, hoping to buy just enough dope to feel less sick.

A city under a new siege



According to Philadelphia public health records, there were 7,252 admissions to hospital emergency departments for withdrawal in the first nine months of 2025, compared with 2,787 for all of 2023.

Philadelphia has long been a sentinel in the country's ever-changing drug crisis. It was only a few years ago that xylazine, a large-animal tranquilizer that can cause rot and abscess in human tissue, appeared in the fentanyl throughout the drug-battered Kensington neighborhood. Soon, it began churning across the country.

Now xylazine is fading from Philadelphia, replaced by medetomidine, a 30-year-old veterinary sedative and anesthetic that is up to 200 times as potent. It has been detected in 91 percent of the city's tested supplies of fentanyl, according to the Center for Forensic Science Research and Education, a national drug-checking lab.

In withdrawal, some patients become mute, appearing unaware as they defecate on the floor or vomit on nurses. The very high blood pressure can cause brain damage.

"Our I.C.U.s have been overwhelmed," said Dr. Daniel del Portal, an emergency room physician and hospital administrator at Temple Health, adding that doctors, emergency medical workers and outreach teams now refer to "the withdrawal crisis."

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Medetomidine has also been reported in Massachusetts, Maryland, North Carolina, Florida, Missouri, Colorado, Ohio and, increasingly, in New Jersey and Delaware. Chicago had a cluster. Pittsburgh is beginning to be inundated.

Kelli Murray, a person in recovery who is a peer support specialist with the University of Pennsylvania addiction medicine program, said medetomidine takes a terrible toll on people she tries to help.

From a drug dealer's grimly economic perspective, medetomidine is a smart choice. It is mostly manufactured in China and can be purchased cheaply online from suppliers of veterinary medicine and research chemicals. It is so addictive that dealers don't need to mix much into fentanyl.

Right after snorting, injecting or smoking fentanyl with medetomidine, users collapse. At 8:30 a.m. on a busy weekday, people were splayed along Kensington Avenue, oblivious to trains roaring overhead and ambulances shrieking by. A man lay on his side, his weight crushing an arm and leg. Another sprawled on his back, his head pillowed by the curb. When the drug wears off, people come to, wakened by fresh craving.

Kelli Murray, a peer support specialist with the University of Pennsylvania addiction medicine program, lugged a wagon filled with sweatpants, underwear, deodorant, water bottles, Doritos and wound care kits.

A brittle-thin young woman named Jessica wobbled over to the wagon and pulled out a hoodie. She felt imprisoned by the drug, she said. "I feel so stuck. I don't know how to get off it. It's making me crazy."

Ms. Murray, who is herself in recovery, asked: "You want to come into the hospital?"

Jessica shook her head. "I'm too scared."

People have such a dread of withdrawal that many refuse to go to treatment centers, which, they fear, will manage their symptoms inadequately. Some speak of making it to a hospital, only to spend hours in escalating distress, watching as patients with other emergencies — car accidents, stabbings — are taken first. In agony, they leave, to medicate themselves on the street.

One last taste

The emergency entrance for Temple University's main hospital in Philadelphia, which is being inundated with patients in medetomidine withdrawal.

Joseph had walked out of many emergency rooms.

On that chilly night last April when his friend kicked him out, Joseph, who asked to be identified by his middle name to protect his privacy, stumbled to a South Philly subway to reach his dealer. When the gates opened at 3:30 a.m., he curled up in a corner to shield himself from the wind and then sneaked onto the first train.

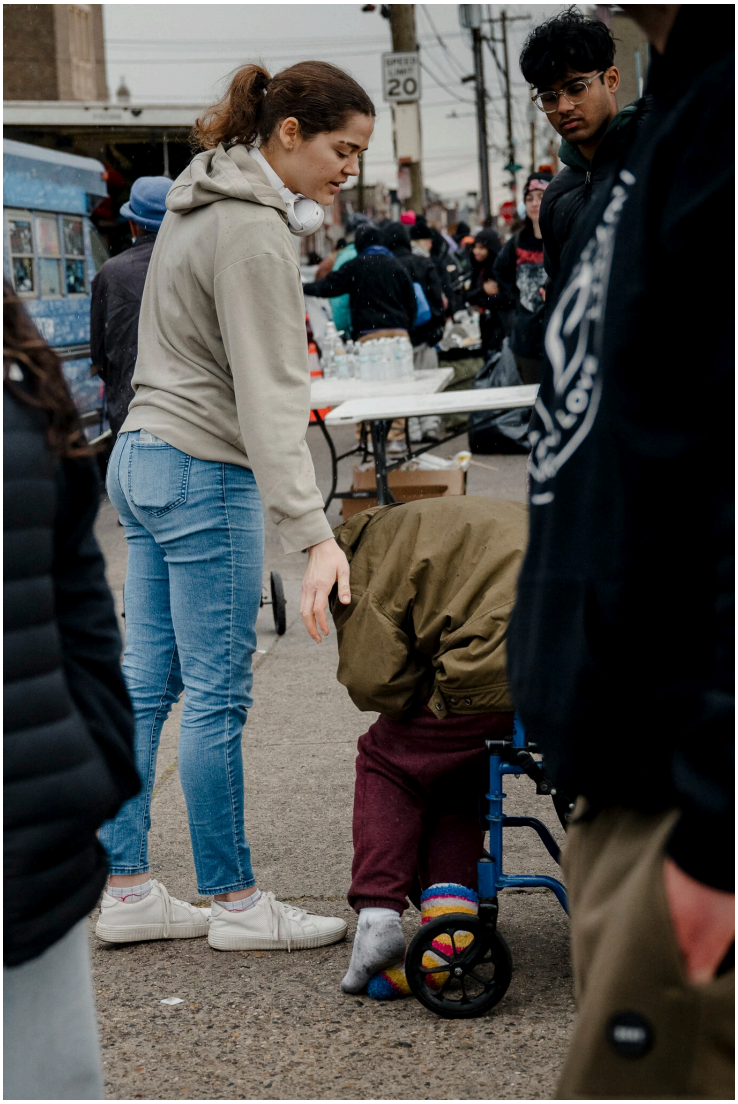
He took stock of his life. He hadn't been allowed to visit his kids in months. He couldn't remember how long it had been since he'd worked in construction. And he had just asked for drug money from the woman he calls his "sister," the one person who had always stood by him.

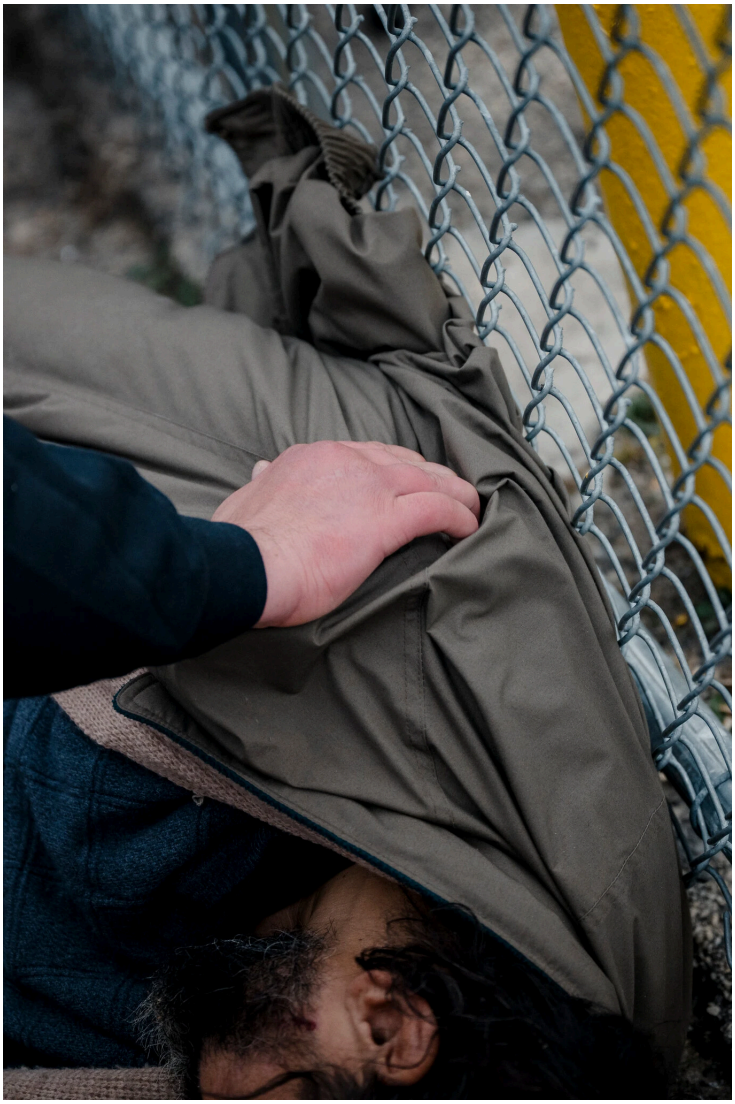
His body was a wreck: the xylazine scabs across a shoulder blade endlessly itchy, veins shut down from injecting, sinuses swollen from drug-snorting, nasal cavity bloody and oozing.

He missed his stop, doubled back. A woman who was high peered at him. “You need to get to a hospital,” she said. “I can call you an ambulance.” He recoiled.

With his last three dollars, he bought a taste, just enough so he could get to a hospital on his own. Now he was done. He was ready.

One more careening subway trip. By the time he staggered through the hospital doors, the quick hit had worn off and the withdrawal was raging. He was admitted right away.





Shortly after using fentanyl mixed with medetomidine, people abruptly collapse; Joseph checking on a person passed out on the street.

The Philadelphia surge

The medetomidine invasion of Philadelphia began the last weekend of April 2024, with emergency departments overrun with more than 100 unusual opioid overdose cases. Although patients resumed breathing after overdose reversal medicine, they did not wake up, remaining heavily sedated for as long as 12 hours, their hearts scarcely lumbering along at 30 beats per minute.

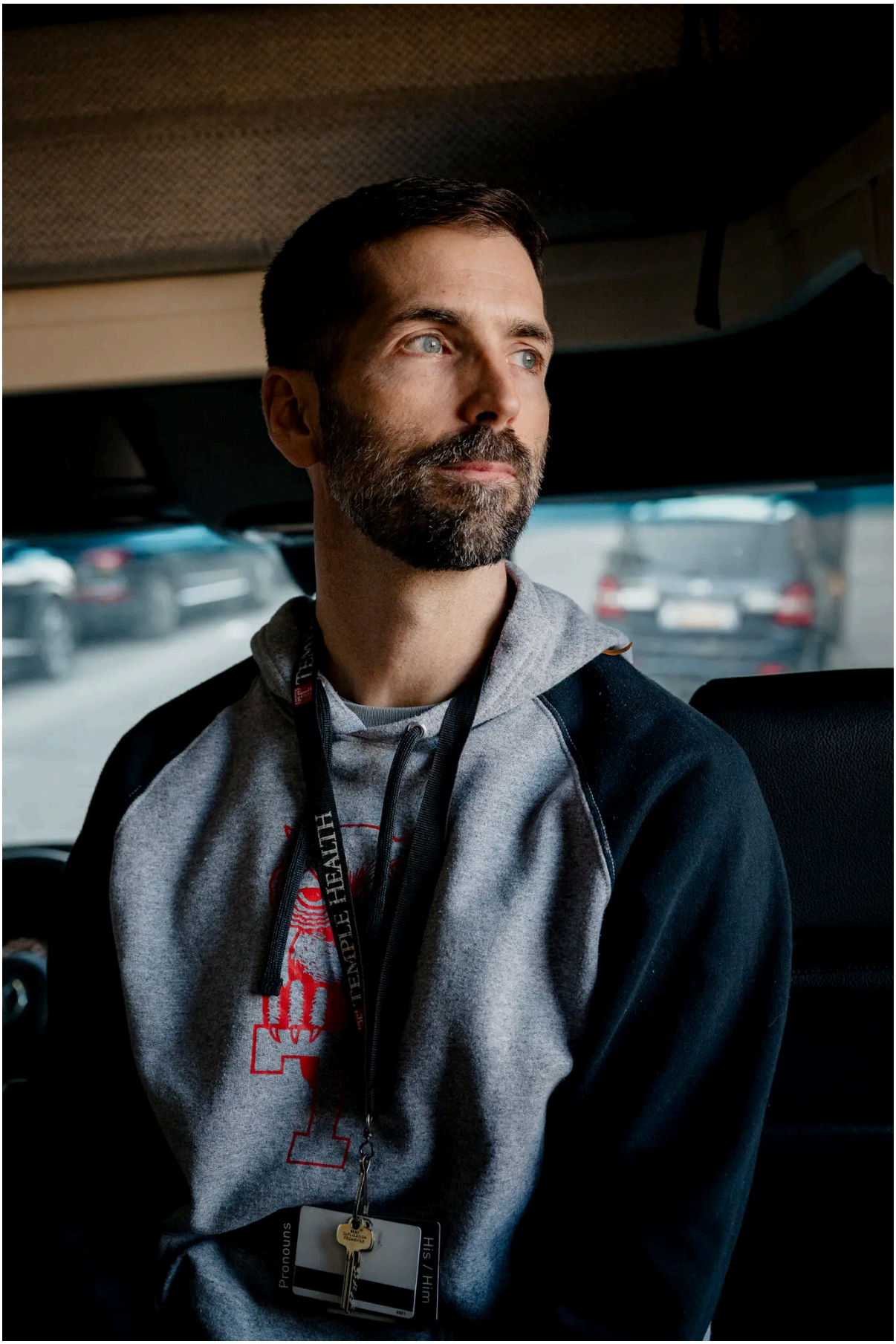
On Thursday, May 2, Dr. Brendan Hart, an addiction and emergency physician at Temple who was alarmed by the overdose spike, texted an epidemiologist in the public health department.

The city had been sending samples of recovered drugs to the national forensic drug-checking lab, which is outside Philadelphia.

On May 3, the epidemiologist texted Dr. Hart: “Medetomidine was detected for the first time in our supply this week.”

Medetomidine had been popping up in scattered samples in the Midwest, though nothing like the Philadelphia surge. Dr. Daniel Teixeira da Silva, who directs services related to substance use for the city’s health department, met with clinicians and street outreach teams across the city. Ten days later, the department sent an alert to hospitals. A week later, the drug-checking lab put out a nationwide alarm to emergency workers, medical examiners, harm reduction teams and public health officials.

Lab toxicologists and doctors at Temple, the University of Pennsylvania and Thomas Jefferson University collaborated to publish case studies and put on webinars to spread the word, initially focusing on the extreme sedation.



Dr. Brendan Hart, a Temple addiction and emergency physician, sounded an early warning about medetomidine. “People are dependent on a substance they didn’t intend to use and hadn’t heard of,” said Dr. Hart, here at a mobile clinic in Kensington.

But by fall 2024, as more people became dependent on the medetomidine-fentanyl mix, its true horrors emerged. Patients with heart rates reaching 170 beats per minute (normal resting rate is between 60 and 100) arrived by ambulance not only from the streets but from drug treatment centers and police holding cells. Doctors "tried everything under the sun," as one put it, to contain the withdrawals. They landed on an intravenous drip of dexmedetomidine, a human-safe sedative cousin of medetomidine. Now the health department distributes palm-size cards about medetomidine with treatment instructions for people in withdrawal.

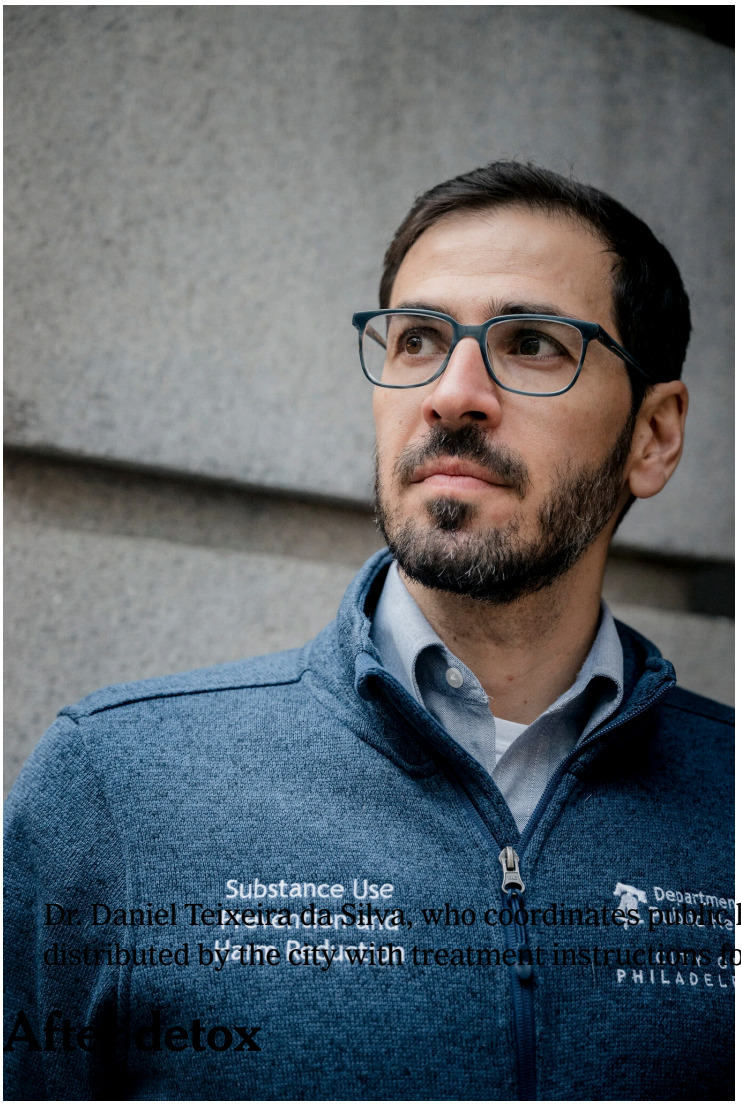
As patients fill intensive care beds, hospitals are debating how to stanch the cascading effects. Hospital costs are ballooning. Because medetomidine withdrawal is not yet a recognized diagnosis that requires extended hospitalization, reimbursement is limited.

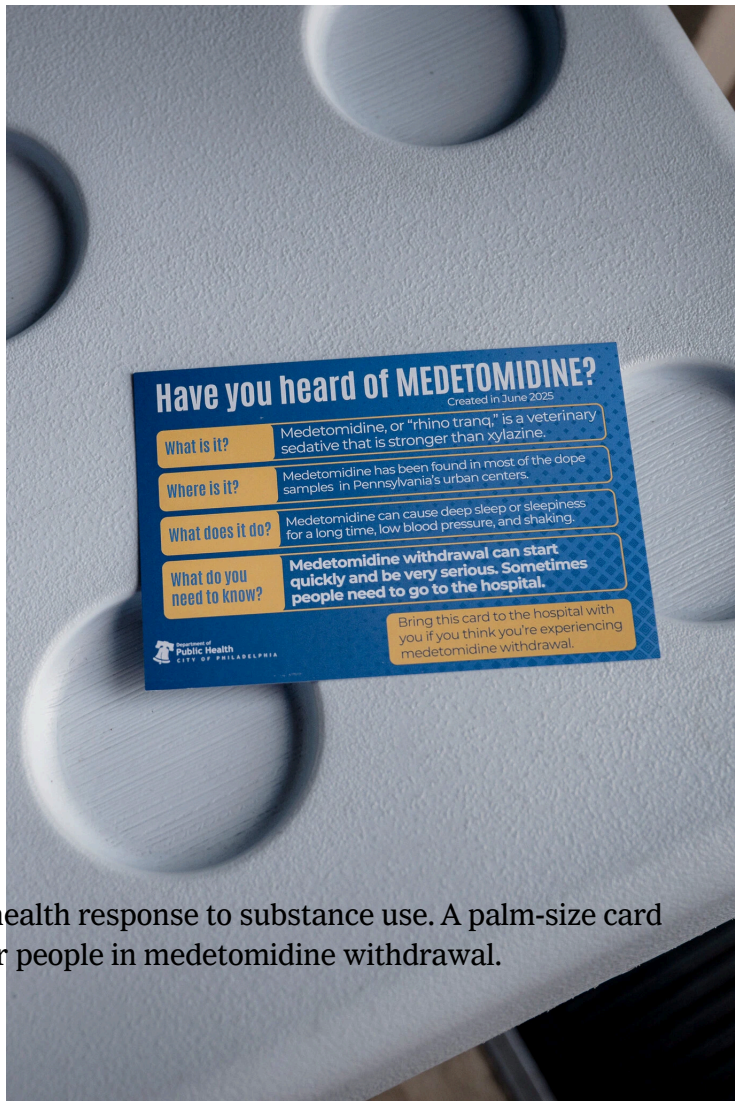
The meter begins ticking even before the patient is admitted: In a six-month stretch this year, a special critical care ambulance transported 255 patients from Temple's Kensington satellite to its main hospital — a two-mile trip taking 11 minutes. By year's end, the cost to the health system, just for that transport, is expected to reach $2 million.

And after these fragile patients are stabilized, doctors wrestle with how to safely discharge them, many homeless, some temporarily cognitively impaired.

Now, as temperatures drop, Dr. Teixeira da Silva worries about people collapsing outdoors from medetomidine, presenting what he calls "a public health crisis of prolonged sedation." How should emergency workers treat a medetomidine-sedated person whose wet clothes and skin may be frozen to the sidewalk?

"If we're calling E.M.S. for everyone that's sedated and exposed to extreme cold, what's going to happen to our hospitals?" he asked.





Dr. Daniel Teixeira da Silva, who coordinates public health response to substance use. A palm-size card distributed by the city with treatment instructions for people in medetomidine withdrawal.

After detox

A few weeks ago, Joseph made his way down a crowded sidewalk just off Kensington Avenue, chatting with people lining up for services and with those offering them. Each Saturday the Everywhere Project, a nonprofit, provides food, clothing, first-aid nursing, safe drug-use supplies and flowers for up to 500 people. Organizers estimate that perhaps three-quarters use drugs. Joseph is a regular volunteer. Until last spring, he had been a regular client.

“I can be myself around everybody here,” Joseph said. ”People have seen me at my best and at my worst a couple of times over.”

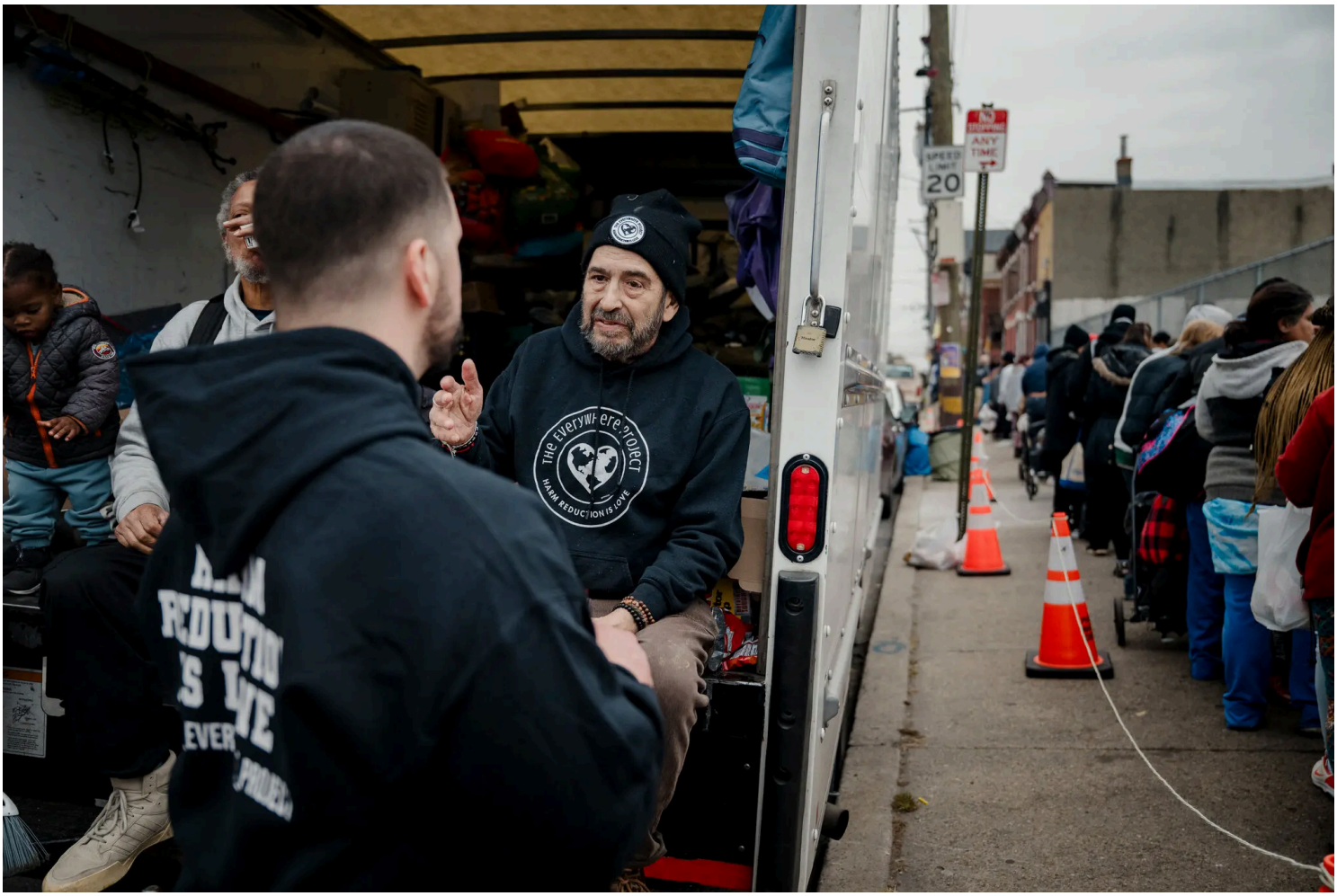
He was no longer a wraithlike young man with wild, tangled hair and the bloodied face of a boxer who’d lost the match. This Joseph sported a buzz cut, close-cropped mustache and beard, and a body that moved confidently, having regained 60 pounds.

After being admitted that night last spring, he spent seven days in the hospital, most of it in intensive care. One day, still in withdrawal pain, he hallucinated that he had money to buy drugs. He yanked out his IV lines, muttering that he needed to get right.

“I didn’t want to go through it no more,” he said.

“But,” he continued, “I also didn’t want to do it no more.”

Exhausted, he fell back on the bed.



Joseph with Gary Zavodnick, a volunteer with the Everywhere Project, as people lined up for free meals in the Kensington neighborhood of Philadelphia.

On another day, when his vital signs seemed stable, he was transferred to an intermediate-care floor. A few hours later, his heart rate rocketing, he was rushed back to intensive care.

At discharge, Joseph wanted to continue detoxing. Hospital social workers found him a bed in inpatient rehab, where he began group and individual counseling. Clinicians carefully adjusted his medicine, including clonidine for the medetomidine-related high blood pressure, and methadone for fentanyl addiction. After 46 days, he moved to a group recovery house, which he now manages.

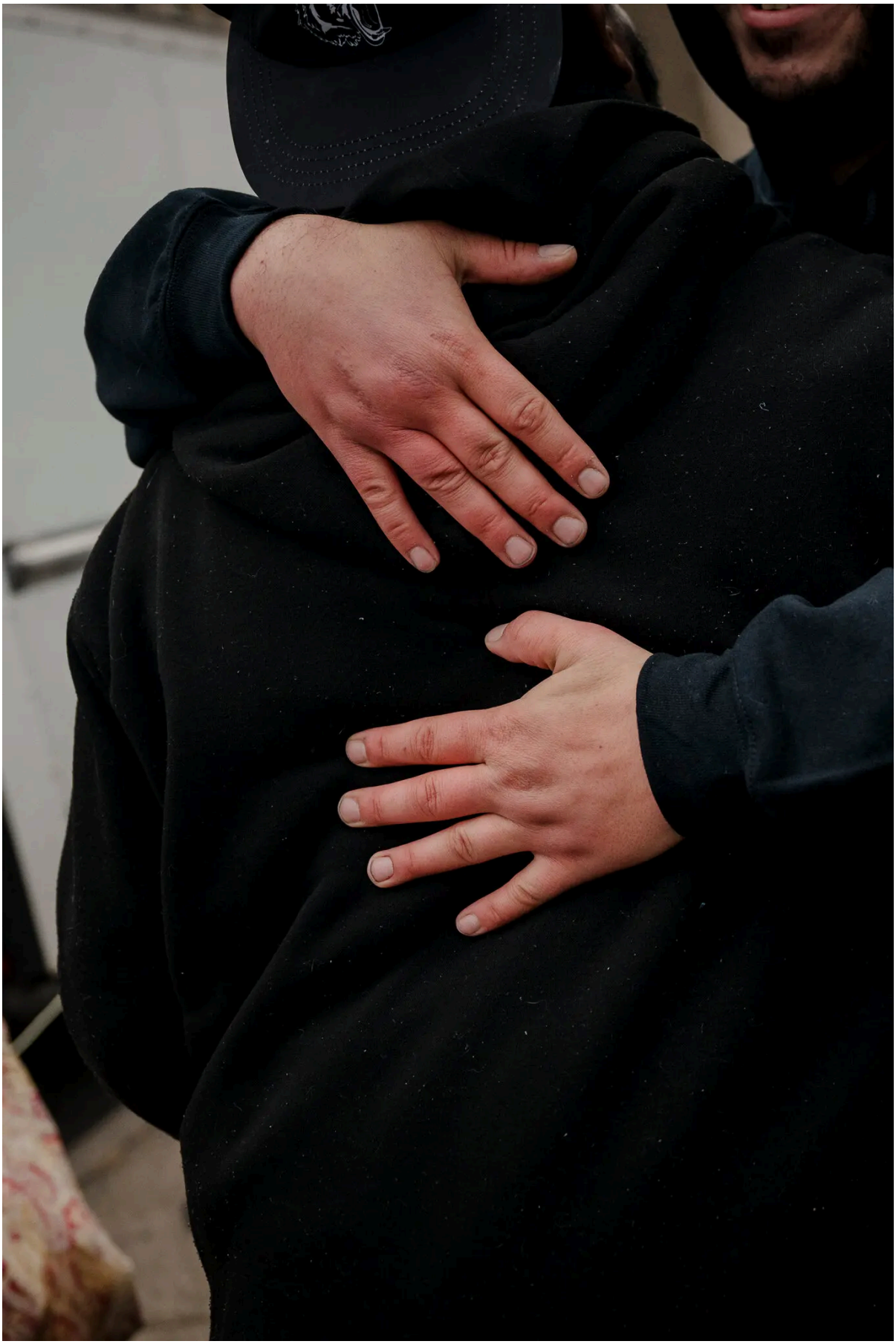
Joseph knows he has to remain vigilant — he once relapsed after being sober for almost two years. He deliberately keeps busy, visiting his kids, attending meetings, traveling an hour each way to the methadone clinic, volunteering and holding down a new 9-to-5 in telephone sales.

Still emerging from brain fog, he finds talking to strangers from behind a desk all day to be mentally draining. “But I know how to be nice to people and I just try my best,” he said.

With six months of sobriety so far, it is most likely too soon for him to be volunteering in Kensington, exposed to the very “people, places and things” — as the recovery manuals say — that he seeks to leave behind.

But, he said: “I like to show people that this is what it looks like just on the other side. That it’s not that far — it’s within reach.”

Some Saturdays, his palms grow sweaty as he feels the pull of the drug. But along the block, Joseph also sees what awaits him, should he try a taste. As the food lines shuffled forward, a scrawny man sitting cross-legged on a curb, scant belongings at his side, abruptly keeled over.



Jan Hoffman is a health reporter for The Times covering drug addiction and health law.

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